

SOUTH LONDON PERMACULTURE

Permaculture Design Course

full 72 hour

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7/1/2006

A compilation of notes and handouts prepared during the period of the course. Distinct from individual contributions this document provides the combined efforts of up to 12 different people for the production of a forest garden/orchard at One Tree Hill Allotments but which was never implemented. It includes such ideas as design approaches, use of mind maps, application of work strategies, ecological and sociological implications, time lines and projections, and surveying techniques.

The Spirit of Design, Fruit of our Labour

(See also P. Whitefield The Earth Care Manual Chap. 9, pp 236-246, 254-255)

(See also LILI handbook entitled Low-Impact Living)

(See also B. Mollison & D. Holmgren Permaculture 1 Chaps. 6 & 7 pp 57-74)

Group design – Communal orchard

Access

Remember sector and zone layout – wind, rain, sun and shine, shade, slope, water and time

Maximize access to all areas of a system, especially during establishment

Design for regular usage on steep land, for instance clearing obstacles and reducing slippage

Design in conjunction for water and foot access

If necessary create a central storage area for materials

Trees will require all-round access if not hedging

Only remove hedging for immediate access

Points to consider:

1. New paths/roads should allow for gentle increase on sloping land
2. New access points should avoid areas prone to water logging, unless diversion drains/channels are implemented
3. Trees requiring chopping back or pruning should be assessed first
4. As a watershed the road/path should act as a water reticulation system i.e. can water be collected and channelled elsewhere?

Water retention

How is water to be managed throughout the season?

Choose between mulch and groundcovers

A pond can also serve as a waterhole

Design for safety with small children

Raised beds dry out quicker but may also act as drainage – select for different species

Expected yields

Different species/varieties yield various amounts

Yields can be affected by deciduous habits such as biennialism and sugar sap content during particular seasons

The quantity of a particular species is derivative of its multiple usage e.g. comfrey as an all-round plant

How long does it take for full yielding age?

Some species can be thinned out at a later age

Some yield will increase when species are locally adapted
Different tree forms produce various amounts – who is going to crop the plants and trees?
Can quantity be substituted for variety?

Expected usage

Who is going to use the orchard?
What times in the year will it be accessible for the general public?
Is there a threat to small children of damage, or of accident?

Calendar of events

Apple days, wassailing, school events, habitat surveying and allotment holders' parties
The site can stimulate further courses e.g. fruit tree grafting, forest gardening, fruit production and maintenance
Maintenance days need to be scheduled in

Cost & profit

Most of the cost is incurred in the first few years
Is the project cost effective?
Funds can be obtained from additional outside activities
Remember to tally up all material costs, further maintenance costs, and labour in kind (for funding bids)
Can the project make money for itself?
Costs can be offset from the projects incorporation with other events
Costs to consider include maintenance, P&D control, protection from animals, pruning and trellising

Possible future developments

An additional nursery can be incorporated
Further extensions to the orchard are viable
Incorporating more varieties and utilizing multi-functional species will increase yields
Structures of sorts can be added e.g. arbours, gateways, ponds, ovens, benches etc.
A separate committee could be set up to manage the orchard and surrounding wildlife vegetation
Better access need not be designed immediately but may develop later with expansion

Planting & maintenance

Young plants need careful attention
Staking will assist in location identification
Newly planted specimens become the centre of attention for new pests and animals
Maintenance should be built into the design
With regular attention high yields can be obtained

Plants will take care of themselves once established

Plants can be categorized both under high-yield and low-yield scenarios, and thus their relative placement is indicative of the need to visit them

Do you have a back-up system for damages?

Apple and pear scab is checked by collecting fallen litter.

Look for resistant varieties also.

Some further points

Clarify how the orchard is to be run.

Vigorous trees are better for communal orchards – produce after 8 to 10 years.

As a compromise go for **moderately dwarfing**.

Tip bearers need little or no pruning once the basic shape is created, for instance **walnuts, almonds, cherry plums, damsons, cooking apples and sour cherries**.

What trees and bushes require netting?

Grapes don't mind a summer drought.

Requirements

- Freedom from frost during blossom time – late April to early May
- Winter wind protection for buds
- Shelter at blossom time in order to shelter pollinators and protect flower
- Shelter for early ripening or prevention of windfall
- Good sun exposure all around the tree
- Desert varieties require full sunshine
- Cookers and soft fruit require at least half sunshine

Shelter aspects

East slopes are sheltered from southwesterly gales.

Frost damage may be more prevalent on east-facing slopes.

Shade cast by trees and structures can slow down thawing on east slopes.

Bud death in winter can be due to cold east winds.

South slopes may require extra irrigation.

South slopes are good for late ripeners

South and southwest slope are best for tender fruits.

Planting a strip of herbaceous will also reduce competition and provide P&D control.

Windbreak aspects

White and grey poplars will thicken at their bases to provide good shelter. Their suckering roots will also spread far.

Alders can grow just as fast as poplar, and provide good predator habitat. Its roots grow straight down rather than horizontally. They also fix nitrogen but prefer moist conditions..

Hazel and *Eleagnus* are also useful for fixing nitrogen.

Holly makes for deep shade.

Shading and root competition can be reduced by incorporating a roadway next to a windbreak.

Humid areas may require ventilation, so that windbreaks may have to be thinned out when fruit trees are 10+ years old.

Edible windbreaks may be appropriate where space is limited.

Trees to avoid

The Rosaceae family is prone to fireblight, and includes all top and cane fruit, blackthorn, hawthorn, roses, rowan, whitebeam, service, *Amelanchier*, *Spirea* and *Sorbus*.

Pears are very susceptible; hawthorn is a serious carrier.

Ash carries canker shared by pears and apples.

Useful plants in an orchard

Ground covers

Nitrogen fixers

Pest-predator attractant plants

Pollinator attractant plants

Young trees can thrive with a cover of clover, better than mulch.

Clover is easily maintained by cutting. Avoid grass and Lucerne.

The most useful for predator attractants are umbellifers and *compositae* or daisy-like plants. They attract lacewings, hoverflies and ichneumon wasps.

Many weeds host predators too and boost their numbers. By mowing weeds predators may be encouraged to reside in trees.

Pussy willow makes early pollination.

Pollination requirements

Bees will work in rows moving from one tree to another rather than crossing the large gap.

The same pollination groups should be placed in the same rows.

Bumblebees work faster than honeybees, for longer hours and in worse weather. Good for early flowering fruit like pears and plums.

Mowing herbaceous plants just before fruit tree blossom time is reliable against bees wandering off to their preferred hosts. Fruit tree blossom is low in sugar.

Provide forage for bees over as long a season as is possible.

Polycultures

Nuts will shelter fruit trees.

Low-pruned hazels will also grow under top fruit.

Most soft fruit is productive for about 12 years.

Vegetables allow weed-free conditions although mints should be avoided at the base of trees.

Flowers under weed-free trees can provide a cash crop.

Tree forms

Standards and half-standards are best for vegetable polycropping

Bush trees produce significantly more fruit.

Fans and espaliers may have their specialist use, for instance within an arbour.

Dwarfs require weed-free conditions all their lives.

Own-root fruit trees

Advantages include

- better health although the variety may still have a basic susceptibility to disease
- fruit development gives best possible taste, best storage life, the typical fruit size and best overall quality
- best fruit set if adequately pollinated and greater fertility
- increased self-fertility

Disadvantages include

- over vigorous varieties
- take longer to come into crop

But this is vanquished by

- withholding nitrogen and irrigation (except in serious drought)
- tying down 1 and 2 year branches to the horizontal to induce fruit bud production
- pruning in summer for fruit bud, rather than winter which stimulate growth

Normal feeding can resume once cropping commences

Sizes can be maintained to a typical MM106 rootstock

Own-root fruit trees can be coppiced at ground level for re-growth. This allows for alley cropping

Multiple products will allow for rotation systems that reduce the risk of pest and disease

After coppicing re-fruiting will commence after 3 years

Multi-stem re-growth will require a new pruning and management regime

Orchards of this type will include pears, plums and hazels

ORCHARD PROPOSAL to be submitted to the allotment society (OTHAS)

Look at the different design tools we used. Make this extensive; there are quite a lot of notes on the large work sheets.

SADIM

BREDIM

PASE (Plants, Animals, Structures, Events)

Q. In the proposal explain the observation techniques and why we used them.

Ask yourselves the 4 questions and relate how they affect the orchard proposal.

What is going well?

What could be going better?

What are our visions and goals?

What are our next steps?

Show the design of the orchard and present it from paper.

Illustrate some of the principles and the ethics.

Show possible alternative designs from photocopies of the small map.

Prepare a presentation day at the allotments going through the proposal. Include:

A 5, 10 & 50 year projection scenario.

A time-line for the first few years, bearing in mind the principles of permaculture.

An implementation strategy and a cost-analysis.
A resource list including plant materials.

Planting guide to particular trees, shrubs and herbaceous

Nuts:	Generally wind pollinated. Hazelnuts are self-fertile although better to have a mixture of varieties. Prefers light, sandy soil. Hazels are early flowerers, so avoid extreme wet and windy weather. Can grow in shade. Late-leafer so good on an east aspect for morning sun. Traditionally pruned to 4.5m wide and 1.5m high. Walnuts as above for pollination. Large trees and dominant. Monkey puzzles require male and female trees. Ginkgo require male and female flowers. Plum yews can withstand deep shade. Chestnuts are rather large and dominant. Prefers light, acid soil. Like walnut they cast deep shade.
Figs:	All soil types but well drained. Sunny location; susceptible to cold. Bush or standard form.
Apricots:	All soil types but well drained. Sunny, sheltered position, a little warmer for nectarines. Early flowers need protection from frost. Bush form.
Peaches/nectarines:	Medium to heavy soils. Warm, sheltered position. Protect from frost. Bush or standard forms.
Cherries:	All soil types but well drained. Bush or standard.
Plums:	Fairly heavy soils. South and west aspect, east aspect for cookers and early eaters. Bush or standard forms.
Pears:	Most soils. Warm, sheltered position. Avoid drought but tolerates wet conditions. Avoid frost pockets. Asian pears are frost resistant. Bush and standard forms.
Apples:	All soils and conditions. Cookers are more tolerant of damp soils. M9 and M27 require staking and good soils.
Mulberries:	Most soils but good drainage. Frost hardy and wind pollinated. Full sun for good fruiting but can stand a little shade. Ornamental.
Medlars:	Most soils. Can stand shading and grown as understorey.
Quince:	Prefers poorly drained soil. Can grow in shade. Self-fertile. Do well beside a pond or stream. Need little pruning.

Raspberries:	Moist, well-drained soils. Shelter from high winds. Partial shade. Makes hedging.
Blackberries:	Fairly drained soils. Avoid cold exposed sites. Partial shade.
Hybrids:	Always in full sun.
Blackcurrants:	Average soil types. Protect from north and east winds. Some shade is allowed.
Gooseberries:	Most well-drained soils. Susceptible to mildew in dry soils. Stands more shade than blackcurrants. Protect from frost and cold winds during flowering. Grow as bush.
Strawberries:	Good well-drained soils. Some cover allowed. Groundcover.
Herbaceous:	Species include ramsons, winter purslane, clovers, lucerne, daisies and umbellifers, woodrush, lemon balm, mints, bluebells, soapwort, red valerian, purple loosestrife, foxgloves, dropwort, evening primrose, fennel, lovage, dill, chervil, angelica, sweet cicely, comfrey, winter and pink purslane
Meadow plants:	As above including corn marigold, oxeye daisies, yarrow, cornflower, golden rod, teasels, wild marjoram, viper's bugloss, foxglove, winter flowering heathers
Other shrubs:	Honeysuckle, dog rose, pussy willow, alder, oregon grape, nepalese raspberry, gaultheria, <i>Rubus tricolor</i> , <i>eleagnus</i> , New Zealand flax, Siberian pea tree, broom, wax myrtle, flowering currant, ivy, holly

Analysis of plant selection

Pest/predator relationships

The *compositae* and umbellifer families are most useful for attracting lacewings, hoverflies and ichneumon wasps. They moderate pest populations leading to minimal numbers of aphids and blackfly. Many weeds host predators too. With regular mowing predators are encouraged to reside in trees. I also suggest setting up pheromone traps to capture winter, codling and plum moth. One is required every 5m, thus requiring at least 2, but 3 is better.

Nitrogen fixers

Young trees especially will thrive with a cover of clover, maintained by cutting. Establish white clover first, added by lucerne and other clovers too. Other fixers include alder in the hedges which, trimmed yearly will release nitrogen through root death. Likewise

elaagnus and wax myrtle, broom on the sunnier freer-draining areas and Siberian pea tree, which is also edible. To make use of this hedges should be trimmed 2 to 3 times a year.

Ground covers

All ground covers benefit soil by reducing evaporation and preventing compaction through weathering. They also act as border controls but provide wildlife and edible bonuses. Some are seasonal like ramsons and bluebells. The former, along with inter purslane will make use of the extra light beneath hazels. Wild strawberries are preferred as they require minimal maintenance. Comfrey is also superb as a weed barrier and mineral accumulator.

Pollinator attractants

Fruit are low down on the food preferences of pollinators. They prefer richer nectar sources. Pussy willow in the hedges will bring an early food source. Bramble and honeysuckle, dog rose and blackberry (cooler spots) for a summer treat. Bumblebees are the best pollinators of trees. Mowing herbaceous plants before tree blossom is reliable against bees wandering off. The trees have been selected for their pollination requirements and kept close together.

Other installations

Artificial decoys like rubber snakes and hawks to deter the squirrels.

Swales to store water in the landscape and create a pond area. Swales can be filled with bark-chip to prevent people falling in and run close to the tree roots.

Raised beds in the early years to get trees established and prevent damage from people walking over them. They should be mulched and kept weed free although Russian comfrey will benefit them if cut regularly. Using woven beds that after a few years will disintegrate.

I suggest bringing in as much bark chip as is possible, laid over large, double-thick sheets of cardboard, until most bramble roots die. A welcome structure at the west end could be made from live willow.

A shade house in the middle will provide a climbing frame for kiwi and grape. It is also relatively flat and can house the apple press during events. This could be made from sweet chestnut.

Meadows at the north-east end will allow greater seclusion.

The paths require simple steps at points where the ground deviates sharply.

Hedges on the south-facing slopes have had plum rootstock planted in for grafting on later. On the north-facing shadier area more hawthorn can be introduced.

Ornamental plants

Most of the attractive plants have been kept to the edges or to meadow sprays. Mowing will deny most plants from spreading over paths.

The whole site will eventually predominate to grass.

Many trees have been selected also for their flower qualities as well as edibility, especially the medlar, cherry and plum.

Design Notes – Orchard Proposal

TREES

Tree pollination groups indicated as nos. 1 to 4 on the plan are planted in straight lines to encompass bee flight lines.

The best aspects (S to SW facing) were given to the stone (plum) family.

The proposed hazel plantings with cobnuts are best suited to complementary hedging rather than to single stands in confined areas.

Systematic pruning of hedging material will create root dieback releasing nutrients into the main area, although alders tend to root down instead.

In subsequent years new varieties can be planted onto wild rootstocks as well as onto the deliberate pixy plantings along the north edge.

Overall sizes and yields indicated in the appendices should be adjusted for heavy clay i.e. reduced.

PATHS

In order to provide security against the bees and for general safety the bramble, hawthorn and plum could be allowed to grow into the path along the north edge. This could be cut as and when cropping the fruit i.e. the path is revealed by the different seasonal availability of cherry, apricots, blackberry, sweet almond and loquats.

Most of the paths were generated by random use during surveying.

The paths requires gripping or steps at various points. Importantly, the paths lead to 3 opposite directions of the Allotments, including 2 gates and a mains water supply.

EARTHWORKS

The pond could be a dry feature during a hot summer.

The swale runs along known contours. They firstly act as catchment areas suitable for silt collection (soil production) and edible & ornamental planting. Secondly, they provide drainage off the northern path.

The drainage run (NE to SW) intersects the main paths where the swales start and finish. This will feed water into the pond and wet meadow areas

The steep bank could be a planting feature in order to prevent access e.g. Nepalese raspberry, strawberries or comfrey (for liquid fertiliser production).

STRUCTURES

The central pergola is located for flat ground and all-round viewing. It is also a focal point whilst trees grow into maturity.

The main entrance structure of woven willow could be integrated with a laid hedge. In the meantime brash fencing could make use of the tree and shrub prunings.

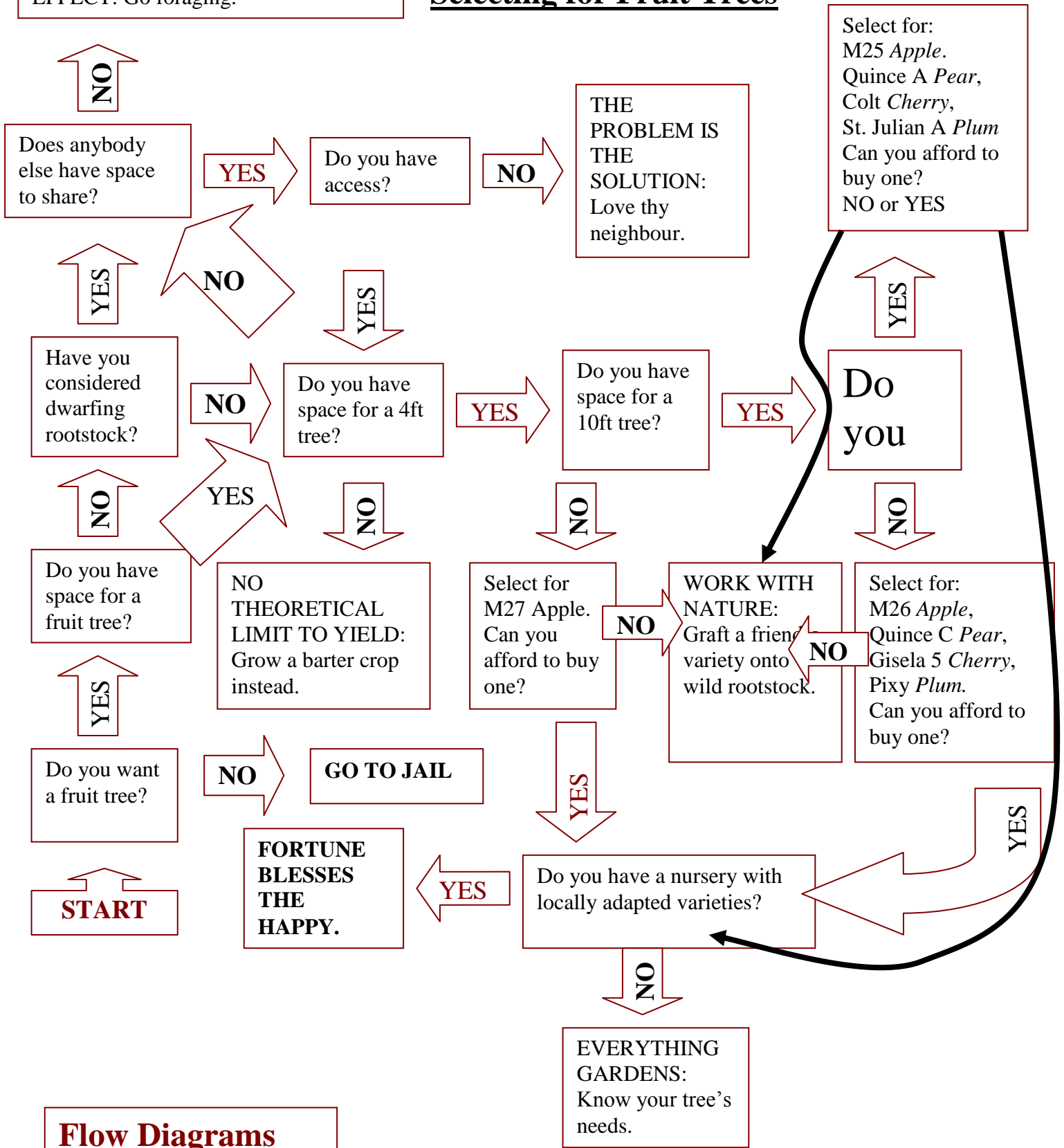
Any rustic furniture could be a product of local participation and created on site.

PASE: Random Idea Generator – Orchard Proposal

PLANTS	ANIMALS	STRUCTURES	EVENTS
Bluebells (native)	Rabbits	Ponds	Sunday brunch
Moss	Ducks	Benches (rustic)	Barbecues
Watercress	Birds	Picnic area	Children's reading
Reed mace	Butterflies	Kiosk (food for events)	Apple games
Goat willow	Bees	Fire pit	Educational
Elder	Goats x 2	Built barbecue	Tours
<u>Fejjoa</u>		Hammock	Treasure hunts
Blackberries		Meadows	
Fig			
Top fruit			
Wild flowers			

MAKE THE LEAST CHANGE FOR THE GREATEST POSSIBLE EFFECT: Go foraging.

Selecting for Fruit Trees



Flow Diagrams

Main tree selected varieties – Orchard Proposal

- Pears

- *Blakeney Red* QC “perry; harvest end Sept.”
- *Dr. Jules Guyot* QA “pick in Sept.”
- *Winter Nelis* QC “dual purpose; ripens November to January; graceful arching growth; flowers have good frost resistance.”
- *Deacon’s Pear* QC “keeps well until Early Dec.”
- *Williams bon Chretien* QC “Barletts pears; ripe in Sept.; upright growth; will stand a north wall.”

- Apples

- *Tremletts Bitter* M25 “cider.”
- *Kingston Black* M25 “Blackthorn cider.”
- *Cox’s Orange Pippin* M26 “desert.”
- *James Grieve* M26 “dual purpose; Scottish origin; prolific.”
- *Sunset* M26 “desert; disease free; frost resistance; prolific.”
- *Nettlestone Pippin* M9 “desert; ripens mid-Sept.; stores until end of Oct.”

- Plum

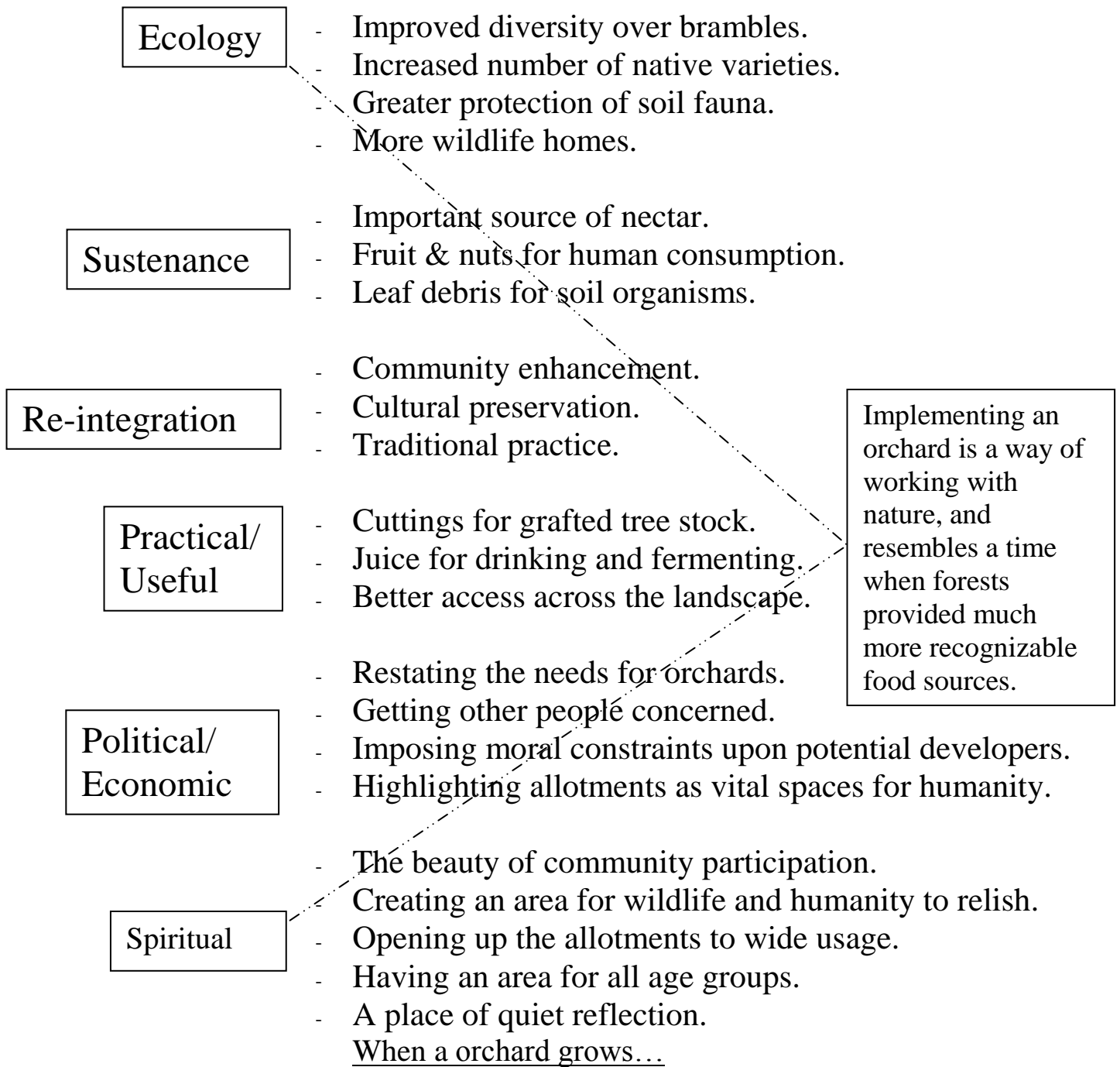
- *Burbank’s Giant* St. Julian A “desert; travels and looks well; late flowering; crops well; good resistance to frost and disease; tree makes a good round-headed top.”
- *Deniston’s Superb* St. Julian A “desert pseudo-gage; upright growth; suitable in the north.”

- Cherry

- *Morello* Colt “cooker; good for north walls.”
- *Celeste* Colt “desert; fruiting early July.”

- Others

- *Robinj* St. Julian A “sweet almond.”
- *Rochester* St. Julian A “peach; ripens late August; very hardy outdoors; some resistance to peach leaf curl.”
- *Goldcot* St. Julian A “apricot; very hardy unusual growth.”
- *Dutch* “medlar.”
- Black Mulberry “ripens over a long period; good ornamental tree.”
- Loquat “Japanese medlar; on quince stock.”
- *Cosford Cob & Hall’s Giant* “hazel nuts; productive internal screening for commercial orchards; good pollinator.”



When an orchard grows it is rather indistinct at first. But even when it is young it makes up for its lack of presence during flowering time. As the new verdant leaves of spring make their appearance so do the flowers show themselves in a glorious moment of synchronicity. The plan is to grow trees in blocks or rows according to their flowering season. This then draws the pollinators to specific parts of the orchard, especially the bumblebee. Like a child the first fruits are born low down, and any child can get their hands upon it. The child grows, as does the tree, and with shaping continues to pick of the tree. Of course, his or her elders did most of the pruning, so that in years to come an example is left as to how to make a tree profit for the benefit of humanity. Without too much stress the tree bears fruit for its consumption. In this way the seeds get spat out and with a little luck, they will germinate. If one is fortunate they may find that the new species growing from that seed is completely distinct – not another in the world. As far as the tree is concerned the apple has fulfilled its role. All fruit is for that purpose.

Implementation Strategy – Orchard Proposal

1. Clear planning with OTHAS and Local Authority (if necessary) for the installation of an orchard.
2. Evaluate planning, material, labour, skill, financial, ecological and time constraints.
3. Raise funds and materials.
4. Raise a workforce and a co-ordinating team.
5. Evaluate resources.
6. Prepare site (winter).
 - Allocate areas for material storage e.g. mulch, plants, tools and water (if necessary).
 - Create paths and service roads (if necessary), and water runs.
 - Cut back excessive vegetation and remove debris.
 - Mark out (double check) tree and shrub locations.
 - Prepare planting pits in advance (2 months prior) using composted bark mulch in 0.6³ holes.
 - Dig swales and drainage run.
 - Excavate pond area. Use spoil in landscape features.
 - Make steps on slippery slopes.
 - Lay foundations for structures.
7. Order materials.
8. Make plantings and mulch around bases.
9. Celebrate.
10. Finish building structures. Remove excess materials if necessary.
11. Evaluate design and make changes if necessary.
12. Create a team to maintain area and organise a workday calendar and some courses.
13. Have annual events.

5, 10 & 50 year projection scenarios – Orchard Proposal

After 5 years

- The top fruit and nuts will only just be cropping, although hazels may require another couple of years. Basic tree forms will be established.
- Some top fruit will be slow to crop than others because of regional characteristics.
- Any under-planting of soft fruit will grow to the same size as some of these trees and so will require checking the growth. A 3-year hard prune to the base regime will probably suffice.
- Grass will have firmly encroached upon all uncultivated areas within the orchard.
- Herbaceous groundcovers will be fully established but unlikely to have colonised all available areas.
- With regular mowing the paths and the tree canopies will be free of brambles. Other invasive weeds as well as the brambles, notably nettle and ivy will always try to encroach from the perimeters.
- Surrounding vegetation will have notably increased in size from thinning and added fertility to the landscape, and will probably need pruning back, although this is restricted to the perimeter of the orchard.
- Meadows will be firmly established and requiring once annually cutting regimes.
- The swales will have a number of species but will not be at capacity.
- The pond should be showing good signs of establishment.
- Hedges will continue to require trimming off the paths.
- The possibility of opening up new areas will be easily identifiable.
- Woven willow structures will continue to require training and trimming.
- Any failed plantings will have to be replaced. Some trees may just not do well although by this stage the planting holes will have fully degraded to provide good fertility.
- Members of the public will be assisting in establishment of the orchard.
- The orchard will become part of a centre of horticultural practice and learning.

After 10 years

- Bearing in mind the above, the trees will now be well above head height and cropping very well.
- The form of the trees will have been finalised.
- Soft fruit will be coming to the end of its life cycle and require additional stocks to replace it.
- In shadier conditions the soft fruit will have an extended cropping season.
- Most groundcovers will be self-propagating and self-maintaining, but others will suffer from competition from trees.
- Signs of disease will be much more easily identifiable in trees that have showed slow progression.
- Depending on what they have been built with, wooden structures may require repair or replacement.
- Other parts of the allotment can be opened up to join with this orchard.
- Public events in areas like these will be welcomed in view of climate change and the need for community cohesion.
- The project will have been widely publicised.

After 50 years

- Bearing in mind the above, the trees will be at half-life and fruiting to maximum. They will be at full size also.
- There will be little scope for good crops of soft fruit as the shade will be a limiting factor. But additional plantings of shade-loving plants will benefit both groundcover and under-story.

- At this stage it would not be unreasonable to consider goats.
- Cottage industries will have fully evolved from the orchard including the development of chutneys and jams, cider, perry and fruit juice, propagating and nursery stock, and the full development of an allotment horticultural centre. This in view of the need of the government to free up lots of land for local carbon-less food generation with an eye to offsetting climate change.
- Much of the allotment wild areas will have been converted to food production. Thus, any extensions to the orchard will show variety in types and age in order to be appropriate towards the new climate.
- Any wooden structures will have been replaced on a number of occasions.
- Merlyn will still be magically alive.

Cropping of top fruit commences. Pruning is contained to flower production. Preventative P & D control. Juice and cider production.	5 years
Regular mowing to reduce competing grasses. Continual cover of clover and other green manures for periodic cutting back.	4 years
Cutting back overhanging branches from perimeter trees. Thinning of particular weed trees.	3 years
Pond and drain cleaning.	2 years
Biodiversity studies for improvement across the area.	1.5 years
Interplant fruit trees with soft fruit including edible groundcovers. Regular trimming of hedge from the paths.	1 year
Selecting of material for grafting.	11 months
Winter pruning of apples and pears. Replant for failed stock.	10 months
Re-seed meadows using seed balls. Regular mulching and feeding around tree bases up to 50cm either side. Propagating for hardwood cuttings.	9 months
Organise an open day. Honey collection.	8 months
Graft new material if required. The Green Man fayre. Seed saving. Mow the meadows after seed has set but do not collect material until 2 weeks later.	7 months
Bud grafting for failed scions. Take summer cuttings. Begin cropping blackberries. Summer pruning of the plum family.	6 months
Use mechanical and organic P&D control whilst ecosystem establishes. Train vines and creepers up structures. Check for growth. Keep tree bases weed-free.	3 months
Commence construction of structures. Sow wild flower seed. Top up mulch levels around trees. Sow clover and other green manures.	1 month
Mark and dig swales and drainage run. Communal work day to prepare seed beds for wild flower meadows, plant up bare-rooted fruit trees, staked and guarded if necessary.	Now – winter

The 4 Questions – Orchard Proposal

What's going well?

- Lots of enthusiasm and ideas
- Keeness to learn
- Having suitable sites in mind (at least 4)
- Relates to formal education schemes
- Group work co-operation
- Wide knowledge with group
- Fun
- We have trees and a great place
- Lots of information and good resources
- Committed people involved
- Enthusiastic client
- Vision for community involvement

What could be going better?

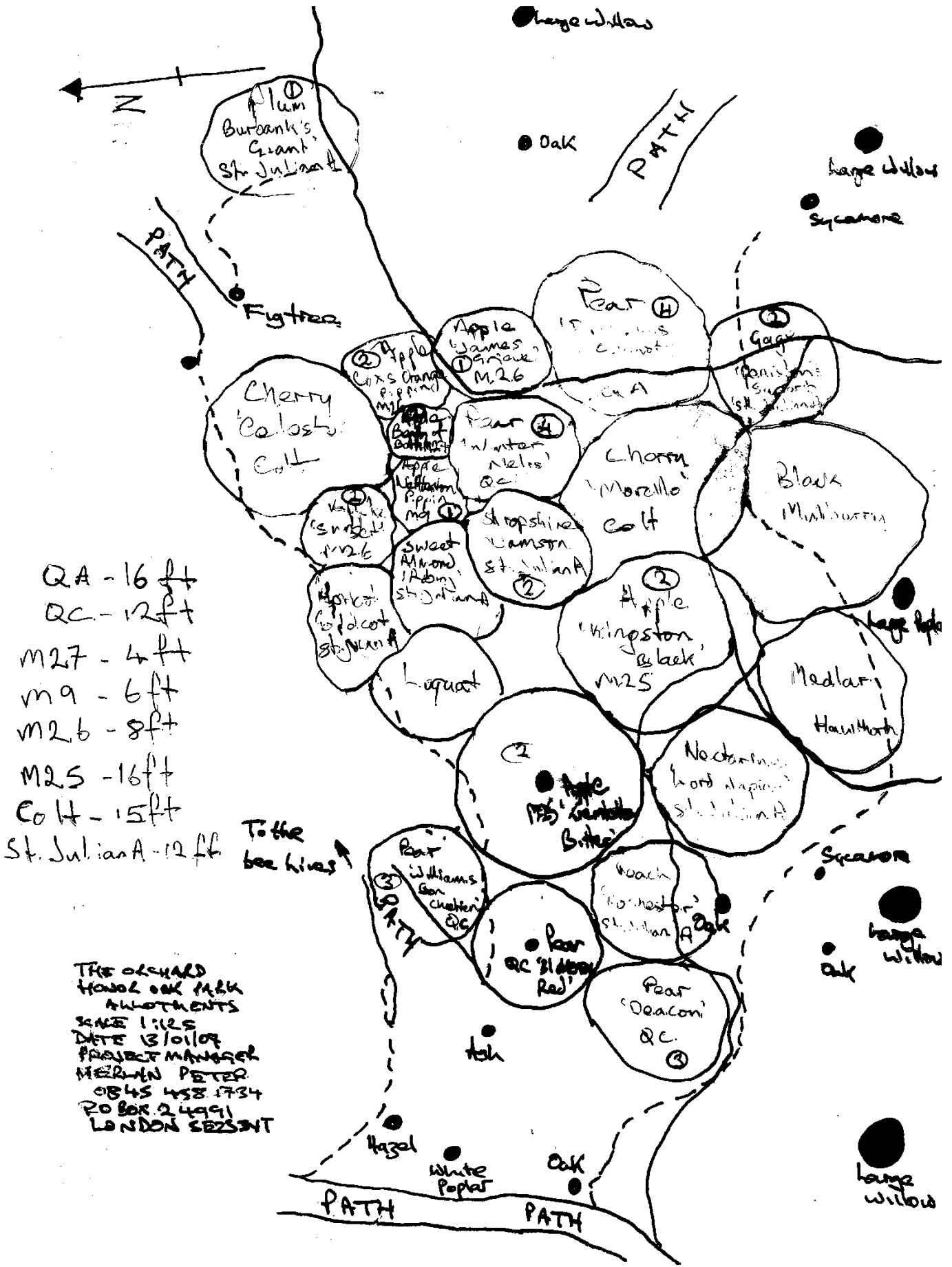
- Lots of competing activities/other commitments
- Lack of energy
- Group co-ordination
- The physical suitability of the site is difficult c.f. access, lack of drainage, heavy clay and shade

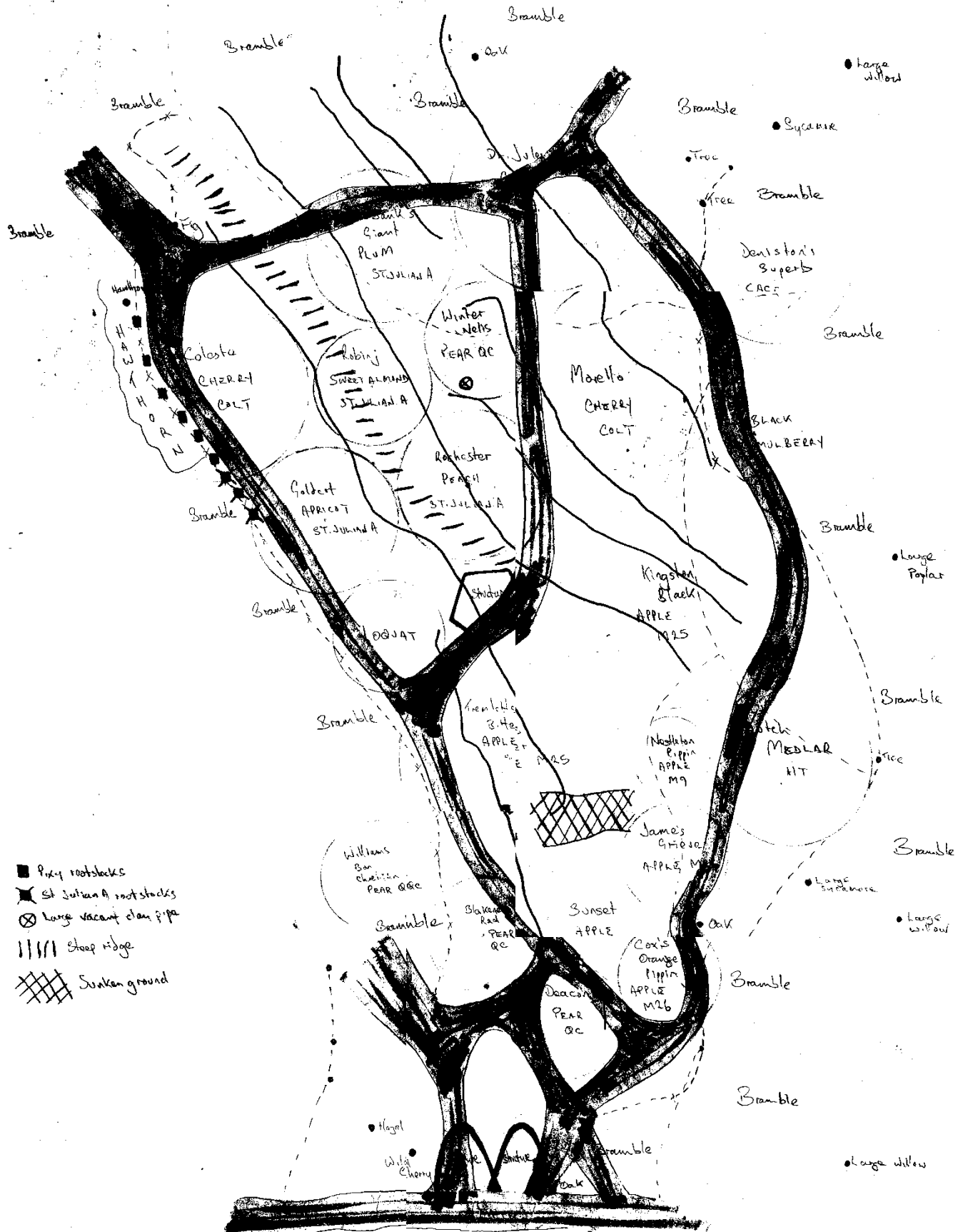
Visions and goals

- Food to harvest
- Food forest to benefit as many as possible
- To have something on paper
- To make a start on the garden
- Low maintenance garden

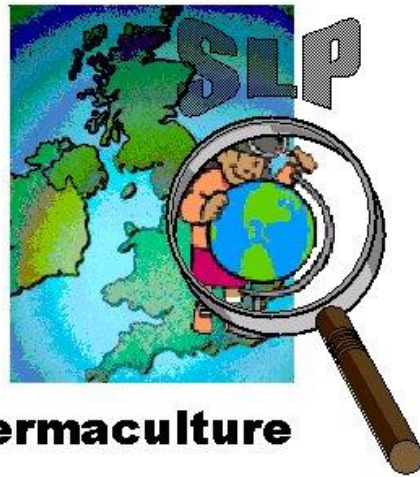
Next steps

- To put something down on paper
- To decide what plants
- To decide on a definite site and design
- Plan a volunteer workday at the orchard
- Make a rough time scale
- Prepare a proposal
- Collate ideas for further evaluation and accept feedback
- Come up with an action plan





South London



Permaculture