FIELD VISIT – 99 SELWYN PINE RD – 18 NOVEMBER 2022
Field Notes

CAUTION
All visitors are urged to wear strong footwear. The access paths are rough.

ITINERARY
9 AM gather at gate at 115 Selwyn Road. Parking is available inside the property for about 20 cars.
Inspect banana plantation, citrus, seedlings, jackfruit and Beach Almond *Terminalia catappa*.
Walk downhill to the upper sealed dam with its solar pump and inspect piping network. Inspect vegetables in gully.
Those confident to walk up the hill, walk through the tree plantation to the tank farm at the top of the hill. Others walk at grade along the bed of the large dam to the driveway and take the bus to the house.

Worm farm demonstration at house and at tank farm. Inspect the raised beds en route to house.

10 AM morning tea supplied with the assistance of Rotary.

10:30 AM walk via the track downhill to the head of the western gully. Inspect tree fern and native palm regeneration. Inspect soils in slashed paddock. Inspect differential growth in fruit trees in amphitheatre. Check depth of water in the well.

Inspect plantings of sugarcane and bananas in the gully. Inspect differential growth of fruit trees in far south-western spur. Consider future water supply.

Walk up steps through the vegetable terraces.

12 noon finish.

INTRODUCTION
The property of 12 acres has been owned by Geoff and Wallis Edwards since the beginning of 2020. Prior to the previous owner, an absentee landowner, it had been owned by Graeme Sait. Cattle were grazing across the whole property except the house yard.

Objectives were and still are:
- lifestyle
- high-quality semi-rural landscape - scenic amenity
- fruit and vegetable self-sufficiency as much as possible.

Incidental sales of surplus produce are envisaged.

First intentions were to continue cattle grazing over the broad acre pastures pending progressive establishment of fruit tree and vegetable plantations. Exclusion fencing was erected with that in mind, to keep cattle out of most of the gullies and the steep slope on the western side of the house. Early in 2020, a decision was made to remove cattle altogether. The fences were left in place as markers of land-use zones.

Guiding principles

1. Tidiness is a state of mind not a principle of nature. We intend to keep the gardens immediately around the house in a tidy condition, but elsewhere the principle is negotiable.
2. We generally endorse the principles of Fukuoka's *One Straw Revolution* and Permaculture which encourage mixed plantings of multiple species.
3. We aim to capture all nutrients generated on the property (other than those necessarily lost through export of produce).
4. We avoid burning, even of difficult weeds. Nutrients and carbon are lost in the smoke and nutrients in the ash are vulnerable to leaching away more rapidly.
5. *Weeds are mulch that has not yet been harvested*.

Land-use zones

We aim towards bush restoration in the upper portions of both gullies, with emphasis on indigenous tree ferns and palms.

We aim towards bush restoration underneath the stands of Norfolk Island Pines and on the barren north-western hilltop.

The sunny slope on the western side of the house is to be terraced for vegetables. Otherwise, steep slopes that had previously been cleared should be planted with trees, primarily fruit-bearing trees but there is a place for timber trees.

Mistakes

An early mistake was to use saltwater-affected gravel in our potting mix. Most of our early seed stock was set back by a year or two.

Another early mistake was to choose the worst soil for the first planting of fruit trees – in the paddock north-east of the tank farm, facing the road. We selected this area because it was sunny.

ISSUES AND CHALLENGES

Slope adjoining Selwyn Pine Rd

Indifferent growth of bananas, despite blood and bone
Uneven growth of citrus seedlings
Excellent early growth of Terminalia (one year from seed) cut back by continuous winter rain and damp conditions
Excellent growth of jackfruit compared with samples in the tank farm paddock (one year from seed).

Slope immediately below the parking platform has been scalped; regeneration very slow. Should we allow the Hakea to recolonise? Should we deep rip?

Gully
Rapid growth of tree ferns, slow growth of native palms
Self-seeding of tree ferns, even in exposed conditions
Eroding slope

Solar pump
Lorenz PS2-100 solar pump, nominal capacity up to 40 m of head. The pump operates only when there is light. Full sunshine is not necessary. The pump is performing to its nominal capacity (about 0.6 m^3 or 130 gallons per hour). The header tank is 5000 gallons, requiring approximately 40 hours of full sunshine to fill.

Elevations
Head of gully near the boundary fence, natural surface. 105.8m
Dam wall (approx.) 106.6
Highest point on the ridge 133.4m
Well in the western gully 97.5m
Lawn in front of the house 121.4m
Septic tank cover in the western gully 100.7m

The Lorenz is raising water from about 104 (bottom of dam) to 133 plus the height of the tank (3 m) or 32 m.

There is a single greenline pushing water into the top header tank and delivering water to the plantations. There is a one-way valve at the control box to prevent water flowing back through the pump into the dam when there is no sun shining. There is a 1.5" overflow pipe leading back into the dam. Further, to avoid running the pump unnecessarily when the tank is full or nearly full, I switch it on only every couple of weeks.

A pressure switch has been fitted near the control box. This will close the pump down if the ball valve at the header tank is accidentally shut and will prevent the hoses from bursting.

An alternative to the overflow pipe would have been a float valve in the top header tank that would cause pressure to build up in the line when the tank was full, but this requires two mechanical and one electrical operation. Given that the available pressure switch cannot be calibrated to single PSI accuracy, the overflow pipe is more trouble-free.

Eastern gully vegetables
Is it worth attempting to utilise the small area of presumably fertile soil between full supply level of the lower dam and the toe of the upper dam? The full supply level of the lower dam will drop by about a metre when a proper overflow culvert is installed.

The soil here is so full of rocks that it is scarcely worth digging.

Avocado plantation
Three rows of avocados raised from seed put down in early 2020. A couple of rows of other species.

A row of Australian Black Bean along the toe of the slope. These plants survive occasional wet conditions. Possible weed hazard? At Hundred Acres, hundreds of seedlings have sprouted underneath the adult trees.

East-facing slope north of tank farm

Uneven growth of transplanted macadamia seedlings all put down at the same time.
Slow growth of jackfruit and poor leaf colour.
Unsatisfying growth of all other species, although stone fruit aren't too bad, a year younger than the northerly rows.
Inadequate watering during long dry spells. Even with hoses, it's slow hard work – desirable frequency?
Dragon fruit have hardly moved at all.

Tank farm
One poly tank, 1800 gallons. One old galvanised iron tank with fresh liner, about 3000 gallons. One new colorbond tank, 17,700 gallons. All are connected to the drinking-water standard house supply which has two collector tanks behind the garage. Electric pump operated manually.

One 5000 gallon light green poly tank, header tank for the irrigation supply. Two offtakes.

Worm farm demonstration
To be advised.

Raised beds
Lose water readily through the timbers.
Require soil replenishment every year or so.

Western gully, upstream
Fenced area is intended for bush regeneration, but has some temporary edible plants: tree tomato (bore well), pawpaws (all died in the flood), kumara, cassava

The largest tree ferns are National Parks nursery stock planted in mid-2020. Smaller ones were propagated in 2020 and planted out in 2021. Also see native palms.

Outside the gully one old plum tree, remnant of a reportedly much larger garden dating from prior to Graham Sait's ownership. See Camellia across the fence.

Plants suitable for this paddock? Blueberries? Pecans? Chestnuts/walnuts? Noted shade but also generally moist conditions.

One recently planted row of fruit trees.

Amphitheatre
Indifferent growth of nursery stock planted in early 2020. Compare growth of peaches/nectarines on the slope with the single plant at the downstream end.

Lacklustre growth of citrus. Coffee seedlings were in excellent bright green condition, turn yellow after planting but are now picking up.

Plants were mulched with woodchips from the Hawaiian Holly which is probably allelopathic.

Gully upstream from eucalypt
Sugarcane heavily attacked by rats, not worth baiting indefinitely
Bamboo.
Banana suckers planted into cohorts, August and October.
Pecan seedlings, slow start because of saline potting mix.

Gully downstream from gate
Bananas
Pineapples
Failed potatoes

Future water storage?

South-western spur
Ice-cream bean
Avocados
Malabar chestnuts
Canistel

Trellises
Passionfruits – Panama, traditional Yellow and Hawaiian
Chokoes
Cavendish bananas – February 2020. Now in second season.
Location of absorption trenches.

Grapes, now in third year, indifferent growth.
Broad beans, growth inferior.

Terraces
The intention was to dedicate the upper terraces to ground-covering flowers and foliage; the middle to lower terraces (presumed to be moister and with better soil) to vegetables.

Weeds growing thickly, vegetables not so much!

Timber (treated New Zealand pine) salvaged from retired tourist attraction the Bounty Show.

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