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Denmark Field Trip

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A group of about 70 convergence delegates travelled on two buses for the Denmark field trip. One bus was driven by Bazza, a rising star of the tourist industry who kept everyone happy and entertained but could do nothing to prevent the slow, insidious penetration of bus exhaust fumes into the cabin. So producing this report from this motley bunch of dazed permaculturists was difficult. Nevertheless it's been done and there was of course those sitting in 'the other' bus, the poorer for being without Bazza, but the saner for fresher air.

Denmark is situated on the south coast of Western Australia amongst the majestic Karri forests, one of the world's tallest trees. Windswept beaches are also a feature of the south coast's rugged beauty, however continued logging of these old growth forests and inappropriate development of the area are creating concern for residents of Denmark. This field trip concentrated on properties and people who are offering a more sustainable, appropriate response to the area's living needs.

The MacDougall's property

The first thing that becomes evident when you visit the property of Rod and Marion MacDougall is how hard the family has worked to turn the area into a successful property. The farm incorporates a wonderful orchard with a diverse range of temperate and sub-tropical fruit and nut trees and a small commercial stand of chestnuts which provides two tonnes of chestnuts annually. Livestock also feature heavily on the property with a large flock of poultry on insect patrol in the orchard, pigs, cattle and a galah which chases parrots away from the fruit trees.

Azzolla is grown on the dams to reduce evaporation, and when harvested, provides food for the livestock. It is mixed 50-50 with grain for pig food and provides 75% of the duckling's diet. Water harvesting and intensification of the farm are among the main priorities of the MacDougalls and they are constantly looking for ways of value adding produce that leaves the farm.

Instead of clearing and burning windrows as is common practice in the area, Rod MacDougall leaves them in place, as a result he now is able to increase the stocking rate by 10% because of shelter/shade.

Five years ago, against the advice of the department of agriculture, who in the past had paid landholders to clear the land, Rod fenced off five acres and replanted the

area with native vegetation. This halted *Phytophera* damage and reduced the incidence of dieback. Ironically the government appears set to place a caveat on the regenerated forest so that it can't be used for income, even from selective logging which is all that Rod intended.

With beef returning only 50c a kilo, rabbits provide another important source of income to the MacDougalls. These are hunted using pet ferrets and a single rabbit's offspring can provide up to 90 kilograms of meat in a year. With the release of the rabbit Calicivirus this is unlikely to continue.

Living Waters Permaculture Foundation

Situated on a beautiful 23-hectare property, the Living Waters Foundation has around 50 members in the Denmark area.

Founding member Dave Coleman has been living on the land for four years. It has been owned for 11 years. Mr Coleman said three quarters of the land was forest which includes jarrah and the rare yellow tingle.

He said only timber that is already on the ground or that is going to be felled for roads in the area is milled using a mobile milling system (Lucas Mill) that uses the whole tree. Mr Coleman said $10,000 worth of timber had been rescued and processed from a nearby clear-felled subdivision.

Last year the foundation concentrated on developing herb gardens and replanting forest. Around 7500 trees have been planted. Human waste is processed on site, and a majestic second storey compost loo with open air views is a stunning recent addition to the property!

The foundation runs permaculture design courses at the property and integrates many diverse farming and alternative energy practices. Land at the site has been set aside for the building of the Denmark Education and Innovation Centre (DEIC), plans for which are currently being considered by the Denmark Shire Council. Included in the DEIC will be a school, permaculture education centre, accommodation and a multi-functional registered kitchen. The kitchen will be designed to produce value added products from surrounding gardens as well as other local growers and will also be open to the public for appropriate purposes. Meanwhile an eco-village of 14 dwellings to surround the education centre is also proposed.

Intensive development over the last three years has already resulted in demonstration and display gardens (shown to us by Claire who lives on-site) which will further expand as the project develops. Teaching and technology demonstrations will be conducted in the passive solar buildings and working models of solar water pumping, hydraulic ram pumps, grey water treatment systems, composting toilets and worm farms will initiate the public into the world of permaculture. The highly productive garden setting will be a demonstration of appropriate land use and water management strategies. Three dams were built last Christmas.

An interesting response to temporary accommodation requirements are geodesic domes made from reticulation poly-pipe and second hand parachutes. They buy

the parachutes directly from the barracks for $50 and the domes are erected and used by people doing courses.

Solar herb dryer

One of the commercial alternative technology projects currently being developed at the Living Waters property is the solar herb dryer. It is being built under the guidance of Dave Coleman and facilitated by a grant of $78 000. On completion it is expected to cost in the vicinity of $160,000 and it will be capable of drying 500kg of herbs every day.

A grant of $20,000 has also been received to develop a local herb industry, this will be used to establish a herb nursery on the property and to subsidise the cost of seedlings to growers. It is envisaged that a broad range of medicinal and culinary herbs will be grown both by local organic growers and, it is hoped, by more traditional farmers in broadacre situations. Dave Coleman intends setting up permaculture-style guilds to encourage these more traditional farmers to try organic farming and permaculture principles. According to Dave Coleman, if the technology used in the solar herb dryer is successful in a high rainfall area such as Denmark it will work anywhere further north and similar smaller versions will be built on farms to allow growers to do their own value-adding. This should offset to some degree the $18,000,000 Australia spends importing dried herbs every year!

The Wolery

John Piercy's house (the Wolery) was built for $4000 in 1978 (Photo: Lorraine van Raders).

The trip to the Wolery, 64ha situated beside William Bay, was hosted by John Piercy, Enid Conochie and Margaret Leslie. The Wolery is an intentional community of thirteen households incorporating low-energy passive-solar housing and household gardens. Here we looked at a number of the gardens and discussed some of the legal and social issues involved in setting up and running an intentional community. The Wolery has been established for some eighteen years. The property is owned and run

through an incorporated body which means that bank finance is not available for building. This has meant that affordable imaginative solutions have been required by the residents to get their dwellings built – John Piercy's house was built for $4000 in 1978!

Enid Conochie said that the group had to battle with local government to get approval for their community development but it had held together over the years with lots of caring and sharing.

Total Forestry

Total Forestry is an operation run by David Vann. He estimates that over the last decade he has planted over 2.2 million trees on a variety of sites including farms, developments and rehabilitation sites.

Total Forestry uses a direct seeding technique which is a method of planting native trees, shrubs and ground covers by sowing a mix of seeds directly onto the ground rather than planting nursery raised seedlings. This has the advantage of providing a great density and diversity of plants, the end result of which is a very natural looking system which can be productive both in terms of forest products such as timber and wildflowers, as well as food and fodder. While it is slower at first and requires greater initial maintenance with respect to weed and bug control, it quickly overtakes seedling plantings within a number of years. According to David Vann, the diversity incorporated into Total Forestry's plantings provide "the potential for earlier, more consistent and far greater returns."

Wildlife also finds multi-species forestry far more attractive than traditional single species cultivation as it greatly reduces pest problems. The strategy of adding wildflowers to the understorey also means more consistent returns, however, this does require an extra input of labour. The sites we visited were a roadside planting at Karri Creek, established in September 1993, and a farm plantation at Dingo Flat of the same age, both were impressive examples of the results of direct seeding.

One of the methods of pest control used by Total Forestry to deter herbivores from the young seedlings is to spray them with a mixture of a dozen eggs, one litre of acrylic paint (colour optional) diluted in 20 litres of water. Fire is kept out for as long as possible and fleshy ground covers are included to keep fuel build up to a minimum. Fertilising is not required in the first few years as it only encourages the grass to grow, and may make timber difficult to mill later on.