

### Permaculture for people (written 2001... still waiting)

Many people first came across the idea of permaculture by reading an article about some African farmers who were able to grow far more food per area in their own gardens than they could by growing "Green Revolution" crops in the fields. Those farmers did it by using a mixture of plant types, amazing the scientist in the process. They grew trees that produced food and bushes that produced food and ground level plants that also produced food. The mixture did not look efficient, it lacked the regimented rows that we are used to seeing in our vegetable gardens but by planting such a mixture they demonstrated how a selected mix of species produced more food than our modern farming methods could provide.

In contrast Scottish Fish farmers are currently feeding massive numbers of a single species of fish in underwater cages. Because the system is simple, close to invisible and means that a profit can be made in remote areas it has taken some years for the powers that be to direct their attention a few meters under water around our coastline. Friends of the Earth Scotland has been highlighting some of the problems. Pollution from waste food and faeces. Infections caused and spread by the high numbers of fish held in one area.

Poisons used to treat those infections which have been banned but which continue to be used. These are the problems of intensive livestock rearing (just like chickens) which the government would have recognised far more quickly if it had been occurring on land. The fact that an enquiry is to be begun (possibly not now!! May 2001) is to be welcomed.

There is a whole literature on permaculture but on this small island what is missing is a way to harvest effectively and without permanent damage from the largest area of food production that we have access to. A permaculture of the sea is vital for the human communities around our coast. Many have mountains at their back with little chance to develop other than by utilising the nearby marine resources.

Underwater permaculture could mean that mussels which live naturally anchored to a rock in bunches could be used to clean the water for other species by being anchored to a suitable frame. It could include scallops grown in tanks on land and seeded on to a section of seabed till they reach maturity. They will not have travelled far as they grow because they only swim in emergencies and for a few meters. Similarly for lobsters.

Most people will probably have been surprised to think of mussels and scallops as fish, but that is what they are in formal terms.

What about the "fish" shaped fish is the next question. The examples just given have in reality already been done, with reasonable success, on a commercial basis. Examples for "fin" fish are more a case of pointing to potential for change. However commercial salmon farmers did consider using one type of fish to eat the parasites of their caged salmon (unfortunately they chose to use chemicals). There are also a few fish farms around Scotland that are going to be growing halibut and cod in their cages in the near future. As people gain more knowledge of how to grow different species there are more opportunities of creating a self sustaining mix.

There have even been significant legal changes concerning scallop and lobster fishing. Quite recently Scottish law had been used to give individuals the right to exclusively harvest the scallops in an area. This permitted scallop ranching to begin because the person who released them on to the sea bed could be sure of getting them back when they had grown. The problem with that was the actual wording of the law which prevented other people from catching lobsters in the same area. The lawyers have now caught up with the fact that using lobster pots in an area has no effect on scallops at all. The scallop ranchers were quite happy to share space with the lobster fishers. That



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has meant more employment opportunities and less formal objections to new ranching areas.

So some of the pieces are in place to arrange a mixture of species which by their presence and their mixed eating habits would assist each other with pest control. Together they could produce a combined productive output far greater than any one species could do alone. Aberdeen FoE will continue to try to highlight moves in that direction on our web Bulletin board.

The detail of what can beneficially be done will have to be worked out with local and practical knowledge. A very suitable task for the many smaller communities around Scotland's coast who have few other assets to utilise. Many have mountains at their back and a long road to the nearest large town. A task for the urban population is to have sufficient knowledge of the situation to support them in their attempts.

### 2004 addition

We are now witnessing a crisis for the fish capture industry and major difficulties for fish farming. The common issue for them both is that they are continuing to provide high volume low cost food. As consumers that may seem to be a good thing but as workers we should notice that other areas of the world have lower wages and a lower level of health regulations.

Taking a look at the success of farmers markets in Scotland in recent years may convince the industry of the benefits of high quality local production and sale.