

which will eventually determine the management of regenerating forest, Forest and Bird appealed against the proposed RPS to the Planning Tribunal.

The council has subsequently agreed to most of our requested amendments and a costly court case has been avoided.

The agreement adds a new objective and a policy to the RPS, which commits the council to ensuring the sustainable management of native forest, and to seeking "to maintain the abundance and diversity of indigenous fauna". Native forest has been defined to include kanuka.

The methods specified recognise that the council needs to control the modification of indigenous vegetation, including the clearance of kanuka for plantations. They also ensure the council will actively encourage the full protection of these areas, although such protection will not be forced on landowners.

Forest and Bird looks forward to working with the council, Ngati Porou, other landowners and interest groups to develop workable management prescriptions for regenerating forest in the district plan.

Duane Burt

It's all in the timing

MANY FOREST and Bird members will have noticed how

native fruits and flowers can be found throughout the year in New Zealand forests. But have you noticed how closely they dovetail?

Astrid Dijkgraaf is a PhD student researching the timing of fruiting and flowering (phenology) of native tree species. Her work is partly funded by the J.S. Watson Trust administered by Forest and Bird. The key plants of her study are those with large fruit (bigger than a centimetre in diameter) or with large nectar producing flowers.

Astrid has been able to show that the phenology of these species dovetails very closely but hardly ever overlaps. Although such a tight sequence of events initially seemed somewhat surprising, it makes perfect sense from an evolutionary viewpoint.

A tree with a crop of ripe fruit that needs to be distributed by birds would benefit if it were the only species with fruit at a particular time. All the birds would have to forage for this species and thus the fruit would be dispersed most widely. Thus tree species within a forest would evolve to produce fruit at a time when not many other species have ripe fruit, leading to staggered fruiting throughout the year.

For the birds, it is much easier and saves on flight costs, to live in an area where food is available all year round. By staggering fruit production throughout the year the trees assist in maintaining a good local population of birds to disperse fruit. Thus both plants and animals benefit from this arrangement. The same concept applies in relation to birds and flower pollination.

The introduction of exotic animals into the equation has severely disrupted this tight pattern. Possums, for example, tend to eat the flowers of some species, thus preventing or severely reducing fruit set, or eat the juvenile or immature fruits before they are ripe enough to be eaten by native animals. Some species, such as kohekohe, do not produce any flowers at all because there isn't sufficient leaf area left after possum browsing to generate the energy required. This creates huge gaps in the food available to native birds, and will reduce their overall success and survival rates.

Another intriguing aspect is the (sometimes large) geographic differences in the timing of fruiting and flowering. Astrid's two original research sites, Wenderholm, north of Auckland, and Whitford, south of Auckland, are only 100 kilometres apart yet differ in fruiting or flowering by up to a month. Astrid is now gathering information on how the phenology of certain plants changes up and down the country and how this relates to the animals that depend on those plants.

Direct action on Kaituna River

IN LATE FEBRUARY, a large gathering of local residents watched the locks on sluice gates on the Kaituna River in the Bay of Plenty being illegally forced open with an axe.

The action, aimed at restoring some of the natural flow to the Maketu estuary, was in breach of

a High Court injunction. It has, however, received wide support in the Maketu community, both Pakeha and Maori, and even sympathetic editorials in the regional press.

Forty years ago, as a flood control measure, the Kaituna River was diverted away from the estuary, straight into the sea. The estuary, with no river to flush it, began slowly filling with sand and today is no more than a large puddle, unable to support its former rich populations of sea and shore life.

There was no consultation with the large local Maori community over the original diversion, and, about 18 years ago, residents began the fight to have the river restored to the estuary. Six separate inquiries over the years recommended the diversion of river water back into the estuary and, since 1987, the Department of Conservation has overseen a plan for the gradual reintegration of the river with the estuary.

In what was thought to be the final stage of the restoration plan, a channel with four culverts and gates was completed last October. But the department had failed to sort out a dispute with the owner of the land involved in the rediversion. He took out an injunction and the High Court ordered a halt to any rediversion of water pending a full hearing of the dispute.

There matters stood, with residents increasingly frustrated at the delay, and no date set for the hearing. Finally residents opened the locks on the gates thus allowing the river to enter the estuary.

DoC has withdrawn a complaint to the police, two of the four sluice gates have been left open and the case, which three months ago did not even have a hearing date, has now been heard. The decision, which will determine whether the local estuary can be given a new lease of life, is eagerly awaited in Maketu.



Astrid Dijkgraaf empties a seedfall trap at one of her research sites at Whitford.