very important when addressing biodiversity issues, including "ecological significance". Alison Newell (Far North District Council) reports "being one of the least resourced territorial authorities with 35% of the district classed as significant ecologically—community buy-in is essential. We need to ensure that whatever method chosen by TAs to address biodiversity issues (regulatory or non regulatory) is the most effective on the ground—and that requires community support and understanding".

Shona and Karen question how relevant the continuing debate over significance criteria and relative values of natural areas is. We have lost so much of NZ's biodiversity that we are now concentrating on protecting all that remains (rather than just the highly significant bits), on ecological restoration and creating linkages. The small fragments, the weedy corridors, and the areas with potential for restoration are very important parts of this jigsaw. The growth in community support for restoration from both rural and urban people is huge.

Concern is also been expressed about the proposed simplification of ecological significance criteria, (reduced to a proposed four) from the original seven PNAP criteria, many of which are already embodied in regional and district plans, already very much in practice, and already tested in Environment Court. We feel that for most parts of New Zealand its time to stop endlessly analysing the relative virtues of the scraps of biodiversity we have left and turn our attention to working with landowners to help protect them.

Karen Denyer, Shona Myers, Andrea Julian
Melanie Dixon, Philip Grove, Alison Newell
and other members of the
Local Government Ecologist Network

53RD ANNUAL GENERAL MEETING OF THE NEW ZEALAND ECOLOGICAL SOCIETY

The AGM of the NZES will be held during the annual conference—the date, time and room will be advertised in the next newsletter and on the conference website once it is up and running. All members are urged to attend. The minutes of the 52nd AGM can be found in the December 2004 issue of the newsletter http://www.nzes.org.nz/newsletter/no111.html. Members are reminded that notices of significant motions that are to be put by members need to be submitted to council at least 28 days prior to the AGM, and preferably in time to be included in the newsletter that precedes the AGM (issue no. 113 due out in May, deadline 1st May). After that time, following the society rules, no new motions may be proposed, discussed, or put to vote except by consent of more than two-thirds of the members present.

ECOLOGY STUCK ON THE WEB

1. Using the web to identify plants

One of my most precious tools as a field ecologist, alongside my trusty botanical hand lens, binoculars, and camera, is the internet (or world wide web (WWW)—described as one of the few phrases quicker to pronounce than its abbreviation). Hidden on the web amongst the mountains of scams, advertisements, Windows-eating programs, and adult entertainment is a growing wealth of excellent taxonomy and natural history information. A lot of it is free, both from overseas and increasingly from Aotearoa.

Any time I'm out and about in wild places, I like to learn a few new plant species. It's part of my quest to know enough species and natural history not to be embarrassed by old-time biologists, natural history camera people, biosecurity officers, and influential undergrads. I regret not having the head for names that makes a good taxonomist, but the more species I can recognise, the more ecological patterns I can separate from the chaos, and the better an ecologist I can become. At least, that's my plan!

Late last century, if I'd been out in the bush in one of those scary areas not covered by a Hugh Wilson guide book, I would return with my plant specimens and notes and descend into the grey haze of botanical jargon that is the New Zealand Flora Series. Sometimes, I would emerge on the other side with a name. More often, because the species I collected wasn't in flower or fruit at the time, I'd end up with a short list of possible names that I then had to check with Someone Who Knows or compare with herbarium specimens.

Now, things are much easier and it's all because of the web. Nowadays, I come back with my set of digital photos of an unfamiliar plant species—and a specimen only when the record is important or the group is difficult—(By the way, it doesn't seem to be common knowledge that many digital cameras, including my little Canon Ixus, can take quite acceptable handheld macro photos through a botanical hand lens.) I then turn to the keys and descriptions in the New Zealand Floras. But now I don't need to be in the same physical location as my well-thumbed Flora set. I can view the Flora series from anywhere there is an internet-connected computer (floraseries.landcareresearch.co.nz). This is thanks to the heroic efforts of Aaron Wilton and colleagues at Landcare Research, and the Terrestrial and Freshwater Biodiversity Information System (the same government fund that paid for our society to bring you all back issues of NZJE on-line).

I can also check on the up-to-date plant names at Landcare Research's Plant Names database (nzflora.landcareresearch.co.nz), also accessible by clicking the little kowhai flower icon next to a plant name in the online Flora series). The Plant Names Database meshes in with

the CHR herbarium database to display distribution maps (for some species) and there are buttons that promise to one day link to images, descriptions, and extra information. I'm all aquiver with excitement at this prospect.

Once I've emerged from the Floras after having converted the botanical jargon into a mental image of what a listed species should look like, I go to Google Images (images.google.com) to see what it really looks like. I type in the species name surrounded by quotation marks (so I don't get matches for other species in the genus or other genera with the same species), and watch all the images of the species roll down my screen for inspection. Many of these images are sourced from reputable botanical institutions. I can usually then say "by Jove, it's definitely that one". I'm old enough to find this a marvel.

At the moment, this works extraordinarily well for naturalised plants, because our colleagues in Europe, America, and Australia are ahead of us in freely sharing their information and photos through the web. But we're getting there. I recently wanted to quickly see what *Senecio radiolatus* looked like, as a student of mine was taking a trip out to the Chatham Islands where this species grows. I typed "Senecio radiolatus" into Google Images, and was rewarded with only one image, but it was an excellent photo from the increasingly superb New Zealand Plant Conservation Network website (www.nzpcn.org.nz). Just what I needed.

Once I have my precious name, I can type it into the standard Google text search and get most of what the electronic world knows about the species. This now includes every NZES journal article, ever, that has mentioned the species anywhere in its text (www.nzes.org.nz/nzje/). If you're interested in exploring the wider evolutionary relationships of a species, a great place to start is the Tree of Life (tolweb.org/tree/phylogeny.html), a website with a swish new look and increasingly large volume of thoughtfully presented information.

By now, those old time plant taxonomists out there may have passed out with shock. Foolish young ecologist! Am I really identifying plants based on digital photos and web information? Yes, I am. But I am not one of those less-influential undergraduates who blindly trusts everything they find on the web and pastes it into a class essay without reading it. A little knowledge and caution is useful. There are groups of plants where careful inspection of specimens and expert advice are required. If you work through the appropriate section of the relevant Flora, you will see which features are important for distinguishing similar species. If these are obscure or variable, be sure to check your plants against herbarium specimens, and ask an expert, rather than embarrassing yourself in front of a more influential undergraduate.

Jon Sullivan, Lincoln University
NZES webmaster

DEFINING SIGNIFICANT NATURAL AREAS

A new resource on the NZES website:
http://www.nzes.org.nz/e_resources/signatareas2004/

An electronic report is available on the Significant Natural Areas workshop held at the 2004 Annual Conference of the New Zealand Ecological Society, Invercargill, on 30 August 2004. The workshop report was prepared for the New Zealand Ecological Society by Judith Roper-Lindsay (Boffa Miskell Ltd, Christchurch) with material from the workshop participants.

The report includes substantial background notes and a section written by Mark Christensen (Anderson Lloyd Caudwell Solicitors) on the case law surrounding Section 6(C) of the Resource Management Act, Protection of Significant Indigenous Vegetation and Fauna. Also included are all PowerPoint slides from the workshop presentations by Geoff Walls, Erik van Eyndhoven and Colin Meurk, and full notes on the discussions held during the workshop.

This report marks the first addition to a new eResources area of the NZES website.

LOCAL GOVERNMENT ECOLOGISTS NETWORK

A network of ecologists working in local government was established in 2003. Its aim is to share information and ideas and provide a support network. Its focus is on ecologists working in terrestrial and wetland ecology. Working in local government can be exciting, each day is different, and you need to be flexible, adaptable, be a good communicator, and be innovative and resourceful. You are often very much a generalist ecologist—knowing a little about many aspects of ecology, and often expected to know anything about everything! It can be very rewarding—it is very much about putting ecology into practice, achieving results on the ground, and coming up with innovative solutions to problems. But it can be frustrating. Often you may be the only ecologist working in a council—which can be isolating. Many councils around the country still do not employ ecologists, while some have whole teams. There is a need for us to share ideas and work together to develop solutions to the unique issues we are facing. Things that we as ecologists in local government do include:

- resource management (developing policies in regional and district plans, making submissions on consents, presenting expert evidence at hearings and Environment Court);
- working on the ground with landowners, iwi and community groups on ecological restoration and biodiversity protection projects and best practice for management issues (e.g. vegetation clearance).