

ECOLOGY STUCK ON THE WEB

6: Keeping up with science discoveries using the web

How many ecologists are there in the world today? How about all scientists? A quick Google search didn't give me an answer. An estimate of "a lot" should be precise enough for now. A lot of scientists means a lot of science, much more than mighty mere mortals like we members of NZES can keep up with. For this newsletter, I offer links to a few of my favourite websites for keeping up with science discoveries outside of my area of expertise (if I can claim to have such an area).

Before we start list-making, a quick aside, if I may. Thinking about all those many wonderful ecologists out there reminded me of an excellent seminar I once went to by Peter Raven in Philadelphia. In it, Peter noted that the total global human population at the time when agriculture was invented was approximately the same as the current population of the Philadelphia Metropolitan Area (roughly the population of New Zealand). That analogy has stuck with me as a great way of driving home how successful people have been at breeding. So, when in the history of the world do you think the total human population equaled the number of today's ecologists? I don't know the answer but from a few back of the envelope calculations, which I won't embarrass myself by revealing here, I expect we can safely say that there are at least as many ecologists in the world today as there were people in existence only a hundred thousand years ago. There's a wild thought!

Back to our list making. Lots of ecologists and lots of scientists means lots of science discoveries. I would hazard a guess that the main ways people find out about new science is in journals, in popular science magazines, and via the newspaper and TV media. The web makes all these things easy to do (you can even watch Campbell Live on the web these days). Aside from all the journals now online, I find several websites worth keeping an eye on for keeping up with science discoveries outside of my corner of ecology.

www.eurekalert.org/

This site provides science press releases and articles from and compiled by the American Academy of Sciences. Where else will you find among the headlines of breaking news "The secret lives of sea slugs"?

www.newscientist.com/

You don't need to be a magazine subscriber to keep up with this perennial favourite of popular science reporting. The New Scientist website contains free-to-access stories on all the latest important and quirky scientific discoveries. As an example of this week's stories is "Early worms leave the birds behind". The story summarises an article in the journal Nature showing that European caterpillar populations are now peaking before migratory bird populations do, perhaps explaining the range contraction of at least one bird species.

www.nature.com/news/ <http://sciencenow.sciencemag.org/>

The above pair of sites contain science stories written for a general audience from the publishing houses of the journals Nature and Science. They cover major discoveries throughout science, not just in their respective journals. I have Nature News set as the homepage on my browser. This week I learned through Science Now about a study reported in the journal PLOS Biology that shows that the garlic mustard (*Alliaria petiolata*), an invasive species in North America, reduces the number of micorrhizal connections to maple and ash trees causing slower tree growth in invaded forests.

www.mediaresource.org/sitn/

This is an excellent service of Sigma Xi, the self-proclaimed "scientific research society", based in the US (www.sigmaxi.org). This website summarises what

Jon Sullivan
Lincoln University
webmaster@nzes.org.nz

they regard as the top science stories in the day's newspapers, and includes a link to each article. Usually <10 articles are here each day so you won't get swamped. If your e-mail in box isn't already overflowing, you can also sign up on this website to get these stories emailed to you each day (for free). For those you who can wait, there is also Science in the News Weekly, which is archived at www.americanscientist.org/template/ScienceNewsArchive/.

www.science.org.au/nova/

This website is published by the Australian Academy of Science. It is not really a news site but instead is a reliable source of carefully considered fact sheets on controversial and popular topics in science. As such, it is a great resource for education.

Have I missed your favourite site? Please let me know.

If you'd prefer audio rather than staring at the screen, there are also a number of excellent podcasts popping up that summarise science news.

Pod what? Podcasts are audio files (e.g., mp3 files), and now sometimes video files, that can be downloaded from the web. What makes a podcast different from other legally downloaded files is that you can subscribe to a podcast and your computer will then automatically download new shows as soon as they become available. A lot of radio programmes are now available as podcasts, allowing you to listen to them whenever you're ready. The free iTunes software from Apple (available for Windows and Mac, available at www.itunes.com) makes the process seamless—you can browse through available podcasts, subscribe to shows, and either listen to them on your computer or have them automatically downloaded to your iPod when it is connected to your computer.

My favourite science podcast is the irreverent "This Week in Science" (www.twis.org) from UC Davis public radio station KDVS, hosted by Kirsten Sanford and Justin Jackson. Their weekly hour-long show includes a usually hilarious account of the weeks news stories and often has a half hour interview with a high profile scientist. For example, Tim Flannery was a recent guest on the show. I listen to TWIS on my iPod when I bike home from Lincoln University.

Another science podcast I listen to regularly is Science Friday (www.sciencefriday.com), hosted by Ira Flatow and broadcast by the US National Public Radio. Topics from the past month included new fossil fish and humanoid finds, mercury in fish, coral bleaching, possible nanotech risks, and the methanol economy. Each show consists entirely of interviews with scientists and is a great opportunity to hear the experts explain their latest science to a lay audience. This past month, I learned from Seth Lloyd, researcher at MIT in quantum computing, that if every elementary particle in the universe was a monkey that had been randomly typing since the universe began at the maximum possible rate allowed by the laws of physics, the closest any one monkey would likely have come to typing out Hamlet would have been "To be or not to be that is the...". In other words, the universe is very, very big and very, very old but not nearly as big or as old as needed to do ridiculously improbable things. Now there's a useless piece of information for an ecologist!

You may have noticed a lack of local focus in the above sites. I know DOC staff have access to an excellent news clipping service via their intranet. For the rest of us, keeping up with local science news stories comes back to reading journals and newspapers. Alastair Robertson at Massey started up the HotScience service on our NZES website to address this issue and I have been too busy to keep it updated or build a more user-friendly web home for it. Perhaps it is time for HotScience and other ecological news from NZES and our members to become a blog! A what? That sounds like a topic for next issues column.