

After “eco” comes “service”



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Ecology students are full of passion for, and are committed to, the environment, and this can help us to disseminate our knowledge to the public. A call for students to engage non-scientific audiences has been made by ecological organizations as well as by students (Morgan *et al.* 2008). However,

when we surveyed ecology students to determine their response to this call, we found their engagement in service outside of their academic responsibilities to be surprisingly low. Given its potential benefits, we believe that “ecoservices” are as important as the research we conduct. Here, we outline the causes of this lack of engagement in ecoservice by student ecologists, and provide suggestions on how these activities can be incorporated into university ecology programs.

Ecoservices are those ecology-related activities, not including research or teaching assistantships, that increase public environmental awareness. Examples include volunteering at a non-profit environmental organization, teaching GK–12, consulting for land managers and policy makers, organizing workshops, and so on. The benefits of ecoservice are numerous for ecology, society, the environment, and the students themselves (see http://esa.org/students/section/files/Ecoservice_online.doc).

We ran two surveys to assess the level of student involvement in ecoservice; these were conducted October–November of 2008, and we collected responses from over 260 undergraduate, graduate, and post-doctoral ESA student members. The results indicate that students value ecoservice, yet are not making the commitment – although the majority of respondents (71%) identify themselves as “ecoservers”, the time they spent in ecoservice averaged out at less than one hour per week. When asked about their current professional priorities, 83% of students reported research, teaching, and mentoring as the most important, while 77% believed volunteering and consulting to be the least important. The rankings for these priorities fell consistently below how students ideally prioritized ecoservice-related activities, given unlimited time and resources (Figure 1). Furthermore, few students (12%) participate in ecoservice

that specifically supports minority involvement in science or that provides direct communication with the general public, even though funding agencies emphasize broader impacts involving precisely such ecoservice activities.

We believe that the disparity between actual versus ideal priorities among students stems from three major obstacles. The first is the time commitment involved, which was identified as the main impediment. Second, strong pressure to publish research means that other aspects of scholarship can be easily overlooked. Third, students do not receive enough support from their programs to engage in ecoservice: 87% of students are enrolled in programs that do not promote or reward such activities. This reflects the lack of interest and support by advisors; 57% of the students did not feel that their advisor supported involvement in ecoservice. We see this as a major weakness in our field, because advisors are primary role models for students. This makes it harder for students to realize the numerous benefits of ecoservice (networking, application of knowledge, development of public speaking and leadership skills, etc).

Despite these challenges, we strongly believe that students can engage in ecoservice while continuing to carry out other academic duties. We highlight four easy ways to become involved *right now*. (1) Volunteer at a non-profit environmental organization. This is an ideal way for undergraduates to determine whether a career in ecology is the right option, before committing to a graduate program. (2) Mentor youth and minorities. Several survey respondents support minority participation by helping non-native English speakers to publish papers in English-language journals. (3) Apply your ecological knowledge by consulting. (4) Get involved in creative endeavors, such as ecology festivals (eg the 2009 ESA Eco-Arts Exhibition, www.esa.org/students/section/?q=node/91).

Many ecological organizations facilitate ecoservice. For example, ESA created SEEDs (ESA 2008) and the

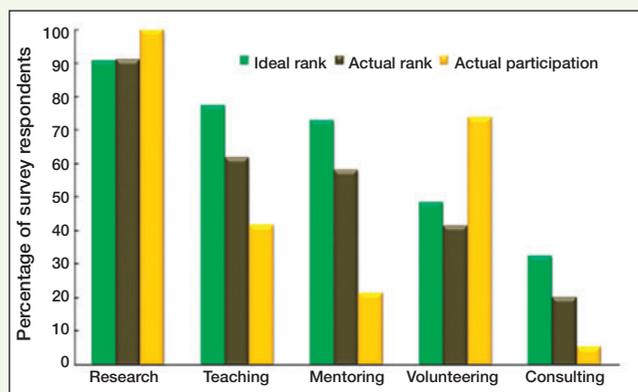


Figure 1. Priorities of ecology students and percent of participation in ecology tasks.

“No Child Left Indoors” (Lowman 2006) programs, both of which focus on increasing ecological literacy among underrepresented students. Additionally, the ESA Student Section launched the annual “ecoservice award”. These initiatives provide support at broad scales, but can fall short at the local level. Lack of infrastructure at the local level is probably one of the greatest impediments to regular student involvement in ecoservice. Requiring students to set up their own ecoservice programs from scratch can be inefficient. One way to facilitate the process at local venues is for ecology programs to incorporate ecoservice into the program syllabus (University of Missouri–Columbia 2009). Schools could require one public presentation per year from each student, develop programs to recruit and mentor minority students, and reward ecoservice with “best citizen” awards. In this way, students will gain experience in public outreach under the supervision of faculty.

By limiting our professional responsibilities solely to making scientific discoveries is to have partially failed as ecologists. As the future leaders in our field, it is our duty to engage in activities that are important to both the scientific community and the general public. Professional/non-profit ecological organizations are doing their part to facilitate student engagement, but this is not enough; university ecology programs need to include such activities within the syllabus in order to make this an integral part of ecology. Ultimately, it will be *your* decision to use the enthusiasm and independence that characterize our generation and to incorporate ecoservice in your work.

Faculty response



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I was both delighted and chagrined to read this essay – delighted that these authors had highlighted the vital role of ecoservice, but chagrined that so few young people today are actively engaged in such activities. In responding, I would simply take issue with one misperception about ecoservice: that it is a purely altruistic act that comes with a net “cost” to the ecoserver. This misapprehension, I believe, is the biggest hurdle to prospective ecoservers, and yet nothing could be further from the truth.

In my experience, being an ecoserver has provided huge personal benefits. For instance, because ecoservice often involves communicating with the general public or journalists, it challenges students to hone their writing and speaking skills – skills that can dramatically increase their

real-world impact. Writing for the general public can rapidly advance your career – just consider Paul Ehrlich, Jared Diamond, EO Wilson, and Rachel Carson, all leading scientists who greatly elevated their impact through popular writing. Whereas a scientific article in a journal like *Ecology* might be seen by just a few thousand readers, and actually read by far fewer, a popular conservation article in *Natural History* or *New Scientist* will reach hundreds of thousands.

For students, ecoservice can bring vital recognition from colleagues and the broader community. For instance, when I was applying for graduate school many years ago, I was delighted to have as a personal referee the former US Secretary of the Interior, Cecil Andrus, who had been impressed with my conservation activism as an undergraduate. Graduate programs often look specifically for evidence of such broadening experience when deciding among competing candidates.

Ecoservice can also vitally inform your research. Many academics, even those who consider themselves conservation scientists, still conduct work that is far too arcane, general, and inward-looking to have an impact on the real world. However, those engaged in conservation issues quickly learn that political influence, money, media know-how, and public relations usually play a far larger role in real-life conservation than does science alone (Saberwal 2000; Laurance 2009). If you truly wish to have practical relevance and influence, ecoservice provides an invaluable dose of hard reality.

I could say far more about the benefits of ecoservice – for expanding your networks of allies, potential employers, and funding sources, for example – but instead I will finish with a single thought: one of the keys to happiness in life is to have a personal mission – to believe in, and fight for, something bigger than yourself. In this sense, ecoservice can be enormously gratifying, helping to give you a sense of personal meaning that precious few enjoy.

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