The natural-resource profession relies on volunteers and interns—who are typically compensated at levels far below minimum wage—to carry out many research, management, and conservation activities. In some cases these positions involve part-time or short-term service, during which an individual need not forego outside opportunities for paid work. Such experiences can be rewarding and educational and are filled by students, retirees, vacationers, individuals working full time in other professions, and amateur naturalists. Because these individuals usually have an outside source of income and their time commitment is limited, their service is unlikely to lead to financial hardship. Many other volunteer and internship positions require that individuals live in remote areas and work ≥40 hours per week, effectively denying them the opportunity to earn outside wages. Most often these full-time positions are filled by aspiring natural-resource professionals (e.g., students or recent graduates) who need workplace experience if they are to advance to graduate school or more lucrative jobs. Consequently, employers often consider work experience adequate compensation for wage shortfalls. This latter group—entry-level professionals in full-time positions—is the focus of this essay. I believe that our widespread use of volunteers and interns to compensate for budget shortfalls does our profession more harm than good. In many cases this approach is in conflict with labor law, hinders the development of new professionals, undermines our profession’s credibility, and is an impediment to achieving our conservation goals. Evidence that I am not alone in my concern was provided by a recent debate on this topic on The Wildlife Society’s email discussion list (TWS-L(listserv.vt.edu; October 25–30, 2001; >70 postings by >50 members). Although a minority of contributors spoke out in defense of the status quo, many more were sharply critical of our current use of volunteers and interns. How extensive is our use of subminimum-wage positions? As an example, I reviewed all positions offered on Texas A&M University’s on-line fish and wildlife job board on 14 November 2001 (Table 1), which is currently considered the most complete job listing for fisheries and wildlife professionals in North America. Thirty-three percent of the ≥267 entry-level positions offered were listed as internship or volunteer opportunities, and only three internships offered stipends exceeding minimum wage (Table 1). Many other positions, typically referred to as “technicians,” also paid less than minimum wage, meaning that >40% of entry-level positions listed paid below this standard (Table 1). These positions were offered by a diverse group of organizations, including federal and state agencies, national parks, universities, branches of the military, private companies, and non-profit conservation groups. Many included some non-monetary benefits such as housing or academic credit, but stipends were generally so low that even with this support compensation did not approach minimum wage. Employers receive obvious monetary benefits when paying less than minimum wage, whereas workers can benefit by gaining workplace experience, professional exposure, and satisfaction from service. But do these benefits come at a price? Starting at the level of the individual and moving outward, several important costs can be incurred by our current treatment of volunteers and interns, including (1) undue personal hardship, (2) exclusion of potentially valuable individuals based on economic class, (3) failure to meet society’s legal and ethical expectations, and (4) devaluation of natural resources and impedance of conservation.

Personal Hardship

In my experience, underpaying new professionals almost invariably causes them extreme financial and consequent emotional hardship. Given the low salaries of-
fered to entry-level biologists, debts accrued during service likely will continue to handicap them for years, even if they obtain salaried employment. Compounding this problem is the fact that the buying power of a minimum-wage salary is declining, and in 1997 was 30% lower than it was in 1968 (Pollin & Luce 1998). The extent and severity of this problem became painfully apparent to me after I taught and supervised many young biologists during my doctoral studies. Most of my technicians arrived carrying large debt loads that they had accumulated during prior work as volunteers or interns. In several cases this employment deficit was compounded by large student-loan payments. These debts made it extremely difficult for many of them to survive on the modest wages we offered, and thus caused considerable long-term hardship. Secondary costs were emotional: many of these talented individuals felt they had been exploited by past supervisors, seriously doubted their ability to continue as natural-resource professionals, and, in spite of their depth of character and dedication, experienced low morale.

Many undergraduates I have mentored have also worked as full-time interns or volunteers and have related similar stories of hardship. A commonly reported frustration results from the widespread attitude among natural-resource professionals that financial motivation, even out of necessity, is in some way impure. These individuals felt obliged to suffer in silence lest they diminish their supervisor’s perception of their constitution, work ethic, and motivations, thereby sparing supervisors the unpleasant burden of knowing the hardship their under-studies were suffering.

Exclusion

Potentially valuable individuals are excluded from the profession when entry-level jobs do not offer a living wage. Many people simply cannot afford to work without pay, even part time or for a few months. Others may never seriously consider the profession because prospects are so grim. Such exclusion is detrimental both to individuals and to our profession as a whole. If economic class disqualifies some proportion of prospective biologists, than presumably the average quality of professionals emerging from the remaining pool is reduced accordingly. Further, because in many countries race and ethnicity are strongly correlated with wealth or economic class, inadequate wages diminish the likelihood that members of such groups will become natural-resource professionals, thereby reducing our effectiveness as a social institution. Increasing staff diversity is a major challenge facing conservation agencies and institutions in many countries. I have often heard professionals suggest that individuals excluded for economic reasons do not have the necessary level of commitment and character for our profession and, consequently, that we are better off without them. This view suggests a disturbing level of ignorance and naïveté.

Failure to Meet Societal Expectations

For ethical and social reasons, many countries have instituted national minimum-wage and fair-labor laws. Our perception of the importance and urgency of our work as conservationists does not elevate us above the societal values that led to this legislation. Minimum-wage laws typically include some provision allowing employers to pay interns (i.e., people receiving workplace training) less than minimum wage, but many natural-resource “internships” fall far short of the legal requirements for such exemption. Internship legislation allows employers to transfer the costs of employee training to the benefiting individual. Consequently, training must be the focus of the position, should be of direct benefit to the intern, and should be comparable to that offered by a vocational school; the intern should not displace paid workers. Workplace experience is not considered training, and legally sound internships often lead to professional certification or academic credit. Legal and ethical expectations are also placed on groups taking on volunteers. Natural-resource volunteer positions may also fall short of a number of these expectations. For example, under the United States’ Fair Labor Standards Act, volunteer positions should offer no implicit or explicit opportunity for advancement or future compensation (i.e., coercion), should be predominantly for the volunteer’s benefit, should not displace paid workers, and should not compete with a volunteer’s opportunity to earn outside wages. Further, it is not the choice of the volunteer to waive this legal protection. Whether or not your country has instituted similar labor laws, the ethical issues they address are worthy of serious consideration.

Widespread ignorance of labor laws was evident in my

<table>
<thead>
<tr>
<th>Employer’s classification</th>
<th>Postings (n)</th>
<th>Positions (n)</th>
<th>Minimum wage (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volunteer</td>
<td>3</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Intern</td>
<td>34</td>
<td>≥85</td>
<td>≥80</td>
</tr>
<tr>
<td>Employee (entry-level)</td>
<td>111</td>
<td>≥178</td>
<td>≥22</td>
</tr>
</tbody>
</table>

* Many postings offering >1 opening did not indicate the number of positions available. Each of these postings was considered to represent two positions, so the total number of positions reported is a minimum estimate.
* Positions described as “volunteer/intern” were considered internships.
* Jobs were considered entry-level if they required at most a bachelor’s degree and ≥1 year of professional experience.

Table 1. Summary of entry-level positions listed on Texas A&M University’s on-line fisheries and wildlife job board, 14 November 2001 (http://wscnet.tamu.edu/wscnet/Jobs/Jobs.htm).
review of job postings on the Texas A&M job board. For example, although a number of the internship postings emphasized learning opportunities and some offered the opportunity to earn academic credit, many others made no reference to training or certification. Many internship postings even indicated that applicants having prior experience would be favored, strongly suggesting that the employer’s primary interest lay in worker productivity, not training. A number of employers used the terms volunteer and intern interchangeably, indicating ignorance of the legal and philosophical differences between these two designations. Finally, 14 postings offering subminimum wage salaries made no reference to being either internship or volunteer positions and were not posted on the volunteer or internship pages. Most of these workers were referred to as “technicians,” again indicating ignorance of minimum-wage laws. The key point is that although these are the only classes of workers that can legally be paid less than minimum wage, simply calling someone a “volunteer” or “intern” does not make them so as a matter of law.

A common and damaging misconception regarding volunteers and interns is that experiential benefits gained through service can be considered compensation for wage shortfalls. This belief was expressed repeatedly during the aforementioned debate on The Wildlife Society’s email discussion list. Although of obvious value, workplace experience does not offset an individual’s inescapable costs of living and, by law, cannot be counted against wages. Put another way, I doubt that many supervisors would think it reasonable if their employer informed them that they would receive a sizeable cut in pay because they were getting such exceptional (but inevitable) on-the-job experience.

Impeding Conservation

Underpaying professionals can devalue natural resources and impede conservation. This is a difficult argument to make, because the relationship is indirect and clouded by numerous factors. Although the public places a high value on natural resources (e.g., Kellert 1996), most natural-resource professionals are of the opinion that this is not reflected in the allocation of public or private funds and assets to research, conservation, and management (personal observation). Why? This can be partially explained by our willingness to work for low wages and exploit our understudies. The economic value of a resource or cost of a restoration action is underestimated when reasonable wages are not included in conservation budgets and funding requests. Also, as discussed above, if talented individuals are excluded from the profession, training positions are exploitative and of limited educational value, and workplace morale is low, then reduced success in achieving conservation goals is inevitable.

Breaking the Cycle

Based on the points I have raised, I believe that we need to seriously reevaluate the way volunteer and internship positions are viewed and applied in our profession. But where do we begin? It is clear that ignorance of labor law is widespread throughout all levels of our profession. Educating ourselves in this area is probably the most straightforward, cost-effective, and important step we can take to initiate positive change. We also must nurture a professional ethic in which volunteer and internship positions are seen primarily as service-learning and mentoring opportunities, rather than a source of low-cost labor. Where the primary focus is on workplace productivity, we can no longer condone subminimum wages. Because the development of a professional ethic is an important part of a student’s education, universities should play a key role in bringing about this change. In addition to coverage of legal and ethical issues, academic programs should include instruction on ways to maximize the benefits volunteers gain from service (e.g., Werner & McVaugh 2000). Also, I think it is important for professional societies to show leadership by offering members advice on legal and professional considerations regarding volunteers and interns. Employers could then be encouraged to use this advice in developing their own policy.

Another important step is for project administrators to consider full salaries an inflexible budget item. This point is particularly important for public servants, who must view the established minimum hourly wage as the absolute minimum standard for their workers. If you are a public servant, it is perfectly reasonable to hide behind the labor laws government has established. Once funding is received, project administrators must develop a program that fits within the level of support awarded. I have witnessed several cases in which studies have been deliberately designed far beyond available funds. Cost overruns were then transferred to lower level workers via subminimum-wage salaries. Ambition or a sense of duty as a conservationist does not justify this deliberate exploitation of subordinates. Again, an open discussion of professional ethics regarding the purpose of volunteer and internship positions would go a long way toward preventing such problems.

These measures for reducing our dependence on underpaid workers may not work all of the time and will not directly offset funding shortfalls, but they are within our control and offer a starting point for change. I regret that, for simplicity, my discussion is restricted primarily to examples in the United States. My experiences in Canada and Britain, as well as contact
with professionals from other countries, suggests that problems related to underpayment are widespread and worth considering regardless of local laws. I see this essay as an embarrassingly modest plea: I ask my colleagues to consider the minimum wage as the lowest standard for entry-level workers, who are typically required to have at least a bachelor’s degree. I recognize that many volunteers and interns derive considerable satisfaction and valuable experience from their work, but I do not believe this alone legitimizes low wages or that offering them a living wage would diminish their experiences. Our current strategy of cutting wages does not cut costs; rather, it transfers them directly to the lowest tier of professionals in the form of financial and emotional hardship. This approach costs administrators respect, and it is ethically suspect and a serious impediment to building a solid foundation of new professionals to carry our discipline into the future.

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Literature Cited