WHERE DO WE GO FROM HERE?

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ABSTRACT

While the symposium upon which this volume is based contained presentations about some of the cutting-edge work being done on rare species in Washington State, it is obvious that we still have much work ahead. The day after the symposium a group met to discuss what some of the key priorities for the immediate future. These priorities are grouped by education, science, politics, and funding.

INTRODUCTION

Washington was one of the last frontiers of North America. While Russian and Spanish ships explored the coast and traded with Native Americans for furs in the early 1700s, and Lewis and Clark arrived at the mouth of the Columbia in 1806, it remained a wilderness of seemingly endless green forests. In the mid-1800s settlers began to find their way here, but slowly, and in small numbers. In 1880, just 120 years ago, the population of Seattle was only 3,500 people, making it smaller than Walla Walla and much smaller than Portland. This small human population did not seriously threaten the forests or the clear waters. The extraction of resources such as timber and coal, while considerable for the time, did not appear to threaten the environment of the region.

As with all things having to do with humans, the issue is one of scale. The few inhabitants of Washington in the mid-1800s did little relative harm, but their numbers were rapidly increasing. The Klondike Gold Rush of 1897 (and subsequent Alaskan gold rushes) established Washington's ports as key provisioning and starting points for Alaska. The Alaska-Yukon-Pacific Exposition of 1909 announced to the world that Seattle, and by extension all of Washington, had arrived as a major link to the resources of the Pacific region. By 1920, the population of Seattle, now the largest city in Washington, was 315,312.

The natural beauty of the Pacific Northwest, and the opportunities here, have continued to attract new immigrants. We currently have about 5 million people in Washington and the U.S. Census Bureau expects the population to increase to 8 million over the next 25 years. Just as the increase from 3,500 to around 537,000 people in Seattle, according to current preliminary Census data, over 120 years (and many more in the surrounding suburbs) led to substantial changes in the landscape we can expect more urbanization to occur. More houses, more stores, more roads – all will affect the habitat of the native plants and animals directly and also indirectly, through the increase in pollution, disease, and other factors.

It was in this context that 100 people came together at the University of Washington's Center for Urban Horticulture on April 17 and 18, 2000. Organized by the Center's Washington Rare Plant Care and Conservation Program (Rare Care), researchers, consultants, students, and lovers of native plants met to review the current state of knowledge of Washington's rare plants and rare ecosystems and to plan for the future. We heard presentations on the reproductive biology of rare species, on their genetics, on the effects of cattle on rare ecosystems such as vernal pools, and on what various agencies are doing to protect the species under their jurisdiction. The papers in this volume represent the presentations given during this meeting. They serve as a benchmark for the future. This is where we are. Now, where will we go?

After two days, one thing seemed certain: while excellent studies have been made and others are ongoing, we still know very little about the many rare species in Washington and we are running out of time. Each time the Washington Natural Heritage Program reviews the flora for its list of endangered, threatened, or sensitive species, the list gets longer. We need to know more about these species in order to save them and protect their genetic potential for the future. We must not wait until we have lost too much of this last frontier.

Washington is fortunate to have a dedicated and intelligent group of people working to protect its flora. From federal, state, and local agencies to consultants, from universities to dedicated amateurs, there are many informed people working hard and with passion. On April 19, 2000, following the two-day symposium on "Rare Plants and Ecosystems of Washington State," 14 of those dedicated people, representing 12 agencies, universities, or organizations (Table 1), stayed to discuss priorities and action items for the future. Following the stimulating presentations we heard the preceding two days, we were full of ideas.

To begin, using our observations from the symposium, we each contributed our opinions about gaps in our ability to protect Washington's rare species and ecosystems. First and foremost, not surprisingly, were the enormous gaps we have in our knowledge of rare species. Even what has become the "poster child" of rare plants in Washington, *Castilleja levisecta* (golden paintbrush), is not well understood. We also identified gaps in communication among those working on rare species. Past efforts to develop networks have always flourished for a brief time, then faded away. We need to establish a solid network of conservation individuals that supports and complements individual efforts. The public perception of rare species and the need for their protection is also a gap that we are not adequately filling. And, finally, the gap that underlies all the proceeding ones is the lack of adequate funding for research, education, and action on rare species. Using these identified inadequacies as a guide, we focused our discussion on the following areas: education, science, politics, and funding.

EDUCATION

It was generally agreed that there is an enormous need for education about rare species in this state. Even people informed about conservation issues or interested in native plants are unaware of the number of rare species and the degree of imperilment of many species.

Table 1. Organizations with representatives participating in the planning meeting.

Bureau of Land Management
Calypso Consulting (private)
Institute for Applied Ecology (Oregon)
King County Noxious Weed Board
The Nature Conservancy of Washington
United States Forest Service
National Park Service
University of Washington
Washington Department of Natural Resources
Washington Department of Transportation
Washington Native Plant Society
Washington Natural Heritage Program

Without an educated public we have a greatly reduced hope of improving policies and laws to protect rare species and prevent others from becoming rare. A number of positive steps were identified, including:

- Developing curricula that could be used by schools. The "Celebrating Wildflowers" materials and events developed by the Plant Conservation Alliance were cited as a good model to use to develop such curricula. Items such as native plant coloring books have been created for different states and regions and web sites post some of the childrens' efforts. To increase awareness on the grade school level we could promote these materials to schools and help the Plant Conservation Alliance to work on more educational materials geared towards rare species, in particular.

- We need to bring more awareness to the print and electronic media about rare plants. While they may lack some of the immediate appeal of rare vertebrate animals, many of our rare species are attractive enough to capture awareness and attention. It was agreed that we need to work together to develop the "sound bites" that the media seem to crave – catchy brief statements that convey the immediacy and importance of protecting rare native plants. For instance, many people are interested in maintaining wildlife, but how many are really aware that the maintenance of healthy wildlife populations is strongly correlated with the maintenance of functioning plant communities upon which the wildlife depends. Saving wildlife means saving all the pieces of the system, including the plants. Sound bites like "Plants are the home of the animals that you care about" (only far more ear-catching than that!) are needed to quickly communicate the need to protect rare plants and ecosystems and about why vegetation decline is such a critical conservation issue. Many plant conservationists also have contacts within the media that we need to be using more effectively.

- As the symposium demonstrated, we know too little about non-vascular plants. Extra effort was made to identify participants that were doing work on these species and we still had difficulty. With so few people informed about them, we are very likely missing the kind of casual, yet important, observations that are often reported about rare vascular plants. And we certainly lack sufficient numbers of skilled scientists studying these organisms. We need to organize workshops on non-vascular plants, perhaps through the Washington Native Plant Society, and to encourage more students at universities to pursue interests in non-vascular species.

SCIENCE

The consensus about the needs on the science of rare species can be summed up as "MORE!" We need more of nearly every type of information about rare plants. We know so little about their pollination, breeding biology, seed or spore production, genetics, growth needs, and biotic or abiotic threats. Even our most studied species have huge gaps in our knowledge about them that hinders effective conservation. With an increasing number of species becoming threatened, the need for more data that will inform management plans becomes critical. The group also felt that with the increase in the number of imperiled species that we might need to take more of an "ecosystem approach" to management. To do that, we would need better information about the distribution of rare species so that critical habitat of the species could be designated within a certain ecosystem.

POLITICS

As important as it is to know more about the biology of rare species, most scientists at some point realize that science won't save species, but laws and policies will. Washington State lacks a state Endangered Species Act and is unlikely to get one in the near future. There are a number of limitations to the federal Endangered Species Act that make it insufficient to adequately protect most species. However, there are a few things we could do in the immediate future to address the political situation:

- Hire a legal expert to research other laws that can be used to protect rare species. For instance, the Growth Management Act might be helpful in some cases to protect specific populations of rare plants or to protect rare ecosystems. Other state or county laws might also be helpful. Once these laws are determined, workshops can be given around the state to make people are aware of their uses.

- The California Native Plant Society has been very successful in acting as advocates for rare species on the political front. Many people doing conservation in California credit them with being the most effective force in getting changes to laws in that state. We believe that it would be beneficial to have some representatives that led those efforts address the Washington Native Plant Society and other groups in Washington about the most effective (and ineffective) activities that they undertook.

- Work better as a network to alert each other to problems in one part of the state, so that other areas could lend support and expertise.

- We can develop template letters to high level politicians on the state level, informing them about rare species issues and letting them know that there is a constituency that cares and is watching. Plant conservationists could be encouraged to send these letters. We can also use this volume as a starting point for the letters by letting the politicians know that it is available and what species needs there may be. We need to provide a structure for those that wanted to speak out.

FUNDING

As always, the good ideas developed are seemingly hopeless to put into action unless we find funding. There isn't enough money to undertake the efforts currently underway, much less to hire lawyers and launch media campaigns. We identified three key areas for which we felt we should emphasize fund-raising because they will provide the greatest coverage of the items outlined above.

- We need to encourage more money for graduate students to undertake research on rare species. By doing this we not only get more information that will enable us to better protect rare species and ecosystems, but we will train a new generation of students who will go forward as scientists, educators, policy-makers, and concerned citizens.

- If there are any improvements in policy regarding the protection of rare species it will happen because there is a public that is aware and concerned. That public will provide the impetus for change. In order to inform the public, we need a media campaign, which means we need funding. This exceeds the capacity of any single group now existing and would need to be a coordinated and professional enterprise. It would probably require hiring a publicity agency to develop and coordinate a campaign. Working with a national group, such as the Plant Conservation Alliance, might be advisable.

- Using the myriad of laws and policies that govern land use may be an effective way to protect rare plants and ecosystems without going through the difficult and likely unsuccessful effort at putting together another attempt at a state Endangered Species Act (see Politics, Bullet #1). A number of statewide foundations may find this a worthy cause. An organized attempt to use these laws and policies as an effective way to protect rare plants and ecosystems may attract donors.

A problem exists in who would raise the funds described above, especially for media and policy efforts. It would likely best be done by a non-profit agency that is willing to take on a strong advocacy role.

CONCLUSION

We are apparently entering the 6th global extinction crisis the Earth has experienced and this time humans are mostly responsible. Studies have shown that habitat fragmentation and destruction, invasive species, harvest, and disease are the reasons that most plant species are imperiled. As the human population increases, as we increase global travel and trade, and thus invasive species and disease, we increase imperilment of plants. Washington State faces a steep increase in population in the next 50 years and we cannot wait. We must take action now. We must not fiddle while our Rome burns. This volume shows some of the best efforts done by some of the best conservationists in Washington, and those efforts fall short of protecting even the rare species we have today, much less the ones that will become threatened in the future. The group that assembled on April 19, 2000 identified these items as those of key importance. We must work step-by-step to implement them. Where do you fit in?

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