

**Forest Research Summit**  
**National Conservation Training Center**  
**January 5, 2006**

Thank you, Don. I really appreciate the opportunity to be here. I am really enjoying this opportunity to learn about what is going on in universities around the country, particularly in disciplines that I normally have little contact with.

But ... just among us ... it did take Don a little persuading to get me to do this talk. When Don first asked me to fill in for Jody Nyquist, I told him – more or less immediately -- no thanks. I do have a Ph.D., I explained, but it's in political science – political theory, no less, the most humanistic branch of political science. What could be farther removed from forest research? And likewise, the Responsive PhD, the Woodrow Wilson project on doctoral reform and innovation, has been heavily weighted toward the humanities and the social sciences.

And there was another reason for my reluctance that I didn't tell Don. Everyone knows that humanists and humanistic social scientists don't use Power Point, and I expected that this would be one of those conferences where everyone would make PowerPoint presentations ... everyone, except for me. But.... I guess I got that wrong. And why is it that no one is using Power Point?

But, anyway, Don persevered. That's just fine, he replied to my concerns. We want to know what's going on in other disciplines, what's going on outside forest research. He also said – and I'm probably not supposed to repeat this -- that doctoral education in forestry tends to be ... a little traditional. Ah ha ... I thought ... he's subtly suggesting that there's a challenge here for me.

So then I began to get interested. And as I thought more about it, I came up with three more reasons why I wanted to give this talk.

First, my undergraduate degree is from the University of Montana, home of the world-famous Forester's Ball. Now there's a forestry school tradition that really deserves to be preserved. Those students at UM build a bonfire so big that it makes the Burning Man gathering at Joshua Tree look like a small town Sunday social. They build an entire frontier town just for the sake of that party. Perry Brown, who – as most of you know – is dean of the U Montana forestry school, tells me that the Forester's Ball has become so popular that it's been expanded to two days – personally, I could only take one day of that bacchanalian revelry.

Second reason that I wanted to give this talk is ... I like forests. Seriously, they've meant a lot to me and my family. When my brothers and I were little guys, probably 8 to 10 years old, my mom would take us to the Little Belt mountains, about 45 minutes south and east of our home in Great Falls, Montana. We had a couple old camping trailers there along Logging Creek. Basically, my mom would let us out in the morning, and we'd start fishing downstream. Sometime in the afternoon, we'd return to camp. We'd describe the day in terms of the number and size of fish caught and which fishing hole was the farthest downstream point of our day's journey.

When we were older, but not much older, since kids got driver's licenses in Montana at 15 in those days .... we drove with friends to the same mountains and crawled around underneath them – in the giant underground limestone maze known as the Lick Creek Caves. And when we played hooky from high school, we'd drive farther upstream in that forest, and float down Belt Creek in rubber rafts.

And later in the 1970s, some friends and I got Forest Service contracts to plant trees in the Selway and Bitterroot forests in western Montana and the Idaho panhandle. Swinging a hoedad all day is hard work, and living in tents and tipis can get old after a month or two ... but I would highly recommend it to any 20-year-olds looking for a way to spend the summer.

For the past ten years, I've lived near different kinds of woods – Central Park in New York City and Prospect Park in Brooklyn. I think they're masterpieces of urban parks. They have places for everything: multi-family barbecues, quiet walks in the trees (if you can ignore the sirens outside the parks), all-day volleyball games, soccer, softball and frisbee. I admire them greatly, but – to be honest -- I miss the quiet of nature untouched by human sculpting. I look forward to my wife and my weekend place north of the city, where I mountainbike in a more or less abandoned park. And I yearn for the even wilder places back home.

I'm one of those people – probably like most everyone in this room -- who bonded with nature as a child, and still maintains that attachment. So although I know unfortunately little about hydrology and ecology (other than what I remember from Gary Snyder), I would call myself a fellow traveler in the woods.

The third – and more serious -- reason I wanted to do this talk is that this summit addresses critical problems in doctoral education. And that's something I both care about -- and have some experience with. I worked as an associate dean for ten years in a graduate school of social sciences and philosophy. And now I'm engaged with the Responsive PhD initiative at Woodrow Wilson National Fellowship Foundation – which promotes innovation and reform in doctoral education.

From reading your pre-conference materials and visiting with several of you yesterday and this morning, I see that many of the problems faced by forestry are shared by other disciplines.

There's a lack of clarity about the best way to prepare forestry students for the future. One emerging need, I hear, is for highly interdisciplinary environmental research and education. Problems such as landscape fragmentation and the spread of pathogens require models that integrate population, ecosystems, and socioeconomic factors. Decision-makers need to know how to integrate political and cultural concerns into natural resource decisionmaking and management strategies. Providing such training

will not be easy for traditional academic departments, as long as they are confined within fairly rigid disciplinary silos. But I also hear concern about sustaining traditional disciplinary knowledge – there’s sometimes a zero-sum game: when a faculty line is added in a new field, an old one has to go away.

From my conversations here, I know that many of your universities already are seeking to address these issues. Trying to find the right balance between the old core disciplines and the new sciences.

You are not alone. Let me put your efforts in the context of roughly ten years of introspection, research and reform in doctoral education in numerous disciplines, particularly the arts and sciences.

In roughly the mid-1990s, several major private foundations, such as the Pew Charitable Trusts and the Andrew W. Mellon Foundation, began to ask whether something was wrong with doctoral education. They were joined in this dialogue by various disciplinary associations, the National Science Foundation, and ultimately numerous universities. Some were concerned with time-to-degree (way too long in the humanities and social sciences, many thought). Others were concerned with the too many PhDs for too few academic jobs. And others were concerned with an apparent misfit between doctoral training and the real-world work done by PhDs – graduate students, for example, learned a lot of things, but very little about how to teach well, which was a major part of their future job descriptions.

With support from the Pew Trusts, Jody Nyquist –at the University of Washington -- launched “Re-envisioning the PhD,” interviewing more than 300 individuals about the quality of doctoral education. There’s a summary of her research in the pre-conference materials. I also commend to you the “Re-envisioning” website. Even though the project is no longer active, the website contains an excellent bibliography on doctoral reform, as well as much detailed information about the findings of the Nyquist team and other researchers of that period.

The Nyquist research was extremely rich. I want to focus, therefore, on one major theme from her work, which I would describe as follows:

Broadly speaking, traditional Ph.D.s are overtrained in a subfield of their discipline, and undertrained in clinical and applied sciences, in cross-disciplinary interaction, and understanding global processes. The complexity of today's social, political, and scientific problems requires that multi-disciplinary, globally contextualized work be the standard, not merely an add-on to the doctoral student experience.

While Jody Nyquist and others in the first wave of PhD reform efforts were finishing up their research in the late 1990s, the Pew Trusts approached the Woodrow Wilson National Fellowship Foundation about disseminating and translating into action the lessons learned from these studies. Woodrow Wilson, with a long heritage of promoting leadership and innovation in higher education, gladly took on the assignment.

With subsequent support from Atlantic Philanthropies and other private foundations, Woodrow Wilson constituted a consortium of initially 14 and ultimately 20 graduate deans. We named the endeavor the "Responsive PhD initiative," because the deans we involved were ready to make changes. Woodrow Wilson enlisted a wide range of institutions – wide ranging in terms of geography, public or private status, resources, and history. The group today ranges from the Ivies (Yale and Princeton and Penn), to flagship state universities (Michigan, UCLA, Texas), and a range of others (including Washington U, Vanderbilt, Arizona State, and U Colorado at Boulder).

This past fall, the project released a summative report, *The Responsive Ph.D.: Innovations in U.S. Doctoral Education* -- part manifesto and part practical guide for improving doctoral education. (I've put copies on the table outside for you, and if you would like more to distribute to colleagues, please let me know.) The manifesto portion summarizes themes and principles for doctoral reform. The practical guide consists of

case studies of 41 exemplary and innovative programs established by Responsive PhD universities. I hope you have a chance to look at the case studies in particular. I think many of them could give you ideas for your home campuses.

Bob Weisbuch – the former president of the Woodrow Wilson Foundation, and now president of Drew University, really deserves the credit for founding the Responsive PhD initiative. I want to acknowledge – even though he’s not here today -- his leadership of this effort and his authorship of much of the manifesto, which I quote extensively in what follows.

The manifesto promotes four broad principles:

**Principle # 1. A graduate school for real.** Every conclusion from the reports produced by Nyquist and others, and from Woodrow Wilson’s attempts to turn reports into action prove one thing: the PhD degree requires strong graduate schools and graduate deans with real budgets and real scope – a far stronger central administrative structure than typically exists at present. (When I made this point a month ago at the Council of Graduate Schools, which is composed of graduate deans from around the country, there were murmurs of support from the crowd. I’m curious to find out from you what forestry school deans and department chairs think of this argument.)

Graduate schools and their deanships are typically weak in identity and authority in relation to the academic departments and colleges that govern the disciplines and largely determine faculty destinies. In some ways this local control is a glory. Self-determination creates an effective incentive for faculty to devote energy to their doctoral programs. But left to their own, faculties’ first impulse is almost inevitably to reproduce their own doctoral educational experience. I’m not saying that’s all bad, but it makes universities very slow to adjust to new demands.

If we are serious about creating authentically multi-disciplinary researchers, or even hiring that new multi-disciplinary specialist, the critical impetus and support will come,

most likely, not from traditional academic departments but from someone who has an institutional perspective that spans individual departments and even several college faculties. The Responsive PhD argues that the graduate school is the university-wide entity well suited to address these needs. And many other needs in doctoral education.

**Principle # 2. A cosmopolitan and engaged doctorate.** The doctorate in totality and in every discipline needs to be opened to the world and to engage social challenges more expansively. A cosmopolitan and engaged Ph.D. has implications for degree requirements ... for the right administration of programs ... for time to degree and the job search ... and for increasing diversity among Ph.D. students.

In terms of degree requirements, we should expect holders of the highest academic degree not simply to know a great deal but to know what to do with what they know, both in the academy (how to teach well, for example) and outside the academy. The application of expertise to social challenges should become an integral element of the superior doctoral education.

Making that happen will be a challenge. It will require, for example, changes in incentives for young faculty. “Service,” that sometimes dubious third criteria in tenure review, could be reinterpreted in terms of applying one’s intellectual capital to a social or community issue -- rather than simply doing time on university committees. Opening up the doctorate to the world could mean providing incentives for tenured faculty to spend a semester or even year in government agencies or other non-academic institutions – bringing science into policy-making, and bringing a better understanding of policy needs back into research and teaching agendas.

Any improvement in doctoral education depends ultimately on the will and energy of the faculty. The NCSE/Forest Service endeavor described in the conference materials is an exemplary example of this. Faculty from across disciplines (not just deans and department chairs) need to think -- with consumers of research -- both about specific research products **and** about the education that provides the skills and motivation to

generate that research on an ongoing basis. And these conversations could be – maybe should be – institutionalized as ongoing efforts at many doctoral institutions, rather than seen as periodic, national endeavors.

An engaged PhD has implications, as well, for time-to-degree. In the social sciences and humanities in the 1990s, on many campuses many students were spending upwards of 8 years, and an unfortunate number spending even 10 years or more to get their degree. There were, obviously, many underlying causes – including financial pressures that drove students to work long hours teaching or at other jobs. But another cause often was the perception of limited job prospects upon completion. Time-to-degree has been longest in those fields where academic job prospects are poorest. In disciplines like history and English, typically as few as two out of every ten doctoral students will end up as tenure-track faculty at research universities or selective small colleges. Why leave, then, when there is nowhere else to go?

Yet there are plenty of places to go -- if doctoral graduates are encouraged to see other opportunities to apply their research and teaching abilities, and if their faculty do not radiate the belief that the only successful students are those in tenure-track positions in prestigious institutions. An empowered graduate school, working with faculty leaders, the university career center, alumni office, and relevant employers, can make this change in an incremental and ultimately systemic way.

Finally, a more socially responsive Ph.D. can help attract a greater number of students from underrepresented minority groups. Study after study shows that minority students and minority faculty have a strong desire – often stronger than their non-minority peers -- to bring their learning into the community, to apply their knowledge to social problems. The appeal of doctoral education to students of color will be strengthened to the extent that the doctorate becomes more cosmopolitan. By encouraging faculty to reach out, for example, to schools and community colleges ... not just to develop pipelines to graduate school, but to help improve the quality of education in those institutions. By focusing on

issues of urban forestry and environmental justice that are particularly meaningful to minority communities.

**Principle # 3. Drawn from the breadth of the populace.** For reasons of both equity and efficacy, doctoral education should capitalize upon the full human resources of this nation's populace. This is very far from the case at present. Only 7% of all arts and science PhDs awarded by U.S. institutions in 2003 were granted to U.S. citizens who are African-American or of Hispanic origin – and more than 30% of all Americans in the likeliest age brackets for doctoral education are members of those two groups. (Parenthetically, women, as you may know, are pretty evenly represented in doctoral programs in the humanities and social sciences, which were our major focus. But they obviously are not yet well-enough represented in the STEM fields, and there is still a glass ceiling for women in many disciplines, including the social sciences.)

The PhD cohort, source of the nation's college and university faculty, is not changing quickly enough to reflect the diversity of the country. The next generation of college students will include dramatically more students of color, but their teachers will be overwhelmingly white.

The expertise gap extends beyond the professoriate. It also diminishes our national leadership in any number of professional endeavors, from determining economic policy to sustaining and enhancing natural resources – at home and abroad. I don't need to tell you that natural resource conservation is tied, ineluctably, to urban-rural dynamics, urban politics, and even urban culture, broadly defined. We need many more experts and leaders who can bring to bear the interests and power of the so-called minority – soon to be the majority – on the side of the environment. We need many more experts and leaders who can bring to bear the interests and power of the so-called minority – soon to be the majority – on the side of the environment.

I believe that we greatly underestimate the interest and concern of underrepresented minorities for the environment. You could look at the research by Dorceta Taylor at the

University of Michigan on this point. But we do not underestimate the number of minority scholars and leaders in the natural resource field – there are painfully few. We need to push universities and environmental nonprofits to recruit and promote faculty and managers of color.

This past spring, the Responsive PhD published a report, *Diversity and the Ph.D.*, which addresses the problem of underrepresented minorities in graduate education. I have also left copies of it on the table outside. There are concrete examples in this publication and the other of specific things that universities are doing to increase the diversity of their graduate student populations.

**Principle #4. An assessed excellence.** Even though doctoral education is dedicated to training people to investigate every phenomena expertly, it almost entirely fails to interpret and investigate itself. The decentralization of doctoral education means freedom in positive and negative terms. On the negative side, doctoral programs often are left alone to admit too large a number of undersupported students; to fail to keep track of what happens to these students, especially after they graduate; to not provide serious help when students are trying to obtain jobs; and to not study what is going on in other doctoral programs, to learn from other's successes and failures.

This absence of assessment results, in part, from faculty resistance, often justified, to reductive and ultimately misleading measures of educational quality. But that simply means that no one has worked hard enough with faculty to develop good metrics of success. Good assessment promotes a dialogue among the discipline (including students), the college, and the graduate school. Good assessment takes place throughout the planning and conduct of a graduate program, and **continues** as alumni begin and pursue their careers. Good assessment engages faculty in a serious self-study of the nature of their disciplines and the purposes of graduate education – not as an abstract subject but in reflection upon actual practice.

And good assessment needs to be transparent and connected to consequences. Prospective students deserve to know much more about time-to-degree and job prospects, for example. Attainment of commonly agreed upon and clearly articulated objectives can be rewarded with valued resources -- such as university-assigned enrollments, fellowship funds, and, holy of all holies, faculty lines. Again, our “Innovations” publication contains several specific examples from Responsive PhD universities.

Those are the four principles and programmatic suggestions from the Responsive PhD. And now I will draw on these to offer five suggestions for your project as it goes forward.

First, a simple suggestion ... when you go back home, involve not just your faculty but your students as well. They know best what’s really going on. They bring an urgency and directness to the discussion of educational problems. And ultimately, they are why we do this thing we do. Particularly involve those from underrepresented minority groups and those who are the first in their family to attain a graduate or even a college degree. They’re the canaries in the mineshaft—to use Lani Guinier’s concept. They’re the most vulnerable, in many cases. And they’re highly likely to want to give back to you and your institution and society at large – if they succeed.

Secondly, good data always help. You won’t know whether you’re making progress unless you can measure what you’ve done. One good investment would be to contact Marisi Nerad at the University of Washington. She is THE expert in longitudinal research on doctoral education outcomes. For a reasonable fee, she will help you find out not only where your graduates are, but what they think of their graduate education now that they have begun their careers.

Third, as I’ve tried to underscore, doctoral education is a decentralized system (if it is a system at all) ... so change within it happens in a decentralized fashion. What works at one university might not work at another. The Responsive PhD encouraged local initiative as its primary form of activity. But without **some** central coordination, decentralization will mean that – after this summit, for example – that change will be

hard to implement and sustain. My suggestion is that you create a coordinating mechanism or some process (nothing fancy or expensive) to check in at least once each academic year, to get reports and disseminate information about accomplishments to date. Maybe a low-cost annual meeting. Nothing like an upcoming deadline to gird activity forward. And nothing like seeing that someone else is undertaking an ambitious project to motivate oneself to do something bold as well.

Fourth, when you start listing the competencies that your graduates need, don't automatically assume that tweaking the PhD is the answer. Jody Nyquist reports that, in the course of her interviews, she heard one phrase more than any other: "QUOTE When I got my PhD, yada, yada, yada..." Almost as if it were a mantra.

Doctoral education, she reminds us, is not just the transfer of knowledge, it is a cultural rite of passage. But just because it was **our** rite of passage, that does not mean it is the appropriate rite for everyone. At various points in time, a group of faculty and administrators, preferably those who exemplify the **best** of the doctorate, should step back and ask (as you're doing this afternoon):

What are we really trying to do here? Is there a better way of doing it?

Should we create another degree or a separate doctoral track to prepare people who do not plan to work in academia? What do those going on to non-academic careers need, that they won't get in an academic training path?

Maybe re-envisioning the PhD means creating the **OPTION** of a shorter PhD. Or a **LONGER** degree geared toward multidisciplinary research. Maybe it means creating opportunities for postgraduate continuing education in new areas of expertise. An entrepreneurial university or consortium might see these as not simply worthy endeavors, but as potentially valuable niche programs.

There's a comment in Jody Nyquist's material to the effect that the doctoral experience in the United States is somewhere between an educational endeavor and a form of employment that uses graduate students to help with research and teaching. If the doctoral experience could be shifted somewhat towards the educational end of the spectrum, we might be clearer about what we are doing. Doctoral students probably would finish more quickly – if that's a concern at your institution. We could work with potential employers to develop clearer and innovative pathways to our students' first jobs. If there were research institutes or government facilities and agencies ready to provide real, full-time employment to graduates, including the on-the-job mentoring and support that now are gained through RAships and post-docs (or hopefully are gained through them), there could be a net gain all around.

Fifth and finally, we need to capture the imagination of young people, get them excited about careers as experts and leaders in natural resource conservation and forestry and the environment. Can you – can we – come up with a vision of forestry and natural resource knowledge that captures the diverse wonders from the Bob Marshall Wilderness to Central Park to the treeless slopes of the Himalayas in Nepal? What's the educational vision that will stir and attract the best and brightest of the next generation of fellow travelers in the woods? How do we get to the boys and girls playing hooky today on a raft or kayak, and motivate them to a career understanding and protecting the natural world that they love?

These are, obviously, not easy questions to answer. But they are worthy challenges for us this afternoon, tomorrow and for days and years to come. Thank you.