

Conserving Plant Biodiversity in a Changing World: A View from NW North America Conference Working Group Notes

University of Washington Botanic Gardens, Seattle, WA
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At the end of the conference, we asked attendees to participate in three break-out sessions focused on discussing the challenges related to the conservation of native plant communities and rare plants in NW North America. Steering Committee Members facilitated discussions in three focal areas:

- Climate Change
- Ecology/Biology
- Policy and Strategy

Each session was asked to address three questions related to each focal area:

- What are the challenges?
- How can we address these challenges?
- How can we move forward?

These notes are a record of the topics discussed and are meant to serve as a **starting point** for further discussions as **working groups** take form and **take action!** If you are interested in being a part of one or more of these working groups please e-mail us at 2012plantconf@gmail.com and we will add you to the e-mail list!

CLIMATE CHANGE GROUP –Facilitated discussion by Mark R. Mousseaux (Botanist, BLM) and Regina M. Rochefort, Ph.D., (Science Advisor, NPS)

1) What are the Challenges?

- a) Need cooperation with various agencies and land owners – consensus on goals
- b) Uncertainty with regard to predicting the outcomes, what will happen?
- c) Stress on systems and plant communities – not sure what will happen
- d) How do we prioritize efforts? What choices do we need to make?
- e) There is limited data at the species and community level
- f) Disproportionate effects likely – wetlands, edaphic, alpine, coastal strand, and other niche species may be affected differently than more wide ranging species
- g) How will changing fire regimes affect communities/species
- h) Differences in climate change policies between agencies (Fed/State/County) and other groups – how do we gain consensus
- i) Translating the science into public information – Public relations is a challenge – politics and rhetoric creating challenges and misinformation

- j) The temporal and special scope is large and variable – changes occurring in ppt patterns, snow vs rain, changes in frost free period, wetter winters in some areas, colder others, dryer summers – Climate Change

2) How can challenges be addressed?

- a) Decide what it is that we (society) wants – define goals; figure out how to measure what we want
- b) Do you want static or changing situations
- c) Must use adaptive management
- d) Use ‘bet-hedging’, take process a step at a time, be willing to adapt and shift pattern
- e) Mine historic vegetation data, look at how different models work – validate models using historic data
- f) We will have to triage – we will not be able to ‘save’ and address everything, we have to decide what it is we want to work on
- g) Get normal citizens involved, “Citizen Science” – Plant societies, Horticultural groups, garden clubs, kids, FAA, education and schools
- h) Need a model using Govt – University – NGO’s – Public

3) How can we move forward

- a) Policy and Papers – get the word out – define key issues
- b) Publish and distribute proceedings from conferences like this, publish quantitative data (monitoring), and even observational data
- c) Get information on websites and blogs
- d) Get information out to people who would never hear it – social media, a ‘coffee’ table book
- e) Identify the areas where we agree with the public and opponents – ID the things we have in common and work from there to build consensus
- f) Communicate the importance of refugia
- g) Communicate with the public on how things have changed, or are changing right now
- h) Pull ideas together and get to USFWS Landscape Conservation Cooperative – participate in this process – Publish information
- i) Ground truth models – link what is happening with what models are predicting – publish this data
- j) Must look at different climate scenarios – and strategize on how to be ready for different outcomes
- k) Host additional working group – think tank seminars/conferences regionally – or perhaps nationally, to address the problems, propose solutions, and create a path forward

ECOLOGY/BIOLOGY GROUP—Facilitated discussion by Joe Arnett (Botanist, Washington Heritage Program, DNR) and Peter Dunwiddie, Ph.D. (Affiliate Researcher, University of Washington)

What are the challenges?

Need for better long-term monitoring
Changing phenology impacts on pollinator-plant interactions
Lack of knowledge of the causes of rarity

Restoration has been guided by the past, but there are no guidelines for the future. It is hard to sell conservation of something that has not yet existed.

What is the role of reference areas?

There are questions of scale

Biodiversity conservation success is dependent on the social will

We need to inspire urgency

We have a lack of understanding of many underlying processes.

We need common methods, terms; cross-walking across borders of all kinds is challenging.

S-ranks are limited (S1 may end as the state border)

How can we address these challenges?

Coordinate long term monitoring across boundaries.

Internet based data collection, such as eBird, iMap, iNaturalist

Encourage citizen science, the benefits of public education and ownership

Broaden the discussion to include additional skill sets, such as fundraising, social science, economics.

Focused research, better partnerships between schools and land managers, agencies

How can we move forward?

Group or listserv to develop consistent monitoring methods (NatureServe may fill part of this need); questions differ, and so methods do also).

Explore ways to improve communication between managers and researchers

Seek ways to identify our goals that are beyond historical references (such as processes and functions used in wetland evaluation).

POLICY AND STRATEGY GROUP—Facilitated discussion by Ted Thomas (Senior Ecologist, U.S. FWS)

1. What are the Challenges for the future?

Funding, what are the best sources of gaining funding, NOW! IS there or could there be clearing house for funding.

What are best opportunities for leveraging funding? Form partnerships and plan with other agencies, ngos.

There should be, or there is a need for Overarching policies to tie climate change to plants.

Develop strategies that provide other services at the time restoration/conservation programs are implemented, for example: provide benefits to reduce fire risks, flood risks, reduction of insect and disease outbreaks.

What are best strategies for managing plants/organisms across jurisdictions. What methods do we have to remove obstacles/barriers to accomplish management cross jurisdictional boundaries.

2. How to meet future challenges?

Education and communication

Establish lobbying efforts to garner political support.

Develop multi-faceted, bet-hedging strategies to keep moving forward while sustaining biodiversity.

Develop methods/tools to manage for uncertainty.

Link Botany, Plant ecology to policies and strategies in the real world with real views.

Establish and Endangered Species Act for Washington.

Update Oregon's ESA list for plants.

Need laws to require commercial growers to provide seed source information by/for provisional seed zones

Any species on state noxious weed list should be banned from commercial sale, Update state weed regulations to match current science and need.

3. What are the solutions to move forward?

Develop and implement lobbying campaigns at the local, State and National level.

Create a market system for provide support for large scale restoration.