Update of Vegetation Classification Panel Activities for the ESA Governing Board
May 8, 2018

Outline/Objectives of Update

Purpose of the Panel and the National Vegetation Classification (NVC)
How the Panel Supports the NVC
Importance of this Work to our Federal Partners
The Crux of the Issue

Many researchers had published classifications, so there was much knowledge. And, government agencies had their own specific classifications (e.g., SAF Cover Types). And, such classifications are very important for conservation management.

But, the classifications were usually restricted to small geographic areas and fairly small data sets. Various methods were used for classifications and thus they did not meld. Government agencies had no way to share their classifications.

Therefore, a need existed to develop a national classification to share information with a common language and set of definitions. This conservation need is global, hence and increase in classification and ordination in the literature.
Oh, and the Crux of Change.

The *Standard* calls for a dynamic content...why?
1. Climate change has lead to range expansions and contractions (mapping issue), often altering species compositions (classification issue)
2. Exotic species invasions
3. Novel disturbances often yield novel communities
4. Community composition changes over time
5. We simply do not have data on all community concepts
1995, ESA President Judy Meyer appointed a Panel to facilitate and support development of a standardized, scientifically credible vegetation classification system.

1992, Federal Geographic Data Committee Established

Development, sharing, and use of geospatial data and services

Milestones

2002, Database established

2009, Panel becomes a Standing Committee

2012, Building the NVC

2017, NVC Ver 2.01

2016, NVC Ver 1

2016, NVC Ver 1

11.2. Standing committees that report to the Vice President for Science.

D) Vegetation Classification Panel. The Vegetation Classification Panel is responsible for (1) facilitating and supporting the development, implementation, and use of a standardized vegetation classification for the United States; (2) guiding professional ecologists in defining and adopting standards for vegetation sampling and analysis in support of the classification; (3) collaborating with partner organizations to maintain scientific credibility of the classification through oversight of a peer review system; and (4) promoting and facilitating international collaboration in development of vegetation classifications and associated standards.
A Team Effort Has Been Maintained

**Partners**

Three legs to stool:
- Federal Geographic Data Committee – Vegetation Subcommittee
- NatureServe
- ESA Panel

Classification System developed by partners for partners.

Also:
- Education & Outreach
- Crosswalks
- Collaborations

**Implementation**

Also:
- Forest Service Lead Organization – Carol Spurrier & Linda Spencer
- USGS supports part-time position – Alexa McKerrow
### The Three Main Things the Panel Receives Support for are Ed/Outreach, Peer Review Process and VegBank

#### Most of Funding to:
1. Workshops & Webinars
   1. Mid-career
   2. Peer-review
   3. Mapping
2. Panel Meetings
3. ESA Staff that coordinate 1 & 2
   Also monthly calls, etc.
   Also *Proceedings*
4. Editor-In-Chief/Regional Editors
5. VegBank

#### The three components are required by the Standard.

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>NatureServe</td>
<td>1,646,892</td>
<td>??</td>
<td>Content development</td>
</tr>
<tr>
<td>ESA</td>
<td>NPS, FS, GS</td>
<td>FS, GS ~500,000</td>
<td>VegBank, Peer review, outreach and education</td>
</tr>
<tr>
<td>Other</td>
<td>75,000</td>
<td></td>
<td>Other (outreach)</td>
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<tr>
<td>Total</td>
<td>2,170,077</td>
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### Hierarchy Revisions

**Proposed Structure - draft**

<table>
<thead>
<tr>
<th>FGDC 1997 - standard</th>
<th>Revised Hierarchy</th>
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<tbody>
<tr>
<td>CLASS</td>
<td>CLASS</td>
</tr>
<tr>
<td>SUBCLASS</td>
<td>SUBCLASS</td>
</tr>
<tr>
<td>FORMATION GROUP</td>
<td>FORMATION</td>
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<tr>
<td>FORMATION SUBGROUP</td>
<td>DIVISION</td>
</tr>
<tr>
<td>FORMATION</td>
<td>MACROGROUP</td>
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<tr>
<td>ALLIANCE</td>
<td>GROUP</td>
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<tr>
<td>ASSOCIATION</td>
<td>ALLIANCE</td>
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New mid levels

Natural

Cultural
The EcoVeg Approach paper describes the approach used for the NVC...and IVC.

But it is not the only approach; the Panel works with others throughout the world to standardize classification.

IUCN Red Lists of Endangered Communities
Content Descriptions for All Concepts at All Levels
This Work is Important For Research and Our Government Partners

<table>
<thead>
<tr>
<th>USNVC Level</th>
<th>Possible Agency Application</th>
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<tbody>
<tr>
<td>Lower</td>
<td></td>
</tr>
<tr>
<td>Level 7 – Alliance</td>
<td>National Park Service Vegetation Inventory Program, State Natural Heritage Programs (natural resources inventory)</td>
</tr>
<tr>
<td>Level 8 – Association</td>
<td>National Park Service Vegetation Inventory Program, State Natural Heritage Programs (natural resources inventory)</td>
</tr>
<tr>
<td>Mid</td>
<td></td>
</tr>
<tr>
<td>Level 4 – Division</td>
<td>1. International Biome Classification??</td>
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<tr>
<td>Level 5 – Macrogroup</td>
<td>1. US Forest Service Forest Inventory and Analysis Program (forest assessment)</td>
</tr>
<tr>
<td>Level 6 – Group</td>
<td>1. National Park Service Vegetation Inventory Program (natural resource inventory)</td>
</tr>
</tbody>
</table>

Ways the Panel is working with agencies:

LandFire has paid for autokeys – modeled keys that determine community type from plot data.

FGDC-CAP grants have helped states like CA match their classification to the NVC.

Partnering with State Heritage Programs

Currently working to have all NPS plot data incorporated into VegBank.
The Proceedings is housed by ESA – THANK YOU!
Cultural Vegetation

Developed (Hortomorphic) Vegetation
- Lawn
- Golf course
- Right-of-way

Agricultural (Agromorphic) Vegetation
- Corn field
- Intensive Hay field
- Intensive Hay field: Red top, with timothy, tall fescue, creeping foxtail (e. OR)

Grassland & Shrubland (Mesomorphic) Vegetation
- Crested wheatgrass (exotic), SD
- Cogon grass (exotic) southeastern U.S.
- Heavy/light grazed (planted) pasture, Texas
- Tallgrass prairie, WI
- Mixed grass prairie, SD
- Shortgrass prairie, CO

Ruderal & Native Vegetation

Right-of-way
- Crested wheatgrass (exotic), SD
- Cogon grass (exotic) southeastern U.S.
- Heavy/light grazed (planted) pasture, Texas
- Tallgrass prairie, WI
- Mixed grass prairie, SD
- Shortgrass prairie, CO
Cultural Vegetation
Orchards and Treed Lawns
Northern cherry orchard
Apple orchard (Empire)
Lawn with trees (Thomas Jefferson home)

Plantation Forests
Poplar plantation
Douglas fir plantation (40 yr)
Red pine plantation

Natural Forests
Beech - maple northern hardwood forest,
mature & partially logged
Red pine forest

Ruderal, Plantation and Native Vegetation