**ESA Panel on Vegetation Classification Meeting**

**April 4-5, 2017**

**Linthicum Heights, MD**

**Attendees (in person):**

Scott Franklin (chaired)

Bob Peet

Dave Tart

Chris Lea

James VanKley

Dave Roberts

Pat Comer

Marianne Burke

Cliff Duke

Jack Triepke

Este Muldavin

Alexa McKerrow

Don Faber-Langendoen

Jill Parsons

**Attendees (remote):**

Alan Weakley

Julie Evens

Todd Keeler-Wolf

Rosalie Yacoub

Kristin Snow

*Summary of Action Items by Category:*

**Funding:**

* **Marianne will look into the possibility of a no-cost extension for the year two funds and keep Jill/Cliff informed.**
* **The Panel needs to work with Alexa and Marianne to develop a clear “ask” for NVC infrastructure needs; once this is done, Cliff can work on proposals to foundations.**

**Proceedings:**

* **Jill will work with Gordon to:**
	+ **Restore some of the search capabilities that were included in the original prototype of the Proceedings (full text search, searching by CEGL code).**
	+ **Look into the possibility of having Wiley register articles and create DOIs for the Proceedings.**
	+ **Eliminate the line numbers in the current Proceedings article.**
	+ **Remove the placeholder article in the Proceedings.**
* **Bob will send his article on the availability of plot data to Dave.**
* **Dave R will name the new section of the Proceedings before the August Panel meeting.**

**NVC Peer Review Process/Tools/Keys:**

* **Don will set up a working group of REs in the West to create a strategy to get more NVC types described. Este will help with mining literature in the West.**
* **Alexa, Don, Kristin, Jack, and Scott will research peer review tools and organize a call to discuss options. The goal is to have an NVC peer review tool in place by August.**
* **The plant nomenclature committee (Dave R, Mary Russo, Kristin, Alan) will meet and develop a plan to decide how Biotics should relate to USDA plants in terms of nomenclature and taxonomy. We hope to have a plan in place within six months.**
* **Don will make changes to the NVC Type Description Template and circulate the new version to the Panel.**
* **Alexa will look at plots that have been run through various keys to see how well the keys are working.**

**Plot Data/VegBank:**

* **Don will reinvigorate the Veg Plot Working Group and reach out to the ESA Vegetation Section about submitting plot data to VegBank.**
* **Alexa will download Landfire plots that are currently publicly available and we can try importing the suitable ones into VegBank.**
* **Mike Lee will continue developing the EcoObs database so that data can be added to VegBank.**
* **Bob will ask NCEAS to scope out the cost of replacing the Struts software in VegBank.**
* **Don will check in with Mike Lee to see if he has time to put data into VegBank.**

**State Partnerships:**

* **Don will work with the Outreach Subcommittee to draft language about what NVC state partnerships will look like.**
* **The Education and Outreach Subcommittee of the Panel will help further the NVC state partners discussion.**
* **Don will follow up with states on what we learned from the survey about their collective interest in the NVC.**

**Other:**

* **Everyone should send information on NVC-related publications to Alexa. Alexa and Scott will work together to create an annotated list of NVC publications.**

*Summary of Upcoming Goals/Deadlines:*

Before the August Panel Meeting/ESA Annual Meeting:

* Have a peer review tool in place.
* Have a name established for the new publication section of the Proceedings.

Within six months (by November 2017):

* Establish a plan for how Biotics will relate to USDA Plans in terms of nomenclature and taxonomy.

Next Steps: Questions for the Panel:

* Who will take charge of getting examples of keys and crosswalks up on the Panel website?

*Gaps in the NVC*

Review of Current Gaps:

* Hawaii and the Caribbean
	+ The top 6 levels are described, but we need to focus on describing the lower two levels.
	+ Janet Franklin has experience here, as well as with Pacific Islands.
	+ We may need to identify the Hawaii Regional Editor (RE) before we can fully pursue this.
* American Samoa/Guam: we haven’t started here yet, though the American Samoa National Park has been mapped.
* Pacific Islands: we need to fill in with Alliances/Associations (we can work with the RE of the relevant Associations to accomplish this).
* Intermountain Region
	+ There are still many types that have no concept; there is a real need to mine existing literature to create and modify concepts.
	+ Ideally the RE will engage other Panel members to help with this, and potentially some undergraduate or grad students to conduct analysis on a larger scale.
	+ **Don will set up a working group of REs in the West to create a strategy to get more NVC types described. Este will help with mining literature in the West.**

Identifying Regional and Associate Editors

* We need to fill in gaps on the review board and engage more people as Associate Editors (AEs).
* We haven’t asked REs to identify their AEs yet. First we need to 1) have a peer review tool in place, and 2) determine clear tasks for them.
* We envision REs having more of a coordinating role in the future (keeping track of concept drift and other larger issues).

*Budget and Funding Updates*

* Jill gave an overview of the funds remaining in the current funding year. She estimated having $18K remaining in travel after the Panel meeting that we could potentially divert to other purposes (with USFS approval of course).
* Don anticipates needing the remaining honoraria funds to support extra work of REs.
* **Marianne will look into the possibility of a no-cost extension for the year two funds and keep Jill/Cliff informed.**
* We discussed several items that could use extra funding support, including:
	+ A peer review tool,
	+ A review board meeting to test a peer review tool, and
	+ General NVC infrastructure needs, including usnvc.org and VegBank.

Funding for NVC Infrastructure:

* Marianne is speaking with other land management agencies that she hopes will contribute to funding NVC infrastructure.
* Alexa could engage her supervisor, though he may want to take ownership. Given his interests, framing the conversation around DataONE, NCEAS, and repositories for open data could be beneficial. We also don’t want leadership to perceive this as a threat to their own budgets, so need to carefully advocate from the bottom up.
* **The Panel needs to work with Alexa and Marianne to develop a clear “ask” for NVC infrastructure needs; once this is done, Cliff can work on proposals to foundations.**

Brainstorming Funding Contacts for NVC Infrastructure:

* Potential agencies we could contact/continue to reach out to include:
	+ NSF (DBI)
	+ DoD (Pat/NatureServe has contacts)
	+ NRCS (especially now that we are integrating cultural vegetation)
	+ USFS (focus on all lands approach, consider relating to national security)
* Other organizations we could reach out to include:
	+ IMLS
	+ Agreements with libraries who are digitizing resources
	+ Ithaka
	+ CEMML
* Some foundations ideas were:
	+ The Gates Foundation
* Additional ideas:
	+ Explore opportunities where there is a state mandate for what we are trying to do; seek situations where our potential tools could have local applications.
	+ Microsoft (Lucas Joppa)
	+ Seek some in-kind support/donation for a peer review tool subscription.

*NVC Infrastructure Needs and Priorities*

VegBank:

* We want to broaden VegBank’s capacity. We should consider changes to the data model behind it while adding functionality and creating a more user-friendly interface.
* A primary issue is the need to make it easier for users to add their data.
* Some considerations when planning the way forward include:
	+ GIVD – read some examples of GIVD publications to see if we should use it to get more data into VegBank.
	+ Identify which Landfire plots are sufficient for VegBank and get them in the database. **Alexa will download Landfire plots that are currently publicly available and we can try importing the suitable ones into VegBank.**
	+ **Mike Lee will continue developing the EcoObs database so that data can be added to VegBank.**

USNVC.org:

* We need to further develop the search capabilities; one of the options scoped out was for NatureServe to provide web services, but we don’t have funding for that at this time. The primary objective is to keep the hierarchy browser running and link to NatureServe Explorer.
* We discussed the need for users to see how changes have been made to the classification over time.
	+ Kristin recently added lineage tracking to the export function in Biotics. If you view a type you can see what it used to be (name changes, etc.).
	+ Lineage tracking is a limited view; some users may want to go back to the original database and the original description.
	+ The consensus on how to manage tracking/versioning: Each version of the NVC is periodic (typically annually). We will produce a report of the changes along with the new version each year (though upper levels will only change every five years). When a new version comes out, the old version will be archived for users to see, along with a report of the changes that happened. This will all be available on usnvc.org. We may have links from the Proceedings to the archives and report to ensure users are aware of them.

Proceedings:

* **Jill will work with Gordon to:**
	+ **Look into restoring some of the search capabilities that were included in the original prototype of the Proceedings.**
	+ **Look into the possibility of having Wiley register articles and create DOIs for the Proceedings.**
	+ **Eliminate the line numbers in the current Proceedings article.**
	+ **Remove the placeholder article in the Proceedings.**

Peer Review Tool:

* Don and Kristin scoped out requirements for the peer review tool. Some of the features we need include:
	+ Task management for different levels (EIC, REs, and AEs); REs should be able to easily see if AEs are making progress.
	+ EIC needs to be able to assign proposals to the appropriate RE; a proposer could request an RE to send their proposal to.
* It was difficult to find a tool where you could assign different roles for a particular proposal, and to find a tool with an automated work flow.
* **Alexa, Don, Kristin, Jack, and Scott will research peer review tools and organize a call to discuss options. The goal is to have an NVC peer review tool in place by August.**

NatureServe Explorer:

* Explorer’s platform is dated and NatureServe needs to revamp it; We need to think strategically about investments we make to Explorer.
* Explorer contains information beyond what is in the US. It is international, broader in application, and houses other conservation information. We want to maximize the use of these connections moving forward.
* **The plant nomenclature committee (Dave R, Mary Russo, Kristin, Alan) will meet and develop a plan to decide how Biotics should relate to USDA plants in terms of nomenclature and taxonomy. We hope to have a plan in place within six months.**

*NVC Type Description Template*

* Don gave an overview of the template example. Jill recorded the changes the Panel discussed.
	+ Best practice fields are not required but helpful to the user.
	+ What is required to submit a type? This could vary depending on the level of confidence sought.
	+ All fields in the template would need to be completed for full acceptance into the NVC.
	+ The user code is a temporary code; we still need to determine its exact format.
	+ Authorship always refers to the individual submitting the proposal.
	+ For a full submission, the similar types table should be included from the beginning.
	+ We need to provide people with the full USFS ecoregions database.
* **Don will make changes to the NVC Type Description Template and circulate the new version to the Panel.**

*Peer Review Process Issues (Bob’s Questions)*

* Question 1: How should we handle the staging of manuscript submission to a journal and submission of a proposal to the NVC review board?? We want the two products to be consistent in the community types recognized, and we want publication to take place as quickly as possible.
	+ The author should make their publication plans known to both the journal and the NVC review board as early as possible.
	+ First the NVC proposal should be sent to the relevant RE for their initial impression prior to submitting a manuscript for journal publication (using only the required fields in the type description template will make this easier).
	+ After this initial step, the author can proceed with the journal publication process.
	+ Ideally, after receiving comments on the journal article, the NVC proposal could move through the review process as quickly as possible. Ideally, the review board will approve the proposal prior to journal publication.
	+ If, during the journal publication process, the contents of the NVC proposal change, the author can submit a new version of the Proceedings publication to ensure the journal publication and the Proceedings publication are consistent.
* Question 2: How should we handle any revisions that need to be made to a proposal that is already accepted into the NVC and published in the Proceedings?
	+ The author should submit a new version of the Proceedings publication.
	+ The relevant RE will decide if the new version requires peer review.
	+ The new proposal/publication will be documented as “version 2,” rather than a note or addendum.
* Question 3: What should be involved in moving an Association to a new Alliance or new Group?
	+ Moving an Association to a new Group can be a short proposal if there is no change made in the description of the Group or the recipient Alliance.
	+ Assigning an Association to an Alliance is required, though this could be indicated as tentative and pending review.
	+ Lineage tracking will help users know that the Alliance has moved.
	+ Depending on the proposal, the review board will determine if moving the Association requires reviewing the new and old Groups.
* Question 4: How much detail is needed for minor edits?
	+ Track changes versions should be used for editing data dumps. After approval, the track changes will be accepted and published in the Proceedings.
	+ Explanations can be added in comments fields.
	+ Ideally, authors should concentrate the various CEGL codes into a single document, or at least a small number of documents.
* Question 5: What should authors do if they want to dissolve something they just created in a proposal that is accepted and published in the Proceedings?
	+ A clear explanation is needed, along with clear advice on what to do with plots or mapping units previously assigned to these types. This should be shown in a new proposal.
	+ Some information should be available when users go to lineage history, so they can get a quick glimpse of what happened to the previously created type.
	+ Ideally this will not happen often – general churning in the NVC and using up the time of REs and AEs are concerns.
* Question 6 (Proceedings content): Should we publish different kinds of articles in the Proceedings on topics such as best practices and guidance? (e.g. Bob’s article on the importance of availability of plot data to support the NVC)?
	+ The Panel agreed to add a new section to the Proceedings for articles relevant to the NVC process, which will be in addition to the already established Proposals and Notes sections.
	+ Dave Roberts will be the initial editor of the new section in the Proceedings.
	+ **Bob will send his article on the availability of plot data to Dave.**
	+ **Dave R will help determine the name for this new section of the Proceedings before the August meeting.**
	+ Some ideas discussed were “Best Practices” and “Supporting Information.”

*NVC Crosswalks and Keys*

* Use issues relating to NVC crosswalking:
	+ The flexibility of the USNVC,
	+ Concepts that don’t have descriptions or are poorly described,
	+ Some major lines (Division, Class) are not floristically very different,
	+ Missing concepts, and
	+ Lack of raw data.
* Azonal types: why haven’t we recognized them, and how do you break out zonality?
	+ Zonality can change depending on which geography you’re in.
	+ This is something to address sooner rather than later.
	+ EVS recognizes azonal vegetation; we probably want to think about that kind of structure.
* Overview of current crosswalks being used:
	+ State classifications (crosswalking states to the NVC, and crosswalking NVC to other state standard classifications),
	+ Landfire (crosswalk of map units to the NVC),
	+ Systems crosswalk to NVC at the Group level,
	+ Crosswalking USFS map units to NVC, and
	+ ESDs.
* Current status of NVC Keys:
	+ Keys exist that go down to the Group, Alliance, and Association levels.
	+ We need to identify a process to determine if the keys that exist are working well.
	+ **Alexa will look at plots that have been run through various keys to see how well they are working.**
* Priorities and Next Steps for Crosswalking and Keys:
	+ Going forward we want to bring NVC concepts into the mapping process so users do not have to build ad hoc classifications.
	+ It is in our interest to help users crosswalk to the NVC.
		- We need to ensure people know that mapping units don’t always crosswalk cleanly.
		- Guidance on the Panel website and examples would be beneficial.
	+ We want more people to be aware of the NVC keys that exist:
		- We need to put examples up on the Panel website.
		- Talk to BLM about the keys they are funding:
			* Share them with the broader public.
			* Translate the BLM keys to a smartphone app.

*Identifying Budget Priorities for the Future*

Some areas where we could usefully divert funds include:

* Travel:
	+ Having a face-to-face meeting where REs could test a new peer review tool and scope out a process to populate the Association level through literature review.
	+ Regional meetings for state partners to discuss gaps in the NVC and other issues
	+ Panel meeting to focus on nomenclature decisions.
* Honoraria:
	+ To fund work on a gap analysis of the NVC while engaging AEs.
	+ To fund pilot projects that REs can undertake
* Education and Outreach:
	+ Develop workshops on keys and crosswalking
	+ Develop a white paper on best practices for keys – include analysis of plots that have been keyed through multiple systems.
	+ Develop an organized session/symposia/workshop on nomenclature at the Montana IAVS meeting
* Infrastructure:
	+ A subscription for peer review tool software
	+ VegBank maintenance (replacing the Struts software) \*need to know the cost of this\*

Outline of Budget Priorities:

1. Peer Review Tool ($4,000): Don, Alexa, Scott, and Este are scoping this out.
2. Western RE meeting ($10,000; 10 people, 2 days) to:
	1. Review the peer review tool,
	2. Conduct gap analysis, and
		1. Pat could extract information from Biotics
		2. REs can use that information to recruit and finalize their AEs
		3. REs can begin holding regular conference calls with AEs to set priorities for each chunk of the classification and identify plot data gaps.
		4. This type of analysis may require honoraria; a clear scope of work needs to be developed.
	3. Develop a strategy to address undescribed types in the NVC.
3. VegBank ($???)
	1. **Bob will ask NCEAS to scope out replacing Struts software.**
	2. **Don will check in with Mike Lee to see if he has time to put data into VegBank.**
4. Panel meeting ($15,000)

*NVC State Partnerships*

* Don outlined some of the things he hoped would be accomplished by forming state partnerships:
	+ Encourage state ecologists to become part of the review board as REs or AEs.
	+ Grow VegBank/encourage states to add their data.
	+ Encourage state ecologists to list their databases on GIVD.
	+ State heritage programs/partners would become a recognized resource if people have questions about the NVC.
	+ In short, being an official state partner of the NVC means partners will:
		- Promote the NVC within their state,
		- Use the NVC, and
		- Answer questions about the NVC.
* The following could be incentives/reasons for state ecologists to join as NVC partners:
	+ They want to be seen as an authority in their state – this could help them fundraise.
	+ They desire technical support
	+ They are able to link to the NVC and put our logo on their websites
* The Panel made the following suggestions regarding state partners:
	+ The FGDC Veg Subcommittee can recognize state partners, but they would not be a formal part of the MOU.
	+ A few representatives (2-3) from key states would serve on the Veg Subcommittee; these could be rotating slots that would help states have their voice heard in decisions relating to the NVC.
	+ **The Education and Outreach Subcommittee of the Panel will help further the NVC state partners discussion.**
* **Don will follow up with states on what we learned from the survey about their collective interest in the NVC.**

*Outreach and Collaboration Opportunities*

National meetings/networks:

* Society of American Foresters (SAF)
* Society of Range Management (SRM)
* Society for Wetland Scientists
* Society for Ecological Restoration
* CSCs and LCCs do frequent webinars – consider using existing networks like this to get the word out.
* NatureServe has mailing lists we can reach out to.
* The Wilderness Society (landscape network of protected sites – relates to mission of LCCs)
* ESA 2018 Meeting in New Orleans and welcoming the ESA South American chapter – we should use this meeting to create more discussion with international colleagues about the NVC.

International:

* Don is going to the IUCN ecosystem redlisting meeting in London.
* IAVS: there is interest in discussing the ecoveg approach, as well as looking at higher levels (Formation and up) to develop a global classification system. We could consider getting a group together for a symposia there.
* Link our website to those of international colleagues and continue conversations with them about best practices.
* Canada: maintain networks there on cross border plot data and shared types (though unfortunately the Canadian Forest Service is pulling funding from the CNVC)

*Personnel*

* New Exec Members:
	+ Scott’s term is coming up, and he would like to identify a new Chair after this next year.
	+ We will be recruiting new Exec members soon, anticipating Bob’s retirement.
* New members
	+ When recruiting new Panel members, we’d like to seek out:
		- A member from a new state partner,
		- Early career scientists, and/or
		- A colleague with knowledge of Mexico and/or Canada.