

U.S. National Vegetation Classification: Advancing the Description and Management of the Nation's Ecosystems

NVC Review Board: Engaging vegetation ecologists in support of the USNVC

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Background

The USNVC follows a federal standard approved by the Federal Geographic Data Committee Vegetation Subcommittee in 2008 (FGDC 2008).

One of the novel aspects of the standard is that it establishes a mechanism for a peer review process whereby the content can be continually updated as new information becomes available.

A key reason for incorporating peer review is to provide an “objective, participatory process by which vegetation ecologists can submit proposals to improve the classification.” Thus, the classification is dynamic, due to the known changes in vegetation types over time (e.g., climate change, exotic invasion).

Unlike journals, where peer review processes allow for competing ideas to be published and coexist, the USNVC classification requires a peer review process that reconciles proposed changes in such a way that a unified product is always maintained.

Further, because a useable classification needs stability over time, limitations were placed on the frequency of new versions, and a versioning process was put in place.

Of the three partners of the USNVC, ESA's Vegetation Classification Panel was charged with developing and overseeing the review process.

Example of the Natural Vegetation Hierarchy	
Upper	
Level 1 – Formation Class	Shrub & Herb Vegetation
Level 2 – Formation Subclass	Temperate & Boreal Grassland & Shrubland
Level 3 – Formation	Temperate Grassland & Shrubland
Middle	
Level 4 – Division	Central North American Grassland & Shrubland
Level 5 – Macrogroup	Central Lowlands Tallgrass Prairie
Level 6 – Group	Central Tallgrass Prairie
Lower	
Level 7 – Alliance	Big Bluestem - Indiangrass - Stiff Tickseed Central Grassland Alliance
Level 8 - Association	Big Bluestem - Switchgrass - Little Bluestem - (Tharp's Spiderwort) Grassland

The NVC Review Board

The NVC Review Board (NRB) was created to maintain scientific rigor and standardization of the review process. The Editorial Board consists of the following positions:

- Editor-in-Chief (EIC), oversees NRB, review of the top five hierarchy levels, and ensures the revision process is maintained at all levels.
- Regional Editors (REs), in charge of macrogroup types found in the major region to which they are assigned, and
- Associate Editors (AEs), in charge of all types within one or more USNVC groups.

Current Regional Editors (2017):

	Region	Regional Editor
WEST	Warm Deserts	Este Muldavin
	Californian	Todd Keeler-Wolf
	Great Basin	Marion Reid
	Vancouverian	Del Meidinger
	Rocky Mountain	Jack Triepke
GREAT PLAINS	Great Plains	Bruce Hoagland
EAST	Laurentian-Acadian	Don Faber-Langendoen
	Central Interior-Midwest	Shannon Menard
	Appalachian-Northeast	Lesley Sneddon
	Southeast Coastal Plain	Alan Weakley
CARIBBEAN	Caribbean	Humfredo (Fito) Marciano
BOREAL (east-central)	Boreal-Subarctic	TBD (US)/Ken Baldwin (CA)
ALASKA	AK & Coastal-Boreal-Arctic	Scott Geyer (US) / TBD (CA)
POLYNESIA	Hawaii	TBD

The objectives of the peer review process are to:

- Maintain an authoritative, consistent classification of the ecosystems of the United States
- ensure compliance with classification, nomenclature and documentation standards,
- maintain reliability of vegetation data and other supporting documentation, and
- referee conflicts among NVC types.

Two Types of Changes

- Editorial Review** includes minor changes that do not affect the concept of a type; spelling/ grammar edits, species taxonomic updates, etc.
- Peer Review** is required for changes to type descriptions, and requires formal submissions of a proposal by authors to the Editorial Board.

The Review Process

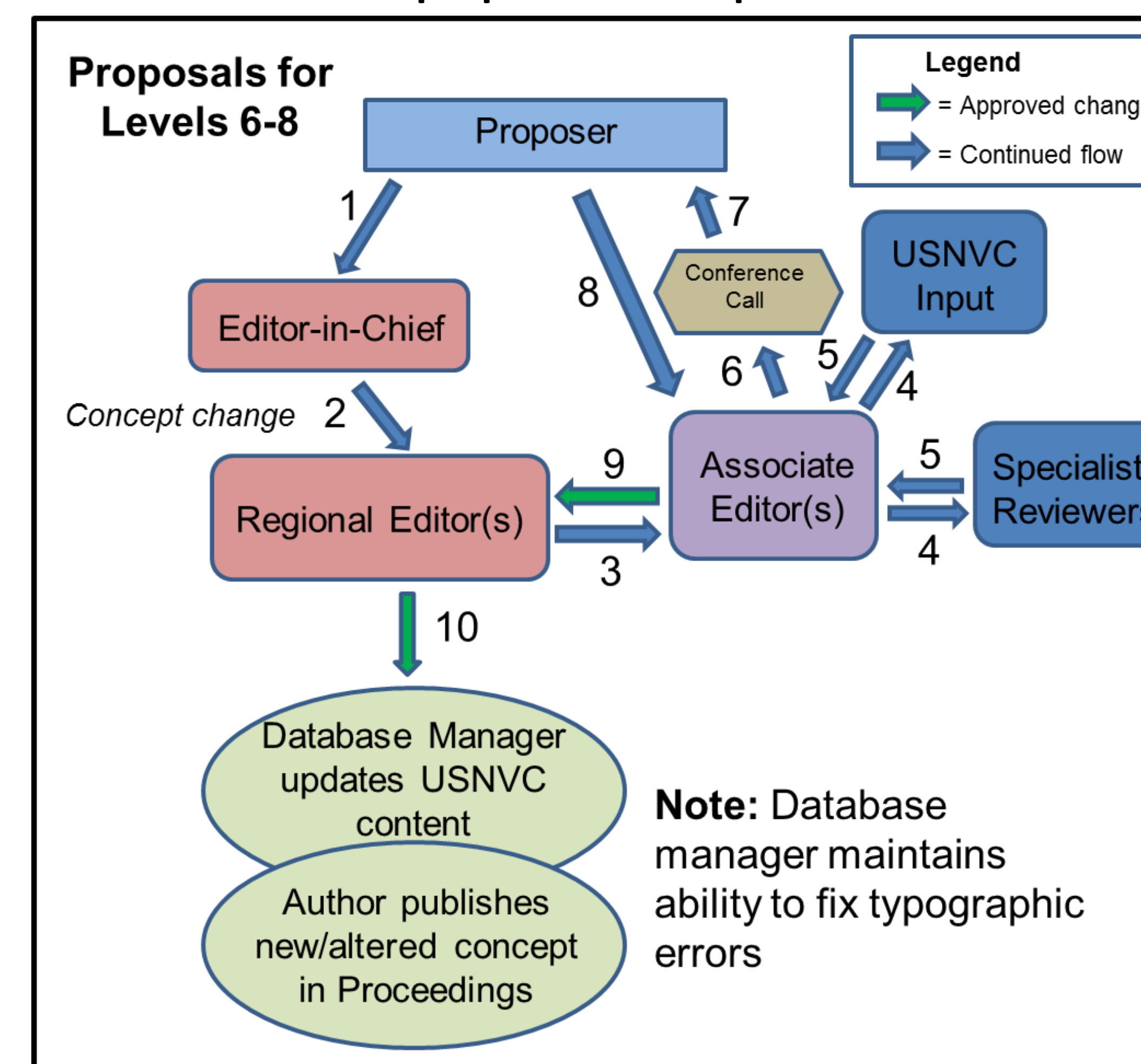
The review process differs slightly for levels 1-5 versus levels 6-8. Proposed changes to levels 1-5 are handled by the EIC and NRB, and all accepted changes are incorporated into the USNVC every five years.

Proposed changes to levels 6-8 are handled by Regional and Associate editors along with expert reviewers and applied annually.

The Proposal consists of four main parts:

- Proposal narrative
- Edited Type Description(s)
- Additional appendices
- Concept Description Template

Cartoon scheme of proposal review process:



Key features different from journal review

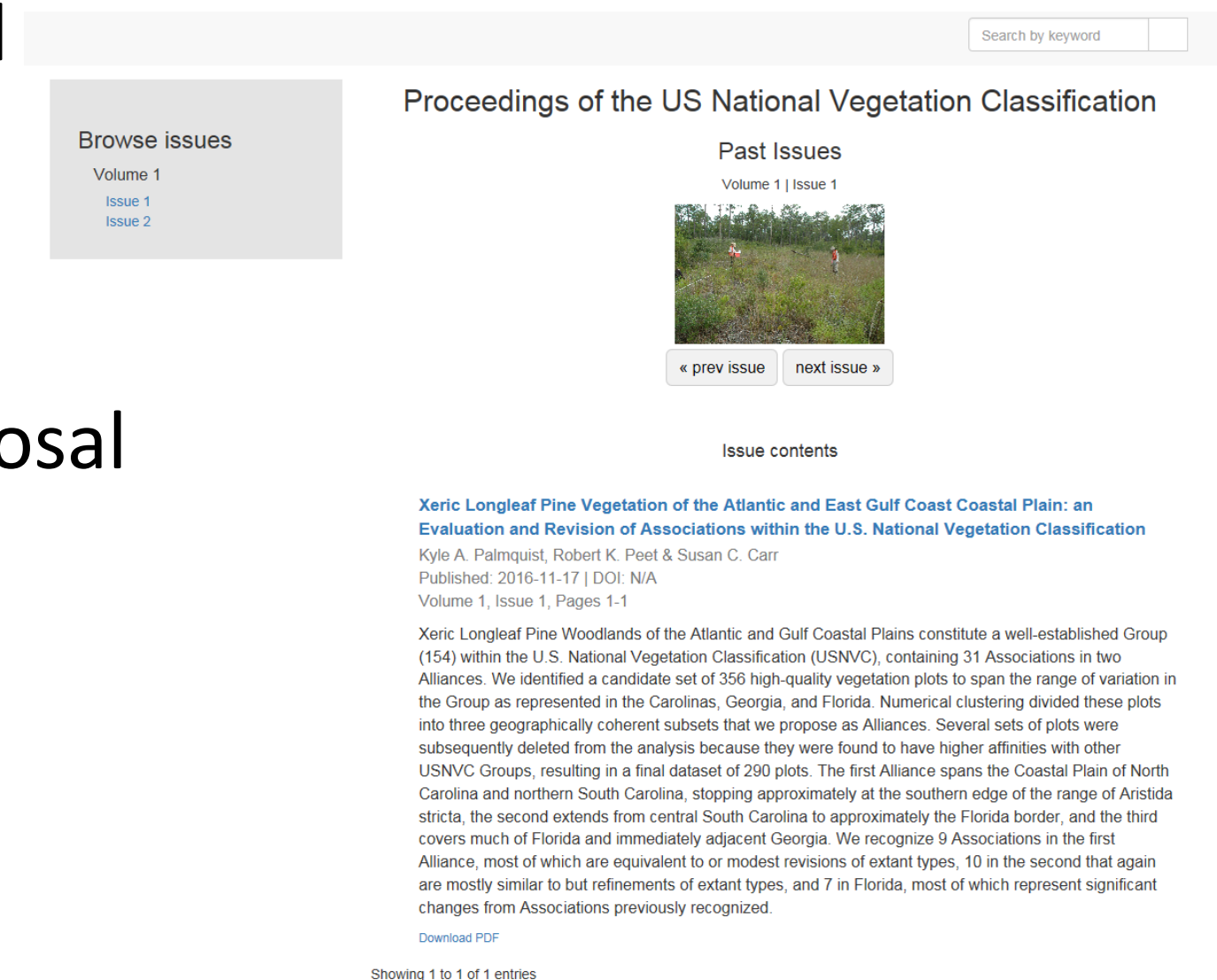
- Proposed change must ‘improve’ the classification
- Proposal author works with editors, and possibly reviewers, for edits
- Editor and reviewer expertise is based on region and vegetation type

Testing the Review Process

The project began with analyzing a regional dataset of longleaf pine ecosystems of North Carolina, representing three geographic regions and 655+ plots, which provided comprehensive coverage in both range of compositional variation and geographic extent. Bob Peet, Kyle Palmquist and Susan Carr used their analysis to evaluate relevant types and descriptions in the USNVC and authored a proposal based on ESA Panel specifications for potential changes based on their findings.

The Panel, authors and reviewers held a meeting in 2013 with the goals of reviewing the proposal and process detail, using it as a prototype, discussing lessons learned, and making suggestions for process improvement. Participants made specific changes to materials now used in the review process, including instructions for authors, a form for peer reviewers, and a detailed document that carefully outlines the review process and

establishes guidelines for proposal authors. The accepted proposal became the first publication in the *Proceedings*.



Proceedings

The *Proceedings* of the USNVC serve as an official record of any changes, and the reasoning and evidence behind those changes. ESA houses the journal on their website.

<http://50.87.248.75/~usnvcorg/proceedings/index.php>

Get Involved

- Propose new types to the USNVC
- Become a reviewer
- Contribute Plot data to VegBank
- Check out the classification (usnvc.org)