

Succession Class Mapping Guidelines - Alaska

An important section of the LANDFIRE BpS Description document is the Succession Class Structural Information. The structural information is used to map the current distribution of succession classes in the [succession class](#) spatial data layer. During the BpS Review we would like reviewers to review and, if possible, improve these succession class mapping rules.

Four structure attributes will be used to map succession classes:

1. **Lifeform** – lifeform classes are herb, shrub and tree and are defined for the upper layer vegetation.
2. **Canopy Cover** – varies by lifeform, see [mapping rules tables](#) below
3. **Canopy Height** – varies by lifeform, see [mapping rules tables](#) below
4. **Existing Vegetation Type (EVT)** – used as needed to distinguish classes, especially for distinguishing by leaf form (e.g. conifer, broadleaf or mixed conifer and broadleaf). See [existing vegetation type list](#) below for a complete list of types.

The perfect rule set for mapping would have no gaps or overlaps between classes. LANDFIRE maps any combination of life/leaf form, cover, height and EVT (if specified) not covered by the ruleset as “uncharacteristic” – i.e. a combination that would not occur under the reference condition. Make sure that any gaps or overlaps are meaningful and intentional.

How to Improve Succession Class Mapping Rules

To improve the succession class mapping rule set reviewers can:

- Suggest ways that overlapping succession classes could be distinguished.
- Suggest more inclusive succession class mapping rules. It is especially helpful to know where to map lifeforms that are not included in the rule set. For example, if a forested BpS is defined by succession classes with tree lifeforms, indicate which succession class herbs and shrubs lifeforms should be mapped in (i.e. classes A-E or uncharacteristic).

Things to Remember:

- The rules are for classifying pixels on a satellite-based map, not for identifying succession classes in the field.
- LANDFIRE maps all lands – make the rules as inclusive as possible. If a life/leaf form, cover and height combination is not uncharacteristic, it should be assigned to a succession class even if it is very unlikely to occur.
- Information about the likely structural characteristics of a succession class can and should be included in the succession class description whether or not they are mappable at this time.

How to document your review of the succession class rules:

Reviewers can make edits directly in the description document or populate the mapping rules tables below and send them to the BpS review team (landfire@tnc.org). To edit the description document:

Example of a Populated Mapping Rules Table

Lifeform	Height (m)	Cover (%)	
		10-60	60-100
Herb	0-.5	A	A
Herb	>.5	A	A

Lifeform	Height (m)	Cover (%)		
		10-25	25-60	60-100
Shrub	0-.5	A	A	A
Shrub	.5-1.5	A	A	A
Shrub	>1.5	A	A	A

Life Form	Height (m)	Cover (%)								
		0-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100
Tree	0-5	B	B	B	B	B	B	B	B	B
Tree	5-10	B	B	B	B	B	B	B	B	B
Tree	10-25	C-broadleaf* D-conifer	C-broadleaf D-conifer	C-broadleaf D-conifer	C-broadleaf D-conifer	C-broadleaf D-conifer	C-broadleaf D-conifer	C-broadleaf D-conifer	C-broadleaf D-conifer	C-broadleaf D-conifer
Tree	25-50	C-broadleaf D-conifer	C-broadleaf D-conifer	C-broadleaf D-conifer	C-broadleaf D-conifer	C-broadleaf D-conifer	C-broadleaf D-conifer	C-broadleaf D-conifer	C-broadleaf D-conifer	C-broadleaf D-conifer
Tree	>50	C-broadleaf D-conifer	C-broadleaf D-conifer	C-broadleaf D-conifer	C-broadleaf D-conifer	C-broadleaf D-conifer	C-broadleaf D-conifer	C-broadleaf D-conifer	C-broadleaf D-conifer	C-broadleaf D-conifer

*EVTs from the [existing vegetation type list](#) below are used to distinguish Class C (broadleaf) from Class D (conifer).

Existing Vegetation Type List

Alder Shrub	Paper Birch Forest
Alder-Willow Shrub	Paper Birch-Balsam Poplar
Alpine Herbs	Paper Birch-Balsam Poplar-Spruce Forest
Alpine Herb-Sedge (Snowbed)	Paper Birch-Quaking Aspen Forest
Aquatic herbaceous	Quaking Aspen Forest
Balsam Poplar (Black Cottonwood) Forest	Quaking Aspen-Spruce Forest
Birch Shrub	Sagebrush-Grass
Birch-Ericaceous Shrub	Sagebrush-Juniper
Birch-Willow Shrub	Sedge-Birch Tundra
Black Spruce Forest	Sedge-Willow-Dryas Tundra
Black Spruce Scrub	Seral Herbs
Black Spruce w/lichen-moss	Shrub Swamp
Black Spruce w/tussock	Shrub Swamp
Black Spruce-Tamarack Forest	Sitka Spruce-Pine
Bluejoint Meadow	Sitka Spruce-Western Hemlock Forest
Bluejoint-Shrub-Herb	Spruce-Paper Birch Forest
Crustose Lichen	Spruce-Paper Birch-Quaking Aspen Forest
Dry Bryophyte (MOSS)	Tussock Tundra
Dwarf Shrub Tundra	Western Hemlock-Sitka Spruce Forest
Elymus	Wet Bryophyte (MOSS)
Ericaceous Shrub	Wet forb herbaceous
Ericaceous Shrub Bog	Wet Meadow Tundra
Foliose and Fruticose Lichen	Wet Sedge Bog Meadow
Foliose and Fruticose Lichen	Wet Sedge-Grass Meadow-Marsh
Grass-Herb	White Spruce Forest
Grass-Shrub	White Spruce-Paper Birch-Balsam Poplar (Black Cottonwood) Forest
Mesic forb herbaceous	Willow -Sedge Shrub Tundra
Mesic Sedge-Grass-Herb Meadow Tundra	Willow Shrub
Mixed Shrub-Sedge Tussock Tundra/Bog	Willow-Graminoid Shrub Bog
Mountain Hemlock Scrub	