

Succession Class Mapping Guidelines

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.

Three structure attributes will be used to map succession classes:

1. **Lifeform/leafform** (life/leaf form) – lifeform classes are herb, shrub and tree and are defined for the upper layer vegetation. Leafform can be used to further distinguish tree (only) lifeforms if needed. Leafform classes are: conifer, broadleaf or mixed (conifer and broadleaf). For example, a class could be defined as “tree/broadleaf.” Leafform has not been used in succession class mapping before.
2. **Canopy Cover** – 10% cover breaks from 10-100%
3. **Canopy Height** – varies by lifeform, see [mapping rules table](#) below.

The perfect rule set for mapping would have no gaps or overlaps between classes. LANDFIRE maps any combination of life/leaf form, cover and height 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. For tree lifeforms, consider the previously unavailable option of using leafform to differentiate classes.
- 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 table below and send it to the BpS review team (landfire@tnc.org).

To edit the description document:

Specify the upper layer **lifeform** here. **Leaf form** can be added, if needed, to differentiate tree lifeforms, e.g. tree/broadleaf. See [leaf form](#) above.

Specify upper layer **canopy cover** here.

Specify upper layer **height** here. Use height classes shown in the table below.

Tree size class is not currently used for mapping but is useful information.

Additional notes can be added to the succession class description.

Succession Classes		
Class A	5	Early Development
<u>Structural Information</u>		
Upper Layer Lifeform: Tree		
Upper Layer Canopy Cover: 0 - 60%		
Upper Layer Canopy Height: Tree 0m - Tree 10m		
Tree Size Class: Sapling >4.5ft; <5"DBH		
<u>Upper Layer Lifeform is not the dominant lifeform</u>		
Herbs and shrubs. Canopy cover 0-90%, height averages 4 ft.		
Notes about the structural characteristics of lifeforms below the upper layer should be added here.		

To populate mapping rules table:

- Add succession class letters (A-E and U for uncharacteristic) to the empty cells below.
- Tree cells can have more than one class if they are distinguished by leaf form.
 - For example, if dominance of spruce in the overstory distinguishes class E from class C, E would be considered tree/conifer and C would be tree/broadleaf. In the table this would be represented as E-conifer and C-broadleaf when E and C occupy the same cells.
- Make additional notes as needed, below the table.

Life/ leaf form	Height (m)	Cover (%)								
		0-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100
Herb	0-.5									
Herb	.5-1									
Herb	>1.0									
Shrub	0-.5									
Shrub	.5-1									
Shrub	1-3									
Shrub	>3									
Tree*	0-5									
Tree*	5-10									
Tree*	10-25									
Tree*	25-50									
Tree*	>50									

*Tree lifeforms can be further defined by leaf form: conifer, broadleaf or mixed.

