

Point Module V - Habitat Composition and Configuration

The habitat composition and configuration module contains new data elements not collected in prior NRIs. This information replaces the **earth cover** and **distances to habitat** elements collected in previous inventories.

Definitions

Habitat Composition. The makeup or relative proportion of the general cover categories occurring about a point. Nine general cover categories are defined based upon vegetative structure (e.g., percent canopy cover) or substrate characteristics (e.g., barren or artificial surfaces). [NRI-97]

Habitat Configuration. The arrangement of the nine general cover categories occurring about a point. [NRI-97]

Importance

This data element is designed to collect information on the composition and relative configuration of habitat in the areas surrounding the point. Spatial information related to habitat composition can be used to compute diversity indices. Habitat composition information can be used to support the use of models analyzing diversity within defined geographical areas.

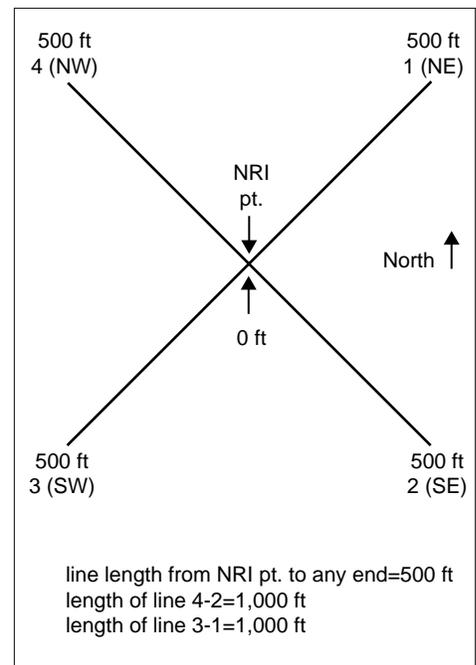
Guidelines and Clarification

Transects

These data are collected from standard transects which occur in an X-shaped pattern centered on the NRI sample point. Each of the four arms of the X is 500 feet long. If using the automated 1997 support map (see PSU Module I), orient the center of the prerecorded X on the NRI sample point; each 500-foot line segment on the prerecorded X contains points at 100-foot intervals to aid in determining distances. If the automated 1997 support map is not being used, create the X manually.

The 500-foot line segments may extend beyond the PSU, county, state, or national boundary, or onto Federal land; also, the line segments from separate PSU points may cross each other. In all cases data are collected for the entire length of each line segment for each of the nine cover categories.

Measurement of general cover categories is made along each transect to the nearest 10 feet. A cover category area must be at least 1 contiguous acre to be classified except for linear features, waterbodies, and areas identified below as artificial and modified surfaces. Linear features must be at least 10 feet wide and 330 feet long to be classified.



The nine general cover categories used in this module are the same ones used in PSU Module III—Shoreline Characterization and in Point Module VI—Overland Flow. They are:

- c** Crop: annually cultivated crops or their residue. Crops in this category include annually cultivated plants used for food, feed, fiber, or oilseed production. Perennial crops are not included in this category.
- h** Herbaceous: perennial (i.e., alfalfa, clovers, pastures, etc.) or noncultivated annuals, predominantly herbaceous, but may have woody canopy cover <5%.
- s** Short woody plants: >25% canopy cover and < 4m tall, often multistemmed (i.e., shrubs, seedlings, saplings).
- t** Tall woody plants: >25% canopy cover and \geq 4m tall, usually single stemmed (i.e., trees).
- r** Open canopy short woody plants: 5-25% canopy cover and < 4m tall, often multistemmed (i.e., shrubs, seedlings, saplings).
- p** Open canopy tall woody plants: 5-25% canopy cover and \geq 4m tall, usually single stemmed (i.e., trees).
- b** Barren: nonvegetated natural, includes saline barrens, unreclaimed mined land, and other barren areas that are incapable of supporting vegetative growth.
- w** Water: permanent water as defined in PSU module III (e.g., small and large waterbodies, small and large streams). Excluded are waterbodies where the vegetation growing in the water produces a canopy that obscures more than 75 percent of the aerial view, in which case one of the vegetative categories (h, s, or t) would apply.
- a** Artificial and modified surfaces: roads and rights-of-way, buildings, parking lots, farmsteads (includes complete polygons of farmsteads and ranch headquarters, urban and built-up, small built-up areas, and rural transportation designated on the PSU support map, and any other buildings that have a surface area greater than 1,000 square feet).

Linear features should also be classified as to one of the nine general cover categories if they meet the minimum area requirement described above. Linear features include brushy fencerows, hedgerows, field windbreaks, utility rights-of-way, ditchbanks and vegetated strips along streams and waterbodies.

Classification rules

General cover categories h, s, t, r, and p are distinguished by the life form for the plants that constitute the uppermost canopy layer within each category. Categories with over 25% canopy cover take precedence over those with 5-25%, and either of the preceding take precedence over the herbaceous category. If linear features are detectable on the photograph, but covered by adjacent canopy cover (i.e., streams or roads), record the full width of the linear feature as if the canopy was not present. Barren areas are those that are incapable of supporting plant growth and should not be confused with arid plains and desert areas which would be classified under one of the vegetated categories even though the productivity at the site may be very low. If the vegetative canopy obscures more than 75 percent of the view of water areas, record category appropriate for the vegetative cover. Short and tall woody plant designations are made for current conditions, not for potential height of the plants.

Procedure

Polygons or "patches" of uniform cover types are first identified from the photographs. On the PSU support map, mark the boundary of each cover patch where it intersects each transect. Classify each patch according to one of the 9 general cover categories and write the code along the transect line. Measure the length of the transect line over the patch to the nearest 10 feet. Continue to the end of the transect. The length of the last cover will be recorded from the previous cover just to the end of the transect line, even though the patch may extend beyond the end of the line. The segments must total to 500 feet for each of the four transect lines.

Documentation required in the PSU Folder

On the 1997 support map, delineate the boundary between each cover category along each 500-foot

Examples

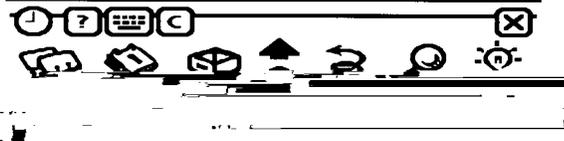
- a. The point falls in a pasture just to the west of a forest with a stream flowing W - E just south of the point. Line #1 intersects a palustrine scrub-shrub (pss) wetland with clearly visible surface water and 60% red-osier dogwood canopy cover.

Point 1:27013:010101R:1:Point Speci...

5. Habitat Complexity

Determine and enter the cover Note categories and segment lengths along each 500 ft. arm of the Habitat X

	1 (NE)	2 (SE)	3 (SW)	4 (NW)
1	h240	h300	h250	h500
2	w60	t150	s10	
3	t200	w10	w10	
4		t40	s10	
5			h220	
6				
7				
8				
9				



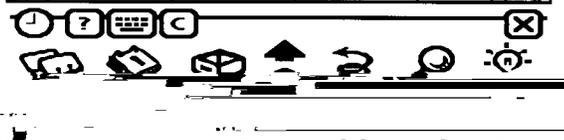
- b. The point falls in a corn field, just south of a wheat field, west of an alfalfa field, and a grassed waterway flows from NW to SE about 100 feet NE of the point, a brushy fencerow runs N-S along the west side, bordering a narrow rural road (with 20-foot right-of-way), with soybeans west of the road.

Point 1:27013:010101R:1:Point Speci...

5. Habitat Complexity

Determine and enter the cover Note categories and segment lengths along each 500 ft. arm of the Habitat X

	1 (NE)	2 (SE)	3 (SW)	4 (NW)
1	c100	c250	c400	c390
2	h30	h250	s10	s20
3	c120		a20	a20
4	h250		c70	c
5				
6				
7				
8				
9				



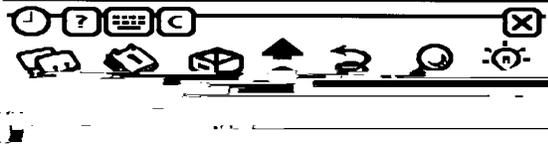
c. The point falls in a forest, with forest all around.

Point 1:27013:010101R:1:Point Speci...

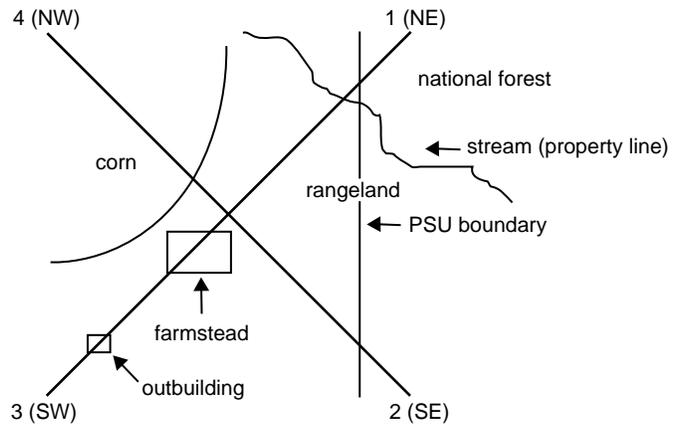
5. Habitat Complexity

Determine and enter the cover Note categories and segment lengths along each 500 ft. arm of the Habitat X

	1 (NE)	2 (SE)	3 (SW)	4 (NW)
1	t500	t		
2				
3				
4				
5				
6				
7				
8				
9				



e. The point falls in rangeland close to the east side of the PSU. The two lines on the east side extend beyond the PSU boundary. About 400 feet NE of the point a stream flows from NW-SE and forms the boundary between a privately owned ranch and National Forest. Line #3 transects a 4-acre farmstead consisting of a house, two machine sheds, parking area, and a barn. Further out line #3 transects a lone outbuilding used to store hay. A center-pivot irrigation system is used to produce crops and alfalfa along line #4.

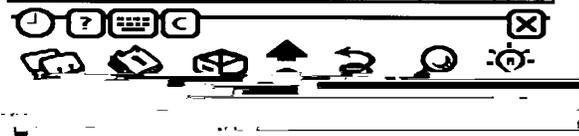


Point 1:27013:010101R:1:Point Speci...

5. Habitat Complexity

Determine and enter the cover categories and segment lengths along each 500 ft. arm of the Habitat X Note

	1 (NE)	2 (SE)	3 (SW)	4 (NW)
1	h300	h500	h100	h80
2	r100		a80	c420
3	w20		h220	
4	r80		a30	
5			h70	
6				
7				
8				
9				



Point Module V Glossary

(The following definitions are extracted from the 1997 National Resources Inventory glossary.)

Artificial and modified surfaces. A general cover category consisting of roads and rights-of-way, buildings, parking lots, farmsteads (includes complete polygons of farmsteads and ranch headquarters, urban and built-up, small built-up areas, and rural transportation designated on the PSU support map, and any other buildings that have a surface area greater than 1,000 square feet). [NRI 97]

Barren. A general cover category consisting of nonvegetated lands, including alkaline barrens, unreclaimed mined land, and other barren areas incapable of supporting vegetation. Barren areas are nonvegetated either because the substrate will not support plant growth or because the area is subject to frequent disturbance (i.e., scouring, flooding) to prevent growth. [NRI 97]

Crop cover. A general cover category consisting of annual cultivated plants or their residue, that are usually grown for food, feed, oil, fiber, or oil seed production. It includes annually cultivated row crops, close grown crops, and horticultural crops, but excludes perennial crops, hay, horticultural shrubs and trees, and aquaculture areas. Included are recently tilled portions of fields. [NRI-97]

Herbaceous. A general cover category consisting of predominately perennial herbaceous plants and, or, noncultivated annuals. The tall woody canopy cover is less than 5 percent, and the short woody canopy cover is less than 5 percent. Arid rangelands and desert can fall into this category although vegetation density and percent ground cover may be low. [NRI 97]

Large streams. Perennial streams at least 1/8 mile wide. [NRI-97]

Large waterbodies. Waterbodies of at least 40 acres. [NRI-97]

Open canopy short woody plants. A general cover category consisting of short woody canopy cover of 5 to 25 percent and tall woody canopy cover of less than 5 percent. The distinction between tall (greater than 4m) and short (less than 4m) woody plants is made for current conditions, not potential. Arid rangelands and desert can fall into this category although vegetation density and percent