



WORKSHEET

FOREST HEALTH INDICATOR: SNAGS AND COARSE WOODY DEBRIS

In natural forest ecosystems, snags (standing dead trees) and coarse woody debris (dead logs and large branches on the ground) are important indicators of forest health. Their presence indicates a forest of diverse ages, and the snags and debris provide animal habitat, energy and nutrient cycling, and stable soils.

Note: In parks or near structures, forest managers may remove snags or coarse woody debris to prevent fire and other safety hazards. If your forest plot is in such an area, the presence of snags or debris will not be a relevant forest health indicator.



MATERIALS

Tape measure

METHOD

Count the number of snags and the number of live trees in your forest plot, and calculate the percentage of standing trees that are snags. Then, count the number of dead logs and downed large branches in your plot that are more than 10 cm in diameter and more than 1 metre in length, and calculate their abundance.

RESULTS

Snags

Number of snags in plot: _____ (Value A)

Number of live trees in plot: _____ (Value B)

Total number of standing trees in plot:

Value A + Value B = _____ (Value C)

Percentage of snags:

Value A ÷ Value C x 100 = _____ percent (Value D)

Coarse Woody Debris

Number of logs and downed branches greater than 10 cm in diameter and 1 meter in length:
_____ (Value E)

Abundance of course woody debris:

(Value E ÷ Value B) x 100 = _____ percent (Value F)

(Note: For some forest plots, abundance may be more than 100 percent.)

SNAGS

RATING

Snags

Good	More than 10 percent of standing trees are snags.	3 Points
Fair	From 5 to 10 percent of standing trees are snags.	2 Points
Poor	Fewer than 5 percent of standing trees are snags.	1 Point

Snags rating for plot: _____ points (Value G)

Coarse Woody Debris

Good	More than 15 percent abundance of coarse woody debris.	3 Points
Fair	From 5 to 15 percent abundance of coarse woody debris.	2 Points
Poor	Fewer than 5 percent abundance of coarse woody debris.	1 Point

Course Woody Debris rating for plot: _____ points (Value H)

OVERALL RATING

Determine the overall rating by adding up the points shown for the snag and coarse woody debris ratings, and then divide the total by two. Round to the nearest whole number. Then, assign a rating based on the average point value.

(Value G + Value H) ÷ 2 = _____

Good	Average point value of 3
Fair	Average point value of 2
Poor	Average point value of 1

Overall Snags and Coarse Woody Debris rating for plot: _____

Source: National Park Service. 2009. "Forest Health: Course Woody Debris and Snags." Resource Brief, Northeast Temperate Network. science.nature.nps.gov/im/units/NETN/Education/Resource%20Briefs/NETN_RB_CWDSnags_FINAL.pdf

WOODY DEBRIS