



FOREST ASSESSMENT

With proper management, you can maintain healthy forestland on your property. Forests can be managed for a single use, such as timber production, or for multiple uses, such as wildlife habitat, recreation, livestock grazing and/or timber production. To help you manage your forestland, you need to decide which of these uses are important to you. You likely have a primary use planned that will guide your overall management and decision-making processes. If secondary and tertiary uses are also important to you, allow these to guide your decisions as well. This worksheet will help you ensure that the vegetation and ecosystems on your forestland function properly for the land uses you have identified.

In a healthy forest, the larger overstory trees, smaller understory trees, and ground vegetation are all in good condition. The distribution of vegetation and the number of trees per acre will differ depending on where your property is located within the state. Soil type, precipitation, temperature, tree species and your land use objectives are also factors that affect the density and distribution of vegetation on your forestland.

STEP 1: Identify The Tree Species On Your Forestland

Instructions: Conduct a basic assessment of your forestland by answering the following questions. If you identify management needs and/or issue that may require professional assistance, refer to the last page of this assessment for a list of resources.

1. There are many references to help you identify tree species present in Kansas. Refer to the Conservation Trees page on the Kansas Forest Service website at: https://www.kansasforests.org/conervation_trees/

Select all that are present:

- Burr Oak
- Elm
- Hedge
- Locust

Others (list):

- Cedar
- Silver Maple
- Black Walnut
- Cottonwood

- Your local natural resources contact may suggest additional sources of information for identifying tree species. List other tree identification sources and forestry websites below for future reference.

STEP 2: Determine The Types Of Trees Your Soil Will Support

Refer to the Web Soil Survey (<http://websoilsurvey.nrcs.usda.gov>), described earlier in the **Map Your Property** section to complete the following worksheet. Please, note forest productivity data may not be available in Web Soil Survey for some properties due to the lack of forest site data during the initial survey.

1. Describe the soils present on your property.

After you delineate your property in Web Soil Survey, click the “Soil Map” tab. On the left-hand side of the screen, you will see a list of the soils present on your land. Click on a soil name to view the description, which will provide information on the soil’s properties, qualities, and major land uses.

2. Record the site index values for the trees found on each soil.

Next, click on the “Soil Data Explorer” tab. On the left-hand side of the screen, you will see a list of the soils reports available to you. Under “Vegetative Productivity,” select “Forest Productivity,” then click “View Soil Report.” Scroll down to the bottom right-hand side of the screen to view the site index values for relevant tree species. The site index value gives you the average height trees will attain at a given age (either 50 or 100 years) on a specific soil. Generally, a higher site index value means the soils can support more trees per acre. The value allows you to compare the growth potential for trees on different soils. The site index will also help you evaluate your current stand.

3. List the trees identified to manage for on your property.

On the same table with the site index values, you will see a column titled “Trees to Manage.” The species listed here are preferred for planting, seeding or natural regeneration on the respective soils.

4. Record any additional information.

STEP 3: Evaluate The Health Of Your Trees

Record any indications of possible tree health problems by answering the questions below. For any YES answer, provide a description in the space provided.

No Yes

Dead Trees/Plant Matter: Are there dead or dying branches in the tree canopy and/or discolored leaves or needles?



No Yes

Evidence of Insect Attack: This may include signs of white or pink pitch tubes on the bark, brown sawdust at the base of the tree, dead sections of a tree canopy, and/or large amounts of green needles on the ground.



No Yes

Witches Brooms: Are there thick masses of dense foliage in the tree canopy?



No Yes

Dead/Forked Treetops: Do trees have forked tops, dead tops with new leaders (dominant upright stems) developing or dead tops with no new leader?



No Yes

Weeds: Are there any native or non-native plants that are overcrowding or dominating the plant community?



STEP 4: Research and Apply Management Options to Improve Tree Health

If you answered “yes” to any of the health problems identified on the previous page, consider applying the following management options:

- Dead Trees/Plant Matter:** Remove dead trees
 Designate areas for wildlife habitat
 Other: _____

- Insect Attack:** Cut infected trees
 Cut trees adjacent to infected trees to prevent spread
 Other: _____

- Witches Brooms:** Prune infected branches
 Remove infected trees and plant with more persistent stock
 Other: _____

- Dead/Forked Treetops:** Remove deformed or injured trees
 Maintain trees for wildlife
 Other: _____

- Weeds:** Spray or mow weeds
 Plant trees and maintain planting
 Other: _____

STEP 5: Complete The Forest Stand Inventory

1. Do you know the density of the forest stand (the number of trees per acre)?

- Yes No

2. Do you know the average diameter of the trees on your forestland?

- Yes No

If you answered "No" to either of the above questions, complete the following worksheet. Discuss your results with a professional forester in your area. The information you collect here will help you assess proper management practices.

A. Establish a fixed plot size. A fixed plot can be any size, but should be large enough to be representative of the entire stand. Round plots are the easiest to lay out; the plot radius depends on the size of the plot.

1. Determine a plot size and the corresponding radius measurement (e.g. 11.8 foot radius for 1/100 acre, 16.6 foot radius for 1/50 acre or 20 foot radius for 1/35 acre).
2. Consider using a 1/35 acre plot. The radius is 20 feet and is a manageable size.
3. Locate a representative plot within your forestland. Establish a plot center point and mark with a stake.
 - a. Affix a measuring tape (or string) to the stake and measure out 20 feet, or the length of your plot radius. Holding the measuring tape, walk around the circle maintaining the radial length from the center point. You will have to maneuver the tape around the trees when you count the trees in your plot.
 - b. Another way to layout a round plot is to make an "X" with the plot center being the center of the "X". Measure out 20 feet (or your radius) from the center in an "X" pattern to determine the circle's edge. Mark the edges with a stake or flagging; these are the arcs of the circle.

Plot size: _____

Example: 1/100 acre plot, 11.8 inch radius

B. After establishing a plot, count the number of trees within the plotted area.

Count only the trees that are greater than 4 feet in height. **Number of Trees:** _____

Example: 5 trees

C. Compute the number of trees per acre.

Number of trees per acre: _____

inverse of the plot size * number of trees counted

Example: $(100/1) * 5 = 500$ trees per acre

D. Record the average tree diameter. Measure the diameter of all the trees that are taller than 4.5 feet and have a diameter of 3 inches or more in the established plot. Measure the diameter of the trees at 4.5 feet above the ground.

Average Tree Diameter: _____

Calculate by taking the sum of all diameters measured divided by the number of trees measured.

EXAMPLE:

Number of Trees	Diameter
1	5.0"
2	6.1"
3	3.0"
4	4.6"
5	9.0"

Average by totalling by totalling the diameters

$$5.0 + 6.1 + 3.0 + 4.6 + 9.0 = 27.5$$

Divide by total trees

$$27.5 / 5 = 5.54$$

Average Diameter = 5.54"

STEP 6: Implement Management Practices To Reduce Risk Of Wildfire

Is wildfire a source of concern on your property?

- No Yes

If YES, consider the following management options:

- Reduce brush quantity
- Thin overstocked stands
- Prune lower tree branches
- Reduce tree material on the forest floor
- Establish permanent firebreaks
- Contact the Kansas Forest Service at least 15 days prior to beginning any forest management activities

STEP 7: Complete The Forestland Enhancement Worksheet On The Following Page

Complete each field of the accompanying Woodland Enhancement Worksheet. Use the guide below to complete each section.

Field: Indicate each section of your property

Deadline: Indicate a deadline for completing your goals.

Goal: List goals for each section of your property

Action: Describe methods for achieving your goals. Include a list of the resources and assistance you may need to achieve your goals

Field: SW forest

Deadline: June 2018

Goal: *Restore plant diversity*

Action: *Plant trees including diverse understory species*

Forestland Enhancement Worksheet continued →



Field: _____ **Deadline:** _____

Goal:

Action:

Field: _____ **Deadline:** _____

Goal:

Action:

Field: _____ **Deadline:** _____

Goal:

Action:

Field: _____ **Deadline:** _____

Goal:

Action:

Field: _____ **Deadline:** _____

Goal:

Action:

Field: _____ **Deadline:** _____

Goal:

Action:

TIP: 1 Improve Your Woodlands

- ✓ Maintain diverse tree ages.
- ✓ Thin tree stands periodically to prevent overcrowding.
- ✓ Design, construct and maintain roads to provide drainage, prevent erosion and reduce costs. Ensure roads are located far from stream edges.
- ✓ Control competing vegetation and protect seedlings from grazing until established.
- ✓ When using chemicals for control, obtain the necessary permits. Avoid spraying neighboring vegetation and surroundings. Be sure to select the correct chemical for the type of vegetation and follow all label directions.
- ✓ Dispose of large amounts of slash (logging debris) to reduce the risk of fire. Pruning trees may also reduce fire hazards, while improving the stand.

Gather Additional Information and Assistance

- ✓ Kansas Forest Service:
<https://www.kansasforests.org/>
- ✓ Kansas State University Extension Service:
<https://www.ksre.k-state.edu/>
- ✓ Natural Resources Conservation Service (NRCS):
www.ks.nrcs.usda.gov



NOTES: _____