

Woodland Stewardship Online

1: Preparing a Woodland Stewardship Plan – Activity

How this helps you:

You will be able to design sustainable trails for hiking, horseback riding, bicycling, cross-country skiing, snowmobiling, all terrain vehicles, and off-highway motorcycles. It takes you through the steps: determine trail uses, select the corridor, establish design standards, mark trail location, clear the trail, construct the tread, install structures to cross obstacles, sign the trail, and select supporting facilities.

Step 1: Determine Trail Uses

- **Step 1A:** Read the section on Determine Trail Uses ( PDF, page 148).
- **Step 1B:** Make a list of trail uses that you want on your land, e.g., hiking, skiing, snowmobiling. Considering the criteria described in this section, decide which uses can be placed on each of your trails and which uses require their own dedicated trail. You may find that multiple users are acceptable on most portions of a single trail, but some landscape features (e.g., steep hill or stream crossing), may require a separate trail for a short distance.

Step 2: Select the Corridor

- **Step 2A:** Read soil maps and descriptions to determine if there are limitations to trail construction on your property; information on road construction may be useful as a rough guide.
- **Step 2B:** Determine which types of photos and maps would be most appropriate for laying out a trail system on your property and collect those resources.

An aerial photograph shows land uses and makes a good base map. See Links and Resources section for sources. Place a clear sheet of plastic over this map and go to your woodland. Using a marker that will leave an imprint on the plastic, mark existing trails and roads, control points, obstacles, and points of interest that you want to incorporate into your trail system.

A topographic map may be helpful in hilly and mountainous terrain especially if your trail covers a large area. See Links and Resources section for sources.

Soil maps and accompanying data tables describe soil physical characteristics that are helpful to know as you lay out a trail system. See Links and Resources for sources or go to your local soil and water conservation district.

- **Step 2C:** Learn about threatened and endangered species that may be present on your property during part or all of the year. You may find general information on the Web or in a publication, detailed survey data may be available in a dataset that is not widely available to the public to help protect these species. Ask your forester to search such databases if they are available in your state.
- **Step 2D:** Learn about cultural resources that may be present, especially if you plan to move any soil or rocks. This information may not be available to the general public to protect locations where artifacts can be found, but it may be available to you as a landowner. Ask your state archaeologist or forester to search such databases, if they are available.
- **Step 2E:** Identify trail corridors, and with your trail purpose in mind, scout them for existing trails and roads, control points, obstacles and significant points of interest. Note these features on a base map.
- **Step 2F:** Discuss your trail project with neighbors to learn about its impact on their properties and the potential to link your trails.

3: Establish Design Standards

- **Step 3A:** Read the section on Establish Design Standards ( PDF, pages 150 – 154).
- **Step 3B:** Set trail design standards using Figure 13-2 as a rough guide. Consider the types of trail uses that you are planning, the type of user experience you wish to offer, and your budget.
- **Step 3C:** Acquire these instruments:
 - Tape measure long enough to measure clearing width and height.
 - Clinometer to measure grade. You can buy one for a forestry equipment supplier or make your own using instructions in Figure 13-5.
 - String and two stakes to lay out the turning radius on curves. String length depends on the maximum length of turning radius required for your trail uses. See Figure 13-2 as a rough guide.

Step 4: Mark Trail Location

- **Step 4A:** Read the section on Mark Trail Location ( PDF, page 154).
- **Step 4B:** Using plastic flagging, wire flags, or wooden stakes, mark the exact location of new trails or re-locate sections of existing trails that do not meet your design standards.
- **Step 4C:** If a contractor will construct the trail, map the route and mark the location of trail structures or places where deviations from your normal design standards are appropriate. Place temporary signage at these locations and take photographs of those locations to help the contractor find them.
- **Step 4D:** Obtain permits for crossing streams, wetlands, railroads, highways, rights-of-way, etc. Start with your soil and water conservation district to learn what permits might be required for crossing a stream or wetland and which agency issues such permits. Contact the local road authority (e.g., township, county, state highway department) for

information about crossing roads). Contact the railroad company for information about crossing railroad tracks.

Step 5: Clear the Trail

- **Step 5A:** Read the section on Clear the Trail ( PDF, page 154).
- **Step 5B:** Follow the four stages recommended in this section.
 - Remove small trees, shrubs, and limbs from large trees.
 - Cut large trees.
 - Remove stumps and boulders.
 - Move soil to level the tread.
- **Step 5C:** See Links and Resources section for Trail Design for Small Properties, a publication that describes tools appropriate for clearing the trail.
- **Step 5D:** See Photos section for photographs of trail clearing tools.

Step 6: Construct the Tread

- **Step 6A:** Read the section on Construct the Tread ( PDF, page 155).
- **Step 6B:** Determine what type of tread material will provide a surface that is smooth and durable enough for your intended users.
- **Step 6C:** Determine where the tread needs enhancement due to pool soil conditions and add appropriate tread material. For example, the natural soil surface may be appropriate on level, well-drained ground, but different tread materials may be required on steep slopes, sandy soils, or wet soils.
- **Step 6D:** Install tread edging if needed in some locations to:
 - Prevent trail users from getting lost when the tread is not distinct from the surrounding ground surface.
 - Encourage users to stay within the tread to protect surrounding natural resources.
 - Hold fill material in place.
- **Step 6E:** See Photos section for photographs of different tread materials and tread edging.

Step 7: Install Structures

- **Step 7A:** Read the section on Install Structures ( PDF, pages 157 – 171).
- **Step 7B:** As recommended in Step 4, be sure to obtain appropriate permits to install structures that cross wetlands, waterways, roads, railroads, and private rights-of-way.
- **Step 7C:** Install appropriate structures where they are required. Consider the type of user experience you want to offer, your budget, and your skills and abilities to build these structures. Above all, prevent water erosion on your trail by careful design and use of structures. Rolling grade is a good strategy for trails that cross slopes. Appropriate trail

alignment can minimize the need for special structures. Obtain engineering assistance for complex structures, especially those which create a safety risk, such as bridges.

- **Step 7D:** See Photos section for photographs of trail structures.

Step 8: Sign the Trail

- **Step 8A:** Read the section on Sign the Trail ( PDF, pages 171 – 173).
- **Step 8B:** Install signs as appropriate. The landowner may not need signs for personal use, but visitors may find them helpful, especially:
 - confidence markers
 - directional signs
 - warning signs.

Step 9: Install Facilities

- **Step 9A:** Read the section on Install Facilities ( PDF, page 173).
- **Step 9B:** Determine which facilities, if any, are appropriate for your land.
- **Step 9C:** See Photos section for photographs of trail structures.
- **Step 9D:** Look for sample designs on the Web.