Planning A Harvest

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You don't begin building a house by cutting a bunch of 2 x 4's. You start with a design – a plan that shows what the exterior will look like, the location and size of each room, where the plumbing and wiring will go, and how all the pieces will come together to make a home.

The same is true with timber harvesting. You don't begin by felling a bunch of trees; you begin with a plan. What are the landowner's objectives? What is the age and health of the stand? What about the topography, soils, streams, and roads on the site? What wildlife and aesthetic considerations exist?

The main goal of harvest planning is to ensure that the landowner's needs are met. A carefully crafted harvesting plan defines the landowner's objectives, and provides a road map for forester and logger as they begin harvesting operations. So what exactly do foresters need to consider when laying out a timber sale?

A key element of any harvest plan is the protection of water quality and maintenance of soil productivity. The two are closely linked, since water quality can be adversely affected by soil erosion during forestry operations. The forester's best line of defense against soil movement is the use of Best Management Practices (BMPs). BMPs are state guidelines, sometimes regulatory and sometimes non-regulatory, that provide important guidance during harvesting operations.

Using BMPs when planning a harvest helps to maintain water quality, promote soil productivity, and prevent erosion.

To protect water quality, foresters begin by identifying any streams on the property and delineating Streamside Management Zones (SMZs). SMZs are defined on tract maps and marked in the woods with paint or flagging. The establishment of SMZs helps protect waterways by providing a buffer between the harvest operation and the water. SMZs also provide habitat for wildlife alongside the stream.

Sometimes it is necessary for heavy logging equipment to cross a stream during the harvest. If that is the case, the forester must pick a location that will prevent sediment from entering the waterway. Good design, construction, and maintenance of forest roads protect both water quality and the initial investment in the road. During harvest planning, decisions will be made on who will handle road responsibilities. In some cases, the logger can maintain the road; in other cases, a road contractor may be requested.

After water quality is planned for, weather must be taken into consideration. Certain soil types should only be harvested during dry weather. If harvesting will occur during a wetter period, foresters will require certain techniques to make sure the soil is not compacted or disturbed. For example, the logger can distribute the limbs and branches of the trees on the ground to cushion the impact of equipment and reduce the risk of rutting. In clearcut or final harvest situations, the soil type should be evaluated to make sure the next forest has the best possible scenario for regeneration.

For many landowners, increasing the amount of habitat for wildlife is a major goal. Harvest practices that benefit wildlife can be factored into the plan. These items may include creating openings for food plots, altering clearcut size and shape to improve habitat, incorporating wildlife corridors, and widening or lengthening SMZs. A landowner might also choose to retain "snags" or dead trees which can serve as perches for birds or den trees for mammals. In order to maximize the wildlife enhancement possibilities, these actions should be a part of the harvest plan and not merely done as an afterthought.

Before beginning any tree harvest, landowners should consult a professional to ensure not only that their objectives are met, but also that sound stewardship principles are followed.

Harvest planning is also the time to survey the land for the presence of any threatened or endangered species. An "endangered" species is one that is in danger of extinction throughout all or a significant portion of its range. A "threatened" species is one that is likely to become endangered in the foreseeable future. If an endangered or threatened species does exist on the tract, precautions must be taken to ensure that its habitat is not disturbed.

Finally, the overall look of the job should be taken into account. Along well-traveled roadways, alternatives to clearcutting may be considered. Using SMZs and other natural features such as aesthetic buffers can also reduce the visual impact. Other ways to make a harvest site more attractive are to create small and irregularly shaped harvest areas, and to leave any trees that are special or that add beauty or charm to the site.

Once all of the tract considerations have been made, the forester must coordinate the harvest operation with the appropriate logger. The type of equipment that the logger owns determines the type of operation for which he will be best suited. For example, if a tract of timber were being thinned, a logger with smaller equipment would be the obvious choice so that the residual trees would not be damaged. For a clearcut operation, a crew with more efficient equipment might be the choice. Timing issues also become a part of the planning process since each harvest operation takes a different amount of time to complete, and weather dictates the decision of whether or not to harvest on certain tracts. After all pieces of the harvest planning process have been determined and a logger has been selected, the logger is given a copy of the harvest map and a list of any special considerations. A meeting with the logger, forester, and the landowner prior to harvest eliminates misunderstanding.

Landowners are the best judges of their own land. They know its resources and what they wish to protect, and they are committed to sound stewardship principles like the protections of soil and water, the enhancement of wildlife habitat, and the aesthetic quality of their property. Incorporating these stewardship principles into harvest planning is the responsibility of the landowner and the forester working together. Their partnership in planning the future of the forest is a large part of ensuring that the forest will remain sustainable for many years to come.