Structured Experience 5.1
Red Pine Interception

Goals

1. To become familiar with the interception process.
2. To learn how interception is measured.

Group Size

Groups of six each or other size as appropriate.

Time Required

Approximately 1 hour.

Materials

1. Throughfall collector with a volume of water in the jug (567 mL).
2. Stemflow collector jug (5,319 mL).
3. Graduated cylinder (plastic) small and large.
4. One copy of the Interception Situation Synopsis and Interception Role Cards for each participant.
5. A scale large enough to hold the stemflow collector jug.
6. 11-in funnel.
7. Ruler.

Physical Setting

A room large enough (with movable chairs) to allow participants to move freely and congregate in groups.

Process

1. The facilitator gives a lecturette on the interception process. The concept of basal area should also be explained. (30 min)
2. The facilitator divides the class into teams of six each. (5 min)
3. The facilitator describes the goals of the exercise and hands out the Interception Situation Synopsis and Interception Role Cards to each participant. (5 min)
4. The facilitator explains that some members of the team may have to make some measurements using the materials at the front of the room. Inform them that they can buy the answer to a question for $1 per question (20 min).

Interception Situation Synopsis

Your group is responsible for determining the amount (depth) of precipitation that reaches the forest floor of a red pine stand and the interception for the red pine. A throughfall and stemflow collector has been set up in the field by the technician. Assume that litter interception is zero. Each of you will assume different roles for accomplishing the task; however, team cooperation is necessary to solve the problem.

Interception Role Cards

Forester As the forester in your group, all you can think about is planting and cutting trees. You have had your eye on a red pine stand for a long time, hoping to clearcut it. In preparation for the logging operation you have determined that the red pine stand has a basal area of 23 m^2/ha, is 20.7 m tall, is 67 years old, and there are 470 trees per hectare.	**Biometrician** It is your job to perform calculations of the data. You have a fancy calculator and the quickest fingers in the east. You love numbers.
Hydrologist As a forest hydrologist, everyone looks up to you. You know it is important to measure the amount of water in the stemflow collector. You perform the measurement.	**Meteorologist** Meteorologists are said to have their heads in the clouds. While in the clouds you determine that the rainfall for a storm for which throughfall and stemflow collection was made was 0.5 inch.
Technician I You do all the work and get little reward. However, most everyone else stays in the office and you get to go into the field. For the interception study in the red pine stand, you set up a throughfall collector with a funnel (size = ?), and a stemflow collar around a red pine.	**Technician II** You supervise the Technician I on the project. When visiting the interception field site, you notice that there is some water in the throughfall collector. Perhaps it would be a good idea to measure the amount of water in the collector.