CHAPTER

3

# DETERMINING YOUR PACE

# Determining Your Pace

It is often not practical to pull a graduated tape through the woods to measure distance. In these cases, walking out the distance using a calibrated pace can provide enough measurement precision.

Pacing is more than just a walk in the woods. A pace is two steps taken at a comfortable gait that can be maintained throughout the workday and across a wide range of walking conditions. It is easier to count the number of paces than the number of steps.

Each person's pace is different and can change with age, walking conditions, weather conditions, clothing, and other factors. You should determine your pace under different conditions and know when to use different pace factors. After your initial determination, it is good to check your pace from time to time to make sure nothing has changed.

## HOW TO CALCULATE YOUR PACE

To measure distance in forestry, we use chains, or 66 feet. To estimate distance when pacing, we use the average number of paces we have per 1 chain. To determine your average paces per chain, you can set up a course to obtain some initial estimates. See video 3:1, Estimating Your Pace, on the Alabama Extension website at www.aces.edu/go/ForestInventoryBasics.

## OPEN FIELD PACE (2-CHAIN COURSE)

Using your 100-foot tape or logger's tape and working with a partner, set up a 2-chain-long (132 feet) course in an open, grassy area. Place a pin flag or piece of flagging at the starting point. Measure 66 feet from the starting point and place another pin flag. This will be the 1-chain mark. From the second pin flag measure another 66 feet and place the third pin flag. You now have a 2-chain-long pacing course.

Walk the course three times. Each time record the number of paces (every two steps) to the nearest half pace (one step). Average the two closest determinations and record that as your average open field pace.

## WOODS PACE (2-CHAIN COURSE)

Using the same methods for the open field pace, establish a 2-chain course in the forest. Determine and record the number of paces (two steps) to the nearest half pace (one step). Average the two closest determinations and record that as your average woods pace.

## YOUR TURN

**Table 3.1. Calculate Open Field Pace**

| Trial | Number of Paces | Average Pace per Chain (number of paces ÷ 2 chains) |
|---|---|---|
| 1 | | |
| 2 | | |
| 3 | | |
| Avg. of nearest two determinations (avg. open field pace) | | |

**Table 3.2. Calculate Woods Pace**

| Trial | Number of Paces | Average Pace per Chain (number of paces ÷ 2 chains) |
|---|---|---|
| 1 | | |
| 2 | | |
| 3 | | |
| Avg. of nearest two determinations (avg. woods pace) | | |

Forest roads can be used to practice pacing.

Terrain and walking conditions can influence your pace.

## HOW TO CALCULATE HOW FAR YOU HAVE TRAVELED

You often will need to convert between paces and chains to determine how far you must go or how far you have come. Use the formulas below to help you when converting.

### CONVERTING PACES TO CHAINS

Divide the number of paces by your number of paces per chain. Chains equal (number of paces) divided by (number of paces per chain). Examples (using 12 paces per chain):

**74 paces ÷ 12 paces per chain = 6.17 chains**
**247 paces ÷ 12 paces per chain = 20.58 chains**

### CONVERTING CHAINS TO PACES

Multiply the number of paces by the number of paces per chain. Number of paces equals (number of chains) multiplied by (number of paces per chain). Examples (using 12 paces per chain):

**48.76 chains × 12 paces per chain = 585.1 paces**
**3.47 chains × 12 paces per chain = 41.6 paces**

## YOUR TURN

Practice what you have learned by converting between paces and chains.

1. Assume you have a pace of 12 paces per chain and you need to travel 105 chains to check on a sample plot. How many paces do you need to take?
2. Assume you have a pace of 13 paces per chain and you need to travel 50 chains to check on a sample plot. How many paces do you need to take?
3. Assume you have a pace of 12 paces per chain and you traveled 63 paces. How far did you walk in chains and in feet?
4. Assume you have a pace of 12 paces per chain and you traveled 130 paces. How far did you walk in chains and in feet?

### ANSWERS

1. 12 paces per chain × 105 chains = 1,260 paces
2. 13 paces per chain × 50 chains = 650 paces
3. 63 paces ÷ 12 paces per chain = 5.25 chains (346.50 ft.)
4. 130 paces ÷ 12 paces per chain = 10.83 chains (714.78 ft.)

## WHAT TO DO IF SOMETHING IS IN YOUR WAY WHEN PACING

When pacing through the woods, you will come upon trees, briars, boulders, ponds, etc., that make pacing in a straight line difficult or impossible. It often is easier or necessary and more accurate to offset around such obstacles. Offsetting can be accomplished in several ways.

## OFFSETTING SHORT DISTANCES WHEN PACING

If you need to offset only a short distance around an obstacle, it is easiest to simply take several (one to four) side steps perpendicular to the line of pacing. Continue pacing along the same compass setting, parallel to the original compass line.

Immediately after passing the obstacle, take the same number of side steps in the opposite direction to return to the original compass line. Continue pacing at the set compass direction. **Do not count the side steps in your pace count.**

## OFFSETTING LONG DISTANCES WHEN PACING

To offset around larger obstacles, you can use perpendicular offsets. Set your compass at a 90-degree perpendicular angle to the original compass line. Pace this perpendicular line, taking the same precautions as usual. **Do not count these paces in your pace count for the original line,** but record them so that you can repeat paces when you return to your original line. When you have passed the end of the obstacle, turn your compass back to the original azimuth and pace (counting these paces) until you have passed the obstacle.

Tie a piece of flagging at the start of shorter pacing offsets to help you find your starting point if needed.

Set your compass 180 degrees from the original offset azimuth and pace the same number of paces as before. This should place you on your original line. **Do not count these paces in your pace count for the original line.** Reset your compass to the original azimuth and continue pacing.

For longer offsets, it is a good idea to tie a piece of flagging along the original line at the beginning of the offset and record the number of paces to that point. If you have problems with the offset, you can always return to that point and start over.