Discharge Using the Float Method

Equipment and Supplies

- 100’ reel-type tape measure
- 4 tent stakes (hammer optional if needed)
- twine
- 6 wood blocks (2” x 4” cut 6” in length) or oranges
- Stopwatch, timer, or watch with second hand

1. Locate a relatively straight reach of stream to conduct the measurement. Ideally this will be 100 feet long, but as short as 15 feet is acceptable if it is the only option.
2. Stretch a tape measure across the channel at the downstream end of the reach. This should be perpendicular to the channel.
3. Measure the wetted width of the channel by looking at where the tape intersects the left and right edges and subtracting the smaller number from the larger. Measurements should be made in tenths of a foot for ease of math. Record this wetted width on the data sheet.

4. Divide the wetted width into 20 even intervals for depth measurement. You can round to the nearest number that will make the math easier (maybe to the nearest quarter foot).
5. Start at one wetted edge of the channel, and record the tape measurement at that location with a zero depth. Continue measuring depths across the channel at your determined interval.
6. You should finish on the opposite wetted edge with a zero measurement and should have approximately 20 depth measurements.
7. Total the depths and divide by the number of measurements (including the 2 zeros) to get the average depth.
8. Replace the tape with twine to mark the bottom of the reach.
9. Walk half way up your reach and take the second wetted width measurement. Record this on the sheet.
10. Walk to the top of the reach and record the third wetted width.
11. Leave the tape in place and use it to mark the top of the reach.
12. Toss your floating object into the stream 5 to 10 feet up stream from the tape and start the timer when it crosses the line. Stop the timer when it reaches the bottom. Catch the object and repeat 10 times.
13. Finish filling out the datasheet to calculate discharge using your average depth, average width and average speed of water with the correction factor.