

MAKING A LONGITUDINAL CHANNEL PROFILE

INSTRUCTIONS: Make a channel profile on the graph below using the data from the data table obtained by taking measurements at a series of stations placed at regular intervals along the Stony River. Station J is located at the mouth of this stream. Calculate the discharge (Q) of Stony River using the following formula:

$$\text{cross sectional area} = W \times D_a$$

$$Q = W \times D_a \times V_a$$

W is the width at the mouth. D_a is the average depth. (add all the depth readings and divide by the number of readings) V_a is the average velocity. (add all the velocity readings and divide by the number of readings)

1. What is the discharge of the Stony River in cubic feet per second? _____
2. What is the cross sectional area of the Stony River in square feet? _____

Data

Station	A	B	C	D	E	F	G	H	I	J
Width (ft)	110	118	128	142	147	156	161	177	192	198
Depth (ft)	15	22	28	78	65	44	37	16	8	4
Velocity (ft/sec)	3	8	12	21	17	11	9	5	4	2

