

Topic:

River Flow

QC-1201

Resource:

[River
Rating
System](#)

Basics: River flow patterns can seem complex and bewildering. A study of basic flow characteristics can help us unravel the mystery. Flow velocity is controlled mainly by the gradient of land it is flowing over. It is modified across its width by drag at the riverbed and air surface. It is also affected locally by interaction with obstacles such as rocks, ledges, dams and debris.

Question: *How do I know if it is safe to paddle a section of river?*

Answer: Most rivers have been surveyed by paddlers and rated for difficulty. Difficulty is a function of flow rate for dark water (smooth flow) and technical difficulty for white water (turbulent flow) sections. Ratings change depending on weather and dam release rates which affect discharge rate, which affects the height of the river as measured by the USGS river gage system.

Question: *What is the best way to paddle upstream on a river?*

Answer: River flow is fastest in the center of the river. Flow decreases at the margins due to drag. Downstream flow is weakest at the banks and in some areas may even reverse. Often the banks are the easiest areas to paddle upstream.

Advanced Concepts: You may want to get more information on the following:

- How can I determine if a section of river is safe for me to paddle?
- What should I do if my boat is forced against an obstacle?
- If I capsize how can I safely swim to shore?
- Is it safe to walk in whitewater, and if so, how?

For more information contact

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