

10. MORPHOLOGICAL UNITS

Morphological units are the dominant channel form features within a reach or study site. Different morphological units are associated with the three main channel types.

BEDROCK CHANNELS

Waterfall	This is where water falls vertically down a rock face; it is never drowned out even at high flows.
Rock steps	These are small waterfalls drowned out during floods.
Bedrock pavement	This is a gently sloping, uniform section of bedrock channel.
Rapid	This is a moderately steep section of channel formed over bedrock or large fixed boulders.
Bedrock pool	This is a pool formed in bedrock; examples are a plunge pool formed below a waterfall or a large pothole.

Bedrock channels: morphological features

Waterfall



Rock steps



Rapid



Bedrock pavement



ALLUVIAL CHANNELS

Step This is a step-like features found in steep streams and formed by large cobbles and boulders which span the channel to form a temporary water fall.

Boulder rapid This is a rapid-like feature made up of large immobile boulders.

Plain-bed This is a feature that consists of randomly scattered large material (cobble or small boulder), lacking well defined morphology.

Riffle This is a bar formed across the channel normally composed of gravel or cobble, commonly separating pools, runs or glides upstream and downstream..

Alluvial Pool This is a deep area in an alluvial channel.

Run These are channel features with a rectangular cross section and uninterrupted flow at all discharges.

Shallow pool This is a shallow area of pooled water.

Backwater This is a side channel which is separated from the main channel at one end.



Step in small mountain stream



Boulder rapid

Alluvial channels cont.



Plain bed



Riffle



Run



Alluvial pool



Shallow pool

MIXED BED CHANNELS

Combination of alluvial features (commonly pools) and bedrock features (commonly rapids).