Riverbank Stabilization Criteria and Examples

Pierre Y. Julien

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Objectives

Part III – Riverbank Stabilization Criteria

1. Present and discuss important concepts, criteria and guidelines
2. Present examples of riverbank stabilization

Objectives

Part III – Stream Stabilization

1. Present and discuss important concepts, criteria and guidelines for small rivers
2. Present examples of stream stabilization
Concept of Equilibrium

Mountain headwater streams flow swiftly down steep slopes and cut a deep V-shaped valley. Rapids and waterfalls are common.

Low-elevation streams merge and flow down gentler slopes. The valley broadens and the river begins to meander.

At an even lower elevation, a front waxers and meanders slowly across a broad, easily eroded valley. Its width may divide into many separate channels as it flows across a delta built up of river borne sediments and into the sea.
Bank Protection

requirements of bank stabilization

• Effective
• Environmentally Sound
• Economical

(Listed in order of necessity)
Figure 7.3 Schematic Diagram of Windrow Revetment
Figure 8.2 Typical Impermeable Dikes
Revetment Capout

Erosion and River Mechanics Textbooks

Objectives

Part IV – Riverbank Stabilization

1. Present and discuss important concepts, criteria and guidelines for large rivers
2. Present examples of riverbank stabilization
Concept of Equilibrium

Mountain headwater streams flow swiftly down steep slopes and cut a deep V-shaped valley. Rapids and waterfalls are common.

Low-elevation streams merge and flow down gentler slopes. The valley broadens and the river begins to meander.

As an even lower elevation, a meandering river slowly assumes a broad, meandering width. At its mouth, it may divide into many separate channels as it flows across a delta built up of riverborne sediments and into the sea.

From Milk (1990)
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Dredging
Dikes
Top Bank
Levee
Channel Realignment

Construction Dredging
Dikes Used to Restrict Flow to a Single Low Water Channel

Additional Contraction Structures

Dykes
THANK YOU for your Attention!

pierre@engr.colostate.edu