

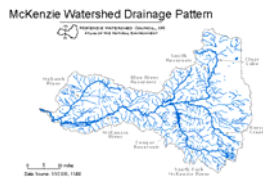
Basics of Stream Restoration in Cities

The basics

- What defines the water:
 1. Creek
 2. Brook
 3. Stream
 4. River
 5. Gulch
 6. Ravine
 7. Draw

What water shed do you live in?

- A watershed is the land area drained by a particular stream or river.
- Many different scales of a watershed.



Order of the stream

- The order of the stream is a means of classifying by how many tributaries the stream has.
 - First order.
 - Second order.
 - Up to tenth order

Value of the stream and restoration

- Transportation
- Industrial water supplies
- Domestic (sporting) activities
- Agricultural

5 Strategies to assign monetary value to a stream.

- Traditional economical evaluation
- Quantify the value of real estate and business location
- Flood control or hydroelectric projects
- How the public perceives the value
- Relative benefits of the restoration project

What does the stream need?

- Protection
- Enhancement
- Restoring



5 major concerns to have a healthy stream

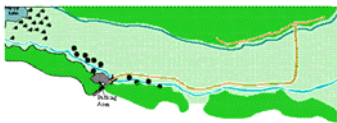
- New urban development
- Environmentally and aesthetically sensitive stream maintenance
- Keeping the engineering officials environmentally sensitive
- “day lighting” streams
- Pollution and adequate water supply

Achieving community interest

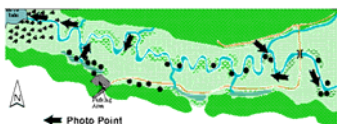
- Control erosion and reduce flood damage
- Sense of community
- Tourism
- Preserve history and cultures
- Fishing
- Jobs, job training and education
- Trails and Greenways
- Reclaim ecological values
- Mitigate for land-use changes
- Restore water quality

What is restoration?

Before



After



Thinking about restoration?

- Watershed perspective
- Neighborhood perspective
- When to do restoration
- Alternative to conventional engineering practices

Discussion Questions for
Restoring Streams in Cities

by Ann L. Riley

Chapter 1: The Basics

Discussion lead by Lanie Paquin

What method does Riley describe for naming streams that conveys meaning about their relative size?

- *Within a hierarchy of stream orders according to how many tributaries a stream is draining*

What are some ways resource economists calculate a monetary value for waterways?

- *Nearby property values*
- *Recreation business sales*
- *Government expenditures*
- *Business relocations*

According to Riley, what are 5 major concerns for stream restoration efforts?

- *Establishing land use regulation*
- *Resolving issues with existing structures with environmental technologies*
- *Negotiating with engineering officials*
- *Removing culverts and concrete linings*
- *Addressing water pollution and water supply*

What kinds of incentives does Riley describe for promoting stream restoration?

What are some specific examples Portlanders have used to restore local streams?

Describe the physical features of streams and their functions within the stream ecosystem.

- *Riparian vegetation*
- *Pools, riffles and bars*
- *Floodplain, stream banks and terraces*
- *Vegetation diversity*
- *Fish habitat*
- *Exchange nutrients from stream to land*