Riparian Zone Restoration: Battle Bend Park

Introduction: A riparian zone (the land adjacent to the creek) acts as a buffer between the aquatic (water) and terrestrial (land) environment and serves to minimize impacts to water quantity and quality. As the riparian zone becomes increasingly degraded (reduced in quality or value) the ecological functions (basic goods and services it provides to humans) can be altered. Therefore, the **goal** of riparian zone restoration is to restore the natural process necessary to maintain a high level of ecosystem function.

Background: A tributary of Williamson Creek flows through Battle Bend Park before Empting into Onion Creek and later the Lower Colorado River. This urban creek has reduced riparian vegetation, elevated streambank erosion, and impaired water quality. Through a joint effort between Parks and Recreation and Watershed Protection departments, Battle Bend Park has been selected as one of several locations for a new "Grow Zone" initiative. Increasing the vegetation cover has been shown to improve the ecological function of Austin's riparian zones.

Healthy Riparian Buffers Provide:

- Filtering of storm runoff, removing pollutants before they reach the creek
- Prevention of stream bank erosion
- Slowing of flow, reducing downstream flooding
- "Sponge" like soil conditions that will absorb water, providing baseflow for the creek
- Shade, reducing water temperatures.
- Habitat and food for a diverse group of animals, both on land and in the water
- A Reduction in the City's carbon footprint via both sequestration and reduced emissions.
- Reduced mowing and maintenance by City staff.
- A greenbelt forest and stream amenity for walkers, hikers and wildlife observers.

City of Austin Riparian Restoration

Example of Grow Zone success on the Willowbrook reach of Boggy Creek.

Mowed Condition (**1997**)

Restored condition (**2012**)

Management Approach:

- Establish a "Grow Zone" along both banks of the creek, approximately 25 ft.
- Allow for passive (natural) plant growth in entire buffer area.
- Monitor for changes over time and apply adaptive management approaches where necessary.
- Coordinate periodic trash removal, weed/invasive vegetation management, and native seeding/planting.
- Install educational and demarcation signage where appropriate

What should park users expect?

- As the plant community recovers, some areas may have taller, much less manicured vegetation. It can take between 5 and 10 years to develop a diverse vegetation community, so patience is important!

Who will track progress and/or Success?

- WPD will evaluate changes annually; implement adaptive riparian restoration practices as needed.
- Volunteer participation is encouraged through the Keep Austin Beautiful, Adopt-A-Creek Program.

City of Austin Research Findings:

- Early results suggest that establishing Grow Zones adjacent to creeks will significantly reduce soil compaction, soil pH, and vegetation gaps and significantly increase soil moisture, vegetation structure, and canopy cover (shade).
- Battle Bend Parks most recent Riparian Functional Assessment Score (RFA) of **32** (out of 100) is the fourth lowest among currently sampled locations and needs to be improved.

Upcoming Riparian Management:

- Fall (2012) – seeding, weed management.
- Winter/Spring (2013) – establish an Adopt-A-Creek group to become stewards/ assist with restoration.
- Spring (2013) – Perform Riparian Functional Assessment

Questions: Please contact Staryn Wagner, WPD, 974-2956, staryn.wagner@austintexas.gov
Website: www.austintexas.gov/watershed/creekside
Adopt-A-Creek: www.keepaustinbeautiful.org/adopt-a-creek