

Section Highlights

- *Frankfort residents and visitors must visually connect with the river, and boaters with the City.*
- *Selective vegetation clearing must be balanced with riverbank stabilization and the river's ecology.*



Riverbank stabilization behind Second Street School that removed all natural vegetation

Opening River Views and Riverbank Stabilization

Reconnecting Frankfort with the Kentucky River is a key goal of this redevelopment plan. Connections should be both physical and visual. Improving the river's visual access will increase the awareness of the river among Frankfort residents and visitors, and result in increased "ownership" and support for the river's protection and enhancement.

Yet opening river views will require striking a careful balance between providing effective viewsheds while preserving the important environmental functions of the stable riparian shoreland. Clear cutting of the riverbank, such as behind the Second Street School, is not recommended. Rather, providing river views at strategic locations is sufficient.

River Buffer Functions

This plan recommends maintaining the naturalized "soft" edge of the Kentucky River as it passes through Frankfort. River buffers consisting of trees, shrubs and grasses serve a number of important functions in maintaining river water quality.

- Root growth and plant litter improve soil structure and enhance infiltration of rainfall, reducing surface runoff and capturing dissolved contaminants.
- Once in the soil, contaminants can be immobilized, transformed by soil microbes or taken up by vegetation.
- Groundwater flowing through the root zone is also filtered by these processes.
- Riverside roots serve to anchor riverbanks minimizing the erosive effects of flowing water and helping absorb standing water.
- Effective river buffers enhance wildlife habitat by supplying debris to the river, providing structure and contributing to the aquatic food chain.
- Tree canopy provides shading over the river, reducing water temperature and preventing large and sudden temperature fluctuations. Trees can also trap windblown dust before it enters the river.

Uncontrolled clearing of buffer areas can remove these natural controls resulting in water quality degradation and loss of habitat. Visual access planning must consider

and preserve these important environmental functions while opening river views. Selective clearing may also result in isolated short-term removal of existing natural stream buffer functions. Where this occurs, natural toe protection techniques such as brush and tree revetments, rootwad revetments and coir fascines should be considered in combination with bank treatments incorporating live cuttings and live staking to restore natural bank processes and habitat.

Steps for Creating a Visual Access Plan

- *Identify and prioritize desirable viewsheds.* Viewsheds should be selected with the goal of opening and enhancing river views. Priority locations for opening views should be at the ends of public streets, along the Kentucky Riverwalk, designated view spots or focal points like the quarry wall, and views of prominent and historic architecture like the Kentucky State Capitol.
- *Select the desirable viewsheds.* Consider site conditions such as soils, hydrology, topography and ownership (i.e., public or privately owned). Avoid disturbing sensitive riparian areas, including areas that provide aesthetic or noise barriers, areas containing high quality plant species or critical habitat and areas with a potential for high erosion rates or other related concerns. Opening river views on private property will require negotiated maintenance easements.
- *Assess the site conditions for each remaining potential site.* Investigate each remaining site with the assistance of a forester, wildlife biologist or other appropriate natural resources professional. The Kentucky Department of Fish and Wildlife Resources has volunteered to assist in this effort. The natural resources professional should be consulted for information such as recommended tree and plant density for maintenance of riparian functions, identification of high quality plant species for preservation and long-term maintenance considerations.
- *Open river views.* Tree thinning, vegetation clearing and related activities should be budgeted and prioritized for implementation. All clearing should be closely overseen by a natural resources professional. Care should be taken to minimize impacts on desirable species while emphasizing removal of undergrowth and other potentially undesirable vegetation to the extent necessary to provide views. Measures to control erosion should be incorporated where required.
- *Maintain the riverbanks.* The plan should be sustainable. Future public and private budgeting should include ongoing maintenance to prevent overgrowth and introduction of undesirable species.



Tree canopy provides shading over the river, reducing water temperature.



Tree thinning in strategic locations will reopen views of the Kentucky River.