Support The Stream Saver Bill – House Bill 131

Kentucky's waterways are one of our most important and valued natural resources

We know the value of water: economically for tourism, industrial and agricultural use; socially for recreation and enjoyment; personally for drinking water and domestic use. To get the most beneficial use from our water (and to prevent avoidable problems), we need to protect the quality of our streams.

The **Stream Saver Bill** is an important step for protecting the quality of existing streams and helping those already impacted to recover. The Stream Saver Bill would protect our waterways by prohibiting the dumping of toxic mine wastes into any "intermittent, perennial, or ephemeral stream or other water of the Commonwealth." Mine wastes would be placed back on the mine site or an adjacent mine site as part of the reclamation process already specified in state and federal law – rather than dumped over the side of the hill into valleys, streams and communities below.

Some Consequences of Burying Headwater Streams

Impacts on the economy and environment

- **increased flooding, upstream and down**
- **increased water treatment costs**
- **loss of recreational use**
- **increased sedimentation and erosion**
- **altered stream chemistry and temperature**
- **loss of nutrient sources essential for downstream water quality and aquatic life**

(Based on results from the Federal Environmental Impact Study on Mountaintop Removal and other scientific studies)

Some Benefits of Protecting Headwater Streams

Benefits to human health

- **People with higher rates of cancer and other life-threatening diseases, a lower life expectancy and a higher rate of birth defects – all associated with environmental factors including water quality – will be healthier, with significant savings in public health care costs.** (Based on more than 20 peer-reviewed studies)

Benefits for Economic Transition

- **A clean and healthy environment provides a higher quality of life and a more attractive business setting. Both are essential to stimulate new economic activity.**

Headwater streams are essential to the quality of our waterways for hundreds of miles downstream, and to our quality of life. The damage from valley fills is irreversible and the cost to Kentuckians immeasurable.

In the past, "reclamation" involved turning a vibrant stream into a lifeless rock-lined drainage ditch such as this one on Island Creek in Pike County.

Let's Protect Kentucky Streams

Put the Well-being of Kentucky Citizens and Communities First!

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Headwater streams — important ecologically, economically and socially

An October 2001 letter signed by 39 senior aquatic scientists
with broad knowledge and expertise in stream ecosystems asserted that:

"The accumulated scientific evidence points to numerous significant consequences when headwater streams are lost."

The loss of the hydrologic retention capacity provided by headwater streams (i.e. the ability to hold and store water) results in **increased frequency and intensity of flooding downstream** as well as lower base flows (e.g. Dunne and Leopold 1978).

Increased frequency and intensity of flooding results in **increased channel erosion downstream** (e.g. Trimble 1997).

Reduced retention of sediments in headwater channels leads to **excess sediment transport downstream**; sediment accumulation in larger streams and rivers can affect fish spawning success and stream productivity (e.g. Waters 1995).

The predominance of organic debris dams in headwater streams (e.g. Bilby and Likens 1980) provides sediment retention, important habitat structure, and sites for critical metabolic activity (e.g. Steinhart et al. 2000). These **important functions are eliminated when headwaters are channelized, piped or filled.**

Filling of stream valleys has resulted in a greater proportion of fine particles in stream sediments and **an altered flow and temperature regime downstream** (Wiley et al. 2001). Substrate particle size, water temperature, and flow regime are physical parameters with significant impact on the biota of a stream (Allan 1995).

The basic chemical composition of unpolluted streams draining a landscape is largely **established in headwater streams** (Gibbs 1970, Likens 1999, Johnson et al. 2000).

Small streams in the network are the sites of the most active uptake and retention of nutrients (Alexander et al. 2000, Peterson et al. 2001); hence elimination of small streams from the network results in increased downstream transport of nutrients … with eutrophication and groundwater contamination being likely consequences of loss of the nutrient retention capacity afforded by headwater streams.

Headwater streams are sites for physical and biological processing of organic matter from the watershed such as falling leaves (e.g. Wallace et al. 1997) and a source of energy for downstream reaches (Kaplan et al. 1980). The dissolved organic matter and fine particles exported from headwaters are important food resources for ecosystems downstream (Vannote et al. 1980). Hence the **elimination of small streams … can result in reduced inputs of food resources for downstream ecosystems.**

Small, spring-fed headwater streams can serve as thermal refuges for fishes, providing a refuge from freezing for stream fishes during winter (e.g. Power et al. 1999) and cool refuges for young-of-the-year during summer (e.g. Curry et al. 1997).

Headwater streams provide unique habitats for numerous species. Their degradation and elimination from the landscape increases extinction vulnerability for aquatic invertebrate (e.g. Morse et al. 1993), amphibian, and fish species (e.g. Etnier 1997).

Not protecting our headwater streams means increased flooding, lost recreation and tourism opportunities, and greater costs for treating water, as well as impacts on aquatic life. Support the Stream Saver Bill!

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