

STREAM BUFFER WIDTHS AND ALTERNATIVE METHODS FOR WATER QUALITY PROTECTION IN WATER SUPPLY WATERSHEDS

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REFERENCE: *Proceedings of the 2009 Georgia Water Resources Conference*, held April 27–29, 2009, at the University of Georgia

According to the Criteria for Water Supply Watersheds, local governments must require a 100-ft undisturbed riparian buffer in all small water supply watersheds within a 7-mile radius of a water intake. In addition, the law requires a 150-ft impervious surface setback (100-ft undisturbed riparian buffer plus 50-ft setback), where development activities are limited and septic tanks and drain fields are prohibited. These requirements encompass the 25-ft undisturbed buffer that Georgia Environmental Protection Division (GAEPD) requires for all streams in Georgia.

In response to the concerns from the development community regarding the stringent stream buffer requirements, GAEPD evaluated water quality benefits of alternative stream buffer setbacks and assessed whether stream buffer setbacks along with other best management practices (BMPs) can be implemented cost-effectively and still meet water quality protection goals.

The first analysis used the PLOAD model to determine the extent to which stream buffers prevent the intrusion of contaminants to streams under four scenarios (existing conditions, 150-ft, 75-ft, and 25-ft buffers).

This watershed level study concluded that projected future land use conditions with no stream buffers would provide very little protection to streams and other water bodies. It also demonstrated that the width of the stream buffers substantially affects the amount of pollutants entering a stream; the 150-ft buffer width showed the highest pollutant removal potential and lowest pollutant loadings. A site-specific pilot demonstration was also completed to evaluate the use of post-development BMPs as an alternative to the stream buffer requirements. The water quality analysis showed that post-development BMPs can significantly reduce pollutant loading.

During the period of this study, GA EPD developed alternative minimum criteria for water supply watershed protection. The requirements provide local governments with alternatives to the 150 ft set back that include increasing levels of stormwater protection if narrower stream buffers are implemented in water supply watersheds.