

## **Reduction of Harmful Sprawl Land, Growth & Stewardship Subcommittee**

### Background:

The human population in the Chesapeake watershed grew by 100,000 residents annually during the 1990s and that rate has increased. As the population of the basin grows, so does our footprint on the landscape. In the past decade, the population of the basin increased by 8.2 percent (~ 1.2 million people) while the amount of impervious surfaces increased by 41 percent.

The Chesapeake Bay Program partners committed in 2000 to reduce the rate of harmful sprawl development of forest and agricultural land in the Chesapeake Bay watershed by 30 percent by 2012. Results were intended to be measured as an average over five years from the baseline of 1992-1997, with measures and progress reported regularly to the Chesapeake Executive Council.

However, the Chesapeake Bay Program has since struggled to both define the term 'harmful sprawl' and develop a suitable indicator for reducing its rate. While the definition proved elusive, Chesapeake Bay partners agreed that the rate of change of imperviousness would be used as a surrogate indicator, and that periodic updates would occur. (Due to the availability and costly nature of imaging data, frequent updates would be impractical.)

### Overall Status:

Impervious cover increased from 611,017 to 860,004 acres between 1990 and 2000. At that rate of increase, an additional 250,000 acres will become impervious by 2010. Based on recent population projections, this trend is likely to continue over the next twenty to thirty years.

### Challenges and Areas of Concern:

Growth and development pressures remain a significant threat to the long-term success of the Chesapeake Bay restoration effort. As the population of the watershed grows, so does its footprint on the landscape. The size of that footprint depends upon land use patterns and lifestyle choices. Not only is development in the watershed amplifying nutrient and sediment loads from urban and suburban areas, but with the rapid pace of forest and farmland conversion and the hardening of the landscape, the natural hydrology of the watershed is being radically altered. Sediment from urban stream bank erosion due to impervious runoff, as well as construction areas, can be locally very significant and both contribute to bay loads. In addition, new growth adds more pollutants from cars, lawnmowers, and other motorized vehicles, more energy use, more lawn fertilizer, and more waste to manage.

- Trends in population growth will continue to challenge the Chesapeake Bay Program partners' ability to meet and maintain nutrient caps.
- Trends such as smaller family size, larger homes, and increased area of impervious surfaces, all play a part in driving increased development 'footprints' and thus the impact of population growth in the Bay watershed.
- The C2K goal to achieve and maintain water quality can only be met if new urban loads are offset.
- Access to the appropriate tools is part of this challenge; until recently, the Chesapeake Bay Program has had limited ability to effectively predict the extent of the impact of growth.

Work Plan for 2006/2007:

Working closely with the Nutrient and Modeling Subcommittees, the Land Growth and Stewardship Subcommittee is continuing to lead the Bay Program's effort to:

- Project future land uses, human populations and agricultural animal populations in the Chesapeake Bay watershed beyond 2010 out to 2030, including intermediate projections between a base year and 2030.
- Incorporate improved modeling capabilities to better predict the correlation between population increase and land conversion
- Provide the capability to assess different policy and regulatory program affects on growth and development and nutrient loads