



## Article 49

Feature article from *Watershed Protection Techniques*. 2(4): 461-467

# The Economics of Urban Sprawl

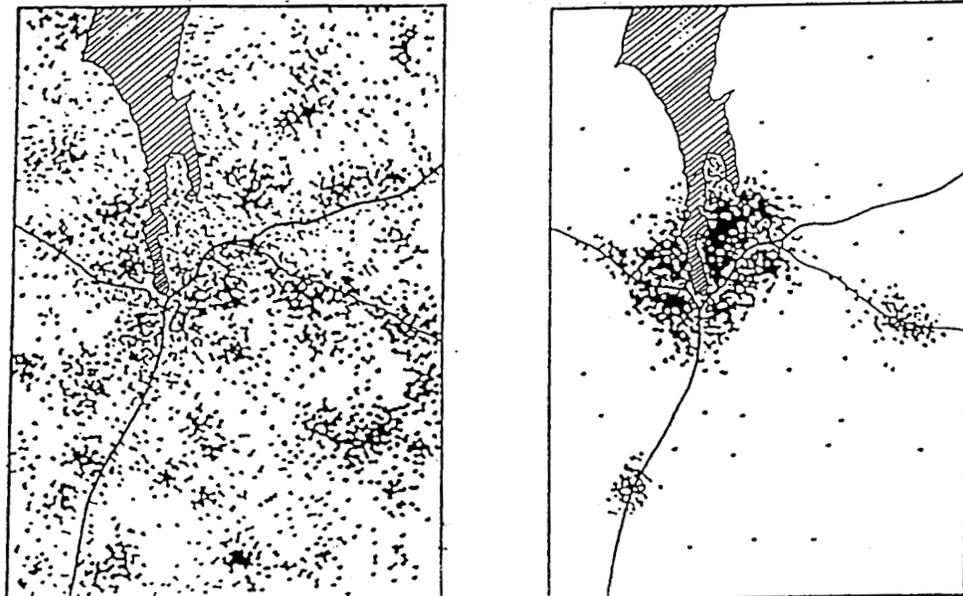
**S**prawl simply happens. In our time, it has become a ubiquitous feature of our nation's landscape. Low-density suburban development has inexorably crept across the rural landscape, steadily transforming farms, forests and fields into residential subdivisions, strip shopping centers and roads. In just a few decades, growing communities find that dozens of square miles of rural land have been converted into impervious cover and turf. At the same time, residents discover that roads are congested, schools are overcrowded, and the sense of place that originally attracted them has diminished.

Urban sprawl is also increasingly recognized as a primary factor reducing the quality of streams, lakes and wetlands in many watersheds. A growing body of research clearly documents that the creation of impervious cover accompanying new growth causes a predictable and profound decline in critical elements of

aquatic ecosystems (see Schueler, 1994). What is most disturbing about this research is that impacts start to occur at a relatively low level of impervious cover—about 10%. To put this number in perspective, it's roughly equivalent to the amount of impervious cover produced by large-lot residential development.

An implication of this research is that sprawl is not only likely to degrade the quality of individual watersheds, but is also likely to degrade a larger number of watersheds than a more compact development pattern. A defining feature of sprawl is that it spreads out development over a much wider area than would otherwise occur. The potential effect of sprawl on a region's watersheds is illustrated in Figure 1, which compares a dispersed sprawl pattern with a more compact development form.

Planners have been proposing more compact growth patterns for many years. Regional plans for "smart



*The left panel shows the dispersed pattern of low-density sprawl, while the right panel shows a more compact development pattern concentrated in existing growth centers. At a regional scale, compact development produces less impervious cover, and subjects fewer watersheds to possible degradation.*

**Figure 1: Dispersed Versus Compact Development at a Regional Scale  
(Wells, 1994)**