

# Poor Development and Sprawl



Prescott Valley, Arizona

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**R**ecent research has found that urban sprawl — the dispersed, low density development surrounding cities — can exacerbate non-point source pollution by converting absorbent open space into compacted lawns and increasing impervious driveways, parking lots and roads. Urban and rural sprawl can adversely affect water quality by increasing polluted runoff and flooding and by reducing forest land and wetlands that filter pollutants and hold flood waters.

Nationally, the consumption of land is the signature effect of urban sprawl. For example, between 1970 and 1990, the Chicago region's population grew by 4%, but its land area increased by 50%; Kansas City's population grew by 29% while its land consumption grew by 110%. A study commissioned by the New Jersey Legislature concluded that low-density development consumed 130,000 more acres than a more compact urban form would have, at an additional cost of \$740 million for roads and \$440 million for sewer and water

infrastructure. (citation?) The unnecessary conversion of land to urban use inevitably has water quality impacts, some of which are irreversible.

In Seattle, development around Puget Sound has been blamed for the polluted water and habitat destruction that have decimated local salmon runs. It is projected that development in Maryland will devour as much land over the next 23 years as it has since the state was established, consuming 500,000 acres of forests and farmland. This development will pose enormous threats to water quality in Chesapeake Bay.

Poor land development can also increase the number of miles driven by commuters, change runoff patterns, lead to soil erosion and invite invasive species.



## Using the Clean Water Act

- **Water quality standards** — Identify the existing and designated uses downstream of urban, suburban or rural construction sites. Which uses are the most sensitive to polluted runoff from construction sites, overly graded and paved subdivisions, and strip malls? To protect those uses, identify water quality criteria for sediment (total suspended solids), heavy metals, petroleum byproducts (PAHs), pesticides, fertilizer, temperature, bioaccumulative toxic pollutants, habitat, streamflow and biology. Evaluate whether the criteria are stringent enough to protect existing and designated uses. (Chapter 1)
- **303(d) list** — Do the waters downstream of construction sites or sprawling development in your watershed support uses and meet water quality criteria? If not, or if they are threatened by planned development, make sure they are on the 303(d) list for the appropriate pollutants, problems and threats. (Chapter 3)
- **NPDES** — NPDES stormwater permits require many municipalities to address construction and post-construction impacts to water bodies. Construction sites (one acre or more) are also required to address their impacts during construction. Check with your state agency about the stormwater pollution permits in your watershed. NPDES wastewater permits that allow new or additional sanitary waste discharge into water bodies may fuel excessive development. Question the need for additional waste treatment capacity. (Chapter 2)
- **Antidegradation** — Before a state can issue NPDES permits for stormwater or additional wastewater that will degrade water quality, an antidegradation analysis must be performed and be subjected to public review. In this analysis, the state must examine whether all existing uses and all outstanding waters would be protected, and, to protect high quality waters, whether all alternatives have been considered with respect to their social and economic impact. (Chapter 1)
- **TMDL process** — Is there a TMDL scheduled or in progress in your watershed? Are poor development practices and sprawling land use patterns included as sources of the impairment? Does the TMDL consider future growth? Have changes to NPDES permits (wastewater and stormwater and stormwater management plans) been included in the TMDL implementation plan? If not, encourage your agency to include them. (Chapter 3)
- **Section 404** — Section 404 requires permits for any discharges of dredged or fill material into “waters of the U.S.” Filling a wetland before development or construction of a crossing over a waterway both require a 404 permit. This permit process requires public input on the questions of need, alternatives and cumulative impacts. All projects are required to avoid any impact

whenever possible, minimize impacts that are unavoidable, and mitigate for any necessary impact. If the permit is issued, the type of mitigation required is also subject to public comment. (Chapter 5)

- **Section 401** — Section 401 requires state water quality certification for federally permitted and licensed activities that may result in a discharge to water. If water quality standards may be violated by filling a wetland or constructing a waterway crossing, for example, raise those concerns during the public review of the state certification process. Make sure that the agency considers physical and biological criteria upstream and downstream of any development. (Chapter 4)
- **Section 319** — This section of the Clean Water Act authorizes money to the states for projects that address nonpoint source pollution. In recent years, 319 money has been available to some municipalities to develop their stormwater program. Ask your state water quality agency about how to apply for a 319 grant to reduce the impacts of poor development and sprawl in your watershed. (Chapter 6)
- **State Revolving Fund** — Historically, SRF loans have been directed almost exclusively to sewage collection and treatment projects. Encourage your local and state officials to direct these funds to “non structural” wastewater and stormwater management. Discourage SRF funds for projects such as unneeded expansions of sewer service that will have the effect of encouraging and federally subsidizing sprawl. (Chapter 7)

## Using other laws (Chapter 10)

- **Local land-use laws** — Check your state land-use laws and local ordinances. Look for zoning requirements in your watershed that may be encouraging development practices that harm water bodies and their uses. Support growth planning that protects water resources.
- **SDWA** (p. 183) — Is the surface water or groundwater downstream of new construction or development used or designated for drinking? Identify the risks and talk to the agency in charge of developing the Source Water Assessment for your watershed. Be sure that the pollution risks to drinking water sources from poor development and sprawl are included in the assessment and considered by your drinking water provider.
- **ESA** (p. 186) — Are there threatened or endangered species in your watershed? If so, you have another tool for protecting against the damaging effects of poor development and sprawl. The Endangered Species Act prohibits any activity that would result in harmful impacts to the species or its habitat.