Response: The Urbanization of North Carolina

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The recently released Southern Forest Resource Assessment (SFRA) identifies urbanization as a critical threat to forest sustainability in the Southeast. The problem is acute in North Carolina, which lost 1,001,000 acres of commercial forest, or 5.9 percent of total forest area, from 1982 to 1997-more than any other state in the nation (NRCS 1999). SFRA predicts an additional loss of 5.5 million forested acres in the state by 2040. Coincidental is the loss of the state's agrarian heritage and the consequent shifting of political influence from the traditional farming base to urbanites with little or no link to rural landscapes.

Adverse impacts. One result of urbanization in North Carolina is the loss of timber. Urbanization, combined with emerging environmental policies, is predicted to cause a 32.2 percent decrease in available timber supply, and accessible commercial forestland may drop from 11.6 million to 7.2 million acres (Governor's Task Force on Forest Sustainability 1996).

Rapid urbanization not only compromises or destroys forest ecosystems but also alters the uses and perceived values of the forests. Forests are valued less for timber production and more for nontimber amenities. As urbanization increases, our forest ownerships are becoming more fragmented and smaller. Nationally, an area equal to 2 million acres per year is being broken into tracts smaller than 100 acres each (Birch 1996). North Carolina mirrors that national trend. Ironically, forest fragmentation makes it more difficult for our forests to provide the nontimber amenities desired by the public.

Urbanization is the most prominent and permanent cause of wildlife habitat loss and degradation across much of the Southeast, SFRA reports. Remnant tracts of forest in the urban matrix become increasingly isolated from other forestland. Songbird nest predators and nest parasites more easily infiltrate small, isolated stands. Wind exposure and temperatures increase, and soil moisture decreases, possibly reducing the quality of these forests for amphibians. Invasive, exotic plants gradually overrun the isolated stands and ultimately reduce habitat quality for sensitive wildlife like neotropical migrant songbirds.

Road building accompanies urbanization. North Carolina's past governor even ran on a political platform of promising to build a four-lane road within 20 minutes of every resident. Salamanders, snakes, turtles, foxes, and bobcats dispersing among forest fragments frequently are killed as they cross the increasing number of roads. Public forests (e.g., parks and nature preserves) retained within urban landscapes typically experience high levels of recreational use, which often degrades the forest and associated habitats. Downstream of urban areas, forest creeks run warmer and experience higher volume flows following heavy rains but lower flows between storms; salamanders and other aquatic animals are washed away, struggle to survive in the warm waters, or die during periods of drought. Feral and domestic pets kill birds and small mammals in forests adjacent to suburban areas.

Managers' flexibility to harvest timber, do prescribed burns, and use other practices in forests along the suburbanrural interface is limited by increasingly restrictive water quality standards, ordinances, concerns for aesthetics, smoke restrictions, and public ignorance of the benefits of forest management to wildlife. Communities are more frequently asking legislative permission to regulate forestry in extraterritorial jurisdiction zones via ordinances. Raleigh, for example, is seeking legislative approval to regulate forest harvesting in a 10- to 15-mile extraterritorial jurisdiction zone.

Responses to the problem. Several long-term policies have been proposed and others are already in place to mitigate the impacts of urbanization in North Carolina:

• The governor's office is pursuing its Million Acre Initiative to set aside "green" land. The state's Clean Water Management Trust Fund and other programs are partially supporting this effort.

• Land trusts, which now number 21 statewide, are seeking additional landowners to set aside land in perpetual conservation easements.

• The Forest Legacy Program, which requires perpetual working forest easements, is enlisting forest owners by purchasing development rights on qualifying ownerships.

• The Nature Conservancy is partnering with the state Wildlife Resources Commission to purchase riparian forests, which will then be transferred to state ownership as game lands.

• Many local governments are authorizing agricultural districts to protect and preserve working farm and forest landscapes.

• Riparian buffer rules are being implemented for major watersheds, with accompanying restrictions on timber harvesting, development, and agriculture.

• Several groups are seeking to expand the state's "use-value" property tax incentive beyond managed farm, forest,

Responses to The Southern Forest Resource Assessment

and horticultural uses to include wildlife and conservation uses; this would reduce the burden of property taxes driven up by rapidly increasing land values in urbanizing areas. Another proposal is to reduce the qualifying forest minimum from 20 to 10 acres.

The best way to slow the loss of forestland to urbanization is to implement policies that improve economic returns to managed forests. Small, isolated tracts of forestland within the urban matrix will not provide habitat for specialized wildlife, nor are they economically viable for intensive timber production. Conserving large, contiguous tracts of managed forestland can help maintain the full breadth of the state's biodiversity. The real challenge is to retain both ecological and economic productivity on these setaside "green acres."

Literature Cited

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