Roofing Materials’ Contributions to Stormwater Runoff Pollution

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ABSTRACT

Development in sensitive watersheds continues to pose environmental problems for receiving waters. One contributor to this long-term pollution is building and other construction materials. However, the long-term effect of many building materials on the environment has not been quantified due to limited testing of these materials prior to sales and installation. Laboratory “leach” testing of commercially-available roofing materials by this research group indicated that the potential for release (primarily nutrients, lighter hydrocarbons, pesticides, and metals) is substantial. Testing of metals’ release from aged roofing panels also has shown that the potential for pollutant release still exists after 60 years. The data missing from a complete evaluation of many roofing materials is behavior over the lifespan of the material, including the critical period of initial exposure. The two years of runoff data from a pilot-scale testing of these materials indicated substantial concerns regarding zinc from uncoated galvanized metals and copper from treated woods in this early part of the materials’ lifespan, plus the potential for long-term nutrient releases in the runoff from several roofing types.

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