ENVIRONMENTAL FOOTPRINT COMPARISON TOOL

A tool for understanding environmental decisions related to the pulp and paper industry

EFFECTS OF NON-WOOD FIBER USE ON DISCHARGE TO WATER

Non-Point Source Pollution

Silvicultural-related use of fertilizers and pesticides or herbicides in managed forests is less intense than chemical use in agriculture. Forest fertilization, where used, usually has small short-lived impact on nutrient losses. This is attributed to the relative infrequency of fertilization and lower fertility of most forest soils. The rigorous application of forestry regulations, best management practices, and streamside management zones has a further attenuating effect (Soil Science Society of America 2008; NCASI 2009).

To the extent that less productive lands are brought into cultivation for purposes of fiber crops, surface and groundwater impacts may be even greater. On average, land shifting in and out of cultivation is more vulnerable to erosion (e.g., from rainfall or wind) and has greater nutrient runoff and leaching potential than more productive cropland. Expectations that increase incentives for crop cultivation and stimulate production on economically marginal land may have disproportionately large unintended environmental consequences (Lubowski et al. 2006).

The greater frequency and intensity of cropland cultivation relative to forest management contributes to greater soil loss. As a relative comparison, soil loss from established forests is commonly 0.02 tonne/ha/yr compared with 0.05-0.37 tonne/ha/yr from pastures and 1.5 to more than 8 tonne/ha/yr for annual crops (Turner et al. 2004).

It is generally accepted that silvicultural best management practices and streamside management zones are effective for protection of water quality (NCASI 2009). The development and implementation of forestry BMPs has greatly reduced nonpoint pollution from silvicultural activities. Certification programs such as those managed by the Sustainable Forestry Initiative, Forest Stewardship Council, and Canadian Standards Association provide additional assurance that wood fiber suppliers are conscious of water quality protection practices and are applying them as site circumstances dictate.

References

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