

***Potential Administrative and Economic Impacts of NPDES Permit Requirements for Forest Roads in the South*** by Frederick Cubbage and Robert Abt , Professors, Department of Forestry and Environmental Resources, North Carolina State University (December 2011)

This report analyzed the potential economic impacts of requiring NPDES permits under the Clean Water Act for stormwater runoff from forest road systems in the southern states. The authors based their analysis on existing stormwater discharge permit programs and data from existing sources, including NAFO, on harvesting activity, stream crossings and road miles. While acknowledging that the scope of the permit program will determine the ultimate economic impact, the authors conclude that using estimates based on this existing information, a permit requirement would have substantial and in some case devastating economic impacts on forest owners and the economy.

**Findings**

- The preparation of NPDES permits is estimated to be about \$16,000 per permit for forest owners with staff and experience with industrial NPDES permits, and about \$24,000 for forest owners lacking staff or experience who would retain consultants to prepare plans.
- The annual cost for landowners, procurement dealers, loggers, and forest products firms has a median of about \$2 billion per year if every timber harvest operation needed to obtain a NPDES permit.
- The administrative costs for state agencies to run the regulatory programs would also cost “millions” of dollars per year in states with more than 400,000 acres of timber harvests per year and as much as \$1 million per year in states with annual harvest levels less than 250,000 acres.
- Assuming a high correlation between the number of permits and the number of harvest operations, larger forest owners would average \$14.36 per acre owned each year, and smaller forest owners would average \$21.54 per acre owned. These costs, coupled with already significant property taxes, would be punitive.
- This study did not attempt to estimate additional costs to timber landowners resulting from permit-related litigation, but noted these would be a significant deterrent to landowners as well.
- The study did not consider secondary economic effects of permit costs, such as producer and consumer surplus (welfare analysis), or multipliers (input-output analysis), which would lead to much greater costs.

**Implications**

- The NPDES permit requirement would essentially negate the South’s voluntary best management practices (BMP) approach, and convert the Clean Water Act implementation to a de facto state forest practice act approach.
- High permit costs would further reduce or eliminate the profitability of the southern forestry sector by reducing returns to forest landowners and adding administrative burdens and time delays. Costs would particularly harm smaller forest owners.
- On a per harvest basis, the costs of preparing, implementing, and monitoring NPDES forest road permits would decrease net timber sales returns by 19% for the 80 acre tracts typical of larger forest

owners and by 71% for the 32 acre tracts typical of smaller forest owners. This could eliminate profits and cause significant losses leading to significant reductions in forestland investment.

- Forest products markets have been depressed for a decade. Significant additional permit costs would hurt investors, forest owners and forest products processing, substantially reduce the international competitiveness of the U.S. timber investments and cause additional and unnecessary unemployment in the forestry sector.
- Furthermore, capital flight would cause ecological and environmental problems as forest owners and rural economies are compelled to seek financially better land uses than forestry.

### **Caveats**

- Three methods were used to estimate the number of permits that might be required per state: (1) the number of timber harvests of average size ownerships needed to match the state total area harvested per year; (2) the number of stream crossings that would occur per year on the harvested area; and (3) the number of miles of forest roads that would occur per year on the harvested area.
- It is not clear what level of action may require a permit—each harvest, each stream crossing, each mile of road, or some other criterion.
- It is possible that a NPDES permit program could be instituted in such a fashion that fewer permits would be required, or much simpler actions and permit applications were developed.
- Conversely, the study did not estimate any added costs for BMPs, but detailed NPDES permits could require additional BMPs, record keeping, and costs not required by existing forestry BMPs.
- It may be that multiple harvests on the same tract would need only one permit for many years. However, with the annual area harvested being about 2% per year, there is not apt to be as much overlap in a 50 year time period.
- Multi-year permits for the same owners or management methods that minimize stream crossings could reduce the number of permits required, but still there would be significant time and delay costs for some forest owners, loggers, procurement dealers, or manufacturing firms.
- Fewer permits might be required if large land owners could submit a consolidated application; however we assumed that each potential discharge point will have to be assessed and documented.
- It is at least as likely that one might require more than one permit per mile of road or stream crossing, so our estimate of the number of permits and their costs could be too small.