

Tennessee ForestWatch--278 Log Home Rd., LaFollette, TN 37766 (423-562-5934)

Tennessee ForestWatch Water Quality and Best Management Practices Report

Date: Dec. 7, 1999

Location: NW of Graysville on N side of Brayton Mtn. Rd. near border of Rhea and Bledsoe Counties.



Landowner: Cut spans two different landowners--names unknown

Logger: Mr. Duggan--believed to be Mitchell Duggan, 239 McCrandin Rd. SE, Cleveland TN, 37323, Bradley County, 423-472-7971 (master logger 1993)

Inspectors: Doug Murray and Cielo Sand

Reason for Inspection: ForestWatch noticed possible water quality problems from aerial inspection.

Size of cut: approx. 700 acres

Type of cut: selective clearcut : XXX trees/acres left: 0 diameter of trees left pine conversion: approx 400 acres development other or comments: one landowner left 3-4 trees of 7-10 in diameter

Active or inactive: site was active when first visited. Second inspection was several weeks later when harvest was finished.

Description of topography: relatively flat. Grades vary from 0 to 10% except at stream crossings where grades reach 20-30%

Streams on the site: unnamed tributary of Roaring Creek -- perennial

People spoken to on site: Mr. Duggan, his son, and several logging crew members.

BMP COMPLIANCE RATING: 43.5% compliance with 11 threats or risks to water quality. See attached BMP inspection forms.

INSPECTION RESULTS:

When ForestWatch first inspected this site, the logging crew was just preparing to move to another nearby site. There was a portable chipper, several dozers, a fellerbuncher, several tractor trailers, and 4 loggers. We were informed by Mr. Duggan that most of the wood on this clearcut had been chipped on site and sold to Bowater in

Calhoun, TN. He further informed us that 400-500 acres would be converted to pine, some would be left to regenerate in hardwoods, and a chicken farm would be built on the acreage closest to Brayton Mtn. Rd.

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Several weeks after our first inspection, we returned to perform a BMP inspection. During this inspection, we located a stream that separated the property of the two landowners. This stream runs in a drainage that is approximately 15-20 feet below the general elevation of the surrounding topography. An adequate buffer was left on the banks of this drainage, but violations were found where the stream had been crossed by haul roads in two locations. These violations are presently causing silt to enter the stream, and unless remedial action is taken, silt will continue to enter this stream for an indeterminate length of time.

Violations:

On December 7th, 1999 ForestWatch conducted an inspection of two haul roads crossing a tributary of Roaring Creek and found:

Eastern Stream Crossing (see Fig. 1)--except where disturbed, the stream bed is composed of medium to large sized stones and leaf litter. The water above the crossing was very clear and the water below the crossing was cloudy with foam on the surface.

- Haul road failed to comply with BMPs (no water bars or broad based dips)
- Roads had not been stabilized by seeding vegetation
- A discrete, discernible channel cut through the dirt on the eastern edge of the haul road; via this channel or ditch, soil, dirt, and sediment from the logged area above the stream was entering the water body. No attempt had been made to turn this water out before it reached the water body.
- Soil, logging debris, and root clumps had been left in the stream causing a dam that prevented the stream from flowing freely and diverted the stream from its normal course. This caused an impediment to the movement of aquatic species.
- Gravel had been placed in the stream bed preventing the free flow of water, raising the level of the stream bed, and causing the water to disperse over a 5-6 ft. wide area where there was no longer a discernible stream bed. This caused an impediment to the movement of aquatic species
- Loose and unstabilized dirt and soil had been placed, piled, and exposed on the stream banks. This resulted in continuous siltation and erosion.
- Heavy deposits of sediment were observed downstream of these disturbances.
- Foam was observed downstream of these disturbances.



Figure 1. Eastern Stream Crossing. Root ball and debris at left is damming the stream which is forced to seep through gravel placed in the stream bed. The gravel has raised the level of the stream bed and causes the water to disperse

Western Stream Crossing (see Fig. 2)--except where disturbed, the stream bottom is composed of solid rock and small to mid-sized stones. The water was clear both above and below the crossing.

- Haul road leading to the stream was not constructed in compliance with the BMPs (no water bars or broad based dips)
- Roads were not stabilized by seeding vegetation
- Logging debris was deposited and left in the stream causing point source pollution.
- Logging debris had been piled or had collected at the downstream edge of the crossing forming a damn that prevented the movement of aquatic species.



Figure 2. Western stream crossing. Large quantities of logging debris has been left in this stream. Some debris had collected at right of photo forming a dam.

Recommendations:

- Construct broad based dips or water bars on all roads to turn out storm water before runoff reaches streams.
- Plant vegetation on all roads to stabilize soil.
- Plant vegetation or otherwise stabilize all disturbed soil on stream banks.
- Remove gravel and reestablish stream channel in Eastern Crossing.
- Remove logging debris damming water flow in Eastern Crossing.
- Remove logging debris from stream at Western Crossing.
- Remove collected debris that has formed a dam at Western Crossing

Please notify the ForestWatch staff at 423-332-0748 or 423-562-5934 if any inspection of this site is performed by your office and if any remedial action is taken.

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STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF WATER POLLUTION CONTROL
401 CHURCH STREET
L & C ANNEX 6TH FLOOR
NASHVILLE TN 37243-1634

January 27, 1999

Cielo Sand
P.O. Box 4826
Chattanooga, TN 37405

Subject: Complaint regarding water quality
Logging operation impacting unnamed tributary to Roaring Creek
Chattanooga, Rhea and Bledsoe County, Tennessee.

Dear Ms. Sand:

The Division of Water Pollution Control received your complaint January 19, 2000, alleging water quality violations occurring at the above-mentioned site.

This Division will investigate the allegations regarding any violations of the Tennessee Water Quality Control Act (Act) at the above-mentioned site. We will inform you within ninety (90) days if violations of the Act are discovered.

If you have questions concerning this correspondence, or if we may be of assistance to you in any way, please contact me at (615) 532-0672.

Sincerely,

A handwritten signature in black ink, appearing to read "CSM".

Christopher S. Moran
Manager, Enforcement and Compliance

CSM/lkm

cc: EAC-Chattanooga

Tennessee Department of Agriculture
Forestry Division
2670 Hwy 127 South
Crossville, Tn. 38555

1/31/2000

Tammy Hutchinson
Tn. Dept. of Environment and Conservation
540 McAallie Ave. Suite 550
Chattanooga, Tn. 37401-2013

RE: Water Quality complaint to an unnamed tributary of Roaring Creek from a logging site NW of Graysville, Tn. The complaint was made by Ms. Cielo Sand, CoDirector of Dogwood Alliance Forest Watch and dated January 12, 2000.

Dear Ms. Hutchinson:

On January 27, 2000, I met with Bowater representatives Bob Keeney, Ed Eldridge and Scott Roddy. Also present was Shannon Hayes Gann and Robert Rains with the Forestry Division. We checked the logging site for each violation mentioned by Ms. Sand.

First, it should be noted that Bob Keeney of Bowater had asked Ms. Gann to inspect the Kinzlow tract and make BMP recommendations. This inspection occurred on Dec. 1, 1999. In her report, Ms. Gann noted that dips and turnouts on the haul road had been flagged but not installed and road revegetation had not been completed. Some debris remained in the stream at the crossings and trash had been left in various locations. Mr. Keeney assured her that these recommendations would be taken care of as soon as possible. All of the recommendations are in place, except for the road revegetation, which requires favorable weather conditions.

During the inspection on January 27, 2000, I found the following:

EASTERN STREAM CROSSING (identified in the complaint)

(1) Complaint: Haul roads have no water bars or broad based dips

The haul roads are relatively flat as described in the complaint under "Description of Topography". The grades at the stream crossings are not as steep as the 20 to 30% stated. Some control structures such as dips and water bars have been constructed since the Dec. 1, 1999, inspection. Relatively flat roads cause minimal erosion potential and need few control structures. Much of the road surface is natural rock outcroppings. This limits where a control structure can be built. Road construction meets the BMP guidelines.

(2) Complaint: Roads have not been stabilized by seeding vegetation

This has not been done. Bowater representatives assured me that seeding would be done as soon as possible. Seeding during adverse weather conditions accomplish no useful purpose.

(3) Complaint: A ditch on the edge of the haul road is allowing sediment from the logged area to enter the stream

The ditch was identified and a recommendation made that either hay bales or silt fencing be set up in two or three places along the ditch to insure that sediment did not reach the stream. Bowater representatives agreed to do this as soon as the ground conditions allow. Turning water out of the ditch into the woods seems impractical because of the many outcroppings of rocks. Disturbing these rocks compound the situation by causing loose soil and large holes.

(4) Complaint: Logging debris and root clumps left in the stream impeding aquatic movement

This had been removed prior to our inspection.

(5) Compliant: Gravel placed in the stream bed impeding water flow

This condition no longer exists. Gravel still covers the streambed, but it does not restrict water flow or movement of aquatic life. This may have been corrected when the debris was removed.

(6) Complaint: Loose and unstable dirt exposed on the stream bank

There is one pile of exposed soil on the edge of the stream. This is approximately the size of an office desk. We recommended seeding this area as soon as the weather permits. Also, a silt fence should be placed

between the dirt and the water to prevent the movement of soil. Bowater representatives agreed to do this as soon as conditions permit.

(7) Complaint: Heavy deposits of sediment downstream of the disturbances
Sediment deposits below the crossing were observed. The best course of action is to eliminate any further erosion from entering the stream and not disturb the soil that was observed. I do not consider the soil deposits to be heavy.

(8) Complaint: Foam was observed downstream
I did not observe any foam on the day of the inspection.

WESTERN STREAM CROSSING (identified by complaint)

(9) Complaint: Haul roads not in compliance with BMPs
See number one above

(10) Complaint: Roads not revegetated
See number two above

(11) Complaint: Logging debris left in stream
See number four above

Summary: Most of the complaints will be corrected very soon. Revegetation will require proper weather conditions. Additional water pollution will be eliminated when the recommended actions are put in place. Bowater constructed the stream crossings in textbook fashion. Bowater will contact Ms. Gann as the recommendations are completed and we will revisit the site. If you have any questions or if I can be of further assistance, please let me know.

Sincerely,
Bob Baker
Bob Baker
Water Quality

Cc: Cielo Sand, Forest Watch
Tom Hudlow
Shannon Hayes Gann
Bob Keeney
Ed Eldridge
Scott Roddy