MI Master Logger:

As part of the **Michigan Master Loggers for Clean Water Project**, we are required to track the number of BMPs that have been installed and the number of landowners who have been contacted and affected by the program. Please include "Sale Owner Name" and "Sale Location" information for each sale your company has worked on since your previous audit which had water BMPs installed on the property. Please answer each question by circling Yes or No.

Please return by one of the following methods, send paper copy to Paul Irving Sustainable Resources Institute, 337 Superior Avenue, Crystall Falls, MI 49920. Scan a copy and send through email to paul@sustainableinc.org. Or, take a picture of the completed survey with your phone and email to paul@sustainableinc.org.

		Sale 1		Sale 2		Sale 3		Sale 4	
Sale Name									
Sale Owner Name									
Sale Location (address, fire number, waypoint)									
Date									
Did this timber sale involve any water crossings or wet areas where you had to use Michigan's Best Management Practices?		Yes	No	Yes	No	Yes	No	Yes	No
Roads									
1	Roads were planned to minimize their number, width, length, and the total area disturbed.	Yes	No	Yes	No	Yes	No	Yes	No
2	Road surfaces were crowned, outsloped, or insloped to provide adequate drainage.	Yes	No	Yes	No	Yes	No	Yes	No
3	Roads were located on well-drained soils, outside of riparian management zones where possible.	Yes	No	Yes	No	Yes	No	Yes	No
4	Road grades did not exceed 10%. If greater than 10%, grade lengths were minimized and drainage structures were used to minimize erosion.	Yes	No	Yes	No	Yes	No	Yes	No
5	All roads have appropriate drainage structures that were properly installed, accounting for steep slopes and wetlands (including appropriate use of filter strips).	Yes	No	Yes	No	Yes	No	Yes	No
6	Roads followed natural contours.	Yes	No	Yes	No	Yes	No	Yes	No
7	Culverts were properly sized and were installed at correct depth, angle, and location to provide effective cross-drainage.	Yes	No	Yes	No	Yes	No	Yes	No
8	Existing roads have been relocated to improve access and/or reduce erosion impacts.	Yes	No	Yes	No	Yes	No	Yes	No
9	Existing roads have been improved to provide adequate drainage and safety.	Yes	No	Yes	No	Yes	No	Yes	No
10	Cut/fill banks near or in RMZ's and wetlands were properly stabilized.	Yes	No	Yes	No	Yes	No	Yes	No
11	Exposed soil areas were leveled and seeded post-harvest.	Yes	No	Yes	No	Yes	No	Yes	No
12	Steep grades and erodible soils were surfaced to minimize surface erosion.	Yes	No	Yes	No	Yes	No	Yes	No
13	Ditches were adequate to handle water runoff from the road.	Yes	No	Yes	No	Yes	No	Yes	No

14	Broad-based dips and water bars were installed properly in the correct locations.	Yes	No	Yes	No	Yes	No	Yes	No
15	Roads and landings were seeded (if required by contract) to prevent erosion.	Yes	No	Yes	No	Yes	No	Yes	No
Streams and Stream Crossings									
1	Stream crossing permit was issued and followed.	Yes	No	Yes	No	Yes	No	Yes	No
2	Number of stream crossings was minimized.	Yes	No	Yes	No	Yes	No	Yes	No
3	Appropriate stabilization practices were used to minimize soil erosion into streams.	Yes	No	Yes	No	Yes	No	Yes	No
4	Design and construction of stream crossing avoided disruption of passage for fish and other aquatic life.	Yes	No	Yes	No	Yes	No	Yes	No
5	Stream crossing was installed at a right angle to the stream channel.	Yes	No	Yes	No	Yes	No	Yes	No
6	Stream channel changes were minimized and banks were kept intact.	Yes	No	Yes	No	Yes	No	Yes	No
7	Culverts were appropriate diameter and length for the stream size and road width.	Yes	No	Yes	No	Yes	No	Yes	No
8	Culverts were properly installed with enough fill covering them.	Yes	No	Yes	No	Yes	No	Yes	No
9	Road drainage was diverted into an appropriate filter strip.	Yes	No	Yes	No	Yes	No	Yes	No
10	Stream crossing approaches were properly stabilized to minimize sedimentation.	Yes	No	Yes	No	Yes	No	Yes	No
11	Temporary crossing structures were properly anchored to prevent washouts and to facilitate removal when no longer needed.	Yes	No	Yes	No	Yes	No	Yes	No
12	Pole fords or other temporary crossings were removed immediately after use.	Yes	No	Yes	No	Yes	No	Yes	No
13	Natural fords (water crossings) had low stream banks and firm rock/gravel base.	Yes	No	Yes	No	Yes	No	Yes	No
RMZs and Wetlands									
1	RMZ's were properly identified and established.	Yes	No	Yes	No	Yes	No	Yes	No
2	Harvesting was timed for appropriate conditions to minimize rutting & compaction damage.	Yes	No	Yes	No	Yes	No	Yes	No
3	Slash from uplands was not deposited in wetlands.	Yes	No	Yes	No	Yes	No	Yes	No
4	No slash was deposited in RMZ's, lakes, ephemeral ponds, or streams.	Yes	No	Yes	No	Yes	No	Yes	No
5	Logger left trees of appropriate species and stocking within RMZ to comply with BMP guidelines.	Yes	No	Yes	No	Yes	No	Yes	No
6	Appropriate restricted equipment operation zones were established and/or observed for RMZ's.	Yes	No	Yes	No	Yes	No	Yes	No

7	Roads were located outside of RMZ's, except for stream crossings.	Yes	No	Yes	No	Yes	No	Yes	No
8	No borrow pits were located within RMZ's.	Yes	No	Yes	No	Yes	No	Yes	No
9	Wetland roads/landings conform to BMP standards.	Yes	No	Yes	No	Yes	No	Yes	No
Landings									
1	Landings were located to protect RMZ's and wetlands.	Yes	No	Yes	No	Yes	No	Yes	No
2	Landings were designed to provide efficient drainage off of the landing area.	Yes	No	Yes	No	Yes	No	Yes	No
3	Landings were located in the safest location considering topography.	Yes	No	Yes	No	Yes	No	Yes	No
Skidding/Forwarding									
1	Topography was considered in skid trail layout to avoid steep areas (over 20% slope) and wet areas, when possible.	Yes	No	Yes	No	Yes	No	Yes	No
2	To avoid soil compaction and/or rutting when operating in soft, wet, or steep areas, steps were taken to minimize rutting and erosion (use of seasonal operations, using top and slash as matting, etc.).	Yes	No	Yes	No	Yes	No	Yes	No
3	Water turnouts/bars were used to divert surface runoff when necessary.	Yes	No	Yes	No	Yes	No	Yes	No
4	Rutting from skidding was not excessive.	Yes	No	Yes	No	Yes	No	Yes	No
5	Slash was kept out of drainage areas where runoff may wash it into streams, wetlands, or water bodies.	Yes	No	Yes	No	Yes	No	Yes	No
Spills									
1	Was a spill plan in place and known by all workers?	Yes	No	Yes	No	Yes	No	Yes	No
2	Spill kit was maintained and on the logging site (active sales).	Yes	No	Yes	No	Yes	No	Yes	No
Pesticide Application									
1	Did the logger who applied pesticide have a current pesticide license?	Yes	No	Yes	No	Yes	No	Yes	No
2	Did the pesticide application meet MI State Guidelines.	Yes	No	Yes	No	Yes	No	Yes	No