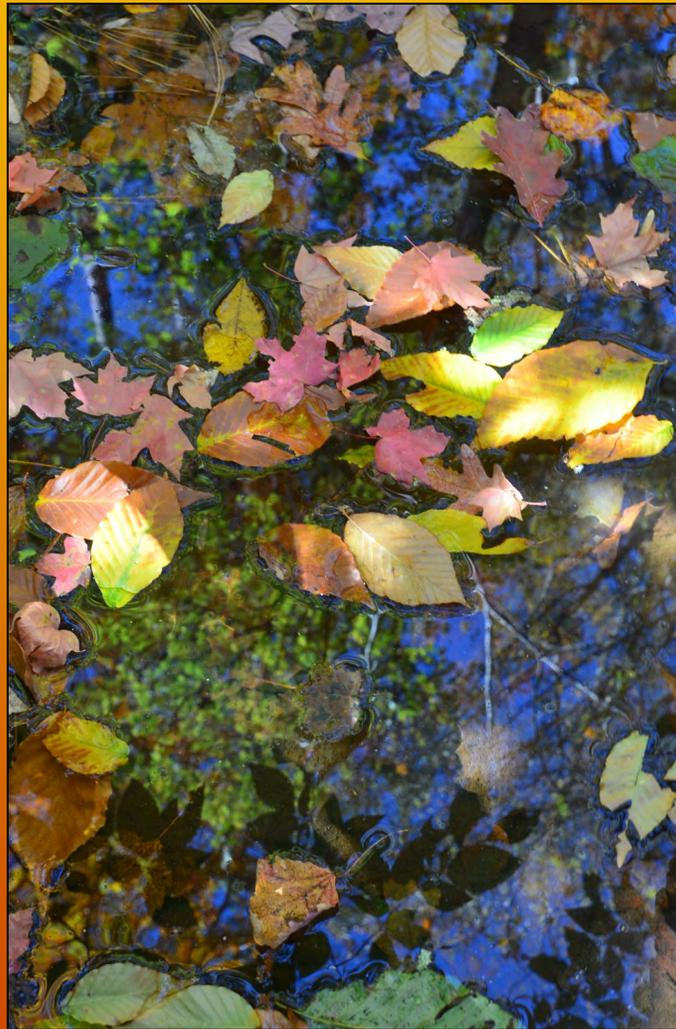


**Compliance and Implementation  
Monitoring of Forestry  
Best Management Practices  
in South Carolina  
2011-2012**





**Compliance and  
Implementation Monitoring  
of  
Forestry Best Management Practices  
in South Carolina  
2011-2012**



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**Best Management Practices  
Monitoring Report BMP-8**

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# Table of Contents

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<b>Executive Summary.....</b>	<b>3</b>
<b>Introduction.....</b>	<b>5</b>
<b>Study Methods.....</b>	<b>6</b>
<b>Monitoring Results for Harvesting.....</b>	<b>9</b>
<b>Monitoring Results for Non-Harvest Operations.....</b>	<b>11</b>
<b>Landowner and Site Information.....</b>	<b>14</b>
<b>Compliance Trends.....</b>	<b>14</b>
<b>Conclusion.....</b>	<b>18</b>
<b>Appendix – Data Forms.....</b>	<b>20</b>

# EXECUTIVE SUMMARY

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This is the ninth study conducted by the South Carolina Forestry Commission to determine compliance with *South Carolina Best Management Practices for Forestry* (BMPs) during silvicultural activities. Forest operations were evaluated on 151 randomly located sites during 2011-2012.

Overall BMP compliance on harvesting operations was 93.4%. Compliance indicates that the proper use of applicable BMPs was sufficient to protect water quality on those sites. BMP compliance for non-harvesting operations was 87.5%. This includes mechanical and chemical site preparation, pesticide and fertilizer application, prescribed burning, reforestation, and minor drainage. The overall implementation rate of individual BMP practices was 92.1%, compared to the regional average of 92% among southeastern states.

This study highlights numerous strengths in BMP compliance:

- High overall compliance with BMPs to protect water quality during forestry operations.
- Improved landowner awareness of BMPs, and increased use of written contracts that require BMP compliance.
- Excellent compliance with BMPs related to Road Systems which often have a high potential for water quality impacts.
- Streamside Management Zones are frequently wider than the minimum recommendations on perennial and intermittent streams.

Opportunities for improvement include:

- Increased attention is needed on firebreak lines, especially on steep slopes and near water bodies.
- Stream crossings and streamside management zones present the greatest opportunities for improving compliance.
- The most important individual practices for improvement are:
  - ◊ Retain appropriate overstory trees within Streamside Management Zones,

- ◇ Stabilize disturbed soil at stream crossings,
- ◇ Keep road and ditch runoff out of streams,
- ◇ Control erosion on skid trails,
- ◇ Protect intermittent and ephemeral streams during skidding,
- ◇ Minimize the number of stream crossings,
- ◇ Avoid excessive rutting,
- ◇ Take steps to prevent depositing mud on roads,
- ◇ Stabilize firebreak lines and avoid tying lines in with streams.

The results of this study will be used to target training programs, outreach, and technical assistance in order to seek continual improvement in BMP compliance and implementation in South Carolina and further advance successful protection of water quality during forestry operations.



# INTRODUCTION

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The South Carolina Forestry Commission promotes compliance with *South Carolina's Best Management Practices for Forestry* (BMPs) through training programs, BMP Courtesy Exams, technical assistance, and regular monitoring. The BMP program is funded in part by the US Environmental Protection Agency under a Section 319 nonpoint source pollution control grant through the South Carolina Department of Health and Environmental Control.

Additional support for BMP compliance is provided through forest industry including the Sustainable Forestry Initiative Program and Timber Operations Professional (TOP) logger training program. Partners such as the South Carolina Forestry Association, South Carolina Timber Producers Association, Clemson University, and USDA Forest Service contribute to a successful program. Relationships with regulatory agencies including SCDHEC, US Army Corps of Engineers, and EPA also strengthen BMP compliance.

The results of this study will be used to target training programs, outreach, and technical assistance in order to seek continual improvement in BMP compliance and implementation in South Carolina and further advance successful protection of water quality during forestry operations.





During 2011 and 2012, 151 recent forestry activities were evaluated for compliance and implementation of BMPs. A regional protocol for a consistent, credible, and statistically valid reporting process is presented in "Silviculture Best Management Practices Implementation Monitoring – A Framework for State Forestry Agencies," (Southern Group of State Foresters Water Resources Committee, 2007). This survey meets or exceeds all standards of the regional protocol.

### **Sample Size**

Sample size was determined using the "Statistical Guide for BMP Implementation Monitoring," (Southern Group of State Foresters Water Resources Committee, 2006). With an estimated implementation rate of 90%, a sample size of 144 sites would be needed to achieve the desired 5% margin of error within the 95% confidence interval. Based on the sample size and results, actual margin of error was calculated to be 4.15% at the state level.

### **Site Selection**

Sites were selected by aerial surveys to minimize bias. First, a target number of survey sites were identified for each county in proportion to the annual timber harvest reported in US Forest Service Timber Product Output data. Randomly located transects were flown until twice the desired number of silvicultural activities were located. Silvicultural activities selected were at least 10 acres in size and conducted within the previous six months. No association with streams or wetland areas was required to be included as a monitoring site. Within each county, a random number generator was used to select half of the identified sites for inclusion in the study.

### **Landowner Questionnaire**

Once a site was selected for inclusion in the monitoring study, the local BMP Forester contacted the landowner to obtain permission to visit the site. Prior to the site inspection, each landowner was questioned about their level of familiarity with Forestry BMPs, use of a professional forester, and use of a written contract. Four categories of landowners were identified for the purpose of this study:

1. Non-industrial landowners who own less than 1,000 acres of forest land,

2. Non-industrial landowner who own more than 1,000 acres of forest land,
3. Public lands, owned or managed by local, state, or federal government,
4. Industrial lands, owned by forest products companies and timberland investment groups.

## Site Evaluation

Site inspections were done by four specially trained BMP Foresters. On each harvesting site up to 109 applicable BMPs were evaluated for successful implementation. On non-harvest sites, 48 individual practices were evaluated as applicable to Site Preparation, Reforestation, Prescribed Burning, Pesticide Application, Fertilizer Application, and Minor Drainage.

Each individual BMP practice was rated as Yes, No, Significant Risk, or Not Applicable.

- Yes – the individual practice was applicable and properly applied.
- No – the individual practice was applicable, but not applied or not applied correctly.
- Significant Risk – the individual practice was applicable, and failure to properly apply the practice resulted in the potential for water quality impacts if not corrected.
- Not Applicable – the individual practice was not necessary for that site.

Based on these individual practices, five categories of BMPs were rated for compliance. Each category was rated based on whether compliance was sufficient to protect water quality, and provides an assessment of whether water quality impacts occurred on the site. BMP categories are:

1. Streamside Management Zones
2. Stream Crossings
3. Road Systems
4. Harvesting Systems – Water Quality
5. Harvesting Systems – Site Productivity

Overall BMP compliance for each site was determined after all individual practices and BMP categories were fully evaluated. Each site was given an overall rating of Excellent, Adequate, or Inadequate depending on the level of BMP compliance, as follows:

- Excellent Compliance – All recommended BMPs were implemented successfully, and no water quality impacts resulted from the operation. Significant additional steps were taken to stabilize the site, reduce potential impacts to water quality or site quality, or to mitigate aesthetic impacts.
- Adequate Compliance – Recommended BMPs were sufficiently implemented to prevent water quality impacts from the overall operation.
- Inadequate Compliance – Recommended BMPs were not implemented or were implemented without success. Likely water quality impacts were noted as a result of poor or improper BMP implementation.

## Compliance and Implementation

Determination of Excellent, Adequate, or Inadequate compliance with BMPs was closely linked with the likelihood or presence of water quality impacts, and was consistent with applicable state and federal water quality laws and regulations.

This study also includes implementation rates which refer to the percentage of applicable individual practices that were properly applied on the site for each category and overall. Therefore, the implementation rate indicates the level at which BMPs were properly applied, and the compliance rate indicates whether the applied practices successfully protected water quality.

## Quality Assurance Checks

The BMP coordinator performed quality checks on 10% of evaluated sites to ensure consistency. Checks were completed while monitoring was ongoing so any corrections could be immediately applied. Modifications were made for six individual responses due to quality checks. The most common issue was identification of Significant Risk for individual practices, most likely because this rating is not used during normal Courtesy Exams routinely done by BMP Foresters. Compliance ratings for BMP categories were highly consistent.



# MONITORING RESULTS FOR HARVESTING



## Streamside Management Zones – 91.9% Compliance

Perennial or intermittent streams were present on 48% of the sites included in this monitoring survey. The standard SC BMP recommendation for SMZ width on perennial streams is 40'. Perennial streams in the survey were found to have an average SMZ width of 62' and median width of 50'. Many intermittent streams were also protected with a buffer of overstory trees. No trout waters or braided stream systems were identified in this survey. Compliance with BMPs for Streamside Management Zones was sufficient to protect water quality on 91.9% of sites. Six sites were rated as having inadequate compliance in this category.

A total of 814 applicable BMPs were evaluated with 94.6% implementation. Forty-four individual practices were not properly applied, 9 of those with Significant Risk. The most common deficiency was failure to retain appropriate overstory trees within the SMZ. Additional concerns included excessive debris in stream channels, excessive rutting within the SMZ, skidding within ephemeral areas except at crossings, and altering water flow in ephemeral areas.

## Stream Crossings – 81.0% Compliance

Thirty-eight stream crossings were evaluated on twenty-one different sites. Most crossings were skid trail debris crossings, though five road culvert and bridge installations were also evaluated. Compliance with BMPs for Stream Crossings was sufficient to protect water quality on 81.0% of sites. Four sites were rated with inadequate compliance in this category.



A total of 133 applicable BMPs

were evaluated with 83.5% implementation. Twenty-two individual practices were not properly applied, four of those with Significant Risk. Major issues were failure to stabilize disturbed soil at crossings after construction, and failure to keep road and ditch runoff out of streams at crossings.

### **Road Systems – 98.1% Compliance**

Road systems were evaluated on 106 sites, with existing roads being used on all but 13 sites which had new road construction. One silvicultural wetland road was evaluated. Compliance with BMPs for road systems was sufficient to protect water quality on 98.1% of sites. Two sites were rated with inadequate compliance in this category.

A total of 606 applicable BMPs were evaluated with 92.1% implementation. Forty-eight individual practices were not properly applied, four of those with Significant Risk. Primary concerns were failure to stabilize roads with water control structures after the operation and failure to stabilize exposed soil after construction.

### **Harvesting Systems – 94.1% Compliance**

BMPs for Harvesting are separated into practices related to water quality and those related to non-water quality site impacts. Harvesting was evaluated on 136 sites, and compliance with BMPs was sufficient to protect water quality on 94.1% of those. Compliance with BMPs was sufficient to prevent non-water quality site impacts on 98.5% of sites. Eight sites were rated with inadequate compliance related to water quality, and two sites were rated with inadequate compliance related to site impacts in this category. The combined compliance rating for harvesting systems related to both water quality and on-site impacts was 96.3%.

A total of 2,079 applicable harvesting BMPs were evaluated with 91.7% implementation. 173 individual practices were not properly applied, 14 of those with significant risk.

Major deficiencies related to water quality were failure to control erosion on skid trails with waterbars or seed. Additional areas of concern include skidding over intermittent or ephemeral streams without appropriate protection, use of fill in debris crossings, avoiding sensitive areas, and failure to minimize the number of stream crossings. Primary concerns related to non-water quality impacts included failure to prevent depositing mud on roads, excessive rutting, and harvesting when site conditions were too wet.

## **Overall Harvesting Compliance– 93.4%**

Overall BMP compliance on harvested sites was sufficient to protect water quality on 93.4% of sites. A total of nine sites were found to have inadequate BMP compliance with potential water quality impacts.

Of the 136 harvesting sites evaluated, 100 were clearcut and 36 were thinned or partially cut. Thinned sites had an overall compliance rating of 100%, though significant risks were noted on three sites for excessive rutting, failure to remove a temporary crossing, and skidding within a Streamside Management Zone.

On harvested sites, 3,632 individual practices were evaluated. Of that number, 3,345 practices were properly applied and 287 practices were not, thirty-one of those with significant risk. Total implementation rate for all practices was 92.1%.

## **MONITORING RESULTS FOR NON-HARVEST OPERATIONS**



Non-harvest forest operations include site preparation, reforestation, prescribed burning, pesticide application, fertilizer application, and minor drainage. A total of 16 sites in this survey included non-harvest operations. Additional information on non-harvest operations will be collected on all 151 sites in this study during follow-up visits for the next two years. These results for non-harvest activities should be considered preliminary due to the small sample size and ongoing data collection.

### **Site Preparation – 92.9% Compliance**

Site preparation operations were evaluated on fourteen sites, including five sites with mechanical site preparation, eight with chemical, and one prescribed burning. Compliance with site preparation BMPs was sufficient to protect water quality on 92.9% of sites. One site was rated with inadequate compliance in this category.

A total of 35 applicable practices were evaluated with 88.6% implementation. Four individual practices were not properly applied, none with significant risk. The major deficiency was failure to prevent erosion in firebreaks.

### **Reforestation – 100% Compliance**

Reforestation activities were evaluated on ten sites, including six machine planted

and four hand planted sites. Compliance with BMPs related to reforestation was 100%.

A total of 19 applicable BMPs related to reforestation were evaluated with 94.7% implementation. Failure to avoid leaving planting bags or garbage was noted on one site.

### **Prescribed Burning – 60% Compliance**

Prescribed burning was evaluated on five sites, and compliance with BMPs was sufficient to protect water quality on 60% of those. Two sites were rated with inadequate compliance in this category.

A total of 26 applicable BMPs were evaluated with 80.8% implementation. Inadequate ratings were given for failure to stabilize firebreaks where needed and failure to use hand tools to tie firebreaks into stream channels.



### **Pesticide Application – 100% Compliance**

Pesticide application was evaluated on eight sites, and compliance with BMPs was sufficient to protect water quality on 100% of sites. A total of 44 applicable BMPs were evaluated with 100% implementation. No sites in this survey were identified with fertilizer application.

### **Minor Drainage – 100% Compliance**

Three operations in this survey included activity related to pre-existing minor drainage. No new minor drainage was identified. Compliance with BMPs related to minor drainage was sufficient to protect water quality on 100% of sites. A total of 24 applicable BMPs were evaluated with 100% implementation.



### **Overall Non-harvesting Compliance – 87.5%**

Compliance with non-harvesting BMPs was sufficient to protect water quality on 87.5% of the sixteen sites evaluated. Two sites were rated with inadequate compliance and potential water quality impacts. Both inadequate sites were because of erosion from firebreaks.

A total of 148 applicable non-harvest BMPs were evaluated with 93.2% implementation. Ten individual practices were not properly applied.



## LANDOWNER AND SITE INFORMATION



Prior to site visits, contact was made with each landowner to request access and ask questions about the activity on their property. Additional data was collected during site visits to look for relationships between BMP compliance and site factors such as physiographic region and soil texture.

All landowners reported using a written contract for their forest operation, and 89% of those required BMP compliance in that contract. This is a marked increase from the last monitoring study in 2009, when 92% of landowners had a written contract and only 62% of those required BMP compliance. In addition, nonindustrial private landowners with less than 1,000 acres reporting familiarity with BMPs increased from 31% to 41%. This indicates that landowner awareness and understanding of BMPs is growing, and that landowners and forestry professionals are increasingly likely to include BMP compliance in written contracts.

Forest operations were evaluated on a total of 8,749 acres in this survey. The average size operation was 61.2 acres, compared to 73 acres in 2009.

Although compliance was slightly lower in the Carolina sandhills and southern piedmont, no significant patterns were identified by physiographic region, terrain, or soil type.

## COMPLIANCE TRENDS



### Harvesting Compliance Trends

Overall compliance with BMPs during harvesting operations was 93.4% (Table 1). Although this represents a drop from 98.6% in 2009, overall compliance remains high. The overall ratings indicate that landowners, loggers, and forestry professionals are committed to protecting water quality with proper application of Best Management Practices.

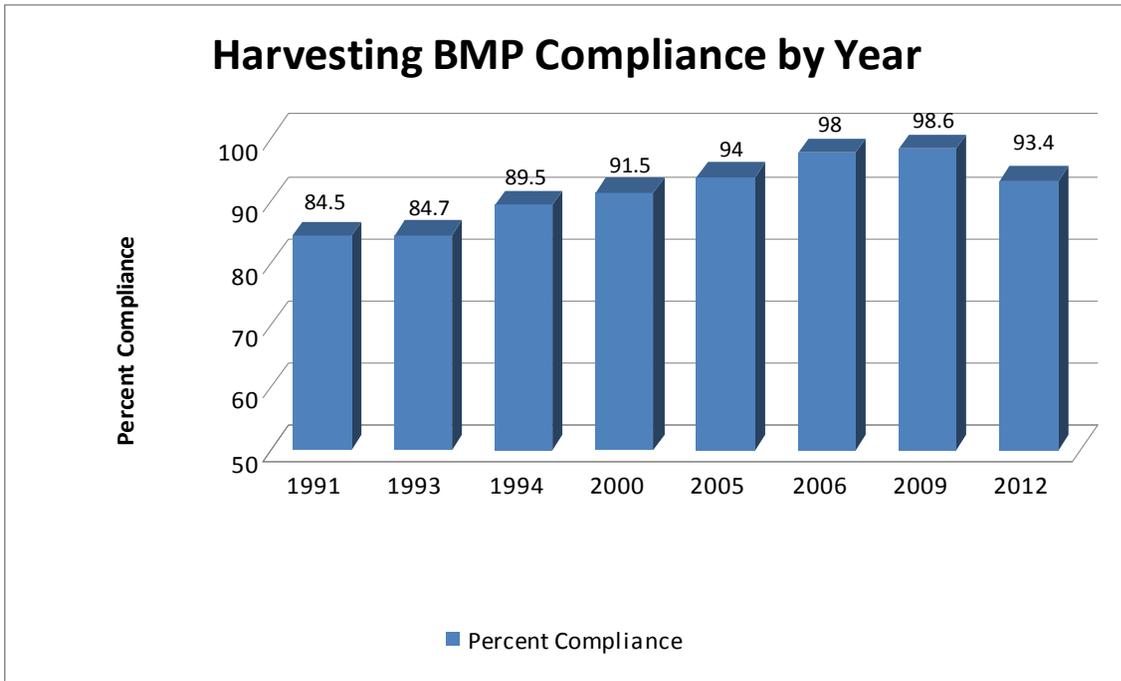


Table 1. Harvesting BMP Compliance by year of monitoring report publication.

The overall implementation rate for BMPs during harvesting operations was 92.1%, compared to the southern regional average of 92%. Most states in the south report BMP implementation rather than compliance, so this number can be compared with regional results for eleven southern states (Implementation of Forestry Best Management Practices: 2012 Southern Region Report, September 2012, Southern Group of State Foresters Water Resources Committee). Implementation of BMPs in South Carolina is consistent with the region.

Every category except Stream Crossings had compliance above 90% (Table 2). Stream Crossings and Streamside Management Zones have historically been the categories with lowest compliance, and continue to be the areas with greatest opportunity for improvement. Both of these categories are critical for water quality protection since they often involve use of heavy equipment and soil disturbance near water bodies.

The individual practices most likely to be absent or improperly applied included retaining overstory trees in SMZs, stabilization, proper construction of stream crossings, and road entrances suitable to prevent mud on roads. All of these activities are prone to economic influence and efforts to reduce logging costs.

Public and Industrial ownerships demonstrate high levels of BMP compliance (Table 3). Private ownership, both small and large, showed a slight decline but both remain above 90%.

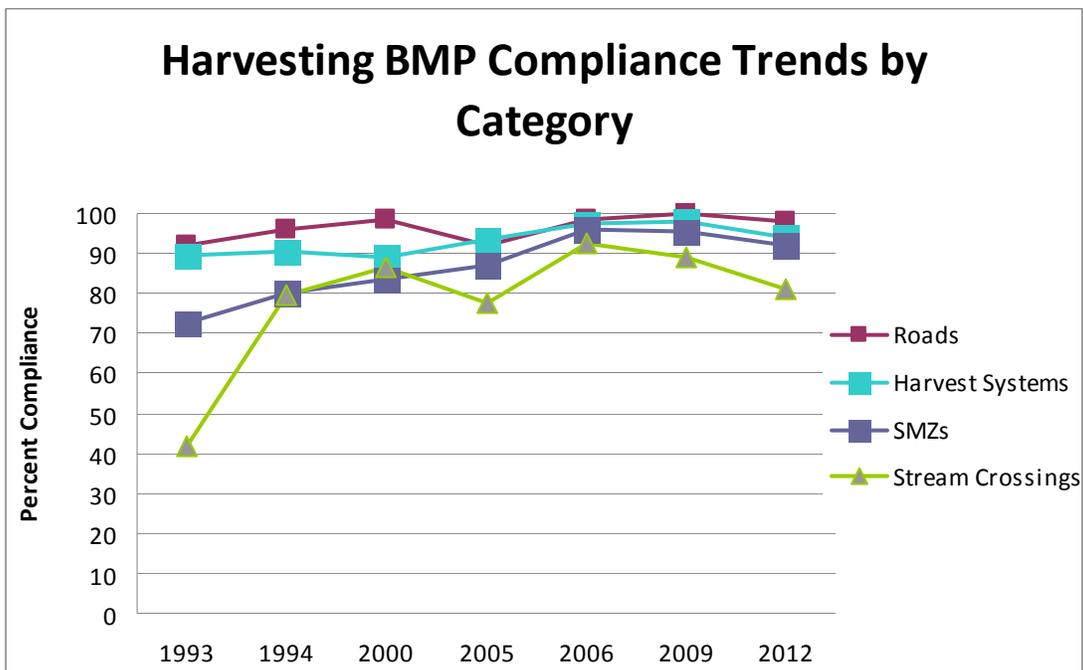


Table 2. Harvesting BMP Compliance trends by category.

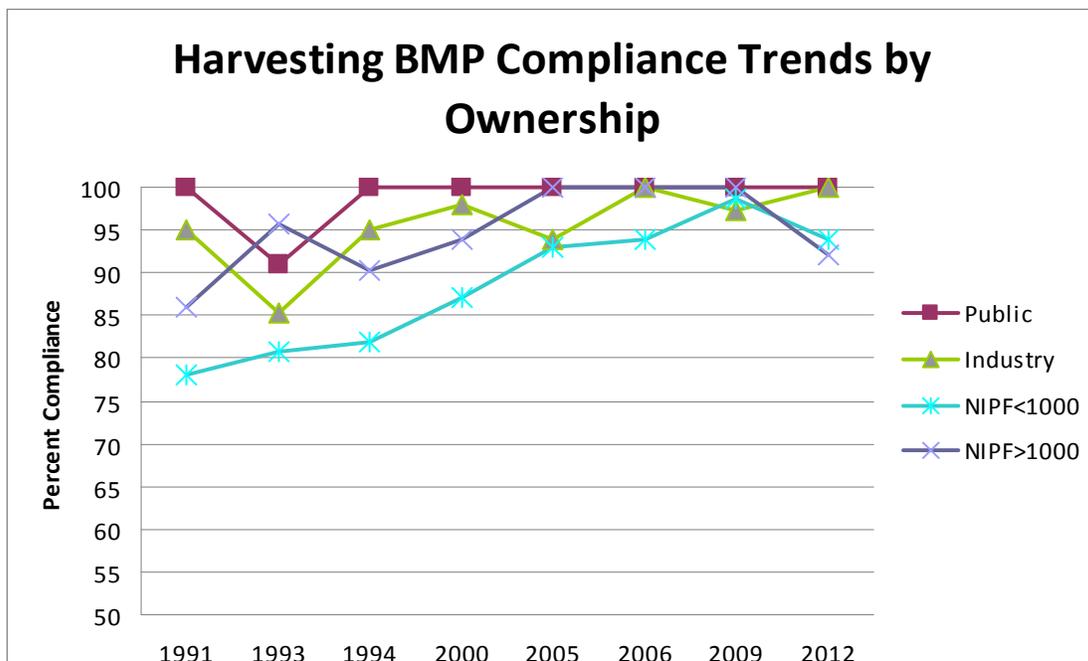


Table 3. Harvesting BMP compliance trends by ownership.

## Non-harvest BMP Compliance Trends

Non-harvest forest operations include mechanical and chemical site preparation, pesticide and fertilizer application, prescribed burning, reforestation, and minor drainage. Overall compliance with non-harvest BMPs is 87.5% (Table 4), though this is based on a small sample size. A more accurate measure of compliance will develop as follow-up visits are conducted to the sites in this study over the next two years and additional activities are evaluated. Non-harvest compliance results should be considered preliminary until follow-up visits are completed.

Non-harvest compliance was 100% for the categories of reforestation, chemical application, and minor drainage (Table 5). No sites with fertilizer application were identified. Prescribed burning had the lowest compliance at 60%, primarily because of failure to stabilize firebreak lines and tying firebreak lines into streams.

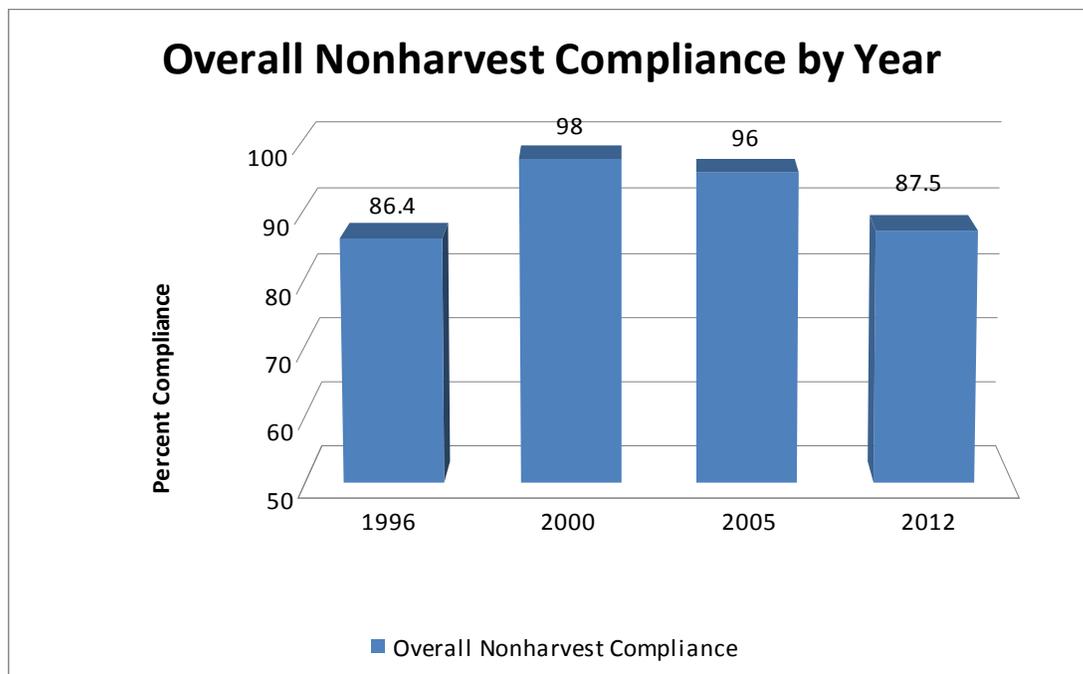


Table 4. Overall non-harvesting BMP Compliance by year of monitoring report publication.

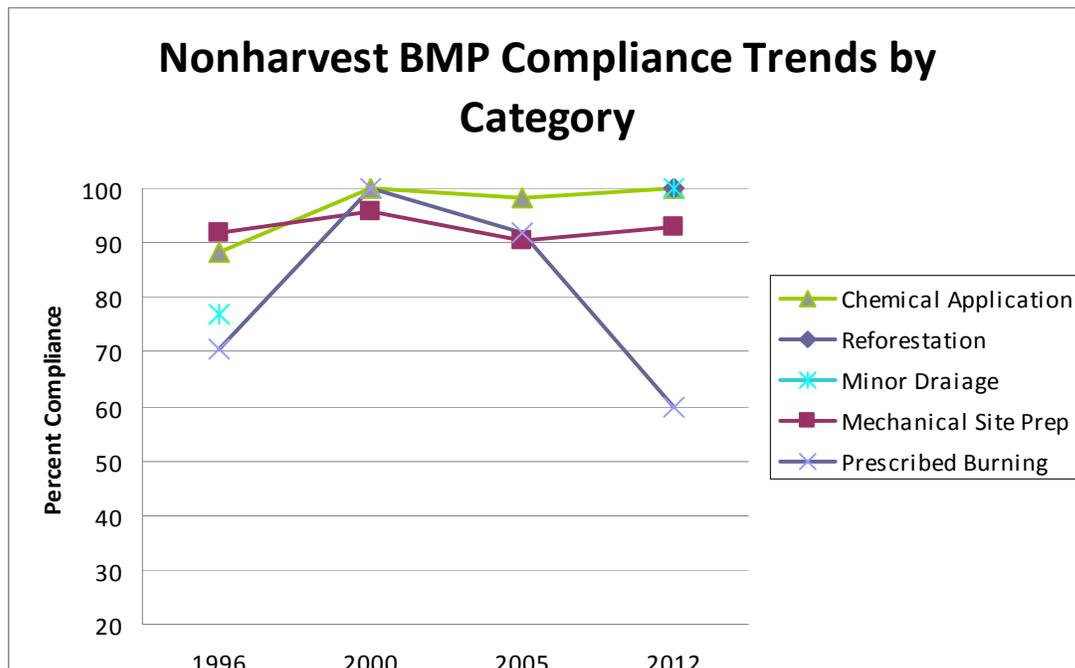


Table 5. Non-harvest BMP compliance trends by category.

## CONCLUSION



The results of this study demonstrate the continuing success of compliance and implementation with South Carolina’s Best Management Practices for Forestry by landowners, loggers, and forestry professionals.

This study highlights numerous strengths in BMP compliance:

- High overall compliance with BMPs to protect water quality during forestry operations.
- Improved landowner awareness of BMPs, and increased use of written contracts that require BMP compliance.
- Excellent compliance with BMPs related to Road Systems which often have a high potential for water quality impacts.
- Streamside Management Zones are frequently wider than the minimum recommendations on perennial and intermittent streams.

The results of this study will also be used to target training programs, outreach,

and technical assistance to continually improve compliance. Opportunities for improvement include:

- Increased attention is needed on firebreak lines, especially on steep slopes and near water bodies.
- Stream crossings and streamside management zones present opportunities for improving compliance.
- The most important individual practices for improvement are:
  - ◊ Retain appropriate overstory trees within Streamside Management Zones,
  - ◊ Stabilize disturbed soil at stream crossings,
  - ◊ Keep road and ditch runoff out of streams,
  - ◊ Control erosion on skid trails,
  - ◊ Minimize the number of stream crossings,
  - ◊ Protect intermittent and ephemeral streams during skidding,
  - ◊ Avoid excessive rutting,
  - ◊ Take steps to prevent depositing mud on roads,
  - ◊ Stabilize firebreak lines and avoid tying lines in with streams.
- Some BMP practices are not frequently encountered in randomly selected sites. Activities such as firebreak lines, wetland roads, fertilizer application, and braided stream protection may require further review.

Over the next two years, follow-up visits to the sites in the study will provide additional information on the outcome of BMP practices over time and the short-term recovery of sites after forestry operations. Follow-up visits will address issues such as blow down in SMZs, revegetation of exposed soil, and evaluation of any new forestry activities. Evaluation of additional post-harvest activities such as site preparation, reforestation, and prescribed burning will improve the sample size and accuracy of those ratings.

The results of this study will be used to seek continual improvement in BMP compliance and implementation in South Carolina, and further advance successful protection of water quality during forestry operations.



# APPENDIX

## Monitoring Data Forms

BMP Monitoring 2010

Page |

Site Identification Number

LANDOWNER QUESTIONNAIRE			
Landowner Name _____	Ownership Class		
Landowner Address: _____	NIPF<1000 <input type="checkbox"/>	Industry <input type="checkbox"/>	
Landowner City, State _____	NIPF>1000 <input type="checkbox"/>	Public <input type="checkbox"/>	
Landowner ZIP _____			
Landowner Phone _____			
Are you familiar with SC BMPs for Forestry?	<u>Y</u>	<u>N</u>	<u>NA</u>
Did you rely on forester during harvest?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Was there a written contract for the harvest?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Was BMP compliance required in the contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Will you allow SCFC to include your property in the monitoring project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Did landowner request a copy of the completed form?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SITE			
Acres harvested _____	Waypoint Number _____		
Date Logged _____	Latitude _____		
County _____	Longitude _____		
Region _____	Courtesy Exam Site ID _____		
Date of field evaluation _____			
Evaluator _____			
Physiographic Region	Terrain Type		
Blue Ridge <input type="checkbox"/>	Upland Clay <input type="checkbox"/>		
Southern Piedmont <input type="checkbox"/>	Sandhills <input type="checkbox"/>		
Carolina Sandhills <input type="checkbox"/>	Flatwoods <input type="checkbox"/>		
Southern Coastal <input type="checkbox"/>	Bottomland <input type="checkbox"/>		
Atlantic Coastal <input type="checkbox"/>	Carolina Bay <input type="checkbox"/>		
Dominant soil texture: Sand <input type="checkbox"/>	Clay <input type="checkbox"/>	Loam <input type="checkbox"/>	
Is the site predominantly wetland?	<u>Y</u>	<u>N</u>	<u>NA</u>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

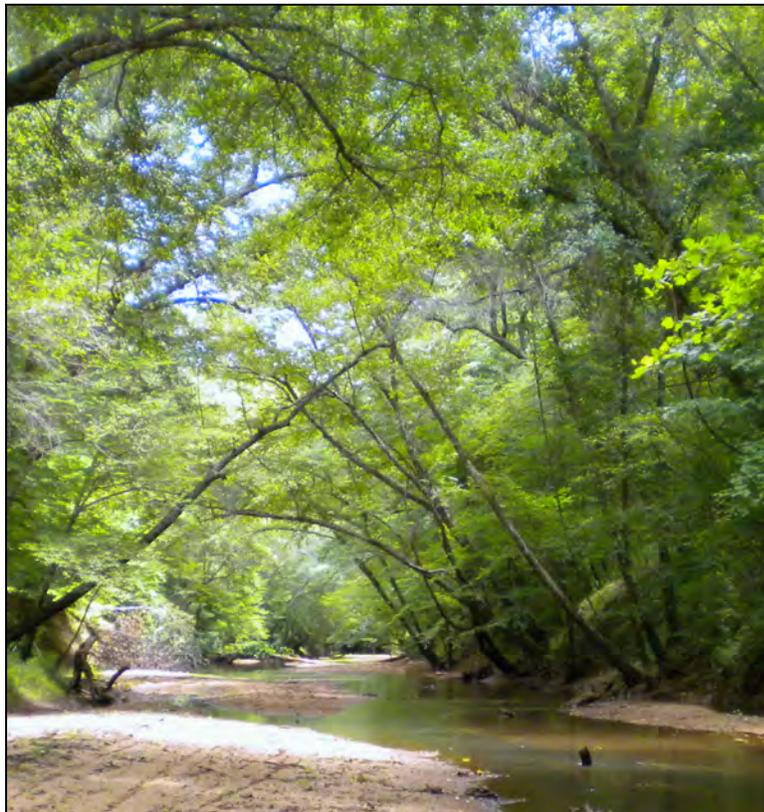
STREAMSIDE MANAGEMENT ZONES								
Stream types present:	Perennial	<input type="checkbox"/>	Intermittent	<input type="checkbox"/>	Ephemeral	<input type="checkbox"/>	None	<input type="checkbox"/>
Average slope adjacent to perennial and intermittent streams								
	1. < 5%	<input type="checkbox"/>	2. 5% - 20%	<input type="checkbox"/>				
	3. 21% - 40%	<input type="checkbox"/>	4. > 40%	<input type="checkbox"/>				
Recommended width of primary SMZ					_____			
Recommended width of secondary SMZ					_____			
Average width of SMZ on perennial streams					_____			
Average width of SMZ on intermittent streams					_____			
(estimate to nearest 5 feet if buffer <50ft; nearest 10ft if >50)					Y	N	SR	NA
On perennial streams was 50 BA retained evenly spaced					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
On perennial streams with less than 50 BA were all trees retained					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Forest floor and banks protected on intermittent streams					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were trees directionally felled away from the stream					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Was harvesting in SMZ done sufficient to minimize disturbance					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Was debris kept out of stream channel					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Toxic and hazardous materials kept out of SMZ					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Decks located outside of SMZ					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Road construction kept out of SMZ					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Excessive rutting avoided within SMZ					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fifteen percent or less soil exposed within SMZ					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Decks located outside ephemeral areas					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Skidding within ephemeral area avoided except at crossings					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Altering flow in ephemeral areas was avoided					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Road construction avoided in ephemeral areas except crossings					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Avoided emptying road runoff into ephemeral areas					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Overall SMZs sufficiently protected water quality</b>					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

STREAM CROSSINGS		Y	N	SR	NA
Perennial or intermittent stream road crossings present		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Perennial or intermittent stream skid trail crossings present		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Type and number of crossings	1. Bridge _____			2. Culvert _____	
	5. Other _____			4. Debris _____	
Stream crossings avoided where possible		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Streams crossed at right angles where possible		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Approaches to crossings kept gentle		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Drainage structures used to prevent road and ditch runoff into streams		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Culverts sized and installed following BMPs		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Disturbed soil at crossings stabilized soon after construction		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Soil fill avoided except with culverts		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Avoided altering flow of stream		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Was ditch runoff kept out of stream at crossing		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Woody fill and temporary culverts removed		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Overall, road stream crossings sufficiently protect water quality</b>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

ROADS				
Road types present	Main Access	<input type="checkbox"/> Limited Use	<input type="checkbox"/>	None <input type="checkbox"/>
Existing roads used <input type="checkbox"/>	New roads constructed <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Planning			Y	N
Were sensitive sites avoided or identified when possible?			<input type="checkbox"/>	<input type="checkbox"/>
Road designed to meet long range objectives			<input type="checkbox"/>	<input type="checkbox"/>
Roads located on ridge sides to ensure drainage			<input type="checkbox"/>	<input type="checkbox"/>
Roads follow contour with grades between 0 and 10 percent			<input type="checkbox"/>	<input type="checkbox"/>
Roads outsloped in hilly terrain			<input type="checkbox"/>	<input type="checkbox"/>
Travel width complies with BMPs (12-14' LU; 16-20' MA)			<input type="checkbox"/>	<input type="checkbox"/>
Right of way daylighted where needed			<input type="checkbox"/>	<input type="checkbox"/>
Lowland roads less than 2 feet above normal grade			<input type="checkbox"/>	<input type="checkbox"/>
Construction				
Culverts remove runoff from inside ditches on steep grades			<input type="checkbox"/>	<input type="checkbox"/>
Culverts and structures large and frequent enough for water volume			<input type="checkbox"/>	<input type="checkbox"/>
Adequate compacted fill on culverts			<input type="checkbox"/>	<input type="checkbox"/>
Drainage structures empty into undisturbed forest floor			<input type="checkbox"/>	<input type="checkbox"/>
Stabilization				
Culvert inlets/outlets stabilized where needed			<input type="checkbox"/>	<input type="checkbox"/>
Exposed mineral soil stabilized after road construction where needed			<input type="checkbox"/>	<input type="checkbox"/>
Waterbars used to retire LU and MA roads			<input type="checkbox"/>	<input type="checkbox"/>
Maintenance				
Culverts maintained to prevent blockage			<input type="checkbox"/>	<input type="checkbox"/>
Road grading minimal in hilly terrain			<input type="checkbox"/>	<input type="checkbox"/>
Traffic on soft roads prevented			<input type="checkbox"/>	<input type="checkbox"/>
Avoided roads on ridges with poor drainage			<input type="checkbox"/>	<input type="checkbox"/>
Avoided construction of wider or longer roads than necessary			<input type="checkbox"/>	<input type="checkbox"/>
Avoided emptying road runoff directly into drains			<input type="checkbox"/>	<input type="checkbox"/>
Wetland Road Construction				
Are wetland roads present (Y or N)			<input type="checkbox"/>	<input type="checkbox"/>
Roads in waters of US kept to minimum number/length/width/height			<input type="checkbox"/>	<input type="checkbox"/>
Road fill minimizes discharges in US waters			<input type="checkbox"/>	<input type="checkbox"/>
Road fill prevents restriction of expected floods			<input type="checkbox"/>	<input type="checkbox"/>
Road fill properly stabilized to prevent erosion			<input type="checkbox"/>	<input type="checkbox"/>
Road construction minimized encroachment outside fill boundaries			<input type="checkbox"/>	<input type="checkbox"/>
Vegetative disturbance in US waters minimized			<input type="checkbox"/>	<input type="checkbox"/>
Movement and migration of aquatic life maintained			<input type="checkbox"/>	<input type="checkbox"/>
Borrow taken from upland where feasible			<input type="checkbox"/>	<input type="checkbox"/>
Threatened and Endangered species not affected by discharge			<input type="checkbox"/>	<input type="checkbox"/>
Discharges avoided if alternatives exist			<input type="checkbox"/>	<input type="checkbox"/>
Discharges located away from public water intakes			<input type="checkbox"/>	<input type="checkbox"/>
Discharges avoided in shellfish production areas			<input type="checkbox"/>	<input type="checkbox"/>
Discharges avoided near wild and scenic rivers			<input type="checkbox"/>	<input type="checkbox"/>
Suitable clean fill material used free of toxics			<input type="checkbox"/>	<input type="checkbox"/>
Temporary fills removed and area restored			<input type="checkbox"/>	<input type="checkbox"/>
Road height for LU and MA roads under 2 feet			<input type="checkbox"/>	<input type="checkbox"/>
Fill height at crossings lower than approaches			<input type="checkbox"/>	<input type="checkbox"/>
Fords have adequate rock bases			<input type="checkbox"/>	<input type="checkbox"/>
Bridges/culverts/fords allow for expected flows			<input type="checkbox"/>	<input type="checkbox"/>
Soil stabilized at crossings of major runs			<input type="checkbox"/>	<input type="checkbox"/>
Temporary crossings designed well and removed after operation			<input type="checkbox"/>	<input type="checkbox"/>

<b>ROADS - continued</b>	<u>Y</u>	<u>N</u>	<u>SR</u>	<u>NA</u>
Where necessary logs used as road base	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dredge ditch constructed on upper side of road with cross drainage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ditches do not carry water more than 1/4 mile	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Roadside ditches desinged to avoid wetland drainage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Overall road system sufficiently protected water quality</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<b>TROUT WATERS</b>				
Trout waters present	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
Wider primary SMZ retained (80' on slopes over 5%)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Drainage structures do not divert water into streams	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Exposed soils within SMZ revegetated	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mulch, gravel, rock used to stabilize roads at crossings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



<b>TIMBER HARVESTING</b>					<u>Y</u>	<u>N</u>	<u>SI</u>	<u>NA</u>
Harvest type	Clearcut	<input type="checkbox"/>	Thin/parti	<input type="checkbox"/>	Salvage	<input type="checkbox"/>	Other	<input type="checkbox"/>
<b>Planning</b>								
	Harvest planned to minimize number of stream crossings					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Crossings located where stream impacts would be minimal					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Decks located on the most stable soils					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Decks with fill kept to minimum size					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Sensitive areas were identified					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Execution</b>								
	Were SMZs established adjacent to perennial or intermittent streams and lakes					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Was excessive rutting minimized in floodplains bottomlands, and erosive slopes					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Did harvesting cease when turbid overland flow went offsite					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Primary skid trails designed to skid logs uphill					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Flow on skid trails controlled with drainage structures					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Bladed skid trails meet LU road specs					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Primary skid trails on erosive slopes retired with waterbars or seed					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Was equipment serviced away from water bodies or wetlands					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Were skid trails kept out of SMZs and stream channels					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Skidding perpendicular to contour was minimized					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Skid crossings on perennial or intermittent streams used adequate crossing					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Skidding over intermittent or ephemeral channels was protected with debris					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Culverted crossings left in place when needed in 10yrs					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Was use of fill avoided in skid trail stream crossings w/ or w/o debris					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Follow-up</b>								
	Temporary crossings/blockages in sloughs were removed					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Overall timber harvesting was sufficient to protect water quality</b>					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Site Productivity</b>								
	Surrounding land use wildlife habitat aesthetics planned for on larger clearcuts					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Skid trails planned to occupy least amount of area					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Site was logged when dry					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Amount and depth of rutting acceptable					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Low impact system used when logging wet sites					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Skid trails stabilized with mats or debris to prevent excessive ruts					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Steps taken to avoid depositing mud on roads					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Conditions conducive to rapid regeneration					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Fuel or oil spills cleaned immediately					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Lubricants and trash disposed of properly					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Overall timber harvesting sufficient to maintain site productivity</b>					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<b>Overall Rating</b>	Excellent	<input type="checkbox"/>	Adequate	<input type="checkbox"/>	Inadequate	<input type="checkbox"/>
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Comments -- List major problems if Inadequate/Noteworthy positive and negative aspects for all

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Site Identification Number

LANDOWNER QUESTIONNAIRE			
Landowner Name _____	Ownership Class		
Landowner Address _____	NIPF<1000 <input type="checkbox"/>	Industry <input type="checkbox"/>	
Landowner City, State _____	NIPF>1000 <input type="checkbox"/>	Public <input type="checkbox"/>	
Landowner ZIP _____			
Landowner Phone _____			
Are you familiar with SC BMPs for Forestry?	<u>Y</u> <input type="checkbox"/>	<u>N</u> <input type="checkbox"/>	<u>NA</u> <input type="checkbox"/>
Did you rely on forester during harvest?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Was there a written contract for the harvest?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Was BMP compliance required in the contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Will you allow SCFC to include your property in the monitoring project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Did landowner request a copy of the completed form?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SITE			
Acres treated _____	Waypoint Number _____		
Date Logged _____	Latitude _____		
County _____	Longitude _____		
Region _____	Courtesy Exam Site ID _____		
Date of field evaluation _____			
Evaluator _____			
Physiographic Region	Terrain Type		
Blue Ridge <input type="checkbox"/>	Upland Clay <input type="checkbox"/>		
Southern Piedmont <input type="checkbox"/>	Sandhills <input type="checkbox"/>		
Carolina Sandhills <input type="checkbox"/>	Flatwoods <input type="checkbox"/>		
Southern Coastal <input type="checkbox"/>	Bottomland <input type="checkbox"/>		
Atlantic Coastal <input type="checkbox"/>	Carolina Bay <input type="checkbox"/>		
Dominant soil texture: Sand <input type="checkbox"/>	Clay <input type="checkbox"/>	Loam <input type="checkbox"/>	
Is the site predominantly wetland?	<u>Y</u> <input type="checkbox"/>	<u>N</u> <input type="checkbox"/>	<u>NA</u> <input type="checkbox"/>

SITE PREPARATION								
Type of Site Prep	Mechanical	<input type="checkbox"/>	Chemical	<input type="checkbox"/>	Presc Fire	<input type="checkbox"/>	None	<input type="checkbox"/>
					Y	N	SR	NA
On slopes 6-10%, mechanical methods follow contour					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
On slopes 11-20%, mechanical other than chopping follows contour					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Untreated strips 5-10' wide left evert 100' if erosion potential high					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
On slopes 21-30%, only herbicide, fire, or low intensity mechanical					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
On slopes over 30%, only herbicide, hand tools, or fire					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Logging debris and other litter left where accelerated erosion likely					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Minimized soil in windrows and piles					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Windrows periodically broken					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Planting beds only as high as necessary					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
On slope >5%, beds follow contour and frequently broken					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Waterbars or other methods used to prevent erosion in firebreaks/lines					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vegetation and soil disturbance limited in stabilized gullies					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mechanical site prep avoided in primary SMZ					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Avoided significant soil disturbance in secondary SMZ					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Broadcast application of any pesticide avoided in SMZ					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Left vegetated buffer strip 10' along public roads to slow runoff					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Overall, site preparatoin BMPs sufficiently protected water quality					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

REFORESTATION						
Type of planting	Machine	<input type="checkbox"/>	Hand	<input type="checkbox"/>	None	<input type="checkbox"/>
Steep, erodible sites hand planted					<input type="checkbox"/>	<input type="checkbox"/>
Machine planting on contour with slopes >5%					<input type="checkbox"/>	<input type="checkbox"/>
Avoided leaving bags or garbage on site					<input type="checkbox"/>	<input type="checkbox"/>
Overall planting BMP sufficiently protected water quality					<input type="checkbox"/>	<input type="checkbox"/>

PRESCRIBED BURNING					
Prescribed burning present	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	
Fire timed to prevent entire humus layer from being burned				<input type="checkbox"/>	
Firebreaks located on contour as much as possible				<input type="checkbox"/>	
Waterbars used in firebreak lines where needed				<input type="checkbox"/>	
Hand tools used to tie firebreak lines into stream channels				<input type="checkbox"/>	
Avoided too hot fire and exposed mineral soil				<input type="checkbox"/>	
Kept high intensity fire out of SMZs				<input type="checkbox"/>	
Avoided burning on severely eroded soils with less than 1/2" duff				<input type="checkbox"/>	
Avoided water controls that divert runoff into streams				<input type="checkbox"/>	
Overall prescribed burning sufficiently protected water quality					<input type="checkbox"/>

PESTICIDES								
	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	<u>Y</u>	<u>N</u>	<u>SR</u>	<u>NA</u>
Pesticides applied on site		<input type="checkbox"/>		<input type="checkbox"/>				
Pesticide containers properly disposed					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Avoided excessive drift					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pesticide handling done away from water					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
All spills cleaned up immediately					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Avoided applying pesticides to water bodies					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Avoided broadcast application within SMZ					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Avoided damage to trees in the primary SMZ					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Overall pesticide application sufficient to protect water quality					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

FERTILIZATION								
	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>				
Fertilizer applied on site		<input type="checkbox"/>		<input type="checkbox"/>				
Water bodies protected with appropriate buffers					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fertilizer containers properly disposed of					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Avoided applying fertilizer to water bodies					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Overall fertilizer application sufficient to protect water quality					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

MINOR DRAINAGE								
	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>				
Minor drainage on site		<input type="checkbox"/>		<input type="checkbox"/>				
New minor drainage		<input type="checkbox"/>	Pre-existing	<input type="checkbox"/>				
Minor drainage used only where necessary					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Depth, spacing, number of ditches minimized					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Designed to minimize maintenance					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Spoil does not impede entry of surface water into ditch					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ditches empty into areas where runoff filtered before reaching channel					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ditches maintained as needed to keep system functioning					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Avoided converting wetlands to upland					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Avoided emptying drainage ditches into perennial or intermittent streams					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Avoided re-dredging more than original depth, width					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Did not cause ponding with placement of fill					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Did not use 404 exemption for non-silvicultural objectives					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Overall minor drainage sufficient to protect water quality					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<b>Overall Rating</b>	Excellent	<input type="checkbox"/>	Adequate	<input type="checkbox"/>	Inadequate	<input type="checkbox"/>
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Comments -- List major problems if Inadequate/Noteworthy positive and negative aspects for all

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**BMP Compliance Monitoring Follow-Up Visit**

Site ID \_\_\_\_\_ Visit Number \_\_\_\_\_ Date \_\_\_\_\_  
 Observer \_\_\_\_\_

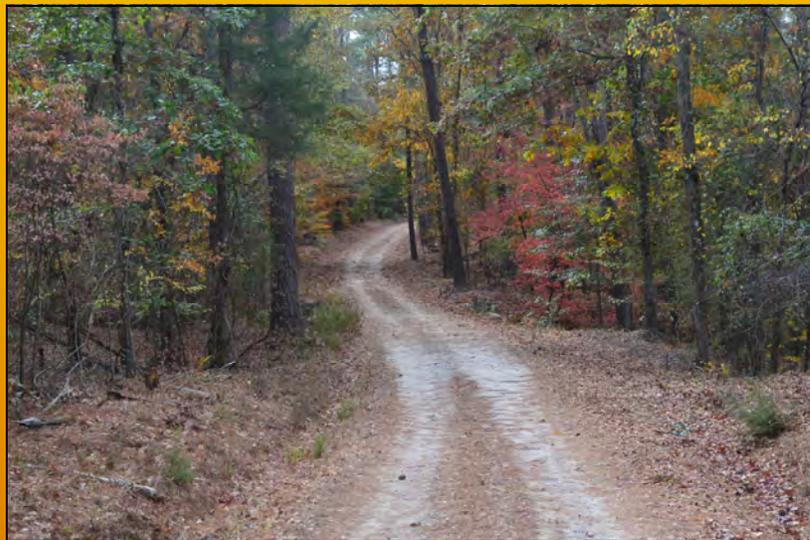
RATE ANY NEW ACTIVITY ON BMP MONITORING NON-HARVEST FORM  
 All percentages to nearest 5%

<u>SITE</u>	<u>Y</u>	<u>N</u>	<u>SR</u>	<u>NA</u>
1) Has site been converted to non forest use	<input type="checkbox"/>	<input type="checkbox"/>		
2) Artificial or Natural regeneration _____				
3) Spacing of artificial regeneration _____				
4) Any new activity rated on nonharvest form _____				
<b><u>STREAMSIDE MANAGEMENT ZONES</u></b>				
5) Length of SMZ _____				
6) Number of overstory trees blown down _____				
7) Species down (pine, oak, other) _____				
8) Sediment trails reaching stream	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9) WQ impact related to SMZ failure?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b><u>STREAM CROSSINGS</u></b>				
10) Crossing currently stable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11) Crossing blown-out,damaged,or altering water flow	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12) WQ impact or sediment deposition from crossing failure	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b><u>ROADS</u></b>				
13) Culverts stable and functioning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14) Waterbars and water control structures functioning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15) Wetland road use meet silvicultural exemption	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16) Excessive erosion on roads	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17) WQ impact from degradation of road system	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b><u>TIMBER HARVESTING</u></b>				
18) Percent bare ground on light traffic areas _____				
19) Percent bare ground on high traffic areas (decks, main skid trails) _____				
20) Skid trail stabilization measures functioning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21) Excessive erosion on decks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22) Excessive erosion on trails or harvest area	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23) WQ impact from degradation of harvesting activity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b><u>NON HARVEST</u></b>				
24) Type Activity    site prep ___ presc burn ___ fertilization ___ regen ___ pesticide ___ minor drain ___				
25) Percent bare on previously disturbed area _____				
26) WQ impact from degradation of non harvest activity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b><u>OVERALL</u></b>				
27) Have any new water quality impacts developed since last visit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
28) Have any previous problems corrected naturally	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29) Have any previous problems corrected artificially	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Notes and Observations** (include extreme weather events, excessive standing dead trees, etc)

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