

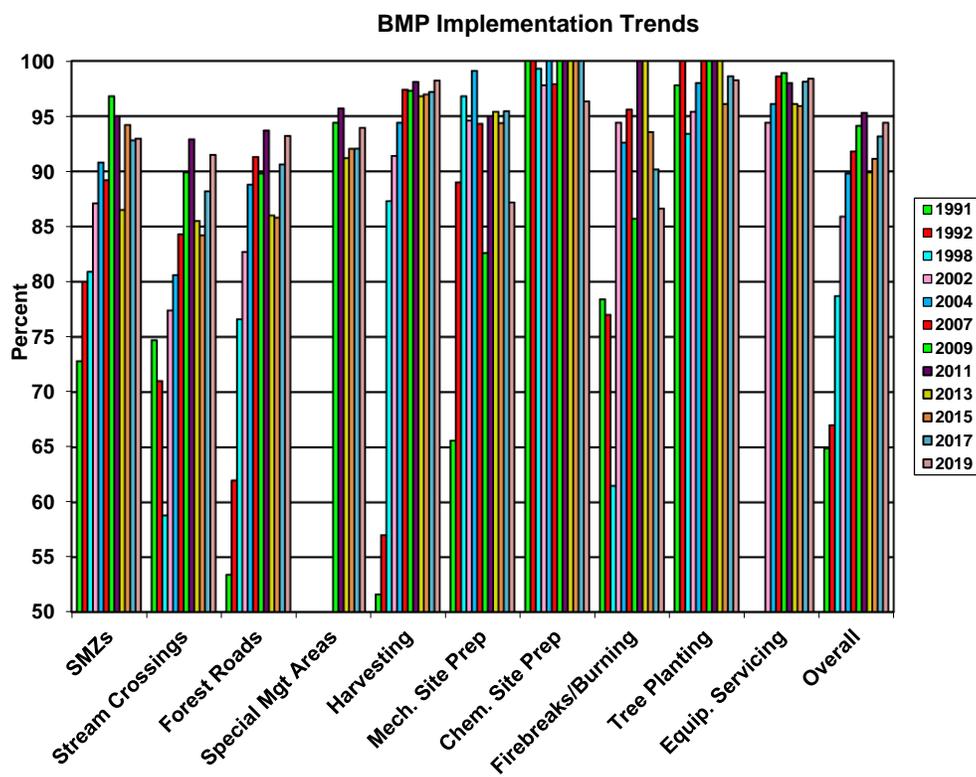


2019 Forestry Best Management Practices Implementation Survey Highlights

General Best Management Practices (BMP) Survey Results

The Georgia Forestry Commission (GFC) has completed its 2019 Forestry BMP Implementation Survey covering 254 randomly selected sites statewide. These 254 sites consist of 40,950 acres, which include 205.09 miles of forest roads, 131.32 streams miles, and 129 stream crossings. By ownership, 156 of the sites were on non-industrial private forest land (NIPF), 69 sites were corporate land, and 29 sites were public land.

Overall, statewide BMP implementation for GFC's 2019 BMP Survey is 94.40%. The BMP implementation rate is the percentage of fully implemented BMPs compared to the total number of necessary/applicable BMPs at the tract level, the practice level, and the overall level. This represents an approximate 1.23 percentage point improvement from GFC's 2017 BMP Survey result of 93.17%. BMP implementation results were also calculated for each applicable category of practice for each tract. Categories of practice include Streamside Management Zones (SMZs), Stream Crossings, Forest Roads, Special Management Areas, Harvesting (outside SMZs), Mechanical Site Prep, Chemical Site Prep, Firebreaks/Burning, Tree Planting, and Equipment Servicing, as well as an Overall category. BMP implementation results for each category are shown in this chart along with the results from the last 11 BMP surveys for comparison where available.



BMP implementation for 2019, shown in lavender on the right side of each category grouping in the chart, improved for Forest Roads, by 2.58 percentage points since 2017, to a score of 93.21% in 2019. Stream Crossings also improved from the 2017 survey, by 3.30 percentage points to a score of 91.49% in 2019. However, Stream Crossings still did have the highest number of Water Quality Risks (WQRs) for 2019, 14 of the total 34 WQRs. The category of SMZs maintained a high score at 92.96%, a slight improvement from 2017. However, the SMZ category had the second highest number of WQRs for 2019, 13 of the total 34 WQRs. Improvements were found in the scores of Special Management Areas at 93.94%, Harvesting at 98.22%, and Equipment Servicing at 98.39%. BMP implementation remained high for Chemical Site Prep with a score of 96.34%. While this was a decline from 100% in 2017, the score was still high, and no WQRs were found. BMP implementation for Mechanical Site Prep in 2019 was 87.18%. While this is an 8.27 percentage point drop from 95.45% in 2017, the score is still fair, and only one WQR was found. BMP implementation for Firebreaks/Burning outside SMZs in 2019 was 86.62%. While this is a 3.55 percentage point drop from 90.17% in 2017, the score is still fair, and no WQRs were found here. The categories of Stream Crossings and SMZs, and to a lesser extent Roads, Special Management Areas, Mechanical Site Prep, and Firebreaks/Burning, represent BMP educational opportunities going forward. Stream Crossings and SMZs represent the areas needing the most attention, due to their relatively higher numbers of actual WQRs making up 27 of the total of just 34 WQRs found in 2019. Mechanical Site Prep and Firebreaks/Burning also need some attention due to lower implementation scores, but with fair scores maintained and only 1 WQR found in Mechanical Site Prep and none in Firebreaks/Burning outside SMZs, these categories appear to be relatively less problematic.

Educational Opportunities

BMP implementation for Stream Crossings, SMZs, Special Management Areas, Roads, Harvesting, Mechanical Site Prep, and Firebreaks/Burning are the categories with either higher occurrences of WQRs or lower implementation scores, so our education plans will be focused on those categories. We will continue to push for additional improvements in all categories where possible, and for continued good compliance in those categories near or at the top. Primary educational opportunities include:

- Stream Crossings
 - ✓ Culvert crossing design and installation information.
 - ✓ Basic stream crossing design needs, including storm flow and aquatic migration requirements.
 - ✓ Stream crossing approach design and stabilization.
 - ✓ Temporary portable bridge use instead of culverts where suitable and proper removal of temporary crossings.
- Streamside Management Zones (SMZs)
 - ✓ Continued information on stormwater control structure design needs for roads in or near SMZs.
 - ✓ Continued information on SMZ width, along with residual forest cover and streambank tree requirements.
 - ✓ Continued information on stream classification for proper recognition of stream types.
 - ✓ Continued information on avoiding logging slash in stream channels and SMZs, and proper removal and rehab.
 - ✓ Avoidance of firebreaks in SMZs and/or proper tie-in and water diversions for firebreaks in or near SMZs
- Special Management Areas
 - ✓ Continued information on minimizing soil disturbance and avoiding interference with natural drainage.
 - ✓ Continued information on avoiding road/firebreak turn-outs tying directly into ephemeral areas.
 - ✓ Continued information on avoiding high-intensity burning in these areas.
- Forest Roads
 - ✓ Stormwater control structure design and placement (proper water diversions).
 - ✓ Proper stabilization of critical sections and closeout needs following harvest activities.
 - ✓ Avoidance of excessive rutting and properly maintaining points of ingress from public roads.
- Harvesting
 - ✓ Continued information on basic timber harvesting BMPs, including log deck and skid trail stabilization.
 - ✓ Minimizing operations during excessively wet weather and avoidance of excessive rutting.
- Mechanical Site Prep
 - ✓ Continued information on avoiding bedding that directs runoff into roads or road-ditches.
- Firebreaks/Burning
 - ✓ Making more people aware of the importance of planning for and following BMPs for firebreak installation.
 - ✓ Continued information on proper construction and spacing of water diversions in firebreaks.
 - ✓ Minimizing soil disturbance when installing firebreaks, following contours, and using natural barriers.
 - ✓ Avoiding and/or proper tie-in with sensitive areas such as roads, special management areas, and streams/SMZs.
- Chemical Site Prep
 - ✓ Continued information on avoiding drift into sensitive areas, as well as proper application, storage, and clean-up.
- Tree Planting
 - ✓ Continued information on planting on the contour for machine planting.
- Equipment Servicing
 - ✓ Continued information on proper clean-up of containers and trash.

Where's the room for improvement?

Results from this survey point to definite improvements, yet some continued issues remain with Stream Crossings and SMZs, and to a lesser extent with Special Management Areas and Roads. Also, some decline has been noted for Mechanical Site Prep, as well as Firebreaks/Burning outside SMZs, but with relatively low risks to water quality. As mentioned in the past, problems are likely intensified by smaller tracts, parcelization, changes in ownerships, and access needs. The 2019 survey indicates similar issues associated with continued parcelization of lands that we have seen in past surveys, especially former timber company lands or lands previously managed more closely. Smaller properties result in more roads and stream crossings for access by multiple landowners, resulting in more chances to make mistakes, especially when resources and/or knowledge about proper land management and BMPs may be in short supply. Parcelization potentially results in:

- Change of management levels and objectives, due to economics and smaller landowners often not having the resources and/or knowledge for proper land management including BMPs.
- Tracts broken into smaller parcels with multiple landowners having a range of knowledge, personal resources, and objectives for ownership.

Past BMP surveys indicated as tract size decreases, so does the percentage of BMP implementation. While the 2019 survey does not show a definite trend in that regard, it does indicate that as tract size goes down, the number of actual Water Quality Risks (WQRs) per acre tend to increase. While the overall number of WQRs and the overall rate of WQRs/acre for the 2019 survey were found to be low and concentrated on a relatively small number of sites, a trend was seen related to tract size. The 2019 survey shows the number of WQRs/acre for three tract size categories, including small tracts (<100 acres), medium tracts (101 to 200 acres), and large tracts (+200 acres). Small tracts had an average of about 0.0017 WQRs/acre. While medium and large tracts both averaged about 0.0005 to 0.0006 WQR/acre. Basically, tracts less than about 100 acres (small tracts) had about three times the rate of WQRs/acre of tracts 101 acres and above.

What's the good news for the 2019 survey?

The good news is a 1.23 percentage point improvement in overall BMP Implementation to 94.40%. This includes improvements for many categories and maintenance of very good to fair scores for others. The percentage of stream and road mileages in full compliance was found to be 96.92% and 95.84% respectively. There was improvement in the total number of WQRs decreasing to 34, a 33.33% reduction from 2017, even with more sites, acres, and stream miles inspected than in 2017. The relatively few WQRs found were all again concentrated on just a small number of sites, as has been the norm for most of the last decade, indicating the vast majority of forestry sites have no WQRs. While there were some declines in BMP implementation in a few individual categories, those particular categories still continued to have good to fair scores ranging from about 87% to 98%, with little water quality risk. In conclusion, the overall trend continues to be positive as of the end of 2019.