

Forestry Sector Feedback on Draft State Verification Protocols (8/20/15)

VIRGINIA

Is the intensity of verification efforts prioritized in proportion to a practices contribution to the overall TMDL pollution reduction in the jurisdiction's WIP?

In Virginia's Draft Verification Protocols (June 30, 2015) the RFB practice is treated similarly to other agricultural BMPs practices even though relatively high pollutant reductions are expected from this single practice (9.1% N, 3.6% P, 5.7% S).

In the VA Protocol, most RFB practices reported would fall into the BMP Grouping of "State or Federal Cost-share within Contractual Period" and the BMP Type of "Low Risk as determined by existing VACS spot check program" (Appendix 3, Table 1). (Q: are RFBs considered structural agricultural practices by VA?) All agriculture cost-shared practices in the contract period, including forest buffers, are "low risk" with a pass/fail ratio of 90-10 (pass means 90% are successfully functioning) based on VACS-documented compliance of 97% for multiple practices.

Watershed-wide, the rate for successful RFB establishment is estimated to be 80%. There is no good estimate for how well the RFB functions after establishment and RFB functional efficiency has been difficult to study. However, roughly 10% of RFBs are not eligible for re-enrollment because they are not up to standard, usually dictated by lack of tree survival. That 97% of RFB's in are in compliance seems high. VA's 2015 RFB Task Force report points out that DCR will provide 50% cost-share for replanting of RFB, as needed, indicating that this may be an issue. Survival is only one indication of RFB function. Issues with concentrated flow (vs. the uniform flow needed for a buffer to function) may develop.

Do verification methods for cost-shared agricultural riparian buffers utilize and build upon the existing verification programs for cost-shared contracts?

Virginia currently has very good guidelines on RFB hardwood plantings under the various federal cost-share programs and also good monitoring for these. Current practice is to have a professional forester visit every RFB site 3 times (and 3 sets of recorded documentation—a plan, an initial inspection and a re-inspection after 2 years). In addition, a number of audit/inspections are conducted by foresters or SWCDs. The VA Protocol seems to suggest re-visiting only 1% of the RFBs once, instead of 100% of RFBs twice (which is done currently). The RFB hardwood planting guidelines are not mentioned in the protocol. If the Protocol was to replace the existing monitoring effort, it would represent roughly a 200% reduction in rigor.

Virginia's 2015 Task Force report on RFBs states that "Agricultural landowners and operators across Virginia, especially within the Chesapeake Bay Watershed, have a wide variety of technical and financial resources available to support and assist them with implementation of forest buffers, including USDA's Conservation Reserve Enhancement Programs (CREP), Environmental Quality Incentives Program (EQIP), and Virginia's Agricultural Cost-Share Program (VACS)." This indicates that resources are available for technical assistance and inspections.

Furthermore, with all Ag practices being lumped together with RFB, much less than 1% of RFB will be visited. The VA Protocol states that if one of these 1% “fails,” it will be issued a corrective action or taken off NEIEN. What about the rest of the practices that this 1% represents? Wouldn’t a failure trigger reinforced inspections of similar practices in a similar geographic area or done by the same contractor?

Are the frequency of site-checks consistent with the following recommendation from the sector guidance: Two visits within the first 4 years, spot-checked between years 5-10, and 100% re-inspection between years 10-15 to determine contract continuation? If not, are they sufficient to ensure scientific rigor? Are CREP partners involved in the reenrollment process?

The Protocol lacks specific mention of RFB apart from other agricultural practices, and FWG’s guidance for this practice has not been addressed. There is mention of an inspection of 100% of structural practices one year prior to end of contract—but it is not clear if buffers are included. Re-enrollment is not specifically mentioned as suggested in FWG’s guidance.

As all Ag cost-share BMPs are grouped together for 1%/year follow-up inspection, there is no assurance that any one BMP such as RFB will be inspected at all during the contract lifetime. Few, if any, buffers will be re-inspected.

As mentioned, RFBs across the watershed have been known to fail. In some cases, no tree shelter is used or the stake in a tree shelter breaks, making herbivory a problem. With properly installed shelters, mortality is only 10 to 30% (compared to 70% without shelters). Sometimes inferior seedlings or the wrong tree species for the site are planted. Information from VA’s Hardwood monitoring regime has provided excellent information on this, and the monitoring regime is needed more than ever when considering a changing climate. Results of a two-year study by the VA Department of Forestry between 2006 and 2008 to evaluate hardwood planting sites showed that 40 percent of 300 sites had acceptable survival of 80 percent. The 60% unacceptable survival was prior to corrective action, but does cast doubt on the 97% acceptable compliance figure for this practice.

In VA’s 2015 Task Force report on RFB, maintenance and management issues were identified as a barrier to establishment along with the lack of technical assistance/field visits from professionals. Invasives were identified as big concern, and one that is increasing in severity. For these reasons, the FWG guidelines emphasized the need for multiple follow-up inspections specific to the RFB practice.

The FWG’s guidelines called for 100% inspection at planting or prior to; a second inspection during the period a buffer is becoming established to assure that any maintenance problems are detected and corrected, and risks identified; inspections during years 5-10 based on a risk-based statistical sampling with 80% confidence; and 100% inspection near the end of contract to encourage/facilitate buffer re-enrollment or retention.

Do proposed site inspection methods focus on common maintenance issues specifically related to water quality standards such as channelization or concentrated flows?

Not found in VA's Protocol.

Do statistical sampling methods document how they demonstrate a clear improvement over the current sampling rate? (The recommended rate is 80% confidence in reported practices)

As previously stated, VA's Protocol does not appear to be an improvement over the current sampling rate established as 5% by NRCS (compared to 1% or less), and by the re-inspections and audits done by CREP partners (which are not mentioned in the Protocol).

The inspection regime does not meet the Forestry guidance, and does not include any information about forestry technical assistance site visits after buffers are planted. There is a chance there could be some trees included in the stream fencing with buffer category, which is singled out for 4%/yr inspecting, but this is not identified as including trees.

Are the baseline acres for each practice tracked in order to ensure there is a net gain in acres across a county or watershed segment over time? Are tree canopy and riparian buffer acres re-assessed every 5 years to ensure net gain in tree canopy acres and riparian buffer acres over time?

This part of the FWG's Guidance has been revised, although it would be good to have states do their own assessments of net gain using high-resolution remote sensing.

Does the program rely upon qualified local forestry partners for tracking, reporting, and maintenance for expanded tree canopy practices?

Virginia follows the Urban Stormwater guidance idea of separating urban practices according to legal requirements vs. voluntary and a homeowner category. These Tree Canopy practices are represented by a new Management Strategy, and VA Department of Forestry is helping the FWG to develop improved tracking procedures.

Do existing and planned forest harvesting inspection programs track total acres or rate of implementation of forest harvesting BMPs? Do they require site-visits to ensure proper installation?

As Verification Panel members already pointed out, there is a lack of reference to VA's excellent forest harvesting BMP monitoring program which should be noted in Table 3, at a minimum. More credit should be given to VA's Department of Forestry for conducting this important work.

MARYLAND

Is the intensity of verification efforts prioritized in proportion to a practices contribution to the overall TMDL pollution reduction in the jurisdiction's WIP?

Ag Forest Buffers: 4.9% N 2.0% P 2.3% S

Urban Forest Buffers: 4.7% N 3.1% P 4.7% S

Maryland's WIP reflects less reliance on agricultural forest buffers than in other states, and more reliance on urban forest buffers than in other states.

Agriculture RFB are included in MD's protocol as Structural, High priority, Visual Multi-Year BMPs along with other agricultural practices. There is no forestry-specific information here, but because DNR is active in informing MACS (as shown in DNR FS's QAPP), there is often additional data such as buffer width data for agriculture buffers where this information may not be reported through 1619 Agreement.

The narrative entitled "Quality Assurance to Verify and Track Visual Multi-Year BMPs" notes that the majority of such BMPs are implemented through MACS cost-share or co-cost-sharing with USDA. The follow-up site visits during the life-time of a contract are based on a random, computer-generated sampling of 10%/year of all active practices and performed by a qualified SCD inspector who was not involved with the initial design of the project. There are also requirements for practice maintenance if the land is sold; if the new owner does not agree, the BMP is removed from database. Maintenance requirements are based on NRCS standard.

In MD's 2015 RFB Task Force report, the need for additional technical assistance/site visits was identified as was the need for additional maintenance to ensure survival. The FS is funding 2 additional RFB foresters in MD beginning in 2015, and more funding has been requested by MD from Farm Service Agency for this practice, which will help with site visits as survival and lack of maintenance continue to pose challenges.

Do verification methods for cost-shared agricultural riparian buffers utilize and build upon the existing verification programs for cost-shared contracts?

Initial inspection is described as: "SCD staff is on-site ... to ensure all elements of the design and construction are verified and documented." For cost-shared buffers, this is likely reflective of the initial site visit/planting plan and development of the contract, and technical staff may not always be present during the actual planting of the buffer.

For follow-up inspections: "Annual MACS spot-check reviews. Field inspections determine whether the BMPs were constructed according to plans and specifications and whether the BMPs are being maintained in accordance with contract." 10% of practices are re-verified annually, and information put in MDA's Conservation Tracker regardless of funding source. This is current procedure and does not follow FWG guidelines to revisit all sites after planting (years 1-4) to ensure establishment.

When the RFB is unsatisfactory, a letter to farmer IDs issue and sets timeframe to correct problem. BMP is re-inspected again--normally w/in the year—and the farmer can't receive additional cost-share until BMP is brought back into compliance. This is standard contract practice that is not addressed by the FWG guidance.

Buffers may also be included in the category Resource Improvement/Visual Multi-year. These are non-cost shared practices (presumably voluntary) and SCD makes an initial inspection when the practice is discovered. 20% in this category are verified annually and the status will be updated in Conservation Tracker to indicate 'satisfactory' or 'unsatisfactory'... those practices assessed as satisfactory will need re-verification over the next credit duration and will be re-submitted through NEIEN protocols. Practices assessed as unsatisfactory will be removed.” The established CBP credit duration of 15 years will be used for RFB.

The FWG's guidance calls for 100% inspection at planting time; a second inspection during the period that a buffer is becoming established (years 1-4) to assure that any maintenance problems are detected and corrected, and risks identified; inspections during years 5-10 based on a risk-based statistical sampling with 80% confidence; and 100% inspection near the end of contract to encourage/facilitate buffer re-enrollment or retention.

Are the frequency of site-checks consistent with the following recommendation from the sector guidance: Two visits within the first 4 years, spot-checked between years 5-10, and re-visited between years 10-15 to determine contract continuation? If not, are they sufficient to ensure scientific rigor? Are CREP partners involved in the reenrollment process?

MD's Protocol is clear about the first visit, at inception, but it is not clear about a second visit that is needed during the establishment period (1-4 years) to assure that any maintenance problems are detected and corrected, and risks identified. Re-visits happen on 10% of the practice sites, presumably for the life of the contract (15 yrs), but there is no mention of a risk-based statistical sampling with 80% confidence, nor is there mention of 100% inspection near the end of contract to encourage/facilitate buffer re-enrollment or retention.

Do proposed site inspection methods focus on common maintenance issues specifically related to water quality standards such as channelization or concentrated flows?

Not found in MD's Protocol.

Do statistical sampling methods document how they demonstrate a clear improvement over the current sampling rate? (The recommended rate is 80% confidence in reported practices)

MD's Protocol does not mention statistical sampling methods. There is no additional sampling suggested for RFB than what is currently being done.

Are the baseline acres for each practice tracked in order to ensure there is a net gain in acres across a county or watershed segment over time? Are tree canopy and riparian buffer acres re-assessed every 5 years to ensure net gain in tree canopy acres and riparian buffer acres over time?

This part of the FWG's Guidance has been revised, although it would be good to have states do their own assessments of net gain using high-resolution remote sensing.

MD's Protocol has a placeholder for this item, based on Verification Panel feedback. They do acknowledge that tree planting BMPs will be usurped into the appropriate forest land use for the model at which time they will cease to be counted as BMPs.

Does the program rely upon qualified local forestry partners for tracking, reporting, and maintenance for expanded tree canopy practices?

Overall, there is a lack of verification for urban forestry practices, especially considering the reliance on urban RFB.

Tree Canopy practices are represented by a new Management Strategy as well as an Expert Panel to determine efficiencies of the BMP. MD Forest Service is helping to develop improved tracking procedures and a Workplan which will help with verification.

Do existing and planned forest harvesting inspection programs track total acres or rate of implementation of forest harvesting BMPs? Do they require site-visits to ensure proper installation?

Yes, MD's Protocol calls for tracking the rate of forest harvest BMP implementation. MD is currently doing a study to determine forest harvest BMP implementation in MD and DE. A determination of the rate of implementation has been occurring approximately every 10 years which may not be adequate.

NEW YORK

Is the intensity of verification efforts prioritized in proportion to a practices contribution to the overall TMDL pollution reduction in the jurisdiction's WIP?

Ag Forest Buffers:	5.3% N	1.8% P	2.2% S
Urban Forest Buffers	4.1% N	7.1% P	4.9% S
Forest Practices:	0.8% N	0.3% P	17.4% S

USC's submittal refers to New York's Agriculture Environmental Management system, which seems comprehensive. NY's Protocol says that "Inspection forms are being currently being considered and investigated by the USC Ag Team....This process is under development and included in the BMP verification program in Section D." Section D says that the "a new effort is underway in 2015 to further develop the USC data validation and usability protocols....For each BMP, the [Ag] Committee will identify which New York verification protocols meet the Chesapeake Bay Program BMP verification guidelines. For those protocols which are not a best

fit for the CBP guidelines, the USC Ag Committee will develop options for improvement and investigate statistical sampling methods....”

All three of the forestry practices mentioned above should have appropriate intensity of verification based on the overall TMDL pollution reductions expected from them.

NY’s Protocol does not specifically address the FWG guidelines, so the answer to the standard questions below is “No.”

Do verification methods for cost-shared agricultural riparian buffers utilize and build upon the existing verification programs for cost-shared contracts?

Are the frequency of site-checks consistent with the following recommendation from the sector guidance: Two visits within the first 4 years, spot-checked between years 5-10, and spot checked between years 10-15 to determine contract continuation? If not, are they sufficient to ensure scientific rigor? Are CREP partners involved in the reenrollment process?

Do proposed site inspection methods focus on common maintenance issues specifically related to water quality standards such as channelization or concentrated flows?

Do statistical sampling methods document how they demonstrate a clear improvement over the current sampling rate? (The recommended rate is 80% confidence in reported practices)

Are the baseline acres for each practice tracked in order to ensure there is a net gain in acres across a county or watershed segment over time?

Are tree canopy and riparian buffer acres re-assessed every 5 years to ensure net gain in tree canopy acres and riparian buffer acres over time? (This part of the FWG’s Guidance has been revised, although it would be good to have states do some of their own assessments of net gain.)

Does the program rely upon qualified local forestry partners for tracking, reporting, and maintenance for expanded tree canopy practices?

Do existing and planned forest harvesting inspection programs track total acres or rate of implementation of forest harvesting BMPs? Do they require site-visits to ensure proper installation?

DELAWARE

Is the intensity of verification efforts prioritized in proportion to a practices contribution to the overall TMDL pollution reduction in the jurisdiction’s WIP?

Forest Buffers: 10.0% N 5.1% P 6.6% S

DE’s Protocol followed suggested terms and content, making it easy to follow and understand. Ag Forest Buffers are appropriately in the “highest” priority category.

Do verification methods for cost-shared agricultural riparian buffers utilize and build upon the existing verification programs for cost-shared contracts?

DE's Protocol for follow-up inspections seems to depend entirely upon current procedure (generally 5-10%), but could be more clear. In the narrative, DE points out that timing of inspections is important, but says it has no influence over timing. It should be noted that DE has reported "0" RFB for the past several years despite their high reliance in the WIP.

Are the frequency of site-checks consistent with the following recommendation from the sector guidance: Two visits within the first 4 years, spot-checked between years 5-10, and spot checked between years 10-15 to determine contract continuation? If not, are they sufficient to ensure scientific rigor? Are CREP partners involved in the reenrollment process?

FWG guidelines suggest 100% site inspection at planting or immediately prior; a second inspection during the period a buffer is becoming established (1-4 years) to assure that any maintenance problems are detected and corrected, and risks identified; inspections during years 5-10 based on a risk-based statistical sampling with 80% confidence; and 100% inspection near the end of contract to encourage/facilitate buffer retention. DE's Protocols do not follow this.

The Protocols for the different funding categories of ag tree planting look fine.

Do proposed site inspection methods focus on common maintenance issues specifically related to water quality standards such as channelization or concentrated flows?

Not found in DE's protocol.

Do statistical sampling methods document how they demonstrate a clear improvement over the current sampling rate? (The recommended rate is 80% confidence in reported practices)

Not found in DE's protocol.

Are the baseline acres for each practice tracked in order to ensure there is a net gain in acres across a county or watershed segment over time? Are tree canopy and riparian buffer acres re-assessed every 5 years to ensure net gain in tree canopy acres and riparian buffer acres over time?

This part of the FWG's Guidance has been revised, although it would be good to have states do some of their own assessments of net gain.

Does the program rely upon qualified local forestry partners for tracking, reporting, and maintenance for expanded tree canopy practices?

The protocol covers cost-share urban tree planting. Tree Canopy practices are represented by a new Management Strategy as well as an Expert Panel to determine efficiencies of the BMP. DE Forest Service is helping the FWG to develop improved tracking procedures accordingly. Possible areas of improvement are tracking and crediting urban tree planting performed by localities under stormwater permits or voluntary tree planting.

Do existing and planned forest harvesting inspection programs track total acres or rate of implementation of forest harvesting BMPs? Do they require site-visits to ensure proper installation?

DE's Protocol is strong on forest harvesting BMPs. Loggers or operators submit a permit prior to commencing forest management activities, and DFS staff reviews 100% of sites during the harvest operations. DE Forest Service works with loggers to address concerns – verbal warnings & remediation plan. If problems are severe or recurring, regulatory action (usually fines) is taken.

WEST VIRGINIA

Is the intensity of verification efforts prioritized in proportion to a practices contribution to the overall TMDL pollution reduction in the jurisdiction's WIP?

Forest Buffers:	4.8% N	1.5% S
+ high reductions for Stream Access Control w/ Fencing: 16.3% N, 19.5% P, 41.1% S		
Other Agriculture (Trees?)	2.7% N	3.2% P
		2.3% S
Forest Harvesting Practices:	3.8% N	1.1% P
		2.5% S

Forest Buffers and Ag Tree Planting are included in the Ag section of “West Virginia Plan for Verification and Validation of Nutrient Reduction Strategies”. WV's Protocol followed suggested terms and content, making it easy to follow and understand. Forest buffers and tree planting are in the column entitled “Structural/Agronomic BMPs Verification Program.” The practices covered include Forest Buffer (high priority) and Tree Planting (medium).

The extremely high value placed on stream fencing with exclusion is noted. It would be interesting to know if WV expects achievement of this practice to lead to more forest buffers, or if the widths are not great enough. Will these goals be mutually supportive or compete for the riparian space? What are the implications for RFB?

Do verification methods for cost-shared agricultural riparian buffers utilize and build upon the existing verification programs for cost-shared contracts?

WV's Structural/Agronomic BMPs are driven by cost-share and non-cost-share programs. Five percent (5%) of Structural/Agronomic BMPs will be inspected through aerial coverage and will all be reviewed annually. It is not clear what is intended by “reviewed annually” and more explanation is needed.

WV plans to rely “solely” on federal verification programs already in place until each BMP has reached the end of its contract lifespan. This is counter to FWG guidelines for this practice. Structural/Agronomic practice states that inspection methods will be visual (does this mean

remote sensing? Site visits?) and will be conducted by NRCS, WVCA, WVDOC, NGO depending on the BMP and/or funder—this needs more explanation.

Initial inspections of RFB are usually visual field inspections completed by the agency [NRCS or SWCD] since they are needed in the planting/conservation plan necessary for all cost-shared tree planting. Landowners are given the option of self-reporting (Note: It is not uncommon for a landowner to self-report after a planting has occurred as it is in his/her interest to get paid for the work.) Because of this self-reporting, FWG guidelines stipulate a follow-up visit by inspection professional during the establishment period (years 1-4 post-planting). A two-year status report is completed after which projects are spot-checked according to an established protocol (usually 5-10%). There are no other requirements for annual reporting. When participants re-enroll in CREP, a new inspection is prompted.

Are the frequency of site-checks consistent with the following recommendation from the sector guidance: Two visits within the first 4 years, spot-checked between years 5-10, and revisited between years 10-15 to determine contract continuation? If not, are they sufficient to ensure scientific rigor? Are CREP partners involved in the reenrollment process?

WV Protocol falls short of FWG guidance. The table for Structural/Agronomic doesn't say there is a 100% initial inspection. In addition, there are the issues with follow-up inspections. The re-inspection during the critical establishment period is not indicated in WV's Protocol. Neither is the risk-driven spot-check sampling during years 5-10 post-planting or the end-of-contract visit to encourage re-enrollment or retention of the buffer.

For practices that no longer have a contract, WV state agencies and NGOs will be responsible for ongoing verification (will this be done on 100% of sites or a sub-sampling?). WV's Protocol reflects tree planting lifespan as 5 years, and buffers are 3 years— should be 10 or 15 years (life of contract).

Do proposed site inspection methods focus on common maintenance issues specifically related to water quality standards such as channelization or concentrated flows?

Not found in WV's Protocol.

Do statistical sampling methods document how they demonstrate a clear improvement over the current sampling rate? (The recommended rate is 80% confidence in reported practices)

Not found in WV's Protocol.

Are the baseline acres for each practice tracked in order to ensure there is a net gain in acres across a county or watershed segment over time? Are tree canopy and riparian buffer acres re-assessed every 5 years to ensure net gain in tree canopy acres and riparian buffer acres over time?

Remote sensing is mentioned but the context in terms of net gain is unclear. This part of the FWG's Guidance has been revised, although it would be good to have states do their own assessments of net gain using high-resolution remote sensing.

Does the program rely upon qualified local forestry partners for tracking, reporting, and maintenance for expanded tree canopy practices?

WV's Protocol met the FWG guidance on tree canopy. WV is well-informed and active with the Tree Canopy Management Strategy. Even though the FWG guidance regarding verification of "net gain" has been changed, it was refreshing to see it addressed here for tree canopy.

Do existing and planned forest harvesting inspection programs track total acres or rate of implementation of forest harvesting BMPs? Do they require site-visits to ensure proper installation?

WV's Protocol for forest harvesting BMP verification is consistent with the FWG guidance, however would improve with greater detail regarding inspections and when enforcement is triggered. WV is highly regulated around forest harvesting because of past problems, and has the strongest laws in the country regarding reducing sediment run-off from harvest sites.

All BMPs associated with registered timber operations on public and private land will be inspected at least three times, according to IAW DOF policy. Division of Forestry will do the inspecting.

PENNSYLVANIA

Is the intensity of verification efforts prioritized in proportion to a practices contribution to the overall TMDL pollution reduction in the jurisdiction's WIP?

Forest Buffers: 12.9% N 5.7% P 8.8% S

PA's Protocol had a clear emphasis on verifying the RFB practice—"high priority"—as is appropriate given the anticipated load reductions from this practice, but the protocol actions do not support this. They were open about a number of gaps even in its verification of high priority practices however no gaps have been identified for verification of riparian buffers, "as federal and state efforts result in nearly 1/3 of sites being verified annually" implying that FSA, NRCS and DEP inspections are additive. The Protocol notes that DEP's inspections are short visual reviews and no detailed information on hardwood monitoring or site risks are tracked but staff capture location, type of buffer; and status of the buffer (to include photos). Given their past and future reliance on this practice, PA should have a separate verification protocol section on forest buffers.

The remote sensing pilot in the Potomac River Basin mentioned in the Protocol is interesting and the FWG would like to hear about the outcomes when they are ready (December 2015?). The Tree Canopy Expert Panel has stated that high-resolution remote sensing can detect trees that are

at least 10-15 years old, which means that tree planting will have to have other means of verification in the first 10 -15 years.

Do verification methods for cost-shared agricultural riparian buffers utilize and build upon the existing verification programs for cost-shared contracts?

Current practices for conducting re-inspections are stronger than in other states. As with some other states, it is unclear whether the variously mentioned FSA and NRCS inspections (% or 10% annually) are additive or the same since FSA will often provide NRCS or State Forestry funding to do this type of field work (see comment above). The 25% revisits provided by DEP currently are additive. This still falls short of the recommended re-inspection of a site 1-4 years post planting to address maintenance needs.

Are the frequency of site-checks consistent with the following recommendation from the sector guidance: Two visits within the first 4 years, spot-checked between years 5-10, and visits between years 10-15 to determine contract continuation? If not, are they sufficient to ensure scientific rigor? Are CREP partners involved in the reenrollment process?

All states conform to the initial site visit which often happens prior to planting. As mentioned above, there does not appear to be a re-inspection on all sites in years 1-4 post-planting, as suggested by FWG guidelines. PA's Protocol indicates that NRCS or a TSP provider is required to spot-check the site at the end of the second year to determine whether the riparian buffer is established and meets the standards and specifications—again, it is unclear whether this means 100% or 5% or 10%. Spot checks on a risk-based subsampling (80% confidence) in years 5-10 post-planting is not addressed, however more RFB sites are re-inspection visits in PA than in other Bay states.

Chesapeake Bay Foundation reports that prior to 2008, there was only 40% survival of buffers due to lack of maintenance and follow-up visits. By learning from past mistakes, this survival has greatly improved and is estimated to be 80%. It should be noted that survival is not the same as function, but it is easier to measure.

DEP staff annually visit (25% of) riparian buffer sites, and determine if buffers are still in place. Sites visited include projects funded by CBIG, 319, NMA, REAP, and Growing Greener as well as those tracked through a 1619 Agreement and they are tracked on their internal database. Past reporting may have double-counted some of these sources of information. This has been pointed out in the past but historic clean-up for RFB may still be needed because PA is reporting about half of their RFB practice to be outside of CRP/CREP. This is the highest amount of non-CREP in the watershed. If the historic buffer was not at least 35' wide and defined as a forest riparian buffer (vs. riparian buffer) it should not be counted toward RFB.

Do proposed site inspection methods focus on common maintenance issues specifically related to water quality standards such as channelization or concentrated flows?

Not found in PA's Protocol.

Do statistical sampling methods document how they demonstrate a clear improvement over the current sampling rate? (The recommended rate is 80% confidence in reported practices)

No additional sampling is being proposed as an improvement on what is currently done. Information obtained from USDA should not automatically assumed to be accurate and PA needs to determine if, and document whether and how they achieve PA's verification objectives.

Are the baseline acres for each practice tracked in order to ensure there is a net gain in acres across a county or watershed segment over time? Are tree canopy and riparian buffer acres re-assessed every 5 years to ensure net gain in tree canopy acres and riparian buffer acres over time?

This part of the FWG's Guidance has been revised, although it would be good to have states do their own assessments of net gain using high-resolution remote sensing.

Does the program rely upon qualified local forestry partners for tracking, reporting, and maintenance for expanded tree canopy practices?

Not found in PA's Protocol.

Do existing and planned forest harvesting inspection programs track total acres or rate of implementation of forest harvesting BMPs? Do they require site-visits to ensure proper installation?

PA is not counting on any water quality improvements resulting from forest harvesting BMPs. However state forests do follow forest harvesting BMP's 100% of the time (3rd party certified) and most private operations also have legitimate forest harvest BMPs.

DISTRICT OF COLUMBIA

Does the program rely upon qualified local forestry partners for tracking, reporting, and maintenance for expanded tree canopy practices?

DC's Protocol should follow the FWG guidance regarding Tree Canopy given their in-depth and active program and the reliance on this practice in their WIP. DC's Protocol should say what and how verification practices are followed by the organizations from which the District receives its tree information. DC information included in the new Tree Canopy Management Strategy is extensive regarding UFA's program. There should be hot links to any documents being referenced in the Protocol. DC should complete Table 8 plus add a short explanatory narrative.

There may also be a double-counting issue regarding tree planting vs tree replacement.

Interagency coordination of DC's urban tree effort should continue and include prominent NGOs working in this field. DC is participating on the Management Strategy and in developing improved tracking and reporting procedures for Tree Canopy.