Memo re: Reporting Pasture BMPs for the Phase 6 Model

For WTWG Review on 06042015

Note that the rules listed in this document will not be made final until approval by the WTWG and the Agriculture Workgroup

Background: The suite of practices used to fence livestock out of riparian pasture areas in the Phase 5.3.2 Model apply directly to the degraded (trampled) riparian pasture land use (TRP). The Agricultural Modeling Subcommittee and Agriculture Workgroup are recommending removal of this land use. Instead, manure deposited within the riparian pasture area will likely be simulated as a direct depositional load nearby a stream, much like a point source discharging directly to a stream. Changes are needed to the suite of practices once applied to TRP to accommodate this change. These changes should allow states to submit these practices based upon the dimensions of the practice (acres or length X width) or the number of animal units excluded from streams as a result of this practice.

Changes to BMP Names and Model Benefit Descriptions

States can currently submit the following BMPs to Scenario Builder (note there are many NEIEN practices that map to each of these BMPs):

Stream Access Control with Fencing (PastFence) – This BMP fences cattle out of streams and converts TRP to hay without nutrients. The grassed area behind the fence does not need to be maintained, and thus, does not provide an upland buffer benefit, but does remove manure nutrients from the TRP acreage and places them back onto the upland pasture.

Streamside Grass Buffers (GrassBuffersTRP) – This BMP fences cattle out of streams and converts TRP to hay without nutrients, and includes an upland buffer efficiency because the grassed area behind the fence is considered maintained. The BMP also moves manure nutrients back to upland pasture. States are instructed NOT to submit PastFence if they are submitting a managed grass buffer. This makes the submission of this practice confusing.

Streamside Forest Buffers (ForestBuffersTRP) – This BMP ONLY plants trees on areas of hay without nutrients that were created by first submitting PastFence. If states wish to take credit for planting buffers behind the fence, they must submit PastFence AND ForestBuffersTRP for the same practice record. The combination of these two practices results in conversion of TRP to hay without nutrients, then conversion of hay without nutrients to forest. It also moves manure nutrients from TRP back to upland pasture acres, and has upland buffer efficiency benefits.

The following changes to BMP names are recommended to avoid confusion in the Phase 6 Model:

Access Control with Grass Buffers(GrassBuffAccess) – This BMP should be submitted for any fencing project along pastured streams that creates grass or herbaceous areas greater than 35 feet in width. The BMP will convert pasture to agricultural open space (Phase 6 equivalent of hay without nutrients), and will fence livestock out of streams, moving the streamside depositional load back to pasture acres. The

BMP will also receive an upslope, grass buffer efficiency benefit. States may submit dimensions (length and width or acres) or the number of animal units excluded by the project. Default conversions between these measurements are included in the next section.

Access Control with Forest Buffer (ForestBuffAccess) – This BMP should be submitted for any fencing project along pastured streams that includes tree plantings to create a forest buffer area greater than 35 feet in width. The BMP will convert pasture to forest, and will fence livestock out of streams, moving the streamside depositional load back to pasture acres. The BMP will also receive an upslope, forest buffer efficiency benefit. States may submit dimensions (length and width or acres) or the number of animal units excluded by the project. Default conversions between these measurements are included in the next section.

Access Control with Narrow Grass Buffer (GrassBuffAccessNar)– This BMP should be submitted for any fencing project along pastured streams that creates grass or herbaceous areas less than 35 feet in width. The BMP will convert pasture to agricultural open space (Phase 6 equivalent of hay without nutrients), and will fence livestock out of streams, moving the streamside depositional load back to pasture acres, but will NOT receive an upland, buffer efficiency. States may submit dimensions (length and width or acres) or the number of animal units excluded by the project. Default conversions between these measurements are included in the next section.

Access Control with Narrow Forest Buffer (ForestBuffAccessNar) – This BMP should be submitted for any fencing project along pastured streams that includes tree plantings to create a forest buffer area less than 35 feet in width. The BMP will convert pasture to agricultural forest, and will fence livestock out of streams, moving the streamside depositional load back to pasture acres, but will NOT receive an upland, buffer efficiency. States may submit dimensions (length and width or acres) or the number of animal units excluded by the project. Default conversions between these measurements are included in the next section.

These new names will allow states to adequately divide their access control acres between four types of common practices.

Default Animal Unit/ Practice Dimensions Conversions

A proxy for livestock stocking rates on pasture are needed to accurately estimate the amount of manure to move back to pasture acres for each acre of fencing. All states should estimate their own animal units/ acre of access control conversion rate, but for now, it is recommended that the VA estimated rate of 17.41 AU/Acre Fenced be used. Thus, for every acre of access control, manure from 17.41 AU of livestock will be moved back to pasture.

Using this, states will have the option to submit either the dimensions of the project or the animal units fenced out by the project. Scenario Builder will eventually use BOTH values, but will automatically calculate whichever value is not provided.

NEIEN Appendix Example for Access Control with Grass Buffers

BMP Name	DefaultSBLandUse Group	Measurement Name	Unit Name	Scenario Builder BMP	Comments
Access Control with Grass Buffers	Pasture	Acres	ACRE	GrassBuffAccess	Assume 17.41 AU/Acre Fenced
Access Control with Grass Buffers	Pasture	Length	FEET	GrassBuffAccess	Assume 17.41 AU/Acre Fenced
Access Control with Grass Buffers	Pasture	Width	FEET	GrassBuffAccess	Assume 17.41 AU/Acre Fenced
Access Control with Grass Buffers	Pasture	Animal Unit	AU	GrassBuffAccess	Assume 17.41 AU/Acre Fenced