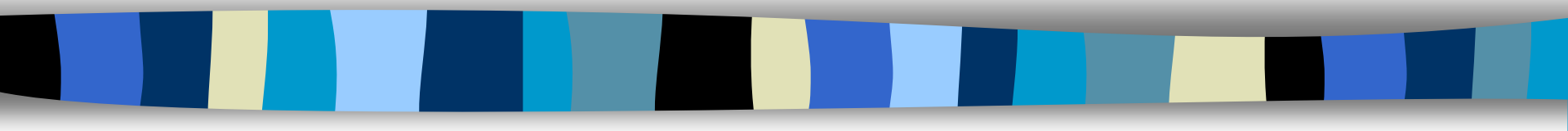


Ag E&S and Conservation Plan Requirements

Additional Planning Considerations in Near-stream Areas



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Near-stream Area Planning

- Crop fields having <25% “cover” within 100’ of rivers and streams
 - Cover = living and dead plant material
- Meeting “T” over the crop rotation is not sufficient for these situations
- Additional BMPs or conservation practices are required



Low-cover Scenarios

- Low-cover Scenarios:
 - Low-residue Crops
 - Crops that generally provide <25% post-harvest residue
 - Tillage
 - Tillage methods that generally result in <25% cover at planting



Low-residue Crops

- Corn Silage
 - Traditional-cut; <12” stalk remains
- Tobacco
 - Extended harvest schedules can be problematic to cover crop establishment
- Potatoes
- Others?
 - Corn Grain – Residue Removed



Simple Management Solutions

- Crop Rotations that include high residue crops (Perennial Forage, Corn Grain, Small Grains)
 - Don't rotate the near-stream fields or individual strips out of the high residue crop, or
 - Establish or maintain a 35' Perennial Vegetated Buffer when rotating out of the high residue crop



Simple Management Solutions

- Cropping Systems Utilizing Manure
 - Establish or maintain a 35' Perennial Vegetated Buffer

Note: Under Act 38, manure may not be applied within 100' of a stream, lake, pond or sinkhole unless this 35' buffer is present



Acceptable Practices or BMPs

- Three general practice categories
 - Buffers
 - Good – the last line of defense
 - Residue (above and below ground plant biomass)
 - Better – a practice occurring over the entire field
 - Living Cover
 - Best – live growing cover over the entire field



Buffer Practices or BMPs

- Perennial 35' Vegetated Buffer (Act 38 BMP)
 - A permanent 35' strip of perennial vegetation between the cropped field and the stream
 - Vegetation: Woody and/or herbaceous vegetation in any combination
 - Flow characteristics: Primarily sheet flow; no obvious concentrated flow (converging rills, ephemeral gullies, classic gullies) into, within or leaving the buffer



Buffer Practices or BMPs

- Filter Strip (393)
 - Minimum 20' width
 - Steeper slopes require greater widths
 - Grass species only
 - Established on the contour
 - Sheet flow must be maintained
- Riparian Herbaceous Cover (390)
- Riparian Forest Buffer (391)



Plant Biomass Practices or BMPs

- Residue and Tillage Management, No-till, Strip Till, Direct Seed (329)
 - Long-term continuous no-till (> 7 years) provides significant soil quality improvement and erosion reduction - no additional practices are necessary
- Residue and Tillage Management, Seasonal (344)
 - Rolling the stubble on High-cut (20+ inches) Corn Silage can provide up to 30% cover



Living Cover Practices or BMPs

➤ Cover Crop (340)

- Likely the most desirable practice
 - Provides erosion control cover through late fall and winter
- Establish in a timely manner
 - No-till establishment within several days of crop harvest is ideal
- Additional Benefits – aside from erosion control
 - Green Manure Crop
 - Emergency Feed Source
 - Grow your own seed – not acceptable in all situations
- Check the standard for specific species recommendations based upon your chosen purpose and criteria



Tillage

- Tillage methods that leave <25% cover
 - Inversion Tillage
 - Moldboard Plow
 - Multiple Passes with less aggressive implements
 - Off-set Disc
 - Chisel Plow
- Tillage occurring in near-stream areas will require additional BMPs or greater attention to management detail



Tillage/Planting Management

- Spring Tillage – for primary crop
 - Should be last fields tilled prior to planting
 - Plant as soon as practical; ideally within 1 or 2 weeks of tillage
- Fall Tillage – for cover crop only
 - Plant as soon as practical; ideally within 1 or 2 weeks of tillage



Summary

- The first line of defense in controlling erosion and sedimentation is a cropping system that meets soil loss tolerance (“T”) over the crop rotation.
- Low-residue crops or tillage resulting in <25% cover in near-stream areas requires an additional level of protection.
- Combinations of practices and BMPs, along with good management, can help provide this additional level of protection.
- “Other” practices or BMPs may be justified or recommended in specific situations.
 - Where applicable, practices and BMPs should be installed according to PA Technical Guide standards and specifications.



**Comments or
Questions?**