

March 2, 2011

RE: Chesapeake Bay Accountability – Soil Conservation and Water Quality Plans

TO ALL INTERESTED IN ADDRESSING WHAT IS POLLUTING OUR WATERWAYS

My name is Doug Valentine and I just retired as the Agricultural Specialist for the Fulton County Conservation District located in south-central Pennsylvania. I'd been employed with the District for 5 years and before that, I worked for the U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS) for 40 years as a Soil Conservationist and District Conservationist. I spent my last 22 years with Maryland NRCS working in Carroll County. I was a charter member of the Upper Potomac Tributary Strategy Team and served on the Trib Teams for the Upper Western Shore and Patapsco/Back River. Carroll County drained into three different watersheds. I took my appointment on the Trib Teams very seriously, but in the end, was quite disappointed with what we had accomplished.

Working for the NRCS, I utilized the 9-step conservation planning process. Steps 3 and 4 are to "inventory the resources" and "analyze the condition of the resources." Ever since I was a young soil conservationist back in the late 1960's, it has always concerned me that we never had a systematic method to document what was on the ground and what its condition was. I always thought that there should have been a "checklist" to ensure that we looked at, and evaluated, all pertinent aspects of the farm operation.

Finally in the early 1990's, I developed my own inventory, assessment and planning procedure. At that time, it was just a hardcopy "checklist" to be filled out and included in the landowner's case file; nonetheless, at least the planners had a tool that directed them to consider and document all of the environmental concerns on the farm. In addition, a numeric value was assigned to each resource concern that had been identified; the value given was based on the level of environmental impact. My hope was that I could find someone who would develop this method into a computer program.

When I began my employment with the Fulton County Conservation District (FCCD) in January of 2006, the Commonwealth's Departments of Environmental Protection (DEP) and Agriculture (PDA) were in the process of updating the Nutrient Management Regulations under Act 38 – the Agriculture, Communities, and Rural Environment (ACRE) Initiative. The Initiative included funds for DEP to provide grants to Districts directed at the development of a framework and pilot tools to guide the districts' role in agriculture erosion and sedimentation compliance and compliance with Nutrient Management Plans. This was a golden opportunity for me to get my inventory, assessment and planning procedure developed into a working model through a grant obtained by the FCCD. We completed our pilot project on 20 farms for 2,980 acres. We were able to demonstrate the level resource concerns on those properties (See {6} Resource Concern Values).



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According to a recent newspaper article ("Chesapeake Bay gets 'D' grade from foundation" The Herald-Mail, Hagerstown, MD) on the condition of the Chesapeake Bay, the Chesapeake Bay Foundation (CBF) gave it a "D". The Environmental Protection Agency (EPA) is looking for a way to improve the accountability and performance of the Chesapeake Bay Program. Living in Maryland and paying my annual "flush" tax, I am very concerned about the massive amounts of money being pumped into projects to protect and improve the Bay and the piecemeal manner in which it is done with little or no improvements in the overall quality of the Bay.

I am proposing that a more systematic, detailed approach be utilized to comprehensively document the conditions on the agricultural lands draining into the Chesapeake Bay. The key to this proposed approach is that 21 environmental concerns will be evaluated and given a numeric rating of 1 – 4 (1 = slight water quality issues, to 4 = critical water quality issues) for each tax parcel, farm or tract within a watershed. I have enclosed a booklet containing hardcopies of the computer program and what the final product looks like which outlines how the inventory, assessment and planning procedure works. My hope is, that someone within your organization would take the time to review this information (at least review the document entitled "#6 Resource Concern Values"), with the further hope that if the reviewer thinks it may have merit, that I could meet with them to explain it in more detail and answer any questions.

The final products generated by this proposed approach are high-quality, "soil conservation and water quality plans" that contain the necessary information to demonstrate what level of conservation and water quality is actually on the ground and what additional conservation practices are needed to address any unanswered water quality concerns. These soil conservation and water quality plans would demonstrate which sub-watersheds and on which agricultural operations we should be concentrating our funds in order to get the biggest bang for our buck. The Fulton County Conservation District Board of Directors supports these efforts. I hope that you will take the time to study this proposal and share it with others in your organization or others in the environmental community.

Sincerely,

Douglas A. Valentine
Ag Specialist (Retired)
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Enclosures – 1

cc: J. Charles Fox, EPA Advisor, CBP; William Baker, CBF; Carin Bisland, EPA-CBP; Jeff Lape, CBP; Kim Coble, CBF; Lou Etgen, Alliance for the Chesapeake Bay; Amanda Tipton-Bassow, NFWF; Hilary Harp Falk, Choose Clean Water; David Kindig, Chair, CBP Agricultural Nutrient & Sediment Reduction Workgroup; Ben Cardin, U.S. Senator, Ken Cook, EWG; Maria Pavan, Peach Bottom CCG; Chris Aadland, MdDNR; Gerald W. Winegrad, American Bird Conservancy; Robert McAfee, NRCS Bay Coordinator, Mike Helfrich, Lower Susquehanna Riverkeeper; John Tippet, Friends of the Rappahannock; Eldon James, Rappahannock River Basin Commission, Chris Miller, Piedmont Environmental Council, Warrenton, VA, Don McNutt, District Manager, Lancaster CCD, Kimberly Snell-Zarcone, PennFuture, Chief David White, NRCS; Mark Hollberg, Anthony Moore, Russ Perkinson,



ACRE Evaluation System

0 = Not Applicable or Not Inventoried or Assessed

1 = good management according to current guidelines;
(Recommended management practices for the operator's consider)

SLIGHT water quality issues

2 = fair management providing reasonable water quality protection;
(Recommended management practices for the operator's consider)

MODERATE water quality issues

3 = inadequate management providing poor protection in many situations;
(Recommended conservation practices that should be installed within the next three
[3] years.

SERIOUS water quality issues

4 = critical management conditions posing a high risk of causing water pollution,
needing immediate corrective action;

(Recommended conservation practices that should be addressed ASAP)

CRITICAL water quality issues

ACRE Evaluation System

The attached is the evaluation system developed to assess a value to the environmental conditions of the inventoried resource.

This system may be subjective but a conservation planner with some experience should be able to assess value with some accuracy.

Some additional guidelines may need to be developed to better define the levels of impact.

There needs to a uniform evaluation system so all farms are evaluated against the same criteria.

THIS IS THE WORKING DOCUMENT FOR FIELD USE

{4c}

L/O-Operator Name: _____ Tract: _____ Planner's Initials: _____ Date: _____

INVENTORY & ASSESSMENT & PLAN WORKSHEET

HEADQUARTERS - FARMSTEAD AREAS

1. Type of farm operation & numbers of different size/age of livestock:

a) Type of farming operation: _____

b) Livestock #'s & size (wt) presently:

- a. Type: _____; Numbers: _____; Weight: _____
- b. Type: _____; Numbers: _____; Weight: _____
- c. Type: _____; Numbers: _____; Weight: _____
- d. Type: _____; Numbers: _____; Weight: _____

2. Aerial photograph of buildings - feedlot etc. Locate the following:

- a. Home, all out buildings, barns, feedlots/barnyard, fences, and existing ag-waste management structures.
- b. Well, spring and septic system.
- c. Pesticide storage building and mixing areas.
- d. Nutrient (fertilizer) storage buildings and/or tank(s).
- e. Dairyhouse/parlor wastewater discharge.
- f. Silos and Type.

3. Type of milking facilities - Stanchion Barn, Tie Stall, and/or Milking Parlor or N/A - Notes: _____

4. Describe current animal waste management system:

- a. Hauls/spreads on a: daily -- weekly -- monthly basis or _____
- b. Scrapes feedlot/barnyard area on a: daily ___; weekly ___; monthly ___ basis or _____
- c. Type of bedding material used: _____
- d. Has a storage structure: YES – NO
- e. Type of storage system: bedded pack ___; dry stack ___; slurry ___; liquid ___?
- f. Storage Structure: concrete ___; concrete block ___; wooden ___; circular ___; rectangular ___?
- g. Days of storage: _____
- h. Available equipment to clean-out storage structure or uses custom hauler:

f. Assessment of existing ag-waste management system: _____; Storage structure conditions: _____
Value **Value**

List any existing shortcomings: _____

Recommendations/Alternative: _____

Landowner/Operator's Decision: _____

INVENTORY & ASSESSMENT & PLAN WORKSHEET - HEADQUARTERS - FARMSTEAD AREAS

5. Physical conditions around the outbuildings & barns:

a. Dairy house/parlor wastewater discharge and management - locate on aerial or diagram – N/A

1) Assessment of any problem: _____

Value

List any existing shortcomings: _____

Recommendations/Alternatives: _____

Landowner/Operator's Decision:: _____

b. Are barns and other outbuildings roofs adequately guttered with proper downspout outlets? YES -- NO -- N/A

1) Assessment of problem: _____

Value

List any existing shortcomings: _____

Recommendations/Alternatives: _____

Landowner/Operator's Decision:: _____

c. Animal Concentration Areas (ACA) – Feedlot/Barnyard - locate on aerial

1) Dimensions or approximate sqft. of feedlot/barnyard? _____

2) Assessment of problem: _____

Value

List any existing shortcomings: _____

Recommendations/Alternatives: _____

Landowner/Operator's Decision:: _____

6. Drylot/Exercise Lot/Walkways - locate on aerial photo

a) Dimension or approximate sqft/acres of sacrifice/drylot: _____

b) Assessment of pollution hazard: _____

Value

List any existing shortcomings: _____

Recommendations/Alternatives: _____

Landowner/Operator's Decision:: _____

INVENTORY & ASSESSMENT & PLAN WORKSHEET - HEADQUARTERS - FARMSTEAD AREAS

7. Pesticide/Fertilizer Storage Facilities-locate on aerial photo

a) Chemical/Pesticide/Fertilizer storage facilities:

1) Are any quantities of chemicals stored on farm? YES - NO

2) If YES, list chemicals: _____

3) Are there any controls should the facility fail? YES -- NO -- N/A

b) Assessment of pollution hazard/potential: _____

Value

List any existing shortcomings: _____

Recommendations/Alternatives: _____

Landowner/Operator's Decision: _____

8. Nutrient Management Plans (NMP)

a. Does operator soil tests on a regular basis (at least once ever three years)? YES -- NO

b. Is any organic fertilizer (manure) utilized on this tract: YES - NO

c. Number of AEU's on the farm: _____

d. Annual Waste Produced: _____ tons/gallons/cuft (Estimate @ PA Agronomy Guide)

e. Acres available to receive manure: cropland: _____ hayland: _____ pasture: _____

f. Number of AEU's/Ac of available land: _____

g. Is this a Concentrated Animal Operation (CAO)? YES -- NO

h. Is this a Concentrated Animal Feeding Operation (CAFO)? YES -- NO

i. Is there a current certified Nutrient Management Plan (NMP)? YES -- NO -- N/A

j. Do we have a copy of the NMP? YES -- NO -- N/A

k. Does it require manure/fertilizer incorporation? YES --- NO --- N/A

l. Are there any fields with Phosphorus levels => 200 PPM? YES - NO

m. List fields w/ratings => 200 PPM of "P": _____

n. Is any sludge used on this tract? YES -- NO

o. Do we have a copy of the State Sludge Application: YES -- NO -- N/A

p. Is manure/sludge incorporated? YES - NO If yes, with what and how long after application:

q. Is manure applied in the winter (12/15th through 2/28th): YES - NO

r. Does the operator keep any type of records of how much and when manure is applied & incorporated to the different fields: YES - NO Is he willing to share that information with us? YES -- NO -- N/A

s. Assessment of current nutrient management planning/implementation on the farm: _____

Value

List any existing shortcomings: _____

Recommendations/Alternatives: _____

Landowner/Operator's Decision: _____

INVENTORY & ASSESSMENT & PLAN WORKSHEET -- HEADQUARTERS - FARMSTEAD AREA

9. Farmstead distance to streams & housing developments: locate on aerial photo all intermittent and perennial streams and any nearby houses.

a. Assessment of any potential to surface water pollution from farmstead runoff: _____
Value

Notes: _____

b. Assessment of any potential farmstead situations to create problems with neighbors: _____
Value

Notes: _____

10. How is on-farm animal mortality handled? _____

Assessment animal mortality handling: _____
Value

List any existing shortcomings: _____

Recommendations/Alternatives: _____

Landowner/Operator's Decision: _____

11. Silos - locate on diagram or aerial

a) Type & number of silos: _____; _____; _____

b) Assessment of any potential leachage/pollution hazard: _____
Value

List any existing shortcomings: _____

Recommendations/Alternatives: _____

Landowner/Operator's Decision: _____

12. Surface runoff problems around farmstead:

a) Assessment of any runoff problems: _____
Value

List any existing shortcomings: _____

Recommendations/Alternatives: _____

Landowner/Operator's Decision: _____

INVENTORY & ASSESSMENT & PLAN WORKSHEET -- CROPLAND

1. Aerial photo w/tract outlined & fields identified w/acreage (Photo should be to scale!)
2. Copy of soil survey sheet with tract outlined; with soil descriptions
3. Distance to any streams - locate streams on aerial photo
4. Any ephemeral or gully erosion present? YES --- NO - If present locate area(s) on aerial photo.
5. Any evidence of sheet/rill erosion visible (sedimentation)? YES --- NO
6. Show existing water courses and/or access lanes (to/thru/from cropland) that:
 - a) Appears to be adequately stabilized (black)
 - b) Any water courses and/or lanes needing to be corrected: (red)
 - 1) Critical Area Plantings (342); draws or area just needing seeding
 - 2) Waterway (412); drawers needing to be constructed grass waterways
 - 3) Grade Stabilization Structure (Waterbars) (410); divert water from the lane in order to control erosion of the lane.
 - 4) Heavy Area Use Protection – laneways needing filter cloth w/stone or concrete base to stabilize.
7. Current crop rotation & tillage regime (include cover crops): NT=no till; RT=reduced till (30%); CT=clean till (<30%)
 - A. _____
 - B. _____
 - C. _____
8. See RUSLE worksheet for soil loss by fields.
9. Are cover crops planted following low residue crops in the fall: YES – NO - Should they be planted: YES – NO
10. Is any crop residue removed by stacking/baling? YES --- NO If yes, explain: _____
Is any of the corn(g) ground grazed after harvest? YES --- NO
11. End-Rows/Turn-rows/Head-rows:
 - a) Number of end-rows or width of end-rows: _____
 - b) Length of slope of the end-rows: _____
 - c) Do they appear to be an erosion problem? YES --- NO --- N/A
12. Field borders, filter strips/areas - present: YES – NO - Recommended: YES - NO
Could they fit into the crop rotation or farm operations as hayland? YES - NO
Could or should they be used in place of end-rows? YES – NO
13. Pesticide Management:
 - a.. Does the operator apply any pesticides: YES – NO
 - b. Herbicides used? _____
 - c. Pesticides are custom _____ or farmer _____ applied?
 - d. Method of disposal for empty pesticide containers? _____
14. Assessment of cropland management: _____

Value

List any existing shortcomings: _____

Recommendations/Alternatives: _____

Landowner/Operator's Decision: _____

INVENTORY & ASSESSMENT & PLAN WORKSHEET - HAYLAND - PASTURELAND

1. Locate pastures & long-term haylands on aerial photo (# fields, field acreage, show gullies, large bare areas, and cattle trails)
2. Locate any streams flowing through fields on photo
3. Locate access/laneways to and through pastures (especially crossing any streams)
 - a) Assessment of any access/walkway generated problems? _____

Value

List any existing shortcomings: _____

Recommendations/Alternatives: _____

Landowner/Operator's Decision: _____

4. Pasturing livestock:

- | | | |
|-----------------|-----------------|---------------|
| a. Type: _____; | Numbers: _____; | Weight: _____ |
| e. Type: _____; | Numbers: _____; | Weight: _____ |
| f. Type: _____; | Numbers: _____; | Weight: _____ |
| g. Type: _____; | Numbers: _____; | Weight: _____ |

5. Stream Quality

- a) Length of stream(s): _____
- b) Assessment of streambank damage - From erosion _____ and/or livestock _____

Value

Value

List any existing shortcomings: _____

Recommendations/Alternatives: _____

Landowner/Operator's Decision: _____

- c) Is stream the only or main source of livestock water? YES -- NO
Would farmer be interested in CRP/CREP along the stream? YES -- NO
Potential or need for watering trough(s) -- pressurized, gravity or solar powered? YES -- NO
Notes: _____

6. Hayland/Pasture Management

- a) Present grass/legume mixture in the fields:

- b) Present fertilizer management of pastures/haylands: _____

- c) Are pasture fields soil tested on any regular schedule (every 3-5 years)? YES -- NO

- d) Are hayland fields used for aftermath grazing? YES -- NO

- e) Are pastures over-grazed: YES -- NO

- f) Potential or desire for an intensive rotational or extended grazing system: _____

- g) Assessment of current pasture/hayland management: _____

Value

List any existing shortcomings: _____

Recommendations/Alternatives: _____

Landowner/Operator's Decision: _____

INVENTORY & ASSESSMENT & PLAN WORKSHEET -- WOODLAND/WETLAND & W/L LANDS

- 1. Locate on aerial photo - woodlands, wetlands, ponds, access road, etc.
- 2. Proximity to streams/watercourses - locate stream on aerial.
- 3. Locate any "dump" sites on aerial photo – YES – NO – N/A
 - a) List some of the larger or more hazardous items in the dump/pile?

- b) Assessment of potential pollution hazard from this "dump" site: _____ **Value**

List any existing shortcomings: _____

Recommendations/Alternatives: _____

Landowner/Operator's Decision: _____

- 4. Any noticeable gully erosion: YES -- NO - locate on aerial photo
- 5. Woodland Management
 - a. Are woodlands grazed? YES -- NO Over-grazed? YES -- NO -- N/A
 - b. Would the landowner be willing to fence out livestock to protect the resource: YES -- NO -- N/A
 - c. Are the woodland used as shade? YES -- NO

- 6. Type of woodland (mixed hardwood - conifers - shrubs/brush/trash).
Est. acres or % of total: _____ Est. acres or % of total _____ Est. acres or % of total _____
Hardwood Conifers Shrubs/Brush

- 7. Assessment of woodland and wetland areas management: _____ **Value**

List any existing shortcomings: _____

Recommendations/Alternatives: _____

Landowner/Operator's Decision: _____

- 8. Pond Management:
 - a) Does the tract contain a pond: YES -- NO Note: _____
 - b) Do the livestock have access to the pond: YES -- NO
 - c) Are the livestock damaging the banks/sides of the pond: YES -- NO Notes: _____
 - d) Would the farmer be interested in discussing CRP/CREP around the pond: YES -- NO
 - d) Does pond appear that it needs:
 - 1) Renovated: YES -- NO
 - 2) Management (brush, algae, rodent control, etc.): YES -- NO
 - g) Assessment of pond condition: _____

Value
List any existing shortcomings: _____

Recommendations/Alternatives: _____

Landowner/Operator's Decision: _____

L/O-Operator Name: _____ Tract: _____ Planner's Initials: _____ Date: _____

INVENTORY & ASSESSMENT & PLAN WORKSHEET

Overall assessment value for the total farm operation: _____

Value

Notes: _____

Does NRCS' Case Files contain a signed "Cooperator's Agreement Form"? YES – NO; Date Form was signed: _____

Is there a Conservation Plan on file w/NRCS? YES – NO; Approval Date of Conservation Plan: _____

Is it a RMS Plan ____, Progressive Plan ____, CRP/CREP Plan ____ or Food & Security Act Compliance Plan ____?

Does this Plan meet the requirement for a PA Chapter-102 Ag E&S Plan ____ and/or Soil & Water Conservation Plan ____?

Notes on the quality of the Conservation Plan on file with NRCS: _____

I/We have received a copy of the completed Inventory/Assessment & Plan Worksheet.

_____ Landowner - Signature	_____ Date
_____ Operator - Signature	_____ Date
_____ Conservation District Supervisor - Signature	_____ Date
_____ District Conservationist - Signature	_____ Date
_____ Planner or Reviewer - Signature	_____ Date

As part of assessment: a sliding scale of 0 – 4:

0 = Not Applicable or Neither Inventoried nor Assessed

1 = good management according to current guidelines; no water quality issues

2 = fair management providing reasonable water quality protection; slight water quality issues

3 = inadequate management providing poor protection in many situations; moderate water quality issues

4 = critical management conditions posing a high potential of causing water pollution, needing immediate corrective action; major water quality issues

Each category contains questions that need to be obtained while interviewing the owner and/or operator. If you elect not to answer any questions section; inventory any resource or make an assessment, enter a "0" under value to indicate that you at least considered the item.