



Ann's Backyard Forest, Ltd.

## Testimony re: Chesapeake Bay Watershed Agreement Final Draft January 29, 2014

---

Submitted by Ann M. Gallagher  
March 17, 2014

The following proposals are only possible to consider after years of effort devoted to Bay restoration. As an opportunity to develop additional areas for community improvement these comments are offered to encourage participants developing the agreement to re-evaluate engagement, prioritization, and emphasis. Previous agreements have led to great successes and some less successful attempts to restore Bay function. Those success and failures permit a review of strategies that produced positive transformation in citizen behavior as well as developing a new approach to outreach. The following is not intended as a criticism of effort; praise for the interstate agreement would exceed any reasonable testimony length.

### ***TARGET AUDIENCE***

Outreach to new audiences with principles of Bay management and protection should focus on introducing current environmental values to new audiences. Mature homeowners may not have had the opportunity to master the ecological principles the current generation of students now learns in elementary school. Certainly immigrants cannot to be expected to have a strong level of Bay science awareness.

There are a number of assets in the battle to improve Bay health but all have their limits. Waiting for children to grow up takes too long; K-12 education cannot be the main focus for educational messaging. Self-selected adult volunteers may be willing to act as message carriers but are limited in the extent of their distribution. Reaching those who do not have the vaguest idea that their choices have consequences elsewhere will be a challenge but highly likely to turn the tide of citizen contribution to Bay health. Recruiting new participants to join the fight will ensure improved upstream care of the entire Bay watershed.

### ***MESSAGE DEVELOPMENT***

Messages intended to gain citizen support are rooted in ecological principles. Unfortunately, scientists are, generally speaking, unable to grab the attention of the general public. Scientists alternate between re-stating generalities without investing them with any sense of weight and overstating scientific findings such that audiences lose interest. Media representatives familiar truths such as: 'trees are

*Making Science Accessible™*

5906 Cobalt Road • Bethesda • Maryland • 20816 • [AnnsBackyardForest.org](http://AnnsBackyardForest.org) • 1(240)461-6171  
501(c)(3) • EIN #35-2481383



## Ann's Backyard Forest, Ltd.

good for the environment' are not provided with powerful or shocking evidence making the statement especially interesting for them to distribute.

A simple modelling of tree function found large trees (Two oak species and the tulip popular) intercepted 13,000 gallons of water in their 100<sup>th</sup> year while small tree species intercepted 1,000 gallons; a 13 times difference. Changing the simple message 'Large trees are good' to 'Large trees are 13 times better at protecting streams than small trees. Preserve crab cakes - plant large trees!' conceptually unites large trees, stormwater runoff, and the health of bay wildlife. Alternative messages could connect small, everyday decisions to large scale impacts. Homeowners should be challenged to question purging properties of habitat variety, use of pesticides, fertilizers, and insecticides. Simple, protective actions should be actively encouraged such as selecting native plant species. Homeowners could be challenged to ask nurseries for the native selections. Professional groups of master gardeners, arborists, and landscape architects should be co-opted into promoting pro-native choices.

### *PRIORITIES*

The Agreement calls for restoration and protection. Restoration efforts have benefited species challenged by a lack of habitat. Restoration, in combination with protection, can offer advances in water health and quality for the Bay.

By shifting focus to smaller tributaries with more easily managed watersheds particularly healthful region can be preserved. Improvement over large swaths of watershed may be rewarding; offering the satisfaction of large-scale change. But smaller areas with ideal quality can be lost as large areas are restored. The additive, overall contribution of small, healthy watersheds to Bay health deserves attention. In smaller watersheds collaboration between landowners is more likely; water quality might be able to be better managed, improved, and maintained. Pockets of good quality waters with low nutrient or suspended sediment load could be considered as similar to island preserves - high quality water "islands" within the Bay. Zones where quality tributaries intersect with the Bay should be targeted as excellent sites for preservation of stationary wildlife. Planting seed oysters and aquatic grasses in high quality areas could afford greatest health and function for those individuals. As these "islands" of health function they will become source areas contributing to overall Bay function. This model proposes preserving and protecting the islands of high quality then turning to adjacent areas for improvement to maximum benefit for aquatic life.

Concentration on the Bay zones lacking in healthful qualities do offer improvements. However dysfunctional areas require upstream investment, too. Stopping sediment and pollutant carrying runoff onsite offers much better results than grass-planting, pollution-barrier projects in the Bay. As

*Making Science Accessible™*

5906 Cobalt Road • Bethesda • Maryland • 20816 • [AnnsBackyardForest.org](http://AnnsBackyardForest.org) • 1(240)461-6171  
501(c)(3) • EIN #35-2481383



polluted water enters the Bay, grasses may be able to effect deposition of sediment and polluted materials but the sediment and pollution has already entered Bay waters.

#### **LAND USE (TREES)**

Upstream the single most powerful water quality indicator is percent tree canopy in the watershed. Percent of wooded land directly relates to flooding, pollution, erosion, streambed stability, water quality and temperature. Large trees reduce runoff in several ways; all mechanisms improve stream quality while increasing recreational opportunities.

Even though the agreement was altered to increase urban tree canopy from 1,000 to 2,400 additional acres of tree canopy by 2025, this seems a very low number of acres. Given that the powerful impact of tree canopy cannot be overstated this number should be increased, considerably.

#### **LAND USE (SOIL)**

The issue of soil management is underrepresented in the draft agreement. Reducing fertilizer, pesticide use and maintaining healthy soils with appropriate structure is imperative for Bay health. An important component of success will be the effective, informal education of the (sub)urban homeowner. Largely misunderstood, causes and effects of soil compression are lost on large segments of residents within the Bay watershed.

#### **LAND USE (PAVEMENT)**

Research to establish changes in permeable surface area with shifts in land use are exciting to consider. While easily accomplished with satellite imagery and computer image processing, *a priori* goals need to be fully developed. Use of such research could be of far-reaching benefit for planners and researchers. Planners could use a good modeling program to estimate the impact of land use in conjunction with precipitation ranges to consider community water needs. Researchers could use to model ecological effect as land use shifts. Particularly gifted researchers could use the model to estimate runoff and pollutant loads scaled by topography and plant coverage and type.

An outline of land use types, important to ecologists and planners, is necessary. Categories of use with subcategories of ranges are a first step. Consider developing a complete, interactive model along the lines of the National Tree Benefits Calculator.

#### **ACCESS AND ENVIRONMENTAL LITERACY**

Lastly the agreement is in need of clarity with regard to the issues of public access and environmental literacy. The draft agreement is missing the; who, where, which, when, why, and how of public access. Simply having access to a resource does not mean value for the resources will be ensured. Willingness to place a high value on Bay resources does not imply users will be appropriate custodians of the



resources. Further, the proportion of residents within the watershed having access to Bay resources may not be sufficient to alter behavior of the majority. A solution would be to tie access to education and appreciation. Current educational efforts targeting the K-12 residents have a limit to their effectiveness. Children are a great long-term investment but are not the short-term, immediate solution for Bay restoration. Their parents and grandparents vote, act, destroy and save *right now*. Link access to Bay resources with minimal caretaking education; permission to use Bay resources should be associated with basic knowledge of habitat protection.

For the K-12 educational efforts this agreement does not indicated how successful school models and outcomes are to be found, supported, or highlighted. The draft agreement should include support for central, online clearinghouse(s) for bragging and sharing of successful educational programs.

#### **MAIN POINTS**

The Chesapeake Bay Agreement should prioritize:

1. Enculturation of citizens through environmental science literacy and outreach projects in a number of languages through:
  - a. Development of public service announcements to run within the watershed agreement area with adapted announcements for foreign language stations,
  - b. Conversion of familiar, general Save the Bay messages into much more specific messages,
  - c. Providing homeowners with specific messages related to personal management of their natural resources with special attention to native plants, arboriculture and reduced use of chemicals as pesticides and fertilizers,
  - d. Partnerships between scientists and professionals adept at message development to prepare statements that are easily remembered and shared, yet, contain more than simplistic statements of scientific truths,
2. Tree planning, preservation, and protection,
3. Least damaged watersheds to preserve places retaining ideal water quality characteristics,
4. Association of resource use with fundamental ecological training.

This testimony suggests trimming complex messages, elaborating on too simplistic messages, and targeting new audiences for the benefit of the Bay.