

**Chesapeake Bay Program Scientific and Technical Advisory Committee and
Communications and Education Subcommittee Workshop:
Quantifying the Benefits of a Mass Media Campaign to Promote a Stewardship Ethic and
Effect Behavior Change in Chesapeake Bay Watershed Residents**

BACKGROUND

The Chesapeake Bay Program (CBP) Scientific and Technical Advisory Committee (STAC) responded to a request from the CBP Communications and Education Subcommittee (CESC) to advise them in their efforts to quantify the benefits of a mass media campaign. On September 15, 2003, STAC convened a one day workshop for presentations by experts who have participated in efforts to quantify behavior changes, especially those effected as a result of a campaign of this scale, as well as experts who have conducted mass media campaigns resulting in behavior change. (See Appendix A, Workshop Agenda and Participants, and Appendix B, Planning Timeline and Mass Media Campaign Background.)

PURPOSE

The purpose of the workshop was to provide recommendations for the types of information that need to be collected and the methodology for collecting, tracking and reporting that information in order to measure behavior change(s) effected as a result of the CESC mass media campaign, and campaign methodology to effectively measure and to increase response rate/behavior change. The experts were asked to make these recommendations during their presentations.

Following the presentations, select members of CESC and STAC, and the presenters were asked to participate in facilitated discussions to reach consensus on recommendations and a plan of action for the following topics: assessment and recommendations regarding campaign plans; recommendations for target audience in the Washington D.C. greater metropolitan area; recommendations for expected response rate and behavior change; recommendations for tasks the ad firm should complete; recommendations for types of information the ad firm should collect and the methodology for collecting, tracking and reporting that information in order to measure behavior change(s) effected as a result of the CESC mass media campaign; recommendations for campaign methodology in order to effectively measure and to increase response rate/behavior change; recommendations for quantifying ancillary benefits; and recommendations for ways to encourage “piggybacking” on the campaign by other organizations and outreach vehicles.

PRESENTATION SUMMARIES

Chris Conner, CESC

Provided an update on the mass media campaign plans (see Appendix B, Planning Timeline and Mass Media Campaign Background). The target audience for the campaign is the general public in the Washington, D.C. metropolitan media market. The target market includes those unfamiliar

with the issue(s) related to Bay restoration and those making decisions that affect the land (such as lawn care). This first campaign will be a pilot, with expectations to expand the campaign into additional media markets in the future, pending funding availability. The CESC will use today's findings to assist with creation of a request for proposals for an ad firm to conduct the campaign. Today's findings will also inform decisions of reviewers making the vendor selection. The proposals are expected to describe a campaign that will target nutrient reduction behavior running approximately thirteen weeks with the first advertisements airing in spring 2004. The proposals are expected to describe methods for measuring change in awareness and behavior. Chris added that the main questions he hopes to have answered during the workshop are how many members of the target market can the campaign expect to reach and if behavior change is a key component of cleaning up the bay, what is a realistic expectation of the impact of that behavior change?

Jonathan Kramer, STAC

Provided introductory comments. He explained that behavior change is key to restoring the Bay and that understanding how to do a mass media campaign that will effect behavior change is a challenge. When CESC requested STAC's assistance, STAC felt it was appropriate to look outside current membership to provide the advise needed but agreed to help find experts. The workshop steering committee sought outside voices involved in behavior modification campaigns to provide advise regarding campaign design, the development of metrics for measuring change and advise regarding realistic expectations. The committee was fortunate to solicit presentations and advise from experts in environmental social marketing and a representative from the public health sector involved in evaluating successful behavior change campaigns.

Dr. Joanne Vining, Associate Professor, Department of Natural Resources and Environmental Sciences, University of Illinois, Urbana-Champaign

Gave a presentation titled "Some Notes on Effecting Conservation Behavior Change"¹. She also provided workshop participants with a copy of the chapter she contributed to a recent publication as pre-workshop reading material, "Emerging theoretical and methodological perspectives on conservation behavior"². During her presentation she discussed precursors for behavior change such as attitudes, motives, knowledge and emotion, issues related to measuring behavior change such as self reporting bias, mail and phone survey response rate declines, and recommendations for increasing the number of people who engage in the targeted behavior changes. Some of the key recommendations included targeting specific and convenient behaviors, providing knowledge related to the desired behaviors, using humor and imagery in the ads and using intercept interviews to measure response rates.

Brian Primack, MD, EdM, Assistant Professor, University of Pittsburgh School of Medicine Gave a presentation titled "Social Marketing: The Tobacco Story"³. During his presentation he discussed the results of social marketing research focused on mass media campaigns targeting tobacco smoking in youth. He also shared lessons learned from a successful anti-smoking campaign. Some the key findings included: media images are more important than

“education”; for effective communications, segment the market and target the segments; use images and emotions designed to appeal to the target market; don’t waste time finding markets that are already engaging in the desired behavior(s); and look at how the behavior you are trying to change is marketed to determine how to combat it and determine how your campaign would be most effective.

Dr. Ben Tyson, Director, Center for Social Research, Associate Professor, Environmental Communication, Central Connecticut State University

Gave a presentation about a case study in the Mattabeset River Watershed⁴, showing how social marketing principles can be applied in promoting behaviors to limit nonpoint source pollution in a watershed. During his presentation he discussed marketing principles, predictors of conservation behavior, audience research, campaign stages and improving odds of adoption. One of the key recommendations included four things to consider/evaluate: what specific behaviors are we after; who is the target audience/who are early adopters; communication variables (amount, type, application of fertilizer - 3 behaviors in one; positive alternatives to fertilizing lawns); what other media will be used? Additional recommendations included identifying the early adopters, identifying substitutions and positive alternatives to lawn fertilization, and identifying the percentage of the metro area that is lawns. One suggested message was “the bay is a shared responsibility; demonstrate that other sources of pollution (farmers and wastewater treatment plants) are being asked to reduce; homeowners are being asked to join the team”. He also recommended that ads need to capture attention, motivate immediate action and encourage audience to seek more information.

DISCUSSION SUMMARY

Diana Esher, EPA CBPO, facilitated the afternoon discussion first by summarizing key points from the presentations. The “P’s of social marketing” are: person - who is target; price - can we lessen the perceived cost to the target; promotion - how do we get message out there; place - message should be where target is; and purse strings - how do we pay for it? The campaign stages are awareness/pre-contemplation, knowledge/skills acquisition, persuasion/contemplation, and decision/action. Key points to consider are channels, messages and evaluation. Criteria to consider in order to improve odds of adopting conservation behavior are relative advantage, compatibility, complexity, trialability and observability.

She then led a brainstorming session to solicit ideas for recommendations to provide the CESC regarding target audience, primary message, key behavior change, expected response rate and behavior change rate, tasks the ad firm should complete, types of information the ad firm needs to collect, methodology for collecting, tracking and reporting behavior change, and the plans for responding to citizen requests. The ideas generated are summarized in the following sections.

Purpose of Campaign: Create an interested (knowledge seeking), engaged public that is willing to do their part to reduce nutrients and understands why/what’s at stake. Capture attention. Motivate actions. Motive to seek more information. Sound alarm. Recognize personal

contribution to problem. Help audience connect how their actions on land impact water. Instill a sense of shared responsibility.

Expected Behavior Changes: Seek information/increase knowledge. Change in fertilizer use, car washing habits, pet waste disposal (all or one). Reduction of nutrients in watershed - cleaner water.

Messages and Purpose: Focus on nutrients and lawns. Address how to account for the fact that agriculture is much bigger source than lawns (Baywide – subsequent discussion acknowledged that urban run off is a larger component of total sources in the DC metro area). Consider referencing farmers’ actions and ask urban/suburban dwellers “what are you doing?” (e.g. show farmers reducing fertilizer or using other BMPs - “here’s what farmers are doing, how about you?”). Stress that without change in 16 million people we can’t restore the Bay. Stress that this is a shared responsibility – “this is your share”. Convey that actions on land impact water. Acknowledge that an engaged public gives us “public will”. Consider this as a nested situation – how it all fits from upstream to downstream to living resources – this is where you fit in. Focus on lawns (do we know how many folks in DC metro area have lawns?). Ask media consultants to find out, of 3.8 million, how many are we targeting? Consider three phases of purpose: capture attention, motivate actions, seek more information. Lawns are the hook (are there other hooks?). Create an interested engaged public. Show how “your actions can make a difference”. Find out what surrogates can we use to demonstrate behavior change? (i.e. fertilizer sales and timing of sales). Focus on discrete actions that create a sense of shared responsibility. Since DC metro area is target for this pilot, look at Potomac for measurement (more local watershed). Should we focus on Potomac rather than Bay? Can knowledge on public make them more receptive to water/sewer rate changes?

Expectation for Response Rate: Needed for evaluating ad firm performance and for us to prepare. Ask media consultants to determine, of 3.8 million, how many are we targeting?

Tasks for Ad Firm: Ask ad agency about slogan and visuals that are appealing to our target audience. Ask them to “geographically segment” target audience. Set baseline (collect data) for evaluation purposes. Ask them to target the audience and placement of ads - collect more data about the target audience and harvest data from the VA Tech survey. Use someone else, other than ad firm to evaluate ad’s effectiveness. Ask ad firm to help us define our response to citizens – how many should we prepare for. Ask ad firm for plans to solicit Public Service Announcement (PSA) time. Are there other events that could maximize ad’s effectiveness? Use focus group method for testing response to proposed messages/visuals. Assistance in public relations during extent of campaign What source/sender is appealing to target audience? Provide timeframe. Set up other partners. Focus group reaction to actual copy.

Types of Information for Ad Firm to Collect/Report: How many people saw ad? Who did we reach? How many times – reach/frequency? Exposure – how many “beans”? Number of ads they ran. Special event attendance. Demographics of who saw ad.

Types of Info to Collect for Evaluation of Effectiveness: Focus group reaction of actual copy (ad firm). Pre campaign survey (ad firm)/Post campaign survey (another firm) – did it change perception/behavior? Panels of market research groups. Telephone service to monitor/report – # of calls we get. Web site – # of hits and info on if they saw ad. Nutrient/sediment impact. Measure local impact – sufficient monitoring in place at scale for what we want to monitor (i.e. local stream/river impacts in market reach of campaign) and surrogates (i.e. fertilizer sales).

Ad Design: *Start:* all need to cooperate, all live upstream from someone; you shouldn't free ride (i.e. expect that since others will do their part, you don't need to since it won't make a difference), you won't be a sucker (i.e. don't assume that others will not do their part). *Next, "Here is what you can do":* e.g. new fertilizer technique, pickup after pets, wash car over lawn area - this will cut down on N and P entering system. *Next, "Learn more":* call.... Go to www.... *End with "Please do":* Discrete action result in shared responsibilities.

Ad Objectives: Change in awareness, knowledge, attitudes, intent, behavior concerning: new fertilizer technique, pickup after pets, wash car over lawn area, learn more

Evaluation: Conduct pre- and post-ad survey to define differences in awareness, knowledge, attitudes, intent, behavior concerning each of four behaviors (above). Evaluate change in nutrient load in Potomac River.

Additional Questions for Ad Firm: Are there other actions - other than reduce fertilizer, car wash, clean up after pets? (Look at VATech survey results showing things folks are most likely to do). Do we have enough money to get across three behavior change/actions? Is there enough money for three ads if we hold everything else constant except for the desired behavior? Show actions (behavior changes) that people can take easily, but make sure they are still consequential.

FINAL RECOMMENDATIONS

The last part of the facilitated discussion focused on reaching consensus on recommendations for the CESC and are summarized in the following sections.

A Assessment and Recommendations Regarding Campaign Plans

Purposes of Campaign: Reduce nutrients inputs from the watershed to the Bay and its rivers, resulting in cleaner water. Create an interested, knowledge seeking, and engaged public that is willing to do their part to reduce nutrients and understands why and what's at stake. In order to do this, the campaign will need to capture their attention, motivate their actions and cause them to seek more information. Additional purposes include: sounding the alarm concerning what's at stake, helping the public recognize their personal contribution to the problem and understand how their actions on the land impact the water, and instilling a sense of shared responsibility.

Expected Behavior Changes: Public will seek information, increase knowledge and change their fertilizer use, car washing habits and pet waste disposal habits(all or one)

Messages: Actions on land impact water. Your actions can make a difference. Shared responsibility – “this is your share”.

B. Recommendations for Target Audience in the Washington D.C. Greater Metropolitan Area

The DC metro area is target for this pilot. Bay activities already include programs for communicating with farmers and point sources. This campaign should focus on engaging those not already being reached by other means. The target market includes those unfamiliar with the issue(s) and those making decisions that affect the land (such as lawn care). Audience research is necessary and audience segmentation is key. For effective communications, segment the market and target the segments. The target audience is not uniform. Need to find out who they are and what motivates them. Do not lump together your target audience. Don't waste time targeting markets that are already engaging in the desired behavior(s). Alternatively, don't waste time targeting those who will never change behavior. Focus on the “middle majority of adopters” (from Everett Rogers's theory of diffusion of innovation).

C. Recommendations for Expected Response Rate and Behavior Change

The ad firm needs to advise the CESC, however, expect at least 2% to 5% to respond to the advertisement.

D. Recommendations for Types of Information the Ad Firm Should Collect and Tasks the Ad Firm Should Complete

Ask them to target the audience and placement of ads, collect more data about the target audience, and harvest data from the VA Tech survey. Ask them to “geographically segment” target audience. Ask them to find out how many in market area have lawns. Ask them to set a baseline and collect data for evaluation purposes (e.g. pre-campaign survey of behaviors). Ask ad agency about slogan and visuals that are appealing to our target audience. Ask them to find out what source and/or sender is appealing to target audience. Ask them to conduct focus groups to test reactions to actual copy and for testing response to proposed messages/visuals. Ask them to look for free advertising and public service time. Ask them to set up other partners. Ask them to provide suggestions for other public affairs, outside events to maximize campaign. Ask them to provide assistance in public relations during extent of campaign. Ask them to help CESC define response to citizens (e.g. how many should we prepare for). Ask them to document and report the number and type of ads they ran, how many people saw each ad, how many times (e.g. reach/frequency). Ask them to provide demographic information for people who saw ad. Ask them to document and report special event attendance.

E. Recommendations for Campaign Methodology in Order to Increase Response Rate and Behavior Change

Divide the campaign into stages: awareness/pre-contemplation (1st stage); knowledge/skills acquisition (2nd stage); persuasion/contemplation (3rd stage); decision/action (4th stage). Messages must be passed through preferred channels. Use multi-media (e.g. TV, radio and print

media ads, billboards, PSAs, website, direct mailings/fullfillment packages, events). Media ads, PSAs and billboards are effective for stage 1 and stage 3. Website, direct mailings/fullfillment packages and events are effective for stage 2 and 3. Interpersonal contact at service and supply outlets (e.g., state and federal agencies, soil-testing services, garden supply stores, lawn maintenance companies, septic maintenance companies) is effective for stage 4.

Messages should vary depending on campaign stage. Stage 1: risks to self/community; required remedial actions (behaviors). Stage 2: this is what you need to do and this is how to do it. Stage 3: emphasize benefits/minimize costs of behavior; provide assurances of effectiveness/confidence; provide evidence that the community is cohesive and encourages the behavior. Stage 4: reinforce campaign messages.

These are the variables with the most predictive strength to change behavior: perceived risks to self/community, knowledge of issue and remedial behavior, attitudes toward issue/behavior, perceived benefits/costs of behavior, self efficacy and efficacy of act, social/personal norm regarding behavior, and community cohesiveness/interaction.

Considerations for improving odds of adopting new behavior: relative advantage (new behavior must be perceived as better than the past behavior); compatibility (new behavior must be compatible/consistent with current behavior); complexity (new behavior must not be too difficult to undertake); trialability (new behavior will be adopted sooner if individuals can experiment with the new method before totally adopting it); observability (the more visible the benefits of the new behavior, the faster the behavior will be adopted).

Convenience predicts behavior more than any other motive. Making the behavior convenient may be the most important factor. Help people align their motives and behaviors by making the behavior convenient. Enabling knowledge and information helps people act consistently and makes the behavior convenient. Show them how behavior can be implemented and be convenient.

Knowledge of remedial behavior (enabling knowledge - how to do the new behavior) is more important than knowledge of the issue. New knowledge may be resisted if it conflicts with beliefs or existing knowledge. In order to address this cognitive dissonance, make it as easy as possible "open a new file" in the brain or lump new information into an "existing file". In order to deal with resistance, use humor to put people in a positive mood to open existing or create new file. Positive emotions and humor make it easier for the public to accept a message.

Pride is important. Break up behaviors into small steps in order for people to feel pride for each step in the right direction. Other important predictors are self-efficacy (whether you can do it) and efficacy of act (whether it will help). Report how much behavior change is actually occurring. This strengthens attitudes and behavior change.

People are inspired by powerful images, including images of a beautiful natural environment.

Show them how the good behavior has an impact. Help them visualize. Give them something to “see” and understand. Media images are more important than “education.” Use few facts but use many images in TV ads.

Identify the “price” of doing the new behavior (considered a “geek”?). Plan how to minimize the price. Consider ways to change the social acceptability. Make the target behavior more normative. Emphasize positive alternatives.

Use visual images or pictorial representations to engage the public. Look at how behavior you are trying to change is marketed to determine how to combat it. Consider discovering how the fertilizer industry is appealing to your target audiences.

Source and/or sender credibility is important. Whether the “sender” is local or an outside expert depends on the issue. For subjective issues, the source should be someone with whom the audience can identify, one of them. For more technical issues, the sender should be an outside expert.

F. Ad Design Recommendations

The ad firm will determine but the general idea is as follows.

Ad Design: *Start:* all need to cooperate, all live upstream from someone; you shouldn't free ride (i.e. expect that since others will do their part, you don't need to since it won't make a difference), you won't be a sucker (i.e. don't assume that others will not do their part). *Next, “Here is what you can do”:* e.g. new fertilizer technique, pickup after pets, wash car over lawn area - this will cut down on N and P entering system. *Next, “Learn more”:* call.... Go to www.... *End with “Please do”:* Discrete action result in shared responsibilities.

Ad Objectives: Change in awareness, knowledge, attitudes, intent, behavior concerning: new fertilizer technique, pickup after pets, wash car over lawn area, learn more

Evaluation: Conduct pre- and post-ad survey to define differences in awareness, knowledge, attitudes, intent, behavior concerning each of four behaviors (above). Evaluate change in nutrient load in Potomac River.

A. Methodology for Measuring Campaign Effectiveness and Behavior Change(s) Effected as a Result of the Campaign.

If this is a staged campaign, then during stage 1 the ad firm needs to collect/report media tracking data and conduct intercept interview surveys. During stage 2: record/report number of phone calls, number of pieces distributed, number of website hits and number of participants at events; collect/report media tracking data; conduct intercept interviews. During stage 3: collect/report media tracking data; conduct intercept interviews; record number of participants at events. During stage 4: collect agency/store/company records; conduct intercept interviews.

The CESC needs to contract with a telephone service to monitor and report the number of calls

we get and work with the web team to monitor the web site for the number of hits and find out if the website visitor saw that ad.

Use pre-campaign and post-campaign surveys to find out if the ads were successful in changing perceptions and/or behaviors. Consider using someone other than ad firm to evaluate campaign's effectiveness. When conducting surveys, start with interesting questions to get attention (even if the questions do not have much to do with target questions). If you can get them started, they will likely continue with the questionnaire/survey. Consider doing intercept surveys instead of mailed questionnaires and telephone surveys.

In order to measure nutrient/sediment impact, focus on measuring local impacts. Ensure sufficient monitoring is in place and at the correct scale for what we want to monitor (i.e. local stream/river impacts in market reach of campaign). Since the DC metro area is the target for this pilot, look at Potomac (or more localized waters) for measurement of water quality changes. Consider monitoring surrogates (i.e. fertilizer sales and timing of sales).

H. Recommendations for Ways to Encourage “Piggybacking” on the Campaign by Other Organizations and Outreach Vehicles.

Ask the ad firm for suggestions for other public affairs and outside events to maximize campaign. Develop partnerships with companies already marketing to our target audience (e.g. fertilizer companies and Home Depot).

END NOTES

1. Joanne Vining's presentation, "Some Notes on Effecting Conservation Behavior Change", available at <http://www.chesapeakebay.net/pubs/subcommittee/cesc/doc-vining-2003.ppt>, and annotated in Appendix C.
2. Joanne Vining's Chapter 35, "Emerging theoretical and methodological perspectives on conservation behavior", *New Handbook of Environmental Psychology*, available at <http://www.chesapeakebay.net/pubs/subcommittee/cesc/doc-viningpaper-2003.pdf>.
3. Brian Primack's presentation, "Social Marketing: The Tobacco Story", available at <http://www.chesapeakebay.net/pubs/subcommittee/cesc/doc-primack-2003.ppt>, and annotated in Appendix C.
4. Ben Tyson's presentation about a case study in the Mattabeset River Watershed, available at <http://www.chesapeakebay.net/pubs/subcommittee/cesc/doc-tyson-2003.ppt>, and annotated in Appendix C.

APPENDIX A: Workshop Agenda and Participants

Quantifying the Benefits of a Mass Media Campaign to Promote a Stewardship Ethic and Effect Behavior Change in Chesapeake Bay Watershed Residents

September 15, 2003, 9:00 am to 3:30 pm

Joe Macknis Memorial Conference Room

Chesapeake Bay Program Office, 410 Severn Avenue, Annapolis, MD

Tele-conference Bridge: 410-305-3500, ext. 3520, access code 3988

Agenda

8:30 am *Check In-* juice and muffins; order lunches

9:00 am *Welcome, Introductions, Review Agenda, Background* (Sylvester, Esher, Conner, Kramer)

9:20 am *Presentation* (Vining)

10:00 am *Presentation* (Primack)

10:40 am *Break*

10:50 am *Presentation* (Tyson)

12:00 pm *Lunch*

1:00 pm *Facilitated Discussion* - reach consensus on recommendations and plan of action for topics listed below (all)

2:00 pm *Break*

2:10 pm *Facilitated Discussion continued* (all)

3:10 pm *Next Steps/Wrap Up* (Esher)

3:30 pm *End*

Topics of Discussion

- Assessment and recommendations regarding campaign plans.
- Recommendations for target audience in the Washington D.C. greater metropolitan area.
- Recommendations for expected response rate and behavior change.
- Recommendations for tasks the ad firm should complete.
- Recommendations for types of information the ad firm should collect and the methodology for collecting, tracking and reporting that information in order to measure behavior change(s) effected as a result of the CESC mass media campaign.
- Recommendations for campaign methodology in order to effectively measure and to increase response rate/behavior change.
- Recommendations for quantifying ancillary benefits.
- Recommendations for ways to encourage “piggybacking” on the campaign by other organizations and outreach vehicles.

Facilitator:

- Diana Esher, Deputy Director, US EPA CBP

Presenters:

- Dr. Joanne Vining, Associate. Professor, Environmental Psychology, Department of Natural Resources & Environmental Science, University of Illinois

- Dr. Brian Primack, Assistant Professor, University of Pittsburgh School of Medicine
- Dr. Ben Tyson, Director, Center for Social Research, Associate Professor, Environmental Communication, Central Connecticut State University

Participants:

- Jon Kramer, Director, MD Sea Grant College Program, STAC (steering committee)
- Nita Sylvester, EPA CBPO, CESC (steering committee, note taker)
- Chris Conner, ACB CBPO, CESC (steering committee)
- Jack Greer, MD Sea Grant College Program, CESC
- Peter Marx, EPA CBPO, CESC
- Bob Campbell, NPS CBPO, CESC
- Jennifer Caddick, ACB CBPO, CESC
- Katherine Mull, Northern VA Regional Council
- Joanne Goodwin, DC EHA, CESC
- Elena Takaki, MD DNR, CESC
- Mindy Lemoine, EPA CBPO
- Melissa Bugg, Chesapeake Research Consortium, STAC staff (note taker)

APPENDIX B: Planning Timeline and Mass Media Campaign Background

Time Frame for STAC/CESC workshops and CESC Mass Media Campaign

- 9/15/03 First STAC/CESC workshop
- Oct/Dec 2003 Summarize workshop and recommendations; submit to STAC/CESC
- Jan 2004 CESC Begin work with Ad firm
- Winter 2004 Ad completed, response materials ready; new website section ready
- Spring 2004 Campaign launch, run ads/response service rolling
- Summer 2004 Post campaign evaluation; plan for follow-up workshop
- Fall 2004 Timeframe for follow-up STAC/CESC workshop

CESC Mass Media Campaign Background

- In 2002, "A Survey of Chesapeake Bay Watershed Residents: Knowledge, Attitudes and Behaviors Towards Chesapeake Bay Watershed Quality Issues" was conducted by the Conservation Management Institute of Virginia Tech on behalf of the Chesapeake Bay Program. The random telephone survey was conducted in March and April 2002 and polled 1,988 Bay watershed residents of Delaware, Maryland, New York, Pennsylvania, Virginia, West Virginia and the District of Columbia. (see http://www.chesapeakebay.net/pubs/subcommittee/cesc/perception_survey_082202_draft/Report.pdf)
- The results of the survey were used to target the audience, message and desired behavior change(s) for the mass media campaign, and may provide a baseline for measuring changes if we are able to conduct a follow-up survey. It may be necessary to conduct a smaller survey in media market area prior to the campaign, as two years will have passed since the original survey.
- Contracting with ad agency or media consultant (RFP issued fall 2003)
- *Target audience* - Greater Washington D.C. metropolitan area residents whose actions play a large role in the health of local waters and the Bay and who do not readily recognize the importance of protecting and restoring the Bay watershed (DC metro area includes DC, VA and MD suburbs)
- *Primary message* - Your choices affect the quality of your local streams, rivers and the Chesapeake Bay (alternative: You can help restore local waters and the Bay.)
- *Key behavior change desired* - (TBD) at this point fertilizer use is a consideration (others may include car washing, Bayscaping). [At the outset, its going to be very important to reach consensus on the issue/behavior that will be addressed. It will make a difference when you finalize your list of participants for the first meeting. If the focus is to be on changing how urban/suburban users apply fertilizer, it might be important to have someone who has some experience in this arena there to talk in very specific terms on how homeowners actually "operate" in this regard (i.e., an extension specialist or a master gardener etc...). They would also be instrumental in talking about the kinds of behaviors that are feasible to target for change and could suggest "alternate" strategies for homeowners that could conceivably become a part of the campaign (i.e., "Here's a positive thing you can do that will improve the Bay and still keep your lawn nice and

green..."). Having that discussion along with the more "theoretical" ones about behavior change will I think, serve to ground the meeting and provide some realistic expectations from all parties.]

- *Budget:* \$620,000 (funds from BSC03/04, VA and DC)
 - 70-80% Ad air time and print space
 - 10-15% Creation of radio, print and TV ads
 - 10-15% Response and Fulfillment (production of response materials, telephone and mailing expense)
- *Responding to Citizen Requests:* Contracting with telephone answering service (24 hr day throughout campaign). Script to be developed. Info collected in order to mail response kit and track campaign response. Contracting with a mailing house to address stuff and mail daily info requests. A section of Bay Program website to developed to house campaign fulfillment materials (materials found in mailed response packets, links to key parts of site and partner sites, answers to questions about the need to protect and restore the Bay/rivers). An online form will also allow request of response kit by mail. Response kits will consist of two types of materials–watershed-wide and state specific. Prior to campaign launch, Bay Program will provide mailing house with watershed-wide materials to be inserted in all response kits. CBP partners will be responsible for appropriate state-specific pieces as well, allowing each kit to be tailored to the caller’s jurisdiction.

APPENDIX C: Annotated Presentations

Presentation - Dr. Joanne Vining, Associate Professor, Department of Natural Resources and Environmental Sciences, University of Illinois, Urbana-Champaign (available at <http://www.chesapeakebay.net/pubs/subcommittee/cesc/doc-vining-2003.ppt>)

Annotated presentation:

Slide 1 - Title Page: "Some Notes on Effecting Conservation Behavior Change"

Slide 2, Behavior Precursors:

- *Attitudes*
- *Motives*
- *Knowledge*
- *Emotion*

Notes: These are the precursors to behavior most often studied.

Slide 3, Attitudes:

- *The attitude – behavior problem*
- *Mitigating factors –Beliefs, intentions, norms*
- *General versus specific attitudes*

Notes:

- Attitudes are mostly not related to behaviors (especially when habitual).
- See more on mitigating factors in. Chapter 35, "Emerging theoretical and methodological perspectives on conservation behavior"**use footnotes**, *New Handbook of Environmental Psychology*. R. Bechtel & A. Churchman (Editors), 2002, New York: Wiley, 541-558 as pre-workshop reading material (available at <http://www.chesapeakebay.net/pubs/subcommittee/cesc/doc-viningpaper-2003.pdf>)
- Where there is a relationship, specific attitudes are more predictive of a specific behavior. General environmental concern (as expressed by survey respondents) is not predictive of behavior. Note that everyone is concerned about the environment as a "motherhood and apple pie" issue.

Slide 4, Motives:

- *Altruism*
- *Convenience / nuisance*
- *Economic*
 - When rewards are removed*
 - Deci's hypothesis*

Notes:

- Altruism is not very predictive of behavior change. Social norms are more important than people will admit. Personal norm/personal commitment is a powerful predictor when people believe the behavior is the right thing to do.
- Convenience predicts behavior more than any other motive. Making it convenient may be most important factor. Help people align their motives and behaviors by making the behavior

convenient.

- Economic - not been very important in predicting environmental behavior change. Remove rewards and behavior returns to baseline. Providing an economic reward for something one already does can result in an unfavorable change in attitude.

Slide 5, Motives:

- *Social Norm*
 - *The block leader approach (Burn 1991)*
- *Personal Norm*
 - *Commitment*

Notes:

- People will tell you they are not influenced by others when asked but when examined, actually are.
- The block leader approach has been useful because as a small community adopts the behavior, their behavior becomes a “social norm” for others.
- Personal norms are powerful predictors of pro-environmental behavior - “the right thing to do” - conscious personal commitment

Slide 6, Knowledge

- *Poor predictor of behavior or behavior change*
 - *Ecological literacy*
 - *Enabling knowledge and information*

Notes:

- Knowledge and ecological literacy have little relationship to behavior. People need very little information, just the right information targeted in the right way.
- Enabling knowledge and information helps people act consistently and makes the behavior convenient.

Slide 7, Knowledge

- *New knowledge may be resisted if it conflicts with beliefs or existing knowledge*
 - *Cognitive dissonance*
 - *Cognitive structure*
 - *The file cabinet analogy*

Notes:

- Cognitive dissonance (emotional factor): If we believe a fact is true and receive information to contradict, there is a conflict in brain. Most prominent reaction is to ignore the messenger.
- New Knowledge. Cognitive misers are those who will not accept ideas that are dissonant or inconsistent with previous experience and closely-held beliefs. Cognitive dissonance results in ignoring of the new information or, conversely, change in behavior. Challenge is to find ways to get people to open up/add information/accept new information.

Slide 8, Emotion

- *Guilt / shame*
- *Pride*
- *Resentment / indignation*
–Kals et al 1999; a negative relationship with conservation behavior
- *Fear / anger*
–Vining, 1986; negative emotions associated with loss of prized resource

Notes:

- Emotion plays a role in behavior. Both positive and negative emotions serve to predict conservation behavior. Love of nature and the environment and feeling a need to protect resources is a significant motivation for resource protection. Pride in the Chesapeake Bay may be a more positive theme.
- Positive emotions and humor make it easier for the public to accept a message.
- Guilt/shame - Uncomfortable emotions - trigger defense mechanisms (denial and rationalizing). Don't use as a motivator.
- Pride - in the campaign you want to instill pride (more effective than guilt and shame). Break up behaviors into small steps in order for people to feel pride for each step in the right direction.
- Resentment and indignation regarding others' failure to protect resources have predicted conservation activities. However, resentment and indignation toward the issue/behavior will have a negative effect on conservation behaviors, as will guilt and shame. Steer away from this in the campaign and avoid messages that could cause
- Fear can be a motivator. People who make decisions are concerned about what will happen if they don't engage in the behavior.

Slide 9, Measurement Issues

- *Self report bias*
–Social desirability effect
–Behavior versus intention
–Recall
–Measures of actual behavior change

Notes:

- Addressing our abilities to measure behaviors before and after campaign:
- Bias can be introduced when the social desirability of actions is factored into responses (you may actually be measuring an intent to change rather than actual change). Questionnaire design can overcome bias to some extent. Recommend avoiding questions that may be influenced by social desirability.
- Social desirability has huge effect on recall bias.
- Report how much behavior change is actually occurring. This strengthens attitudes and behavior change.

Slide 10, Measurement Issues

- *Response rates*
–Declined in last few years

- People are harder to reach*
- Phone*
- Mail*
- Incentive*
- Start with interesting questions*

Notes:

- Addressing our abilities to measure behaviors before and after campaign:
- Used to expect 60-70% response rate on a mailed questionnaire; now getting 30%.
- People are harder to reach: blocking/screening phone calls, refusing to answer; post 9/11 not looking at mail. Lack of interest in issue.
- Financial incentive helps out a bit.
- Start with interesting questions to get attention (even if not much to do with target questions). If you can get them started, they will likely continue questionnaire/survey.

Slide 11, Recommendations

- *Behavior perceived to be a small part of the problem*
- Visualization*

Notes:

- People are inspired by powerful images, including images of a beautiful natural environment.
- Show them how the good behavior has an impact. Help them visualize. Give them something to “see” and understand.

Slide 12, Recommendations

- *Behavior is not normative*
- Make change visible*
- Diffusion of innovation*

Notes:

- Make the target behavior more normative. Emphasize positive alternatives. Use visual images or pictorial representations to engage the public.
- Diffusion of innovation works because once one person does, others are attracted and begin doing it and the behavior becomes more attractive (more “normal”). 20% - early adopters; 60% late adopters (probably can effect change through early adopters and by direct communication); 20% not going to reach regardless. Probably get between 70-90% change - other 30-10% we will have to just forget about.
- Provide reminders that behaviors are normative (seeing recycling bins out reinforces that “everyone is doing it”)
- Lawn fertilization is a very normative behavior. Might be easier to substitute an organic alternative. Campaign will have to consider the promotional dollars spent by lawn chemical companies. Can use emotional factors to work in our favor; ask people to substitute one value for another.

Slide 13, Recommendations

- *Behavior is not convenient*
–Provide information, resources

Notes:

Show them how behavior can be implemented and be convenient.

Discussion:

- How to address cognitive dissonance? - Make it as easy as possible “open a new file” or lump into an “existing file”. In order to deal with resistance, use humor to put people in a positive mood to open existing or create new file.
- Imagination. How might it figure in to this (in addition to humor)? - Evoke images of things they value. Epiphanies/moments of revelations - tend to happen in naturally beautiful environments. Images will be helpful to get people to tap into this.
- Cognitive dissonance. Would we get same reaction if said okay to use fertilizer, just not as much? - It will be difficult to reduce their use (not impossible). Try to use emotional factors to our benefit. Using an alternative might be easier. Need to understand what you are combating and emotions associated with them (ex. all-American town)
- Will it help to tie in “saving money by using less?” - May not be very effective. Curve is pretty elastic, really not that much will be saved. Environmental approach would be best.

Highlights of Joann's presentation offered by Ben Tyson:

- Specificity is key - general attitudes do not predict specific behavior - specific attitudes do...
- Convenience is key attraction
- Folks do not need much knowledge of issue - but do need sufficient knowledge of behavior
- New knowledge must be consistent with previous knowledge
- Mass media good for imparting emotions (pride, humor)
- Response bias is major issue; response rates have declined greatly - intercept interviews may be better choice of method
- Sacrificing one thing of value for another thing of value is possible message strategy.

E. Presentation - Brian Primack, MD, EdM, Assistant Professor, University of Pittsburgh School of Medicine (available at <http://www.chesapeakebay.net/pubs/subcommittee/cesc/doc-primack-2003.ppt>)

Annotated presentation:

Slide 1, Title Page: “Social Marketing: the Tobacco Story”

Slide 2, Why are we concerned about smoking? Leading causes of death in youth:

17,000 AIDS

81,000 Alcohol

41,000 Motor Vehicle

19,000 Homicide

14,000 Drug Induced
30,000 Suicide
430,000 Smoking

Notes: Most people assume AIDS and accidents are leading causes, but smoking is leading cause.

Slide 3, The Cost of Smoking

- *Tobacco use remains the leading preventable cause of death in the United States, causing more than 440,000 deaths each year*
- *Tobacco results in an annual cost of more than \$75 billion in direct medical costs*
- *Nationally, smoking results in more than 5.6 million years of potential life lost each year*

Notes: Facts about smoking

Slide 4, Tobacco Use Begins in Youth

- *Approximately 80% of adult smokers started smoking before the age of 18. Every day, nearly 4,000 young people under the age of 18 try their first cigarette.*
- *More than 6.4 million children living today will die prematurely by deciding to smoke cigarettes.*

Notes: Try to focus prevention on youth. Try not to get them when it is “too late”.

Slide 5, Known Predictors of Tobacco Use

- *White*
- *Low smoking RSE (refusal or resistance self-efficacy)*
- *Intentions to smoke*
- *Low concern about harm, addictiveness*
- *Friend smoking*
- *Poor grades, poor academic expectations*
- *Poor parental support*

Slide 6, HSPP

- *Peterson, AV, JNCI 2000*
- *Curriculum for youth, 3rd-10th grades*
- *47.25 hours total*
- *“Social Influences” approach*
- *How to say no, effects on body, resisting peer influence, self esteem, etc.*
- *20 school districts got the program, 20 did not*
- *94% follow up, high implementation fidelity*

Notes: HSPP was an approach developed by the Journal of National Cancer Institute (JNCI) - bombardment of education and social influences

Slide 7, Results of HSPP

- *No difference in smoking at 12th grade*
- *No difference in smoking 2 years after high school*
- *No difference among boys or girls*

- *No difference among people of other subgroups (such as family risk for smoking)*

Notes: Not a successful approach. No difference between those getting education and those not getting education.

Slide 8, Everything Changed in 1998

- *Master Settlement Agreement (MSA) resulted in billions of dollars to states and new opportunities for research*
- *1. Release of previously secret tobacco documents - information about marketing*
- *2. Legacy foundation and the “truth” campaign - success with social marketing approach*
- *3. New studies focus on marketing approach*

Notes: Huge change in 1998. Marketing techniques of tobacco companies revealed.

Slide 9, Targeting Youth and Young Adults

- *Wayne GF, Connolly GN. How cigarette design can affect youth initiation into smoking: Camel cigarettes 1983-93. Tobacco Control. 2002; 11:132-9.*
- *Ling PM, Glantz SA. Why and how the tobacco industry sells cigarettes to young adults: evidence from industry documents. American Journal of Public Health. 2002; 92:908-16.*
- *Targeting young adults: use of transitions Ling PM, Glantz SA. Using tobacco-industry marketing research to design more effective tobacco-control campaigns. Jama. 2002; 287:2983-9.*

Notes: Examples of studies - how tobacco companies are targeting youth

Slide 10, “Joe Camel” tobacco company ad

Notes:

- *Used kid-friendly marketing (cartoon figure, cartoon fonts for text, colors)*
- *1990 - more kids recognize Joe camel than Mickey Mouse*
- *30% of 3 year olds recognized Joe Camel cartoons, colors*
- *Phallic nature of camel image attracts youth and adolescents*

Slide 11, Psychographic Segmentation

- *Macho Hedonists (Winston)*
- *50s Throwbacks (Marlboro)*
- *Enlightened Go-Getters (Camel, Newport)*
- *New Age Men (Camel, discount)*
- *90s Traditionalists (Marlboro Lights)*
- *Uptown Girls (Virginia Slims)*
- *Mavericks (Marlboro Red, Camel)*
- *Wallflowers (B&H, Eve, Salem)*

Notes:

- *These are results of Tobacco Company research about target audiences (based on public surveys). They found out who was smoking, divide them into groups, characterized the groups and created brands of cigarettes for each group (for advertising purposes).*

- Recommendation: Find out how to appeal to your target audiences by discovering how the fertilizer industry is appealing to them.

Slide 12, Virginia Slims tobacco company ad

Notes: Tobacco ads focus on promoting a “lifestyle” rather than info. (ad image of woman wearing pearls with ad text in shape of cigarette held by the woman)

Slide 13, RJR Core Consumer Desires

- Traditional
- Virile (40% masculine image)
- Coolness (19% menthol)
- Stylish
- Moderation (10% conflicted)
- Concerned
- Savings

Notes: Results of tobacco company research about desires/motivators of target audience

Slide 14, Targeting Special Populations

- Balbach ED, Gasiior RJ, Barbeau EM. R.J. Reynolds' targeting of African Americans: 1988-2000. *American Journal of Public Health.* 2003; 93:822-7.
- Washington HA. Burning Love: big tobacco takes aim at LGBT youths. *American Journal of Public Health.* 2002; 92:1086-95. Targeting

Notes: Assessments of tobacco company marketing techniques geared towards different populations. (LGBT - lesbian, gay, bisexual and transgender)

Slide 15, Marketing Techniques

- Wakefield M, Morley C, Horan JK, Cummings KM. The cigarette pack as image: new evidence from tobacco industry documents. *Tobacco Control.* 2002; 11:173-80.
- Wakefield MA, Terry-McElrath YM, Chaloupka FJ, et al. Tobacco industry marketing at point of purchase after the 1998 MSA billboard advertising ban. *American Journal of Public Health.* 2002; 92:937-40.
- Shadel WG, Niaura R, Abrams DB. Adolescents' reactions to the imagery displayed in smoking and antismoking advertisements. *Psychology of Addictive Behaviors.* 2002; 16:173-6.
- Sepe E, Glantz SA. Bar and club tobacco promotions in the alternative press: targeting young adults. *American Journal of Public Health.* 2002; 92:75-8.
- Sepe E, Ling PM, Glantz SA. Smooth moves: bar and nightclub tobacco promotions that target young adults. *American Journal of Public Health.* 2002; 92:414-9.

Notes:

- All from tobacco documents
- Recommendation - Develop partnerships with companies already marketing to our target audience (e.g.. between fertilizer companies & Home Depot)

Slide 16, The “Truth” Campaign (video of television ad run during campaign)

Slide 17, Characteristics of “Truth”

- *Branded Campaign*
- *“Cutting edge” youth*
- *Techniques of mainstream media*
- *Expose techniques of industry and reflect rebellion onto industry*
- *Does not abandon “black lungs”*
- *Extremely well funded*

Notes:

- Appealed to rebellious nature of youth and reflected the rebellion back on tobacco industry.
- Highly produced; quick actions; visuals and sound appealing to youth (e.g. black kids are viewed by youth as “cutting edge” and seen as role models for rebellion so used them in the ads)
- Exposed industry technique (by reading documents)

Slide 18, Outcomes of Truth Campaign

- *Very successful*
- *Two year follow up:*
 - *Middle school smoking 18.5% down to 11.1%*
 - *High school smoking 27.4% 22.6%*
- *Dose effect reported with the number of ads confirmed*

Notes:

- This approach was successful as opposed to failures of previous approaches to change behavior.
- People who saw more ads responded even better.
- Used one fact but used many images. Was multi-media (TV, website, “truth mobiles”)

Slide 19, Problems with “Truth”

- *Expense*
- *Sustainability*
- *Not “hands-on”*

Notes: Very expensive. May have to update ads to reflect current trends, situations, lifestyles.

Slide 20, Phillip Morris “Think Don’t Smoke”

- *Present smoking as an “adult choice”*
- *No reduction in tobacco use*
- *Those exposed actually more likely to consider smoking in the future*
- *Not compelling to youth*
- *No negative effects of smoking presented*
- *No media literacy*

Notes: Tobacco company produced campaign. Required due to settlement. Not effective and may have actually resulted in increased youth smoking (due to rebellious nature of youth, which the company was well aware of!)

Slide 21, Social Marketing

- *Person (who is the target)*
- *Price (can we lessen the perceived cost to the target)*
- *Promotion (how do we get the message out there)*
- *Place (the message should be where the target is!)*
- *Purse strings (how do we pay for it)*

Notes: The “5 P’s” of social marketing - considerations for campaigns

Slide 22, Person

- *Adolescents*
- *Inherently rebellious*
- *Don’t want to be told what to do*
- *Looking for an identity*
- *Market segmentation (used many different types of kids for different ads)*

Notes:

- These are considerations for Brian’s upcoming campaign. Getting kids to create the ads.
- Recommendation - we need to do similar evaluations. Target audience is not uniform. Find out who they are and what motivates them. Do not lump together your target audience.

*Slide 23, “We don’t smoke the s***, we just sell it. We reserve the right [to smoke] for the poor, the black, the young, and the stupid.” -- RJ Reynolds Tobacco Executive*

Notes: Showing this quote to increase rebellion of youth against tobacco company.

Slide 24, Price

- *Social acceptability*
- *Make easier to say no*

Notes:

- What is the price of not smoking? (Considered a “geek”). How do we minimize the price?
- Change the social acceptability.

Slide 25, Promotion

- *Powerful images*
- *Powerful emotions*
- *Combination of TV, website, and “truth-mobile”*
- *Concept of “truth”*

Notes: Design web-sites to appeal to target audience(s)

Slide 26, “Come to Marlboro Country” tobacco company ad

Notes:

- Advertising is about images (not all about facts). This image makes smoking look beautiful. This image is saying “Smoke and no one will be bothering you” (ad image is of snow covered mountains with no people or signs of civilization and a hint of tobacco smoke in the foreground). To be successful use images to your advantage.

Slide 27, Place

- *Prime time TV*
- *Shows most compelling to youth*
- *MTV*
- *“Tough” neighborhoods*

Notes: “Truth mobile” went to “tough neighborhoods.

Slide 28, Impact of Media

- *Before graduating high school, we watch TV more than we do anything else except sleep.*
- *Average teenager watches 15,000-18,000 hours before finishing high school. Total amount of time in school is about 12,000 hours.*

Notes: Why television chosen for delivering campaign

Slide 29, Purse Strings

- *Funded by anti-tobacco lawsuit settlements*
- *Now must get more creative*

Notes:

- Previous “truth” campaign was funded by the settlement. That money is running out.
- Perhaps there will be a “happy medium” - they’ll provide some info with the campaign but capitalize on power of media.

Slide 30, The End

- *Ad image: “Welcome to Marlboro Country” with photo of workers forced to smoke in back alley of office.*

Notes: Key lesson learned: they were targeting the wrong people. They changed by focusing on targeting the same people the tobacco industry was targeting.

Discussion:

- Media images are more important than “education.”
- For effective communications, segment the market and target the segments.
- Use images and emotions designed to appeal to the target market.
- Don’t waste time finding markets that are already engaging in the desired behavior(s).
- Look at how behavior you are trying to change is marketed to determine how to combat it and determine how our campaign would be most effective. (Up against a lot of money and power! Their market is our market!)
- The Truth Campaign (www.thetruth.com) - used fancy techniques, stylish; compelling, in your face (to young people). Used youth-oriented website (target audience likes websites with games, secrets, etc.). Studied what kids like and used those techniques
- Truth Mobile: Passed out info. that was formatted like website. Staffed by “hip-looking people”. Provided various things for kids to do (get info, sign petitions, write letters to congress, etc.).

- F. Presentation - Dr. Ben Tyson, Director, Center for Social Research, Associate Professor, Environmental Communication, Central Connecticut State University (available at <http://www.chesapeakebay.net/pubs/subcommittee/cesc/doc-tyson-2003.ppt>)

Annotated presentation:

Slide 1, Presentation Objectives

- *Present case study showing how social marketing principles can be applied in promoting behaviors to limit nonpoint source pollution in a watershed*

Notes: study was never completed.

Slide 2, Marketing Principles

- *Behavior change is the goal*
- *Behavior change theories guide the process*
- *Audience research is necessary*
- *Audience segmentation is key*
- *Messages must be passed through preferred channels*
- *Smart to include strategic partners*

Slide 3, Predictors of Conservation Behavior

- *Perceived risks to self/community*
- *Knowledge of issue and remedial behavior*
- *Attitudes toward issue/behavior*
- *Perceived benefits/costs of behavior*
- *Self efficacy and efficacy of act*
- *Social norm regarding behavior*
- *Community cohesiveness/interaction*

Notes:

- These are the variables with the most predictive strength to change behavior.
- Knowledge of remedial behavior (enabling knowledge - how to do the new behavior) is more important than knowledge of the issue.
- Specific attitudes can predict specific behaviors versus general attitudes and general behaviors.
- Personal norms are stronger predictors of behavior than social norms. NOTE: Vining concluded that the importance of social norms is understated by respondents (see above).
- Other predictors are self-efficacy (whether you can do it) and efficacy of act (whether it will help).
- Referred to the Tragedy of the Commons (Hardin, 1968): There is a dilemma with social norms. If it is perceived that enough people are already doing it, then a person may “free ride” (not participate in behavior) OR if it is perceived that no one else is doing it, then a person may feel like a “sucker” (and not participate in the behavior). Effect is mitigated where behaviors are very observable.

Slide 4, Case Study

- *Mattabesset River Watershed*
- *Lower Connecticut River Valley in central Connecticut*
- *18 mile long river covering six town area*
- *based on: A Strategic Communication Campaign for the Mattabesset River Watershed, Master thesis by Jim Creighton*

Notes: Study conducted three years ago. Objective was non-point source pollution reduction campaign.

Slide 5, Audience Research

- *Focus groups – questions were asked about predictors of behavior change*
- *Survey*
 - *1500 homeowners within 500 feet of a water body within the watershed*
 - *Response rate 33%*
 - *Questionnaire assessed predictor variables, past and intended behaviors, and favored communication channels.*

Slide 6, Target Audience

Survey respondents that indicated that they were likely to perform at least one of the following behaviors:

- *educate self about water quality issues*
- *complete soil test for identifying proper fertilizer requirements*
- *leave unmowed buffer aside water body*
- *pump out septic system every 3 years*
- *encourage caretakers of large land holdings to do the above*

Notes: Large land holders targeted were golf courses, schools.

Slide 7, Demographics of Target audience:

- *Respondents: 50% male, 41% female, 9% answered as a couple*
- *Average age = 49*
- *Average years of education = 14.6*
- *95% own single family homes*
- *Average size of household = 3*
- *46% own less than ½ acre, 34% own between ½ and 1 acre*
- *Average length of ownership = 16 years*
- *1/3 earn less than \$50,000, 1/3 earn between \$50-75,000, 1/3 earn more than \$75,000*

Notes: Very suburban and middle class.

Slide 8, Communication Channels - Target audience favored channels:

#1 Newspapers

#2 Informational Brochures

#3 Television

Not: Radio or Speakers

Notes:

- Not a huge difference between these top three choices.
- Internet was not an option.
- Source/sender credibility is important. Whether the “sender” is local or an outside expert depends on the issue. For subjective issues, the source should be someone with whom the audience can identify, one of them. For more technical issues, the sender should be an outside expert.

Slide 9, Research Findings - Target audience favored actions:

#1 educate self about water quality issues

#2 leave unmowed buffer aside watercourses

#3 pump out septic system every 3 years

#4 complete soil test for identifying proper fertilizer requirements

#5 encourage owners/managers of large land holdings to do the above

Notes:

- Case study addressed a constellation of behaviors. Listed in order of most favored/convenient/acceptable (#1) to least favored/convenient/acceptable.
- Those most likely to be performed were those perceived as most convenient.
- Other actions/behaviors included in survey but did not make the top five list.

Slide 10, Research Findings - Target audience...

- *has positive attitudes about nonpoint source pollution prevention in the watershed*
- *perceive risks to be moderately high*
- *is fairly confident that the promoted behaviors are effective and they can perform them successfully*

Slide 11, Research Findings (cont.) Target audience...

- *is more concerned with cost of behavior to community rather than self*
- *see time as the most important cost, followed by effort and money*
- *is equally concerned with benefits to community and self*
- *is more concerned with family norms/values rather than community norms*

Slide 12, Research Findings - Target audience favored benefits:

#1 Better bird and wildlife habitat

#2 Better conditions for future generations

#3 Clean safe water for drinking and swimming for family and community

#4 Better recreational opportunities for family and community

#5 Prevent property from losing value

#6 Keep area attractive

Notes:

- Target audience favored benefits reflecting personal values, e.g., better bird and wildlife habitat: “a place where your kids can catch frogs just as you did when you were growing up.”
- Economic benefits did not even make it on list.

Slide 13, Campaign Stages

- *Awareness/Pre-contemplation (1st stage)*
- *Knowledge/Skills Acquisition (2nd stage)*
- *Persuasion/Contemplation (3rd stage)*
- *Decision/Action (4th stage)*

Notes:

- Continue previous stages throughout campaign.
- Mass media is good for emotional appeals such as pride and humor and framing the issue in the same way. Media is effective for stages 1 and 3.
- Adoption and diffusion of innovation: Reference Everett Rogers's theory of diffusion of innovation to target the middle majority of adopters. NOTE: Rogers's work was on products like home computers.

Slide 14, Awareness/Pre-contemplation

Channels:

- *Newspapers articles, editorials, ads*
- *Television news, commentary, PSAs*
- *Billboards*

Messages:

- *Risks to self/community*
- *Required remedial actions (behaviors)*

Evaluation:

- *Media tracking data*
- *Intercept interviews*

Notes on evaluation:

- Response rates from telephone surveys is "abysmal."
- Case example: For a pre-survey post card, phone call, questionnaire, phone call to follow up, response rates were as low as 33%.
- To obtain good market information, intercept surveys are being used (hire students. Approach every fifth person and ask questions. This technique does not deliver a probabilistic sample, but it achieves a 50-70% response rate.
- Response bias is a problem.

Slide 15, Knowledge/Skills Acquisition

Channels:

- *Television specials*
- *Direct mail booklets/video/CD-Rom*
- *Community meetings*

Messages:

- *This is what you need to do and this is how to do it...*

Evaluation:

- *Media tracking data*

- *Intercept interviews*
- *Number of pieces distributed*
- *Number of participants at events*

Notes: Direct mailings are cost effective at this stage as long as the material is novel.

Slide 16, Persuasion/Contemplation

Channels:

- *Newspapers articles, editorials, ads*
- *Television specials, news, commentary, PSAs*
- *Special publicity events*

Messages:

- *Emphasize benefits/minimize costs of behavior*
- *Provide assurances of effectiveness/confidence*
- *Provide evidence that the community is cohesive and encourages the behavior*

Evaluation:

- *Media tracking data*
- *Intercept interviews*
- *Number of participants at events*

Slide 17, Decision/Action

Channels:

- *Interpersonal contact at service and supply outlets (e.g., state and federal agencies, soil-testing services, garden supply stores, lawn maintenance companies, septic maintenance companies)*

Messages:

- *Reinforce campaign messages*

Evaluation:

- *Agency/store/company records*
- *Intercept interviews*
- *Mail or phone survey*

Notes: Ben's group was not able to complete this phase of the campaign.

Slide 18, Improving Odds of Adoption

- *Relative Advantage*
- *Compatibility*
- *Complexity*
- *Trialability*
- *Observability*

Slide 19, Relative Advantage

- *The new behavior must be perceived as better than the past behavior.*
- *e.g., regular septic tank maintenance is shown to a) prevent system problems and potentially large repair expenses and b) prevent costs to community of potential groundwater cleanup.*

Notes: Advantage has to be up front and obvious.

Slide 20, Compatibility

- *New behavior must be compatible/consistent with current behavior.*
- *e.g., purchasing a new type of fertilizer and applying it at the correct rate are essentially the same behaviors that are presently performed just fine-tuned to avoid damage to the watershed.*

Notes: New behavior needs to be convenient and cognitively compatible (in order to get them to open files drawers or create new ones).

Slide 21, Complexity

- *New behaviors must not be too difficult to undertake.*
- *e.g., simple behaviors such as leaving a vegetated buffer between homeowner's land and the adjacent water body is not a difficult task to perform. It is likely this behavior will be adopted before something more difficult.*

Slide 22, Trialability

- *New behaviors will be adopted sooner if individuals can experiment with the new method before totally adopting it.*
- *e.g., applying alternative lawn fertilizers in a small part of the yard away from the view of neighbors would allow homeowners to experiment without risking their pride.*

Slide 23, Observability

- *The more visible the benefits of the new behavior, the faster the behavior will be adopted.*
- *e.g., educational signboards could be placed on green lawns grown with conservation-minded fertilizer techniques to draw attention to the innovation. The efficacy of the innovation should be clear and obvious.*

Discussion:

Ben provided highlights from Joanne's presentation:

1. Attitudes do predict behaviors if both are matched (general to general/specific to specific)
2. Convenience is key
3. Knowledge not a good predictor of behavior (but knowledge of how to do new behavior is key)
4. Mass media good for emotions (positive emotions such as pride, humor, etc.)
5. Response bias is important to consider during surveys
6. Substituting one value for another value is important (e.g. rebellious by smoking substituted for rebellious by protesting)
7. Need to do a mix of things (e.g. multimedia and multi-outreach vehicles)

Ben provided highlights from Brian's presentation:

- A. Simple message, specific behavior
- B. Specific target - important to characterize them

- C. Huge budget
 - D. Substituting one value for another value is important (e.g. rebellious by smoking substituted for rebellious by protesting)
 - E. Issue lent to emotions
 - F. Good images
 - G. Captive audience (TV watching)
 - H. Competition (Ben's not sure if analyzing competitions marketing techniques will help)
 - I. Ads may not have been cause of behavior change - need more data
 - J. Timing is everything
- Four things to consider/evaluate:
 1. What specific behaviors are we after?
 2. What is target audience, who are early adopters?
 3. Communication variables? Amount, type, application - 3 behaviors in one (fertilizers). Positive alternatives to fertilizing lawns.
 4. What other media will be used?
 - Regarding lawn care communications, who are the early adopters, what is the behavior change desired? Amount of fertilizer, application techniques, type of fertilizer? What is on the market that can be substituted? What are positive alternatives?
 - One suggested message: the bay is a shared responsibility; demonstrate that other sources of pollution (farmers and WWTPs) are being asked to reduce; homeowners being asked to share (join the team)
 - Need stats on the percentage of the metro area that is lawns.
 - Ads need to capture attention; motivate action (immediate action) and encourage audience to seek more information. NOTE: the more steps in the process, the fewer people we will reach.
 - Goal: create an interested in engaged public. Q: Can we send multiple messages and still meet program goals? Convey message that "your actions will make a difference." There is a big step between asking for information and changing actual behavior. Those who seek information can be viewed as the early adopters.
 - Metro campaign will have a relatively small impact on urban nutrient input to the bay. There will be difficulty in measuring impact.
 - Message from Gary Waugh (unable to attend workshop today): Bay activities already include programs for communicating with farmers and point sources. This campaign should focus on engaging those not already being reached by other means. The audience is narrower than "not the choir" ... Goal includes nutrients and sediments, the focus of other bay programs.