

CITIZEN PARTICIPATION REVIEW

WATERSHED
EDUCATION FOR
COMMUNITIES AND
LOCAL OFFICIALS

WHITE OAK RIVER PILOT PROJECT REVIEW

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EXECUTIVE SUMMARY

The White Oak River Advisory Board (WORAB) was initiated through the efforts of the Watershed Education for Communities and Local Officials (WECO) to establish a local citizenry based stakeholder group that would examine and address the water quality issue in the White Oak River watershed. The facilitation of the WORAB served as WECO's pilot project, and today, eight years after its inception provides a model for watershed planning across North Carolina.

From the time it began in the latter portion of 1996 to today, the WORAB works to formulate strategies and solutions for dealing with the increased salinity and pollution in the watershed and works to implement the agreed upon solutions. WECO's work is successful in empowering local citizens to make decisions about how to respond to the water quality issues of the White Oak River watershed.

With the educational sessions and technical knowledge provided by WECO, the WORAB had the ability to make informed decisions about how to take corrective action concerning the White Oak River watershed's water quality. The WORAB was successful in altering the plans for the NC Highway 24 expansion. Furthermore, WECO assisted the WORAB in coming to consensus on the highest threat by obtaining an EPA 319 grant that allowed the board to pursue several water quality projects that focused on ways to reduce stormwater runoff. WECO's leadership is cited by the board members who participated in the process as critical to their success as a citizen group.

The question investigated in this report is whether the collaborative efforts of WECO and the WORAB has resulted in better decision-making that reflects the interests and concerns of potentially affected people and entities in the White Oak River watershed. Through our analysis of the citizen participation process, we find that the efforts of WECO and WORAB have resulted in better decision-making in the White Oak River watershed. This success is largely attributed to the consistent hard work of WECO to respond to the WORABs needs and to facilitate solutions through clear definition of the problems in the Watershed. At least one participant stated that it would have been "tremendously difficult to accomplish what we did without WECO."

In the coming year, as WECO works with WORAB on the continuation of the EPA 319 grant to implement BMPs in additional locations throughout the watershed, both should focus on transitioning to a self-sufficient WORAB. Suggestions to become more independent include reorganizing and teaming strategically with local universities or non-profit organizations, or hiring a full-time organizer to seek funding and help to implement projects.

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Watershed Education for Communities and Local Officials

WHITE OAK RIVER PILOT PROJECT REVIEW

INTRODUCTION

The Watershed Education for Communities and Local Officials (WECO) is a collaborative effort of the North Carolina Cooperative Extension Service in partnership with local, state, and federal government along with local citizens and non-profit groups to address watershed issues. The White Oak River watershed project began in 1996 as the pilot project of the WECO program. After the program began, the White Oak River Watershed Advisory Board (WORAB) was established to address the threatening water quality of the river as a result of human activity. Changes in salinity and increases in pollutant and sediment loads have resulted in shellfish closures, decreased fishery production, and other water quality problems for the White Oak River watershed.

The vision of the White Oak River Watershed Advisory Board "...is the creation of a climate of local concern and empowerment to improve and maintain water quality in the watershed. This will involve managing the river and its associated land uses to provide for support of water uses, protect long-term water resource values, and sustain their contribution for the economic benefit to the surrounding communities."

To accomplish these goals, WORAB is using scientific investigations to evaluate trends, influencing policy options available to local and state government, using consensus-based decision making, and educating local citizens and government about their work.

WECO's role in this process is to institute basic guidelines for the projects to ensure sustainability and a grass-roots approach. The guidelines used are as follows:

- The project must be locally-empowered and stakeholder-based;
- The project must develop methods for sustainable, collaborative, community-based solutions;
- The project should partner with other state and local agencies to foster watershed-based solutions;

- The project must develop methods for the synthesis, integration, and application of multi-disciplinary scientific and technical information to support policymaking; and
- The project should examine sustainability of policy alternatives by estimating economic costs and benefits.

PROBLEM STATEMENT

WECO helped to put together a group of citizen-stakeholders that included crop farmers, livestock farmers, fisherpersons, developers, foresters, tourism directors, teachers, scientists, and local government officials from the watershed. The group also included an expert panel of agents of the North Carolina Division of Water Quality, North Carolina Division of Coastal Management, North Carolina Division of Environmental Health- Shellfish Sanitation Branch, and the North Carolina Cooperative Extension (Danielson, et al. 2000).

The citizen-stakeholders were named to the WORAB, and their main function was to make collaborative decisions representing the common interest. Serving as a resource for WORAB, collecting information and technical data, the expert panel provided the understanding necessary to make informed decisions about how to address problems faced in the watershed.

The question investigated in this report is whether the collaborative efforts of WECO and the WORAB has resulted in better decision-making that reflects the interests and concerns of potentially affected people and entities in the White Oak River watershed. The following sections provide the context for analyzing the problem statement.

METHODS

Tim W. Clark’s social process, decision process, and problem orientation methods were adapted to evaluate the success of WECO’s pilot program in the White Oak River watershed. The premise of the evaluation process starts with people carrying out decision processes in order to allocate and use resources, which affect how values are shaped and shared in society. This process is the means by which people clarify and secure their common interests (Clark, 2002).

Clark establishes social process elements of the evaluation method that serve as a basis for the criteria listed in Table 1. The social process portion of the evaluation functions as a way to identify the “contextual map,” which is critical in trying to understand whether or not the process used to arrive at solutions for the problems facing the White Oak River watershed arose from citizen driven decisions (Clark, 2002).

Table 1. The Social Process

Category	Question to Ask
Participants	Who is participating?
Perspectives	What are the perspectives of those who are participating?
Situations	In what situations do participants interact?
Base Values	What assets or resources do participants use in their efforts to achieve their goals?
Strategies	What strategies do participants employ in their efforts to achieve their goals?
Outcomes and Effects	What outcomes are achieved in the continuous flow of interactions among participants? What are the new value-institutions, if any? Are new practices put into place? Are old practices maintained?

Source: Clark, (2002)

In addition to utilizing the social process, the decision process outlined in Table 2 helps to assess the decision-making method of the group participants. The process involves examining the rules and prescriptions generated and how they affect the community, which is an evaluation of the effectiveness of the decisions made by the advisory board. Going through this process is important because even though a prescription to the problem may result, it does not necessarily mean that it garners universal acceptance from all group members. Examining the decision process looks to make sure that a political consensus was reached, even if there was some dissent (Clark, 2002).

Table 2. The Decision Process

Function	Questions to Ask
Intelligence	Is intelligence being collected for all relevant components of the problem and its context and from all affected people? To whom is intelligence communicated?

Promotion	Which groups (official and unofficial) urge which courses of action? What values are promoted or dismissed by each alternative and what groups are served by each?
Prescription	Will the new prescriptions harmonize with rules by which the community already operates, or will they conflict? What rules does the community set for itself? What prescriptions are binding?
Invocation/Application	Is implementation consistent with prescription? Who should be held accountable to follow the rules? Who will enforce the rules? Are resources available to carry out the rules? Will people with authority and control resolve disputes? How do participants interact and affection one another as they resolve disputes?
Appraisal	Who is served by the program and who is not? Is the program evaluated fully and regularly? Who is responsible and accountable for success or failure?
Termination	Who should stop or change the rules? Who is served and who is harmed by ending a program?

Source: Clark, (2002)

The third part of the evaluation process involves examining the problem orientation (Table 3). Problem orientation works to create a rational approach to problem solving in the hope that a problem is fully addressed in terms of both identification and resolution (Clark, 2002).

Table 3. Problem Orientation

Task	Question to Ask
Clarifying Goals	What goals or ends, both biological and social, does the community want? Are people's values clear?
Describing trends	Looking back at the history of the situation, what are the key trends? Have events moved toward or away from specified goals?
Analyzing conditions	What factors, relationships, and conditions created these trends, including the complex interplay of factors that affected prior decisions? What models, qualitative and quantitative, might be useful at this stage to explain trends?
Projecting Developments	Based on trends and conditions, what is likely to happen in the future? Project several scenarios and evaluate which is most likely. Is this likely future the one that will achieve the goals?
Inventing, evaluating, and selecting alternatives	If trends are not moving toward the goal, then a problem exists and alternatives must be considered. What other policies, rules, norms, institutional structure, and procedures might move toward the goal?

Source: Clark, (2002)

Citizen Participation Review (CPR) interviewed four WORAB board members as part of the citizen participation analysis. Interviewees included:

- Barry Blackburn – Carteret County Land Records/GIS Director and watershed resident
- Christy Perrin – WECO Program Manager
- Jane Haveland – President of WORAB
- Gene Heath- local business owner, Carteret County

For consistency, all of the interviewees were asked the same questions. Several of the questions were suggested by Webler and Tuler in *Voices from the Forest: What Participants Expect of a Public Participation Process (1999)*. The questions were designed to gauge the interviewees' familiarity with the process, to identify patterns of misperceptions or misunderstandings, and to help the analysts understand the case (Tuler and Webler, 1999). The questions listed in Appendix A became the basic structure for the interviews. To keep the conversation informal, interviewees were encouraged to explore other issues relevant to WECO and the White Oak River project.

The interviews conducted provide first hand information about the experiences stakeholders and other participants had in the process, something that generally cannot be determined from a set of meeting minutes. Interviewees were able to inform the analysts of specific successes or failures from their personal perspective. The personal perspective is of critical importance because it serves as a partial indicator as to whether WECO was able to foster a truly citizen-driven, collaborate approach to solving the problems in the White Oak River watershed.

ANALYSIS

THE WATERSHED AND ITS STAKEHOLDERS (THE SOCIAL PROCESS)

The White Oak River watershed's land area includes 320 square miles encompassing parts of Jones, Craven, Onslow, and Carteret Counties. Fifty-two percent of the land cover in the White Oak River watershed exists as wetlands. With the Croatan National Forest and Hoffman State Forest in its physical boundaries, the second largest land cover is forest. Comparatively, a small portion of this watershed is under urban and agricultural use. The White Oak River is home to five federally threatened or endangered species, and provides important "primary nursery waters" for several anadromous species (White and Danielson, 1999).

The watershed provided not only a natural geographic delineation of the scope of their endeavors; it also provided common ground. The sense of place each of the participants felt about the White Oak River helped to promote collaboration. Fisherpersons realized the effects of degraded water quality with an increase in shellfish closures in the river. Crop farmers and developers were often the target of blame for the degrading water quality in the river due to excess nutrients carried to the river as runoff from agricultural fields, and increased development in the watershed. WORAB cited a lack of local planning for the increase in development, among the issues contributing to the degraded water quality. Furthermore, recreationalists noticed more trash along the riverbanks and floating in the river, evidence of human imprint in areas that were once pristine.

Teaming with the North Carolina Cooperative Extension Service's WECO program, the citizens of the White Oak River recognized a very simple tenet of cooperation; that they could accomplish more if they worked together. Base values are assets or resources participants use in their efforts to achieve their goals (Clark, 2002). Base values for the participants included the *power* of collaborative decision-making; spreading knowledge (*enlightenment*) to their neighbors of the benefits of increased water quality (*well-being*) and dangers of degraded water quality (WECO provided much assistance with this as the technical experts); the *respect* and *rectitude* participants exhibited toward one another; and *affection* for the preservation of the pristine White Oak River.

WORAB AND WECO ACCOMPLISHMENTS

INFLUENCING POLICY THROUGH COLLABORATION

In 1997, after dedicating time to understanding the problem, WORAB and WECO proposed viable solutions to the NC Department of Transportation for the NC Highway 24 road widening project. Their recommendations, in a report titled *Management Recommendations for Improving Sedimentation, Circulation and Salinity in the White Oak River Estuary*, were then presented to the commissioners for Carteret, Jones, and Onslow Counties, and eventually adopted by all. This collaborative, consistent, watershed-based policy statement became part of the public record for the NC Highway 24 widening public hearings, and a preliminary draft was included in the NC Division of Water Quality's Basinwide Water Quality Management Plan for the White Oak

River Basin (Danielson, et al., 2000). Subsequently, NCDOT, in concert with the US Army Corps of Engineers (USACOE), agreed to revise their storm water plans to direct runoff away from the shellfish areas in the river. Because of these successful collaboration efforts, NCDOT is cooperating with other state and federal agencies in efforts to improve circulation and tidal flushing.

In 1999, WORAB was successful in adding a section to the Congressional Water Resources Development Act of 1999 to authorize the USACOE to conduct a study of the river to determine actions that would aid in flushing the river. The WORAB is currently working to secure funding for this study.

DEVELOPING SOLUTIONS THROUGH COLLABORATION

Early success provided momentum for WORAB. After developing an understanding of threats to the watershed, WECO led the group through a process to determine which were the most severe. Threats included sedimentation, nonpoint source pollution (agriculture, urban runoff, silviculture), lack of local planning, wastewater treatment (collection system failures, discharges, failing septic systems), and closed shellfish harvest areas. After an intensive process, including neighborhood surveys, presentations to stakeholders, and evaluation of science, the group decided to focus on urban storm water runoff as a dominant contributor to bacterial contamination in the river. Identification of the problem encouraged other stakeholder groups to take on new projects in order to continue the corrective process in the White Oak River watershed (Perrin, 2005).

WECO facilitated the presentation of policy, educational, and engineering tools to address storm water runoff for WORAB to base their decisions. WORAB chose to educate the public about strategies on an individual basis to reduce storm water runoff and implement Best Management Practices (BMPs). Presentations were delivered to local homeowners associations and local civic clubs.

In 2001, WECO partnered with the NCSU College of Design, the Town of Swansboro, NC, the NC Shellfish Division, and Duke University to obtain a 3-year, \$300,000 EPA 319 Grant to protect and enhance sensitive shellfish waters in the Swansboro and Pettiford Creek areas. The goal of the 319 grant project is to reduce shellfish bed closures by reducing bacteria and stormwater runoff, and educating the community and local officials on how to achieve this goal (WECO 2005). Projects that are funded by the grant include:

- Rain gardens at the Town of Swansboro Hall and Ward's Shore.
- Research and water quality monitoring in Pettiford Creek.
- Pervious pavement parking lots at Town of Swansboro vacant lot and Flying Bridge Restaurant
- Storm water wetland constructed and planted at Town of Peletier Mayor Walter Vinson's land at White House Fork Road.

After the 3-year EPA 319 Grant ended in June 2004, WECO received a 1-year extension to build on completed work with funds remaining from the original grant (Perrin 2005). WECO proposed installing additional storm water BMPs and providing education and outreach regarding storm water management to the Town of Cape Carteret.

THE DECISION PROCESS

In terms of the decision process, WECO provided the intelligence to WORAB to promote educated decision-making. The WORAB used the scientific information to support their recommendations in both the political arena and in appealing to the scientific management of environmental agencies that regulate and enforce water quality. The WORAB and WECO worked to promote (1) the alternatives to manage storm water runoff for the widening of NC Highway 24; (2) education among local homeowners about what they can do to reduce storm water runoff and practice BMPs; (3) construction of rain gardens and wetlands that catch storm water runoff; and (4) continued education outreach for the community and local officials.

The prescription changed over time, depending on the issue WORAB was seeking to address. The prescriptions related to the NC Highway 24 widening included prohibiting the discharge to the river of storm water runoff from the bridge and highway and exploring options to eliminate discharge into the waterways; to take actions to restore salinity regimes, increase tidal circulation, and reduce sedimentation by reopening the mouth of the river to the maximum extent possible; and to establish a long-term maintenance program supporting these efforts and implemented by responsible agencies. NCDOT and the USACOE agreed to support these prescriptions by revising their storm water plans.

To address urban storm water runoff, WORAB prescriptions included educating homeowners about measures they can take to reduce storm water runoff on their property and institute BMPs. These prescriptions harmonized with the local communities in that they were amenable to taking measures to prevent further degradation of the water quality in the White Oak River watershed.

With funding from the EPA 319 Grant, WORAB was able to construct rain gardens and a stormwater wetland, and conduct educational opportunities with the local homeowners associations and civic organizations. WORAB was able to change NCDOT's storm water runoff management plans for the NC Highway 24 widening. These are examples of applying and implementing the prescriptions discussed above.

Following the completion of the EPA 319 Grant, WECO's role as facilitator of the WORAB may end. Currently, the original EPA 319 Grant has been extended for one year and funding will allow WECO to continue its role. The WORAB focus is to work on smaller special spin-off projects in the upper reaches of the river. Christy Perrin, the Program Manager for WECO said that if WORAB wanted to tackle new or larger issues they would probably need to rebuild and refocus the board's stakeholders (Perrin, 2005).

PROBLEM ORIENTATION

The goals and values of the WORAB are clear. The WORAB was formed with the help of WECO to seek solutions to the water quality issues faced in the White Oak River watershed.

The WORAB represented the common interests of local residents, governmental officials, environmentalists, and business owners who had a stake in the watershed's water quality. Despite an obvious stakeholder connection with increased development, representation from local builders/developers was never obtained. Gene Heath, local business owner and board member with WORAB since 1997, attributes this absence to inherent misconceptions about environmental organizations such as WORAB (Heath, 2005). Nevertheless, WORAB immediately set out to address the water quality implications of the Highway 24 Causeway. Their involvement in the Highway 24 Causeway design assured participating agencies of public support for any proposed solutions and resulted in a more eco-friendly design using the latest BMPs. The WORABs subsequent endeavors originated as issues identified by board members that were then investigated with the help of WECO and solutions sought by way of consensus decision-making. Their early success in shaping agency decision-making in the Highway 24 Causeway empowered the WORAB to tackle other issues related to water quality.

Over the course of its existence, the WORAB with the assistance of WECO has worked hard to identify the issues facing the watershed, gain an understanding of water quality problems, and find solutions to those problems. Use of educational sessions in order to inform the board members of the technical side of the issues played a critical role in the board members ability to shape solutions to the identified problems. This educational phase was met with high approval by the board and is credited to the resources of WECO. Without WECO, the board would not have had access to the depth of knowledge needed to make well-informed decisions (Blackburn, 2005; Heath, 2005). In these ways, the efforts of WORAB and WECO moved them toward their goals.

After becoming informed on the subject matter with the help of WECO, the board moved to implement some of the suggested solutions. The implementation process began in response to the wishes of the WORAB and the direction of the implementation process required consensus from the board. There was at least one member who disagreed with the board's direction. This member felt that the implementations taken were dodging the real issues and acting more as a band-aid approach to solving the water quality problems (Blackburn, 2005). After this member left the group, a consensus decision was reached and allowed the board to move forward with its plans. Despite some disagreement on direction, the implementation process also moved WORAB and WECO toward their goals.

The WORAB has had some success in implementing a few spin-off projects in the upper reaches of the watershed since the completion of the EPA 319 Grant. One board member felt that these spin-off projects represent more special interests. He attributes this narrowing of the problem definition and prescription to lack of facilitation, resulting in a focus on special interests over common interest solutions (Heath, 2005). The WORAB has received an additional grant from EPA with funds that were unspent from the original grant, which will extend WECO's involvement in WORAB for at least one more year (Perrin, 2005). It is clear that the funding, facilitation, and expert knowledge WECO provided were paramount to the success of this group. Thus, future endeavors for the WORAB may prove more difficult to accomplish without WECO. Currently, Jane Haveland, President of WORAB thinks that participation has declined because

people do not perceive a problem. They think that it is “over” or that “someone else” will solve the problem, and she struggles to say how the group will exist without WECCO (Haveland 2005).

CONCLUSIONS AND RECOMMENDATIONS

CPR was commissioned to examine whether the collaborative efforts of WECO and the WORAB has resulted in decision-making that better represents the water quality issues and concerns of citizens living in the watershed area. WECO and WORAB accomplishments include, (1) influencing the alternatives to manage storm water runoff for the widening of NC Highway 24; (2) educating local homeowners about what they can do to reduce storm water runoff and practice BMPs; (3) constructing rain gardens and wetlands that catch storm water runoff; and (4) performing education outreach for the community and local officials. All of these accomplishments worked to increase the quality of the water in the White Oak River watershed and promote sensitivity to water quality issues among local citizens. Thus, WECO and WORAB effectively implemented common interest solutions to water quality issues.

Based on Arnstein's (1969) levels of citizen participation, it is CPR's determination that WECOs collaborative involvement with the WORAB reached the partnership rung on Arnstein's ladder. At this level, the citizen stakeholders negotiate and engage in tradeoffs with typical powerholders (Arnstein, 1969). While this is not the highest level of citizen participation, it does empower citizen stakeholders to participate in decisions and negotiate for outcomes that are aligned with their goals.

In fleshing out the social process, decision process, and problem orientation, it became clear that despite WECO and WORABs past success, the continued success of WORAB without the help of WECO is questionable. The WECO was essential to the creation of the WORAB, positioning themselves as another stakeholder rather than the main driver of the process, taking on the role of educator and leaving the decision-making to the board. This assessment proves that the funding, facilitation, and expert knowledge provided by WECO are integral to the continued success of the WORAB, despite their passive role.

It is recommended that WECO consider evaluating how it can provide further assistance to citizen groups like the WORAB to ensure that they are capable of self-sustaining once WECO has achieved its initial goals. Appendix B contains a summary of the actions taken by WECO to determine how it helped facilitate participation from 1996 to the present. This list could be used to identify key functions of WECO that WORAB should adopt to be self-sustaining. The ability of a citizen group to function independently of any oversight organization is a sign of the group's competence to make effective decisions in the long run.

The WORAB could choose to reorganize and embark in strategic teaming with local universities or non-profit environmental organizations to gain access to the same resources that WECO had provided. At least one full-time position to continuously seek funding and search out benevolent donations for their cause could be critical. Increased accountability would result from a structured organization and the creation of at least one position with compensation, and funding would provide the means to implement projects.

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APPENDIX A: INTERVIEW QUESTIONS

Preset interviewer questions used in interviews with former WORAB members and other associated individuals.

1. What did you see as your role in the process? (Did your view of your role change during the process? Who did you represent? Why did you participate in the process?)
2. What did you think of the process – and in particular each type of activity? What was important to you about each activity? What were you hoping they would accomplish – process and outcomes? How did you determine whether they were successful?
3. What did you want to get out of the process?
4. Were your expectations about the process met? (Why or why not? Were there some principles that you believe were central to the process? What kinds of things could have been done to make the process perform better on these principles?)
5. When you think about the other participants in the process, what do you think they were looking for from this process? (Do you think that their expectations were met? Why or why not? Were they more self oriented or were they interested in finding the best solution for all? How did this affect the way that they viewed the process, or tried to change the process, or participate in the process?)
6. Did WORAB need to respond with process changes to evolving expectations or demands?
7. What kinds of things really stand out for you about the process? What was really positive? Why? What was really negative? Why?
8. Was it easy for you to attend WORAB meetings?
9. Did you feel that WECO was guiding the process or responding to WORAB?
10. Was anyone missing from the process – if so, who were they and why would they have been important?
11. What is WECO's current role?
12. What are the next steps for the White Oak River Watershed Advisory Board and the White Oak Pilot Project?

APPENDIX B: MATRIX OF WECO ACTIONS

Year	Actions Taken By WECO to support WORAB
ongoing	WECO represents WORAB in news articles as spokesperson
ongoing	WECO issues press releases to Tideland News
ongoing	plan educational outreach efforts
1996	WECO Convenes group of stakeholders of White Oak River Watershed
1997	Help WORAB develop recommendations to address potential impacts of proposed highway expansion spanning mouth of WO River
1997	Help WORAB obtain official advisory status from Onslow, Carteret, and Jones Counties
1997	Help WORAB write White Oak River Watershed Advisory Board Charter with rules about participants, appointment, term, role of members, project coordinator, project support team, facilitator, decision process (consensus, failure to reach consensus, enforcement of ground rules) schedule and duration - initially had meetings once a month for 2 hrs with 10 min break
1997	WECO provided project workbook to board members with contact info, project summary and fact sheet, vision statement and charter, minutes from first meeting, copy of rec made to DOT regarding causeway at HWY 24.
1998	Help WORAB work with US ACOE and US Rep Walter Jones to authorize flow study in river (got White Oak River in Congressional Water Resources Development Act of 1999 to authorize US ACOE Reconnaissance Study of White Oak River)
1999	Help WORAB Study and Discuss complicated issue: the closure of shellfish beds in White Oak due to elevated counts of fecal coliform bacteria
1999	In response to request from Swansboro, WECO approached town staff to see if they wanted to partner on EPA grant application
1999	WECO launches project website
1999	Facilitates group decision-making. WORAB Choses to focus on urban stormwater runoff as dominant contributor to bacterial contamination in river
1999	Present Board with list of policy, educational, engineering tools to address stormwater runoff, board chose to pursue educational activities around BMPs
2000	WECO delivered presentation highlighting actions individuals can take to reduce stormwater runoff from their property to over 100 citizens at local civic clubs and homeowners associations
2000	Helped WORAB get recommendations to DOT on public record for DWQ and DOT and adopted by Jones and Carteret Co. commissioners and Onslow County White Oak River Basin Advisory Comm, and forwarded to Walter Jones
2000	WECO/WORAB find out they got EPA grant beginning 2001. Decide to hold a town meeting
2001	After grant approved and funded, WECO compiled a list of selection criteria and team toured sites to determine which potential BMPs ranked highest.
2001	set EPA 319 Project Grant Timeline
2001	WECO provided fliers and invitations announcing April 9 public meeting - board members distribute through mailings through constiuent groups (like homeowners assoc), community meetings, pass out to neighbors
2001	WORAB brainstorm possible monitoring locations in Pettiford Creek watershed
2001	WECO invites US ACOE reps to attend April 9 public meeting

Year	Actions Taken By WECO to support WORAB
2001	WECO, NCSU College of Design, Town of Swansboro, NC Shellfish Division, Duke Univ. obtain 3-year \$300,000 EPA 319 Grant to protect and enhance sensitive shellfish waters in 2 specific watersheds (Swansboro and Pettiford Creek) June 2001-June 2004
2002	WECO made presentation to Onslow Co. Board of Commissioners requesting support for USACOE reconnaissance study of white oak river. Draft letters of support to Walter Jones and ACOE Wilmington District were included in packets sent to Onslow Clerk to the Board
2002	Christy of WECO working with Carteret Co. Extension Director to get on Carteret Co. Board of Commissioners agenda
2002	used Pettiford Creek Watershed-Field Assessment Form to conduct survey in neighborhoods (with school kids)
2002	WECO presentation demonstrating potential benefits of the projects, town commissioners pass resolution supporting construction of 3 BMPs in Swansboro.
2002	WECO works with Connie and Jane to get letters from WORAB to local reps and Helms and Edwards
2002	WECO gives presentation to Town of Swansboro re: BMPs sites. At the meeting Christy asks Town of Swansboro Commissioners to pass a resolution to allow use of property for constructing BMPs. The Town passed the resolution with stipulation that Town be involved with design stage and any plantings at Ward Shore be low-growing.
2002	WECO follows up with new board member
2002	WECO will work to assemble panel of experts to address beaver and storm debris problems
2002	WECO provided WORAB with a visual timeline of group's history. Each WORAB member made additions to the visual timeline, including date they joined the group. Timeline is on the web.
2002	Study of water quality impacts from beaver dams. WECO explained that Local initiative would be needed to implement strategy in upper white oak - WECO can assist with this strategy, but focus must be on EPA319 project - "Current funding for the White Oak project comes entirely from the EPA, necessitating staff hours to be spent on successfully implementing that project.
2002	WECO staff shared draft examples of signs for raingardens at Town Hall and Ward's Shore. WECO will work with Town of Swansboro to build the structure for the signs. The signs will be added to sites after raingardens have been constructed.
2002	WECO asked for feedback about the signs - WECO staff will draft the content of the signs and investigate options for creating the signs, if drafts are available, they will be shared with the WORAB at their next meeting on Nov 4 2002
2003	WECO helps WORAB discuss how to proceed in petiford creek, discuss how to involve public in unveiling of BMPs in Swansboro
2003	WECO helps WORAB plan for community design workshop to locate BMPs
2003	WECO presents results of PC study to Peletier at Town Council Meeting
2003	WECO reports back on ground-truthing of study results, discuss how to involve the community
2004	After EPA 319 grant ended, WECO applied for another 1-year grant to build on completed work - proposed installing additional stormwater BMP and providing education and outreach regarding stormwater mgt to Town of Cape Carteret.
2004	WECO calls Lori Brill of Onslow County to get an update on progress of USACOE study and found out commissioners decided not to move forward with sponsership letter - counties do not want to bear full burden of dredging costs that may be necessary. No local organization has agreed to sponser the study, no action will take place until then
2004	WECO helps set up workshop with 25 people at Western Park Community Center in Cape Carteret re: Pettiford Creek research results (WECO developed flyer and distributed to WHO? In neighborhoods - how many?)

Year	Actions Taken By WECO to support WORAB
2004	WECO develops survey for participants at workshop filled out survey to determine how well workshop met goals for providing residents with useful info about the watershed
2004	WECO secures additional funding for 1 year for extension of EPA grant.