

AREAWIDE WATER QUALITY MANAGEMENT

PROGRAM SURVEY (II)

MARCH 1977

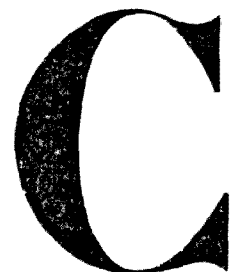
PREPARED FOR

WATER PLANNING DIVISION

ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C.

Centaur Management Consultants, Inc.



PREFACE

This is the second round in a series of surveys of areawide water quality management (WQM) agencies. These surveys are being conducted for the Water Planning Division of the Environmental Protection Agency, Washington, D.C. by Centaur Management Consultants under Contract No. 68-01-3577. The first survey in these series was documented in two reports: "Areawide Water Quality Management Program Survey Summary" dated August, 1976; and "Areawide Water Quality Management Program Survey" dated October, 1976.

This survey was conducted solely by telephone in February of 1977. The survey format was transmitted to each of the WQM agencies and to the EPA Regional Offices prior to the telephone contacts. The survey structure as described below was modified by the unique characteristics of each agency. The actual questions asked of the various local interviewees over the telephone reflect our previous understanding of each agency's achievements, problems, and progress to date. A list of interviewees is in the Appendix.

The theme of this survey is to assess progress toward plan implementation. In order to assess the sample agencies' performance, the following three issues were discussed.

1. Nonpoint Source Problems - For each areawide agency, a specific nonpoint source problem was selected for discussion. The nonpoint source problem selected was not necessarily among the reasons cited for initial designation, however in each case it does represent a priority concern identified in the agency's profile prepared for the EPA Water Planning Division. Interviewees were asked such questions as: How was the issue defined? To what extent will it be corrected as a result of the WQM program? When will plan recommendations be implemented?
2. Facilities-Related Plan Elements - Interviewees were asked whether WQM interim and final plan outputs influence current and future wastewater treatment facilities decisions. And, if so, in what way will this happen?
3. Role of WQM Planning in the NPDES Permit Process - Interviewees were asked whether WQM interim outputs as well as the final WQM plan will influence the next round of NPDES permits. If the WQM plan will not be ready for the next round, how do interviewees think it will influence future NPDES permitting activities?

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In order to obtain a broad perspective on the WQM program, a variety of persons were interviewed in each project area. Included among the interviewees were the WQM Project Director, the EPA Regional Project Officer, the State water quality agency liaison, local elected officials and citizens. Whenever possible, the survey team interviewed the same persons who participated in Centaur's previous WQM survey.

Because this survey was designed as part of an ongoing WQM program study, the following case studies should be read with the earlier Centaur case studies in mind. For the sake of brevity, a full explanation of facts already presented in earlier reports are not repeated in these case studies.

This round of the WQM survey was directed by Ms. Jane Nowak. Assisting her were Cheryl Dinneen, Ann Hoffman, and Constance Castle. Centaur appreciates the useful guidance provided by Ms. Pat Cohn, the EPA Project Officer.

Michael L. Frankel
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1 chattanooga

Chattanooga Area Regional Council of Governments/
Southeast Tennessee Development District

Chattanooga Area Regional Council of Governments (CARCOG) started its WQM project in September, 1975 and is scheduled to complete its final plan in October, 1977. The total WQM grant amount is \$949,000.

The designated area is 2,012 square miles and includes three counties each in the States of Georgia and Tennessee. The population is 370,010 according to the U.S. Census of 1970. The Chattanooga area was designated because of its urban concentration and its industrial pollution. However, since much of its population is concentrated in one country, Chattanooga also has a large rural area. This area accounts for a number of nonpoint source problems which are also being studied under the WQM project .

General Nonpoint Source Analysis

Chattanooga Area Regional Council of Governments (CARCOG) is examining a range of nonpoint pollution sources (e.g., agriculture, mining, silviculture and construction), and particularly those sources which contribute sedimentation to the area's waters. Attention is also being directed toward combined sewer problems which are causing pollution in some tributaries. All of these problems were identified by the WQM's Technical Advisory Committee (TAC) but had never been studied before.

A key feature of the nonpoint source WQM study element is that CARCOG has engaged the services of a Soil Conservation Service (SCS) staff person to conduct the nonpoint source study over the two year study period. The SCS person has already completed an assessment and evaluation of the area's nonpoint source problems and is currently monitoring land use types (industrial, commercial, residential, agricultural, etc.). This data will be used to determine pollution loadings and finally to develop land use management practices.

A sampling program is being completed by the Tennessee Valley Authority (TVA) in order to calibrate and verify a nonpoint source model. The sampling program is going slower than expected in part because of coordination problems between CARCOG and the TVA and because there was a problem with low seasonal rainfall. Only 15-20 percent of the sampling was finished by February, 1977, whereas they had previously expected to finish 80 percent by that time. A consultant is using the SWMM model to do an analysis of urban runoff. At a minimum, the consultant will quantify the problem and if possible develop alternatives.

The WQM staff was working on three possible solutions to its nonpoint source problems. The first is the development of BMPs by the SCS person. Although this work just started in June, it is ahead of schedule and will be ready to be presented to the WQM Program Board with alternative recommendations, their impacts and costs by the beginning of March. The second solution being considered is a sediment control regulation for the three counties in Tennessee. The Georgia counties already have a regulation that requires a sediment/erosion plan from all potential polluters¹ and a parallel regulation for the Tennessee counties is believed desirable.

The third solution being developed is the formation of an association of the five SCS districts in the designated area. The association would consider urban and rural runoff problems. The EPA project officer, the State liaison and the WQM project staff all felt this alternative represented an innovative management approach. Although historically the SCS has operated through education and voluntary programs, under the five district association they might seek some regulatory powers (such as through an erosion control ordinance). The first steps towards implementation of this solution were taken in late 1976 with formation of the association.

The EPA Project Officer expects the association will develop and promote voluntary compliance with BMPs. He feels this is the only acceptable approach. The Tennessee State liaison is also in favor of the association's "softer" program with funds and motivation instead of imposed regulations. He expects eventual abatement of the nonpoint source problems through the association of SCS districts.

One of the County Commissioners felt it is necessary to "give it teeth" before the program will work. He also favored examining a full management system before writing regulatory ordinances rather than trying to solve problems piecemeal. A city engineer felt that nonpoint sources were not a significant problem with the exception of combined sewer overflow, so he was not particularly interested in this element of the plan.

¹ There is, however, an exemption for agriculture.

A citizen, who is a representative of the National Association of Home Builders on the Citizen Advisory Committee felt that the WQM plan was going too far, too quick. He wondered what the costs would be and how they would be passed on. He felt that nationwide the WQM program will be a "blow to the economy" and asked whether anyone had done an economic impact study on the program. In his opinion they would be "stopping all coal digging just for a couple of streams that aren't important anyway". Finally, he said that WQM was contributing to a situation where no one can afford a single family home. NAHB, though concerned about the program, has not publicly opposed it, fearing a backlash of anti-development sentiment would lead others to support WQM.

According to the project staff, the interim outputs are completed but have not been sent to EPA Regional Office for approval. The projections and inventories were useful for the nonpoint source work. The State will do all wasteload allocations under the statewide plan.

The final WQM plan will be completed by the summer or the fall of 1977, and everyone agreed they would start implementing parts of it even before the final plan is completed. The final plan must be approved by the Water Quality Board on behalf of the CARCOG Board. Two possible barriers to implementation cited were opposition from private industries that stand to be regulated and lack of implementation funds. The WQM staff thought that financial problems would arise particularly at the local level. According to the EPA Project Officer, the problem will be complicated by the fact that the SCS itself does not have the money and would probably be looking to Federal sources.

A Citizens Advisory Committee (CAC) was not formed until the fall of 1976, therefore citizens were not involved in either problem identification or review of interim outputs. The CAC will review the management alternatives when they are completed in March. The CAC consists of 30 members selected to represent a balance of interests and geography. At the time of the interviews, the CAC had only had one meeting. Attendance was limited because of bad weather, but those attending were very interested. One of the citizens attending felt that people were hesitant to speak up because it was the introductory meeting, but he expects active involvement and participation.

All interviewees agreed that there has been excellent involvement by local elected officials. The officials' involvement is centered around the Policy Board, but there is also good direct communication and coordination between meetings. The WQM staff explained that interest varies according to how

much the official's area stands to lose or gain. Thus several officials (especially those in Hamilton County and in Northern Georgia) are involved on a day-to-day basis. Some of these officials are asking for a regional management system. The WQM staff noted that any management system or any nonpoint source regulations will only have the force given them by these officials. Many of the key officials, such as the Mayor of Chattanooga, attend meetings personally (rather than send a representative) which encourages others involved to believe the elected officials will follow the program through. The State liaison believed that the Chattanooga program is the best designated program in Tennessee, mostly because it has such excellent communication at the local level.

The two states (Georgia and Tennessee) involved in the Chattanooga study kept informed of project progress but neither is very active in the program. Georgia is not involved because it is primarily interested in 201 planning, not areawide WQM planning. Although Tennessee is more interested, staffing problems have forced them to limit involvement to reviewing plans and attending TAC meetings. The State of Tennessee has hired a consultant to coordinate the areawide studies with the statewide WQM study. A few meetings between areawide planning bodies and the State have been held. It is believed that many legal issues can be solved in common.

The EPA Regional Office has been actively involved in several elements of the WQM study. In addition to helping define problems, give support and guidance, the Regional Office has organized over four joint State/areawide meetings and a presentation on cost recovery. In addition, the water lab in Athens used this area for testing certain modeling techniques.

Facilities Planning Related Elements

The WQM study is not doing facilities planning work because they were told not to by the EPA Regional Office. Most of the 201s in this area are already complete. The one area not involved has recently started a 201 plan. These 201 plans are considered adequate and thus not requiring attention of the WQM staff.

In examining the facilities management system, the WQM staff is trying to work within the confines of existing agencies. The WQM staff, EPA Project Officer and State liaison tentatively suggested that there may be a need for a new regional agency. The EPA Project Officer noted that it certainly makes more sense for one agency to deal with EPA rather than each local jurisdiction dealing separately. He also noted that the Chattanooga area

has successfully tackled other problems - notably health and transit - on a regional basis. The State liaison, however, felt that there would be resistance from many towns who might feel power is being taken away from them. One County Commissioner felt that any new agency would have to be large enough to handle all the work. Currently, the only body large enough to do that would be the City of Chattanooga. He said he would support such a system if there is a lot of local input and it is not too costly.

The City of Chattanooga sewer use ordinance became effective in January 1977. Right now industries are being asked for information on their discharges in order to develop pretreatment requirements and industrial cost recovery formulas. The EPA Project Officer also felt that the information might be used to start an industrial exchange, so that those who could use a particular discharge as a water supply would be aware of where it is. So far, the WQM has had little involvement in the ordinance.

Role of WQM Planning in the NPDES Permit Process

EPA has NPDES permit authority in both Georgia and Tennessee, although the State of Tennessee is seeking to take over this authority. In issuing permits, EPA solicits State review and attaches State comments as integral conditions. The WQM agency is also sent draft permits for comment, but so far has not made any comments. Citizens and local elected officials also do not play much of a role in permitting.

The interim outputs were not particularly useful in permitting. The WQM staff agreed that the State should do the wasteload allocations. Since this has not happened, the WQM agency feels the State should either do it, or let it be done under the WQM study. EPA was also critical of the State for not implementing standards. The State, in turn, was critical of EPA for not studying the State's problems in depth before issuing the permits. Instead NPDES permits were issued "in bulk", which the State felt was an "inaccurate procedure".

Conclusions

CARCOG is generally believed to have an excellent nonpoint source program underway. The Soil Conservation Service staff person who is on temporary assignment to the WQM staff is highly regarded and seems to have accomplished a great deal of work in a relatively short period of time.

In addition to completing an inventory and evaluation of the nonpoint source problems, he has almost completed an evaluation of loadings by dominant land uses and is about to prepare BMPs for a variety of potential nonpoint source pollutants. This element of the plan will most likely be completed ahead of schedule.

The accomplishment cited by all interviewees is the formation of an association of the five Soil Conservation Districts in the area. Federal, State and local officials alike are enthusiastic that the association will be able to successfully solve the nonpoint source problems of the bi-State area. Implementation has already started through formation of the association. The association will generally work through education and voluntary programs, and will also provide regulatory controls such as an erosion control ordinance which is being considered.

Citizens are just starting to become involved, but there is a fairly high level of interest because there is so much happening in this program. Not all the interest is necessarily favorable; some industries and developers are concerned about the cost and effects of certain regulations, but no definite opposition has formulated yet.

Local elected officials have been active for some time. Leadership has developed among the officials as the mayors of some of the largest areas have taken a personal interest in the program. Most officials seem cautiously interested in looking at new institutional and management alternatives. They are concerned about the area's problems and agreed that some corrective actions are needed, but they are unsure what effect this might have on existing authorities. It seems likely that the officials will remain involved and possibly might even consider creating a new regional management authority for treatment facilities.

The WQM staff is presently looking at the existing treatment facilities management to see what improvements might be made. Many officials in the area are beginning to think that a regional authority would make sense. Other officials are jealous of their existing powers and would oppose such a move. If regionalism is to occur, it will have to come slowly as a consensus emerges. The WQM staff is sensitive to that fact. The WQM staff does not become involved in any 201 planning as it is mostly completed in this designated area.

NPDES permitting authority rests with EPA in both Georgia and Tennessee. Neither the States nor the WQM agency get heavily involved, although they are each given an opportunity to comment on draft permits. Both EPA and the WQM agency were critical of the State of Tennessee for not completing some of the work that might have been used in making permit decisions. For example, wasteload allocations, which were to have been done by the State, have not yet been started.

Aside from this, however, the WQM agency and the State of Tennessee are working well together. The State liaison calls Chattanooga the best areawide program in the State. Georgia has shown little interest in the program, preferring to spend its time on 201 planning in the State.

2 philadelphia, penn.

Delaware Valley Regional Planning Commission

The Delaware Valley Regional Planning Commission began actual WQM planning for the Philadelphia area in January, 1976 and is scheduled to complete a final plan in December, 1977. The Philadelphia WQM project is one of three WQM projects being conducted by DVRPC. Problem definition and data gathering were completed under the Pennsylvania comprehensive water planning program (COWAMP) prior to receipt of the Philadelphia WQM grant. The Philadelphia study area consists of 2200 square miles and includes 3,865,810 people according to the 1970 U.S. Census. Eighty-seven percent of the area is in greater metropolitan Philadelphia, much of which has complex urban and industrial sources of water pollution problems. Urban storm runoff is a major problem in the City of Philadelphia itself and approximately 20 other neighboring urban communities.

Urban Storm Runoff

A study conducted by the Philadelphia Water Department before the WQM study began confirmed the existence of an urban storm runoff problem in the Philadelphia metropolitan area. Beginning with this knowledge, the Delaware Valley Regional Commission (DVRPC) designed its WQM project:

- To determine the magnitude of the runoff problem relative to point source pollution problems; and
- To define site specific solutions for problem areas.

The absence of storm conditions during the WQM planning period, however, has interfered with stream sampling needed to calibrate a new runoff model being prepared by the Pennsylvania Department of Environmental Resources (DER). Without this data, the WQM Project Director feels that DVRPC's quantitative analysis will be severely limited and that the

final WQM plan can do no more than outline generally appropriate management strategies. The Director estimates that a six month time and funding extension from EPA would enable DVRPC to use the new State model and thereby develop sound and implementable recommendations.

The State liaison from the DER agrees with the WQM Project Director's opinion. He noted that if DVRPC does not receive the requested extension, the WQM agency will be forced to use existing data in conjunction with an old State runoff model. This "primitive" model will only generate "best guess" estimates, solutions, costs, results, etc. Local communities are not expected to enthusiastically receive or implement "best guess" recommendations. The EPA Project Officer sympathizes with the sampling difficulties but feels that DVRPC may be looking for more data than it actually needs to reach its desired objectives.

Philadelphia's WQM interim outputs have not been completed yet because of technical and political problems. The WQM Project Director however noted that the interim outputs will not be directly useful in solving existing urban storm runoff problems, but may be helpful in projecting possible pollution from future growth. The population and land use projections in particular will be used in calibrating the DER runoff model.

The WQM Project Director expects that most recommendations will pursue a voluntary rather than regulatory approach to problem solving because of local concerns about autonomy. The EPA Project Officer noted that such an approach is to be expected since DVRPC has never been involved in regulatory activities. According to the State liaison, DER is already prepared to ask all local communities to make their local sewer plans comply with the WQM plan. One citizen noted that DVRPC has avoided discussions about voluntary versus regulatory approaches to problem solving since regulations are such a politically volatile issue in the WQM area. He feels, however, that DVRPC will be forced to face these difficult questions before the final WQM plan is issued for review.

Although the WQM project extension controversy has left the nature of the final WQM plan recommendations rather uncertain at this time, the WQM Project Director predicted that recommendations will chiefly emphasize nonstructural management practices (e.g., street sweeping, sewer maintenance and cleaning, catch basin cleaning) or semi-structural solutions (e.g., use of storm sewers for retention and delayed treatment of water). In view of his personal stand on the project's extension, the EPA Project

Officer expects DVRPC to rely on literature for guidance in selecting appropriate recommendations. One citizen noted however that literature-based recommendations will not be adequate from the local perspective, especially if communities think that more effective and perhaps more economical solutions could be developed with just a little more planning time and money.

Most interviewees feel it is too early to predict the WQM plan's impact on water quality. Generally, they expect existing problems will not be completely corrected but that WQM planning will provide tools and knowledge for avoiding future problems. The key, of course, will be the degree to which the plan is implemented.

When final WQM plan alternatives are prepared they must be reviewed first by the public at county forums (i.e., public meetings) and by the Citizens Advisory Committee. The final plan then moves through the rest of the WQM committee structure, i.e., the Technical Advisory Committee, the Policy Advisory Committee and the Study Advisory Committee. The two latter committees are composed primarily of county and local officials. After public hearings are held, the plan is reviewed by the DVRPC Board of Directors which is composed of eight County Commissioners, representatives from the four largest cities in the WQM area, and three representatives from the State. Local elected officials then have a chance to review the plan and make comment directly to the Governor before his final review and transmittal of the plan to EPA. The critical points in the review procedure, according to the WQM Project Director, are the DVRPC Board of Directors and the local elected officials.

The WQM Project Director would like to see some implementation of plan elements before the final plan is approved, but given the uncertainty of project extension and local communities' aversion to a "piecemeal approach", it is unlikely that much action will be taken in the immediate future.

A number of potential barriers to final WQM plan implementation were mentioned. The WQM Project Director, a citizen and the State liaison noted that intense home rule preservation sentiments will be the most significant stumbling block to overcome. Some communities have traditionally dismissed any plans which even vaguely speak of regionalism or inter-community cooperation. Since the Philadelphia WQM area has over 350 municipalities, coordination is essential but will be difficult to achieve. Many local

officials are still unfamiliar with the rationale behind WQM planning and the costs and benefits of possible recommendations. The WQM Project Director feels it may take a good deal of time after the two year period to convince these officials to accept and implement the plan. Since involving the myriad of local officials would have made the planning process totally unwieldy, the WQM staff has geared its program toward an audience of county level officials to date.

A citizen and local official stressed that local communities are concerned that the WQM plan will be based on inadequate data. Now that the WQM Advisory Committees and the general public (through the county forums) have heard about the data gathering extension controversy, many are convinced that anything short of using the new State runoff model and thorough storm sampling data will not suffice. The last thing property owners want is further control on the use of their land, let alone if those controls are based on possibly faulty data.

Availability of outside funding is also a major factor in implementing the WQM plan. The WQM Project Director noted that funding during the transition period between plan completion and implementation will be particularly important. DVRPC is presently considering a variety of transition period funding alternatives including charging a fee for reviewing local plans and making them consistent with the WQM plan (as required by the State). Another alternative is to recruit the cooperation of the Corps of Engineers or the Soil Conservation Service in coordinating planning efforts with WQM transitions planning and funding.

One local official feels that without Federal sanctions, there is little hope for plan implementation since water quality management is not a foremost priority among most local officials. He also noted that jurisdictional problems can be expected. For example, if one town installs a culvert to carry away urban storm runoff, the pipe may have to extend into the neighboring community. Questions about who benefits and who should pay will surely arise.

To overcome some of these potential barriers, the WQM staff has tried to reach out to municipal associations with local official membership. There, the WQM staff has tried to explain the WQM project and solicit local input. DVRPC has also used television and radio public service announcements to increase the project's visibility and to call upon concerned citizens to lobby for local officials support of the WQM program. DVRPC is also still pursuing grant extensions from EPA.

The quarterly county forums mentioned above are the chief routes for public input into the WQM program. These forums are jointly sponsored by the State's comprehensive planning programs (COWAMP). The WQM Project Director feels that these forums have been very helpful in keeping the public informed. A citizen interviewee, on the other hand, feels that the forums are only useful to those who were already interested in water quality and wanted a platform to voice their parochial point of view. The Citizen Advisory Committee (CAC) has more direct input into the WQM planning process. The CAC helped identify nonpoint source problems for study and reprioritize work elements when the initial petition for project extension was rejected. The CAC is currently engaged in discussions on management alternatives. The most active special interest groups are the watershed associations which, according to the WQM Project Director, promoted more input from local officials. All interviewees felt that DVRPC has done commendable work in the area of public involvement. They attribute any shortcomings to the public's own apathy.

As noted earlier, local elected officials have not been formally included in the WQM advisory structure because of the multitude of townships and cities involved. The WQM Project Director feels that citizens on advisory committees and at county forums balance the program with local input. On the urban storm runoff issue in particular, the EPA Project Officer noted that only 18 - 20 communities are directly connected to Philadelphia where the problem is most serious (a great deal of the remaining WQM area is rural) and therefore active interest from the whole spectrum of local officials should not be expected. The EPA Project Officer also noted that since well developed management alternatives have not been formulated yet, it is too early to even try to reach local officials. The State liaison shares the opinion and expects to see more direct interest from local officials when alternatives are presented to them. One local elected official cautioned however that if DVRPC waits until the end to reach local officials, those officials will balk at DVRPC's recommendations if they are perceived as dictates from the county and State level.

The State has actively supported the Philadelphia WQM program which is now combined with Pennsylvania's COWAMP program. The State co-sponsors county forums and has assigned a liaison from the DER to attend all WQM committee meetings and oversee all technical and administrative matters. DER contracted with DVRPC to subcontract out all technical work elements. The purpose was to supplement DVRPC's staff with technical expertise for subcontract quality control. DER has been less helpful directly in DVRPC's

storm runoff work than in other parts of WQM planning because the Philadelphia Water Department is actually doing most of this nonpoint source study. The State, however, has given informal support to WQM recommendations in the form of suggestions for statewide stormwater management practices. According to the WQM Project Director, DER is looking to DVRPC for lead work in this direction.

The WQM Project Director has been very pleased with DVRPC's working relationship with EPA's Regional Office in Philadelphia. His only complaint concerned EPA insensitivity to areawide planning constraints (e.g., well defined local institutional inventories, available technologies, etc.) which have made WQM planning more difficult than EPA expected.

Facilities-Related Plan Elements

The WQM plan is expected to strongly influence facilities planning decisions in the Philadelphia area. As a number of interviewees noted, without such an effect, the grant money will have been wasted and a foremost purpose of the program missed.

In Pennsylvania, all local communities are required to develop a sewer plan per order of State Act 537. DER's policy is that all 537 plans will have to be revised to be consistent with the final WQM plan. Not all grant applications for facilities projects can wait for WQM plan completion since there is political pressure to spend the money now or lose it. In the interim, the State is working closely with the WQM staff in review of facilities plans and ongoing 537 plan updates. DVRPC will continue influencing future decisions through its role in the A-95 review process. One citizen warned that the full possible effect of WQM planning on facilities planning would depend on how well DVRPC could educate local officials to the range of wastewater treatment alternatives open to them. This citizen was particularly concerned about promoting nonstructural alternatives wherever possible.

In the area of management planning, DVRPC has just completed its inventory of existing wastewater treatment management authorities. The inventory identified over 500 agencies with some pertinent management-related powers. The WQM Project Director noted that eliminating all or even a great deal of these powers is politically impossible, but that DVRPC is trying to develop a scheme to simplify and coordinate their activities. The question of regionalization has not been raised yet. The EPA Project Officer feels that DVRPC may be ignoring management discussions on purpose since they will inevitably arouse major controversy. A citizen explained that some communities fear regionalization will automatically mean higher taxes for a program they feel they can handle adequately on a municipal basis.

Since facilities related plan elements are a major concern in the Philadelphia WQM study, DVRPC has stressed related plan elements in public forums and CAC meetings. There is mixed reaction to DVRPC's efforts, however. One citizen feels the WQM staff has been extremely open and receptive to public input. Another citizen feels that this public input is of limited value since those who speak out at public meetings are only representing their very parochial concerns. Although the WQM staff has tried to elicit local official's output into the planning process, only a few have become interested at this point.

Role of WQM Planning in the NPDES Permit Process

EPA Regional III is responsible for NPDES permitting in Pennsylvania. According to the WQM Project Director and the EPA Project Officer, EPA will depend heavily on WQM wasteload allocations in issuing future permits. However, the EPA Project Officer noted that DVRPC will have to prove it used a good model in order to defend the wasteload allocations it projects. This statement focuses back on stream sampling problems and the questionable use of an updated State model. Whether or not WQM input will be exercised in the next round of Pennsylvania permits depends on the resolution to these questions.

NPDES permitting has been discussed extensively by citizens and special interest groups in the WQM municipal and industrial discharge subcommittee of the WQM Study Committee. Since the subcommittee has had difficulty in becoming focused in its discussions, specific recommendations (e.g., identification of new permit needs or changes in permit requirements) have not been made. Local elected officials have not been active in this area.

Conclusions

The lack of sampling data due to weather conditions and the delay in the development of a State model have led to a steadfast call from the Delaware Valley Regional Planning Commission WQM staff for a time and funding extension for the Philadelphia WQM project. This request has filtered out to local officials who are also beginning to pick up the call in fear that they may be burdened with an inadequate plan. Since the data to be generated through the State model will affect many components of the final WQM plan, the question of extending the WQM project may have far-reaching consequences in terms of plan implementation.

The lack of active involvement of local elected officials in the WQM planning process may also create a problem at the time of final plan review. Local governments are not going to accept something which, to their eyes, even vaguely resembles a regional dictate. Yet, DVRPC's decision not to attempt to direct local officials involvement in WQM planning was probably reasonable given the multitude of numbers involved. But DVRPC must make a concerted effort between now and the time of plan approval to communicate to local officials the costs and benefits of the WQM plan. Even after approval (which should not be too difficult to secure), DVRPC must work hard to convince these local officials to act on plan suggestions. Finally, DVRPC must hope that local communities will rely on the WQM plan as good technical advice that is worth taking.

Affiliation of the WQM project with Pennsylvania's COWAMP planning program should also work to the benefit of the WQM plan. COWAMP has strong State support and has gained the respect of many municipalities. This factor in particular makes the outlook for implementation of at least the planning recommendations of the WQM plan look bright, especially in facilities-related work where the State has already required all local sewer plans to be consistent with the final WQM plan. EPA has also offered support in this area in that it is delaying some facilities grant decisions until the WQM plan recommendations can be taken into consideration.

In the areas of urban storm runoff, it appears that most of the plan recommendations will involve non-structural voluntary approaches to problem solving. How effective these solutions will be remains to be seen. Funding, as usual, will be crucial to all implementation.

3 st. louis

East-West Gateway Coordinating Council

East-West Gateway Coordinating Council began its WQM planning in January of 1976, and is scheduled to complete its final plan in December of 1977. The total grant amount for this project is \$2,243,000. The designated planning area encompasses 2,713 square miles, and according to the 1970 Census, has a population of 1,827,635 people. This area was selected for study because of its complex urban-industrial pollution problems.

Urban Storm Runoff

Studies of the Merimac River (conducted prior to the WQM project) identified urban storm runoff as a major source of water pollution in the St. Louis region. The existence of this problem is widely recognized by communities throughout the WQM designated area. The State liaison from the Missouri Department of Natural Resources and the EPA Regional Project Officer felt that the two year WQM planning period provided sufficient time for the East-West Gateway Coordinating Council to define the extent of pollution caused by urban storm runoff. None of the interviewees felt that the WQM planning agency has enough time to thoroughly define appropriate solutions and ensure their complete implementation. The WQM Project Director thought it was only enough time to "scratch the surface" of the problem.

Data collection efforts by the St. Louis WQM agency should provide the necessary data for determining initial alternative solutions to the problem. Additionally, the St. Louis Metropolitan Sewer District (MSD) which serves all of the City of St. Louis and portions of St. Louis County, is concurrently conducting a one-half million dollar study (independent of WQM planning) of urban storm runoff in its service area. This study will assess the cost of a computerized stormwater storage system which retains high stormwater flow within the pipes for later treatment rather than discharging untreated overcapacity flows. The interim outputs were considered only peripherally useful in identifying the urban stormwater runoff problem. Population and land use projections and required treatment levels provided a base from which to judge future impacts, however, they did not contribute to actual identification of the problem. This work should provide useful information in terms of alternative methods and costs of decreasing pollution from urban storm runoff for selected areas of the WQM study.

The solutions to the urban storm runoff problem however are expected to come in the form of locally regulated practices such as street sweeping, construction practices and pesticide/herbicide controls, especially in priority areas where the WQM study shows the problem is most serious. One citizen commented that enforcement of existing ordinances in certain areas, would contribute to the elimination of urban stormwater runoff.

All interviewees were uncertain, however, as to how much pollution from urban stormwater runoff would be eliminated as a result of WQM planning. This is attributed partially to the early stage of the St. Louis WQM planning process as well as the state-of-the-art of stormwater management controls (which is not capable of accurate prediction). An appointed official added that national coordination among metropolitan areas is needed in order to expedite the development of solutions to common urban storm runoff problems. All interviewees looked forward to WQM plan implementation on a step-by-step basis. Some felt that small parts of the plan (e.g., controlling activities on small watersheds or testing a model ordinance) may materialize before final plan completion.

The interviewees expected a variety of implementation barriers to arise along the way. The WQM Project Director stated that insufficient data to verify the nature and extent of local problems and the failure of the state-of-the arts to provide a sound basis for recommendations would make it difficult for the WQM agency to promote plan implementation. The State liaison thought that coordination among the large number of municipalities in the St. Louis WQM area would complicate WQM implementation. One citizen felt that cost would be the major barrier, while another thought that acquisition of legal powers to implement WQM recommendations would be a problem. The appointed official noted that public education was paramount to facilitate plan implementation.

Citizens and local elected officials have been involved in the WQM process through advisory committee meetings and workshops. The WQM Director reported that citizen involvement has been somewhat limited but nevertheless, useful in terms of keeping the WQM staff sensitive to local needs. Citizens commented on the frustration of not being more involved in the early stages of the decision-making process and of being asked to review alternatives rather than to help the WQM staff develop them throughout the planning process. Some of this frustration appears to be due to the nature and reality (money and time constraints) of the planning process; however, it continues to be a source of discontent for the members of the Citizens Advisory Committees. The citizens requested and will receive more data on the River Des Peres in order to consider alternative strategies. This appeared to be an example of the agency's responsiveness to input from citizens in the consideration of additional alternatives even if after initial alternative development.

The degree of local elected officials participation in the WQM project varies among political jurisdictions. The less active areas (i.e., St. Charles, St. Louis County and St. Louis itself) tend to be more urbanized. An appointed official felt that other interests predominate over water quality in these areas while water tends to be a more singularly important concern in less urbanized places.

In addition to St. Louis's ongoing coordination with the Missouri DNR, the WQM agency has established contact with the State Water Pollution Control Board on a monthly basis. This Board will be providing major input to the Governor on WQM plan approval or disapproval. Both avenues of coordination with the State should facilitate plan approval at that level.

The State role has been primarily one of technical assistance, review and coordination among designated WQM areas. The State has developed an interdepartmental committee at the State level which reviews outputs from all WQMs in Missouri. The three designated WQM agencies also coordinated with each other and divided responsibilities for a statewide legislative review. At this time, no statewide regulatory program is being developed. The State and the designated WQM areas appear to favor developing enabling legislation where needed for local authority to implement the WQM plans.

EPA's role has been primarily administrative, according to the WQM Project Director. Relations appear smooth and cooperative.

Facilities-Related Plan Elements

The interim outputs of the St. Louis WQM project were submitted to EPA on February 25, 1977. Consequently, most interviewees felt it was too early to comment on their influence on local facilities planning. In the future, however, most interviewees expected the WQM plan would guide facilities construction decisions. WQM planning was already seen to have made progress in promoting coordination of facilities among communities previously opposed to cooperation. Although political barriers still exist in certain areas, most people were confident of making progress toward achieving WQM objectives because of the increased willingness to coordinate locally.

The Role of WQM Planning in the NPDES Permit Process

The State of Missouri is responsible for NPDES permitting the St. Louis area. Although few permits will be reissued in 1977, the State liaison noted that most permits will not be reissued until 1979-1980. The WQM Project Director was uncertain how much the State would use WQM input. The EPA Project Officer thought the influence of the WQM plan in permitting would be minimal in 1977, but that the State would probably consult the plan more directly in reissuing later permits. Most interviewees had not given much thought to this issue.

Conclusions

The St. Louis WQM project is progressing on schedule and appears to have a variety of active interests involved in the planning process. Many interviewees also commented on the excellent work done by the two consulting firms (technical and management) hired for WQM work.

Urban storm runoff is a priority concern in the Merimac and other smaller streams in the area because of the recreational value of these waters. Although most people feel that the two year WQM planning period is adequate to define the urban storm runoff problem, some think it is only enough for a start. Additional work and refinement of solutions will probably be necessary after the planning period.

A variety of barriers to implementation are expected but according to the WQM Project Director, all of them normally accompany a planning process which advocates change on a large scale. The St. Louis WQM staff appears to have a clear understanding of, and is working to remove the obstacles to implementation of the WQM plan. The major source of discontent with

the project was vocalized by citizens who felt that they were not included in the earliest stages of the development of alternatives. In one way, this speaks highly for the planning process in that a high level of citizen participation has been aroused. The frustration of including a variety of strong interests is being experienced, rather than the difficulties trying to attract citizens to participate throughout the process. Most interviewees were hopeful that the WQM plan would guide future facilities construction decisions. Little thought have been given to the influence of WQM on the next round of permitting.

4 houston--galveston

Houston-Galveston Area Council

Houston-Galveston began its WQM project in June of 1975 and is scheduled to complete its final plan in June of 1977. The total grant amount of this project is \$1,798,300. The designated planning area encompasses 2,450 square miles and, according to the 1970 Census, has a population of 1,905,961 people. This area was selected for study because of a unique combination of urban industrial problems. Greater Houston is experiencing intense and rapid growth in a political climate which has been traditionally apposed to planning and land use controls.

Urban Runoff

Water studies conducted prior to the WQM program in the Houston-Galveston area suggested that urban runoff was a major problem in the region. Since a thorough assessment of the problem was lacking, the Houston-Galveston Area Council (H-GAC) made urban runoff the first priority in its WQM project. The WQM Project Managers,¹ an EPA Region VI official and a State water quality agency official feel however that the two year period for the study will be inadequate to complete a comprehensive study of urban runoff. First, available data was inadequate, thereby forcing H-GAC's current analysis to essentially "begin from scratch". Second, no money was approved for sampling. Thus, H-GAC has had to depend on literature coefficients for an analytical basis. The WQM Project Managers expect the final plan to generally indicate problem areas and show the need for data verification after the initial planning period terminates. The State water quality official interviewed concurred on this viewpoint.

¹ H-GAC has two Project Managers. One is primarily concerned with technical elements of the project, the other with overall project administration. Although the latter assumes lead responsibility, the two Managers work together closely on all project matters.

Currently, the H-GAC is at the stage of identifying the urban runoff problem. The nonpoint source consultant is just completing a first-cut assessment of urban runoff loads on a watershed by watershed basis. All persons interviewed felt that the population projections and land use maps prepared as part of H-GAC's interim reports were most valuable to the urban runoff study. Also included among H-GAC's interim reports is a catalog of available nonpoint source strategies and their unit costs. Since this catalog represents a general listing of available technologies rather than a list of site-specific alternatives, local elected officials and citizen interviewees criticized EPA and the State for wasting Houston's WQM money on a state-of-the-arts inventory that could have been sponsored by Texas WQM programs on a statewide basis or by EPA itself on a nationwide basis.

In conducting its urban runoff study, the WQM Project Managers are attempting to provide local decision-makers with all the costs and benefits of plan alternatives. In this way, the WQM project hopes to help local communities determine the value of tradeoffs to be made within the context of certain parameters (e.g., water quality standards) set by the State and EPA.

Because of limited water quality data and analysis, the WQM Project Managers anticipate that few new controls or management arrangements will be instituted at the local level. Without verified data to demonstrate water quality improvement benefits and support recommended strategies, the WQM Project Managers see the need for a more thorough study before implementation can begin. They believe less than fully documented measures would be premature and potentially hazardous to the political acceptability of the entire WQM plan. Hence, they expect the two-year WQM study to provide some incentives toward utilizing existing but currently unexercised authority. For example, county erosion controls have yet to be fully implemented.

Interviewees at the local level had mixed expectations about the form recommended solutions may take. Most believed that regulations would be necessary (e.g., development controls) but doubted that any regulatory program would be acceptable to area officials. A citizen noted that only EPA or State enforcement would constitute the authority sufficient to overcome local political forces which favor uncontrolled development.

As the H-GAC is only beginning to define the problem, the various advisory committees have not been discussing the urban runoff problem except in general terms. Most persons interviewed believed the committee structure (e.g., the Citizens Advisory Group with its nonpoint source subcommittee,

the Technical Advisory Committee and Planning Advisory Committee) would provide a mechanism for their participation once alternative corrective measures are formulated. Similarly, although local elected officials currently were not believed to be sufficiently active, H-GAC hopes to stimulate their increased interest and involvement through discussions with officials serving on the Planning Advisory Committee and the H-GAC Executive Board. The WQM Project Managers noted that H-GAC has been working closely with other local water-related planning programs. In the case of flood plains, the WQM Managers are channeling available water quality data into the flood plains study in order to effect water-related elements of that plan. The WQM Managers feel that even though WQM data does not constitute a sufficiently refined basis for drawing WQM suggestions, it is valuable for related planning efforts. Using it in such studies may give credibility to the WQM study and further promote interest in the plan.

The State's participation in the H-GAC WQM study has consisted largely of providing technical assistance in program development, coordination of H-GAC efforts with State WQM planning in non-designated areas, and a methodology for examining the impacts of urban runoff loads. The State also received funds from H-GAC for developing the urban runoff models. Although data generated by the State model will be of use to the Houston WQM study, the WQM Project Managers believed the state model could have been more useful if H-GAC had been given an opportunity to adjust the model to specific needs and conditions in the greater Houston area.

A State water quality official expected the State's future role in correcting the urban runoff problem would depend upon the as yet undefined nature and extent of the problem. Currently a team of three State agencies are involved with WQM planning: the Texas Water Quality Board (TWQB), the Texas State Soil and Water Conservation Board (SWCB), and the Office of Special Advisor to the Governor on Natural Resources. The SWCB is concerned with nonpoint source planning in non-designated areas and overall coordination while the Governor's Special Advisor is primarily concerned with coordination. The TWQB has lead responsibility for monitoring and reviewing WQM planning in designated areas. This arrangement appears to have worked well and is expected to continue in the future.

By agreement between the TWQB and EPA, the TWQB was named the lead agency for reviewing and monitoring WQM planning in designated areas. As a result, the EPA Regional Office has assumed a somewhat more passive role in conducting secondary reviews of the WQM project.

Facilities - Related Plan Elements

A great deal of wastewater treatment facilities planning was initiated in the Houston-Galveston area prior to the beginning of the WQM project. The H-GAC will have little if any effect on these plans which it is basically incorporating without revision into the WQM plan. On the other hand, the WQM plan is expected to have some effect on future facilities planning through the H-GAC's role in the A-95 review process. In reviewing facilities grant applications, the H-GAC will consult the interim population and land use reports and eventually the completed WQM plan for consistency. A State water quality official noted furthermore that the State will also review construction grant applicants according to criteria developed by the H-GAC WQM study. The final weight of WQM plan recommendations, however, is still expected to be overshadowed by the power of local wastewater treatment management agencies which are already firmly entrenched in most areas.

Since management analysis has begun only recently, interviewees could speculate only about potential management systems. The WQM Project Managers believed several alternatives would be explored including the possible allocation of management responsibility to existing local grant recipients with some potential areawide overview provided by an appropriate form of the H-GAC Technical Advisory Committee.

Local elected officials, citizens and WQM Project Managers noted that developing an acceptable management scheme for wastewater treatment will be difficult. Because the interviewees anticipate opposition to creation of a new management agency, they expect the WQM plan will recommend that a consortium of existing local management agencies be developed. Even in a consortium arrangement however, local interagency politics and self-interests are expected to limit the effectiveness of a regional approach to management.

To date input of officials and citizens to facilities related plan elements has been limited to discussions of population and land use projections. This participation has been through the Advisory Committee structure. A Citizen Advisory Group (CAG) member noted that the relationship between the CAG and the H-GAC has improved greatly with each understanding its role in relation to the other. He also believed the H-GAC Executive Board and Planning Advisory Committee have recognized the responsible commitment of the CAG and in that light value CAG input. As with citizens, elected and appointed officials have discussed the facilities related plan elements (e.g., population and land use projections). Eventually their A-95 review activities will rely on the approved WQM plan.

Role of WQM Planning in the NPDES Permit Process

Although the H-GAC wanted to have input to NPDES permitting, EPA Region VI did not consider H-GAC's review of permit applications as an allowable cost under WQM funding. Consequently, as of last year, H-GAC is no longer reviewing permit applications. The WQM Project Managers noted that H-GAC was submitting a proposal to EPA for funding NPDES permit reviews. Even without H-GAC's review of permits, the WQM Project Managers believed the approved WQM plan would be considered by the State and EPA in future permits.

There is a duplicative permitting system in the State of Texas. Each permit requires separate reporting applications and hearings and each is based on a separate set of criteria. State issued permits are based on stream standards which reflect present use classifications. EPA issued permits disregard stream standards and are based on "Best Available Technology". The EPA approach is considered more stringent by local interviewees.

An appointed official, an industrial engineer, a citizen interviewee and an elected official voiced common criticism of this duplicative system. They were hopeful that the WQM plan would influence the situation. In particular, they hoped EPA would incorporate stream standard considerations in its permitting system. They cited some of the following arguments:

- The cost of meeting BAT requirements is not justified where uses preclude the possibility of achieving clean water (e.g., in the Houston Ship Channel).
- It would be more equitable to include local opinions and values in the permitting process.

Conclusions

Defining the urban runoff problem will consume most of H-GAC's allotted resources within the planning period. The lack of available data, the problem's analytical complexity and the use of literature coefficients rather than actual sampling data comprise the major reasons for expecting H-GAC's analysis to achieve only general indicators of the problem's magnitude. Based on the general assessments, H-GAC may push for some minor action but will not propose major implementing measures within the planning period. Both the State and H-GAC agree that verifying data and developing appropriate strategies will be tasks following the initial planning period. It is not determined how these activities will be funded.

It is the intention of the H-GAC's WQM planning effort to establish an open process which flexibly adapts to changing conditions, new information and perhaps most importantly, to the preferences of local decision-makers. With such a WQM planning process, H-GAC has committed itself to thorough study of the urban runoff problem prior to proffering alternative implementing measures. Although this is a cautious approach to problem correction, the planning strategy may constitute the most politically sensitive and pragmatic approach given the area's traditional opposition to imposed controls and general anti-planning attitudes. By basing recommendations on well-documented information, H-GAC hopes to maintain a level of credibility essential to gaining areawide confidence in and support of their planning efforts.

The emphasis on gaining credible data prior to developing alternatives somewhat precludes the more active involvement of area officials since it is difficult to gain the attention of officials in the data analysis phases of the process. Although the highly active Technical Advisory Committee members recognize the massive scale of the area's urban runoff problem, at this stage the local decision-makers are not believed to appreciate the value of problem correction. To gain local support for continued planning, H-GAC is attempting to channel information toward more visible implementing measures.

The WQM project will not have sufficient data and analysis ready in time to develop detailed recommendations in the final plan. The WQM plan therefore will be limited chiefly to general proposals for future action. However the WQM Project Director feels that the project will produce some useful data which should be used to influence water quality even before the final WQM plan is completed. The project staff is therefore making WQM data available to a concurrent flood plains project being conducted in the area. In this way, the WQM project is influencing water quality and gaining credibility for the WQM planning effort at the same time.

It is highly unlikely that the WQM plan will effect current facilities planning. Since strong management arrangements are already established at the local level where facilities planning is not underway, it is also unlikely that the WQM plan will significantly effect future planning decisions. Despite the validity of a regional overview for management purposes, the self-interests of the several existing authorities may work against an effective consortium arrangement and even more so against a single regional entity with enforcement powers. The feasibility of a regional management forum would depend seemingly on the sanctions provided by EPA and State regulations.

It is not clear what impact the H-GAC WQM study will have on NPDES permitting. Without ongoing input by reviewing NPDES permits, H-GAC's impact likely will be delayed until the WQM plan is approved. By the time the plan is approved, the second rounds of permits which will be effective into the early 1980's will have been issued. Although State permits may be modified to accommodate H-GAC final recommendations regarding stream standards, the independent EPA permits currently have no such provision. Consequently the dischargers will have to meet the more stringent effluent limitations which in some cases may mean "cleaning up too much", in local opinion. In addition, EPA and State officials should be encouraged to explore and negotiate with H-GAC the available options for H-GAC's ongoing input to reviews of NPDES permits to foster consistency and development of the most efficient and equitable approach.

5 lower rio grande

Lower Rio Grande Valley Development Council

The Lower Rio Grande Valley began its WQM project in June of 1975 and is scheduled to complete its final plan in June of 1977. The total grant amount for this project is \$775,000. The designated planning area encompasses 2,515 miles and, according to the 1970 Census, has a population of 283,025 people. This area was selected for study because of its extensive agricultural activities and because it supports a wide mix of economic activities which affect water quality.

Irrigated Agriculture

The economy in the Lower Rio Grande Valley is dominated by irrigated agriculture. The area is, therefore, interested both in water quality and water quantity for continued irrigation use. The local residents were aware of a local water pollution problem, but until the advent of the WQM project, the extent of irrigated agriculture's effect on water quality in the Lower Rio Grande Valley had not been measured. A WQM consultant began such a study with a sampling program in November 1976. Although the Lower Rio Grande Valley Development Council (LRGVDC) expects to complete an analysis of the problem within the two-year planning period, the WQM Project Director, the EPA Regional Project Officer and the State water quality agency liaison all feel that time and funding constraints will necessarily limit the study effort. The WQM study will supply initial data but verification and control strategies will be needed beyond the present planning phase. The State liaison added that responsibility and resources for carrying on future study needs have not been determined. Determination of the problem will depend on what stream standards are set. If locals determine stream standards, it is likely that standards will allow for the continuation of irrigated agriculture practices. If the State disagrees on this input, a conflict may arise.

The interim outputs have been useful to the study of irrigated agriculture. In particular, population projections and distributions have been used with land use projections to estimate the future expansion of cities and the conversion of prime agriculture land for development purposes. These land use projections will be coupled with water quality data to estimate the wasteload contribution by irrigated agriculture. Because of agriculture's importance to the Valley's economy, the Policy Advisory Committee is particularly concerned with this aspect of the WQM study. The State Soil and Water Conservation Board also is carefully reviewing LRGVDC's outputs to ensure that pollution loadings attributed to agriculture are well-documented. Recognizing these local concerns, the WQM Project Director noted the difficulties of accurately projecting migrant worker and winter resident populations.

As the nonpoint source analysis is just getting underway, interviewees could only speculate on likely plan recommendations. The WQM Director and other local interviewees noted that, if irrigated agriculture proves to be a significant water quality problem, it will be difficult to find locally acceptable solutions. Many of the local interviewees felt that the Valley historically has practiced careful irrigation practices due to the area's shortage of water. They were doubtful that the WQM study would significantly affect agricultural practice although they could:

- Identify problem areas;
- Investigate practical techniques for improved irrigation management;
- Provide information/education regarding conservation of irrigation water (e.g., applying the minimum amount of irrigation water results in a lower volume of runoff);
- Promote a better understanding and tolerance of the respective problems of the cities and rural areas.

Two most frequently mentioned obstacles to plan implementation are local opposition to land use controls and potentially adverse economic impacts of controls on agricultural productivity. One local official was particularly concerned about controlling the use of pesticides and insecticides for water quality purposes. He explained that such controls might decrease yield per acre but that yield per acre must increase as development pressures compete for the Valley's prime agricultural land. Hence, controls affecting yields per acre have community-wide as well as individual impacts and necessitate a cautious approach.

Where the WQM study indicates that some action must be taken, the interviewees felt that the locally most acceptable approach would be a voluntary/educational one. The EPA Project Officer and State Water quality official also expected that follow-up regulatory practices might be needed in the future. These would come about only if the State or EPA impose such a program.

Implementation of plan elements related to irrigated agriculture is not expected until the final plan is completed and approved. Generally, all interviewees agree that more time is needed to verify data, develop appropriate techniques, institute educational programs and, finally, to gain public acceptance.

The citizens' role in the WQM process takes place through the Policy Advisory Committee (PAC). Although local interviewees feel that the discussion of irrigated agriculture has been of a cursory and general nature to date, they believe the PAC will become more focused on the issue when the nonpoint source report is completed. At that time the WQM Director expects to involve agricultural interests more heavily in the WQM program. At the present, however, the most active PAC members are the municipal appointed officials and water district representatives.

The primary avenue for participation of local elected officials is the LRGVDC Executive Board. At this level, elected officials review technical reports and hear PAC and WQM staff presentations. Local interviewees believe that local elected officials have generally given little attention to the WQM project. The level of interest is expected to rise, however, when the nonpoint source report is issued.

State participation in the WQM program involves a team of three agencies: the Texas Water Quality Board (TWQB), the State Soil and Water Conservation Board and the Office of Special Advisor to the Governor on Natural Resources. The TWQB has assumed responsibility for overseeing designated WQM planning. According to a TWQB official, TWQB's role is to ensure that State water quality objectives are met and to assist with development of studies to adequately define the area's water quality problems. The State Soil and Water Conservation Board has primary responsibility for reviewing nonpoint source-related planning elements. Because the irrigated agriculture issue is somewhat unique to the Valley, coordination with the other designated WQM projects has not been appropriate.

EPA participation in LRGVDC efforts consists largely of precedural review, some technical assistance and PAC representation. EPA, through a formal arrangement with the TWQB, follows the TWQB's lead in reviewing and monitoring WQM planning.

Facilities-Related Plan Elements

All interviewees expected the completed and approved WQM plan to be useful in future facilities planning decisions. The population projections generated by the WQM effort are expected to be helpful to local governments, particularly in providing a common data base. A State water quality official noted that the projections would be used to verify local applications for construction grant funds.

WQM population projections and distributions were approved only after some controversies among agencies which will be using these figures in facilities planning. The cities were concerned that the WQM population projections/distributions to be used in facility planning be based on the cities' expressed growth policies and preferences. Otherwise, facilities decisions could rigidly commit the cities to incompatible and inflexible land use patterns. Further difficulties had emerged in projecting the winter resident and migrant worker populations and in questioning the assumption about the maintenance or growth of the substandard settlements ("colonias") of poor migrant workers.

Since the LRGVDC has only recently begun management planning, interviewees could speculate only about likely approaches. Although a number of options, including regional, sub-regional, and local management will be explored, all interviewees expected stiff resistance to regional management systems in favor of retaining local control. All interviewees expected the Valley's prevalent attitude for local autonomy to work against regional efforts even if regional system should emerge as more efficient and less costly options.

Role of WQM Planning in the NPDES Permit Process

The interrelationship of the WQM plan and NPDES permits has not been defined. The WQM Director hopes the WQM plan will influence future permits, particularly by basing permit conditions on locally established stream standards. The TWQB, however, has final authority over stream standards and, according to an EPA Region VI official, the extent to which the WQM plan will affect those standards is an issue not yet resolved. A TWQB official expected the WQM

plan to have some influence and noted that the State is currently developing a strategy for considering WQM plans in the NPDES permitting procedure.

To date, there has been no discussion among local officials or citizens regarding NPDES permitting. One official and two citizens expected the WQM plan to exert only limited influence. They also noted that officials did not seem to regard permitting as an area of great concern. No one expected the WQM plan to have any impact on permitting at least until after the plan is completed and approved.

Conclusions

LRGVDC's approach to the WQM problems related to irrigated agriculture is a cautious one. Until the magnitude of pollution contributed by irrigated agriculture is documented, LRGVDC does not expect the issue to attract substantial local concern. To prematurely arouse local interest groups with only a speculative assumption of an undocumented problem could work against the credibility of LRGVDC and the overall WQM plan. With the completion of the nonpoint source analysis, the irrigated agriculture problem can be the subject of well-focused discussion among interest groups and officials. Even at that stage, LRGVDC recognizes that the initial analysis will require data verification prior to considering appropriate corrective measures.

Both LRGVDC and the State expect data verification and development of alternatives will occur after the initial funding period. Funding for such activities is still uncertain. Since local officials apparently have not recognized the value of an ongoing WQM planning process yet, they appear unwilling to make local funding commitments at this time. In addition, local resources in this economically depressed area are limited and other competing concerns may have a higher priority. It would seem that Federal funds are essential to carrying the local WQM planning process to some fruition; alternatively the State may assume responsibility for the tasks of the ongoing planning period.

The greatest achievements of LRGVDC's irrigated agricultural study will probably be found in the increased data base and educational programs. By highlighting the economic advantages of better irrigation management, LRGVDC is helping to realize the area's water quality objectives and the valley's efforts to conserve its limited water supply.

LRGVDC planning efforts related to facilities planning already have a locally acknowledged value in providing a common data base to the valley. By working through the somewhat controversial population projections and allocations, LRGVDC has achieved local consensus and State concurrence regarding growth expectations related to facilities planning. In the management planning area, LRGVDC will have to contend with local resistance to regional or sub-regional systems. It is doubtful that local officials would accept any proposals for regionalization due to traditionally held attitudes of local autonomy.

It is not clear how the LRGVDC WQM plan will receive State consideration in future NPDES permits. As the plan will not be completed until 1978, the State permitting process will be affected only after that time and only to the extent LRGVDC data is believed sufficiently documented.

6 martha's vineyard

Martha's Vineyard Commission

Martha's Vineyard began its WQM project in June, 1975 and is scheduled to complete its final plan in September, 1977. Because of an EPA Region I requirement to conduct an Environmental Impact Statement on the final plan and because of the time needed for review of the EIS, it is anticipated that the WQM planning project will not end officially until December, 1977. The designated area, encompassing the entire Island (approximately 100 square miles), has a year-round population of 7,500 people which swells six to ten times in peak summer tourist months. The total grant amount is \$216,000. The Island was designated for WQM planning because of a concern for preserving the present water quality and to provide water quality planning inputs into decisions of the Martha's Vineyard Commission (a unique regional land use authority). On-lot disposal is the Island's major threat to water quality.

On-Lot Disposal

All of Martha's Vineyard waters currently are classified "A" by the State of Massachusetts. For some time, however, conservationists have suspected that on-lot disposal systems were threatening the Island's groundwater drinking supply. Approximately 90 percent of the Island depends on septic systems yet most of the Island's soil is too sandy for proper percolation. Continued high density growth and development without improved wastewater disposal practices could jeopardize the Island's future.

The Martha's Vineyard WQM project chose to concentrate its energies on nonstructural solutions to the on-lot disposal problem because:

- WQM water quality sampling showed septic systems were already causing abnormally high nitrate levels in local groundwater;

- On-lot disposal is the only source of water pollution on the Island not mitigated by natural processes (e.g., flushing of harbors, etc.); and
- An environmental impact assessment process on proposed expansion of the Edgartown wastewater treatment system (the only facility on the Island) was already underway, but no concerted efforts were being made to investigate nonstructural options.

The WQM Project Director had hoped to test alternative on-lot disposal designs and maintenance systems over the two year period, but time and budget constraints forced him to rely more heavily on existing literature and partial testing on location. Although the existing data provides sufficient information for initial plan recommendations, the Project Director still feels there is a need to continue the study beyond the two year timeframe to locate faulty systems, to identify appropriate remedial actions (e.g., pumping, rehabilitation, replacement, etc.), to select best design specifications for new systems, and to develop detailed maintenance programs for all current and future systems. The EPA Project Officer agreed with the Project Director, especially in regard to the need to locate faulty systems and secure implementation of proposed solutions.

Part of Martha's Vineyard's data problem stems from unsatisfactory population and land use projections prepared to meet EPA interim output requirements. The WQM agency contracted with the State for population projections, but both the MVC and the State, found these projections unsatisfactory. The State is still in the process of revising its projections. The absence of this essential base data has severely limited the detail of any project recommendations the WQM agency can develop.

The MVC has had problems with other interim outputs as well. In the area of land use projections, the MVC has very little existing mapped data with which to work. As a result, MVC was limited to making only descriptive forecasts of future land use patterns. Due to incomplete population projections and generalized land use projections, the MVC has had difficulty in completing its wasteload allocations interim output. The WQM Project Director expects the recommendations on sewer priorities will only be expressed verbally.

Despite these problems, the EPA Regional Office has not shown dissatisfaction with the MVC's performance. As far as the WQM Project Director knows, EPA has accepted the interim outputs and will not require revisions or additions. The State reviewed the interim outputs and offered some suggestions for revision but made no mention of a need for official State approval. Since the Citizen Advisory Committee was abandoned, the public was never asked to review and/or approve the EPA required interim outputs (see Areawide Water Quality Management Survey, October, 1976, pp. MV7-8 for discussion on CAC).

Based on information currently available, the WQM project is suggesting a three part management plan for on-lot disposal practices. The proposed plan includes:

- Stricter health codes regulating design and maintenance of septic systems;
- A regional inspector to oversee all new installations and monitor maintenance of those areas which could be a problem because of density, soil type or depth to water table; and
- Additional soil surveys to guide development of future zoning and subdivision ordinances as well as local Board of Health codes.

These suggestions were first raised in one of the WQM project's interim reports and then developed more fully throughout the course of the project. According to the EPA Project Officer, the interim reports allowed the staff to focus their efforts and lay a groundwork for implementation by preparing communities to hear substantiated recommendations in the final plan.

Most of the Island's attention is now focused on the wastewater treatment plant proposal being discussed in the EIS process. According to the Project Director, however, Boards of Health have been contacted directly by the WQM agency and have been receptive to the WQM staff's suggestions. Similarly, local planning boards are now looking to the WQM plan for guidance on controlling future density and locating new development, assuming that septic systems will continue as the primary method of wastewater disposal.

The Project Director is confident that the nonstructural approach is the answer to the Island's pollution problems. Many Islanders feel that extending sewer lines and expanding current wastewater treatment plants to meet peak summer tourists demand is not economically feasible for the Island's economy. Thus, more local residents are beginning to support nonstructural alternatives. The EPA Project Officer agrees with this sentiment, especially since he views the sewerage alternative as an open invitation to indiscriminate development and subsequent destruction of the Island's character and natural charm. Citizens interviewed generally were hopeful about the effectiveness of nonstructural solutions, but added that supplementary structural solutions or improvements would be needed in highly developed areas where stricter septic codes alone will not suffice.

The WQM staff has not waited for the final plan before seeking implementation. Rather, it has sought to promote implementation whenever staff time and substantiating evidence permit. On the basis of WQM findings, the Martha's Vineyard Commission (the regional land use authority and official WQM designee) issued a series of suggested septic system regulations for new development in areas of critical environmental concern. These areas include all land within 500 feet of ocean shoreline and shores of great ponds. Most towns with critical zones already have reviewed the Commission's suggestions and have developed their own version of the regulatory tools recommended. Where these regulations involve a change in town bylaws, public approval at town meetings must be obtained. Where simple changes in planning tools or health codes are involved, action by the local planning authority or Board of Health will suffice. If towns within the jurisdiction of the MVC do not respond to the Commission's suggestions, the Commission has the authority to impose its recommendations under its regional land use authority.

Four local Boards of Health already have adopted stricter codes related to the siting and maintenance of on-lot disposal systems. A number of towns have shown an interest in the maintenance program suggestions, but implementation is contingent upon the availability of a receiving disposal facility which can treat the septage waste. The Edgartown plant already has excess treatment capacity except in high demand months, i.e., the summer. The WQM Project Director mentioned the possibility of adapting the plant to receive pumped septage wastes thus eliminating the need to invest in a new system.

Several possible sources of local opposition to the plan were identified. First, Island residents on limited incomes may find it difficult to afford the additional cost of system cleaning. Developers and builders who profit from high density development also are expected to oppose non-

structural solutions since sewerage would allow more development at a lower cost to the builder. The Project Director is also expecting some opposition to the recommendation concerning an inspector hired jointly to service the region. There is already a fair degree of opposition to the MVC on the grounds of losing local autonomy. One local elected official interviewed suggested that the WQM staff must convince the Island towns that better septic system practices are cheaper than sewerage. Also, he felt that sewerage threatens the Island's character and the continued prosperity of its tourist economy.

To date, the public has not been involved in the WQM program except through participation of interested individuals in MVC meetings or through direct assistance from the WQM staff on septic system questions. Most people, including the Project Director, recognize the need for Advisory Committees to help overcome expected opposition. The Project Director called attention to the fact that the MVC had just hired a new staff person to assume responsibility for the previously neglected public participation program. The Director was very optimistic about this person's effectiveness and of scheduled public workshops which the Director hoped to use as forums for selecting plan alternatives and for generating public advocacy in support of plan implementation.

Similar to the general public, local elected officials have not been involved actively in the WQM program at Martha's Vineyard. All persons interviewed excused this lack of participation by local officials due to competing demands on officials' time. With the exception of Board of Health officials (most of whom are appointed locally) who are directly involved with issues under WQM discussion, most local officials appear to be more interested in economic development than in water quality per se. In order to reach these officials, the Project Director has made regular personal contacts with town councils and individual selectmen to keep them informed of the project's developments. Some officials are also members of the MVC and can be kept apprised of new developments through regular progress reports at each meeting. The Project Director is hopeful that these contacts will be sufficient until the final stages of the program when workshops on selection of plan alternatives will begin. Although workshops are open to the public, particular emphasis is on attendance by local elected officials. The Project Director believes that local officials by the will take a more active role in the program. He also expects local officials will continue to rely on the expert advice of Boards of Health which have been well informed throughout the program.

According to the WQM Project Director and the EPA Project Officer, the coordination role of the Massachusetts Division of Environmental Quality Engineering (the official State liaison to the areawide designated agencies) is just now beginning to develop. Until now, the State DEQE has not supported staff recommendations actively nor has the DEQE clarified what it will require of the program for final plan approval. Recently, the DEQE notified the areawide agencies that it expects a paper on growth as a prerequisite to approval of plan elements. The MVC WQM staff was disturbed by this requirement because it was issued after the agency's first set of population projections were completed and the WQM workplan was approved. Despite these shortcomings, the WQM Project Director hoped the State's role would be more clearly defined and more helpful in the final stages of the process.

The Project Director found the regional EPA office, on the other hand, to be extremely helpful to Martha's Vineyard's WQM program. In particular, he praised the Region's prompt response to requests for information or technical assistance as well as their thorough comments in reviewing outputs and activities.

Facilities - Related Plan Elements

As mentioned earlier, most facilities-related work at Martha's Vineyard presently is occurring through an EIS process focusing on the proposed expansion of the Edgartown wastewater treatment plant and its connecting sewer system. Only a few areas on the Island are of sufficiently high density to make a central collection system financially feasible. These towns are principally those neighboring Edgartown. The EIS process, therefore, is nearly comprehensive in its coverage of facilities planning -- at least in the near future.

To date, cooperation and exchange of information between the consulting engineers conducting the EIS process and the WQM staff has been limited. Though the engineer did use some WQM suggestions on well locations, the WQM Project Director was uncertain whether or not other relevant information and projections prepared by the WQM staff were used. The WQM Project Director gave no indication that he expects the role of the WQM project in the Edgartown planning process to change in the future, but he noted that his schedule of nonstructural work leaves him little time or resources to expand on facilities planning directly. The WQM project is directing its attention toward promoting nonstructural solutions (e.g., better septic system siting practices) wherever possible. Should the local communities choose to support expanded sewer lines, the WQM Project Director suggested that the WQM plan will encourage a regional approach to management.

Citizens have been more active in the facilities planning process on the Island than they have been in the past. This has not occurred as a result of the WQM planning process, however, but rather as a result of the EIS process and its requirements for public participation. The same is true for local elected officials who have taken an active interest in the EIS.

The State has not given the WQM agency any indication on how it intends to use the WQM input in present or future facilities construction decisions. The WQM Project Director suspects that the plan will have very little effect. The EPA Project Officer had a similar impression based on the traditional lack of active coordination between the DEQE and the WQM agency.

Role of WQM Planning in the NPDES Permit Process

The EPA and the State share responsibilities for NPDES permitting in Massachusetts. Currently, there are only two industries operating under NPDES permits at Martha's Vineyard. The WQM planning process did uncover the need for permitting another point source discharger and presently is trying to bring this need to the attention of EPA and the State. The WQM plan will also recommend that the State examine a number of MVC permits for land disposal operations to determine whether additional NPDES permitting is required. The WQM Project Director expects the EPA Regional Office to be receptive to WQM recommendations.

The WQM Project Director views the role of the WQM program in NPDES permitting primarily as a matter of educating the public about the existence of the permitting system and identifying the need for additional permitting where appropriate. At the time of interviews, none of the citizens or local elected officials were aware of the NPDES permitting process.

Conclusions

The Martha's Vineyard WQM project has made noteworthy progress in dealing with the Island's existing and potential on-lot disposal problem. The project staff has assembled base data on water quality, soils, etc., which were sorely lacking until the project began. This base data will be helpful not only in identifying and remedying current groundwater problems but also in planning for environmentally sound growth in the future. The WQM project has already convinced several local Boards of Health to adopt stricter septic system codes. A number of towns are also considering

a septic system maintenance program which the WQM staff is espousing. These achievements have been accomplished despite a limited public education program, the absence of an active Citizens Advisory Committee and a lack of State support for nonstructural solutions to wastewater disposal.

Although the WQM Project Director has been effective through reliance on personal contacts with local elected and appointed officials, the absence of a meaningful public participation program may hurt the WQM program in the long run. Successful continuation of the WQM process will depend on active local interest and support. This support will be difficult to muster if the WQM program does not increase its public education efforts soon, and if it does not bring the public and local elected officials actively into the process. Water quality concerns are already in competition with economic development interests. There is a need to convince Islanders that economic prosperity is directly tied to preservation of water quality and that action must be taken now to insure that the water can be protected. Furthermore, the Island towns are strongly opposed to perceived threats on local autonomy. Some towns are already dissatisfied with the MVC's regional approach in designating "critical districts" which are subject to special MVC authority. The association of the WQM plan with the MVC may hurt the plan's chances for local approval. Unless these communities become actively involved in formulating plan recommendations, implementation of plan elements will be delayed and possibly rejected, especially if the Project Director leaves for any reason, taking with him the personal trust and credence he has instilled in the program.

The Martha's Vineyard WQM project has recognized these problems and, despite a limited budget, has hired a full-time public participation staff person to reactivate the WQM Citizens Advisory Committee and to coordinate more public education programs (e.g., workshops, news releases, etc.). How effective these efforts will be within the remaining few months of the WQM project remains to be seen.

As to the likelihood of State approval of the final plan, the MVC has already encountered problems. The State is demanding that, before plan approval, the WQM program produce a paper analyzing the factors affecting growth. The growth paper was not a part of MVC's initial contract with the State nor was the paper included in MVC's workplan. Given the project's limited budget and timeframe it will be difficult for the WQM project to meet this requirement and to obtain State approval. Approval from EPA is more likely since the WQM Project Director has received few indications of dissatisfaction to date.

As to the relationship between current and future facilities construction decisions and WQM plan recommendations, the WQM staff has already made informal input into a current construction decision on the Island in the form of information exchange between the WQM staff and the engineering consultants conducting an environmental impact assessment on the proposed expansion of the Edgartown wastewater treatment system. The value of this information exchange is questionable, however, since the WQM Project Director could offer no proof that the WQM data actually was used by the consultant. As to future decisions, the Project Director and EPA Project Officer believe that WQM projections and suggestions would not be heeded unless they agreed with State projections. Since the State has not actively supported nonstructural approaches to date, the WQM project will have to work at convincing local communities that septic systems can be as effective and more economical than sewerage.

The NPDES system is not a significant issue on the Island since there are only two active permits at this time and little foreseeable need for more permitting in the near future.

7 dayton

Miami Valley Regional Planning Commission

The Miami Valley Regional Planning Commission began its WQM project in June of 1974 and is scheduled to complete its final plan in June of 1977. The total grant amount is \$1.5 million. The Miami Valley area encompasses 2,300 miles and, according to the 1970 Census, has 901,672 people. This area was selected for study because it is a complex urban and industrial area reported having a "pro growth" climate.

Urban Runoff

The Miami Valley Regional Planning Commission (MVRPC) has encountered difficulties in its analysis of the area's urban runoff problem. All interviewees expect these difficulties will limit the comprehensiveness of the study. According to the EPA Region V Project Officer, the WQM Director and other local interviewees, the reports submitted by the subcontractor - the Miami Conservancy District (MCD) were not acceptable. The sampling and modeling, as designed and executed, were considered unrealistic and inadequate to define the runoff problem. Consequently, MVRPC recently terminated the contract with the MCD and will attempt to put the useable information into a more acceptable form. Nonetheless, all interviewees believed the considerable informational gaps in the analysis may remain unfilled due to the rapidly approaching end of the planning period.

As an early WQM designee, the MVRPC's planning period was to have terminated at the end of January, 1977. Although funds did expire as of that date, MVRPC will continue WQM planning under an EPA-granted time extension to June 25, 1977. The WQM Director noted that MVRPC is committed to completing the WQM plan and has re-allocated various resources to allow the planning effort to continue until June. The remaining funds from the MCD contract are partially supporting a skeleton staff at MVRPC. Funds from the management planning subcontract, which was terminated because of inadequate technical analysis, also were reallocated to MVRPC. An additional funding commitment of \$25,000 from Montgomery County will enable MVRPC to complete WQM planning elements related to the County.

The WQM Director outlined MVRPC's strategy for completing the study's urban runoff components. In each of the 31 watersheds (or WQM areas), available nonpoint source information will be integrated with the point source analysis. (Among the most useful data in the urban runoff study are the population and land use elements prepared as part of the interim outputs.) Proposals for alternative corrective measures for both point and non-point problems will be included in each area report. One of the WQM area reports has been completed already. Now that a format has been developed, the WQM Director expects the remaining 30 reports to consume less time. He considers it likely, however, that the planning period will expire before all of the WQM area reports are completed.

Although the WQM Director and other interviewees did not expect to have well-documented recommendations ready, even with the extended planning period, the MVRPC recently began to supplement sampling and modeling efforts to fill the biggest informational gaps. According to the WQM Project Director, extensive data verification will still be needed before any structural solutions can be feasibly proffered. The WQM will therefore, concentrate primarily on improved management practices.

To date, nonstructural approaches to the area's urban runoff problem have been discussed only in general terms. For example, the advisory committees have considered the applicability of a proposed State sediment control legislation but because the bill is only applicable in unincorporated areas and has weak enforcement powers further action on this possible alternative was curtailed. Furthermore, all discussions are colored somewhat by the fact that most local citizens and officials are assuming a runoff problem does not exist until it is carefully demonstrated.

Interviewees' expectations for correcting an urban runoff problem focused on several unresolved and somewhat intermeshed concerns:

- the need for more complete data to document a problem;
- the availability of funding for continued planning;
- the need to gain local acceptance and support.

All interviewees doubted that corrective measures would be undertaken until the analysis substantiates the urban runoff problem. They feel that continuation of the study will depend on gaining Federal and local support for an ongoing analysis. The WQM Director noted that, although EPA Region V had initially raised MVRPC's hopes for supplemental funding of a "transition phase", no additional EPA funds have materialized. Local resources for continuing the analytic effort have not been committed yet, and interviewees were uncertain whether local support ever would be committed. Two citizens expected costs of the effort as well as "pro-growth" interest groups to inhibit any possible local support. Even if local moneies were committed, interviewees did not feel such funds would be adequate.

All interviewees believed that local elected and appointed officials are quite aware of the urban runoff problem and generally attend meetings, although, two citizen interviewees felt only a few local elected officials were devoting sufficient attention to their review and comment responsibilities. A local elected official was pleased with the MVRPC's public participation progress, and noted that the MVRPC had achieved a close working relationship with the community leaders, local elected and appointed officials. According to one citizen, the WQM agency had reached those "who form the nucleus of opinion regarding plan implementation", even though neither farmers, builders nor developers were involved in the advisory committees. Yet despite the overall success of MVRPC's public involvement efforts, the lack of runoff data on that issue has confined discussion on this issue to a cursory level.

The Ohio Environmental Protection Agency (OEPA) has participated minimally in MVRPC WQM efforts. OEPA became involved in the MVRPC project one year after MVRPC was designated, as soon as funds for State involvement were made available to them. The WQM Director noted that OEPA has not provided guidance but instead has focused on a liaison role to ensure coordination.

OEPA circulates MVRPC reports to 26 State offices for review and comment. During the course of the OEPA-MVRPC contractual arrangement, MVRPC has had four different liaison officers, and this has hindered continuity somewhat.

Local and State interviewees commented on the uncertainty of gaining State certification for the WQM plan. The OEPA proposed certification process is in an unofficial draft form. The original draft would have required designated WQM agencies to obtain resolutions of intent to implement the WQM plan from every governmental unit. According to the WQM Director, this requirement translates into an extensive and costly review process which will overload the resources presently available to MVRPC.

The original draft certification process has undergone revision and although two OEPA staff members noted that revision was being aimed toward a more flexible strategy, neither could outline the specific stance OEPA ultimately would adopt. One OEPA staff member noted that the original conservative approach to evincing local support was considered vital to gaining gubernatorial certification over the Governor's expressed "pro-development" policy. This is expected to hinder plan certification.

The WQM Project Director praised EPA Region V personnel for their responsiveness to MVRPC requests for technical assistance. He also was grateful that Region V was promoting MVRPC's request for additional funding assistance. In contrast, the Director viewed EPA Headquarters personnel as inconsistent and contradictory in their responses to MVRPC, indicating that they seemingly were unconcerned with the problems of the early designated WQM agencies. He also believed EPA was reserving judgement in matters most appropriately determined by the Region V office. The WQM Director criticized EPA Headquarters general programmatic management of the early designated WQM projects. He feels that the lack of continuity Headquarters has generated has adversely affected the planning process. For example, each time MVRPC has had to re-program its workplan, delays and additional expenses have occurred.

Facilities - Related Plan Elements

The WQM Director outlined several ways in which the WQM planning process is interrelating with the numerous ongoing facilities planning efforts in the area. Although not formally adopted as interim outputs (as was required of later WQM agencies), MVRPC land use and population projections are being used in facilities plans. MVRPC meets with every consultant and agency

undertaking a facilities study in the area to ensure MVRPC's early involvement. MVRPC staff closely reviews the facilities plans for conformity with the WQM plan elements while summaries of the plans are scrutinized by the advisory committees. Upon favorable review, by the WQM committees, the facilities plan is formally adopted as part of the WQM plan.

The WQM Director noted good cooperation with OEPA regarding facility area delineations and alternatives. At one point, the OEPA had supported higher population projections and larger facilities, but the WQM Director believed the difference of opinion was being resolved in the direction of WQM recommendations. The State as well as EPA Region V consults MVRPC interim outputs in reviewing facilities plans.

All local interviewees agreed that the WQM plan will continue to influence future facilities planning decisions by narrowing the options for local agencies, providing an information base for local management agencies and consultants and by reviewing facilities proposals through the A-95 review process.

All local interviewees expected the proposed management system to include a range of alternatives including some subregional activities and consortia of existing agencies. No one expected extensive changes in existing management arrangements and most local interviewees saw this as a politically wise option. A local elected official believed that a new interrelationship of agencies was necessary to escape the historical conflicts among local political units.

All local interviewees noted that the A-95 review process provides for advisory committee involvement in detailed review of facilities plans. The Technical Advisory Committee has a large number of appointed officials and the Water Resources Committee is attended actively by local elected officials.

Role of WQM Planning in the NPDES Permit Process

The WQM Director hopes the WQM plan will influence future NPDES permits and that MVRPC will have the technical capability and resources (e.g., staff and funding for continuing planning) to comment on future permits. The waste-load allocations prepared by the subcontractor were unacceptable for use in identifying inconsistencies between existing permits and the WQM plan. Wherever data is available, NPDES considerations will be built into each of the 31 WQM area plans.

The WQM Director and other local interviewees noted that officials and industries were questioning effluent limitations and were concerned that the costly treatment required may be unnecessary. A citizen noted that, considering the weakness of the data, any proposed wasteload allocations may be challenged.

Several interviewees were concerned with the uncertainty of State certification of the WQM plan, which is a formal prerequisite to basing NPDES permits on the plan. They are also concerned about how the WQM information will be considered in the interim. According to the OEPA staff, the State has not determined if and how designated WQM agencies will have input to the forthcoming round of permits. Presently the State is revising its water quality standards, but these will not be completed until after that next round of permits is issued. An OEPA staff member indicated that the June, 1977 round of permits could be based on existing or proposed standards or some combination considered to be a "best judgement".

Conclusions

The results of an urban runoff analysis, in the form of documented information and fully developed alternatives for implementation, will not be realized during MVRPC's initial planning period. Given the data inadequacies of the subcontractor's analysis, MVRPC can hope, at best, to channel the useable information, as well as MVRPC's supplemental sampling into further study of the urban runoff problem.

MVRPC's attempts to complete even this limited analysis are hindered by inadequate staff and funding resources. As the WQM funds were exhausted as of January, 1977, MVRPC is able to continue WQM planning only by re-allocating the remaining funds from the terminated subcontracts.

Consequently, the WQM staff has been reduced to a skeleton crew which is greatly overloaded with the tasks required to meet a June 25, 1977 completion date.

Bringing the analysis to fruition depends on the availability of funding support for continuing the WQM planning effort. Although MVRPC, with the support of EPA Region V, is actively seeking EPA "transition phase" funding, the present indicators are that EPA Headquarters has little interest in MVRPC's concerns. If Federal funding is not given to MVRPC for continuation, WQM planning may come to a halt. It is questionable whether or

not MVRPC could obtain sufficient local resources to continue an extensive analytical effort. Montgomery County's financial contribution to help complete the initial program requirements by June, 1977, however, does present some hopeful signs of local commitment to the WQM effort.

One of the major accomplishments of the MVRPC effort is that the program has established a planning process with open dialogue among the area's public agencies and interest groups. MVRPC has achieved the active participation and interest of local elected and appointed officials and citizen representatives by encouraging their contributions and responding to their concerns. Although the urban runoff study has not yet reached the stage of alternatives discussion, the advisory committee structure is well-established to provide an appropriate forum when alternatives are ready. MVRPC, however, may do well to include builders, developers, and agricultural interests in the advisory committees.

MVRPC's best efforts are in facilities related planning elements. MVRPC has established a process for ensuring the compatibility of the WQM plan and facilities planning efforts starting from the earliest phases of facilities planning on through to plan implementation. The Technical Advisory Committee, the Water Resources Advisory Committee, and ultimately the MVRPC Commissioners are all involved in the review and approval of proposals and plans. In this way, MVRPC is providing a framework for meaningful areawide input into facilities planning decisions.

MVRPC has chosen a rather conservative approach to wastewater facilities management since many local management agencies are already entrenched. For that reason, they may have little significant impact on present wastewater facilities management arrangements.

The interaction of the MVRPC plan and future NPDES permits probably will be minimal in the short-term. MVRPC's limited data can substantiate neither wasteload allocations nor recommendations for revising the State's water quality standards. Even if MVRPC could make solid recommendations regarding NPDES permits, it is not clear how the State would consider them. OEPA has no strategy for incorporating areawide WQM recommendations into future permits and yet has to define a process for State certification of the plan. The sluggishness of OEPA may be attributed to the State administration's expressed policy of promoting economic growth at the expense of environmental programs. Until the WQM plan achieves certification - which could be procedurally delayed - there is no certainty the WQM recommendations would be considered in the permitting process.

8 kansas city

Mid-America Regional Council

Mid-America Regional Council (MARC) began its WQM project in July of 1976 after a year's start-up delay due to refinement in the WQM workplan. The final WQM plan is due in June, 1978. The total grant amount for this project is \$1,400,000. The designated planning area encompasses approximately 3,800 square miles in the States of Kansas and Missouri. According to the 1970 Census, the total population of the region is 1,327,266. This area was selected for study because of the unique problems of a bi-state WQM planning effort.

Combined Sewer Overflow

In the Kansas City area, agricultural nonpoint sources of water pollution are being studied by Kansas and Missouri in their statewide WQM programs. Urban nonpoint source problems are being studied on an areawide basis by the Mid-America Regional Council (MARC). According to MARC's WQM Project Director, MARC is concentrating its nonpoint source study on combined sewer overflow because a 1973 3(C) study indicated these overflows may be contributing more pollution, especially in smaller tributaries, than direct municipal discharges. Since no efforts were ever made to test the 3(C) suspicions, MARC felt it was important to define the magnitude and location of the combined sewer overflow problem. MARC's objective is to determine whether it would be more cost effective for Kansas City to shift attention away from traditional wastewater treatment planning and toward combined sewer overflow solutions. The Missouri State liaison, on the other hand, feels that MARC's interest in combined sewers stems less from MARC's own interest in the subject and more from EPA's requirement to examine the issue.

The WQM Project Director acknowledges that a thorough study of the combined sewer overflow problem in the Kansas City area will require more than two years, however, he feels that the agency's workplan will allow MARC to gain a better understanding of the problem and to offer some preliminary recommendations for problem solution. Other interviewees were less optimistic about the final WQM plan outcomes. Not only is MARC faced with the problem of sketchy data, but at this time, even MARC's limited data collection efforts are in jeopardy because of a delayed major WQM engineering contract. The Kansas and Missouri liaisons fear that if the delay persists much longer, MARC will be unable to recoup lost time to salvage the study. The State liaisons blame EPA bureaucracy for the delay but the EPA Project Officer justifies close contract scrutiny on the basis of the study's complicated nature and the WQM staff's complex coordination role.

MARC's interim outputs are not expected to be of much direct use in the combined sewer overflow study. Combined sewer overflow problems chiefly exist in older, fully developed urban areas where population and land use changes are unlikely to occur in sufficient measure to alter the problem significantly. On the other hand, should EPA shift its policy and allow construction of combined sewers in the future, the EPA Project Officer noted that the interim outputs could be used to predict the type and strength of combined sewer overflow loadings from future growth.

Since MARC had not yet begun its major data collection and analysis contract, it was difficult for interviewees to speculate on the nature of final plan recommendations. However, the WQM Project Director was certain that MARC's study would not make any breakthroughs in current technology, but rather would probably opt for one of the solutions currently espoused by EPA (e.g., holding basins and delayed treatment). He felt MARC's contribution would be in determining the location, cost and schedule for implementing appropriate solutions. The Missouri State liaison expects that because of political and financial constraints, MARC will concentrate on indirect, nonstructural solutions such as street sweeping practices. A more pessimistic local elected official felt that the most one could expect from the WQM plan is a suggestion for further sampling and analysis in the future. The EPA Project Officer was skeptical about the very magnitude of the problem

and suspects that the WQM study may find combined sewer overflow is not deserving of major attention and financing.

With the exception of one local official, none of the interviewees expected WQM's combined sewer overflow study to produce noticeable improvements in water quality. A citizen interviewee felt that even if data collection was on schedule, the complicated political setting would make it nearly impossible to devise politically acceptable and financially feasible solutions within two years. The Kansas City study area is characterized by an intense desire to maintain local autonomy and by a long history of interstate rivalry and suspicion. Furthermore, most combined sewer overflow solutions involve extremely expensive structural solutions. All three of these considerations will take a long time to settle. A local elected official and a citizen interviewee noted that the WQM project generally is not giving sufficient attention to legal groundwork necessary for implementation of plan recommendations. The local official also noted that operating and maintenance costs are usually ignored in such planning programs, yet local communities have come to realize that these costs are as important in decisions as capital investment costs.

Despite these pessimistic prognoses for plan implementation, little opposition is expected at the time of final WQM plan approval. This is partially explained by the ongoing review and approval of WQM plan outputs by local elected officials and their representatives on the policy subcommittee of the Mid-America Regional Council and the Technical Advisory Committee. To reach other officials not directly involved, MARC has prepared a slide show and brochures which it has circulated among local communities. All interviewees felt that MARC's attempts to reach local officials were effective especially since MARC itself is composed of elected persons from each of the communities in the designated WQM area. According to one citizen however, MARC has failed to use this contact with local elected officials as effectively as it could. Rather than giving directional lead to these officials, MARC's WQM staff has assumed a low profile, only responding to current local preferences and stressing the WQM program as a planning study rather than an action plan. To date, no local officials have become excited about combined sewer overflow problems because the issue has not yet been defined in terms of immediate needs. Only those officials who

perceive combined sewers as an important problem in their communities are really interested.

Probably of more significance to plan approval is the fact that, according to the Kansas State liaison, locals expect the WQM plan will be "just another study". The Missouri State liaison noted that since most local communities in his State will have developed their budgets for fiscal year 1980 before the WQM plan is completed, they will be reluctant to seek any kind of plan implementation and therefore will not arouse any opposition.

Citizen involvement in water quality programs has been traditionally minimal in the Kansas City area because of the low priority of such programs relative to other community concerns. All interviewees felt MARC had done the most it could to stimulate citizen interest and involvement by establishing broad based Citizen Advisory Committees and public education programs, however, none of these have been particularly successful. Citizens involved in the WQM program were interested in water quality issues long before the WQM program began. Those who are involved in the WQM committee structure review and comment on program outputs as they materialize. As mentioned earlier, citizens were not involved in the selection of combined sewer overflow for WQM study. This decision was dictated to MARC by EPA, according to the WQM Project Director.

MARC has contracted with Kansas and Missouri for full-time liaisons who are engaged in monitoring MARC's progress and ensuring coordination between the areawide and statewide WQM plans. The WQM Project Director has found the States generally supportive in MARC's activities to date.

As to EPA Regional Office involvement, the WQM Project Director noted that EPA has been very active in monitoring grant administration and in transmitting some technical assistance upon MARC's request. The Kansas State liaison took a much harder view of EPA. In this opinion, EPA is sabotaging MARC's study by delaying contracts. He feels that EPA has no commitment to the combined sewer overflow plan elements but rather is only interested in building bureaucracies by regionalizing wastewater treatment. The Missouri liaison took a softer line but did call attention to changing EPA policies and delays in transmitting guidance which have caused delays in MARC's WQM planning process.

Facilities-Related Plan Elements

Although MARC has not been directly involved in facilities planning, it has participated in the planning process through its A-95 review role. The WQM Project Director hopes that the WQM plan will give MARC greater influence on the location, timing and capacity of new facilities through the use of WQM population projections, service area delineations, etc. in planning decisions. The Director expects EPA will accept and abide by WQM suggestions and that the States in turn will follow EPA's lead on penalty of Federal sanctions. One citizen, in fact, believes that EPA is already withholding construction funds until locals can take the WQM plan into consideration.

The EPA Project Officer felt that the WQM Project Director's prognosis would probably materialize but added that WQM information would be used only when approved by the States. Although no formal agreement on the use of WQM interim outputs has been made between MARC and the States, the State liaisons also anticipated required compatibility between the WQM plan and future facilities plans. No effect on ongoing plans, however, is expected. Two local officials suggested the possibility that the WQM program through MARC would have primary control over construction money. Neither official was able to define exactly what effect this would have.

MARC's major effort in relation to wastewater treatment is in the area of management planning. Even before the WQM project began, MARC was engaged in an effort to consolidate the many wastewater treatment agencies in the Kansas City area for reasons of cost efficiency and more sensible planning. One local elected official praised MARC's efforts toward regionalization but none of the interviewees anticipated great progress in the near future. The most commonly cited reason was local opposition from communities that feared loss of local control or that expected regionalization to cost them more than present independent management systems.

Any proposal to form a regional management arrangement across State lines is sure to cause great controversy especially among Kansas residents who fear they will be overshadowed by Missouri interests. One local elected official felt that the WQM plan was not giving sufficient attention to the legal groundwork necessary for management changes. Any interstate pact, for example, would need Federal approval through an act of Congress.

Since MARC has not progressed very far in facilities-related plan elements to date, citizens have not been active in this area as yet. However, the WQM Project Director hopes to present the public with a clear analysis of regionalization's costs and benefits in the near future. Through the public participation process (i.e., CAC, brochures, public meetings), citizens will be given the opportunity to review WQM alternatives and voice their preferences in selecting plan alternatives.

Local elected officials will be involved in facilities-related discussions principally through the WQM policy subcommittee of MARC's standing committee structure. As mentioned earlier, those communities who stand to be affected most directly by the plan are likely to participate in discussions. It is questionable how active others will be.

According to the Kansas State liaison and several other interviewees, consolidation of local management agencies into regional systems is the foremost interest of EPA. As such, the interviewees feel that EPA is trying to minimize other parts of the Kansas City WQM plan. The one benefit local and State interviewees look forward to is strong support for WQM influence in future facilities work.

The Role of WQM Planning in the NPDES Permit Process

Kansas and Missouri State governments are responsible for NPDES permitting in the Kansas City area. The WQM Project Director is certain that any applicable data generated by the WQM study will be used by both States in their permitting functions. The Director expects the most likely WQM plan input will come in the form of suggestions for new industrial permits; however, he does not anticipate many such occasions will arise.

The Kansas State liaison felt there was little MARC could add to the State's program since Kansas is technically far superior to MARC in the area of permit analysis. The Missouri State liaison, on the other hand, noted that all permits issued after the WQM plan would be issued in conformance with the WQM plan.

Since the issue of permitting had not arisen in committee meetings, neither citizens nor local elected officials had made input on these, nor did they understand exactly what kind of input they could or would have.

Conclusions

Despite the good intentions of the Mid-America Regional Planning Council and its WQM staff, it appears that the Kansas City WQM plan will have limited effects on the area's combined sewer overflow problems. MARC hopes the WQM study will provide a better understanding of the combined sewer overflow problem relative to other planning concerns. The object is to enable the region to utilize available construction money in the most cost effective way possible, perhaps by diverting some facilities grants toward combined sewer overflow programs. MARC's problem is that the complexity of the problem, the absence of an adequate data base and the current delay in a major engineering contract have severely limited the WQM project's potential effectiveness even at this early date. Probably the most the WQM plan can do is suggest a few, broadly outlined solutions and then recommend that additional studies be conducted in the future. Even if MARC had sufficient data, the structural solutions which would probably be recommended are beyond the current financial means of most participating communities. Changing Federal grant regulations to allow facilities money to be used on combined sewer problems will not take a long time to accomplish. Recognizing these facts, several interviewees have become disillusioned and referred to the WQM plan as "just another study" that will sit on planner's bookshelves.

Yet the Kansas City WQM program is not entirely bleak. In the face of strong interstate rivalry, home rule supremacy and anti-regionalism sentiments, MARC has made some noteworthy progress in establishing communications among communities with common or interrelated problems. Furthermore, MARC has at least begun the long needed look at combined sewer problems.

It also appears that the WQM interim outputs will have considerable influence on future facilities construction decisions since both States and EPA appear to be waiting for WQM data before committing any further construction funds. Efforts are reorganizing the current pattern of wastewater treatment management agencies, on the other hand, will probably be less effective. MARC may be a bit too intimidated by local sentiments opposing regionalization. It is almost as though, resigning itself to the locals' steadfast position on regionalization, MARC has decided not to bother investigating legal groundwork for implementing new arrangements. Neither is MARC examining operating costs in which local communities are really interested. Such positions almost ensure that no change will take place.

The WQM's role in NPDES permitting is uncertain at this time, however the State of Missouri has come out strongly in favor using any applicable data that the WQM plan may generate.

The outlook for plan approval appears quite bright on the local level partly because of relatively good involvement of local officials in the WQM program through MARC's Board and subcommittees and partly because no one expects the WQM plan to propose any revolutionary ideas. Approval from the States may be more difficult to secure because of traditional rivalries between Kansas and Missouri.

9 middlesex county, n.j.

Middlesex County Board of Freeholders

Middlesex County began its WQM project in May, 1975 and is scheduled to complete its final plan in September, 1977. The designated area is 380 square miles large and includes approximately 731,330 people according to the 1970 U.S. Census. The total grant amount is \$1,420,000. The Middlesex area was designated for WQM planning because of its complex urban and industrial pollution problems. Urban runoff is considered one of the area's most serious sources of pollution.

Urban Runoff

Water quality sampling and analyses by the Middlesex County Planning Board have identified urban runoff as a major source of pollution in the Middlesex County WQM study area. Urban runoff is considered a priority problem because:

- New development is anticipated in key watersheds with potable water resources and high recreational value;
- Patterns of high intensity growth and development are expected to continue throughout the designated area further threatening water quality; and
- No State agency currently is engaged in the study of urban runoff as a nonpoint source problem.

Recently, emphasis in Middlesex has shifted away from urban runoff. The closing of 100 private wells last year alone has forced the WQM program to spend more time studying groundwater problems. Nevertheless, according to the WQM Project Director, urban runoff still remains an important concern in the study, especially in view of anticipated development's increased demand on water supply. The Project Director feels that a comprehensive analysis of the urban runoff problem must extend beyond the two year study timeframe because sufficient data to get a complete understanding of problems and to make detailed recommendations has not materialized as planned. Limited financial resources and inappropriate weather conditions frustrated attempts to carefully sample and accurately quantify the extent of the problem. Existing literature provided sufficient supplementary data to suggest a range of outcomes in some development decisions, but when large scale projects and expenditures with potentially large water quality effects arise, more detailed information will be needed. The WQM Project Director hopes to pursue this work earnestly in continuing planning.

The interim outputs were helpful in understanding the existing urban runoff problem. Since land use categories used in interim output projections were developed specifically for the runoff/water quality relationship analysis, they should be particularly useful in estimating nonpoint source wasteloads and water quality impacts of future development. It should be noted, however, that only the Policy Advisory Committee (PAC) had adopted the interim outputs. Further approval is now pending from the State Department of Environmental Protection (DEP) and Regional EPA Office.

At the time of interviews, Middlesex was just beginning to discuss alternative solutions to the urban runoff problem. The PAC was scheduled to be subdivided along subject lines (including urban runoff) and was given two months to develop and review alternatives. The WQM Project Director hoped to have at least general solution proposals ready for cities at the end of the project. More time and data will be needed for detailed recommendations. The EPA Regional Project Officer expected both non-structural solutions (such as street sweeping programs) and structural solutions (such as stormwater collection basins) to be proposed in the final plan.

All persons interviewed anticipate a need for regulatory programs but feel that these should function through existing legal and institutional frameworks. Private citizens, in particular, expect local communities to adopt regulatory measures where they are deemed necessary. They are

optimistic about change though none is expected in the immediate future. The State DEP spokesman is less certain about plan recommendations and implementation in the near future. In his opinion, insufficient data may be insufficient grounds for action and may cause the PAC to decide against implementation action until more specific information is assembled and analyzed. Although he views this reaction as less than immediately satisfying, he considers it to be a legitimate response and a positive step toward dealing with urban runoff.

Before Plan recommendations can be incorporated into the final plan they must be approved by the PAC. The Plan then must be approved by the County Board of Chosen Freeholders (the official WQM designee), the Governor's Office (through the State DEP), and the EPA Regional Administrator. Implementation will depend on approval by implementing agents which, as mentioned above, probably will be local municipalities in most cases. Municipal approval is subject to acceptance by individual City Councils and, in the case of by-law changes, public hearings review.

The WQM Project Director hopes to promote local adoption of recommendations as they emerge. Given his tight project schedule, however, the Project Director does not expect much implementation at the end of the two years. This issue is corroborated by several interviewees, particularly private citizens who feel that the urban runoff problem is not recognized as a problem sufficiently urgent to command immediate action and attention. Opposition to structural solutions is expected from cities where local expenditures are involved. Nonstructural solutions, such as land use controls and zoning will meet with less opposition if strong empirical evidence is provided. In either case, however, the generally depressed state of New Jersey's economy has predisposed some cities to oppose any solutions which appear to hinder economic development. The WQM Project Director hopes to overcome these sentiments by mobilizing citizen advocacy groups and by promoting urban runoff controls on the basis of recreational benefits and protection of water supplies. At least one citizen, however, feels that such environmental protection arguments are unlikely to outweigh interest in economic development.

To date, citizen and special interest groups have played a key role in setting priorities, directing efforts and reviewing interim outputs related to urban runoff. These interest groups will begin to develop and select management alternatives through the PAC structure. Citizen participation in the PAC generally has been well sustained since the

project's inception. Attendance at meetings had diminished slightly, but according to one citizen, attendance is expected to pick up again as management alternatives are developed and discussed. The WQM Project Director is hoping that citizen advocacy groups will help supplement the staff's contact with local elected officials.

Local elected official participation which was minimal in the beginning of the program has not improved over the course of the project. Housing, transportation and other compelling programs which offer direct subsidy are expected to command foremost attention among mayors and town selectment. The WQM staff still keeps officials informed through brochures, newsletters and sometimes through delegates such as town engineers who represent elected officials at PAC meetings. Direct participation or advocacy by local elected officials, however, is almost non-existent at this time. One citizen interviewed was concerned because he feels that direct participation of local elected officials is crucial to plan implementation. Most other interviewees including the Project Director and EPA Project Officer take a more lenient viewpoint noting that competing demands for time and attention make it impossible for local officials to participate actively in the WQM program. These interviewees were confident that local elected officials' interest will increase as concrete recommendations materialize. Interviewees also felt that these officials will take positive action where strong empirical data interpreted by their technical staff (e.g., planning boards, conservation commissions, town engineers, etc.) supports such action.

Although the State Department of Environmental Protection (DEP) always has sent a representative to PAC meetings to respond to technical questions, the WQM Project Director noted that the State has offered little other direct support for the urban runoff problem. As mentioned earlier, the State has no ongoing program related to urban runoff as a nonpoint source problem and, therefore, had little technical assistance to offer. The DEP did review and comment on urban runoff data analysis techniques where it felt it could be useful. It also provided early coordination among neighboring interstate and intrastate WQM agencies, however, these arrangements broke down because of time constraints on the WQM agencies. Both the Middlesex WQM Project Director and the EPA Regional Project Officer concurred that there is room for improving the State's role through renewed efforts to coordinate and support ongoing monitoring. There was no indication from the State liaison that coordination and monitoring efforts definitely would increase in the near future.

According to the WQM Project Director, EPA's role in the Middlesex WQM project has been, to date, more administrative than technical. The Regional Office has made its expertise on urban runoff available to Middlesex upon their request but has not assumed a visible advocacy role in support of local plan implementation, a function which citizen interviewees, in particular, feel EPA should serve in order to help convince local communities to take action.

Facilities - Related Plan Elements

Most of the designated WQM area lies within the service area of the Middlesex County Sewerage Authority (the regional wastewater collection and treatment management agency) and is either serviced already or currently is undergoing planning for future service by the MSCA. Because there appeared to be little opportunity to influence ongoing planning and because the County generally is pleased with MCSA's performance to date, a decision was made at the outset of the Middlesex WQM project to concentrate attention on nonpoint source problems which had been somewhat neglected until then. Middlesex, however, did prepare population and wasteload projections as part of their interim outputs. Although these projections differed from those being used by MCSA, the WQM Project Director could not explain how or if EPA would resolve these differences; nor was he particularly disturbed by the situation because of his general confidence in the MCSA.

Unlike the WQM Project Director, the State DEP spokesman foresees the possibility of a more active WQM role in facilities decisions, particularly in those areas where facilities planning have been delayed and where outputs in construction planning have not been developed. The DEP spokesman cautioned that the WQM projections are not sufficient grounds for decisions since they do not entail socioeconomic impact assessment and do not necessarily reflect growth patterns preferred by the State and individual communities. The EPA Project Officer suggested that the WQM plan may be used in assessing environmental impacts of any proposed facilities construction decision since the WQM projections are based on the premise of achieving desired water quality standards. He also feels that the planning process may encourage better coordination between the MCSA and local land use authorities on the scheduling of local sewer hook-ups. Along these same lines, one citizen added that the WQM program be used to guide the location on placement of two proposed trunklines. The WQM project staff already has cautioned that, if the pipes are laid too deep, they may break through an important aquifer and promote salt-water intrusion.

Citizens and delegates of local elected officials had been involved with facilities decisions only in their review of WQM interim outputs. According to the EPA Project Officer, local elected officials are concerned chiefly with economic factors and are trying to temper the use of environmental concerns alone to guide decisions.

Role of WQM Planning in the NPDES Permit Process

The EPA has responsibility for NPDES permitting in New Jersey until the State is prepared to assume this function. The WQM Project Director feels that the WQM project should have influence over permitting because this affects local water quality and is important to WQM modeling. Given the amount and type of data that the WQM project has collected, the DEP spokesman feels that there are few ways in which the WQM agency can influence the next round of permitting. The WQM agency was unable to do a complete review of State wasteload allocations for point sources because these allocations were not completed by the State and because of the time and cost involved in preparing this information.

Several persons interviewed, including a citizen and a local official felt the WQM agency should influence permitting because it has the most comprehensive information on quality of local receiving waters. So far, however, no formal arrangements for permitting input have been made between the WQM staff and EPA or the State. Even in those areas where the State has provided information for WQM review, models needed for WQM review purposes may not be ready in time to influence the next round of permits.

Conclusions

Middlesex's progress in the area of urban runoff points to some basic weakness in its WQM project. The first stems from insufficient substantiating data which has made it difficult to convince local communities that urban runoff poses a crisis in need of immediate action. The agency has been unable to broaden its constituency since the early stages of the WQM project. The only citizens, special interest groups and local elected officials to have sustained an active interest (e.g., attend advisory committee meetings, etc.) in the project are those who were advocates for cleaner water before the program began and those who probably would have continued their interest even without the WQM project.

The second project shortcoming stems from inadequate coordination among the Middlesex WQM project and neighboring WQM projects. Since urban runoff is not a self-contained problem but, rather, crosses political and project boundary lines, Middlesex communities are reluctant to commit themselves to corrective action without some assurance that other contributing communities will do likewise. The State has not provided active support in the form of statewide programs so far.

The third problem can be attributed to the somewhat depressed state of New Jersey's economy. When it comes to tradeoffs between the environment and the economy, the latter almost always holds greater weight among local decision-makers. This economic situation may indeed be the greatest barrier of all to implementation. Having failed to convince local communities that environmental quality is as important as economic activity, the WQM project may be unable to effect much change in the near future.

The Middlesex WQM process may not be a total loss, however. Should the State choose to take a strong stand on water quality, data generated by the Middlesex project could be used to develop a State-mandated regulatory program in the area. Also, although the project failed to build a broader constituency, it may have more firmly entrenched the existing constituency supporting cleaner water. This constituency may be important in promoting continued planning and action in the future. Much is contingent, however, on continued funding and State programmatic support.

It is also encouraging to see the WQM agency shifting its attention away from the urban runoff problem and toward groundwater contamination by industrial and municipal land disposal practices. Unlike urban runoff, the groundwater problem is more self-contained within the study area, is more easily recognized as a crisis (i.e., a threat to drinking water supplies) and is more tangible to the public because of public health implications. As a result, the Middlesex project may be able to generate more publicity and support for the groundwater issue. Later this support can be channeled into solving other water quality problems including urban runoff. The key will be the agency's flexibility and the degree of support it can raise from the State and EPA. Needless to say, partial continuing funding from an outside source is also crucial to final plan implementation.

Because the Middlesex County Sewerage Authority is so well respected and because most of the county is already sewered or undergoing plans for sewerage, the Middlesex WQM project has not played a major role in facilities construction decisions; nor does it plan to assume a more active role in the future. This situation has allowed the WQM agency to concentrate more fully on nonpoint source problems. The WQM plan, however, may serve to prompt the MCSA and the State to take a more comprehensive look at the environmental impacts of future facilities decisions.

The NPDES program is massive in Middlesex because of the great number of large industries located there. The WQM project could not afford to become deeply involved in the permitting process because of limited existing data and limited financial resources to produce the missing information. Had the WQM agency tried to do more, it probably would have had little effect on the permits but would have crippled its efforts in other areas.

10 salem

Mid-Willamette Valley Council of Governments

Mid-Willamette began its WQM project in November, 1975 and is scheduled to complete its final plan in September of 1977. The designated area is 2,613 square miles large and includes approximately 226,900 persons according to the 1970 U.S. Census. The total grant amount is \$446,300. The area was designated because of the high urban concentration in Marion County (metropolitan Salem) and also because of agricultural activity in the rural portions of the area. Among the major water pollution problems in the rural portion of the area is septic tank failure.

Septic Tank Failure

Septic tank failure is commonly known to be a problem in the rural parts of greater Salem. A 3C River Study confirmed the problem's existence, but no one has ever studied it in detail. In terms of the number of people affected, septic tank failure is not the area's worst problem (urban runoff or sludge disposal would come first), but the problem has a sense of urgency because the failures that have occurred were massive. If these problems continue, the cumulative impacts will be great.

One of the areas where massive failures have occurred is Grand Ronde, an unincorporated area in northern Polk County and Yamhill County. Because this is considered a "worst case" situation (a State survey showed 90 percent failure during a drought period!), the WQM agency selected Grand Ronde as a pilot test area to investigate possible technical, financial and political solutions. The pilot study will also be used to develop a model methodology for solving problems and preventing failures from re-occurring in other problem areas.

The first draft of the WQM project septic tank report is already finished. It includes problem definition, geology and soils data, and remedial alternatives and costs. The EPA Project Officer expected that the Mid-Willamette Valley Council of Governments (COG) would adopt the recommendations no later than September. Of three effected counties, at least one (mostly likely Polk) would adopt the needed regulations.

According to the WQM Project Director, the State Department of Environmental Quality (DEQ) is responsible for installation of septic tanks but DEQ contracts this work out to County Sanitation Departments. While this aspect of the regulations (i.e., site selection and construction) is considered adequate, there is no provision for periodic inspection after installation. Most interviewees expected an inspection system will be recommended:

According to the EPA Project Officer, any inspection recommendation is likely to be regulatory because previous experience shows that people do not pump out their systems until they fail. The State liaison, however, disagreed with this alternative. He felt that the problem is not maintenance, but poor soils and therefore requires a structural solution. He suggested replacing or repairing the drain system and constructing a treatment plant with a summer and winter system.

Other proposed solutions mentioned include mounding (a form of above ground septic tanks); composting toilets, and pumping effluent to a large sewage treatment plant. According to the WQM Project Director, however, it is still uncertain whether the WQM plan will recommend countywide solutions or restrict its recommendations to special critical areas. In either case, there will have to be additional studies made on the septic tank problems of other parts of the area.

The WQM interim outputs will be completed in early March. The three participating counties each received contracts:

- To take population projections developed by Portland State University and allocate them to their county;
- To gather land use data; and
- To delineate urban areas (i.e., service areas).

Salem had already set its urban boundary; all other areas were required by State law to set boundaries within an established compliance period. This period, however, was shortened to fit the WQM plan schedule. Of 32 boundaries needed approximately one-third are "tentative", one-third are "proposed" and one-third "adopted". Wasteload allocations will be done by the State. The WQM interim outputs will be reviewed by the State and EPA, and will be particularly useful for facilities planning.

The WQM Project Director explained that plan approval measures would start with the Technical Advisory Committee (TAC) and the Regional Planning Committee of the COG. Next the COG Board itself will adopt the plan. He did not feel it will be necessary to get the approval of each individual jurisdiction. DEQ (field office and headquarters) will review the plan for final certification by the Governor. The WQM Project Director felt there was an excellent chance for implementation. The only problems he anticipated were money and an anti-regulation sentiment. A local elected official was more specific. He felt that the anti-regulation feeling was most prevalent among farmers and that the plan would be most successful if the farming community were the ones to propose the needed regulations. Although an important element, the anti-regulation faction is not widespread. Anti-COG and anti-land use referenda were both soundly defeated in the November election.

In reference to the problem of raising funds to pay for septic tank improvements, the EPA Project Officer suggested that construction grant regulations be changed so that municipally owned septic tanks are made eligible for funding. He said this issue is of concern to much of Region X, and that a National Conference is being held on this issue.

According to the WQM Project Director, there are several Areawide Technical Advisory Committees (ATAC) which include technical advisors and some citizens and elected officials, but there is no officially organized Citizen Advisory Committee. The WQM staff has a slide presentation on the program which has been shown to over 700 persons. Although the WQM staff has met with farmers and county planners, according to the EPA Project Officer, they have no definite strategy to identify and involve key persons. Three elected officials and a citizen all explained that the Soil and Water Conservation and Agriculture Extension Service have been active in the Grand Ronde problem and that they will most likely be key to implementing any solution. Public hearings were held in Grand Ronde about the septic tank problem and there was good attendance.

County councilmen are the most actively involved elected officials in the project. A few councilmen are very active in the ATACs and in the Grand Ronde project. One County Commissioner who was formerly opposed to the WQM study was made a Committee Chairman and now is a supporter. Several City of Salem elected officials are active, but most other local elected officials have not been deeply involved. They do, however, keep informed through the COG Regional Planning Committee.

Interviewees gave several interpretations on the State's involvement. The WQM Project Director and one elected official felt there was little State involvement in the WQM study. The elected official added that DEQ had little funding, was involved in other programs and had "little commitment" to the areawide studies. The EPA Project Officer and another elected official said that the State had kept close touch with the septic tank and sludge elements of the WQM study.

The State liaison felt that the WQM staff is working hard, but that the EPA schedule asks too much. He feels the program came fast with too little thought and that a year was lost by "stumbling" in the beginning. One of the citizens involved also felt the study is being rushed. He feels it is a fractured program, with too little money and direction from DEQ and EPA.

One county councilman who has been very active in the WQM study feared that since the WQM agency has made no provisions for an ongoing role, that the State would take over WQM planning. He felt this would be a serious setback since the State is much more involved in point source problems. The EPA Project Officer also worried that if ongoing funding decisions are not made quickly, the staff involved will leave for more secure positions.

The EPA Regional Office influence has been mostly felt through their requirement for implementation of "hard outputs" within two years. One elected official felt that this had alienated some people involved. Most others, however, felt it gave the project a needed push. One citizen credited the implementation requirement for precipitating a decision to pursue the septic tank failure problem. At the time it seemed easier to get a septic tank ordinance approved than other nonpoint source regulations. The elected officials were particularly pleased with the EPA Project Officer who they considered an "advocate" for their point of view.

Facilities-Related Plan Elements

The WQM agency originally intended to develop an areawide Master Sewer Plan. The schedule was revised, however, to shift emphasis towards "hard outputs". According to the State liaison there are over fifteen Step 1 and 2 facilities plans; only one of which is nearly completed. Four or five facilities plans are about to be undertaken. The State liaison felt that facilities work will be based on WQM planning data (particularly the interim outputs), but he felt that so far the WQM staff has been too busy to get very involved in this area.

As mentioned, the WQM interim outputs are usefun in facilities work. The WQM Project Director expected the service area delineations (urban boundaries) will be most useful for facilities planning. Total population projections are completed, and the detailed wasteload allocation at a detail needed for facilities planning is now being done. According to an official of the Salem Utilities Department this is key. He said the Utilities Department is currently updating its own comprehensive plan and is re-studying the urban growth boundaries. The Salem Utilities Department has met with the WQM staff several times to discuss planning problems and ways to coordinate the two studies. The City is particularly concerned about expansion of a part of the City that lies in a different drainage basin. Possibilities include building a new treatment plant there or pumping wastes back into the existing system.

The WQM study is looking at the certain management questions related to facilities. The study consultant has already looked at the sludge management question in particular. Salem currently uses land application to dispose of its sludge, and consideration is being made to do this regionally. Concerning other management questions, the WQM Project Director and one elected official felt the study would recommend building of existing institutions and against creating a new regional agency. The EPA Project Officer, however, said no agency has the needed powers and a regional agency was certainly a possible alternative. The State liaison also felt a regional agency was possible if it were shown to be a cheaper solution. A management system will be recommended in August.

Role of WQM Planning in the NPDES Permit Process

The Oregon Department of Environmental Quality has NPDES permit authority. The WQM Project Director, citizens and elected officials interviewed all

said they do not get involved in permit decisions because it is "totally a State function". The State liaison said that the DEQ works directly with the cities and industries involved, therefore he does not expect the WQM agency to become involved.

One elected official expressed some criticism of the State for not seeking more involvement. He said that recently the State had issued its basin plans but had not allowed sufficient time for the public to comment. DEQ was severely criticized at the public hearing and given one year to incorporate public comments.

Conclusions

The Grand Ronde pilot study of septic tank failures is likely to have several results. Because of extraneous circumstances (i.e., poverty) in Grand Ronde itself, there may be a relocation program to move residents out of the area where the greatest number of failures occur. As far as other parts of the county, a periodic inspection system (and possibly permitting) will probably be recommended.

The county officials are actively involved in the septic tank study. They are committed to finding and implementing a solution. Likewise, the Soil and Water Conservation Service and Agricultural Extension Service who will be key to encouraging involvement by farmers have been actively involved. Officials and the WQM staff are working with other programs in the Region and in the Nation in hopes that regulations for construction grants might be changed to make municipally-owned septic tanks eligible for funds. All of this adds up to a reasonably bright outlook for further planning and implementation.

The Region X edict that all WQM programs must implement four "hard outputs" within the two year planning period appears to have been beneficial to the Salem project. First, it has shifted focus away from some of the more general planning efforts (e.g., Master Sewer Plan) and from those that would be most difficult to gain approval (e.g., some nonpoint source regulations). Instead, the study has focused on well defined problems with clear cut solutions. Concentrating in such areas has made it easier to secure implementation and hopefully to start a "snowball" effect toward further implementation of the final WQM plan.

Although the WQM staff has been too busy with other plan elements to become heavily involved in facilities related work, it appears that WQM data will still influence future decisions since county and local planning agencies are already turning to the WQM project for data. The WQM planning agency therefore was probably wise to make the tradeoff between involvement in facilities questions and concentration on "hard outputs" in other areas where concerted planning may not have been taking place.

The role for ongoing WQM planning is questionable because the funding picture is so unclear. If the present staff continues to leave, transition period work may be in jeopardy. However, the involvement and concern of local officials and county officials presents some encouragement for the future of WQM planning. These officials are too committed to the program to see the whole effort collapse at the end of two years.

11 seattle

Municipality of Seattle - METRO

Seattle-METRO started its WQM project in January, 1976 and is scheduled to complete its final plan in January of 1978. The designated area is 1,160 square miles and has a population of approximately 1.1 million according to the U.S. Census of 1970. The total grant amount is \$850,000. The metropolitan Seattle area was designated because of its growing urban concentration. One of the primary pollution problems being studied is urban storm runoff.

Urban Storm Runoff

Citizens in the Seattle area are concerned about a general loss of natural resources in lakes and streams. For some time, metropolitan area officials were aware that urban storm runoff was causing significant problems. Previous studies and most recently the RIBCO study¹ and plan pointed out the need for drainage controls. The RIBCO study indicated that the least costly alternative in undeveloped areas would be maintenance of natural streams while in developed areas, storm sewers would be necessary. Because point source problems are already being dealt with under a concurrent facilities study, urban storm runoff is considered the major problem of this area.

¹ An in-depth study of the area's water quality problems and alternative solutions. RIBCO completed detailed water quality analysis for most of the designated area.

The RIBCO study showed the analysis and costs of the urban runoff problem for 25 sub-basins. The next step in treating the problem is to complete comprehensive sub-basin plans. To do this, the WQM study effort of METRO focuses on two demonstration studies, Juanita Creek basin and Thornton Creek/Lake Union. The Juanita Creek portion of the study is being conducted by the King County Public Works Department. The Thornton Creek portion of the study is being prepared by the City of Seattle Engineering Department. Finally, METRO itself will prioritize the next sub-basins to be studied in detail.

Because the Thornton Creek/Lake Union demonstration study deals primarily with a weed control problem, the Juanita Creek demonstration is the focus of attention for this report. The Juanita Creek basin study focuses on a seven square mile sub-basin in a rapidly developing portion of the County. It spans parts of the cities of Bothell and Kirkland and some unincorporated lands which are under the jurisdiction of King County. King County has had a runoff ordinance (No. 2281) since 1974 which requires all new developments to control runoff so there is no more runoff after construction than before. The limitations of this ordinance, however, are that it only applies to new construction and it only applies in unincorporated areas of the county. Another problem with the ordinance is that the County assumes operation and maintenance costs of holding ponds after three years which could become a very costly responsibility in the future.

In developing an overall county program for controlling runoff, King County hopes to avoid costly structural solutions. Any solution, however, is costly. Although the cost would differ from basin to basin, Green River basin might be considered typical. These costs for purchasing rights of way and for constructing channels was \$1,500/acre. The County, therefore is looking closely at funding alternatives. So far, recommendations have included:

- Requesting EPA to allow surface runoff treatment costs to be eligible for facilities construction funds.
- Requesting EPA to start a block grant program similar to that carried out by the Department of Housing and Urban Development.
- Using the River Improvement Fund. (This is not a good source of money, however, because it was intended for flood control.)

- Using State road funds. (Since they are already required to build retention ponds, the County hopes to convince the State to change pond locations so that they can also be used for a regional facility.)

The King County administrator has publicly stated that he thinks funding should come from the general budget, not from user charges.

So far, the Juanita Creek basin study has concentrated on calibrating an EPA runoff simulation model so it can be used to identify and analyze drainage alternatives. The Public Works Department (PWD) hoped to have this capability in the County so that they could use it to encourage other jurisdictions to enter inter-governmental agreements to solve basin-wide problems. (The County only has jurisdiction in the unincorporated areas). The PWD also intended to develop a handbook on use of the model. The model-related elements of the WQM study, however, have not been successful so far. The engineers are unsure how applicable the model is to their area, and feel it needs many revisions. Some parts of the model, especially the transportation element, are considered too costly to use.

Nevertheless, the County Public Works Department hopes to accomplish some things as a result of the WQM project. First, they hope to develop alternatives for Juanita Creek basin and select one that is most cost effective. Second, they hope to execute a management agreement between Bothell and Kirkland and King County (the three relevant jurisdictions) over allowable land uses in Juanita Creek area. Third, they hope to develop a series of alternatives for funding of urban runoff "solutions".

One funding alternative being proposed for both Thornton Creek (which is in the City of Seattle) and Juanita Creek is the creation of Draining Utility Districts. By doing this the City could sell bonds and assess charges to residents of the districts. The district approach was tried in the City of Bellevue which is also part of the Seattle metropolitan area. After much opposition, that program was scheduled to go into effect in March of 1977. Because of the relevancy to its own activities, METRO funded a political case study of Bellevue as part of the WQM study.¹ Partly based on this experience, there is some doubt by citizens and officials alike whether utility districts would be politically acceptable.

¹ Hall and Corwin Associates, The Bellevue Experience, November, 1976.

The King County Public Works Department hopes it can construct a "blue/green" detention pond (wet during rainy periods; dry at other times) as part of a County Park. They have also prepared a leaflet, "Home Tips for Clean Streams" to encourage public behavior to reduce pollution. Ironically, however, some county officials are beginning to feel that a more regional (versus sub-basin) approach is needed. Specifically, the area needs to conserve wetlands and make certain stream bank improvements. Funding for a regional approach, however, is even more uncertain than for a sub-basin program.

In the two year planning period it will not be possible to solve the structural and technical needs even in the demonstration basins. Nonetheless, partly at the urging of the EPA Regional Office, some things will be implemented. This includes putting in place institutional arrangements (e.g., inter-governmental agreements), financing and management structures. There is a decided emphasis on a regulatory approach because it is believed most feasible for the long term. The WQM Project Director predicted that controls would be implemented by June, 1977.

The WQM Project Director, like the county engineers, noted the lack of federal monetary incentives to get too deeply involved in runoff controls. To date, all costs must be incurred locally. The Project Director is meeting with other WQM Project Directors in the West to help formulate strategies for seeking funds to continue their studies.

One local elected official mentioned another possible barrier to implementation. Several years ago the Corps of Engineers authorized the Soil Conservation Service to dump into the Green River as a flood control measure. It may be necessary for them to withdraw this authorization. If this occurs, the County will have to ease up on some of its own regulations.

The population projections in the interim outputs were prepared by the Puget Sound Council of Governments (PSCOG),¹ but it was not directly useful for the urban runoff analyses. Wasteload projections have not been completed. Wasteload allocations will not be done by METRO. The State will decide whether allocations are needed, and if so, the State will do them.

¹ This inter-agency agreement was a condition of designation.

Formal steps for approval of the WQM plan will include community hearings, adoption by the METRO Council, review by the State Department of Ecology, and Certification by the Governor. Washington has a new Governor and her administration is currently being brought up to date on a number of issues. The State, so far, has somewhat left the areawide agencies on their own and concentrated on its statewide WQM planning.

METRO has a water quality Citizens Advisory Committee which considers both facilities construction and WQM planning issues. According to one of the citizen members, the CAC received a briefing on the demonstration projects, but has not heard anything since then. Although EPA Project Officer, the State liaison and one local official interviewed all thought citizen involvement was good, it was necessary to replace almost half the members in the fall because of poor attendance. CAC members tend to be activists and seem to function best at the task force level. Task forces to consider sludge and combined sewer overflow were considered helpful and active. A task force on areawide issues has also been formed. According to its Chairman, the study group will discuss sewer extension issues and review reports from the City of Seattle and King County which are due in April and May. A second citizen, however, found the concept of areawide planning difficult to comprehend because it "has so many loose ends, its hard to get your teeth into it". He added that the area for study is so large, that its often difficult in meetings to get everyone down to specifics.

Beyond the advisory committee, METRO uses several other means to involve citizens.. A monthly newsletter which reports on WQM activities and gives "anti-pollution plugs" for stopping pollution at home is mailed to over 20,000 residents. The Division of Community Involvement at METRO is about to undertake four demonstration projects to involve citizens in water quality-related activities. These will be selected from a pool of ten suggestions, each designed to "get quick results". One of the ten is a tree-planting program designed to lower stream temperature (higher temperatures were preventing fish from swimming upstream to spawn). Weyerhaeuser would donate the trees, and labor would be volunteered by interested private citizens.

Local elected officials have been involved through a number of means. According to the EPA Project Officer, the METRO staff "takes pains to keep them personally involved often on a one-to-one basis". Some officials are also kept informed through activities of the Water Quality Committee of the METRO Council and through the METRO Council itself which has 30 members, all elected officials. Finally, a highly successful workshop for elected officials was held in the fall. Forty persons attended and discussed the area's problems, regulatory approaches and financing possibilities.

One of the county officials who is on the METRO council agreed that officials are very involved, but a citizen said he has not seen much involvement so far. The State liaison said that involvement is excellent from those areas most directly affected; others put water quality at a somewhat lower priority.

The State has not become heavily involved in the areawide programs. (There are three in the State of Washington). It has primarily played a review and reactionary role, providing information whenever possible. The EPA Regional office has played a much more active role. EPA Representatives attended committee meetings and the Regional administrator spoke at the elected officials workshop. The EPA Project Officer holds monthly progress meetings and also has day-to-day telephone contact.

Facilities-Related Plan Elements

Currently, a separate staff within METRO is preparing a wastewater treatment facilities plan. In this plan, the staff are analyzing alternatives for meeting the secondary treatment goal of P.L. 92-500. METRO as well as most citizens and elected officials are not in favor of upgrading existing plants to the secondary level. They argue that given the tidal action of the sound, that existing treatment is equivalent to secondary. Furthermore they argue that upgrading is expensive with little or no benefits. EPA and the State have not accepted this argument which has caused some strain between METRO and EPA. While still arguing against upgrading, METRO is proceeding with its facilities plan. This is due in August with hearings due in October and final action due in November.

The WQM study has been coordinated with the facilities study in several important ways:

- Population projections and land use studies were prepared by PSCOG (under joint funding) for use of both the WQM and the facilities planning efforts.
- Both the WQM and the facility plans addressed the question of which level of treatment is needed. The WQM plan is looking at urban storm runoff solutions that, if successful, might further decrease the need for secondary treatment.
- The WQM plan will include sewer extension guidelines after examining the role of sewers in growth management.

Because METRO is already a metropolitan sewer agency, there is no need to create a new management system. There is no intention for METRO to take on more management authority (e.g., land use controls) than it already has. As local and EPA officials alike noted, "the system is in place", it is more a matter of exercising existing powers. Previous studies have recommended a merger of METRO with King County. Although the WQM study will support the merger as a concept, it has less impact for water quality, so will not be emphasized.

Role of WQM Planning in the NPDES Permit Process

The State of Washington has NPDES permitting authority, however, it has delegated this authority to METRO for those industries which discharge into the METRO system. Permitting, therefore, is more related to METRO's facilities study than the WQM study.

Conclusions

The METRO WQM study focuses primarily on the two demonstration projects in Juanita Creek and in Thornton Creek/Lake Union. Beyond that the study will consider sewer line extension policies and will prioritize areas that need detailed plans for urban storm runoff.

There seems to be an excellent chance that WQM plan recommendations will be implemented in the demonstration areas. King County is committed to signing an inter-local agreement with Bothell and Kirkland to control land uses in the sub-basin area. The County also hopes to construct a detention pond in a park. The County's original desire for a county-wide program, however, will be limited because they are experiencing problems with the EPA runoff model. The County had hoped to use availability of the model as an inducement to incorporated areas to enter inter-local agreements.

Another limitation to county-wide implementation is funding. Most solutions to runoff, but especially structural solutions, are very costly. Most officials hope to convince EPA to make runoff control costs eligible for facilities construction grant funds. Another widely mentioned alternative is creating utility districts. This was tried in Bellevue and their experience is being closely watched.

Many locally elected officials are involved in this effort. Nearly 40 attended a workshop held in the fall. This demonstrates at least their interest in learning about problems and possible solutions. Again, their commitment to doing something will probably be limited by the cost involved.

The quality of citizen involvement is high. They have input into discussions on sludge and combined sewer overflow, and certainly seem capable of tackling issues such as sewer line extension and prioritization of areas to be studied for urban runoff. Beyond the most active participants (i.e., those on committees), 20,000 people receive a monthly newsletter and many more will become involved through the four citizen involvement demonstration projects that will be conducted by the University of Washington.

12 cincinnati

Ohio-Kentucky-Indiana Council of Governments

The Ohio-Kentucky-Indiana Council of Governments (OKI) began WQM planning in January, 1975 and was officially scheduled to end planning in December, 1976. OKI obtained an EPA time extension to complete final plan review, revision and adoption as well as preparation of continuing planning. Due to frugal budgeting throughout the two years, OKI was able to conserve enough grant funds to continue WQM planning for the additional six months.

The ten-county OKI region includes areas in three states around the Cincinnati and Hamilton-Middleton SMSAs. The total WQM designated area consists of 3,117 square miles. According to the 1970 U.S. Census, there are 1.65 million people in the designated area. Approximately 1.2 million of these reside in Ohio.

As a tri-State area and an early designant, OKI did not operate under the EPA guidelines which directed later WQM projects. OKI has received national attention for its technological approach to nonpoint sources of water pollution.

Combined Sewer Overflow

The Ohio-Kentucky-Indiana Council of Governments' (OKI) analysis of stream segments clearly identified combined sewer overflow as a substantial water quality problem. Although no studies pre-dated the OKI analysis, Cincinnati's totally combined sewer system and other smaller combined systems had been considered obvious pollutant sources for a long time. By applying a model in each of the four basins comprising the WQM study area, the present OKI analysis calculated the magnitude of the problem and the water quality benefits to be derived from corrective measures. The OKI model, endorsed by EPA, relied on literature coefficients rather than actual sampling. Nonetheless, the WQM Director believe this initial analysis sufficiently documents OKI recommendations for steps toward problem resolution.

According to the WQM Director, the analysis identifies immediate needs for action while proposing other short-term and long-term alternatives contingent upon further study prior to implementing action (e.g.,

structural investments). OKI recommendations recognize the need for relatively low-cost interim solutions (e.g., storage and pumping of storm water into treatment plants) while longer-term solutions requiring substantial monetary investments are analyzed. Both phased short-term and long-term approaches are designed to be flexible and adaptable to new information. In the ongoing planning phase, OKI intends to verify data through sampling, isolating the costs of corrective measures and by conducting demonstration projects. For example, OKI will be testing a low-maintenance gravity device for potential application to the combined sewer overflow problems.

As an early designated WQM agency, OKI was not required to produce interim reports. OKI did develop population projections and land use elements which were reviewed by the WQM planning process. All interviewees believed these reports to be valuable to the study as well as to other related planning efforts in the area.

Although most interviewees were confident of OKI's technical analysis and overall planning process, they believed that implementation toward problem correction depended on the availability of Federal funds. As correcting even the smallest combined sewer system's overflow problem entails 42 million dollars, citizens and local elected officials expected little public support for the implied skyrocketing of sewer rates. Without substantial Federal funds, no one believed longer-term structural solutions would be acceptable. In some areas, less expensive partial solutions were believed likely and, in a few critical areas, short-term approaches are already being adopted.

An area of concern to local interviewees was the State of Ohio's position regarding WQM plan approval and certification.¹ All interviewees noted the present State administration's attitude of "pro-development" and expected the State to disapprove of those WQM plans with potentially adverse impacts on economic development. Most interviewees believed that the State of Ohio would like to delay certification until 1978, commensurate with the completion of the statewide WQM plan. They also felt that a draft document of the State certification process, if approved, could have the effect of "killing" the OKI plan.

1

Although three States - Ohio, Kentucky and Indiana - are involved in the OKI WQM study area, only Ohio was discussed in these interviews.

According to citizens and local officials, the State may require OKI to obtain a "resolution of intent to implement" the WQM plan from each governmental unit prior to submitting the plan to the Governor for certification. No local interviewee believed OKI could master these resolutions, and the extensive public hearings required within the planning period.

This local perspective of the State's position regarding plan approval/certification does not mesh with statements obtained from the Ohio Environmental Protection Agency's (OEPA) staff. According to two OEPA staff members, OEPA has been aware of the Governor's anti-regional and pro-development positions and consequently OEPA had originally proposed local resolutions of intent to implement as documentation of local support for expediting the certification process. However, in response to WQM agencies concern, the draft certification document recently has been unofficially revised to reflect a more flexible stance. Although still an unofficial position, an OEPA staff member expected the OKI plan will be reviewed and approved by OEPA as soon as possible with OEPA recommending immediate certification to the Governor. The two OEPA staff interviewees anticipated some form of local "resolutions of intent to implement" would be required within a given time period following certification.

All local non-staff interviewees commended OKI staff for their thorough technical analysis and sensitivity to the needs to respond to local officials and citizens. The OKI Citizen Participation Committee and Water Quality Advisory Committee have been actively reviewing interim reports. A local elected official commented that officials are active on the advisory committees and seemingly well-informed. Some local elected officials have attended national workshops and conferences. Further, OKI staff have maintained informal contact with officials in the course of plan development. The WQM Director noted that appointed officials of the large Metropolitan Sewer District have formed a Technical Steering Committee to work with OKI on the combined sewer overflow problem. Consultants to the District work with OKI on an ongoing basis. With the forthcoming hearings regarding the WQM plan, all interviewees expected a thorough discussion of alternatives. However, most were aware that the high costs of correcting the combined sewer overflow problem (e.g., increased sewer rates) would effect a conservative stance from elected officials.

The OEPA initially was not involved in OKI WQM efforts until the 1975 programmatic provision allowed funding for State participation. Since then, a State liaison officer has been provided to OKI for coordinative purposes. OEPA reviews all OKI reports and distributes copies for review and comment to various State agencies.

In the area of combined sewer overflow, the OKI WQM Director believed the State was not actively promoting correction of combined sewer overflow problems, but rather focused on facilities construction grants as a priority.

According to the WQM Director, EPA Region V has not been involved in the specific area of combined sewer overflow. EPA involvement has been limited to review of reports and attendance at meetings.

Facilities - Related Plan Elements

A major focus of the OKI WQM study has been facilities planning. As an early WQM designee, OKI had the program flexibility to utilize WQM funds for facilities plans. OKI is developing 22 facilities plans; two of these plans have already progressed to Step II phases. OKI also has attempted to work with the U.S. Corps of Engineers in a dam construction project. Although unsuccessful, OKI had sought low flow augmentation measures to prevent the need for costly treatment facilities downstream.

Citizens and local officials commended OKI staff for their approach to facilities planning. OKI has involved officials in developing feasible and locally acceptable plans and instituting a planning process which ensures technical assistance and OKI review for local-regional compatibility at the earliest stages of planning. The WQM Director noted that local consultants and local officials now come to OKI for information and assistance. In only one case, did interviewees note some resistance to OKI recommendations. As OKI recommendations may limit the capacity of facilities for expansion, there is concern that growth may be inhibited.

A State water quality official and the Region V Project Officer noted that their respective reviews of facilities construction grant applications already rely on OKI interim reports. The WQM Director noted that OKI and OEPA have a good working relationship regarding facilities plans. OEPA reviews applications in light of comments provided by OKI.

No one believed management of facilities to pose insurmountable problems. The WQM Director attributed the ease of the management question to the already existing, well-regionalized systems in the area. He noted that about 80% of the population is served by well-staffed and efficient operating agencies. Consequently OKI has focused management concerns on the smaller, unstaffed areas. Certain small operations will be consolidated and merged with adjacent entities. These recommendations are

found in the 22 OKI facilities plans and in county composite reports which coordinate OKI plans with the other 35 existing or ongoing facilities planning efforts in the area. OKI sees itself as appropriately continuing its technical advisory services to local agencies.

The WQM Director believed OKI's public involvement efforts regarding facilities plans have been very successful. Through local presentation and discussion of the facilities plans with citizens and officials, the WQM Director believed the facilities plans have served as a vehicle for arousing enthusiasm for and interest in the WQM planning effort. He felt local people gained a perspective on the overall basin plan through its link with the more tangible facilities plans. In other areas where the urgency of sewer needs and concerns was not felt, the WQM Director noted less active interest and participation. Citizens and local officials agreed that, at the advisory committee level, they were well-informed and active in discussing facilities-related plan elements.

Role of WQM Planning in the NPDES Permit Process

The relationship between the OKI WQM plan and future rounds of NPDES permits is not clear. In two completed basin plans, OKI has proposed wasteload allocations and expects that the OKI plan will serve as a basis for future NPDES permits if the plan gets State approval and certification. However, the WQM Director, the EPA Region V Project Officer and local interviewees believed that attaining State certification will be difficult. As discussed earlier, the State has not yet clarified the conditions for certification, but at present could conceivably delay certification by requiring local "resolutions of intent to implement" the OKI plan from every local governmental unit. An OEPA staff member noted that currently the State is revising water quality standards and may extend permits until the revision is completed. No State official would specify, at this juncture, how OKI recommendations would be incorporated into the NPDES permitting system.

The OKI WQM Director believed local officials and citizens were concerned with permitting from the standpoint of equity. Other local interviewees, however, felt that citizens and local officials were not well aware of concerns related to NPDES permits.

Conclusions

OKI's approach to the combined sewer overflow problem clearly demonstrates a well defined hierarchy of priorities. The OKI analysis both documents

immediate needs for problem correction and identifies areas requiring further study prior to specific investments. Even while analyzing longer-term corrective measures, OKI is recommending interim solutions to mitigate the combined sewer overflow problem. OKI's incremental approach is necessitated by local economic and political conditions which preempt the feasibility of costly structural solutions. OKI recognizes the need for a practical alternative to large-scale structural investments and recently has undertaken a demonstration project testing a low-maintenance gravity device.

A strength of the OKI effort is the ongoing working relationship OKI has maintained with local elected and appointed officials. Although a lack of large-scale Federal financing may defeat immediate resolution of the combined sewer overflow problem, OKI's analysis already has enjoyed considerable success in its application to local planning. OKI has established itself as a leading technical consultant to projects related to combined sewer overflow issues. The OKI data base is locally acknowledged as a credible resource for local planning efforts.

There are two possible obstacles to OKI WQM plan implementation: public acceptance and State certification. Because solutions to combined sewer overflow imply large increases in local sewer rates, local citizens and officials will closely examine OKI recommendations for the most economically practical solution. OKI seems, however, to have incorporated the necessary flexibility into its planning process to allow for partial solutions while other alternatives are analyzed for their costs and benefits. Although the official procedure for gaining State certification remains to be delineated, the present Ohio administration's "pro-development" and anti-regional planning posture is an undercurrent threatening the prospects for certifying designated WQM plans. A costly local WQM plan review procedure unnecessarily duplicates the earlier outreach efforts of designated agencies and would delay certification if not totally exhausting the resources of the WQM planning agencies. The State believes it can argue for this conservative approach toward assuring gubernatorial certification by showing solid local support for the WQM plan recommendations. Whether or not the State will become more flexible and reasonable in its certification process seems to rest with the resolution of a political question which is perhaps beyond the influence of the designated WQM agencies.

OKI's involvement in facilities planning has lent the overall WQM project a heightened areawide visibility. OKI has affected facilities planning directly by developing 22 facilities plans and coordinating them

with other existing and ongoing facility planning efforts. In developing the facilities plans, OKI has involved local elected and appointed officials and in some areas held numerous public meetings. OKI interim reports have also been the basis for regional A-95 review, State and EPA review of applications for construction grants. These review procedures ensure a compatibility among concurrent regional and local projects.

The major question surrounding the interaction of NPDES permitting and the OKI WQM plan is again State certification of the plan. The State is not required to consider the WQM plans in NPDES permitting until the plan is approved and certified.

13 southeastern wisconsin

Southeastern Wisconsin Regional Planning Commission

The Southeastern Wisconsin Regional Planning Commission (SEWRPC) began its WQM project in June of 1975 and is scheduled to complete its final plan in November of 1977. The total grant amount for this project is \$2,607,000. The designated planning area encompasses 2,689 square miles and has a population of 1,798,781 people, according to SEWRPC statistics. This area was selected for study because of a unique combination of agricultural and industrial problems.

Agricultural Nonpoint Sources

Ongoing watershed studies conducted by the Southeastern Wisconsin Regional Planning Commission (SEWRPC) in Southeastern Wisconsin revealed that pollution from agricultural lands is a significant problem in the region. SEWRPC recently completed a 10-year study of water quality sampling data which further identified the nature and extent of the problem. The WQM staff felt that the WQM planning period was sufficient to establish alternative solutions to agricultural pollution problems; however, continued planning will still be needed for ongoing refinements of solutions. Most others interviewed felt that two years was too short since this year's drought prevented the collection of data on average conditions and since solutions to the problem were too elusive to identify within the two year period. One year was generally considered a sufficient addition to the planning period.

In the course of its water quality planning efforts, SEWRPC has prepared a volume entitled Rural Stormwater Runoff. This report lists various technical solutions along with the cost and projected effectiveness of

each solution. The State through its regional planning commissions has been actively promoting agricultural pollution control practices (e.g., manure spreading, soil and water conservation practices, etc.) over the past 20 years.

The WQM staff hopes to bring about a new emphasis on those practices which are most beneficial to water quality by working closely with the Soil and Water Conservation Boards, which are composed of elected officials in each county.

The WQM interim outputs were not considered particularly useful in identifying agricultural nonpoint source problems. Most interviewees felt that the interim outputs were more closely related to the point source problems, although the land use and population elements (identified under 701) were considered a fundamental prerequisite to identification of non-point source agricultural pollution.

Interviewees were uncertain about the extent to which agricultural non-point sources of pollution would be corrected as a result of the WQM plan. The likelihood of improving water quality will depend on:

- kinds of solutions chosen for implementation;
- availability of money to assist farmers in implementing conservation techniques;
- specificity of problem definition as a result of the WQM plan; and
- degree of Federal support (i.e., funds and sanctions) for the implementation of WQM plans.

The SEWRPC staff and a local elected official consider voluntary solutions to the water quality problem most politically feasible since adverse reactions to regulations in the past have thwarted previous attempts at enforcement. Most other interviewees felt that regulations would be necessary, but that monies (i.e., matching funds, incentives or grants) to implement practices would be a necessary adjunct to regulations. Currently there are efforts to study the regulatory approach. For example, Washington County is presently conducting a study to develop a model ordinance for sediment control under a separate EPA grant.

All interviewees felt that WQM planning was another step in the ongoing water quality programs in Southeastern Wisconsin. Consequently, they were not waiting for a completed plan to begin implementation. Potential areas where the influence of WQM planning will be felt before plan completion are in current decisions concerning sewerage extensions, in the nature of programs supported by the Soil and Water Conservation Boards and in the type of materials presented in public education programs.

The only barriers to implementation anticipated are those which normally surface during planning periods. Lack of money and time were specifically mentioned along with the inherent difficulties of coordinating a variety of agencies and interests in a diverse metropolitan area.

Preliminary contact with the Governor's office has been established, but most interviewees expected an increase in the importance of that relationship later in the process. Until that time, a close working relationship with DNR suffices for State-level coordination.

All interviewees felt that citizens, local elected and appointed officials, the State DNR, and Regional EPA had the opportunity and were contributing to decision-making in the WQM process. Citizen and local elected officials attendance has increased in the meetings held in each county. SEWRPC has established ongoing contact over the years with the variety of technical people in the region. This includes representatives of local elected officials, sewer district officials, and Soil and Water Conservation Board groups.

The Wisconsin DNR and SEWRPC work closely together, frequently exchanging information. Examples include SEWRPC's contribution to the development of the water quality standards, and DNR's disapproval of sewer extensions that do not conform to the WQM service area delineation. Some coordination has occurred with other WQM programs in Wisconsin and with a contiguous WQM program in Illinois (NIPC). Coordination within the State has occurred on the issues of water quality standards, nonpoint sources, and population projections. Some consideration is being given to a Statewide regulatory program, however, it is unclear at this time whether that would be the best approach.

The WQM staff reported that EPA's primary role to date has been in monitoring the project and providing technical data. Communications were reported to be open and smooth.

Facilities - Related Plan Elements

SEWRPC was engaged in facilities planning in the designated area long before the WQM project began. SEWRPC therefore adopted its WQM facilities-related plan elements from its other ongoing facilities work.

SEWRPC's plans and projections presently guide all decisions for plant construction and sewerage extensions in the region. Both EPA and the State are providing strong support for the present plans, by requiring local resolution of conflicts before approval of any future monies. In one conflict which has arisen, the State is presently withholding approval of a sewer trunk extension that does not conform to the facilities plan.

Little public involvement in facilities planning elements occurred during WQM planning because a comprehensive regional sewerage plan was completed in 1974, prior to the WQM study. Under WQM, the technical and citizens committees reviewed the delineation of service areas; however, most of the public input was gathered in the development of the comprehensive facilities plan. Some responses indicated that the major vehicle for input into facilities related decisions is in the community-level committee structures, rather than a regional forum.

Role of WQM Planning in the NPDES Permit Process

The interim outputs were completed by SEWRPC in time to influence the next round of permitting. EPA officials stated that the drafting of permits was to begin soon. All interviewees were confident that the present channels of communication between DNR, SEWRPC and local communities would enable a variety of actors to influence future permitting. These actors include SEWRPC itself and citizens groups such as the Milwaukee River Restoration Council. The DNR official also referenced a State law which requires all permits to be in compliance with WQM plans.

Conclusions

The study of agricultural nonpoint sources of pollution is generally considered an important aspect of Southeastern Wisconsin's comprehensive study of land use and water quality relationships. The importance of agricultural nonpoint sources of pollution relative to other plan elements, however, depends on the perspective (i.e., location) of the interviewees. Combined sewer overflow problems are considered more important in urban areas, while smaller communities are more interested in facilities construction. The more rural counties are naturally very interested in the agricultural elements of the WQM plan.

WQM planning has however, made significant progress toward identifying problems and outlining possible solutions for water pollution in agricultural areas. A 10 year study of regional water quality, vegetative cover and animal inventories, and a catalogue of techniques for reducing agricultural sources of water pollution will contribute to the development of sound alternative solutions under the WQM project. The SEWRPC staff sees public education as a crucial aspect of successful plan implementation, and looks to voluntary solutions as the best approach to plan implementation (i.e., those with the most chance for success). Money to implement selected agricultural practices is also seen as a crucial aspect for achieving water quality. All interviewees felt that it was clear that farmers could not absorb the entire cost of eliminating agricultural sources of water pollution. SEWRPC has been working closely with the county Soil and Water Conservation Boards who have been very supportive of SEWRPC's activities. This connection is apparently invaluable in efforts toward solving agricultural nonpoint sources of pollution.

The WQM plan is perceived as part of an ongoing water quality planning process in the region. SEWRPC has a 15-year history of water quality planning experience, and is conducting studies for the region on a watershed basis. Consequently, it is often difficult for participants to separate single grants (e.g., WQM planning) from the total planning process. Good communications have been established between SEWRPC and the various communities in the region. This is often accomplished by SEWRPC staff attending the community meetings.

SEWRPC completed a comprehensive sewerage plan for the region in 1974. This document provided a basis for the interim outputs, and is generally being followed throughout the region. EPA and Wisconsin DNR are both requiring all future facilities plans to conform to the present facilities service area plan.

Interim outputs have been completed and should be considered in the next round of permitting. All interviewees were confident that SEWRPC would review the permits and consequently be able to ensure conformance with WQM plans. An additional incentive for this review exists in a Wisconsin State Law which requires all permits to comply with WQM activities.

At this time, it appears that SEWRPC's strong history of water quality planning and the sound technical base from which the WQM plan began, bode well for plan completion and adoption. The region-wide support for SEWRPC and its planning activities should facilitate the WQM project's contribution to Southeastern Wisconsin's ongoing water quality planning programs.

14 augusta

Southern Kennebec Valley Regional Planning Commission

The Augusta WQM project began in June, 1975 and is scheduled for final plan completion in July, 1977. The designated area is approximately 500 square miles with a population of about 55,000 people according to the 1970 U.S. Census. The total grant amount is \$380,000. The Augusta area was designated for WQM planning for a combination of reasons. The area's lakes (essential to the region's economy) were suffering from unaccountable eutrophication, some of its groundwater was showing signs of contamination and a number of local industries dispose large amounts of waste into the region's major river.

Agricultural Runoff

The Augusta WQM area is dotted with a series of fresh water lakes and ponds which are key to the area's recreation industry and water supply. In recent years, the nutrient concentration in these waters has been rising causing several lakes to suffer from advanced eutrophication. Initially, the Southern Kennebec Valley Regional Planning Commission (SKVRC) assumed that septic leachate from lakeside cottages was the source of pollution. However, water sampling sponsored through the WQM project showed that the major source of nutrient loading is actually uncontrolled agricultural runoff particularly from poor retention and disposal of dairy cattle manure. Because the lakes are so important to the region's economy and because agriculture is the second largest land use in the area, agricultural runoff automatically became a priority issue in the Augusta WQM project.

According to the WQM Project Director, the two year WQM study timeframe will not provide sufficient time to deal with the agricultural runoff problem in its entirety. The State Department of Environmental Protection (DEP) spokesman agreed that further study is needed on agricultural practices (other than the dairy industry). The EPA Project Officer stressed, however that the two year period should be sufficient to deal with the major agricultural problems, although he too foresees the need for additional time to implement WQM recommendations.

Although the EPA required interim outputs were not particularly helpful in the study of agriculture, the WQM Project Director found the interim reporting process useful in formulating management alternatives. A citizen and local elected official noted that the interim outputs made them aware of the agricultural runoff problem and demonstrated that cooperative effort among area communities would be needed in order to deal with the existing situation.

At this time, the WQM staff was preparing to present alternative management schemes to the public through an Environmental Impact Statement review process on the WQM plan.¹ Selection of final plan recommendations will depend on the outcome of this process. At this time, however, it appears that the final WQM plan will call for construction of better manure retention pits and disposal practices to prevent runoff to lakes during heavy rains and spring thaws. According to the WQM Project Director, the WQM agency is presently emphasizing voluntary compliance with plan recommendations because regulatory measures do not appear politically feasible at this time. The Project Director is aware of general local opposition to regulations of any kind and recognizes that these farmers can wield considerable influence on local politics.

Preliminary discussion with farmers has revealed that their main obstacle to implementing WQM recommendations is the cost of building retention facilities. In order to relieve the farmers of this economic burden, the WQM agency is currently attempting to convince the Agricultural Stabilization and Conservation Service (ASCS) to allow farmers to receive up to ten yearly grant allotments in one lump sum. This would make a

¹ All WQM agencies in Region I are required to submit EISs on their WQM plans. The EIS requirement appeared in all Region I WQM workplans, but only SKVRPC took this requirement seriously and has completed the EIS as scheduled.

sufficiently large sum (approximately \$25,000) available for construction purposes. It is believed that too few farmers would accumulate yearly grants over the ten year period until they had sufficient capital to make the investment. Furthermore, receiving the money immediately would avoid further degradation of area waters. Individual farmers would still have to make the independent decision to commit all their ASCS payments for the next ten years. Some farmers apparently feel that since the ASCS grants are more or less guaranteed for a number of other needs (e.g., purchase of fertilizers, etc.), some other source of funding (possibly EPA) should be sought for construction of manure pits. These farmers are reluctant to forego the insurance of the yearly ASCS grants.

If the voluntary approach fails, the WQM Project Director suggested that the WQM plan will probably recommend a contingency plan for local regulation of agricultural (particularly dairy cattle) activities. The local regulatory program most likely would entail enforcement of a local plan prepared with the help of the Soil Conservation Service. The Project Director gave no indication however on the details of such a regulatory program or the time when such a program may be expected.

As another contingency to the voluntary approach, the State DEP is currently consulting with designated WQM agencies on the desirability of statewide agricultural controls. In the case of manure retention and disposal, for example, farmers complying with an SCS management plan would be exempt from State permit and inspection requirements. All others would have to undergo inspection for a permit in order to continue operation. Should the designated WQM agencies support such a permitting process, the DEP is prepared to submit a legislative package to the Governor's office with their support.

The general public and special interest groups have played a minor role in the WQM process to date. A Citizens Advisory Committee was formed early in the project but disbanded soon after when the WQM staff found that the membership on the CAC was identical to membership on the Technical Advisory Committee or the Management Committee. The WQM Project Director expects public involvement to occur through the EIS process at which time final plan recommendations will be selected. The EPA Project Officer feels that the EIS process may be too late for meaningful public input since all of the alternatives will have already been formulated and most citizens will not be familiar with background or the detailed implications of alternative recommendations. In the Project Officer's opinion, the Augusta WQM program should have sought more public input and provided more public education from the project's onset.

In contrast to the general public, local elected officials and their delegates have played a relatively active role in the WQM process. According to most interviewees, regular attendance of some officials at advisory meetings and frequent, informal contacts with the WQM staff have kept them generally well informed of the project's progress. This situation did not evolve haphazardly but rather reflects the WQM Project Director's philosophy on public participation. In the Director's opinion, elected officials are the best spokesmen for the general public and as decision-makers, local officials are the most efficient target for education and persuasion. Despite the relatively active participation of elected officials, however, the WQM Director noted that public participation is the major weakness in the Augusta project. Other competing interests and concerns outweigh interest in water quality. Yet the WQM Director felt that this situation did not present an insurmountable problem. He hopes that a subtle approach in an ongoing manner will convince local officials to support the WQM plan. The EPA Project Officer's only complaint was that local officials were not being confronted directly with alternatives and implications of possible recommendations. Since officials often do not become involved with an issue until it becomes a crisis or until it takes the form of a discernible course of action, the Project Officer feels the Augusta WQM project could benefit from a more comprehensive and open treatment of possible plan recommendations while there is still time to come to an agreeable arrangement in the final plan.

The State has actively supported the Augusta WQM project with technical assistance, coordination with other designated WQM agencies and the promise of legislative support should the latter be requested by the WQM agencies. The presence of the State has been highly visible and has added credence to the WQM suggestions both with the public and the Governor's office.

Facilities-Related Plan Elements

The Southern Kennebec Valley Regional Planning Commission was involved in wastewater treatment planning activities before the advent of the WQM project. Each town assigned a member of the agency's permanent Sewer and Water Committee to the WQM committee structure which provided the WQM study with a well-informed and concerned advisory panel. With

the use of WQM population and land use projections prepared as part of the project's interim outputs, the WQM Project Director hopes to promote nonstructural approaches to wastewater treatment needs. Encouraging signs in this direction can be seen already. The WQM staff and advisory committee have reviewed all existing and proposed facilities plans. The WQM committee is now considering a recommendation to cancel an inter-community trunkline extension project in favor of on-site disposal systems. The WQM Project Director's supporting rationale is that it is more environmentally sound to treat and dispose of wastewater on site than to collect it all and dispose concentrated effluent into the Kennebec River. Additionally, curtailing sewer line extension is the most effective local growth control tool available. A number of communities are already removing their support for the trunkline due to these WQM discussions.

The State DEP is actively supporting the Augusta WQM project's nonstructural emphasis. The DEP is preparing a State legislative proposal to set aside 5-10 percent of construction grant funds for septic systems, agricultural management programs, etc. Such an arrangement would be far more cost effective than sewer systems for rural Maine communities.

The WQM Project Director is expanding and promoting a pre-WQM recommendation to increase regionalization of future wastewater treatment activities under the Augusta Regional Sanitation District System. Augusta already has enabling legislative authority to assume such responsibility. Whether or not the final plan recommends such action depends on the reaction of local communities during final plan review.

Although the public has not been involved in developing facilities related plan elements, local elected officials have begun to have input through the WQM Management Subcommittee. Livelier discussions are expected as plan alternatives are more thoroughly defined and presented.

The State DEP has reviewed and approved WQM interim outputs. The DEP spokesman expects these outputs and final plan recommendations will strongly color all future facilities decisions in the Augusta area.

Role of WQM Planning in the NPDES Permit Process

EPA has responsibility for NPDES permitting in Maine. The State, which currently operates a separate system of permitting, will eventually assume responsibility for the national system permits.

The WQM Project Director noted that NPDES permitting is not a major issue in the Augusta area since currently only a handful of permits are issued there. As a result, there is little discussion of the WQM plan's role in NPDES permitting among the public or in WQM committees. Apparently, few citizens or local elected officials are aware of the process.

The State is planning to consult the WQM plan in its next round of permitting even though no formal arrangements for coordination have been made. The EPA Project Officer also stated that EPA will ensure that NPDES permits are consistent with the WQM plan although he too was uncertain how this would be accomplished.

Conclusions

The Augusta WQM project has identified a rather straightforward explanation of one of the area's major water quality problems. In uncovering the relationship between manure runoff and lake eutrophication, it has helped the area avoid expensive sewerage in lieu of relatively inexpensive structural solutions (i.e., manure retention pits) and better management practices. Despite a clear definition of problem and solution, however, the WQM project may encounter some difficulties in securing implementation.

The WQM Project Director chose to concentrate on a voluntary approach to problem solution because of the area's traditional opposition to interference in local autonomy. The WQM project has recently begun concerted efforts to reach farmers and acquaint them with the problem and available solutions. WQM efforts to prompt construction of manure pits by making ten-year Agricultural Stabilization and Conservation Service grant funds available in one lump sum however may not be as much incentive as the WQM agency once hoped. Many farmers feel that using the available money all at once is too risky in view of unpredictable expenses that may arise over the next ten years. Furthermore, since they are not faced with regulations, farmers stand to lose little by not taking action. Without an active public participation/education program, the Augusta projects cannot depend on grass roots pressure for local regulations should farmers fail to take action. Perhaps the WQM project should have been less cautious with local elected officials themselves. If the WQM staff had been more persistent in promoting the need for action, local elected officials may now be more receptive to suggestions for local regulations.

But the prospects for implementation are not all dim. Active State cooperation and potential incentives in the form of statewide regulations hold a promise for remedial action. Also, nurturing local trust in WQM findings and assuaging local fears about outside influence may yet translate into local action in the towns' own good time. The WQM planning process has gathered data and stirred new interest where it never existed before. The WQM Project Director is optimistic about gradual change and plan implementation but only if Federal and/or State funds for continuing activities and staff maintenance are provided.

One area where WQM's effect will be felt in the future is future facilities planning. Because the SKVRPC's permanent Sewer and Water Committee has been directly involved in the WQM process, it has been exposed to the development of plan's findings, alternatives and recommendations. Since the State DEP plans to utilize WQM interim outputs in its funding decisions, the WQM plan's influence is doubly assured.

NPDES permitting is not a major factor in the Augusta area. Most of the point source dischargers on the Kennebec are located up-river from the Augusta WQM area.

15 ft. meyers

Southwest Florida Regional Planning Council

Southwest Florida began its WQM project in July, 1976 and is scheduled to complete the final plan in July, 1978. The designated area is 6,021 square miles. According to the 1970 U.S. Census it has a population of 306, 756 and has two of the fastest growing SMSAs in the county. This growth rate was one of the primary reasons for designation. The area also has some unique natural resources and, therefore, has a large tourist population. The total grant amount is \$949,000. One of the area's most serious problems being studied is urban storm runoff.

Urban Storm Runoff

Urban storm runoff was identified as a problem in a previous EPA-sponsored study prepared by the Tampa Bay Regional Planning Council.¹ A model of point sources showed that, even if all point sources received advanced waste treatment, the area's waters still would not comply with standards. When it came time to define what problems WQM would evaluate, the agency decided to select key problems in each of four drainage basins. In the Phillipi Creek basin, the Technical Advisory Committee recommended examining urban storm runoff. The three other basin committees selected other problems.

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TB-RPC planned for the Southwest Florida area until 1973 when the Southwest Florida Regional Planning Council (SWF-RPC) came into existence.

Subsequent water quality data has verified that there is a pollution problem. Although waste loadings have not been done, it appears that there are multiple sources of this pollution. The waters contain large amounts of nutrients, toxics, and heavy metals (lead, mercury, copper), which appear to vary with the water flow. Traces of pesticides have been found and this indicates that either residues are present in the soil or that someone is illegally using certain pesticides.

The WQM Project Director expects that the study can be completed within the two years. After that point, there are "diminishing returns"; that is, further study would reveal little. Region IV has required that, for all water quality problems, WQM agencies must indicate whether problems will be identified and quantified, whether a solution will be proposed, or if the problem can be solved. The EPA Project Officer expected that Southwest Florida could propose solutions to urban storm runoff and possibly implement them, but that solving the problems in two years would be beyond expectations.

Currently SWF-PRC is conducting the first stage of sampling. Interpretations of the sampling from the consultant are due at the end of February, 1977. Possible solutions will not be proposed until November, 1977. Although interviewees were cautious to explain that actual sources and, therefore, solutions are unknown at this time, they did speculate as to possible actions. The EPA Project Officer suggested that county ordinances requiring review of construction plans might help control sedimentation. One citizen felt that regulations for commercial parking lots would control some of the toxics. A local elected official felt that better enforcement of controls over a trailer camp might reduce the high coliform count.

One County Commissioner admitted that the county does not have appropriate regulations to deal with urban runoff at this time. He feels the WQM study has forced county officials to talk more about the issues, but he is unsure what type of regulation might be adopted. A commissioner of another county feels county officials are taking a preventative approach, correcting problems as soon as they learn about them. One citizen, a long time activist in water related issues, is too impatient to wait for the WQM project to complete its studies and make recommendations ("confirming the invention of the wheel"). He has obtained a sample urban storm runoff ordinance from Orange County and is asking the Sarasota County Commission to adopt it.

Everyone agreed that proposed solutions to urban runoff problems will most likely be regulatory. The EPA Project Officer explained that, because this is such a fast growing area, a strong approach is needed. The Project Director explained that the WQM plan is looking for inexpensive, politically acceptable solutions so that proposals will be implemented quickly to alleviate the pollution problems. The Commissioners of two counties also agreed that proposed solutions would be regulatory, but they were indefinite as to the content or timing of such regulations.

According to the WQM Project Director, the interim outputs were completed several months ago but, because they were not specific enough, he did not consider them particularly useful for the urban storm runoff portion of the study. The agency is not preparing to re-work the interim outputs so that the information is useable, particularly for the point source work.

Although the Project Director felt that plan implementation could begin before approval, both the State liaison and the EPA Project Officer felt this to be unrealistic. The EPA Project Officer cautioned that the technical work will not be substantial enough to prove a definitive cause and effect relationship. He felt the WQM agency should not try to develop a full range of specific recommendations at this time, but rather should concentrate on involving policy people. The State liaison felt that more study is needed in the area to find out which areas are favorable for development. Then ordinances can be prepared to control development there. Because of the rapid growth in the area, the citizen interviewed felt that the biggest barrier to implementation would be from the construction industry. The interviewee was confident that more active involvement from environmental groups could offset opposition.

The steps for plan approval have been fairly well set. First, plan approval is recommended by the Policy Advisory Committee (five elected officials). Next, the plan is approved by the Regional Planning Council which includes elected officials from all local jurisdictions. Next, the plan is reviewed by the State Department of Environmental Regulation and is certified by the Governor. Finally, the plan is approved by EPA.

The State of Florida has suggested a plan format to each WQM agency as well as specific problems that each chapter should address. In part this was done to improve consistency among the WQM plans so they can be easily incorporated into the statewide plan. Agencies have been told that they can submit chapters in advance of the full plan and receive sign-off on those portions.

It still does not appear that citizens are becoming actively involved in the WQM effort despite the fact that, as several interviewees noted, the area is environmentally-oriented. The Project Director noted that citizens through the WQM committee structure eventually will review the plan. Local elected officials, though aware of the WQM study through their contact with the Policy Board, are not heavily involved. The Project Director explained that it was hard to maintain officials' interests during sampling. During problem identification some elected officials were very active, and it is expected that they will become involved again. The two elected officials interviewed feel they have an excellent program which is meeting its schedule. Thus, they feel no additional need to become more involved at this time.

The State Department of Environmental Regulation has an areawide coordinator for general coordination and review role. The State liaison felt the Southwest Florida program is "moving along well", (especially relative to other programs in the State) and that they have a "good handle on what they're doing".

The State has proposed an anti-degradation ordinance that would impact all areawide agencies. At one time the State was preparing nutrient standards which would have related to runoff, but lately they have not been supported actively. Most State activity has centered on reorganization of the Department of Environmental Regulation. The eleven areawide agencies in Florida have formed a coalition, organized initially in opposition to the mandate demanding that a certain percentage of each WQM grant be given to the State for review and coordination. Subsequently, the group has yet to exchange data, technical information and strategies for solving common problems.

EPA Regional Office has not been heavily involved in the WQM study. In part this is due to understaffing, but it is also because SWF-RPC is independent and does not request much assistance or involvement.

Facilities - Related Plan Elements

Nine facilities plans are now underway in this region. One of the largest cities, Ft. Meyers, filed its completed 201 plan in the fall of 1976. The City Council approved the recommended sewer districts and applied for Step II funds to plan for an additional facility. In another service district, plans are being made for sewer hook-ups. The city is now looking at its infiltration problem. Clearly, there is little the WQM agency can or should do to get involved in a planning process so well advanced.

The WQM interim outputs, however, may be used in future planning.

Other jurisdictions in the designated area have been moving more slowly and a couple of the smaller towns have done no facilities planning. The WQM planning agency has held one workshop to explain facilities planning and another regarding user charges and industrial cost recovery. Initially, the WQM agency thought it could write 201 plans for those areas not yet involved, but they have since decided that their proper role is to offer assistance.

Citizens and local elected officials alike believed that it was necessary to have an approved WQM plan in order to receive 201 funds. In fact, to some, this was the only reason for producing a WQM plan.

Two counties are starting new wastewater treatment related projects in addition to their general 201 planning. One County Commissioner explained his area is just starting a pilot project on salt water intrusion. Another county is starting to buy small wastewater treatment franchises. This is a costly undertaking in part because the franchises recently were upgraded and, thus, are worth more. The county, however, feels they can make wastewater treatment into a money-making proposition. The WQM is not involved in these activities. Rather they concentrate their efforts on guiding jurisdictions that need help through 201 planning.

The WQM agency is just starting to look at the existing facilities management system and to see which agencies would qualify for a lead management role. The Project Director said they most likely would not create any new agencies. As the management analysis is just starting, none of the other interviewees knew what would be included. One citizen and one county commissioner each felt the most likely choice for a management agency would be the Utility District. The Commissioner from another county expected they might establish a cooperative city/county management program by joint agreement. The Ft. Meyers Director of Community Affairs pointed out that a previous study had recommended creating a utility authority. The City, which felt it had effectively managed its treatment facilities for several years, refused to accept the recommendation. The WQM planning process will have little effect here.

Each of the nine 201s has its own citizens committee. Some citizens are on both 201 and WQM committees, so there is effective communication. Local elected officials rarely are involved, although their representatives (who are technical people, planners, engineers, etc.) are very involved. Beyond funding the projects, neither the State nor EPA seem to be heavily involved in the actual facilities planning in this area.

Role of WQM Planning in the NPDES Permit Process

EPA has the permitting authority in Florida, although the State eventually may have an approved program and assume responsibility for it. There is a separate State permit required. There are few industrial dischargers in the two county area and most permits are for municipal treatment facilities.

The WQM agency receives permit applications for review, but so far they have not become very involved in permitting. The citizen interviewed was critical of the WQM effort for not being more interested in permitting. Recently this citizen challenged the EPA permits because they failed to incorporate the State standards, for discharge into salt waters of Tampa Bay.¹ EPA subsequently has agreed to re-issue the permits. The citizen felt that this is the kind of activity the WQM Agency should be involved in, yet so far they have showed no interest, despite this person's promptings.

Conclusions

It is difficult to predict the outcome of the urban storm runoff plan element because the WQM project is still at the sampling stage. Possible solutions will not be proposed until November, 1977. Most everyone involved is thinking in terms of regulatory programs in the form of county ordinances to control the several nonpoint sources of pollution. Everyone interviewed cited a different example of the kind of source problems that must be regulated, which may indicate that the study is not yet narrowing and emphasizing particular problems. The activist citizen clearly was impatient with the WQM program and already was starting to suggest ordinances to commissioners of the county in which he lives.

Neither citizens nor elected officials are deeply involved in the project. This does not appear to concern the WQM agency because the technical representatives such as most directly responsible for implementation are actively involved. This lack of interest also may be due to the lack of controversy in the program. The WQM agency did not explain how they expect to win approval of their plan if citizens and elected officials are not involved.

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The Wilson-Grizzle Act (1972) requires advanced wastewater treatment for discharges into Tampa Bay. This State law is more restrictive than the secondary standard of PL 92-500.

The WQM agency, with the encouragement of the EPA Regional Office, has spent much of its energy guiding the local jurisdictions through their 201 planning. The agency is just starting to look at the existing facilities management system in order to evaluate the powers of each one. Most likely, there will be a mixture of management authorities and powers in the different counties. It is unlikely that there will be many changes from existing authorities in any of the counties.

There are very few industrial permits in the area, so the WQM planning agency has taken little interest in NPDES permitting procedures. A least one citizen, however, is critical of this stand and feels the permits must be reviewed to ensure that they comply with all pertinent water quality standards.

16 sussex county, del.

Sussex County Council

Sussex County began its WQM project in February of 1976 and is scheduled to complete its final plan in January, 1978. The designated area consists of over 350 square miles with 24 miles of ocean frontage. Resident population is approximately 40,000, but this rises to well over 70,000 during summertime and on certain other weekends according to County estimates. The total grant amount is \$633,089. The Sussex County WQM project was awarded to the Sussex County Council, rather than to a regional planning council or council of governments as most other designations. The area was designated because of agricultural activity inland and because of recreation uses along the coast.

On-Lot Disposal

Residents of the area have known for some time that there was a water quality problem due to on-lot disposal, particularly along the shoreline. Septic tanks are generally unsatisfactory because of poor soil drainage and a high water table. Much of the area around the bays has been ditched in order to create usable land, but those areas are also not suitable for septic tanks. The WQM study is the first serious attempt to find alternative measures to deal with the problem.¹ Further complicating the problem, the beachlands along the eastern shore attract large numbers of visitors on weekends and summer vacations.

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A full description of the on-lot disposal study as well as dune irrigation and spray irrigation elements of the WQM study can be found in the Sussex County application for a National Association of Counties Achievement Award

During the early stages of the WQM study, preliminary analyses showed particularly serious water quality problems in heavily populated areas. The Friends of Herring Creek, a conservation group in the area, also asked the WQM study staff to look more closely at Herring Creek and its problems. This led the WQM staff into a close working relationship with the Coastal Zone Management (CZM) staff of the State planning office. The WQM study thus slowly developed a planning framework focused on general shoreline development and seasonal population flux. The strategy is to possibly replace on-lot disposal with a pumping system to a disposal facility.

During the compilation of a land use inventory, the WQM agency noted an unexpectedly large number of campgrounds mostly along the shore and bays. These campgrounds contain 4,000 - 4,200 campsite units servicing 30 - 40,000 campers yearly. All of the campsites have on-lot disposal which presents a tremendous potential problem of contamination. Although they have been unable to definitely prove there is a problem, the WQM staff will most likely recommend new and revised regulations for wastewater practices at campgrounds.

The EPA Project Officer suggested that one possible solution might be creation of a "buffer zone" in which effluent disposal would be prohibited or restricted. Because septic tanks are currently regulated by the State Department of Natural Resources and Environmental Control, he expected the WQM plan would recommend changes to more closely relate State regulations to subdivision regulations at the County level.

The WQM Project Director described a number of alternative solutions that might be proposed. These include:

- Better enforcement of existing State regulations, particularly through a more active inspection system;
- Requiring that percolation tests be done by a licensed contractor
- Review of all subdivision permit applications by the Technical Advisory Committee (TAC). (The WQM study has examined soils and elevations and now knows land use capabilities and septic tank suitabilities.)

- Requiring mound units for septic tanks;
- Requiring all subdivisions to hook into subregional facilities;
- Creating sanitary districts.

There was no local planning or zoning in this area until around 1970. Since many regulations and procedures are still being developed, water quality criteria probably can be worked in fairly easily at this time. One citizen noted that zoning regulations for camping originally were based on tent camping, yet now most camping is done by vehicle, which permits more campers and creates more wastes. This citizen also mentioned that stricter development regulations are needed to protect water supplies. He cited a University of Delaware study of 850 wells that showed salt-water intrusion and the presence of nitrates.

Two citizens, the State liaison and a town administrator all mentioned the possibility of mounding. One of the citizens, however, pointed out that it is not enough to suggest the best available technology, such techniques should be tried on a demonstration basis first. Yet he felt that the WQM study timetable leaves no time for such a demonstration, and further that the grant conditions did not allow for "research" type activity. Although most of the interviewees cited a central treatment plant as an alternative, they noted its high cost, particularly in such rural (and often unincorporated) areas.

Correction of septic tank problems will require the combination of structural, regulatory and voluntary approaches. Prevention of problems from future campgrounds can be handled through regulations. Correction of existing problems is more difficult. The State liaison noted that neighboring New Castle County retracted local inspection authority. This could also happen in Sussex if the County could find the money to hire a trained engineer. The WQM Project Director hoped to achieve voluntary compliance by convincing individuals that it is cheaper to change or clean out their septic tanks than to pay for a sewer hook-up. One citizen suggested it may be necessary to establish a loan program to carry out the program.

The WQM interim outputs are currently being completed. Population projections were done by the University of Delaware, Division of Urban Affairs, and presented to the Policy Planning Board and the Citizens Advisory Committee. Citizens, a town Mayor, a town administrator and the State liaison all pointed out that there is some disagreement about the number of weekend and vacation visitors to the area. Most felt the projections were too low (trailer parks were omitted and some noted occupancy rates were too low). The University has been asked to recalculate these figures before formal adoption. The service area delineations show 30 - 40 percent of the population will be on the regional system leaving the balance in need of additional planning. Wasteload allocations will be done by the State. Perhaps the most useful interim output to the on-lot disposal study was the land use output which, as noted above, pointed out the potential problem of campsites.

The Sussex County WQM project is somewhat unique in that it is organized under both the County Council and the County Engineer's Office. According to the WQM Project Director, this unique situation presents an excellent opportunity for implementing solutions immediately rather than waiting for the full plan to be completed and approved. Furthermore, upon the recent resignation of the County Engineer, the WQM Project Director was appointed acting County Engineer. Although this may mean that he must spend more time on facilities planning and less time on areawide WQM issues, it also means he will have intimate understanding of the implementation needs of WQM alternatives. Several interviewees cited this appointment as evidence that the county officials have growing confidence in and support for the WQM effort.

The WQM plan will have to be approved first by the WQM Planning Policy Board which is composed of elected officials. The Board has had some trouble maintaining attendance at meetings, but the EPA Project Officer pointed out that the most crucial issues concern development in areas under county jurisdiction. Since these areas are of less concern to already developed towns, he feels it may not be so important to get full approval of all elected officials in order to implement the plan. After the Planning Policy Board, the plan must be accepted by the individual members of the County Council.

After local approval, the Delaware Department of Natural Resources and Environmental Control will review the plan. The WQM Project Director and RPA Project Officer both noted that fiscal problems in the State could

limit the amount of personnel time that can be spent on plan review. The new Governor has shown concern for environmental issues in the past, but must spend much of his time on the State's financial troubles. The New Castle County plan will have been approved previous to Sussex County's so the Governor will at least be familiar with the need for his certification of the plan.

Cost seems to be the greatest barrier to full implementation of the plan. The EPA Project Officer suggested they might devise a system whereby those who benefit pay, such as through a camp tax. The State liaison speculated about the possibility of Federal money since he doubted that local governments could pay for new authorities. The State liaison also cited a conservative attitude of anti-regulation which could limit the strength of regulations adopted.

Citizen involvement has been somewhat limited to a small hard-core group of 5-10, but as the State liaison noted, they are earnest, concerned and raising good questions. Two interest groups -- Save our Seashores, Friends of Herring Creek -- have been involved in different parts of the study. The EPA Project Officer pointed out that the population in this area does not generally get involved in anything on an ongoing basis unless there is a crisis. One of the involved citizens speculated that others are not more involved either because they fear it is too technical for their comprehension or because they are confident that someone else will represent their interests.

Another involved citizen explained that the CAC role is pretty well defined, and it includes responding to presentations by the staff. He expected their role to be more interesting and that there would be more opportunity for involvement as more reports are completed. A town administrator who is Chairman of the CAC felt there is growing interest by the public. He said most did not see their problems until the WQM study came along. He added that most of the interests of the area -- canning, cattle, agriculture, tourism -- are involved in some part of the study.

Although supportive of the Sussex County project, the citizens interviewed had some general criticisms of the national program. One felt that EPA had included too many planning requirements. He felt many of these were not needed in all areas, yet they were still required. To get their money's worth, he felt EPA should sharpen their requirements to fit the needs of each area. A second citizen felt that there is a national lack of public understanding of the purpose and scope of the program. In turn, he felt this makes it difficult for locals to arouse interest in their own project.

Local elected officials are involved through the Planning Policy Board. According to the EPA Project Officer, the Board will make suggestions, but generally does not give too much direction to the staff. Some elected officials (particularly from the coastal parts of the County which stands to be effected most) are very active in the WQM program. The County Council stays informed, mostly because the County Administrator has remained interested and involved in the project. The WQM Project Director, EPA Project Officer and the two citizens both expected interest to pick up as the study becomes "less abstract and more decisions are made".

Two State agencies are actively involved in the WQM study, the State Planning Office (which has coastal zone management responsibility) and the Department of Natural Resources and Environmental Control. A recent turnover in administrations has brought several personnel changes. The new State liaison formerly worked in State Planning, and has brought some knowledge of their programs with him. One citizen described him as an "instant entree" to State programs.

The WQM Project Director was very complimentary in his comments about EPA involvement. He feels they have sent good technical information and have recommended attending outside conferences on subjects related to work being done in Sussex County. The EPA Project Officer described his own role as primarily supervisory.

Facilities-Related Plan Elements

Early in the WQM study, the WQM agency became involved in seeking alternatives to an ocean outfall for the Locato treatment plant. The WQM staff recommendation for spray irrigation of the effluent was adopted by the County Council. The WQM agency held four workshops to explain the process and several farmers and canners have shown an interest in participating. The alternative has gained widespread praise because according to the WQM Project Director, it saved the area \$10 million in construction costs. Early analyses also show that irrigation of the effluent may increase agricultural productivity of the land.

Another alternative considered was dune irrigation. The State, however, opposed this alternative so the topic has been turned over to the University of Delaware for further study. Aside from the work on alternatives to the ocean outfall, however, the WQM has not been particularly involved in facility planning activities. Seeing that point sources were already

adequately handled, the WQM study focused more on nonpoint source problems. As part of the WQM study, a consultant studied existing facilities, but no significant recommendations for change were made.

Facilities planning is handled directly in the County Engineer's office and the two staffs have worked freely with each other. As noted above, the WQM Project Director has recently been named acting County Engineer, so it is possible that the two programs could work even more closely together.

The population and service area delineation in the interim outputs will be useful for facilities planning work. The EPA Project Officer explained that the population projections will also be useful, but they are not yet at the necessary level of detail. The WQM study will eventually detail the population distribution. The EPA Project Officer also felt that the elected officials most interested in facilities work are those whose areas are most likely to eventually hook into the Locato system. There is less interest from these officials and from citizens in general.

The Role of WQM Planning in the NPDES Permit Process

There are approximately 15 NPDES permits in this area. The State of Delaware has the permit authority and the State liaison said that there has been good enforcement and compliance from industries in Sussex County. He added that the State will use WQM information in making permit decisions, but there is no formal means for their input besides posting legal notices on permit issuance.

The WQM Project Director did not feel it was the WQM project's role to become involved in permit decisions although the WQM staff have spoken with permitted industries, and offered WQM assistance in ways to comply with permit restrictions. Spray irrigation was a solution for some of the industries. The EPA Project Officer suggested that the WQM study might indicate that much of the area's pollution is coming from nonpoint sources. If ways could be found to control these sources, he reasoned, it would lessen the pressure to clean up point sources.

Conclusions

The Sussex County WQM project has already had a major success by convincing the County Council to adopt a spray irrigation program for their effluents. Advantages include:

- Abandoning the ocean outfall which was controversial and divisive;
- Cost saving of \$10 million;
- Providing effluent to farmers for improved productivity.

Having been credited with finding this mutually agreeable solution, the WQM study has gained the respect and support of most locally elected officials and citizens. Recently the WQM Project Director was appointed acting County Engineer. Most everyone took this as a sign of support that the County Council and County Administrator agreed with his performance to date.

After dealing with the effluent disposal question, and seeing facilities planning work already adequately handled, the WQM staff decided to concentrate its efforts on nonpoint source problems. Early land use analysis showed a large number of campsites in the area, all using on-site disposal. Consequently, the WQM study extended its septic tank regulations to include campground regulations. A full program of inspection, design criteria, and conditions for installation (via zoning and subdivision regulations) will most likely be recommended.

The Sussex County WQM plan has an excellent chance of being adopted and implemented. The WQM staff's position in relation to both the County Council and the County Engineer's office puts them in direct communication with potential implementors. Although the State is in a fiscal crisis, they have lent support to the project whenever possible. Sussex has also been able to learn from the experiences of New Castle County which is approximately one year ahead in schedule.

As with other areas, the principal limitation to implementation will be monetary. The WQM Project Director, however, is hopeful that voluntary approaches will be successful. Steps are being taken to create utility districts as a means for raising revenues.

17 teton county

Teton County 208 Agency

Teton County began its WQM project in July, 1975 and is scheduled to complete the final plan in July, 1977. The designated area is over 3,500 square miles large, 97% of which is publicly owned, mostly by the Park Service. The resident population is 7,300 people according to 1975 estimates, but in the summer months the area has nearly 3 million visitors annually, an equivalent summer month population of 12,000. The total grant amount is \$37,000. The Teton County area was designated because of its tourism and recreation value and as a preservation area. Septic tank seepage is one element of the WQM study.

Septic Tank Seepage

Three major, related planning studies are being conducted simultaneously in Teton County. These include:

- The WQM study which is being prepared by a specially created agency whose Board is made up of two county and two town officials.
- The comprehensive land use plan which is being prepared for adoption by the Teton County Planning Agency and the County Commission.
- An EIS which is being prepared for the Town of Jackson sewer treatment plan to determine whether to expand and upgrade the plant or build a second plant.

Most of the WQM planning is actually a subpart of the comprehensive land use planning and is being conducted for Teton County by the same consultant. All of the WQM work being done on private lands relates to the land use planning. Other parts of the WQM study including monitoring and development of BMPs for activities on Federal lands will be done by the National Park Service.

Several reports prior to the WQM study indicated there was a septic tank problem, and there was a suspicion that wells were being contaminated from seepage. Residents of Wilson specifically requested that a study be made of their area. So far, however, the WQM study has been monitoring thirty wells and found no contamination. They will continue monitoring in the spring when water levels are high. The Project Director feels it is important that this type of monitoring continue indefinitely, possibly combined with some studies of groundwater movement.

Despite the findings that there does not appear to be a problem, the WQM agency is submitting a report to the County Council that calls for design changes in septic tanks, tighter monitoring and stricter State controls. In a related action, the comprehensive plan recommends "Environmental Protection Districts", some of them based on groundwater conditions. These districts would require:

- Separation of leach fields and minimum distance between tanks.
- An evaporation rate loss design factor 7.1 (versus .17).
- Septic tank inspection every three years.
- Delineation of an alternative leach field in case of malfunction. This would be indicated on the development application.

Under the proposed solution, authority for inspection and monitoring would rest with the county engineer. The WQM Project Director expected it would be necessary to hire a water quality specialist to assist the county engineer with this and other problems. Up to this point the State has been largely responsible for supervision of septic tanks. The State is interested in delegating this authority to county engineers and so has encouraged the WQM agency to recommend inspection by local officials.

Citizens and local elected officials are aware of the WQM Project recommendations for septic tank regulations and are in support of them. The interviewees felt that nearly everyone agrees that even though there is not an immediate problem, some kind of regulatory program along with inspection is a good idea.

The WQM agency will present its technical report to the County Council in February. After the Town Council and County Commission have made their comments, there will be a formal public hearing (probably in mid-March). The final plan will incorporate comments made, be adopted by the WQM agency board, and then sent to the State. At the State level, the plan will be reviewed by the Department of Environmental Quality, the State Technical Advisory Committee, A-95 Clearinghouse, the Water Quality Advisory Board (all Governor's appointees) and Water Division Citizen Committee. After their review, the Teton County WQM Agency Board will officially adopt the plan and it will be sent for Governor's certification and EPA approval.

Neither local, State nor EPA officials expected many problems in the plan being adopted and implemented. At the local level, there was expected opposition from certain large workable solutions. Some problems were expected with BMPs written by a local agency for use on Federal lands, but these were expected to be minimal. The State, if not always active, is at least always aware of the WQM activities. EPA Regional Office had assisted technically by inspecting grazing practices and by flying remote sensing units to provide pictures for forestry elements of the plan.

Because the comprehensive plan schedule is ahead of the WQM schedule, certain portions of the WQM plan will be implemented ahead of the full plan. The complete WQM plan which includes the technical work, recommendations for BMPs on Federal lands, and proposed regulations on private lands will appear as a separate document for approval by citizens, local agencies, the State and EPA.

While there is mixed support for the comprehensive planning effort, there is broader support for the WQM portions of the plan. Citizens seem impressed that it is analytical and proposals are based on facts. One citizen who has come to oppose the comprehensive plan (because it is "rotten politics" and "destructive") claims he will support only the WQM portions of the plan because they are based on facts and made sense. Elected officials claim they are impressed with the WQM presentations on runoff, septic tank problems, and findings that little pollution is being generated from the Elk Refuge located within the designated area.

While all three planning efforts deal with issues of growth, the comprehensive planning effort is most controversial because it deals with these issues most directly. Some opponents accuse the consultant of trying to create "suburbia in the mountains" and thereby destroying their ranching lifestyle. Other residents see planning as the only way to prevent total destruction of the area. In the most recent town and county elections (Fall 1976), the need for planning and land use controls and location of the sewer plant were the most talked about issues. Pro-planning candidates won both town and county offices. Another important sign of support occurred at a recent workshop on the EIS for the treatment plant. Citizens opposed those alternatives which they believed were inconsistent with the comprehensive plan and the WQM plan.

Facilities-Related Plan Elements

The Town of Jackson is currently preparing an EIS for its treatment plant. Although the plant is owned and operated by the town, the decisions have impact on the entire county. The WQM plan and the comprehensive plan must consider the whole country and recommend whether unincorporated portions should hook into the town plant, continue on septic tanks, or build their own plant. Some management relationship must be agreed upon. Most likely there will be a joint town/county memorandum of understanding either for annexation or for the town to accept county wastes in exchange for a tap fee or a service charge. It is unlikely that there will be a new agency.

The WQM agency is aware of the EIS activities, but has interpreted their role to be strictly review (because the construction grant was awarded ahead of the WQM plan). Thus, the WQM agency is waiting for the final EIS before discussing a management system, at which time they will respond to the EIS and make recommendations for management.

The interim outputs prepared by the WQM agency were used in the EIS to develop alternatives. Originally there were 12 alternatives which have now been narrowed down to five. These include alternatives for three new sites, upgrading the existing facility to 1977 standards, and expanding the existing plant to accommodate 1995 capacity. Each alternative has been evaluated against land use projections and goals of the comprehensive plan. The population projections were considered less useful than some of the other interim outputs, in part because the county intends to find ways to manipulate its population size. The WQM Project Director said there is no need in this area for the wasteload allocations identified in the EPA interim output guidelines.

The town has earmarked \$550,000 for construction of the facility. This project is number five on the state priority list, but because numbers two through four are completed, it is number two in line for existing funds. Because the State is short of construction grant funds, they favor the interim upgrading alternative.

Both citizens and local officials are actively involved in the EIS process. Workshops are well attended and there will be a formal hearing. Interestingly, some of the most active involvement comes from county not town residents, although it is the Town Council that will make the final decision. This shows that county residents clearly see the potential impact of the treatment plant.

Role of WQM Planning in the NPDES Permit Process

The State of Wyoming has permitting authority in this area. However, this is not a particularly large issue as there are only five permits. Four of the permits are for wastewater treatment plants (Town of Jackson, Teton Village, Grand Targhee Ski Area and Jackson Hole Golf Course). The fifth is issued to the Jackson National Fish Hatchery. Recently, a laundromat in Jackson applied for a discharge permit and the State asked the WQM agency for comments, but most citizens and local officials know little if anything about permitting. It is too soon to know how the WQM agency comments will be used.

According to the State water quality liaison, permits are based on effluent limited classification. The statewide WQM plan is reviewing standards, looking at water uses and criteria.

Conclusions

The Teton County WQM plan seems well on its way to completion and implementation. It has the respect and support of citizens, local officials, the State and EPA. Excellent coordination among the comprehensive land use, EIS and WQM planning processes, is probably the single most encouraging sign of potential success. The WQM plan appears technically sound and holds a promise of implementation through the land use controls being proposed by the comprehensive plan.

Obtaining local WQM plan approval, however, will not be easy. "Zoning" and similar regulations have connotations threatening to local autonomy and are therefore generally opposed by nearly all residents of the area.

Although much controversy still surrounds portions of the land use plan, there appears to be general agreement and support of both the intent and specifics of WQM portions. Residents are willing to support controls where they recognize an existing or potential problem. For this reason, it is very likely that some kind of land use controls (whether they take the form of "Environmental Protection Districts" or some other scheme) recommended by the WQM plan will be implemented. For example, despite the fact that the WQM agency monitoring showed no existing problem of septic tank seepage into wells, people understand the value of tightened controls and a regular inspection program. The county will most likely adopt this WQM recommended program.

The WQM agency has not been deeply involved in the EIS for the town treatment plant. The interim outputs, however, have proved useful for developing alternatives to those preparing the EIS and to town and county officials who are reviewing it. Citizens involved in both efforts have understood the potential relationships between the WQM study (and comprehensive plan) and the EIS. They have insisted that the studies be consistent with each other, and that the EIS not select a treatment plant location that would allow development in areas not recommended under the comprehensive plan. Some of the same town and county officials will approve, adopt and implement both plans.

Because this is a single county area whose problems are somewhat self-contained and which is simultaneously facing several issues on its future, this was a timely period in which to do a WQM study. It is respected for gathering monitoring data about the area before developing recommendations. Being such a small area (population-wise), it may be difficult to fund additional positions needed for ongoing inspection but because there is general agreement on the need, there is an excellent prospect for this occurring.

18 ventura

Ventura Regional Sanitation District

The Ventura County Regional Sanitation District was designated for WQM planning in June, 1975, and began its project in June, 1976. The final WQM plan is scheduled for completion in June, 1978. The total grant amount is \$928,000. The WQM area coincides with the County's jurisdictional boundaries and the Ventura-Oxnard SMSA and had a 1970 population of 450,000 according to the U.S. Census. The area has recently experienced substantial growth which is expected to continue with increasing pressure from Los Angeles. This rapid growth along with groundwater pollution and mineralization from agricultural runoff and irrigation practices led to the County's designation for WQM planning. Since water supplies are limited in the area, protecting the current supply is of primary importance.

Irrigated Agriculture

Ventura County has some of the richest agricultural land in the country. For some time however, the County has suspected that prevalent agricultural practices and high volume water demand were contributing to degradation of limited groundwater supplies by building up salt concentrations and promoting saltwater intrusion. The WQM project investigated these suspicions and focused local environmental and economic interests on the subject. Although the WQM agency would like the luxury or more time to study the problem, the Project Director along with most other interviewees agree that the two-year study timeframe will provide sufficient opportunity to assess the situation and develop appropriate recommendations for action.

Although Ventura is still in the data gathering and analysis stage, the WQM Project Director offered a list of plan alternatives to be considered. Among these were:

- Continuing present irrigation practices, but importing better quality water for irrigation and recharge purposes;
- Changing patterns of water use by tapping deeper aquifers or limiting the amount of watering to avoid excess runoff;
- Controlling the amount of pumping to avoid overdraft;
- Constructing a brine line to channel water with heavy concentrations of natural salts and fertilizers out to sea rather than to the local groundwater; and
- Changing crop rotation patterns.

Each alternative will be examined in terms of tradeoffs among air, water, transportation and economic concerns. The channel for reaching a consensus on these tradeoffs is the Regional Land Use planning program which is a conglomerate of concurrent air, water, transportation and comprehensive land use planning efforts. (For a detailed discussion of the RLUP program, see Centaur's "Areawide Water Quality Management Program Survey" of October, 1976.) All interviewees were confident that the WQM study would generate technically sound solutions for improving or at least preserving present water quality without sacrificing continued agricultural production.

The interim outputs are expected to contribute to the likelihood of plan approval because, unlike summary reports issued to date, the interim outputs will require approval from each of the nine participating cities and the County. According to the State liaison from the California Water Resource Control Board, the approval requirement will necessitate attention from local decision-makers and should generate active interest on their part. Little opposition to the interim outputs is expected since the Ventura County Regional Sanitation Commission (the WQM agency) contracted with each of the local communities for population and land use projections.

The final plan solutions are expected to consist of a combination of voluntary and/or educational and regulatory programs. The WQM Project Director expects a heavier emphasis on regulations due to the extent and severity of the problems at hand, although he did note that the decision to adopt regulations will be left to the discretion of local communities unless otherwise mandated by State law. The State spokesman corroborated on the possibility of statewide regulations but only if absolutely necessitated by the lack of local initiative or by local jurisdictional disputes. A citizen interviewee and the EPA Project Officer felt that the WQM agency would probably explore educational and voluntary approaches before suggesting regulations since the former are easier to accept and make the latter more palatable when necessary. All interviewees were quick to add that no matter which approach was selected, every attempt would be made to stay within the confines of existing institutions. New arrangements between or among institutions might be approved but no one favors creating completely new entities given the existing multitude of local, county, and State management and regulatory agencies.

All interviewees were remarkably optimistic about the likelihood of plan approval and implementation. The WQM staff is already laying a groundwork for plan approval by contacting local and county officials on an individualized workshop basis. The purpose of these early contacts is to bring as much information as possible before decision-makers while there is time to discover possible problems or disagreements and make adjustments where necessary. Requesting local approval of plan elements along the way will make final plan approval much easier at the end of the planning period. The WQM Project Director will advocate implementation of some land use elements of the WQM plan even before it is completed. However, he noted that the WQM project will tread softly in this direction. According to a county official, the participating cities are approaching implementation cautiously. They appear willing to act but not in a piecemeal fashion before all the facts and plan elements are brought into focus. The WQM Project Director is avoiding the "hard sell" approach so as not to produce a threat of outside interference in local decision-making.

The final WQM plan is scheduled to go through a complicated set of approval steps before it is adopted. Although it may appear somewhat tedious, this procedure almost guarantees implementation in that all implementation actors will be involved and all possible bases of coordination will be touched. The plan will first undergo review by the nine municipalities'

technical staffs and the staff advisory committees of the four participating RLUP programs. Next, it will go before the RLUP Steering Committee which is composed of local elected officials representing each of the four individual program committees and then to the Ventura County Association of Governments (VCAG) Executive Committee. This Committee is composed of one representative from each participating city and one county official representing unincorporated areas. Finally, the plan must be approved by the City Councils of each participating municipality and by the County Board of Supervisors. According to one county official, the Board of Supervisors is strongly in favor of the WQM plan and is planning to take a lead in approving so as to convince local communities to do the same.

No organized opposition to plan approval is anticipated at this time. All interviewees were hopeful that the WQM staff will be successful in convincing local communities that failure to take immediate action may herald the end of agriculture in the county. One citizen felt that the current West Coast drought will work to the benefit of the WQM project by causing water prices to rise thereby highlighting the imminent crisis. The only possible opposition anticipated is from builders and other pro-growth proponents who are expected to view the WQM as a method to frustrate new development. A local official also noted that should the plan necessitate local funds for structural solutions to irrigated agriculture problems, some citizens may find it difficult to translate preservation of agricultural land into preservation of open space and local character. The official was hopeful, however, that public education programs sponsored through RLUP would help eliminate this problem.

The public has participated in the Ventura WQM process through two channels: the Citizen Advisory Committee (CAC) and a series of public forums. Membership on the CAC consists of a broad spectrum of special interest groups (e.g., industrial representatives, environmentalists, the League of Women Voters, etc.) who are extremely well informed and very active in the WQM program. The CAC (and the self-created CAC task forces in particular) reviews all activities and outputs of the project and submits comments and suggestions to the staff. A member of the committee noted that the CAC is pleased with the responsiveness of the WQM staff. The WQM Project Director commented that although CAC involvement sometimes slows down the planning process, citizens' input is nonetheless respected and heeded for its value in the long run. Only one interviewee noted some disappointment with the CAC since she had hoped the WQM program would cultivate active participation of groups outside of those already

concerned about water quality before the WQM project began. Despite this fact, she too was pleased with the broad opportunity for citizen participation in the program. A county official suggested that the momentum of the four individual programs cooperating in the RLUP program has helped generate active involvement of citizen groups in the WQM project.

The second mechanism for public input is a series of forums sponsored jointly by RLUP and private groups including the League of Women Voters. Although the forums are not specifically designed to address WQM issues, water quality and planning in general are among the topics discussed. The forums are viewed by the WQM Project Director as channels for public education and information dissemination. A forthcoming forum focusing specifically on irrigated agriculture is anticipated to cultivate public receptivity to WQM plan recommendations. Attendance at these forums has not been overwhelming to date but interest and attendance is expected to rise as the series continues and as more critical issues are raised.

The WQM project was designed to keep local elected officials informed of WQM developments through municipal staff representation on the Technical Advisory Committee (TAC). The WQM Project Director has been somewhat disappointed that this system of information flow has not worked as smoothly as hoped. Only in the few cases where local officials themselves attend TAC meetings do officials actually remain aware of program developments. Most local officials are too busy with other interests to keep apprised of TAC meetings. These officials appear to be waiting for actual decisions to arise before they give the WQM project their attention. To correct for this situation, the WQM staff has begun making direct contact with City Councils and is now requiring local approval on plan outputs as discussed earlier. Input of local communities comes through local officials' membership on the WQM Steering Committee and through local contracts for population and land use plan elements. Most interviewees anticipate increased interest and involvement of local officials as plan alternatives begin to emerge.

The State Water Quality Control Board entered a contractual agreement with the WQM agency to offer technical assistance to the WQM staff but according to the WQM Project Director, the State has mainly assumed a "watchdog role" in tracking and reviewing WQM project progress. The State liaison, on the other hand, feels he has contributed to the Ventura program by facilitating coordination with the Los Angeles WQM program on bordering areas and common concerns. The State liaison is an official

member of the Ventura WQM Committee structure and regularly attends all WQM meetings. The liaison explained that the State is assuming a low profile because it does not want to dictate to the local planning program. On the other hand, it is ready to offer assistance upon request and is in general support and agreement with the Ventura program. The EPA Project Officer feels that although the State has been very cooperative to date, it could be of greater assistance by acting on its own initiative.

The EPA Regional Office has also assumed a somewhat passive administrative role in tracking and monitoring program progress. The EPA Project Officer is very enthusiastic about the potential success of the program.

Facilities-Related Plan Elements

The parent WQM agency, VCRSD, has been directly engaged in facilities planning and management for some time. VCRSD expects to utilize data generated through the WQM project in facilities planning activities where it has primary responsibility (i.e., unincorporated areas). The WQM Project Director also expects that the WQM plan will help bring about coordination between plans in neighboring basins - something that has not happened in the past. Although most facilities planning will be completed before the WQM plan is finished, the Project Director noted that the advisory committees are considering a suggestion for coordination between those plans and the WQM plan even before the latter is finalized.

As to the future, the State liaison expects that all facilities plans will have to be consistent with WQM population and land use projections. The Governor's office is apparently supporting WQM data since they express local growth and economic preferences. A county official noted that the effect of the WQM plan on future facilities planning will not occur in isolation but through the combined effect of the RLUP program on future land use patterns. A citizen interviewee expected that the WQM plan's areawide perspective would contribute to a more efficient distribution of wastewater treatment capacity.

The WQM Project Director does not expect that the WQM plan will suggest significant changes in wastewater treatment management arrangements. The area already has a regional management authority (the VCRSD) in operation. Expanding the VCRSD's active jurisdiction depends on voluntary decisions of local communities, but neither the WQM Project

Director, the EPA Project Officer nor the State liaison anticipate that the WQM plan will promote further expansion at this time since county-wide support is not strong at this time.

The only area in which new management arrangements may be necessary is in the sale of recycled water for irrigation purposes. This issue will only arise, however, if and when such a recycling program is instituted.

Citizens will be involved in facilities-related discussions through the CAC. Although there has not been much discussion in the area to date, the EPA Project Officer and State liaison expect more citizen input when the WQM land use plan elements and their implications are more clearly focused upon and/or when specific facilities suggestions arise. The same remarks are true for local elected officials, particularly those whose cities and towns will be directly affected.

Role of WQM Planning in the NPDES Permit Process

The State is responsible for NPDES permitting in California. The WQM project has an agreement with the State Water Quality Control Board whereby technical data prepared for the WQM plan will also be used in the permitting process. The net effect is that all permits will have to be in coordination with the WQM plan. The State liaison expects that the WQM plan may lead to the expansion of the permit process by suggesting permitting of nonpoint sources. In the area of agriculture, for example, tilled irrigation fields would require permits in the future. In order to deal with the saltwater intrusion problem, the WQM plan may suggest combining runoff drains and rechanneling this water to compensate for overdraft. In this case, runoff drains may need NPDES permits.

Although NPDES permitting has not been discussed directly at CAC meetings to date, the permitting issue is scheduled for thorough committee discussions later in the project. One local elected official was looking forward to these discussions as an opportunity for local communities to define their priorities and desired tradeoffs. Since the next round of permits is scheduled for 1983, the WQM Project Director noted that there will be plenty of time and data to use in permitting.

Conclusions

According to the EPA Project Officer and the California State liaison, the Ventura WQM project is the best in the State. A combination of factors including well defined problems, a compact study area, a one-county political jurisdiction, rising no-growth sentiments and the current drought have given the WQM study focus and impetus.

The problems of irrigated agriculture were generally known before the WQM project began, but it took the WQM project in conjunction with the RLUP program to provide a cooperative mechanism for regional problem solving. The WQM project has made considerable progress over the past year. Through active committees, contracts with local governments (i.e., for population and land use projections), and direct contact with City Councils, the WQM project has provided a successful framework for education, communication and input of potential plan implementors. Association with RLUP has given the WQM project publicity and promises to strengthen WQM recommendations through coordination with other ongoing planning programs (i.e., air, transportation and annexation). Through RLUP, intermedia coordination and regional cooperation appears to be working.

Because the designated area has witnessed problems that result from rampant growth, most local communities are receptive to growth controls and land use regulations. Even agricultural interests appear to realize that immediate action is needed to stave off regional demise of agriculture. The only thing locals will not tolerate is interference in local autonomy. Recognizing this, the WQM project has assumed a profile of assisting local communities develop their own regional solutions rather than imposing WQM staff suggestions on them. WQM staff receptivity to local preferences has been returned with the respect and active participation of citizens, special interest groups and a number of local and county officials. The WQM staff has identified decision-makers who will be responsible for approving and implementing the plan and has actively sought out their direct involvement.

Given present regional interest and State support for the plan, implementation appears likely even if it should take more than two years to materialize. If the project continues on its present path, the WQM planning process will probably be evidenced in the future since the procedures are well developed and firmly established and since the State will probably require local compliance with the final plan as a contingency for funding related activities.

In the area of facilities planning, WQM interim outputs are expected to influence all future facilities decisions. This is partly explained by the fact that unlike most incorporated areas which already have sufficient treatment capacities, unincorporated areas still have unanswered wastewater treatment needs. Planning for the latter areas is the responsibility of the VCRSD, the WQM parent agency. It is unlikely that the VCRSD will

disregard WQM data especially since that data reflects regional concerns and perspectives which will help VCRSD avoid inappropriate distributions of treatment capacities that occurred in the past. The State recognizes this and is supportive of the WQM plan's regional perspective. It is too early to predict change in current management arrangements although given the legislative authority and public acceptability of the current system, it is unlikely that radical changes will occur.

NPDES permitting is not a major issue in the Ventura area at this time since only a fair number of permits are currently issued and since local communities appear satisfied with the State's permitting decisions. However, permitting may become a more important issue later in the WQM planning period if the final WQM plan recommends that some nonpoint source pollution controls necessitate permit control.

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Yellowstone-Tongue Areawide Planning Organization (YTAPO)

The Yellowstone-Tongue Areawide Planning Organization (YTAPO) is a single purpose planning body specially created for WQM planning in southeastern Montana. YTAPO began its WQM project in November of 1975 and is scheduled to complete its final plan in January of 1978. The total grant amount is \$540,000. The southeastern Montana is the most sparsely settled WQM area in the country. It encompasses 18,300 square miles and, has approximately 28,000 people according to the 1970 Census. This semi-rural area was chosen for study because it is susceptible to rapid growth induced by energy extraction and conversion projects. Because the area now enjoys relatively good water quality, an attempt is being made to ensure preservation.

Water Quality Preservation

The focus of the Yellowstone-Tongue Areawide Planning Organization (YTAPO) WQM effort is preservation of existing water quality. In view of the fact that local waters are already subject to relatively high concentrations of salinity from natural sources of pollution, YTAPO is concerned that other potential polluters that can be controlled (e.g., agriculture and secondary impacts of energy development) not be allowed to aggravate the problem. Preservation is especially important in southeastern Montana because of anticipated energy development and extensive agricultural operations in the area.

In order to develop recommendations for the preservation of existing water quality, basic water data had to be compiled. The level of detail achievable within the two year planning period is necessarily limited, but the YTAPO Director, EPA Project Officer and State water quality officials are confident that the WQM data will provide a satisfactory basis from which to draw indications of potential problem areas.

In addition to inventorying existing water quality, YTAPO is involved in studies related to energy-development activities. More specifically, YTAPO is providing data for an Environmental Impact Study on two proposed nuclear power projects at Colstrip and the North Powder River. Such demands for YTAPO participation have emerged and probably will continue to emerge as plans for energy development unfold. EPA Region VIII recognizes outside factors (e.g., Federal energy policy) influencing the scope of YTAPO's WQM efforts and has already granted a two-month extension to allow YTAPO participation in environmental impact assessments related to energy development.

YTAPO completed its interim outputs as scheduled. These were well received by the EPA Regional Office. Similarly, the Montana Water Quality Bureau (the official State liaison office) reviewed the interim outputs favorably and is already using the data where relevant in their own planning activities.

In a semi-annual report completed in the Fall of 1976, YTAPO outlined tentative recommendations based on preliminary data to implement and augment preservation efforts. The majority of these recommendations are listed in the "Areawide Water Quality Management Program Survey".¹ They include such items as a proposal to restrict saline discharges of agricultural water users and to reclassify water uses of streams taking saline discharge restrictions into account. The State water quality official noted that the State previously had not been aware of the salinity issue and would consider this and other tentative recommendations as potential areas for State action. A citizen interviewee and two local elected officials noted that the tentative recommendations have provided starting points for discussion by the YTAPO Board of Directors. Generally they believed the recommendations are reasonable, offering a number of alternatives.

At this juncture, all interviewees expected the WQM project to contribute to better management and planning decisions. This will be particularly true as development pressures related to mining activities are realized even though the EPA Region VIII Project Officer noted that the level of Federal or local control over secondary impacts of energy development has not been clearly defined yet. Optimistic expectation for local plan support is based on the WQM Project Director's direct contact with local elected officials and his responsiveness to their interests and priorities. Both of these activities have stimulated local trust in WQM recommendations. However, none of the interviewees expect unanimous local support for the plan, especially since locals are very skeptical

¹ Centaur Management Consultants, Inc., "Areawide Water Quality Management Program Survey", October, 1976, p. YT-10.

of land use controls. Furthermore, if energy development does not materialize as anticipated, the WQM Project Director believes that interest in the WQM project will wane quickly. Data collected through the WQM program will then be left for use by other ongoing State planning agencies.

A voluntary approach to preserving or improving water quality with respect to agricultural practices is preferred by the YTAPO Director and two local elected officials. The YTAPO Director intends to stimulate better management techniques through a public education program emphasizing the economic advantages of appropriate irrigation practices.

The advent of a new regulatory institutional arrangement, however, is possible. For example, the WQM project is currently considering investing the conservation districts with authority to regulate the salinity of irrigation return flows. However, the YTAPO Director and local interviewees believe that minimizing regulatory alternatives is essential, given the area's general animosity toward imposed controls. Although a State water quality staff member and EPA Project official considered a voluntary approach most appropriate to the area, they also recognized that supplemental regulatory action may be necessary.

The YTAPO Director outlined the current status of efforts to implement the WQM plan. The U.S. Agricultural Extension Service and a nonpoint source consultant are developing case studies on soil types, salinity of the soil, irrigation techniques, salinity of irrigation water and the resulting impacts on crop yield. Workshops to present the findings to agricultural interests are planned. YTAPO is also conferring with the conservation districts regarding their involvement in promoting better management practices. A State water quality official noted that YTAPO's interim recommendations would be considered in the revision of water quality standards which will occur prior to September, 1977.

Participants in the YTAPO WQM project have been limited largely to the YTAPO Board of Directors who meet regularly and to local agency technical staffs who are contacted informally by the WQM staff. A formal Citizens Advisory Group has not been organized due to sparse settlement patterns and the great distances involved in commuting to areawide meetings. YTAPO generally prefers to reach the public by visiting local organizational meetings and holding WQM-related workshops throughout the area.

Local elected officials have been reasonably active in the YTAPO project despite commuting problems. This interest can be explained in part by the imminent threat energy development poses to most farmers and ranchers and to the fact that the WQM project provides a focus for their concerns. The YTAPO Director also maintains informal contact with both elected and appointed officials. The draft nonpoint-source report will be presented in March along with proposed alternatives for implementation. From that point on, the YTAPO Director expects local elected officials to become more actively interested in the discussion of appropriate implementation measures.

Throughout the planning period, the State has made available a full-time engineer for on-site services to YTAPO. The State coordinates directly with YTAPO and also promotes intrastate coordination among Montana's four WQM projects. Representatives of the four WQM projects meet monthly and jointly have retained an attorney to develop and promote legislative proposals. The State expects ongoing coordination with YTAPO and other WQM agencies to result in compatible implementation programs. The State is already revising its water quality standards on the basis of YTAPO's WQM data and recommendations.

The YTAPO Director reported that EPA energy-related staff have become more active in assisting YTAPO recently. He stressed the importance of their involvement in considering the conflicting objectives of energy development and nondegradation of the area's water quality. Resolution of the conflict could involve a number of options which would require Federal support and WQM programmatic flexibility. For example, the Tongue River is being polluted currently by natural causes. Rather than attempt to clean up the Tongue River (which for all intents and purposes will continue to suffer from natural causes), the WQM plan might suggest that energy developers concentrate their wastes in this river rather than spread pollution to other rivers. The WQM plan would include measures to compensate farmers who might otherwise rely on the Tongue River for irrigation water.

Facilities-Related Plan Elements

YTAPO's WQM efforts have had significant influence on current facilities planning. Under WQM-funded subcontracts, facility plans (equivalent to Step I of the construction grant program) are underway in five small communities. One of these communities has already moved to Step II of the construction grants program. The State has supported this

action by promising higher priority ratings to projects conducted through the WQM program.

Local officials consider YTAPO's population projections to be the best approximations for the area. The uncertain timing and magnitude of energy-related development, however, make the validity of any projections somewhat tenuous.

In the YTAPO area, no regional management of facilities is believed feasible due to low density settlement patterns. Management authority will most likely remain with individual cities.

In communities with ongoing WQM-funded facility planning projects, citizens, local elected and appointed officials have been fairly active in the WQM planning process.

The State and EPA regional offices are involved in the WQM project through routine procedures for review of WQM outputs. The YTAPO Director noted that incorporating future facilities needs (as identified by the WQM project) into the State priority system may present a complex problem. State priorities are based on development trends derived from 1972 population figures. Such projections do not accommodate the projected energy-related influx of population. Therefore, construction grant funds will cover projected 1972 needs but not actual needs; a supplementary funding source (e.g., coal tax funds) must be found.

Role of WQM Planning in the NPDES Permit Process

YTAPO interest in the NPDES permitting process has, for two reasons, been very limited. First, there are currently only three industrial and one municipal permits in the area; and secondly, private energy development operations have adopted "zero discharge" philosophies for primary waste elimination. YTAPO did review the existing permits and made relatively minor recommendations which the State is considering. YTAPO also requested and received EPA permission to conduct instream monitoring of dissolved oxygen in the area of Colstrip, the major site of current energy development activities. Because there are so few dischargers in the area, the YTAPO Director stated that no citizens or officials have shown considerable concern with NPDES permits.

Conclusions

The YTAPO staff seems to have a clear sense of the technical and political limitations shaping their expected achievements within the planning period. As water quality preservation efforts must emanate from a baseline of documented data, YTAPO is focusing its efforts appropriately on assembling a water data base. Concurrently, YTAPO is working with local elected and appointed officials to acquaint them with the emerging issues attendant to the area's energy development activities. At this early stage of its planning process, YTAPO has developed tentative recommendations which will focus the discussion of alternatives among local officials.

Among YTAPO recommendations are practical and innovative considerations in the face of conflicting pressures for energy development and environmental preservation. For example, in proposing the "sacrifice" to development of one river of marginal quality, YTAPO has recognized the local preference for (if not necessity of) balancing economic and environmental considerations--particularly in the face of a national energy crisis.

The strength of the YTAPO effort is the effectiveness of YTAPO staff in building support for the project among local officials. While commuting distances inhibit regular meeting attendance, YTAPO staff ensure ongoing communication and coordination among local officials through informal personal contacts. YTAPO's responsiveness with technical assistance to immediate local needs has enhanced the Agency's credibility and visibility as a valuable resource for local governmental units. In an area which is traditionally opposed to intervention into local autonomy, YTAPO has promoted itself as an aide to local efforts rather than as an outside force seeking to pre-empt local control. Local decision-makers believe that their prerogatives will prevail but accept the informational input of YTAPO to their efforts. In a similar fashion, YTAPO will be providing assistance to agricultural interests by demonstrating the benefits of irrigation practices which limit the adverse effects of salinity on agricultural lands and crop yield. As the U.S. Agricultural Extension Service has an existing working relationship to agricultural interests, YTAPO is coordinating with them to develop appropriate educational workshops.

Although the timing of the WQM study is appropriate to planning in advance of energy development impacts, the lack of immediately felt development pressures may allow local support and interest in continuing technical analyses (e.g., updating water data) and coordinating with energy development-related projects to wane. With the heavy involvement of many Federal agencies in the area and the resulting panoply of studies, it is difficult for the contribution of the YTAPO effort to stand out as exceptionally useful to local governments. Should YTAPO or an alternative technical support pool not continue due to insufficient local or Federal funding support, it is questionable whether the local governments with their limited staff and other resources have the capability to adequately confront the energy-development issues when they emerge.

YTAPO is already affecting planning for needed facilities in the area which will have a direct impact on eliminating municipal discharges as pollutant sources. Because of the very few dischargers in the area, NPDES permits are a relatively minor concern to YTAPO.

APPENDIX

INTERVIEWEES

<u>WQM Study Area</u>	<u>WQM Project Directors</u>	<u>EPA Regional Project Officers</u>	<u>State Liaisons</u>	<u>Local Officials</u>	<u>Citizens</u>
1. Chattanooga	Gordon Mellancamp	Steve Sandler	Kirk Mayes Steve Anderson	Roy Parrish Ellis Spenser	James Barnett Richard Cormack
2. Philadelphia	Tom Walton	Glen Witmer	Sedwick Karper	Robert Struble Tom Fulweiler	Barbara Paul William Martin
3. St. Louis	Larry Zensinger	Lee Duvall	Earl Holtgraeve	Kaiser Judge Steinberg	Steven Banton Suzanne Pogell
4. Houston- Galveston	Nick Aschlimann Charles Savino	Sam Nott	Dr. Peggy Glass	Judge Oscar Nelson Dee Brune	Ken Kramer W.W. Wright
5. Lower Rio Grande	John Janak	Martha Seymour	Dr. Peggy Glass	Bill Meyers Juanita Brodecky	William Parish Ersel Lantz
6. Martha's Vineyard	Bill Wilcox	Charles Conway	Susan Wilkes	Ronnie Schultz	Robert Woodruff Marguerite Bergstrom
7. Dayton	Bert Middlebrook	Elaine Greening	Al Buoni	Ron Schmidt Gene Cronk*	Madline Lokman Chris Carlson
8. Kansas City	Tom Neal	Larry Sheridan	Ben Williamson (Kansas) Ed Knight John Schondelmeyer Joseph Fitzpatrick (Missouri)	Robert Hart James Farley	Richard Baldouf Roberta Chittendon
9. Middlesex County, New Jersey	William Krause	John Wodkowski	William Minervini	Richard Naberezny John Runyon	E.I. Rumrill Joan Ryan
10. Salem	Curt Smelzer	Cecil Oullette	Russ Fetrow	Herb Arnold Ted Lopuscynski Ellen Lowe Alan Miller	Caroline Neuwirth

*
County engineer interviewed as substitute for local Mayor who was unavailable for interview.

<u>WQM Study Area</u>	<u>WQM Project Directors</u>	<u>EPA Regional Project Officers</u>	<u>State Liaisons</u>	<u>Local Officials</u>	<u>Citizens</u>
11. Seattle	Rod Stroupe	Al Ewing	Chuck Clark	Dave Mooney Brad Gillespie Donovan Treacey	Scot Smith Bob Copernoll
12. Cincinnati	Dory Montezumi	Elaine Greening	Debbie Gross-Sidlow	Kim Saunders Bob Turner	Jack Kleymeyo Joan Hammond
13. Southeastern Wisconsin	Bill McElwee Larry Wyble	Bruce Baker	Randy Wade	R.J. Borchart Norbert Dettmann Paul Vrakas	Helen Jacobs William Murphy
14. Augusta	John Forster	Ed Woo	Bill Stoddard	Robert Stubbs Scott Higgings	Janet Rizi
15. Ft. Meyers	Larry Pearson	Steve Sandler	Bill Busig	Beverly Clay Richard Hallam Robert H. Shedd	Joe Roach
16. Sussex County, Delaware	William Pleasants	Larry Maxwell	Rudolph Jass	Al Stango Byard Coulter	John Farrow Joseph Skelly
17. Teton County	Eugene Zeizel	Bruce Zanders	Larry Robinson	Paul Bruin Muffy Moore	Skip Wright-Clark
18. Ventura	Joe Borgerding Mike Williams (Assistant)	Mary Ann Grasser	Jim Haupt	Ted Grandsen L.H. Maland	Janet Beymer
19. Yellowstone-Tongue	Clark Judy	Roger Dean	Steve Pilcher	Floyd Iron Art Kamhoot	Walter Archer