Chapter 10: Selected Actions, Studies and Monitoring Methods

Introduction

In the preceding chapters, there have been many proposals described for projects that will require a commitment of time and money. The projects are described in:

- Chapter 4: Studies Required to Complete Identification of Use Impairments and Describe Pollutant Sources.
- Chapter 7 (Urban): Possible New Remedial Measures for the Urban Area of the Rochester Embayment Watershed.
- Chapter 7 (Rural): Possible New Remedial Measures for the Rural Areas of the Rochester Embayment Watershed.
- Chapter 9: Surveillance and Monitoring Program.

It is recognized that, because of insufficient resources, it will not be feasible to follow through on every proposal. Therefore, it has been necessary to make decisions about priorities by ranking the proposals within each of the four categories. The ranking will determine which projects should be undertaken as a high priority, which projects can wait until an opportunity presents itself, and which projects are not recommended at this time.

Three ranking groups were established to determine these priorities:

- Urban Ranking Task Group for Chapter 7 (Urban) proposals. The activities of this Task Group are reported in Sections 1 and 2.
- Rural Ranking Task Group for Chapter 7 (Rural) proposals. The activities of this Task Group are reported in Sections 3 and 4.
- Studies and Monitoring Task Group for Chapter 4 and Chapter 9 proposals. The activities of this Task Group are reported in Section 5.

Each Task Group established its own ranking procedures. Therefore, the rankings are expressed in different ways (such as percentage, high/medium/low) depending on the Task Group. In all cases:

- The members of the Task Group first evaluated the proposals individually.
- The individual evaluations were used as preparation and basis for discussion.
- A vote was taken and a final ranked list was established.

This chapter reviews the ranking process used by each of the Task Groups and the final ranked list established by each Task Group. At the end of the chapter there is information about the Generic Environmental Impact Statement developed for the Stage II RAP by the New York State Department of Environmental Conservation. (See the Chapter 10 section on "Environmental Review for the Stage II Remedial Action Plan.")

The remedial actions selected by the Ranking Task Groups will contribute significantly toward delisting of use impairments in the Rochester Embayment. However, implementation of programs at the federal and state levels must also play a role. Examples of such programs are the Lake Ontario Lakewide Management Plan, and federal and state regulations.

10.1 Urban County Selected Remedial Actions

10.1.1. Ranking Process for Possible New Remedial Measures by the Urban Ranking Task Group

The Great Lakes Water Quality Agreement requires that each Remedial Action Plan include an evaluation of remedial measures in place and "additional remedial measures to restore beneficial uses..." Chapter 7 describes the possible new remedial measures. The Urban Ranking Task Group (URTG) was formed to make recommendations about which new remedial measures should be given the highest priority for implementation. The URTG was designed to include representatives from a broad cross section of the community including technical (members of the Monroe County Water Quality Coordinating Committee), economic, citizen, government and public interests.

The URTG was formed in May 1996 with the following members:

Mark Ballerstein	Monroe County Department of Engineering, Monroe County Water Quality Coordinating Committee (WQCC) representative
Richard Burton	Monroe County Environmental Health Laboratory; WQCC representative
William Dillon	Supervisor, Town of Irondequoit (government)
Robert Jonas	Citizen representative of the Monroe County Water Quality Management Advisory Committee (WQMAC);
Thomas Klein	Economic interest representative of WQMAC; Xerox Corporation
Jeanne Loberg	Supervisor, Town of Mendon (government)
Michael McNulty	Public interest representative of WQMAC; Trout Unlimited
Ray Nelson	Public interest representative of WQMAC; Sierra Club
Margy Peet	Monroe County Department of Health, Water Quality Planning Bureau, WQCC representative
Michael Ruszczyk	Economic interest representative of WQMAC; Industrial Management Council; Eastman Kodak Company
Max Streibel	Public official representative of WQMAC; Monroe County legislator
Robert Townsend	New York State Department of Environmental Conservation

Several steps during the course of five meetings were necessary to prepare the list of recommendations.

Step #1: Adopt a ranking system

The URTG achieved consensus on a ranking system whereby each member assigned two scores

to each proposed action:

- Benefit score (1 to 5)
- Implementation score (1 to 5), which incorporated cost, feasibility and likelihood of receiving government and public support

The URTG adopted this scoring system in order to strongly weight benefit.
The details of the ranking system are shown in Appendix F.

Step #2: Visual display of benefit and implementation scores

After every member had assigned scores to every action, the scores were displayed on Benefit/Implementation matrices (see sample matrix in Figure 10-1). One matrix was used for each proposed action. The vertical axis represented "Benefit" and the horizontal axis represented "Implementation." As the "dot" representing each pair of scores was positioned on the matrix, it was marked with the name of the URTG member responsible for the scores. These matrices were also distributed and were used in the debate process described below.

Step #3: Calculation of average scores

For each action, the average of all the Task Group members' benefit scores was calculated. The average of the implementation scores was also calculated, as well as the average total scores (benefit score + implementation score = total score).

Step #4: Debates

The URTG used the action matrices and the average scores to plan short debates for every proposed action. A debate was scheduled for every action which received an average benefit score of 3.0 or higher. (Task Group members were given the opportunity to include actions in the debate process that had a benefit score of less than 3.)

Two debaters were selected for every action, one to represent the high perspective (high benefit and implementation scores, in the upper right-hand quadrant of the matrix) and one to represent the low perspective (low benefit and implementation scores, in the lower left-hand quadrant of the matrix). Each debate followed the same schedule:

1 minute	High perspective presentation
1 minute	Low perspective presentation
2 minutes	Comments from other Task Group members

Step #5: Amendments to actions

In five cases, the URTG proposed amendments to the actions and voted upon the actions assuming that the changes would be made:

a. Action 3a, Promote (New York State) antidegradation policy: It was initially proposed to change the action to "Promote Great Lakes Initiative antidegradation policy". At a later meeting, the URTG achieved consensus on keeping the original wording. (See the Chapter 7 section on "Promote the New York State Water Quality Enhancement and Protection Plan".)

b. Action 5a, Enact a New York State law that would require environmental audits be submitted to local government agencies, including health departments: The URTG proposed changing the action such that environmental audits would be submitted voluntarily. However, even with the amendment, the URTG did not vote to recommend the action. The original and stronger wording has been maintained in the text for future consideration. (See the Chapter 7 section on "Promote proper closure/remediation of landfills and hazardous waste sites".)

c. Action 13e, Establish a policy on package treatment plants. (A package treatment plant is a wastewater treatment plant made entirely at a factory and then moved onsite. The plants can be manufactured in a range of capacities up to one million gallons per day.) The URTG proposed prohibiting package plants except where absolutely essential. If a package plant was to be used, dry sewers would be required in the area for connection as soon as possible. The text for Chapter 7 reflects this change.

d. Action 23, Complete basin water quality plans: The URTG proposed that the basin water quality plans focus, not on the basins as a whole, but on the individual stream watersheds. The text for the Chapter 7 section reflects this change.

e. Action 24, Continually evaluate proposals for possible new remedial measures: The URTG suggested changing the title to "Continually evaluate *and implement* proposals for possible new remedial measures". The change was made in the text of the Chapter 7 section.

One action that was originally part of Section 7, "Divert the water over the Lower Falls temporarily in order to view the status of seeps at the face", has been deleted from Chapter 7 (Urban), because the identical activity became a monitoring method. (See the Chapter 9 section on "Monitoring for aesthetics - chemical seeps".)

Step #6: Voting

Immediately after each 4-minute debate period, a poll was taken on the action. Each Task Group member voted a high, medium or low priority to each action. The URTG adopted the following meanings for the votes:

High:	I think we must do this action.
Medium:	I can support this action if the rest of the group favors it.
Low:	I don't think this action is important.

A few actions achieved a surprisingly high or low vote, based on its original average benefit score. In these cases, there was enough further discussion to ensure that each Task Group

member had the same understanding about the proposed action. Then there was a revote.

Step #7: Urban Ranking Task Group recommendations

The URTG chose to create a ranked list based on the "average" of the high/medium/low poll. The average was calculated in the following manner:

High vote = number of votes x 2
Medium vote = number of votes
Low vote = 0

$$\text{Average score} = \frac{\text{high vote + medium vote}}{\text{number of voters}}$$

The recommendations were reported as follows:

Average from 1.50 to 2.00	Recommended as a high priority (aggressively pursue funding and commitments)
Average from 0.50 up to 1.50	Recommended (pursue as opportunities arise)
Average below 0.50	Not recommended

The URTG ranked list and average scores are shown in Table 10-1. Table 10-3 also shows the the actions in ranked order along with the use impairments addressed, potential responsible entities and potential funding sources.

Step #8: Linkages of recommended actions to the Stage I goals and objectives

A check on the success of the ranking process was the linkage of the high priority and recommended actions to the goals and objectives developed for the Stage I RAP (see Stage I RAP, pages 3-10 through 3-12, or Stage II RAP, Chapter 5). All goals and objectives were addressed by at least one action except:

- Water from the Embayment and its tributary drainage basins which is used for agricultural and industrial purposes can be used with minimum added cost due to exotic species (a goal).

Actions toward this goal were not selected because of the recognition that there is very little that a county can do to remediate a widespread and established ecosystem problem. For the complete list of linkages between remedial actions and goals and objectives see Table 10-2.

Step #9: Review and comment for URTG recommended actions

The recommendations were subsequently given to the Monroe County Water Quality Management Advisory Committee (WQMAC) and the Monroe County Water Quality Coordinating Committee (WQCC) for their review and comment. The WQMAC and WQCC

then gave their recommendations and comments to the Monroe County Water Quality Management Agency (WQMA) and the New York State Department of Environmental Conservation (NYSDEC) for final decisions.

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Figure 10-1
Chapter 7 Actions

Number of action: Section 7.1, Action a

Name of action: Schedule reduction of PCBs in equipment

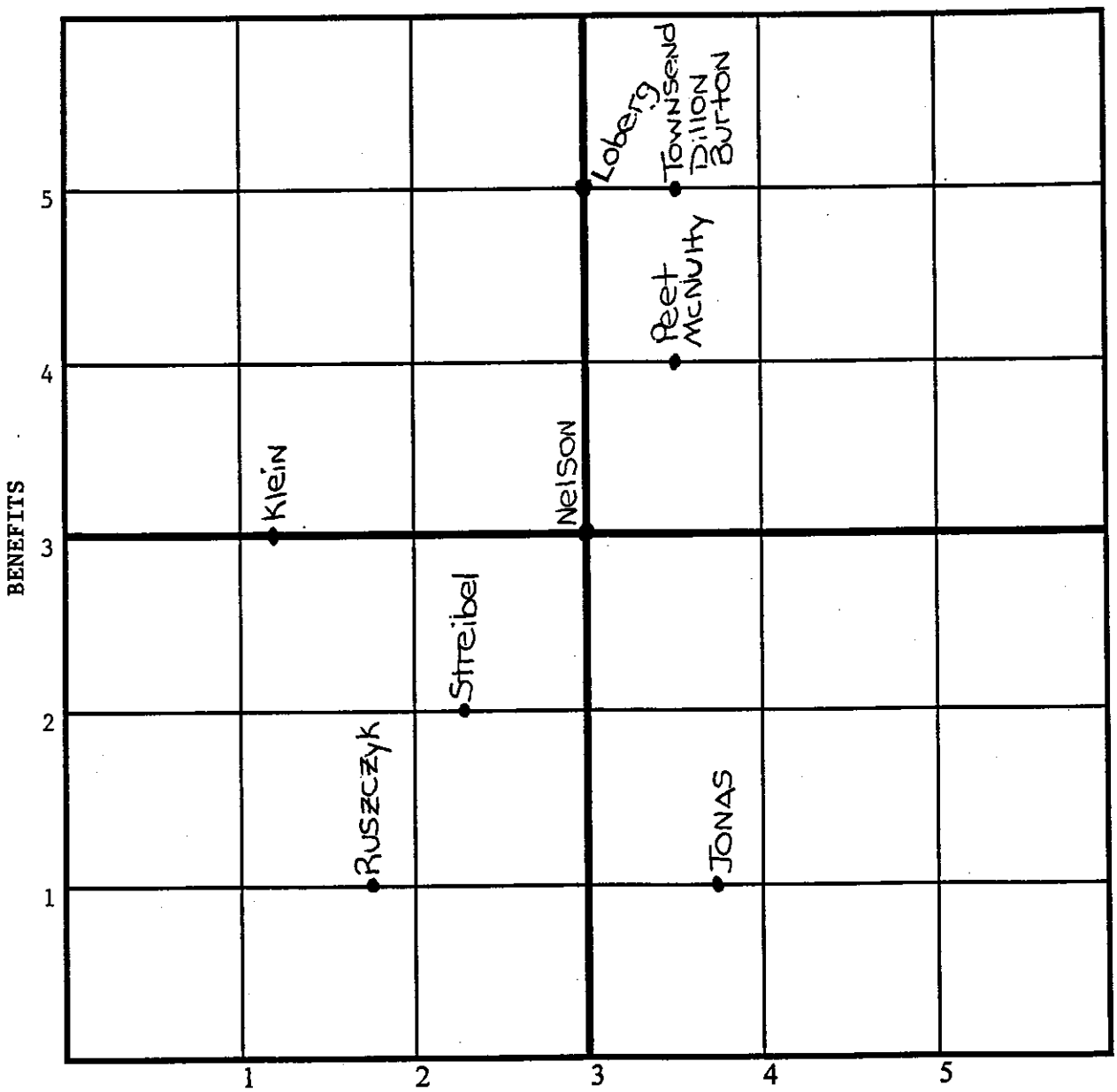


Table 10-1
Rochester Embayment Remedial Action Plan Chapter 7 (Urban)
Final ranked list of proposed actions

H = ranks high L = ranks low
M = ranks medium A = average
(The ranking process is described in the Chapter 10 section on "Ranking Process for Possible New Remedial Measures by the Urban Ranking Task Group.")

High Priority

Chapter 7 (Urban) section number and action name:		H	M	L	A
23	Complete basin water quality plans	10	0	0	2.00
9	Institute intergovernmental agreements	9	1	0	1.90
10c.	Develop stormwater wetlands as part of intergovernmental agreements	8	1	0	1.89
10f.	Expand the Highway Projects Task Group effort	8	2	0	1.80
11a.	Organize workshop (impervious surfaces)	8	2	0	1.80
10a.	Continue dry basin conversions	8	2	0	1.80
10b.	Conduct swirl concentrator demonstration project	7	2	0	1.78
10d.	Develop stormwater wetlands as part of watershed drainage plans	7	2	0	1.78
4b.	Pollution prevention for small businesses	7	2	0	1.78
13b.	Maximize phosphorus removal at small wastewater treatment plants	7	3	0	1.70
3b.	Substance bans	7	1	1	1.67
13e.	Establish package plant policy	6	3	0	1.67
22a.	Establish not for profit organization (education)	5	3	0*	1.63
17d.	Outreach to school teachers (wetlands)	6	4	0	1.60
8.	Intergovernmental agreement with U.S. Army Corps of Engineers	5	4	0	1.56
4a	Initiate pollution prevention efforts	5	4	0	1.56
13a.	Establish phosphorus loading goal and appropriate permit limits	6	2	1	1.56
6.	Expand storm drain message system	5	5	0	1.50

Recommended

1b.	Education and identification (PCBs)	5	3	1	1.44
20b.	Use intergovernmental agreements (habitat)	4	6	0	1.40
24.	Evaluate proposals for new remedial actions**	4	4	1*	1.33
17a.	Workshop for local officials (wetlands)	3	6	0	1.33

4c.	Municipalities set pollution prevention example	3	6	0	1.33
2.	Critical pollutants outside of the Rochester Embayment	4	3	2	1.22
13c.	Literature search on phosphorus emissions from incinerators	2	7	0	1.22
14.	Promote agricultural best management practices	3	6	1	1.20
17b.	Distribution and presentation of information on wetlands	2	8	0	1.20
10e.	Promote the use of biofilters where appropriate	2	8	0	1.20
1a.	Schedule reduction of PCBs in equipment	3	4	2	1.11
20a.	Develop nontraditional partnerships (habitat)	2	6	1	1.11
22b.	Establish water quality education coordinator position	4	2	3	1.11
7a.	Investigate feasibility of remediating material at Brewer St. site	3	4	2	1.11
19.	Critical habitat along waterways	2	6	1	1.11
11c.	Utilize intergovernmental agreements (impervious surfaces)	3	5	2	1.10
15b.	Targeted public education (lawn care)	2	5	2	1.00
15c.	Implement Homescape program (lawn care)	1	6	2	0.89
18.	Lake levels management plan	2	4	4	0.80
15a.	Conduct demonstration project (lawn care)	2	3	4	0.78
5b.	Utilize Hazardous Substance Waste Disposal Site Study to promote remediation of local sites	1	5	3	0.78
16a.	Develop streambank erosion control programs	1	4	4	0.67
1c	Removal and disposal (PCBs)	0	6	3	0.67
7b.	Educate developers regarding contamination	3	0	6	0.67
3a.	Antidegradation	0	5	3*	0.63

* One abstaining

** For a list of possible new remedial measures that were proposed during the review of the Stage II Remedial Action Plan, see the Appendix.

Low Priority (in order of appearance in Chapter 7 Urban)

5a Promote environmental audit submission to local government agencies
5c Finalize state guidelines for soil testing
5d Prioritize hazardous substance waste disposal sites
5e Conduct field investigations at County waste sites
7c Seek agreement regarding cleanup at the Brewer Street site
11b Use a not-for-profit to assist municipalities in reducing impervious surfaces
12a Conduct septic systems surveys
12b Require scheduled pumpouts of septic systems

12c Establish septic tank maintenance districts
12d Require periodic inspections and permits for septic systems
12e Establish a septic system inspection program on a watershed basis
12f Promote water conservation to extend the lives of septic systems
12g Educate homeowners about septic systems maintenance and repair
13d Promote the use of nonphosphate-based detergents
16b Use a not-for-profit to develop streambank erosion control programs
17c Conduct a photography/art contest/display about local wetlands
17e Facilitate community wetland tours
17f Prepare a pamphlet that summarizes the New York State Freshwater Wetlands Act
21a Encourage funding for the New York State Nonindigenous Aquatic Species Management Plan
21b Develop exotic species curricula
21c Encourage the NYSDEC to implement a ban on the sale of purple loosestrife

Table 10-2
Actions Selected by the Urban Ranking Task Group with the RAP Goals and Objectives

Remedial actions are listed according to their priority, as determined by the Urban Ranking Task Group, with the highest ranking actions being listed first. (See the Chapter 10 section on "Ranking process for possible new remedial measures by the Urban Ranking Task Group," Step #8.)

Four actions are applicable to all of the objectives and are not listed below:

Complete basin water quality plans
Establish not-for-profit organization (education)
Evaluate proposals for new remedial actions
Establish water quality education coordinator position

Goal	Objective	Section Numbers and Names of Actions Selected (HP=High Priority, R-Recommended as indicated in Table 10-1)
Virtual elimination of toxic substances causing fish consumption advisories.	#1: Scheduled elimination of the releases and runoff of persistent toxic substances that necessitate health advisories for the Rochester Embayment.	-Education and identification (PCBs)-R -Scheduled reduction of PCBs in equipment-R -Removal and disposal (PCBs)-R
	#2: Continued monitoring of persistent toxic chemicals which are concentrated in the fish populations within the Rochester Embayment.	See Chapter 9 section on "Monitoring for toxics".
	#3: A formal system is in place which mandates coordination with other RAP jurisdictions in order to develop a schedule for eliminating the discharge of persistent toxic substances.	-Address critical pollutants outside of the Rochester Embayment-R
Public beaches in the Rochester Embayment are open for swimming, based upon best available health and safety standards.	#1: Targeted reduction of beach closures due to human waste contamination of water.	-Establish package plant policy-HP

Goal	Objective	Section Numbers and Names of Actions Selected (HP=High Priority, R-Recommended as indicated in Table 10-1)
Public beaches in the Rochester Embayment are open for swimming. (Continued)	#2: Targeted reduction of beach closures due to stormwater runoff.	-Institute intergovernmental agreement-HP -Develop stormwater wetlands as part of intergovernmental agreements-HP -Expand the highway projects task group-HP -Organize workshop (impervious surfaces)-HP Continue dry basin conversions-HP -Conduct swirl concentrator demonstration project-HP -Develop stormwater wetlands as part of watershed drainage plans-HP -Promote agricultural best management practices-R -Promote the use of biofilters where appropriate-R -Utilize intergovernmental agreements (impervious surfaces)-R -Targeted education (lawn care)-R -Implement homescape program-R -Conduct demonstration project (lawn care)-R -Develop streambank erosion control programs-R
Shorelines and waterways are free of aesthetically objectionable materials.	#1: Reduction of Cladophora algae and zebra mussels within the Rochester Embayment to below nuisance levels.	-Institute intergovernmental agreements-HP -Develop stormwater wetlands as part of intergovernmental agreements-HP -Continue dry basin conversions-HP -Develop stormwater wetlands as part of watershed drainage plans-HP -Maximize phosphorus removal at small wastewater treatment plants-HP -Establish package plant policy-HP -Establish phosphorus loading goal and appropriate permit limits-HP -Literature search on phosphorus emissions from incinerators-R -Promote agricultural best management practices-R -Promote the use of biofilters where appropriate-R -Targeted education (lawn care)-R -Implement homescape program-R -Conduct demonstration project (lawn care)-R
	#2: Continuous improvement of water clarity throughout the Embayment, including the lower Genesee River.	-Institute intergovernmental agreements-HP -Develop stormwater wetlands as part of intergovernmental agreements-HP -Expand the highway projects task group-HP -Organize workshop (impervious surfaces)-HP -Continue dry basin conversions-HP -Develop stormwater wetlands as part of watershed drainage plans-HP -Promote agricultural best management practices-R -Promote the use of biofilters where appropriate-R -Utilize intergovernmental agreements (impervious surfaces)-R -Develop streambank erosion control programs-R

Goal	Objective	Section Numbers and Names of Actions Selected (HP=High Priority, R-Recommended as indicated in Table 10-1)
Shorelines and waterways are free of aesthetically objectionable materials. (Continued)	#3: Virtual elimination of raw or untreated sewage discharges into the Embayment.	-Establish package plant policy-HP
	#4: Maintenance of fisheries' trophic relationships to minimize fish die-offs and fouled beaches.	-Institute intergovernmental agreements-HP -Develop stormwater wetlands as part of intergovernmental agreements-HP -Continue dry basin conversions-HP -Develop stormwater wetlands as part of watershed drainage plans-HP -Maximize phosphorus removal at small wastewater treatment plants-HP -Establish package plant policy-HP -Establish phosphorus loading goal and appropriate permit limits-HP -Literature search on phosphorus emissions from incinerators-R -Promote agricultural best management practices-R -Promote the use of biofilters where appropriate-R -Targeted education (lawn care)-R -Implement homescape program-R -Conduct demonstration project (lawn care)-R
	#5: Waterways free of debris, trash, oil and other visible pollutants.	-Expand the storm message system-HP -Investigate feasibility of remediating material at Brewer St. site-R
Contaminated sediments in the lower Genesee River have no negative impact upon the water quality and biota in the Rochester Embayment; sediment quality is suitable for open lake disposal.	#1: Dredging in the lower Genesee River is restricted to maintenance of established commercial and recreational channels.	-Intergovernmental agreements with US Army Corps of Engineers-HP
	#2: Scheduled elimination of discharges of chemicals that contaminate sediments and harm aquatic life.	-Pollution prevention for small businesses-HP -Substance bans-HP -Initiate pollution prevention efforts-HP -Education and identification (PCBs)-R -Municipalities set pollution prevention example-R -Scheduled reduction of PCBs in equipment-R -Investigate feasibility of remediating material at Brewer St. site-R -Utilize Hazardous Substance Waste Disposal Site Study to promote remediation of local sites-R -Removal and disposal (PCBs)-R -Educate developers regarding contamination in the gorge-R -Antidegradation-R
Water and shore habitats within the Rochester Embayment support thriving fish and wildlife populations.	#1: Maintenance of all present water and shore habitats which are critical to aquatic and terrestrial organisms.	-Outreach to school teachers (wetlands)-HP -Use intergovernmental agreements (habitat)-R -Distribution and presentation of information on wetlands-R -Develop nontraditional partnerships (habitat)-R -Critical habitat along waterways-R -Lake Levels Management Plan-R

Goal	Objective	Section Numbers and Names of Actions Selected (HP=High Priority, R-Recommended as indicated in Table 10-1)
Water and shore habitats support thriving fish and wildlife populations. (Continued)	#2: Prohibition of discharges into the Rochester Embayment which adversely affect aquatic habitats.	-Pollution prevention for small businesses-HP -Substance bans-HP -Initiate pollution prevention efforts-HP -Education and identification (PCBs)-R -Municipalities set pollution prevention example-R -Scheduled reduction of PCBs in equipment-R -Utilize Hazardous Substance Waste Disposal Site Study to promote remediation of local sites-R -Removal and disposal (PCBs)-R -Educate developers regarding contamination in the gorge-R -Antidegradation-R
	#3: Public education programs which focus upon the importance of wetlands and other habitats necessary to support fish and wildlife populations.	-Establish not-for-profit organization (education)-HP -Outreach to school teachers (wetlands)-HP -Workshop for local officials (wetlands)-R -Distribution and presentation of information on wetlands-R
Diversity of plant and animal communities within the Rochester Embayment.	#1: Continuing maintenance and enhancement of animal and plant populations. and #2: Self-sustaining populations of walleye, lake trout, mayfly larvae and fish-eating birds and mammals.	-Pollution prevention for small businesses-HP -Maximize phosphorus removal at small wastewater treatment plants-HP -Substance bans-HP -Outreach to school teachers (wetlands)-HP -Initiate pollution prevention efforts-HP -Establish phosphorus loading goal and appropriate permit limits-HP -Education and identification (PCBs)-R -Use intergovernmental agreements (habitat)-R -Workshop for local officials (wetland)-R -Municipalities set pollution prevention example-R -Distribution and presentation of information on wetlands-R -Scheduled reduction of PCBs in equipment-R -Develop nontraditional partnerships (habitat)-R -Critical habitat along waterways-R -Targeted education (lawn care)-R -Lake Levels Management Plan-R -Conduct demonstration project (lawn care)-R -Utilize Hazardous Substance Waste Disposal Site Study to promote remediation of local sites-R -Removal and disposal (PCBs)-R -Antidegradation-R
	#3: Protective legislation, policies, and enabling powers for appropriate agencies in order to assure maintenance and enhancement of diverse and self-sustaining fish and wildlife populations.	-Substance bans-HP -Antidegradation-R

Goal	Objective	Section Numbers and Names of Actions Selected (HP=High Priority, R-Recommended as indicated in Table 10-1)
Drinking water produced from Lake Ontario has no unusual or unpleasant taste.	Minimal algae blooms in the Embayment.	-Institute intergovernmental agreements-HP -Develop stormwater wetlands as part of intergovernmental agreements-HP -Continue dry basin conversions-HP -Develop stormwater wetlands as part of watershed drainage plans-HP -Maximize phosphorus removal at small wastewater treatment plants-HP -Establish package plant policy-HP -Establish phosphorus loading goal and appropriate permit limits-HP -Literature search on phosphorus emissions from incinerators-R -Promote agricultural best management practices-R -Promote the use of biofilters where appropriate-R -Targeted education (lawn care)-R -Implement homescape program-R -Conduct demonstration project (lawn care)-R
The benthic macroinvertebrate community in the lower Genesee River is not degraded by pollution.	Scheduled elimination of sources of sediment-associated toxic contaminants and other pollutants, including sediments, that impede the survival of a healthy and diverse benthic macroinvertebrate community.	-Pollution prevention for small businesses-HP -Substance bans-HP -Initiate pollution prevention efforts-HP -Education and identification (PCBs)-R -Municipalities set pollution prevention example-R -Scheduled reduction of PCBs in equipment-R -Investigate feasibility of remediating material at Brewer St. site-R -Utilize Hazardous Substance Waste Disposal Site Study to promote remediation of local sites-R -Removal and disposal (PCBs)-R -Educate developers regarding contamination in the gorge-R -Antidegradation-R
The littoral zone of the Rochester Embayment is mesotrophic rather than eutrophic.	#1: The biological community of the Embayment is mesotrophic, as indicated by USEPA lists of phytoplankton indicator species.	-Institute intergovernmental agreements-HP -Develop stormwater wetlands as part of intergovernmental agreements-HP -Continue dry basin conversions-HP -Conduct swirl concentrator demonstration project-HP -Develop stormwater wetlands as part of watershed drainage plans-HP -Maximize phosphorus removal at small wastewater treatment plants-HP -Establish package plant policy-HP -Establish phosphorus goal and appropriate permit limits-HP -Literature search on phosphorus emissions from incinerators-R -Promote agricultural best management practices-R -Promote the use of biofilters where appropriate-R -Targeted education (lawn care)-R -Implement homescape program-R -Conduct demonstration project (lawn care)-R

Goal	Objective	Section Numbers and Names of Actions Selected (HP=High Priority, R-Recommended as indicated in Table 10-1)
The littoral zone of the Rochester Embayment is mesotrophic rather than eutrophic. (Continued)	#2: Scheduled elimination of point and nonpoint discharges that impede survival of a healthy and diverse planktonic community.	-Maximize phosphorus removal at small wastewater treatment plants-HP -Establish phosphorus loading goal and appropriate permit limits-HP
Water from the Embayment and its tributary drainage basins which is used for agricultural and industrial purposes can be used with minimum added cost due to exotic species.	None	None

10.1.2. Monroe County Selected New Remedial Measures: Based on Chapter 7, Possible New Remedial Measures (Urban County)

Table 10-3

EMC	(County) Environmental Management Council
GFLRPC	Genesee/Finger Lakes Regional Planning Council
NRCS	(Federal) Natural Resources Conservation Service
NYSDEC	New York State Department of Environmental Conservation
SWCD	(County) Soil and Water Conservation District(s)
U.S. EPA	U.S. Environmental Protection Agency
WQCC	(County) Water Quality Coordinating Committee(s)
WQMAC	(Monroe County) Water Quality Management Advisory Committee

The highest ranking projects are at the top of the table and descend in ranked order.
(Key for use impairments is shown at the end of the table. Both major and minor impacts of actions are listed.)

Chapter 7 (Urban) Action Name and Number	Use Impair-ments (#) Addressed	Priority/ Timing	Responsible Entity	Funding Sources
23. Complete basin water quality plans	1,3,5,6,7, 8,9,10,11, 12,13,14	High priority	Health Dept, WQMAC, WQCC	NYSDEC, County
9. Institute IGAs	1,3,5,6,7, 8,10,11,14	High priority	County, municipalities	County, municipalities, Aid to Localities
10c. Develop stormwater wetlands as part of IGAs	3,6,7,8,9,10, 11,12,13,14	High priority	County, municipalities	NYSDEC, County, municipalities
10f. Expand Highway Projects Task Group effort	3,6,7,8,9,10, 11,12,13,14	High priority	NYS Dept of Transportation, County, municipalities	Not applicable
11a. Organize impervious surfaces workshop	1,3,5,6,7, 8,9,10,11, 13,14	High priority	Health Dept, County Planning & Development, EMC, private consultants, Planning Council	Registration fees
10a. Continue dry basin conversions	3,6,7,8,9,10, 11,12,13,14	High priority	County, municipalities	U.S. EPA, NYSDEC, County, municipalities

Chapter 7 (Urban) Action Name and Number	Use Impair-ments (#) Addressed	Priority/ Timing	Responsible Entity	Funding Sources
10b. Conduct swirl concentrator demonstration project	3,6,7,8,9,10, 11,12,13,14	High priority	County	NYSDEC, County
10d. Develop stormwater wetlands as part of watershed drainage plans	3,6,7,8,9,10, 11,12,13,14	High priority	County, municipalities	NYSDEC, County, municipalities
4b. Promote pollution prevention among small businesses	1,3,5,6,7,13, 14	High priority	County Planning & Development, County Env. Services, Industrial Management Council, small business assns, Chamber of Commerce, professional societies, WQCC	County, NYSDEC, trade & professional assns, small business assns
13b. Maximize phosphorus removal at small WWTPs	3,8,9,10,11, 13,14	High priority	County, municipalities	County, municipalities
3b. Promote substance ban policy	1,3,5,6,7,13, 14	High priority	WQMAC, County, NYSDEC	County, NYSDEC, U.S. EPA
13e. Establish a policy on package treatment plants	3,8,9,10,11, 13,14	High priority	Health Dept, NYSDEC	County, NYSDEC
22a. Establish a not-for-profit organization for education	1,3,5,6,7,8, 9,10,11,12, 13,14	High priority	County, WQCC, WQMAC	County, grants, memberships, private donations
17d. Make teachers aware of wetlands curriculum	3,8,14	High priority	Colleges, Sea Grant, Cooperative Extension, NYSDEC, teachers assns, school board assns	Colleges, Sea Grant, Cooperative Extension, grants, NYSDEC, teachers assns, school board assns
8. Enact an IGA with the Army Corps of Engineers	1,3,5,6,7,10, 11,13	High priority	County, U.S. Army Corps of Engineers, NYSDEC	County, U.S. Army Corps of Engineers, NYSDEC
4a. Initiate comprehensive pollution prevention efforts	1,3,5,6,7,13, 14	High priority	WQCC, Health Dept, EMC, County Env. Services, Off of Emergency Preparedness, SWCD, WQMAC, industry, academia, NYSDEC	County, NYSDEC, U.S. EPA, businesses, trade assns, foundations

Chapter 7 (Urban) Action Name and Number	Use Impair-ments (#) Addressed	Priority/ Timing	Responsible Entity	Funding Sources
13a. Establish a phosphorus loading goal and WWTP loading limits	3,8,9,10,11, 13,14	High priority	County, WQCC, NYSDEC, municipality	Municipalities, user fees, NYSDEC
6. Expand storm drain message system	1,3,5,6,11,1 3,14	High priority	Health Dept, Dept of Transportation, Cooperative Extension, towns	Grants; contribution of staff time, donations from citizen groups & private corporations
1b. Education and identification of PCB-containing equipment	1,3,5,6,7,14	Recom-mended	Industrial, commercial & municipal entities; public environmental interest groups	County
20b. Use IGAs to protect fish and wildlife habitat	3,6,8,11,14	Recom-mended	County, municipalities	County, Aid to Localities
24. Evaluate proposals for possible new remedial measures	1,3,5,6,7,8, 9,10,11,12, 13,14	Recom-mended	Health Dept, WQMAC, WQCC, nonprofit organization	NYSDEC, County
17a. Workshop for local officials on wetlands	3,8,14	Recom-mended	EMC, Nature Conservancy, Health Dept, County Planning & Development, NYSDEC, SWCD, Fisheries Advisory Board, Planning Council, Town Supervisors Assn.	Grants, contribution of staff time, workshop fees
4c. Municipalities set pollution prevention example	1,3,5,6,7,13, 14	Recom-mended	County, towns, villages	County, towns, villages
2. Promote interaction with the LaMP and other RAPs	1,3,5,6,14	Recom-mended	WQMAC	County, NYSDEC, U.S. EPA
13c. Literature search on phosphorus emissions from incinerators	3,8,9,10,11, 13,14	Recom-mended	Health Dept, County Env. Services	Health Dept, County Env. Services
14. Promote agricultural BMPs	1,3,5,6,7,8, 9,10,11,13, 14	Recom-mended	WQCC, SWCD, Cooperative Extension, NRCS	County, Aid to Localities, foundations, NYS Ag Non-Point Source Grant Program

Chapter 7 (Urban) Action Name and Number	Use Impairments (#) Addressed	Priority/ Timing	Responsible Entity	Funding Sources
17b. Distribute and present wetlands information	3,8,14	Recommended	EMC, Nature Conservancy, NYSDEC	NYSDEC, County, corporate donations
10e. Promote the use of biofilters where appropriate	3,6,7,8,9,10, 11,12,13,14	Recommended	County, municipalities	County, municipalities
1a. Schedule reduction of PCBs in equipment	1,3,5,6,7,14	Recommended; ongoing	Electric utility	Electric utility
20a. Develop nontraditional partnerships to protect habitat	3,6,8,11,14	Recommended	GFLRPC, County, NYSDEC, municipalities, nonprofit organizations	County, municipalities, GFLRPC, grants
22b. Create a water quality education coordinator position	1,3,5,6,7,8, 9,10,11,12, 13,14	Recommended	County, Cooperative Extension, SWCD	County, grants
7a. Investigate feasibility of remediating material at Brewer St. site	1,3,5,6,7,13, 14	Recommended	RG&E, Rochester Pure Waters, County Env. Services	Subject to negotiation
19. Identify and protect critical habitat along waterways	3,8,14	Recommended	WQMAC, EMC, NYSDEC, nonprofit organizations, SWCD, WQCC, Health Dept, County Planning & Development	Aid to Localities, Great Lakes Protection Fund, private donations
11c. Use IGAs to mitigate impacts of impervious surfaces	1,3,5,6,7, 8,9,10,11, 13,14	Recommended	County, municipalities	County
15b. Targeted public education effort on lawn care	1,3,5,6,7,8, 9,10,11,13, 14	Recommended	Cooperative Extension, Health Dept	County, NYSDEC
15c. Implement Homescape program on lawn care	1,3,5,6,7,8, 9,10,11,13, 14	Recommended	Cooperative Extension, Sea Grant, SWCD, County	County, NYSDEC, Great Lakes Protection Fund

Chapter 7 (Urban) Action Name and Number	Use Impair-ments (#) Addressed	Priority/ Timing	Responsible Entity	Funding Sources
18. Lake levels management plan	3,14	Recom-mended	WQCC	Not needed
15a. Conduct demonstration project on lawn care	1,3,5,6,7,8, 9,10,11,13, 14	Recom-mended	Cooperative Extension	County, NYSDEC
5b. Utilize the NYSDEC hazardous substance waste disposal site study	1,3,5,6,7,11, 13,14	Recom-mended	NYSDEC, Waste Site Advisory Comm.	NYSDEC
16a. Develop streambank erosion control programs in watershed drainage plans	3,6,8,10,11, 13,14	Recom-mended	County, municipalities	NYSDEC, County, municipalities
1c. Removal and disposal of PCB-containing equipment	1,3,5,6,7,14	Recom-mended	Industrial, commercial & municipal entities; Monroe Co. Hazardous Waste Collection Facility	Industrial, commercial & municipal entities; local governments
7b. Educate developers about gorge contamination	1,3,5,6,7,13, 14	Recom-mended	Health Dept, EMC, City of Rochester	Developer, responsible party
3a. Promote antidegradation policy	1,3,5,6,7,13, 14	Recom-mended	Monroe County; WQCC, NYSDEC	County, NYSDEC

Use Impairments:
1. Restrictions on fish and wildlife consumption
3. Degradation of fish and wildlife populations
5. Bird or animal deformities or reproductive problems
6. Degradation of benthos
7. Restrictions on dredging activities
8. Eutrophication or undesirable algae
9. Drinking water taste and odor problems
10. Beach closings
11. Degradation of aesthetics
12. Added costs to agriculture or industry
13. Degradation of plankton populations
14. Loss of fish and wildlife habitat

10.2. Rural Counties Selected Remedial Actions

Ranking Process for Possible New Remedial Measures by the Rural Ranking Task Group

Background

Before the Stage I Remedial Action Plan (RAP) was prepared for the Rochester Embayment Area of Concern (AOC), it was decided to take an ecosystem approach and a watershed approach to address the use impairments identified for the Embayment. An ecosystem approach recognizes that air, water and land systems are connected, and that consideration of all possible pollutant sources and transport methods is necessary in order to improve and protect water resources. A watershed approach recognizes that the entire Rochester Embayment watershed must be considered in water quality planning in order to improve and protect the Embayment.

The Rochester Embayment watershed incorporates all or part of nine New York counties: Allegany, Cattaraugus, Genesee, Livingston, Monroe, Ontario, Orleans, Steuben and Wyoming. Monroe County is primarily an urban county. The other counties are rural in character. Pollutant sources in rural counties can be very different from those in an urban county.

In January 1996, members of the Planning Coordination Committee of the Genesee/Finger Lakes Regional Planning Council (GFLRPC) recommended that the rural and urban counties should conduct separate processes for recommending additional remedial measures to address use impairments. The separate processes would result in separate lists of recommended actions. The GFLRPC offered to coordinate the rural ranking process, even though its jurisdiction does not correspond exactly to the eight rural counties.

Rural Ranking Task Group

The Rural Ranking Task Group (RRTG) was formed in March 1996 with the following members:

Robert Costanzo	Genesee County Planning Department
Kier Dirlam	Allegany County; Southern Tier West Regional Planning and Development Board
Warren Hart	Ontario County Planning Department
James Kanouse	Livingston County Health Department
Peter Kanouse	Livingston County Soil and Water Conservation District
Gregory McKurth	Wyoming County Soil and Water Conservation District
Barbara Shilling	Wyoming County Economic Planning and Development
George Squires	Genesee County Soil and Water Conservation District
Ralph Van Houten	Livingston County Health Department
Melissa Weaver	Wyoming County Soil and Water Conservation District
David Woods	Livingston County Planning Department
David Zorn	Genesee/Finger Lakes Regional Planning Council

Cattaraugus, Orleans and Steuben Counties have relatively small areas in the Rochester

Embayment watershed and did not participate.

Several steps during the course of three meetings were necessary to prepare the list of recommendations.

Step #1: Choose the proposed remedial measures in Chapter 7 that are pertinent to the rural counties

Some of the possible new remedial measures listed in Chapter 7 were considered to be not pertinent to the rural counties either because of their geographic location or because the measure is more appropriate for an urban area. The RRTG identified the following Chapter 7 sections as being pertinent for the rural ranking process:

Chapter 7 (*Urban*) Section Name and Number

1. Accelerate PCB removal
2. Promote the New York State Water Quality Enhancement and Protection Policy
4. Promote pollution prevention in the Rochester Embayment watershed
5. Promote proper closure/remediation of landfills and hazardous waste sites
6. Expand the storm drain message system
9. Institute intergovernmental agreements
10. Manage stormwater quality in existing and newly developing urban areas (with the exception of Action B, Conduct swirl concentrator demonstration project and Action F, Expand Highway Projects Task Group effort)
11. Reduce and mitigate impervious surfaces
12. Identify and solve onsite sewage disposal system problems
13. Implement a phosphorus point source management strategy
14. Promote agricultural best management practices
15. Intensify and focus public education effort regarding the proper use of lawn care fertilizers and pesticides
16. Develop streambank erosion control program
17. Educate local officials and public on value of wetlands
19. Identify and restore/enhance/protect critical habitat along waterways
20. Promote the use of local government land use powers to protect fish and wildlife habitat
21. Educate about exotic species introduction
22. Develop public education structure (with the exception of Action A, Establish a local water quality not-for-profit, and Action B, create a water quality education coordinator position; instead substitute a new action)
23. Complete basin water quality plans
24. Continually evaluate proposals for possible new remedial measures

All other Chapter 7 sections were eliminated from the ranking process.

Step #2: Choice of a ranking method

A formal ranking system, similar to that used by the Urban Ranking Task Group, was considered and rejected. The RRTG decided to use a discussion and consensus method instead.

Step #3: Revisions for Chapter 7 (Rural) sections

During discussion, RRTG members discovered that it was often difficult to discuss the actions described in Chapter 7 (Urban) because the actions were written from an urban perspective, or for some other reason did not fit the needs of rural counties. In many cases, the Task Group requested specific revisions that would reflect the rural perspective and include rural solutions.

Discussion revealed the need for revisions to the contents of the following sections:

Chapter 7 (Urban) Section Title	New Title for Rural Counties
Accelerate PCB removal	Investigate the extent of PCB sources and identify and remove PCB-containing equipment
Promote pollution prevention in the Rochester Embayment watershed	Promote pollution prevention
Promote proper closure/remediation of landfills and hazardous waste sites	Identify hazardous waste sites
Institute intergovernmental agreements	Title unchanged (Ranked low both before and after revisions)
Identify and solve onsite sewage disposal system problems	Title unchanged
Implement a phosphorus point source management strategy	Title unchanged
Intensity and focus public education effort regarding the proper use of lawn care fertilizers and pesticides	Educate the public regarding lawn care best management practices that protect water quality
Develop a streambank erosion control program	Implement a comprehensive streambank erosion control program in the rural counties of the Rochester Embayment watershed
Educate local officials and the public on the value of wetlands	Title unchanged
Identify and restore/enhance/protect critical habitat along waterways	Identify and rank critical habitat in and along waterways in the rural counties in the Rochester Embayment watershed
Develop public education structure	Title unchanged
Complete basin water quality plans	Gather data in preparation for watershed plans and a Genesee River basin plan

The other pertinent sections did not need revisions. All the revised sections were subsequently compiled into Chapter 7 (Rural).

Step #4: Consensus on high, medium and low priorities

Immediately following discussion on each action, the RRTG reached a verbal consensus on a high, medium or low priority for the action. The RRTG rankings are shown in Table 10-4. Table 10-5 also shows the the actions in ranked order along with the use impairments addressed, potential responsible entities and potential funding sources.

Step #5: Follow-up activities

The RRTG members stated that follow-up activities would be to:

- Present background information on the RAP ranking process and the ranked list to their county Water Quality Coordinating Committees (WQCCs) and their County legislatures.
- Consider the ranked list in updating county water quality strategy.

The Genesee/Finger Lakes Regional Planning Council may also consider the ranked list in its regional water quality strategy.

Author: Carole Beal

Table 10-4
Preliminary Ranked list of water quality remedial actions associated with the Rochester Embayment Remedial Action Plan (RAP) for the Counties of Allegany, Genesee, Livingston, Ontario and Wyoming

High Priority Actions
Promote antidegradation policy
Expand the storm drain message system
Investigate phosphorus discharge from small wastewater treatment plants
Promote agricultural best management practices
Public education on the proper use of lawn care fertilizers and pesticides by means of targeted public education
Public education on the proper use of lawn care fertilizers and pesticides by means of trained master gardeners
Develop streambank erosion control program
Collect information to initiate a basin water quality plan
Continually evaluate proposals for possible new remedial measures

High or Medium Priority Actions
Investigate the extent of PCB sources
Identify hazardous waste sites
Conduct septic system surveys
Seek funding for septic system repair and replacement and for sewers
Establish a county health department and sanitation code
Conduct septic system educational programs
Develop or maintain a public education structure

Medium Priority Actions
Educate about and identify equipment containing PCBs at commercial, municipal, educational and residential locations
Promote substance ban policy
Promote pollution prevention
Promote the voluntary use of nonphosphate-based alternatives for commercial and residential dishwasher use
Educate local officials and public on value of wetlands

Medium or Low Priority Actions
Identify and rank critical habitats along waterways

Low Priority *Sections or Actions*
Remove and dispose of equipment containing PCBs within commercial, municipal, educational and residential locations
Conduct demonstration project for proper use of lawn care fertilizers and pesticides
Institute Intergovernmental Agreements
Manage stormwater quality in existing and newly developing urban areas (see Chapter 7 Urban)
Reduce and mitigate impervious surfaces (see Chapter 7 Urban)
Promote the use of local government land use powers to protect fish and wildlife habitat (see Chapter 7 Urban)
Educate about exotic introduction (see Chapter 7 Urban)

10.2.2. Rural County Selected New Remedial Measures: Based on Chapter 7, Possible New Remedial Measures (Rural Counties)

Table 10-5

EMC (County) Environmental Management Council(s)
G/FLRPC Genesee/Finger Lakes Regional Planning Council
NRCS (Federal) Natural Resources Conservation Service
NYSDEC New York State Department of Environmental Conservation
SWCD (County) Soil and Water Conservation District(s)
U.S. EPA U.S. Environmental Protection Agency
WQCC (County) Water Quality Coordinating Committee(s)
(Key for use impairments is shown at the end of the table. Both major and minor impacts of actions are listed.)

Chapter 7 (Rural) Action Name and Number	Use Impair-ments (#) Addressed	Priority/ Timing	Responsible entity	Funding Sources
26a. Promote antidegradation policy	1,3,5,6,7, 13,14	High priority	NYSDEC, Counties, WQCCs	NYSDEC, Counties
29. Expand the storm drain message system	1,3,5,6,11,1 3,14	High priority	County health depts, county depts of transportation, Cooperative Extension, towns, nonprofit organizations, community civic groups	Grants, contributions of staff time, donations from citizen groups & private corporations, corporate sponsorship
32a. Investigate phosphorus discharge from small WWTPs	3,8,9,10, 11,13,14	High priority	NYSDEC, counties, regional planning councils, municipalities	NYSDEC, counties, municipalities
33. Promote agricultural best management practices	1,3,5,6,7, 8,9,10,11, 13,14	High priority	SWCDs, NRCS, Cooperative Extension, WQCCs	Counties, Aid to Localities, foundations, NYS Ag Non-point Source Grant Program
34b. Targeted lawn care public education effort	1,3,5,6,7, 8,9,10,11, 13,14	High priority	Cooperative Extension, SWCDs, Counties	Counties, NYSDEC
34c. Implement lawn care Homescape program	1,3,5,6,7, 8,9,10,11, 13,14	High priority	Cooperative Extension, Sea Grant, SWCDs, Counties	Counties, NYSDEC, Great Lakes Protection Fund

Chapter 7 (Rural) Action Name and Number	Use Impair-ments (#) Addressed	Priority/ Timing	Responsible entity	Funding Sources
35. Implement streambank erosion control program	3,6,8,10, 11,13,14	High priority	NYSDEC, counties, WQCCs, SWCDs, NRCS, municipalities	NYSDEC, counties, municipalities
39. Gather data for watershed plans & Genesee basin plan	1,3,5,6,7, 8,9,10,11, 12,13,14	High priority	Regional planning councils, WQCCs, Water Resources Board, NYSDEC	NYSDEC, regional planning councils, Water Resources Board, counties
40. Evaluate proposals for new remedial measures	1,3,5,6,7, 8,9,10,11, 12,13,14	High priority	County WQCC, G/FLRPC	County WQCC, G/FLRPC
25a. Investigate the extent of PCB sources	1,3,5,6,7, 14	High/ medium priority	Electric utility, EMC, health depts, planning dept, regional planning councils, NYS Dept of Health	Electric utility, NYSDEC, U.S. EPA
28. Identify hazardous waste sites	1,3,5,6,7, 11,13,14	High/ medium priority	Hired investigator, regional planning councils, EMCs, health depts, planning depts, WQCCs	U.S. EPA, NYSDEC, Senator Initiatives, Aid to Localities
31a. Conduct septic system surveys	6,8,11,14	High/ medium priority	Health depts, NYS Dept of Health, SWCDs, WQCCs	Counties, NYS Dept of Health, NYSDEC, user fees, inspection fees
31b. Seek funding for septic systems and sewers	6,8,11,14	High/ medium priority	County health depts, WQCCs, planning depts	Counties, NYS Dept of Health
31c. Establish county health dept and sanitation code	6,8,11,14	High /medium priority	County executive, legislature, board of supervisors	Counties, NYS Dept of Health
31d. Septic system education	6,8,11,14	High /medium priority	County health depts, EMCs, Cooperative Extension	Counties, NYS Dept of Health, Cooperative Extension

Chapter 7 (Rural) Action Name and Number	Use Impairments (#) Addressed	Priority/ Timing	Responsible entity	Funding Sources
38. Develop public education structure	1,3,5,6,7, 8,9,10,11, 12,13,14	High/ medium priority	Counties, WQCCs	Counties, grants
25b. Educate about and identify PCB-containing equipment	1,3,5,6,7, 14	Medium	Investigator, commercial & municipal entities, public interest groups, EMCs, Cooperative Extension	Electric utilities, counties, NYSDEC, U.S. EPA
26b. Promote substance ban	1,3,5,6,7, 13,14	Medium	Counties, NYSDEC	Counties, NYSDEC, U.S. EPA
27. Promote pollution prevention	1,3,5,6,7,13, 14	Medium	Regional or county pollution prevention team	Counties, NYSDEC, U.S. EPA, NRCS
32b. Promote the use of nonphosphate-based detergents for dishwashers	3,8,9,10, 11,13,14	Medium	NYSDEC, NYS Dept of Health, regional planning councils, Cooperative Extension, counties, restaurant or food processing industry, professional organizations	NYSDEC, NYS Dept of Health, detergent manufacturer, restaurant or food processing professional organization
36. Educate local officials and the public on the value of wetlands	3,8,14	Medium	NYSDEC, environmental organizations, regional planning councils, EMCs, real estate assns, counties, municipalities, education assns, SWCDs, colleges	NYSDEC, environmental organizations, regional planning councils, EMCs, real estate assns, grants, counties, fees, corporate donations, U.S. EPA, colleges, education assns
37. Identify and rank critical habitat along waterways	3,8,14	Medium/ low	Counties, NYSDEC, nonprofit organizations	Counties, NYSDEC, Aid to Localities, Great Lakes Protection Fund, private foundations

Use Impairments:

1. Restrictions on fish and wildlife consumption
3. Degradation of fish and wildlife populations
5. Bird or animal deformities or reproductive problems
6. Degradation of benthos
7. Restrictions on dredging activities
8. Eutrophication or undesirable algae
9. Drinking water taste and odor problems
10. Beach closings
11. Degradation of aesthetics
12. Added costs to agriculture or industry
13. Degradation of plankton populations
14. Loss of fish and wildlife habitat

10.3. Ranking Process for Studies and Monitoring Methods by the Studies and Monitoring Task Group

The Great Lakes Water Quality Agreement, as amended in 1987, requires:

- "A definition and detailed description of the environmental problem in the Area of Concern."
- "A description of surveillance and monitoring processes to track the effectiveness of remedial measures and the eventual confirmation of the restoration of uses."

Chapter 4 of the Stage II RAP describes the studies that have been proposed to further our understanding about the existence or cause of an environmental problem (use impairment). Chapter 9 describes the monitoring methods that have been proposed to track the effectiveness of the remedial measures that have been chosen (see the Chapter 10 section on "Ranking Process for Possible New Remedial Measures").

The Studies and Monitoring (SAM)Task Group was formed to evaluate and make recommendations about which studies and which monitoring methods should be given the highest priority for implementation. The Task Group was designed to include people with a broad range of technical and scientific expertise.

The SAM Task Group was formed in July 1996 with the following members:

Margit Brazda	Monroe County Department of Health, Environmental Health Division; Monroe County Water Quality Management Advisory Committee (WQMAC); Monroe County Water Quality Coordinating Committee (WQCC)
Betty Lou Brett	Nazareth College; WQMAC
Richard Burton	Monroe County Department of Health, Environmental Health Laboratory; WQCC
Richard Elliott	Monroe County Department of Health, Environmental Health Division; WQCC
Chris Fredette	WQMAC; Monroe County Environmental Management Council; Rochester Committee for Scientific Information
James Haynes	State University of New York (SUNY) College at Brockport
Thomas Klein	Xerox Corporation; WQMAC; Council of Great Lakes Industries
Joseph Makarewicz	SUNY College at Brockport
Gary Neuderfer	New York State Department of Environmental Conservation (NYSDEC)
James Nugent	Monroe County Water Authority; WQCC
Jerrold Poslusny	Eastman Kodak Company; WQMAC
Michael Ruszczyk	Eastman Kodak Company; WQMAC; Industrial Management Council
Paul Sawyko	Rochester Gas and Electric Corporation; WQMAC
Michael Schifano	Monroe County Department of Environmental Services; WQCC
William Smith	Bergmann Associates; WQMAC; New York Water Environment Association
David Zorn	Genesee/Finger Lakes Regional Planning Council; WQMAC; WQCC

Several steps during the course of three meetings were necessary to prepare two lists of recommendations, one for studies and one for monitoring methods.

Step #1:Adoption of ranking systems

The SAM Task Group achieved consensus on a ranking process for the studies and monitoring methods (see Appendix G). Each member of the Task Group was to give the studies numerical scores for merit, quality of results and cost. It was also agreed to give the monitoring methods numerical scores for merit, quality of monitoring data and five-year cost.

Step #2: Data management

A total score for each Task Group member for every study and monitoring method was calculated according to the pertinent formula (studies or monitoring) shown in Appendix G. The Task Group decided that the average total score for the Group should be calculated for each study and monitoring method, as well as the standard deviation. The full range of individual total scores, average total scores and standard deviations were displayed at subsequent meetings on wall sheets.

Step #3: Debates discussion

The Task Group decided to schedule short debates on each study and monitoring method. The debaters for each topic were the persons who gave the highest and lowest total score for the topic. Both the assigned debaters and possible alternate debaters were named in advance of the debate meetings so that they would have preparation time. The order of the debates was determined by the standard deviations. The debates for the studies were conducted first, followed by the debates for the monitoring methods. The debates began with the study or monitoring method that had the highest standard deviation (and therefore the greatest difference of opinion) and continued down to the study or monitoring method that had the lowest standard deviation. This was done so that, if the Task Group ran out of time, the debates could be discontinued leaving undebated only the studies or monitoring methods for which there was the greatest agreement. Each debate followed the same schedule:

1 minute	High perspective presentation
1 minute	Low perspective presentation
2 minutes	Comments from other Task Group members

Step #4: Voting

At the end of each debate, the Task Group members voted for either a "high" or "low" priority for the study or monitoring method that had just been presented. The percentage of the number of members voting "high" was recorded. Abstentions were not included in the percentage. The percentage voting "high" for the studies is shown in Table 10-6. The percentage voting "high" for the monitoring methods is shown in Table 10-7.

Step #5:Meaning of results

The Task Group achieved consensus on the meaning of the "high" and "low" votes. Every study and monitoring method was considered worthy of implementation, and none was to be removed from the final list of recommendations. At the "high" end of the lists, funding and commitment

for the study or monitoring method is intended to be pursued aggressively. At the "low" end of the list, the study or monitoring method will be pursued if and when an opportunity for funding and commitment occurs. The Task Group did not attempt to draw a line between "high" and "low".

The "0" votes on four of the monitoring methods should not be interpreted as "no recommendations." The "0" votes were qualified in the following ways:

a. Establish sediment quality goals for the Rochester harbor at the mouth of the Genesee River and sample sediments to monitor progress toward the goals (2a): This monitoring method should *not* be performed as a separate method, but should be incorporated into monitoring method 1c, Benthic and water-column chironomid larvae deformities.

b. Measure phosphorus at defined sampling sites in the littoral zone of the Rochester Embayment (3a): This monitoring method needs alteration in its design, i.e. more sampling, which will increase the costs. The additional sampling sites will be defined at a later date.

c. Local atmospheric deposition monitoring (4): The parameters of this monitoring method should be expanded to include bioaccumulative chemicals of concern and other parameters. The parameters will be defined at a later date.

d. Monitoring of events at the Akzo Nobel Salt Mine (16): It was the opinion of the Task Group that this activity is already being done by the NYSDEC. (The NYSDEC monitors permit-related activities, but not water quality effects downstream of the Mine.)

It was agreed that more detail needed to be added to the monitoring methods. This detail will be added during the implementation phase. (See the Chapter 11 section on "Strategy for obtaining additional funding and commitments to actions".)

Table 10-6
Studies and Monitoring Task Group
Ranking of Studies (see Chapter 4)

(Percentage indicates the percentage of the Task group members that voted "high priority" for a study or monitoring method. Abstentions are not included in the percentage. Number denotes Chapter 4 section number.)

%	
100	Does the Lake Ontario portion of the Rochester Embayment suffer from degradation of benthos? (#5)
85	Are phytoplankton and zooplankton populations in the Lake Ontario portion of the Rochester Embayment impaired? (#7)
69	Genesee River erosion study(#4)
67	Verify whether or not fish in the Area of Concern have a chemical flavor or odor (#1)
67	Incidence of fish tumors or other deformities in the Rochester Embayment watershed (#3)
33	Estimate the loadings of cadmium and lead from tires (#8)
11	Investigate whether contaminants affect the benthic community in the lower Genesee River (#6)
8	Verify whether a fishless segment exists in the lower Genesee River (#2)
7	Update pollutant loadings of the Genesee River and treatment plants (#10)
0	Quantify cyanide loadings to air (#9)

Two additional studies were originally proposed:

- Effect of zebra mussels on water quality and the food chain.
- Contaminant impacts on black tern populations in the Rochester Embayment watershed.

It was determined by the WQMAC and confirmed by the SAM Task Group that studies on these two topics were not appropriate. See the Chapter 3 sections by the same names.

Table 10-7
Studies and Monitoring Task Group
Ranking of Monitoring Methods (see Chapter 9)

(Percentage indicates the percentage of the Task group members that voted "high priority" for a study or monitoring method. Abstentions are not included in the percentage. Number denotes Chapter 9 section number.)

%	
100	Levels of bioaccumulative chemicals of concern (BCCs) in resident biota (#1a)
100	Species diversity and abundance of benthic and water-column macroinvertebrates (#1b)
100	Benthic and water-column chironomid larvae deformities (#1c)
100	Measure phosphorus loading trends from the Genesee River at an agricultural and an urban location to learn their relative contributions (#3b)
100	Determine the status of seeps on the face of the Lower Falls (#8a)
100	Use volunteers to collect and monitor litter in and along waterways (#9)
100	Status of phytoplankton and zooplankton populations in the lower Genesee River portion of the Rochester Embayment (#12)
100	Implement citizen monitoring of stream habitat (#13b)
100	Monitor road salt usage (#17b)
91	Monitor enforcement efforts for NYSDEC SPDES permits for stormwater discharges (#14c)
90	Continue Monroe County Water Authority monitoring of turbidity for the Lake portion of the Rochester Embayment (#10a)
90	Build upon the existing Marsh Monitoring Program and the proposed Reference Wetlands System to monitor wetland habitat quality and quantity in the Rochester Embayment watershed (#13a)
90	Utilize intern to develop and conduct water quality survey (#15a)
88	Coordinate with professional pollster to conduct water quality survey (#15b)
83	Obtain data from U.S. Army Corps of Engineers on results of required sediment sampling in the Rochester harbor (#2b)
80	Monitor other seeps in the Genesee River gorge (#8b)
80	Compile and interpret data from existing habitat monitoring programs (#13c)
73	Beach closings (#6)
73	Continue monitoring zebra mussel population trends as part of inspection of water intakes (#11b)
70	Continue monitoring of turbidity in the lower Genesee River portion of the Embayment (#10b)

70 Create a centralized and easily accessible database for all high-quality water quality data produced within Monroe County (#18)

66 Establish volunteer environmental watchdogs (#14b)

58 Prepare periodic status reports on *Cladophora* in Lake Ontario (#3c)

56 Monitor chloride concentrations in the Salmon Creek/Braddock Bay system (#17a)

45 Establish volunteer *Cladophora* watches (#7)

38 Document changes in permit limits for chemicals on the list of High Priority Pollutants when permits of Rochester Embayment watershed facilities are renewed (#14a)

33 Use aerial photography to monitor *Cladophora* beds (#3d)

23 Conduct a survey of Monroe County businesses on the impacts of raw water turbidity on the cost of doing business (#10c)

18 Conduct a survey of county or regional industries, agriculture and golf courses on the impact of zebra mussel on the cost of doing business (#11a)

0 Establish sediment quality goals for the Rochester harbor at the mouth of the Genesee River and sample sediments to monitor progress toward the goals (#2a):Merge with #1c

0 Measure phosphorus at defined sampling sites in the littoral zone of the Rochester Embayment (#3a):Additional sampling is suggested

0 Local atmospheric deposition monitoring (#4): Expand the parameters

0 Monitoring of events at the Akzo Nobel Salt Mine(#16): Being conducted by the NYSDEC

(No new programs are proposed for monitoring drinking water taste and odor problems. See #5.)

10.4. Environmental Review for the Stage II Remedial Action Plan

The New York State Department of Environmental Conservation (NYSDEC), as lead agency for the State Environmental Quality Review (SEQR) of the Rochester Embayment Remedial Action Plan (RAP), determined that the Stage I RAP will not have a significant adverse environmental impact. The NYSDEC also certified to the U.S. Environmental Protection Agency (EPA) that the Stage I RAP is part of the State's Water Quality Plan.

Monroe County and the NYSDEC have completed separate environmental assessments for the preparation of the Stage II RAP. This action is considered "unlisted" pursuant to SEQR. An unlisted action is one that does not fit into either the Type I or Type II list contained within SEQR.

The Monroe County Department of Health, as preparer of the RAP, conducted a generic assessment that focused on the broad issues contained in the Stage II RAP. As implementation occurs, additional environmental review may be necessary to comply with SEQR. Monroe County has issued a negative declaration on the final Stage II RAP, meaning that it will *not* have a significant adverse effect on the environment. The NYSDEC has also issued a negative declaration for the Stage II RAP, and has certified to the U.S. EPA that the Stage II RAP is part of the State's Water Quality Plan.

(See Appendix H for Monroe County SEQR documents.)

Author: Carole Beal, Thomas Goodwin

Chapter 11: Management of Remedial Action Plan Implementation

11.1 Background

The Great Lakes Water Quality Agreement requires that RAPs include "an identification of the persons or agencies responsible for implementation of remedial measures" and "a process for evaluating remedial measure implementation and effectiveness". The purpose of Chapter 11 is to:

- describe the roles of the agencies and organizations associated with the implementation of the Rochester Embayment RAP;
- describe the relationships among the various agencies and organizations associated with the RAP;
- outline the process that will be used to obtain commitments to implement and fund the selected remedial actions, studies, and monitoring programs as listed in Chapter 10 "Selected Remedial Measures, Studies, and Monitoring Methods";
- outline RAP implementation funding strategies;
- outline the process that will be used to track implementation of the RAP;
- outline the process that will be used to propose and evaluate additional remedial actions, studies, and monitoring methods as required;
- describe the role of public participation in RAP implementation and the process by which public participation will be facilitated.

11.2 RAP implementation - institutional structure

The roles of the agencies and organizations involved in the implementation of the Rochester Embayment RAP, and the relationships among these entities, are outlined in charts 11-1.a. and 11-1.b.

Chart 11-1.a. outlines the roles of the binational, federal, state, and regional agencies and organizations involved in the implementation of the RAP. In the chart, there are no lines connecting these agencies and organizations because they do not report to one another. Generally, the role of the federal and state agencies is to (1) provide funding to implement remedial measures, studies, and monitoring actions and to (2) provide technical assistance to the various implementors at the local level. In contrast, the role of the binational and regional agencies generally involves coordinating and facilitating water quality programming at the level of the Great Lakes Basin or the region/watershed.

Chart 11-1.b. outlines the roles and relationships among the county-level organizations involved in the implementation of the RAP. Generally, the role of these county-level organizations is to oversee or implement the remedial measures, studies, and monitoring actions. Please note that not all of the rural counties have active WQCCs. In the absence of an active WQCC, the agency that provides coordination of water quality activities (Soil and Water Conservation District, County Health Department, or County Planning Department) may perform those functions assigned to the WQCC.

Chart 11-1.a. RAP Implementation - Institutional Structure

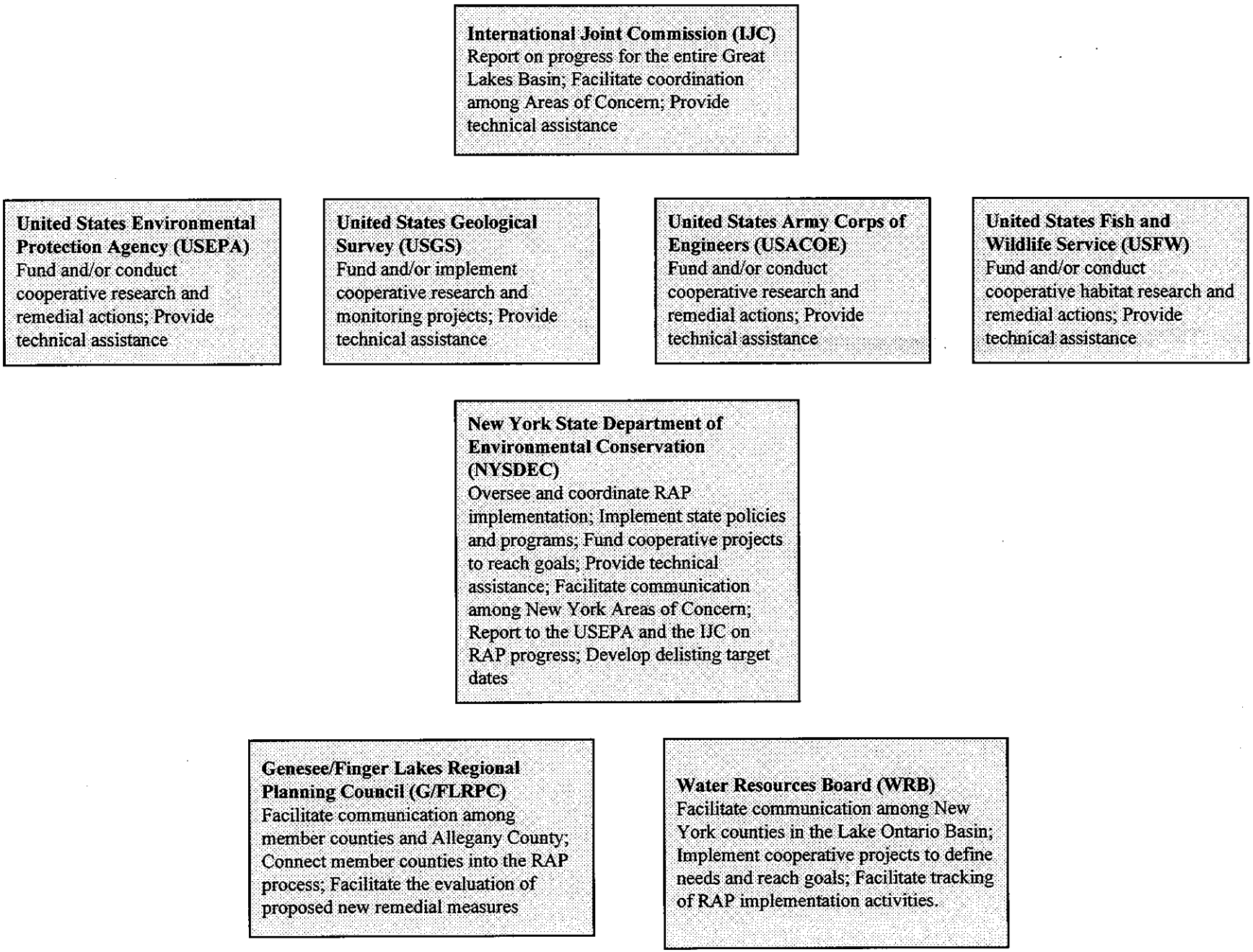
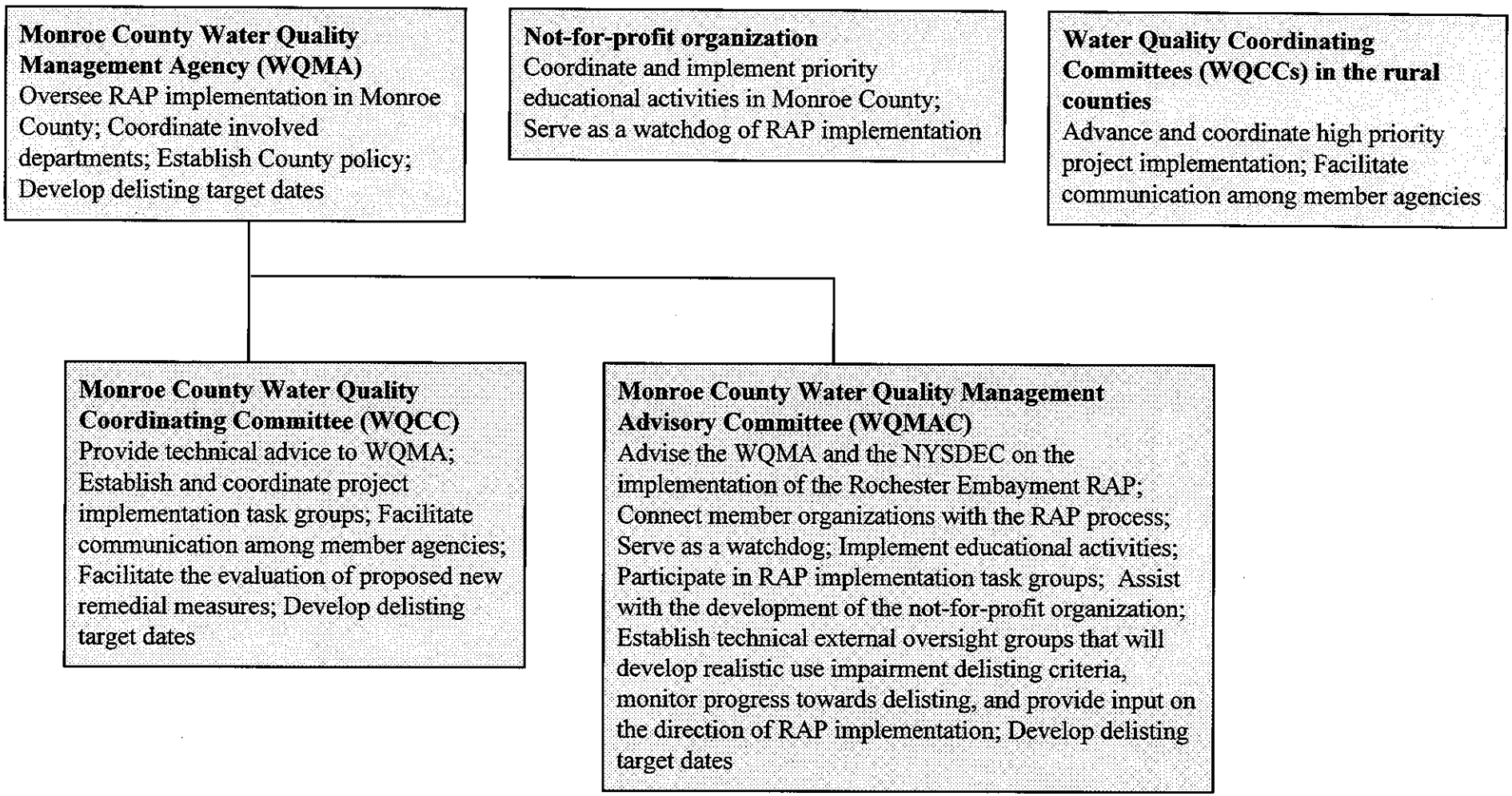


Chart 11-1.b. RAP Implementation - Institutional Structure



11.3 Process for Obtaining Funding and Commitments to Action

The steps that will be taken to obtain project funding and commitments to implement the selected remedial measures, studies, and monitoring actions are outlined in Charts 11-2.a. (Monroe County) and 11-2.b. (rural counties). Generally, this process involves incorporating the selected RAP actions into existing water quality programs, creating task groups to facilitate implementation, communicating with possible implementors, securing funding, and obtaining commitments.

Chart 11-2.a. Process for securing funding and obtaining commitments to implement selected remedial measures, studies, and monitoring actions in *Monroe County*

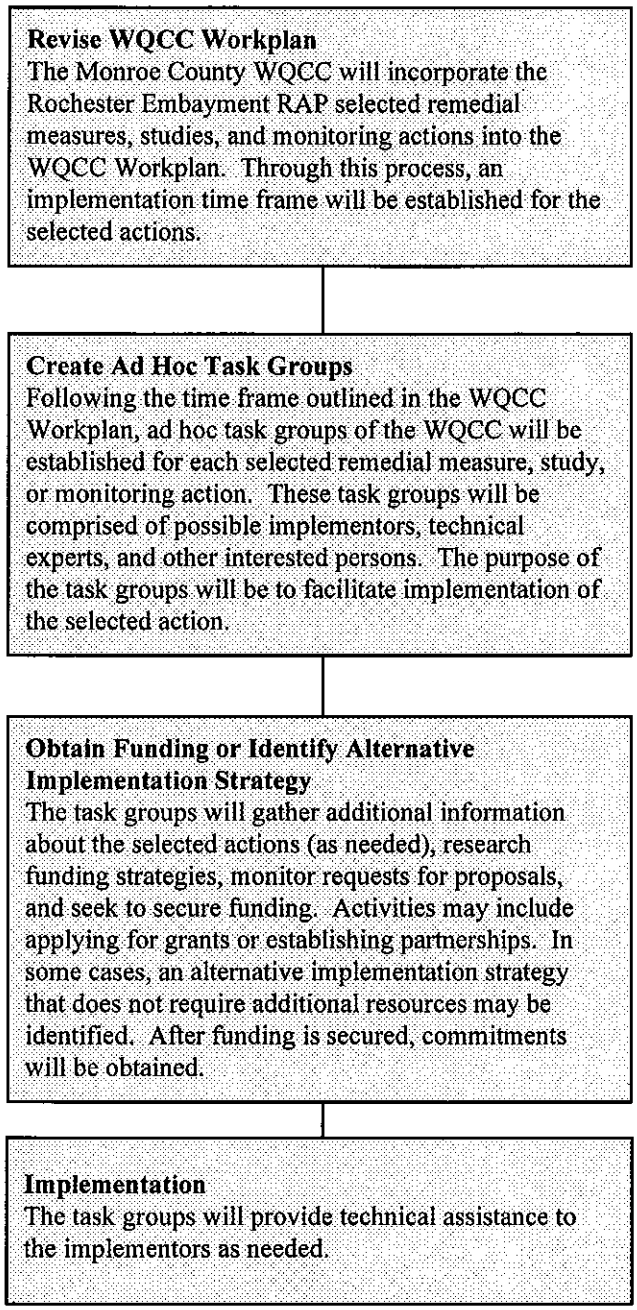
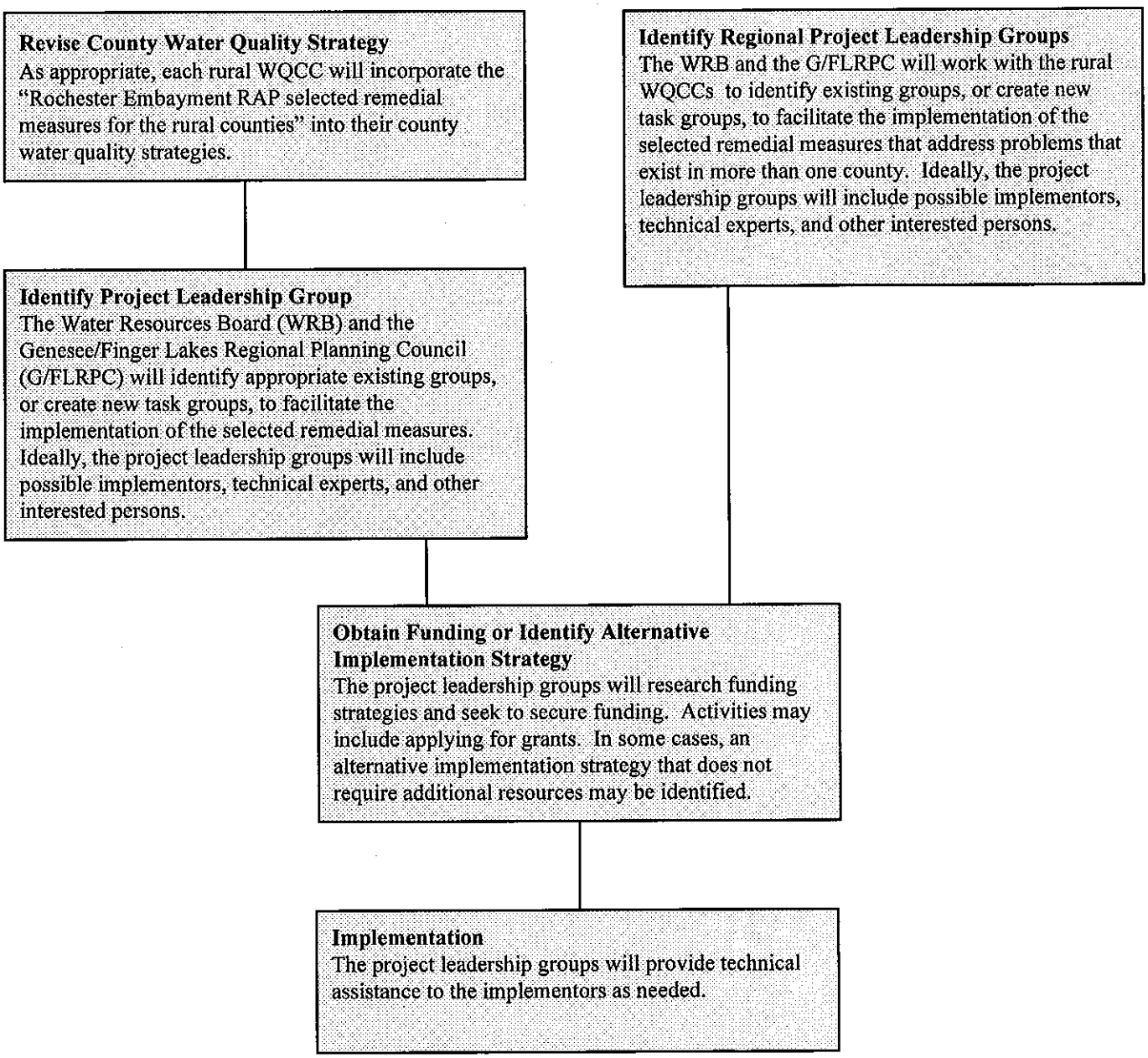


Chart 11-2.b. Proposed process for securing funding and obtaining commitments to implement selected remedial measures, studies, and monitoring actions in the *rural counties*



11.4 Funding strategy

11.4.1 Monroe County

The **general**[1] Rochester Embayment RAP funding strategy for Monroe County consists of the following five sub-strategies:

- Participate in the Finger Lakes - Lake Ontario Watershed Protection Alliance (FL-LOWPA)
- Create partnerships
- Pursue grants
- Establish a not-for-profit organization
- Investigate the use of special districts as part of the development of intergovernmental agreements (IGAs)

11.4.1.1 FL-LOWPA

The Monroe County WQCC, through Monroe County's membership in the FL-LOWPA, will seek funding to implement the selected remedial measures, studies, and monitoring actions. Implementation of the Rochester Embayment, Eighteen Mile Creek, and Oswego River RAPs is a major focus of the FL-LOWPA.

11.4.1.2 Partnerships

The Monroe County WQCC will facilitate the creation of formal and informal partnerships to implement the selected remedial measures, studies, and monitoring actions. A partnership is a voluntary, consensus-based coalition of organizations, agencies, and individuals convened in order to advance a specific project. For additional information regarding the partnerships concept, see Chapter 8 "Evaluation/Overview of Financing Mechanisms".

11.4.1.3 Grants

The Monroe County WQCC and its member agencies will seek grants from federal and state agencies and private foundations to fund the selected remedial measures, studies, and monitoring actions. For additional information regarding possible federal and state grant sources, see Chapter 8 "Evaluation/Overview of Financing Mechanisms" Part C "Accessing Funds from Existing Sources".

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[1] Ad hoc task groups of the Monroe County WQCC will be established in order to facilitate implementation of the selected remedial measures, studies, and monitoring actions. Each of these task groups will develop a specific funding strategy for the action they are seeking to implement. For additional information regarding these task groups, see section 3 "Process for Obtaining Funding and Commitments to Action".

11.4.1.4 Not-for-profit organization

The Monroe County WQCC, with assistance from the WQMAC, will establish a not-for-profit organization that will conduct its own fund raising to advance the selected actions that involve public education and stewardship building. For additional information regarding not-for-profit organizations, see the Chapter 7 section entitled "Develop Public Education Structure" and Chapter 8 "Evaluation/Overview of Financing Mechanisms".

11.4.1.5 Special districts

Monroe County and the municipalities will continue to explore the possibility of creating special districts as part of the ongoing process of establishing water quality intergovernmental agreements. The purpose of these special districts would be to finance stormwater management activities. If Monroe County and the municipalities ultimately decide to create special districts, these districts could provide a significant revenue source for RAP stormwater management implementation activities. For additional information regarding special districts, see Chapter 8 "Evaluation/Overview of Financing Mechanisms" Part A.2. "Special District Task Group" and Part B.1. "Special districts".

11.4.2 Rural counties

The Rochester Embayment RAP funding strategy for the rural counties in the watershed consists of the following sub-strategies:

- Participation in the FL-LOWPA
- Pursuit of grants
- Implementation of joint projects through the G/FLRPC and/or the WRB

11.4.2.1 FL-LOWPA

The WQCCs in the rural counties (or, in the absence of an active WQCC, the agency that coordinates water quality programming), through their counties' membership in the FL-LOWPA, will seek funding to implement the selected remedial measures, studies, and monitoring actions. Implementation of the Rochester Embayment, Eighteen Mile Creek, and Oswego River RAPs is a major focus of the FL-LOWPA.

11.4.2.2 Grants

The WQCCs in the rural counties and their member agencies will seek grants from federal and state sources and private foundations to fund the selected remedial measures, studies, and monitoring actions. For additional information regarding possible federal and state grant sources, see Chapter 8 "Evaluation/Overview of Financing Mechanisms" Part C "Accessing Funds from Existing Sources".

11.4.2.3 Joint projects

The WQCCs in the rural counties, with assistance from the G/FLRPC and/or the WRB, will jointly advance implementation of selected remedial measures. The participation of a number of counties in the cooperative implementation of a single project will make it more affordable. Several possible joint projects were identified as part of the process of ranking new remedial measures in the rural counties. For additional information regarding the rural ranking process, see Chapter 10 "Selected Remedial Measures, Studies, and Monitoring Methods". Additional possible joint projects may be identified through the G/FLRPC's proposed Regional Water Quality Strategy process.

11.5 Mechanism to Track RAP Implementation

11.5.1 Background

As the Rochester Embayment RAP moves into the implementation phase, there will be a need to track implementation of the selected remedial measures, studies, and monitoring actions. The purpose of this tracking will be to (1) ensure that the selected actions are, in fact, being implemented, (2) communicate information regarding implementation to stakeholders, and (3) monitor progress in achieving RAP goals/objectives and the delisting of use impairments. This tracking will be achieved through both existing and new processes including the Monroe County Water Quality Management Advisory Committee (WQMAC) and a number of Water Resources Board programs. The advantage of using existing processes to track RAP implementation is that it will minimize the amount of staff time that will be required and will avoid any duplication of effort. Some of these processes will need to be slightly modified in order to facilitate the tracking of RAP implementation.

11.5.2 The Water Resources Board of the Finger Lakes Association, Inc. - Background Information

The Water Resources Board (WRB) is an alliance of 24 counties in the Lake Ontario Basin and is the governing body of the Finger Lakes - Lake Ontario Watershed Protection Alliance (FL-LOWPA).

11.5.2.1 Mission Statement

The WRB's mission is as follows:

Section 1 - The Water Resources Board is an alliance of counties which actively promotes basin-wide cooperation to maintain and improve water quality in the Finger Lakes - Lake Ontario region of New York State by:

- Exchanging information on progress toward water quality goals and the effectiveness of management practices;
- Convening an annual public conference to:

  Promote consensus-based watershed visions and five-year implementation schedules;

  Track water quality improvement and renew implementation schedules;

  Create and foster partnerships among all levels of public and private interests to

carry out action plans.

Section 2 - The WRB will contract on behalf of its members with the New York Department of Environmental Conservation for grants; and in addition, will contract with other state, federal, or private agencies.

11.5.2.2 WRB Administration

The WRB is comprised of one county-appointed voting representative, and an alternate, from each of the 24 member counties. The Board elects four officers for two year terms: Chair, Vice-Chair, Secretary, and Treasurer. The full Board meets three times each year. In addition, the representatives within each region (western, central, and eastern) meet three times each year. The WRB also has an Executive Committee consisting of the four elected officers and three elected regional representatives.

A majority vote of those members present at Full Board and Executive Committee meetings is sufficient for the adoption of any resolution or the conducting of any business.

11.5.2.3 WRB Finances

The WRB operates on the basis of grants received and in-kind contributions from member counties. The WRB establishes a budget for the purposes of financing the general administrative expenses of the Board. The budget is established by a majority vote of the full Board.

Beginning in the 1996 fiscal year, each member county will receive an equal share of funds allocated by the New York State Legislature ($1.2 million in fiscal year 1996).

11.5.2.4 The FL-LOWPA Program

FL-LOWPA is an alliance of 24 New York State counties in the Lake Ontario Basin. The FL-LOWPA program is designed to facilitate the development and implementation of coordinated and dynamic whole-watershed management programs; exchange information on the status of surface water quality in the region; and address local water priorities.

The FL-LOWPA evolved from the former Finger Lakes Aquatic Vegetation Control Program (AVCP). Originally, the AVCP was primarily an aquatic weed harvesting program. However, over the years, it evolved into a comprehensive, watershed-based pollution prevention program. Since 1984, the AVCP was funded through the New York State (NYS) Legislature as a member item. However, with the lack of funding during the 1994 fiscal year, it became clear that in order to ensure program continuity, the AVCP could no longer rely on an annual member item.

Therefore, a long-term effort was initiated to develop a more stable funding base. In 1995, a proposal to institutionalize the program through the formation of a FL-LOWPA was adopted.

The Alliance expands the geographic scope of the program to include the entire Lake Ontario Basin within New York State. All of the New York State counties in the Lake Ontario Basin were invited to join the 18 counties of the WRB. As of the summer of 1996, six (out of seven) of the counties in the Basin that were not already members of the WRB have elected to join the alliance. The Institutionalization of the program will take place in three phases.

Year 1: Transitional funding at the $1 million level would be sought for the 18 member counties

Year 2: An increase in funding to the $1.5 million level would be sought in order to allow expansion of the program to include the seven counties in the Lake Ontario Basin but not currently members of the WRB.

Long term vision: Create a 25-county Finger Lakes - Lake Ontario Watershed Protection Alliance using state enabling legislation.

11.5.3 Tracking Process

A number of new and existing processes will be used to track implementation of the RAP. These include a delisting target date task group, technical external oversight committees, workshops, newsletters, reports, and conferences. In some cases, these processes will need to be expanded or modified in some other way in order to effectively track RAP implementation.

11.5.3.1 Delisting Target Date Task Group

A "Delisting Target Date Task Group" will be established in order to develop the following goals.

- A separate delisting target date for each of the groupings of use impairments (toxics, eutrophication, drinking water, and habitat) in the Rochester Embayment
- A delisting target date for when the Rochester Embayment will be delisted as an Area of Concern (AOC)

These goals will help to give the public an idea of the timeframe involved in remediating our water quality problems and will help track the progress of RAP implementation.

The Task Group could be comprised of the Chairs (or his/her designee) and/or representatives from the following committees and agencies.

- Monroe County Water Quality Management Advisory Committee (WQMAC)
- Monroe County Water Quality Coordinating Committee (WQCC)
- Monroe County Water Quality Management Agency (WQMA)
- New York State Department of Environmental Conservation (NYSDEC)

Responsibility for coordinating the Task Group would rotate among the involved committees and agencies.

Initially, the Task Group will conduct the following research.

- Research the delisting process/evaluate experiences in other Areas of Concern
- Gauge IJC attitudes regarding delisting
- Determine the implications of delisting.

By December of 1997, the Task Group will develop preliminary delisting target dates. These dates will be provided to the Oversight Committees (as described below), in order to aid their work. The Task Group's final product, to be completed by May of 1998, will be a refined delisting target date which will be presented to the WQMAC and the WQCC for review. The WQMAC and the WQCC will make a recommendation regarding the target date to the WQMA and the NYSDEC. The Task Group would reconvene every five years in order to refine the target date based upon experience and input from the Oversight Committees.

11.5.3.2 Technical Oversight Committees

Technical Oversight Committees will be established in order to perform the following functions.

- Develop realistic and achievable delisting criteria
- Monitor progress towards delisting the use impairments
- Provide input on the direction of RAP implementation
- Keep the RAP process current

An Oversight Committee will be established for each of the groupings of use impairments (toxics, eutrophication, drinking water, and habitat) by September 1997. Each of the Committees will be modeled on the Priority Pollutant Task Group and include representatives from the WQMAC, WQCC, and academia. The Committees could function as subcommittees of the WQMAC. That is, the Oversight Committees could be appointed by the WQMAC and report to the WQMAC. The Committees could be chaired as follows.

- The Toxics Committee could be co-chaired by the Industrial Management Council and an environmental group such as the National Wildlife Federation
- The Eutrophication Committee could be chaired by the Director of the Monroe County Environmental Health Laboratory
- The Drinking Water Committee could be chaired by the Director of the Environmental Health Division of the Monroe County Health Department
- The Habitat Committee could be chaired by a local academic with expertise in habitat issues

By November 1997, the Oversight Committees will develop preliminary realistic and achievable use impairment delisting criteria and key result measures. These criteria will be submitted to the Delisting Target Date Task Group for use in developing the preliminary delisting target date. By March of 1998, the Oversight Committees will develop complete delisting criteria and key result measures. These criteria will be used by the Delisting Target Date Task Group to develop the refined target date. The Oversight Committees will then submit the proposed delisting criteria to the WQMAC and the WQCC for review. After reviewing the criteria, the WQMAC and the WQCC will submit them to the WQMA and the NYSDEC for review and/or adoption.

Once the delisting criteria have been adopted, the Oversight Committees will, on an annual basis, review monitoring data and issue a report (during Water Week) to the WQMAC, WQCC, WQMA, and the NYSDEC regarding progress towards delisting. In addition, the Oversight Committees will report on progress by means of the proposed Six Year Progress Report (the first such Report is proposed to be completed in 2003) and at the Water Resources Board's annual fall conference.

Because many of the Oversight Groups' members would be from outside of Monroe County government, they could provide an objective evaluation of the progress that is being made towards delisting and provide recommendations regarding the direction of RAP implementation. Also, because the Committees would serve as a formal link with the academic community, they would keep the RAP process current and serve as "peer reviewers" of RAP implementation activities.

11.5.3.3 Annual WRB/NYSDEC Spring Workshop

The annual WRB Spring Workshop is a one-day mini-conference for Board members and their colleagues. The workshop provides a forum for participants to share information regarding water quality topics. The workshop is sponsored by one of the three WRB regions (Western, Central, Eastern) and is shifted to a new region each year.

Every third year, when the Spring Workshop is sponsored by the WRB Western region (Allegany, Genesee, Monroe, Niagara, Orleans, Steuben, and Wyoming counties), Rochester Embayment RAP implementation activities will be the topic for some of the sessions. Possible topics for these sessions include the following.

- An overview of progress regarding the implementation of the selected remedial measures, studies, and monitoring activities.
- Information regarding specific local implementation activities.
- Information regarding implementation of stewardship building remedial measures. A Monroe County Water Quality Management Advisory Committee (WQMAC) representative could make this presentation.

In addition, posters will be developed for each of the RAP implementation activities and displayed at the Workshop. The posters will provide attendees with an introduction to the different implementation activities. Also, a written summary of the conference will be developed and distributed in order to educate the community regarding RAP implementation.

11.5.3.4 Occasional Newsletter

- On an occasional basis, the Monroe County Health Department will publish a colorful, several page "Rochester Embayment RAP Implementation" newsletter. The newsletter

will be similar in style to the water quality newsletter jointly published by the Monroe County Health Department with the United States Geological Survey. Possible topics that could be covered by the newsletter include the following.

- remedial measures, studies, and/or monitoring activities that have been initiated
- study and/or monitoring results summarized in the form of graphs
- progress towards achieving goals/objectives and/or delisting use impairments
- actions that citizens can take to improve water quality

The newsletter will be distributed in the community at various community events, public meetings, etc.

11.5.3.5 Six-Year RAP Progress Report

The Monroe County Health Department will develop a "Six-Year RAP Progress Report" in coordination with the United States Geological Survey (USGS) Water-Data Report.

Currently, Monroe County has a cooperative agreement with the USGS.

- The Monroe County Environmental Health Laboratory (EHL) collects water quality and flow data for surface waters within Monroe County, meeting USGS standards for data collection and analysis.
- USGS stores the data on the USGS database and incorporates Monroe County data in its annual USGS Water-Data Report. Every five years USGS publishes an interpretative report that also includes the Monroe County data. The interpretation is jointly conducted by the USGS and Monroe County.

It is the goal of the EHL to publish the interpretative report every three years in accordance with the following schedule:

1989-1993 data by 1997
1994-1996 data by 1998
1997-1999 data by 2000
2000-2002 data by 2003
2003 - 2005 data by 2006
etc.

Therefore, the first Six-Year RAP Progress Report would be published in 2003 in order to coordinate with the three-year USGS interpretative report. The development of the RAP Progress Report will require the active involvement of NYSDEC staff, the Monroe County WQCC, the WQMAC (including the technical external oversight committees), and representatives of the rural counties. The report would contain the following types of information:

- Descriptions of the remedial measures that have been implemented in each of the counties within the Rochester Embayment Watershed
- Descriptions of studies that have been implemented (including an interpretation of the results)
- Descriptions of new monitoring programs that have been implemented including a summary of the data that was generated and an interpretation of the data
- Summary of USGS interpretive reports
- Description of progress in achieving RAP goals and objectives
- Description of progress in delisting use impairments for the Rochester Embayment Area of Concern (with input provided by the WQMAC and the technical external oversight committees)
- Implementation status of the selected remedial measures, studies, and monitoring actions
- Descriptions of new remedial measures that have been analyzed and/or adopted as part of the RAP process
- Outline of progress in implementing the Monroe County RAP funding strategy and the rural counties RAP funding strategy
- Descriptions of WQMAC public outreach and educational activities
- Recommendations from the WQMAC/oversight committees regarding the direction of RAP implementation

A colorful, "user-friendly", 20-page summary of the Six-Year RAP Progress Report will also be developed. The format of the summary may be similar to the water quality newsletter jointly published by the Monroe County Health Department in cooperation with the USGS. The RAP

Progress Report and summary will be distributed in the community at various events, public meetings, etc.

11.5.3.6 Water Resources Board Annual Conference

Since 1992, the WRB has sponsored an annual conference. The conference functions as a **public** forum to develop consensus visions and cooperative watershed management strategies. The focus of the conference is cycled according to the following schedule.

Year	Conference Focus
1995	Keuka and Canandaigua Lakes
1996	Lake Ontario / Embayments / Genesee and Oswego Rivers
1997	Cayuga and Seneca Lakes
1998	Honeoye, Canadice, Hemlock, Conesus, and Silver Lakes
1999	Otisco, Skaneateles, and Owasco Lakes
2000	Repeat cycle

When the focus of the conference is Lake Ontario and the Genesee River (2001, 2006, etc.), RAP implementation will be a primary component of the conference. Possible conference session topics include the following.

- An overview of the implementation status of the selected RAP remedial measures, studies, and monitoring actions
- Remedial measures that have been initiated
- WQMAC activities
- Possible new remedial measures that have been proposed
- Studies and results
- Monitoring programs and an interpretation of the data
- Progress towards achieving RAP goals/objectives
- Progress towards the delisting of Use Impairments in the Rochester Embayment Area of Concern

Tables 11-1.a. and 11-1.b. provide a schedule of the activities related to tracking the implementation of the Rochester Embayment RAP. The primary purpose of the tables is to provide the reader with a **very tentative** schedule of when the different RAP tracking activities may occur and how they may relate to one another.

Table 11-1.a. Tentative Schedule of Activities - The Establishment of a Delisting Target Date, the Development of Realistic Delisting Criteria, and the Oversight/Tracking of RAP Implementation - Short-Term Tasks

Activity	Implementor	Date								
		9 - 97	10 - 97	11 - 97	12 - 97	1 - 98	2 - 98	3 - 98	4 - 98	5 - 98
Establish a Delisting Target Date Task Group	Monroe County Health Dept Bureau of Water Quality Planning	X								
Establish Four Oversight Committees	Monroe County Health Dept Bureau of Water Quality Planning	X								
Conduct a joint meeting of the Four Oversight Committees	Monroe County Health Dept Bureau of Water Quality Planning	X								
The Oversight Committees will establish preliminary delisting criteria	Members of the Oversight Committees with staff support from the Monroe County Health Dept Bureau of Water Quality Planning			X						
Conduct a joint meeting of the Oversight Committees with the Delisting Target Date Task Group	Monroe County Health Dept Bureau of Water Quality Planning			X						

Activity	Implementor	Date								
		9 - 97	10 - 97	11 - 97	12 - 97	1 - 98	2 - 98	3 - 98	4 - 98	5 - 98
The Delisting Target Date Task Group will establish preliminary delisting target dates	Members of the Task Group with staff support from the Monroe County Health Dept Bureau of Water Quality Planning				X					
Issue a RAP Implementation Newsletter	Monroe County Health Dept Bureau of Water Quality Planning				X					
The Oversight Committees will finish establishing realistic and achievable use impairment delisting criteria and key result measures	Members of the Oversight Committees with staff support from the Monroe County Health Dept Bureau of Water Quality Planning							X		
The Delisting Target Date Task Group will develop refined delisting target dates	Members of the Task Group with staff support from the Monroe County Health Dept Bureau of Water Quality Planning									X

Table 11-1.b. Tentative Schedule of Activities - The Establishment of a Delisting Target Date, the Development of Realistic Delisting Criteria, and the Oversight/Tracking of RAP Implementation - Long-Term Tasks

Activity	Implementor	Date						
		1999	2000	2001	2002	2003	2004	2005
Oversight Committees will review monitoring data and issue a report	Members of the Oversight Committees with staff support from the Monroe County Health Department Bureau of Water Quality Planning and the Environmental Health Laboratory	X	X	X	X	X	X	X
Report on RAP implementation at the Water Resources Board's annual spring workshop	Monroe County Health Dept Bureau of Water Quality Planning	X			X			X
Issue a RAP implementation newsletter	Monroe County Health Dept Bureau of Water Quality Planning	X	X	X	X	X	X	X
Report on RAP implementation at the Water Resources Board's annual conference	Monroe County Health Dept Bureau of Water Quality Planning			X				

Activity	Implementor	Date						
		1999	2000	2001	2002	2003	2004	2005
Reconvene the Delisting Target Date Task Group in order to refine the target dates	Monroe County Health Dept Bureau of Water Quality Planning				X			
Publish a Six Year RAP Implementation Progress Report	Monroe County Health Dept with assistance from the members of the Oversight Committees, the WQMAC and the NYSDEC					X		

11.6 Process for Evaluation of New Proposed Remedial Measures

11.6.1 Monroe County

11.6.1.1 Introduction

The Monroe County WQMAC anticipates that many possible new remedial measures, studies and monitoring activities will be proposed during the Stage II RAP review process and during the implementation phase of the RAP (Stage III). The value of each new proposal deserves the same consideration for potential implementation as the proposals presented in Chapters 4 (studies), 7 (remedial measures) and 9 (monitoring) of the Stage II RAP.

11.6.1.2 Process

A review process will be conducted every three years for possible new remedial measures, studies, and monitoring activities. The first review period should begin in 1997. It would include remedial measures, studies and monitoring activities proposed during the review of the Stage II RAP. After the 1997 review period, there would be review periods every three years.

The process for review will be as follows:

The person responsible for the proposal should submit the proposal in writing with as much detail included as possible (see Stage II RAP Chapter 7 sections for information needed). The proposal should be submitted to:

- The WQMAC, c/o Monroe County Department of Health Water Quality Planning staff (for proposals that affect Monroe County).
- The Genesee/Finger Lakes Regional Planning Council or the Finger Lakes\Lake Ontario Watershed Protection Alliance (for proposals that affect rural counties).

If a proposal is presented verbally at a public meeting, the name of the person responsible and a telephone number should be recorded, so that a written proposal or more information can be requested.

The proposal will be held in a file until the next review period. During the holding time, additional information can be added, if needed. The proposal can also be sent during this time to appropriate reviewers for their comments, and can be revised accordingly. The author of the proposal must be involved in the revision process. During the holding time, it may be desirable to periodically distribute a list of proposals to WQMAC, the Monroe County WQCC, WRB, G/FLRPC, and the NYSDEC.

The proposal could be evaluated during the next review period either by an ad hoc committee of the WQCC or by a task group comprised of:

- At least 2 WQMAC members.
- At least 1 WQCC member.

- At least one Monroe County official.
- At least one NYSDEC official.
- At least one town official, if an action to be implemented by towns is proposed.
- A representative of any other proposed implementor.

The review process will be somewhat similar to the 1996 ranking process for Chapter 7 actions, but there will also be some differences:

- The proposal will be given a score according to the final criteria adopted during the 1996 ranking. However, the scoring process will be more important than the actual score. The process will lead the task group to consider the criteria of cost, benefit, feasibility and popularity for each proposal.
- When several proposals are being considered simultaneously, each will be considered on its own merits. An actual ranked list will have less importance than in the 1996 ranking process because there may not be a great number or diversity of proposals. In some review periods, all proposals may be recommended; in other review periods, none may be recommended.
- In making recommendations, the task group may want to use the range of scores for "recommended" actions in the 1996 ranking process as a guideline for additional actions to be recommended.
- The final product of the task group will be a list of "recommended" actions and a list of "not recommended" actions. Items on the "not recommended" list should be filed; they may become more appropriate during some future year.
- The process of developing the lists will be documented.

The "recommended" list and "not recommended" list will be presented to the full WQMAC and the full WQCC for their review and changes. The WQMAC and the WQCC will then present their "recommended" lists to the Monroe County Water Quality Management Agency (WQMA) and NYSDEC, in a manner similar to the 1996 process.

11.6.2 Rural counties

Municipal and county agencies tend to work through their county WQCCs. Proposals could be brought to the county WQCC for inclusion in the county Water Quality Strategy. In this way, new actions would be considered as funding becomes available.

If a particular action concerns more than one county, it may be brought to the G/FLRPC, either through the Planning Coordination Committee (PCC) or as part of the proposed Regional Water Quality Strategy process. In either case, it would then become part of the coordination component of the G/FLRPC Water Quality Program. G/FLRPC would then take the lead responsibility for updating the action or developing the proposal.

11.7 Public Participation during RAP Implementation

11.7.1 Monroe County

Throughout the Rochester Embayment RAP development process, it has been recognized that public participation is essential. During the development of the Stage II RAP, a number of strategies were used to facilitate public participation including the WQMAC, review teams, ranking committees, and public meetings. These strategies are described in Chapter 1 "Introduction" and Chapter 10 "Selected Remedial Measures, Studies, and Monitoring Methods".

As the Rochester Embayment RAP moves into the implementation phase, public participation will be essential in order to build support for the funding of remedial measure implementation. In addition, as discussed in the Chapter 7 section "Develop Public Education Structure", many causes of nonpoint source water pollution are associated with citizen actions. Therefore, there is a tremendous need to educate and involve the public in programs to improve water quality.

The primary strategy to facilitate public participation during the implementation phase of the RAP program will be the WQMAC (see Chart 11-1.b.). For example, the WQMAC will be involved in the process of evaluating new remedial measures as described in section 6. WQMAC members may also participate in the ad hoc WQCC implementation task groups. In addition, a number of possible WQMAC educational and public participation strategies are listed in the above mentioned Chapter 7 section.

Public participation in RAP implementation may also be facilitated through a local water quality not-for-profit organization. If such an organization is established, its primary purpose will be to coordinate and implement water quality educational activities in the Rochester Embayment Watershed (see Chapter 7 section "Develop Public Education Structure"). As part of this process, it could educate the public about the Rochester Embayment RAP and encourage citizens to become involved in the process.

11.7.2 Rural counties

The WQCCs in the rural counties in the Rochester Embayment Watershed, the G/FLRPC, and the NYSDEC regional offices will be responsible for coordinating public participation associated with their RAP implementation activities.

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Glossary

Glossary

Adipose tissue: Connective tissue in which fat is stored and which has the cells distended by droplets of fat.
Adsorption: The adhesion in an extremely thin layer of molecules to the surfaces of solid bodies or liquids with which they are in contact.
Advisory (New York State health advisory for fish consumption): Annual New York State Department of Health advisory, based on monitoring of fish tissue, that recommends fish consumption limits for specific species caught in specific bodies of water. Waterfowl and snapping turtles are included in the advisory.
Anthropogenic: Relating to or resulting from the influence of humans on nature.
Area of Concern: One of the 43 specific areas on the Great Lakes, particularly harbors and bays, where the International Joint Commission has identified serious water quality problems. (One AOC has since been "delisted.")
Autofertilization: recycling of nutrients in the natural environment.
Benthos: Community of organisms living on the bottom of a body of water.
Best Management Practices: Agricultural best management practices are proven strategies custom designed to prevent or reduce the availability, release or transport of substances that adversely affect surface and groundwater quality.
Bioaccumulation: The net accumulation of a substance by an organism as a result of uptake from all environmental sources.
Bioaccumulation factor: The ratio of a substance's concentration in tissue of an aquatic organism to its concentration in the ambient water, in situations where both the organism and its food are exposed and the ratio does not change substantially over time.
Bioaccumulative chemical of concern: Any chemical that has the potential to cause adverse effects and accumulates in aquatic organisms by a bioaccumulation factor greater than 1000. Toxic transformation products and other factors are considered in the calculation. Bioaccumulative chemicals of concern are listed in the federal Water Quality Guidance for the Great Lakes System (Great Lakes Guidance).
Bioconcentration: The net accumulation of a substance by an aquatic organism directly from water.
Bioconcentration factor: The ratio of a substance's concentration in tissue of an aquatic organism to its concentration in the ambient water.
Biodiversity: A measure of the number and variety of different organisms in ecosystems that may be used to identify the ecosystem's health.
Bioengineering: Biological or medical application of engineering principles or engineering equipment.
Biomagnification: Process of increasing concentrations of bioaccumulated chemicals due to movement up the food chain.
Chironomid: Any of a family of midge flies (*Chironomidae*) that lack piercing mouthparts.
Chromatography: A process in which a chemical mixture carried by a liquid or gas is separated into components as a result of differential distribution of the solutes as they flow around or over a stationary liquid or solid phase.
Cladophora: A genus of filamentous green algae commonly known as "maidens hair" which provides shelter and breeding habitat to many aquatic invertebrates and, in excessive quantities,

causes unsanitary beach conditions.
Coliform: The type of bacilli commonly found in the intestines of humans and other vertebrates.
Combined sewer overflow: When a sewer, intended to receive both wastewater and storm or surface water, overflows without treatment, usually following rainstorms.
Control: A parallel to an experiment, in which the agent being tested is omitted. It is used as a standard for comparison.
Cultural eutrophication: Progressive enrichment of a body of water due to human-caused activities.
Degradation: A decline to a state of lower quality.
Dielectric: A nonconductor of direct electric current but can sustain an electric field.
Dioxin: A highly toxic family of synthetic chemicals, formed when chlorinated compounds are burned, or during paper manufacturing when chlorine, used as a bleaching agent, reacts with compounds in the wood lining.
Discharge Restriction Categories: Categories added to the New York State water use classification system to define sensitive waters that cannot assimilate the effects of additional wastewater discharges or additional discharges of specified substances.
Dredging: A method for deepening waterways by scraping and removing solids from the bottom.
Dry basin: A detention basin that retains stormwater for short periods of time only during large storm events. Between storm events, the basin is dry.
Ecosystem: The interacting system of biological communities (plants and animals, including humans) and their environment.
Ecosystem approach: A planning approach that recognizes that all of our systems (air, water, land) are connected, and that calls for consideration of all possible pollutant sources and transport methods in any plans to protect and/or improve water resources.
Effluent: A discharge of pollutants into the environment, partially or completely treated or completely untreated. Generally used in regard to discharges to waters.
Environmental Notice Bulletin (ENB): Official weekly publication of the New York State Department of Environmental Conservation for government officials and environmental professionals concerned with environmental policy and local and state government actions in New York State.
Environmental Protection Agency: Established in 1970, the U.S. Environmental Protection Agency sets and enforces national standards for air and water quality and the management of solid and hazardous waste. It also regulates pesticides and toxic substances, examines the causes and effects of environmental problems, and helps states and local governments deal with environmental issues. The EPA is charged with restoring and maintaining the physical, biological and chemical integrity of the Great Lakes ecosystem.
Epilimnion: The upper layer of warm water in a stratified lake.
Eutrophic: Describes the state of some lakes and ponds with high productivity due to dissolved nutrients, such as phosphates, that stimulate the growth of aquatic plant life. This condition usually results in the depletion of dissolved oxygen.
Eutrophication: The normally slow aging process by which a lake evolves into a bog or marsh and ultimately assumes a completely terrestrial state and disappears. Although it occurs naturally, eutrophication can accelerate when human activity adds nutrients, such as phosphate detergents and inorganic fertilizers, to the water. These nutrients stimulate the growth of algae, which will

eventually die, settle to the bottom and decompose. Decomposition of the plant material uses up oxygen and can make water intolerable for fish and other aquatic creatures.

Exotic species: Describes plants or animals that are not native to a specific environment, but have been introduced, intentionally or inadvertently, by human activity.

Goal: A statement of purpose about the end result (desired state of being) of a proposed management activity.

Great Lakes Water Quality Agreement: The U.S.-Canadian Agreement, signed in 1972 and modified in 1978, that describes the objectives of the two countries for restoring and maintaining the chemical, physical and biological integrity of the waters of the Great Lakes Basin.

Great Lakes Water Quality Guidance: The Guidance developed by the U.S. Environmental Protection Agency to meet requirements of the Clean Water Act as amended by the Great Lakes Critical Programs Act of 1990.

Great Lakes Water Quality Initiative: A project initiated by the U.S. Environmental Protection Agency to provide a forum for the Great Lakes States and EPA to develop uniform water quality criteria and implementation procedures. Resulted in the Great Lakes Water Quality Guidance.

Groundwater: Subsurface water from which wells and springs are fed. The term generally applies only to water below the water table.

Habitat: The sum total of environmental conditions of a specific place that is occupied by an organism, a population or a community.

Heterotrophic: Describes an organism that cannot create its own food and relies on other organisms for food.

Hydric: Relating to or requiring an abundance of moisture.

Hydrophobic: Lacking an attractive force for water.

Hypolimnion: The lower layer of cold water in a stratified lake.

Impairment of beneficial use(s): A change in the chemical, physical or biological integrity of the Great Lakes System sufficient to cause any of the following:

Restrictions on fish and wildlife consumption;
Tainting of fish and wildlife flavor;
Degradation of fish and wildlife populations;
Fish tumors or other deformities;
Bird or animal deformities or reproduction problems;
Degradation of benthos;
Restrictions on dredging activities;
Eutrophication or undesirable algae;
Restrictions on drinking water consumption, or taste and odor problems;
Beach closings;
Degradation of aesthetics;
Added costs to agriculture or industry;
Degradation of phytoplankton and zooplankton populations;
Loss of fish and wildlife habitat.

International Joint Commission: The Commission, established by the United States and Canada in the Boundary Waters Treaty of 1909, that makes binding decisions regarding water uses that affect Great lakes levels or flows on either side of the border. Also investigates Great Lakes issues at the request of the two federal governments, provides advice on issues of water

quality and quantity, and encourages cooperation among different government jurisdictions.
Littoral: Relating to or situated or growing on or near a shore.
Lipid: Substance that is soluble in nonpolar organic solvents, including fat.
Littoral zone: Nearshore area where light penetration is adequate to support plant life (depth of approximately 10-15 meters).
Loading: The amount of a material that enters a water body per unit of time, such as pounds/year.
Macroinvertebrates: Aquatic animals without backbones that are large enough to be seen with the unaided eye. The most common macroinvertebrates are aquatic insects, crustaceans, worms and mollusks.
Major source: A source of 10 tons per year of any hazardous air pollutant listed by the Clean Air Act or 25 tons per year of any combination of such pollutants. (The definition of "major source" differs for different categories of chemicals.)
Mesotrophic: Describes a lake or pond having a moderate amount of dissolved nutrients and moderate productivity.
Metalimnion: The narrow stratum between the epilimnion and hypolimnion in a stratified lake; a stratum of rapidly changing temperature.
Microbiological: Dealing with microscopic forms of life.
Microgram: One-millionth of a gram.
Mirex: Dodecachloropentacyclodecane. Used as an insecticide and a fire retardant. Now banned for use in the United States.
Morphology: The form and structure of an organism or any of its parts.
Multi-media: Incorporates all types of pollution (air, land, water).
Multimedia pollution prevention: A source reduction program at a facility that incorporates all types of pollution (air, land, water).
Nanogram: One-trillionth of a gram.
Neoplasia: A tumorous condition.
Nonindigenous species: Describes plants or animals that are not native to a specific environment, but have been introduced, intentionally or inadvertently, by human activity.
Nonpoint sources: Sources of pollutants that enter the environment and cannot be traced to a single, identifiable point. Examples include atmospheric deposition, erosion and runoff from parking lots, streets and farms.
Oligotrophic: Describes lakes or ponds that are deficient in plant nutrients and low productivity.
Passerine: Of or relating to the largest order of birds that consists chiefly of songbirds of perching habits.
Persistent toxic substance: A chemical with a half-life (the time required for the concentration of a substance to diminish to one-half of its original value) in water of greater than eight weeks that can cause death, disease, behavioral abnormalities, cancer, genetic mutations, physiological or reproductive or physical deformities in any living species or its offspring. The chemical can become poisonous after concentration in the food chain or in combination with other substances.
pH: A measure of acidity and alkalinity of a solution that is a number on a scale on which a value of 7 represents neutrality. Lower numbers indicate increasing acidity and higher numbers indicate increasing alkalinity. Each unit of change represents a tenfold change in acidity or alkalinity.
Phytoplankton: Microscopic algae suspended in that part of the water column of lakes and seas

that is penetrated by light.
Point source: A source of pollution that can be easily identified, such as a municipal sewer outfall or industrial discharge pipe.
Polycyclic aromatic hydrocarbons: Compounds composed entirely of carbon and hydrogen, with two or more rings containing multiple conjugated double bonds.
Pollutant: Any substance that directly or indirectly creates an adverse human health or environmental effect when introduced into any environmental media.
Pollution prevention: Source reduction or other practices that reduce the amount of pollutants that enter the waste stream prior to out-of-process recycling, treatment or disposal.
Ponar: A sediment dredging appliance.
Precision goals: A series of goals established by the U.S. Environmental Protection Agency for deviation of plankton identification and enumeration results between duplicates. Precision is expressed in units of relative percent difference.
Raptors: Birds of prey.
Raw water: Water that is drawn directly from surface water or groundwater and has not been treated.
Remedial action: Corrective action; remedy.
Remedial Action Plan: The plan, required by the International Joint Commission and produced for an Area of Concern, that lists specific water quality problems, and describes methods for correcting them and the means by which the solutions will be implemented.
Remediation: Corrective action; remedy.
Runoff: Stormwater flow over natural and manmade surfaces.
Sanitary sewers: Sewers that carry only domestic or commercial sewage. Stormwater runoff is carried in a separate system.
Sentinel species: A species found only in environments having certain set characteristics, and therefore that indicates the nature of the environment in which it is found.
Septic system: Sewage treatment and disposal for homes and other buildings not connected to sewer lines. Usually the system includes a tank and drain field. Solids settle to the bottom of the tank; liquid percolates through the drain field.
Source reduction: Any activity that eliminates or decreases wastes by avoiding their creation, typically by materials substitution, process design, or product redesign.
SPDES (State Pollution Discharge Elimination System) permit: Permit granted to a facility by the New York State Department of Environmental Conservation that limits the amounts and concentrations of pollutants in wastewater, with the purpose of assuring that State water quality standards are met.
Storm sewers: Sewers that collect and transport rain and snow runoff. In areas that have sanitary sewers, stormwater is not mixed with sanitary sewage.
Sublethal: Damaging to an organism, but not causing death.
Swirl concentrator: A device that, when installed in a storm sewer, uses centrifugal force to concentrate solids and direct them to a sanitary sewer.
Teratogen: An agent that causes developmental malformations in organisms.
Teratogenicity: Likelihood of a substance causing developmental malformations in organisms.
Toxic chemical: Any substance which can cause death, disease, behavioral abnormalities, cancer, genetic mutations, physiological or reproductive malfunctions or physical deformities in any organism or its offspring, or which can become poisonous after concentration in the food

chain or in combination with other substances.
Toxic substance: See "toxic chemical".
Urban runoff: Stormwater from city streets and gutters that usually contains a great deal of litter and organic and bacterial waste.
Use impairment: A change in the chemical, physical or biological integrity of the Great Lakes system that causes a degradation of water quality, habitat or wildlife populations, or a restriction in a water use.
Wastewater disposal district: A special district that can be established by towns or counties under Chapter 388 of the Laws of New York. The purpose of the district is for planning, installation, rehabilitation, replacement, operation and maintenance (including pumping and inspections), monitoring, and regulation of private onsite wastewater disposal systems.
Watershed: A region or area bounded peripherally by a divide and draining ultimately to a particular watercourse or body of water.
Virtual elimination: An overall strategy, applying to all media and all sources, that requires different approaches, some preventative and some remedial, to control or eliminate different inputs and *in situ* contamination. Specifically, virtual elimination is defined as achieving an absence of injury, and achieving the goals of restoring and maintaining ecosystem health.
Zooplankton: Microscopic aquatic animals.

Acronyms and Abbreviations

Acronyms and Abbreviations

AOC	Area of Concern
BAF	Bioaccumulation factor
BCC	Bioaccumulative chemical of concern
BMPs	Best Management Practices
BOD	Biological Oxygen Demand
COE	(U.S.) Army Corps of Engineers
CSO	Combined sewer overflow
CSOAP	Combined sewer overflow abatement project
DDE	Dichlorodiphenyl dichloroethylene (banned pesticide)
DDT	Dichlorodiphenyl trichloroethane (banned pesticide)
DRC	Discharge Restriction Categories
EPA	(U.S.) Environmental Protection Agency
FDA	(U.S.) Food and Drug Administration
FIFRA	Federal Insecticide, Fungicide and Rodenticide Act
GCO	Gates-Chili-Ogden Wastewater Treatment Plant
GIS	Geographic information systems
GLI	Great Lakes (Water Quality) Initiative
GLWQA	Great Lakes Water Quality Agreement
HAP	Hazardous air pollutant
α-HCH	Hexachlorocyclohexane (the prefix designates the isomer, or structural arrangement)
IGA	Intergovernmental agreement
IJC	International Joint Commission
LaMP	Lakewide Management Plan
LOTMP	Lake Ontario Toxics Management Plan
mgd	Million gallons per day
mg/l	Milligrams per liter
µg/l	Micrograms per liter
M2P2	Multi-media pollution prevention
MCDOH	Monroe County Department of Health
NRCS	Natural Resources Conservation Service (a federal agency)
NYCRR	New York Code of Rules and Regulations
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
P2	Pollution prevention
PAH	Polycyclic aromatic hydrocarbon
PCBs	Polychlorinated biphenyls
PISCES	Passive In-Situ Chemical Extraction Samplers
POTW	Publicly owned treatment works
ppm	Parts per million
RAP	Remedial Action Plan
RG&E	Rochester Gas and Electric Corporation

RIBS	(New York State Department of Environmental Conservation) Rotating Intensive Basin Studies
SPDES	(New York) State Pollution Discharge Elimination System
STP	Sewage treatment plant
SWCD	Soil and Water Conservation District
TCDD	Tetrachlorodibenzo-p-dioxin (preceding numbers 2,3,7,8 designate where chlorine atoms are attached to the rest of the molecule)
TCDF	Tetrachlorodibenzofuran (preceding numbers 2,3,7,8 designate where chlorine atoms are attached to the rest of the molecule)
TRI	Toxics Release Inventory
TSCA	(Federal) Toxic Substances Control Act
WQEPP	(New York State) Water Quality Enhancement and Protection Policy
WQMAC	(Monroe County) Water Quality Management Advisory Committee
WSAC	(Monroe County) Waste Site Advisory Committee
WWTP	Wastewater treatment plant