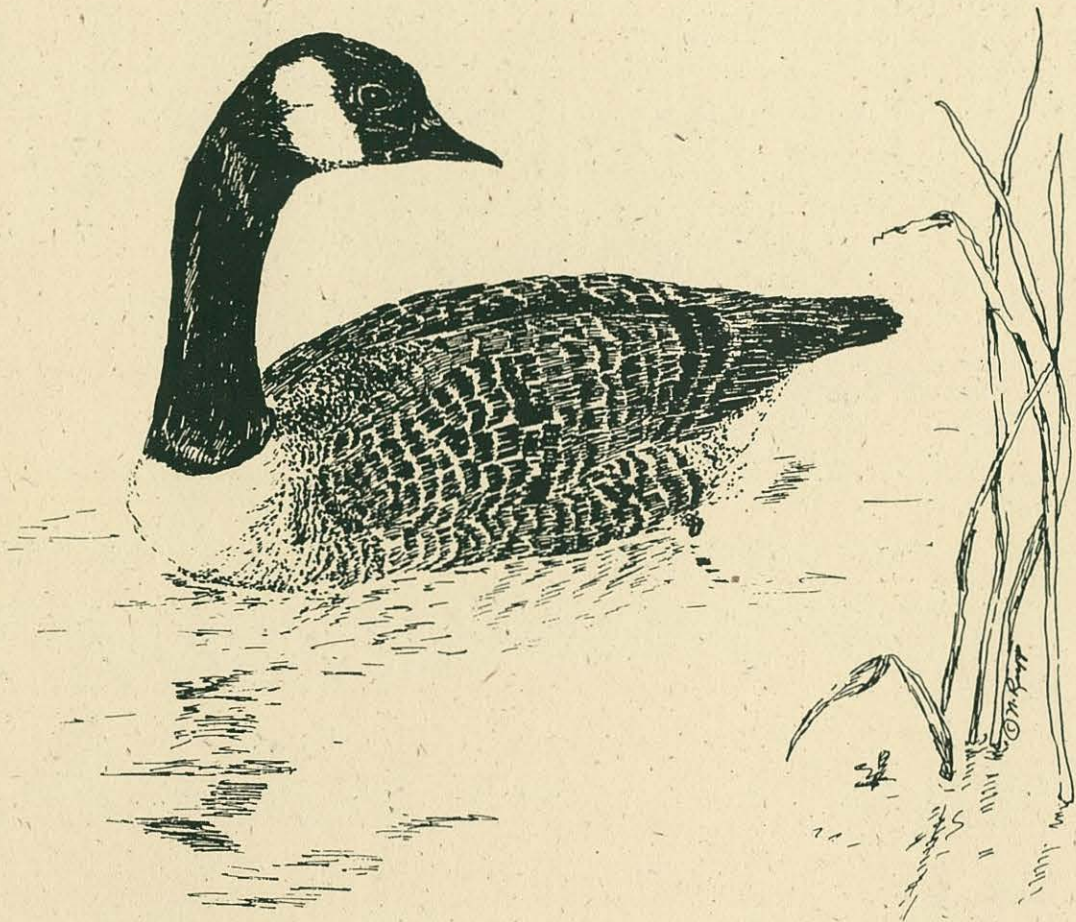


Rochester Embayment Remedial Action Plan 1999 Addendum



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Monroe County**

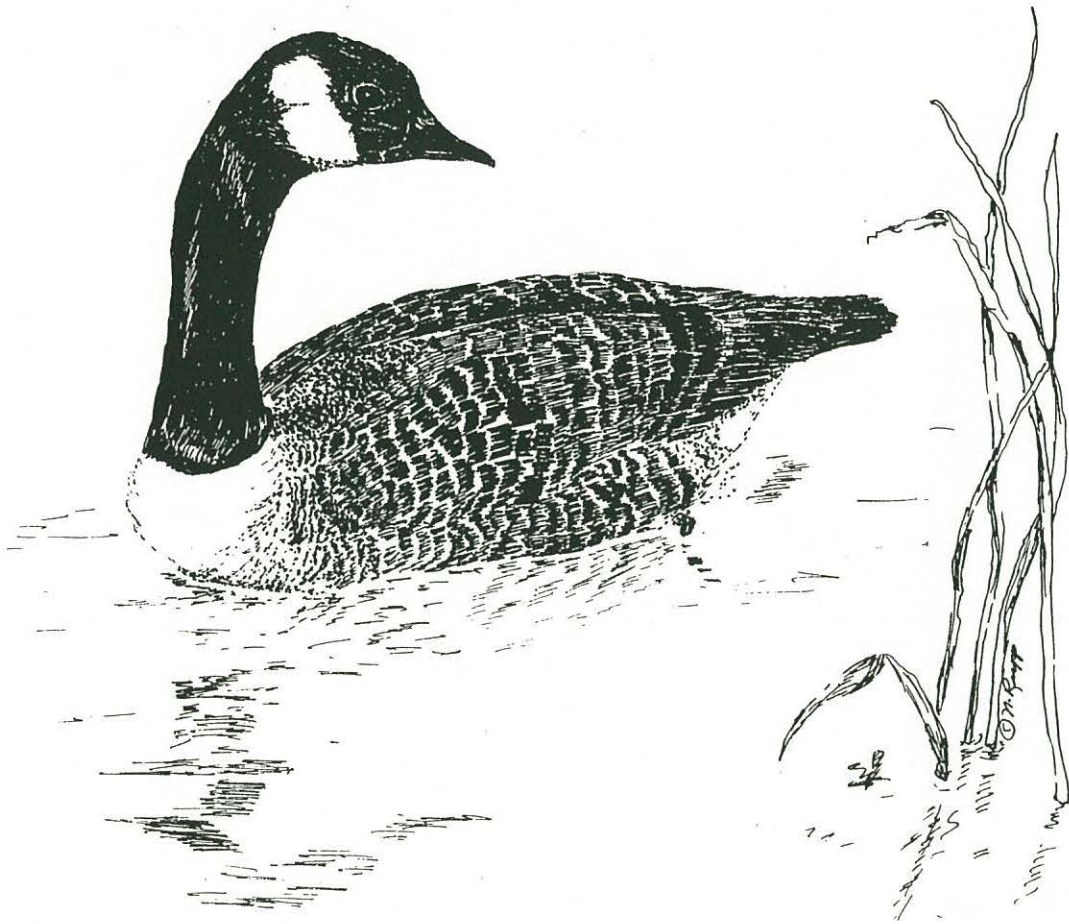
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Rochester Embayment Remedial Action Plan 1999 Addendum



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Acknowledgments

Many individuals and organizations contributed to the research, writing and review of the RAP 1998 Addendum. In addition to the persons listed below, there were many others who contributed by sharing information and knowledge.

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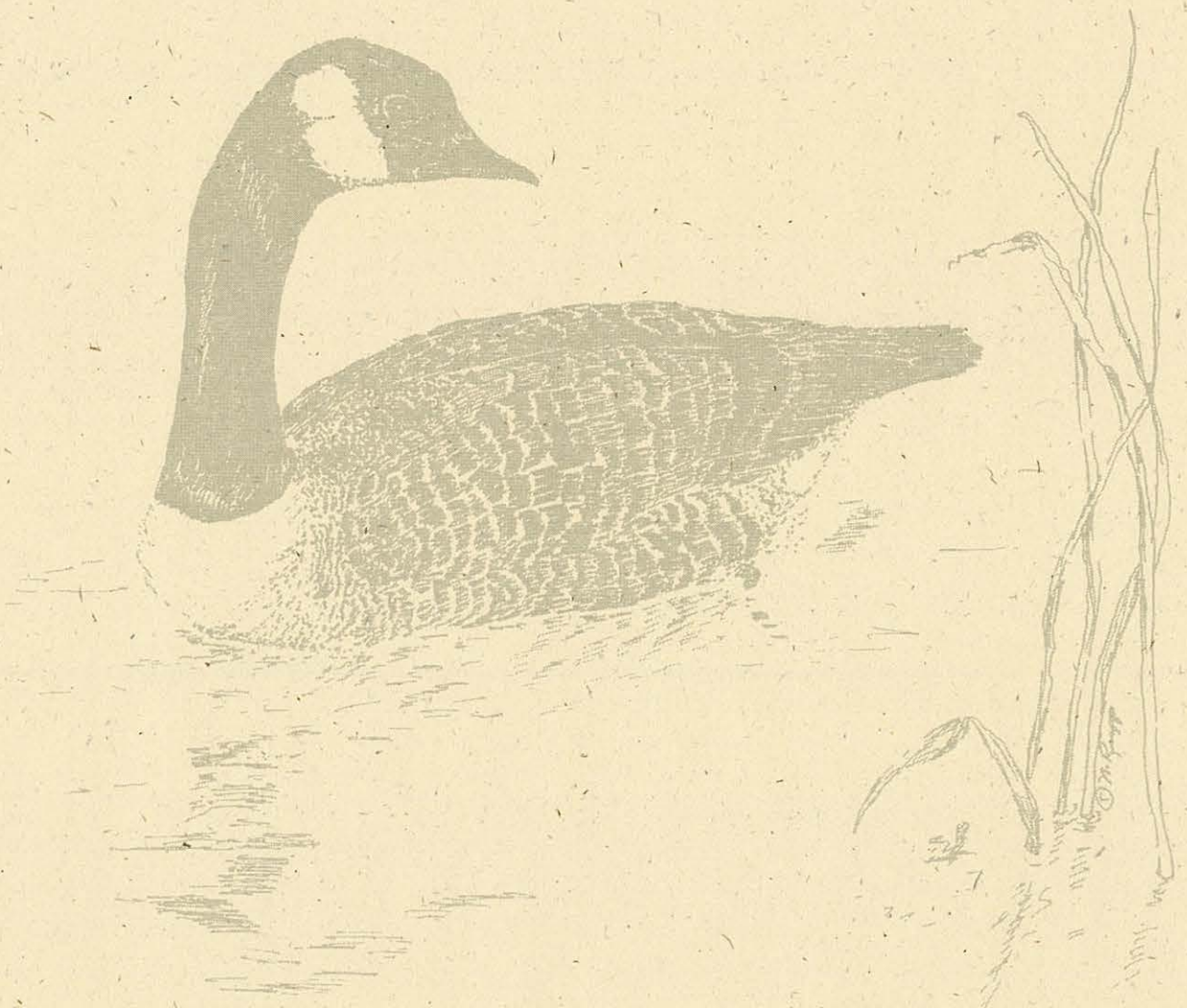
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Chapter 1: Introduction



1.1. Submission of new RAP proposals

During the review of the *Stage II Remedial Action Plan* (RAP), individuals and agencies made many proposals for additional remedial measures, studies and monitoring methods that could be incorporated into the RAP. It was not possible to research, evaluate and rank the proposals during RAP review and still complete the RAP on schedule.

Instead, one new remedial measure was added to the Stage II RAP: Continually evaluate and implement proposals for possible new remedial measures (Section 7.40 of the Stage II RAP). This new RAP remedial measure provides for evaluation of new proposals every three years. The first evaluation was to take place soon after Stage II RAP completion. The evaluations are to be undertaken in a manner similar to that applied to remedial measures, studies and monitoring methods for the Stage II RAP.

1.2. Evaluation Committee for New RAP Proposals

The Evaluation Committee for New RAP Proposals was established in late 1997. The Committee was composed of a diverse group of individuals similar to the group that evaluated and ranked the remedial measures in the Stage II RAP (see Section 10.1). The evaluation was conducted with an urban (Monroe County) perspective.

During preparation of the Stage II RAP, the Studies and Monitoring Task Group ranked and evaluated the studies and monitoring methods (see Stage II RAP Section 10.3). However, due to the much smaller number of new studies and monitoring proposals to be evaluated, the Evaluation Committee evaluated and ranked them for this Addendum. Technical people were included on the Committee who were knowledgeable about studies and monitoring methods. The members of the Committee were:

Joseph Albert	Monroe County Department of Health
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Max Streibel	Public official representative on WQMAC; Monroe County Legislature
Linda Vera	New York State Department of Environmental Conservation (NYSDEC) Region 8; public official representative on WQMAC

The Committee was active in evaluating the proposals from January through March of 1998.

1.3. Steps in evaluating and ranking the new RAP proposals

The evaluation method was similar to that used for the Stage II RAP, and included numerical scoring of proposals, debates and voting (see Stage II RAP Section 10.1, Section 10.3 and Appendices E and F).

1.3.1. Adoption of a ranking system

The ranking system that was adopted is shown in Appendix A of this Addendum. Each Committee member assigned two scores to each proposal:

- Benefit score from 1 (low benefit) to 5 (high benefit)
- Implementation score, which incorporated cost, feasibility and likelihood of receiving government and public support, from 1 to 5 (1 represented high cost, difficult project, little support) to 5 (5 represented low cost, easy project, much support)

The scores were displayed on a set of matrices. An example of a matrix is shown in Appendix A.

1.3.2. Debates

The Committee used the matrices to identify persons who could represent the “pro” and “con” position for each proposal. Each debate period lasted five minutes:

- 1 minute “Pro” position
- 1 minute “Con” position
- 2 minutes Comments and questions from other Committee members
- 1 minute Voting

1.3.3. Voting

The voting procedure differed somewhat from that used for the Stage II RAP.

- Stage II RAP: Members voted for either “high priority”, “recommended” or “not recommended.”
- RAP 1999 Addendum: Members voted for either “recommended” or “not recommended.” When all the voting was completed, the Committee took a second look at the voting results and placed the proposals that received unanimous approval or near unanimous approval in a “high priority” category.

The categories of “high priority,” “recommended” and “not recommended” are intended to be equivalent to the same categories in the Stage II RAP. The “high priority” proposals in this Addendum are intended to have the same chance for implementation as those in the Stage II RAP.

1.3.4. Review of the Committee's recommendations

Subsequent to the voting, the text of the proposals and the Committee's ranked list were submitted to the WQCC and the WQMAC. The WQCC approved the recommendations. The WQMAC approved the recommendations with two amendments. The approvals and the amendments were then submitted to the New York State Department of Environmental Conservation and the Monroe County Water Quality Management Agency (WQMA). The NYSDEC suggested a few minor revisions, which were incorporated into the text. The WQMA adopted the recommendations, including the amendments and the NYSDEC revisions, in the form of a resolution. (See Appendix B for the WQCC and WQMAC approvals, the NYSDEC comments and response to the comments, and the WQMA resolution.)

1.4. Reasons for changes to the proposals

The titles of the original proposals can be seen in the Stage II RAP Appendix D. There were several points during the research, evaluation and review process at which the title, text, and/or status of a proposal may have been changed from the original.

- Information gathered during the research for the proposal, in some cases, caused the originator of a proposal to revise it or withdraw it. In a few cases, it was learned that the proposal was already being implemented.
- In two cases, proposals were appropriate for evaluation by a committee other than the Evaluation Committee for New RAP Proposals. Proposal 3.6 (Verify whether a fishless segment exists in the lower Genesee River using gill nets) was referred to the Studies and Monitoring Task Group to be formed after the delisting criteria are developed. Proposal 3.7 (Review the list of Rochester Embayment Priority Chemical Pollutants for possible additions or deletions) was referred to the Toxics Oversight Committee, Priority Chemical Pollutant Ranking Subcommittee.
- During evaluation of the remaining proposals, the Evaluation Committee found ways to strengthen some of the proposals to make them more effective or more feasible.
- During review of the Evaluation Committee's recommendations, amendments were made by the WQMAC.
- Minor revisions to remedial measures, studies and monitoring methods were made due to the comments of the NYSDEC.

1.5. Incorporation of the new proposals into the RAP

Following the resolution of the WQMA, the high priority and recommended remedial measures, studies and monitoring methods were incorporated into the RAP in the form of this Addendum. (The remedial measures were incorporated into the *urban* list.) See Table 1-1 (remedial measures), Table 1-2 (studies), and Table 1-3 (monitoring methods). These three tables are comprehensive lists of *all* the remedial measures, studies and monitoring methods of the Stage II RAP *and* the 1999 Addendum. The newly added proposals are shown by shading. The tables are located at the end of Chapter 1. Some of the Stage II RAP remedial measures, studies and monitoring methods are completed, ongoing or underway. This information is noted in the tables.

1.6. State Environmental Quality Review

New York State Environmental Quality Review was addressed during the completion of the Stage II Rochester Embayment Remedial Action Plan (RAP). (See Stage II RAP Section 10.4 and Appendix H). The proposals ranked as “high priority” and “recommended” that are being added to the RAP by incorporation into this 1999 Addendum do not impact the negative declaration given to the Stage II RAP. (A negative declaration means that the project will *not* have a significant impact on the environment.)

**Table 1-1. Monroe County Remedial Measures Selected as High Priority and Recommended
Based on Stage II RAP Chapter 7 (Urban), and 1999 RAP Addendum Chapter 2**

Abbreviations:

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

Use Impairments Addressed:

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

Remedial Measures	Use Impairments (#) Addressed	Status if underway or Priority Jan. 1999	Responsible Entity	Funding Sources
Stage II RAP Chapter 7 (Urban) Remedial Measure Name and Number: <i>High Priority</i> Remedial Measures				
23. Complete basin water quality plans for the Lake Ontario West, Genesee River and Lake Ontario Central/Irondequoit basins; focus on plans for individual stream watersheds within the basins	1,3,5,6,7,8,9,10,11,12,13,14	4 plans underway	Health Dept, WQMAC, WQCC	NYSDEC, County
9. Continue developing and implementing intergovernmental agreements between Monroe County & the municipalities to protect water quality	1,3,5,6,7,8,10,11,14	Ongoing	County, municipalities	County, municipalities, Aid to Localities
10c. Develop created wetlands that manage stormwater quality by instituting intergovernmental agreements	3,6,7,8,9,10,11,12,13,14	Ongoing	County, municipalities	NYSDEC, County, municipalities
10f. Expand the Highway Projects Task Group effort to include state and municipal departments of transportation and public works	3,6,7,8,9,10,11,12,13,14	Ongoing	NYS Dept of Transportation, County, municipalities	Not applicable

Remedial Measures	Use Impairments (#) Addressed	Status if underway or Priority Jan. 1999	Responsible Entity	Funding Sources
11a. Organize a workshop to educate the development community, municipalities and the general public about the impact of impervious surfaces on water quality, and possible mitigating strategies	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 the dry basin conversion program to manage stormwater quality	3,6,7,8,9,10,11,12,13,14	High priority	County, municipalities	EPA, NYSDEC, County, municipalities
10b. Conduct a demonstration of a swirl concentrator as a stormwater management strategy for urbanized areas	3,6,7,8,9,10,11,12,13,14	High priority	County	NYSDEC, County
10d. Develop watershed-based drainage plans that identify drainage-related water quality problems and recommend remedial actions such as creation of stormwater wetlands	3,6,7,8,9,10,11,12,13,14	Seeking funds	County, municipalities	NYSDEC, County, municipalities
4b. Form a small business task group to introduce pollution prevention options, and initiate mentor and volunteer consultant programs	1,3,5,6,7,13,14	1st project underway	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. Provide technical assistance to small wastewater treatment plants if necessary to reduce phosphorus discharges	3,8,9,10,11,13,14	Underway	County, municipalities	County, municipalities
3b. Study the benefits of a NYS substance ban policy that would prioritize chemicals for banning; study the legal authority for banning the chemicals	1,3,5,6,7,13,14	High priority	WQMAC, County, NYSDEC	County, NYSDEC, EPA
13e. Establish a policy for "package" wastewater treatment plants	3,8,9,10,11,13,14	High priority	Health Dept, NYSDEC	County, NYSDEC
22a. Establish a local water quality not-for-profit organization that would plan, coordinate, fund and implement educational activities	1,3,5,6,7,8,9,10,11,12,13,14	Underway	County, WQCC, WQMAC	County, grants, memberships, private donations
17d. Prepare a list of programs, contacts and elementary school curricula that can be distributed to teachers; include information on local wetlands and activities for different age groups	3,8,14	Completed	Colleges, Sea Grant, Cooperative Extension, NYSDEC, teachers assns, school board assns	Colleges, Sea Grant, Cooperative Extension, grants, NYSDEC, teachers assns, school board assns

Remedial Measures	Use Impairments (#) Addressed	Status if underway or Priority Jan. 1999	Responsible Entity	Funding Sources
8. Enact a long-term agreement the U.S. Army COE to ensure that restrictions on overflow dredging in the Rochester harbor continue despite changes in personnel and political climate	1,3,5,6,7,10,11,13	High priority	County, COE, NYSDEC	County, COE, NYSDEC
4a. Establish a pollution prevention team to focus on one or more chemical pollutants, identify sources and options for pollution prevention, and prepare a workplan to eliminate discharges of the chemical(s)	1,3,5,6,7,13,14	Ongoing	WQCC, Health Dept, EMC, County Env. Services, Off of Emergency Preparedness, SWCD, WQMAC, industry, academia, NYSDEC	County, NYSDEC, EPA, businesses, trade assns, foundations
13a. Establish an annual phosphorus pollutant loading goal for the Embayment; set annual pollutant loading limits for watershed wastewater treatment plants that will help to achieve this goal	3,8,9,10,11,13,14	In data collection phase	County, WQCC, NYSDEC, municipality	Municipalities, user fees, NYSDEC
6. Stencil storm drains with the message "Do Not Dump – Drains to Stream"; educate the neighborhoods and others about proper disposal of household hazardous substances	1,3,5,6,11,13,14	Ongoing	Health Dept, Dept of Transportation, Cooperative Extension, towns	Grants; contribution of staff time, donations from citizen groups & private corporations
1999 RAP Addendum Chapter 2 Remedial Measure Name and Number: <i>High Priority</i> Remedial Measures				
2. Support a proposed study on ways to reduce erosion in the Genesee River due to the flow regime from the dam	7,9,10,11,12,14	High priority	COE, USGS, municipalities, universities	COE, USGS, municipalities, universities
4b. Establish an IGA with the COE to prevent future increase in the area of the Turning Basin that is dredged	1,2,3,4,5,6,7,8,9,10,11,13,14	High priority	COE, Monroe County	Monroe County
8. Implement a half-day workshop for municipalities and their engineers about stormwater pollution prevention plans	6,7,8,9,10,13,14	High priority	Health Dept, SWCD, NYSDEC, municipalities	NYSDEC, EPA, Monroe County, SWCD, participants
9. Reevaluate the rankings of remedial measures, studies and monitoring methods every 6 years	1,2,3,4,5,6,7,8,9,10,11,12,13,14	High priority	Health Dept	Monroe County
Stage II RAP Chapter 7 (Urban) Remedial Measure Name and Number: <i>Recommended</i> Remedial Measures				
1b. Initiate a public education program about identification of equipment containing PCBs	1,3,5,6,7,14	Recommended	Industrial, commercial & municipal entities; public environmental interest groups	County
20b. Use intergovernmental agreements to facilitate the use of municipal land-use powers to protect fish and wildlife habitat	3,6,8,11,14	Recommended	County, municipalities	County, Aid to Localities

Remedial Measures	Use Impairments (#) Addressed	Status if underway or Priority Jan. 1999	Responsible Entity	Funding Sources
24. Evaluate new proposals for remedial actions, studies and monitoring methods every 3 years	1,3,5,6,7,8,9,10,11,12,13,14	1st evaluation completed	Health Dept, WQMAC, WQCC, nonprofit organization	NYSDEC, County
17a. Plan annual workshops for local officials to educate about the benefits of wetlands and how land use decisions affect wetlands; include a wetland tour as part of each workshop	3,8,14	Ongoing	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 should initiate pollution prevention within their own programs as educational examples for the communities	1,3,5,6,7,13,14	Recommended	County, towns, villages	County, towns, villages
2. Promote interaction with decision makers for other Lake Ontario RAPs and the Lakewide Management Plan about sources of critical pollutants that are located outside the Rochester Embayment watershed	1,3,5,6,14	Recommended	WQMAC	County, NYSDEC, EPA
13c. A student intern would perform a literature search on phosphorus emissions from wastewater treatment plant sludge incinerators to determine the fate of phosphorus	3,8,9,10,11,13,14	Recommended	Health Dept, County Env. Services	Health Dept, County Env. Services
14. Create an Agricultural Best Management Practices (BMPs) Coordinator position to facilitate the increased implementation of BMPs	1,3,5,6,7,8,9,10,11,13,14	Recommended	WQCC, SWCD, Cooperative Extension, NRCS	County, Aid to Localities, foundations, NYS Ag Non-Point Source Grant Program
17b. Develop and staff a speakers bureau to solicit audiences and give presentations of slide shows or videos on the value of wetlands	3,8,14	Ongoing	EMC, Nature Conservancy, NYSDEC	NYSDEC, County, corporate donations
10e. Promote the use of biofilters through the continued establishment of intergovernmental agreements	3,6,7,8,9,10,11,12,13,14	Recommended	County, municipalities	County, municipalities
1a. Electric utilities should accelerate the reduction of PCBs in equipment	1,3,5,6,7,14	Ongoing	Electric utility	Electric utility
20a. Develop partnerships among the Genesee /Finger Lakes Regional Planning Council, Monroe County, not-for-profit organizations and municipalities to facilitate the use of municipal land use powers to protect habitat	3,6,8,11,14	Recommended	GFLRPC, County, NYSDEC, municipalities, nonprofit organizations	County, municipalities, GFLRPC, grants

Remedial Measures	Use Impairments (#) Addressed	Status if underway or Priority Jan. 1999	Responsible Entity	Funding Sources
22b. Create a full-time position to coordinate water quality education activities in Monroe County	1,3,5,6,7,8,9,10,11,12,13,14	Recommended	County, Cooperative Extension, SWCD	County, grants
7a. Investigate the feasibility of pumping contaminated fluid at the site of the Brewer St. tunnel under the Genesee River and remediating it	1,3,5,6,7,13,14	Recommended	RG&E, Rochester Pure Waters, County Env. Services	Subject to negotiation
19. Implement a program to identify and rank critical habitat in and along waterways with the goal of restoring, enhancing and protecting the most significant habitats	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 the intergovernmental agreement process to encourage municipalities to address the impacts of impervious surfaces on water quality by revising their parking regulations or by encouraging cluster development and the use of porous paving materials	1,3,5,6,7,8,9,10,11,13,14	Recommended	County, municipalities	County
15b. Implement a lawn care education program for neighborhoods adjacent to water bodies with a history of eutrophication problems; include meetings with neighborhood associations and field visits	1,3,5,6,7,8,9,10,11,13,14	Underway	Cooperative Extension, Health Dept	County, NYSDEC
15c. Coordinate the use of Master Gardeners to educate homeowners regarding lawn care methods that protect water quality	1,3,5,6,7,8,9,10,11,13,14	Underway	Cooperative Extension, Sea Grant, SWCD, County	County, NYSDEC, Great Lakes Protection Fund
18. Communicate with the International Joint Commission and the St. Lawrence River Board of Control about the need to consider environmental interests, as well as other interests, in managing lake levels	3,14	Recommended	WQCC	Not needed
15a. Implement the Monroe County Cornell Cooperative Extension's proposal to demonstrate the impact of yard maintenance activities on water quality	1,3,5,6,7,8,9,10,11,13,14	Recommended	Cooperative Extension	County, NYSDEC
5b. Communicate with the NYSDEC about Monroe County sites listed in the NYS Hazardous Substance Waste Disposal Site Study to promote remediation of local sites	1,3,5,6,7,11,13,14	Recommended	NYSDEC, Waste Site Advisory Comm.	NYSDEC

Remedial Measures	Use Impairments (#) Addressed	Status if underway or Priority Jan. 1999	Responsible Entity	Funding Sources
16a. Institute streambank erosion control programs as part of developing watershed-based drainage plans	3,6,8,10,11,13,14	Recommended	County, municipalities	NYSDEC, County, municipalities
1c. Develop a program for removal and disposal of equipment containing PCBs within industrial, commercial, municipal and residential locations	1,3,5,6,7,14	Recommended	Industrial, commercial & municipal entities; Monroe Co. Hazardous Waste Collection Facility	Industrial, commercial & municipal entities; local governments
7b. Educate developers about the history of contamination in the Genesee River gorge	1,3,5,6,7,13,14	Recommended	Health Dept, EMC, City of Rochester	Developer, responsible party
3a. Promote changes to NYSDEC's existing antidegradation policy that would specify a process for reviewing proposed actions that would result in discharges that significantly lower water quality	1,3,5,6,7,13,14	Recommended	Monroe County; WQCC, NYSDEC	County, NYSDEC
There are no 1999 RAP Addendum Chapter 2 remedial measures that are <i>recommended</i> .				

Table 1-2. Studies Based on Stage II RAP Chapter 4 and 1999 RAP Addendum Chapter 3

The studies in the Stage II RAP were ranked according to the percentage of voters on a technical committee that believed the study should be “high priority.” That vote for each study is shown below. The studies that have been added in 1999 are shown in shaded areas. Their order should be considered to be approximate.

Study	Location of Study Description	Priority Based on Voting	Status Jan. 1999
Study to determine if the Lake Ontario portion of the Rochester Embayment suffers from degradation of benthos (organisms living on the bottom of a body of water)	Stage II RAP Section 4.5	100%	
Discover the reasons for the large differences from year to year in Toxics Release Inventory (TRI) data	RAP 1999 Addendum Section 3.8	100% ¹	
Identify and eliminate problems caused by in-building drains and cross connections	RAP 1999 Addendum Section 3.12	90% ²	
Study to determine if populations of phytoplankton (microscopic algae) and zooplankton (microscopic aquatic animals) in the Lake Ontario portion of the Rochester Embayment are impaired	Stage II RAP Section 4.7	85%	
Determine and evaluate alternatives for the uses of pesticides and herbicides in Monroe County	RAP 1999 Addendum Section 3.11	78% ³	
Study alternatives for the use of herbicides to control roadside vegetation on the Monroe County highway system	RAP 1999 Addendum Section 3.10	76% ⁴	
Genesee River erosion study focusing on the area between the Letchworth Park flood control dam and Geneseo	Stage II RAP Section 4.4	69%	Phase I completed
Study to verify whether or not fish in the Rochester Embayment have a chemical flavor or odor	Stage II RAP Section 4.1	67%	
Incidence of fish tumors or other fish deformities in the Rochester Embayment watershed	Stage II RAP Section 4.3	67%	
Estimate of the amount of cadmium and lead in runoff due to wear of vehicle tires	Stage II RAP Section 4.8	33%	
Study to learn if contaminants affect the benthic community in the lower Genesee River and, if so, which ones	Stage II RAP Section 4.6	11%	
Study to verify whether a fishless segment exists in the lower Genesee River	Stage II RAP Section 4.2	8%	
Update of the pollutant loadings of the Genesee River and wastewater treatment plants	Stage II RAP Section 4.10	7%	
Quantification of the amount of cyanide discharged into the air from wastewater treatment plant sludge incinerators	Stage II RAP Section 4.9	0%	

¹100% of those voting on new studies believed that this study should be “*recommended.*” The Committee subsequently placed the study in the “high priority” category.

² 90% of the members of the Monroe County Water Quality Management Advisory Committee that amended the original proposal believed that this study should be high priority.

³ 78% of those voting on new studies initially believed that this study should be “recommended. The Committee subsequently placed the study in the “high priority” category.

⁴ 76% of Monroe County Water Quality Management Advisory Committee members that amended the original proposal believed that this study should be high priority.

**Table 1-3. Monitoring Methods Based on Stage II RAP Chapter 9 and
1999 RAP Addendum Chapter 4**

The monitoring methods in the Stage II RAP were ranked according to the percentage of voters on a technical committee that believed the monitoring method should be “high priority.” That vote for each monitoring method is shown below. The monitoring methods that have been added in 1999 are shown in shaded areas. Their order should be considered to be approximate.

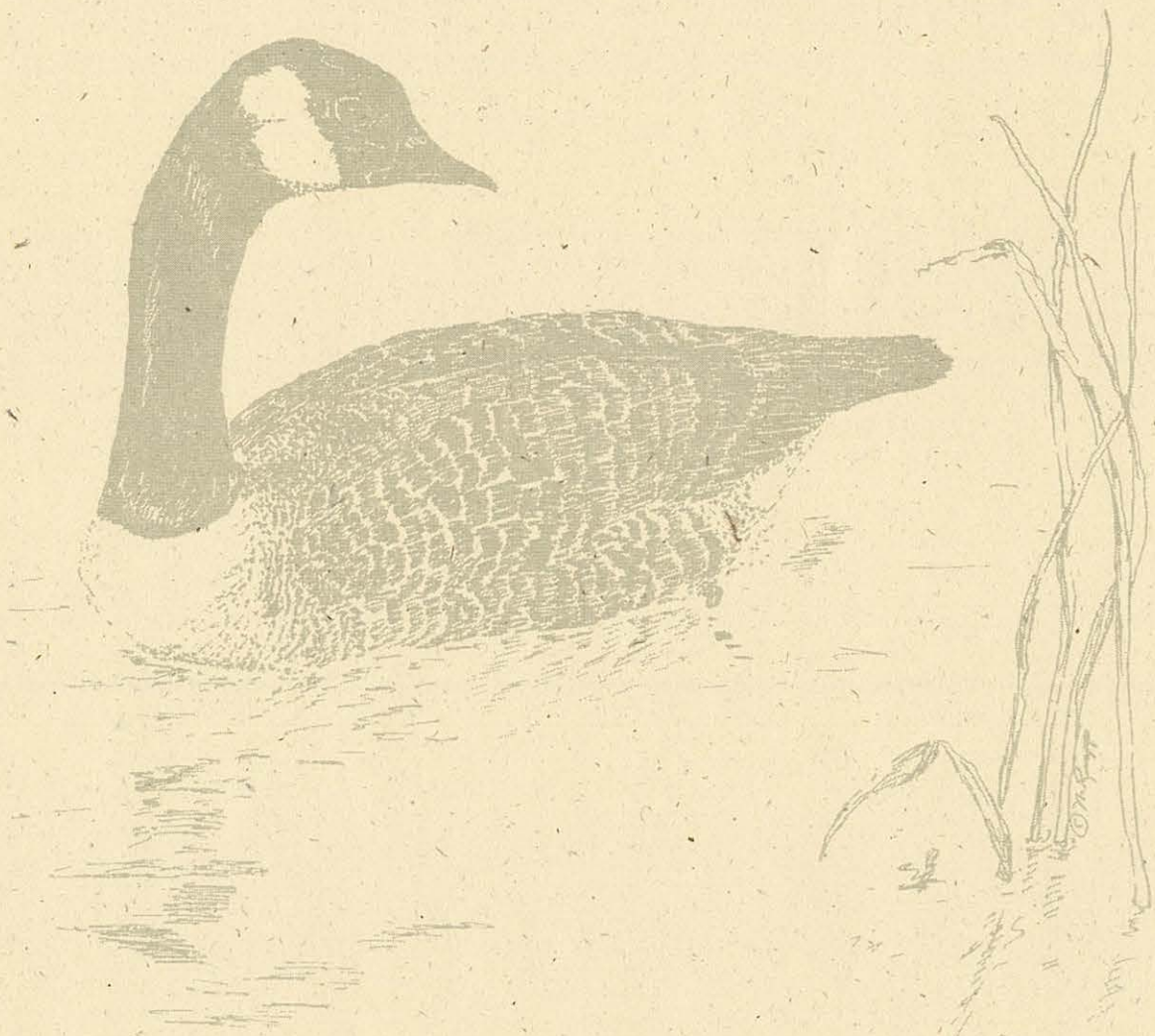
Monitoring Method	Location of Monitoring Method Description	Priority Based on Voting	Status
Monitor levels of toxic chemicals in resident turtles	Stage II RAP Section 9.1a	100%	
Monitor species diversity and abundance of benthic and water-column macroinvertebrates (aquatic animals without backbones).	Stage II RAP Section 9.1b	100%	
Monitor benthic and water-column <i>Chironomid</i> (midge fly) larvae deformities	Stage II RAP Section 9.1c	100%	
Measure phosphorus loading trends from the Genesee River at an agricultural and an urban location to learn their relative contributions	Stage II RAP Section 9.3b	100%	
Determine the status of chemical seeps on the face of the Lower Falls of the Genesee River	Stage II RAP Section 9.8a	100%	
Use volunteers to collect and monitor litter in and along waterways	Stage II RAP Section 9.9	100%	Underway
Determine the status of populations of phytoplankton (microscopic algae) and zooplankton (microscopic aquatic animals) in the lower Genesee River portion of the Rochester Embayment	Stage II RAP Section 9.12	100%	
Implement citizen monitoring of stream habitat	Stage II RAP Section 9.13b	100%	Underway
Monitor road salt usage	Stage II RAP Section 9.17b	100%	
Monitor enforcement efforts for New York State Department of Environmental Conservation permits for stormwater discharges	Stage II RAP Section 9.14	91%	
Continue Monroe County Water Authority monitoring of turbidity for the Lake portion of the Rochester Embayment	Stage II RAP Section 9.10a	90%	Ongoing
Build upon the existing Marsh Monitoring Program and the proposed Reference Wetlands System to monitor wetland habitat quality and quantity	Stage II RAP Section 9.13a	90%	Underway
Utilize an intern to develop and conduct a water quality survey	Stage II RAP Section 9.15a	90%	
Coordinate with a professional pollster to conduct a water quality survey	Stage II RAP Section 9.15b	88%	

Monitoring Method	Location of Monitoring Method Description	Priority Based on Voting	Status
Obtain data from the U.S. Army Corps of Engineers on required sediment sampling in the Rochester harbor	Stage II RAP Section 9.2b	83%	
Monitor other (than the Lower Falls) chemical seeps in the Genesee River gorge	Stage II RAP Section 9.8b	80%	
Compile and interpret data from existing habitat monitoring programs	Stage II RAP Section 9.13c	80%	Underway
Continue monitoring water quality at Ontario beach during the swimming season	Stage II RAP Section 9.6	73%	Ongoing
Continue monitoring zebra mussel population trends as part of inspection of water intakes	Stage II RAP Section 9.11b	73%	Ongoing
Continue Monroe County Water Authority monitoring of turbidity in the lower Genesee River portion of the Embayment	Stage II RAP Section 9.10b	70%	Ongoing
Create a centralized and easily accessible database for all water quality data produced within Monroe County	Stage II RAP Section 9.18	70%	Initial steps taken
Periodically inventory municipalities on their land use policies designed to help meet water quality goals	RAP 1999 Addendum Section 4.3	67% ¹	
Encourage more stringent permit limits and increased monitoring if and when permit limits for chemicals on the list of High Priority Chemical Pollutants are documented	RAP 1999 Addendum Section 4.4	67% ¹	
Establish volunteer environmental observers to report on unusual discharges to water	Stage II RAP Section 9.14b	66%	Underway
Prepare periodic status reports on nuisance algae in Lake Ontario	Stage II RAP Section 9.3c	58%	
Monitor chloride concentrations in the Salmon Creek/Braddock Bay system	Stage II RAP Section 9.17a	56%	
Organize volunteer <i>Cladophora</i> algae observers who would report to the Monroe County Health Department	Stage II RAP Section 9.7	45%	
Document changes in SPDES permit limits for chemicals on the list of high priority chemical pollutants when permits of Rochester Embayment watershed facilities are renewed	Stage II RAP Section 9.14a	38%	
Use aerial photography to monitor <i>Cladophora</i> algae beds	Stage II RAP Section 9.3d	33%	Seeking funds
Conduct a survey of Monroe County businesses on the impacts of raw water turbidity on the cost of doing business	Stage II RAP Section 9.10c	23%	
Conduct a survey of county or regional industries, agriculture and golf courses on the impact of zebra mussel on the cost of doing business	Stage II RAP Section 9.11a	18%	

¹ 67% of those voting on new monitoring methods believed that this monitoring method should be "Recommended." The Committee kept this monitoring method in the "recommended" category.

THE UNIVERSITY OF CHICAGO
DEPARTMENT OF CHEMISTRY

Chapter 2: Remedial Measures



2.1. Explore opportunities to reduce the use of road salt and to use alternative deicing materials as part of the intergovernmental agreement process

2.1.1. Background

Status: Not evaluated; to be implemented

Use impairment addressed: Loss of fish and wildlife habitat

Additional information: The *Stage I Rochester Embayment RAP* did not identify road salt as a cause of use impairments within the Rochester Embayment, but the Monroe County Water Quality Management Advisory Committee (WQMAC) did express the concern that road salt may contribute to the loss of fish and wildlife habitat. As a result, road salt was listed as a possible cause of the loss of fish and wildlife habitat in the *Stage II RAP* (see Table 3-19).

Because road salt (sodium chloride) is the least expensive road deicing agent available, it continues to be used frequently for deicing roads. When compared to road salt, alternative materials can be more expensive, less effective, or more harmful to the environment. Other ways to optimize the application of road salt, such as road temperature sensors, reduce the use of road salt but are also expensive.

The Monroe County Environmental Management Council (EMC) created a Salt Task Force in 1985 in an effort to reduce the use of road salt because of the occurrence of severe environmental problems, specifically Irondequoit Bay's incomplete overturn in 1984, which were linked to intensive road salt usage. This Salt Task Force published a study in 1987 which detailed the road salt usage of the municipalities within Monroe County.

2.1.2. Proposal

2.1.2.1. Description: Currently, there is a plan to transfer the road salt tracking responsibilities of the EMC to the Monroe County Health Department. After completion of the 1997 EMC Salt Data Report, the continuation of a Salt Task Force will be established as part of the Monroe County Water Quality Coordinating Committee (WQCC). The Task Force will be staffed by the Water Quality Planning Bureau of the Monroe County Health Department. The new salt effort will include the tracking of usage of road salt as one component, with work to be coordinated by the WQCC Task Force. Education and publicity related to the issue may come from the WQMAC.

This proposed remedial measure will be implemented. It does not need to be evaluated.

2.1.2.2. Time required: The EMC report will be finished by the end of 1997. The transition of responsibilities will take place in late 1997 or early 1998. Meetings would probably be held every other month and would last for approximately one and a half hours.

2.1.2.3. Estimated costs: Approximately \$1,000 a year for a junior planner and a senior planner to staff these meetings and groups.

2.1.2.4. Possible funding sources: Monroe County

2.1.2.5. Possible implementors: WQCC, WQMAC, Monroe County Departments of Health and Transportation, City of Rochester, New York State Department of Transportation

2.1.2.6. Expected benefits: A reduction in the use of road salt to deice roads in Monroe County would reduce the input of sodium chloride into the local environment.

2.2. Support a proposed study on ways to reduce erosion in the Genesee River due to the flow regime from the Mt. Morris Dam

2.2.1. Background

Status: High priority

Use impairments addressed: #7, 9, 10, 11, 12 & 14

Additional information: The Mt. Morris Dam is operated by the U.S. Army Corps of Engineers (COE) and is primarily used for flood control. The current concern with the dam is that it may increase downstream riverbank erosion and the goal of this proposal would be to control the dam's flow regime to reduce erosion.

Mount Morris Dam is classified as a "dry dam" and, as such, it regulates River flow and maintains a reservoir behind it only during certain periods of the year when flood control is necessary. During the majority of any given year, the Dam allows the River to flow through it with minimal impoundment.

The COE is currently reviewing the possibility of initiating a study with the U.S. Geological Survey (USGS). The purpose of the study would be to determine how to reduce erosion in the Genesee River that is due to the presence of the Dam. The scope of such a study and its costs are not yet known.

2.2.2. Proposal

2.2.2.1. Description: Support the proposed COE/USGS study by writing letters to the COE and the USGS that describe the potential benefits of the study for water quality in the Genesee River and the Rochester Embayment.

2.2.2.2. Additional information: According to Dr. Richard Young of SUNY Geneseo, the dam may increase sediment loadings in the Genesee River in two ways. The dam may be slowing the deposition of sediments on the floodplain by reducing overbank flooding, and the dam's flood control operations may cause river bank erosion. The excess sediment may either be stored downstream or it may be transported to Lake Ontario.

According to Dr. Young, the issue of increased sediment loading due to the operations of the Mt. Morris Dam is difficult to resolve. He says that more comprehensive data are needed to document actual changes in the downstream distribution of suspended sediment and bedload sediment that may have resulted from flood control changes since 1952, when the dam became operational.

Dr. Young suggests that one of the most direct ways to potentially reduce bank erosion would be the establishment of natural vegetation along unprotected stream banks, especially those bordered by agricultural land. Section 7.35 of the *Stage II RAP* describes a streambank erosion control program that was ranked as a high priority action by the Rural Ranking Task Group. A similar program, described in Section 7.16, was ranked as a recommended action by the Urban Ranking Task Group.

Studies of rivers generally show that dam construction leads to increased erosion for several miles downstream. Through dam operations, the COE makes an effort to reduce shoreline erosion that is likely to be increased by the dam, while ensuring that downstream flood protection is sustained. To change the flow regime regulation of the Mt. Morris Dam would require the authority of the COE headquarters in Washington, D.C.

2.2.2.3. Time required: 40 hours for a few technical experts to determine the contents of a letter, perform limited research necessary to provide supporting data, write a letter and have it reviewed, revised and submitted.

2.2.2.4. Estimated costs: Approximately \$1,000. The cost of the study cannot be determined until its scope is determined.

2.2.2.5. Possible funding sources: COE, USGS, affected municipalities, universities

2.2.2.6. Possible implementors: COE, USGS, affected municipalities, universities

2.2.2.7. Expected benefits: A reduction in bank erosion and sediment loadings in the Genesee River

2.3. Eliminate dredging of the Rochester Harbor

2.3.1. Background

Status: Proposal withdrawn

Use impairments addressed: #1, 3, 5, 6, 8, 10, 11 & 14

Additional information: Dredging activity has several environmental impacts. The movement of sediment can temporarily alter the environment. Dredging can also cause an increase in turbidity, contaminant dispersion, chemical oxygen demand, and nutrient dispersion.

2.3.2. Proposal

2.3.2.1. Description: Because of the environmental impacts mentioned above, it is proposed that the dredging of the Rochester Harbor be eliminated.

2.3.2.2. Additional information: According to Scott Pickard of the U.S. Army Corps of Engineers (COE), Rochester Harbor is dredged for commercial and recreational navigation. Vessels with a deep draft, such as the Portland Cement Co. vessel, need the harbor to be dredged in order to gain access to the Genesee River. Every year, the COE does a cost-benefit analysis of dredging and then decides whether or not to dredge based on that analysis. The elimination of dredging would have a negative economic impact on the businesses and marinas around Rochester Harbor. According to Mike McNulty, Rochester Harbor has to be maintained as a deep harbor because of Great Lakes safety laws. Based on this information, the proposal was withdrawn.

2.4. Restore the Turning Basin of the lower Genesee River to marshland

2.4.1. Background

Status: Proposal a – not recommended at this time; Proposal b – high priority

Use impairments addressed: All except #12

Additional information: The area around the Turning Basin of the Genesee River was originally a wetland. Earlier this century the Turning Basin was dredged to allow large vessels to turn around in the Genesee River. A portion of the Basin is currently dredged by the U.S. Army Corps of Engineers (COE) to enable the Portland Cement vessel to turn around. The remainder of the Basin is filling in naturally.

2.4.2. Proposal a: Use dredged material to fill in a portion of the Turning Basin

2.4.2.1. Description: Dredged material should be used to fill in the portion of the Turning Basin that is not dredged for the Portland Cement vessel.

2.4.2.2. Additional information: Staff persons at the COE advise that the Turning Basin should be allowed to fill in naturally. Using dredged material from the harbor to fill in the Turning Basin would disrupt the natural activity in the area and would be more expensive than just letting the basin fill in naturally. Also dredged material in the Turning Basin would eventually be deposited downstream again. Laws would have to be amended so that dredged material could be deposited in the Turning Basin.

2.4.2.3. Time required: Several years

2.4.2.4. Estimated costs: >\$85,000

2.4.2.5. Possible funding sources: COE

2.4.2.6. Possible implementors: COE

2.4.2.7. Expected benefits: Restoration of the Turning Basin to wetland would provide wildlife habitat and improve water quality.

2.4.3. Proposal b: Establish an intergovernmental agreement with the U.S. Army Corps of Engineers

2.4.3.1. Description: Use an intergovernmental agreement with the COE to prevent any future increase in the area of the Turning Basin that is dredged. (A “high priority” action in the *Stage II Remedial Action Plan* is an intergovernmental agreement with COE on another topic, overflow dredging.)

2.4.3.2. Time required: About 40 hours of staff time over the course of six months

2.4.3.3. Estimated costs: Approximately \$1,000

2.5. Use dredged silts to rebuild topsoils on land

2.5.1. Background

Status: Not recommended at this time

Use impairments addressed: Would not impact water quality within the Embayment

Additional information: Currently, the U.S. Army Corps of Engineers (COE) dredges Rochester Harbor and a portion of the Genesee River. This dredged material is then deposited at a designated open-lake site in Lake Ontario.

2.5.2. Proposal

2.5.2.1. Description: Instead of depositing dredged material in Lake Ontario, the material would instead be used to rebuild the topsoils in rural areas of this region.

2.5.2.2. Additional information: The silts that are dredged from Rochester Harbor may be suitable for land applications such as rebuilding topsoils. The dredged sediments would require some form of chemical or biological treatment, in accordance with applicable regulatory standards, prior to their use for land application. The existing COE benefit-cost (B/C) ratio for dredging Rochester Harbor is marginal. The siting and purchase of land for dewatering, as well as the unloading, dewatering, and transportation of the silt to a marketing location would add to the cost of the dredging operation. This dredged material land disposal alternative may lower the B/C ratio to less than one, which may require that maintenance dredging be suspended. It would take significant outside funding to make such a project beneficial.

2.5.2.3. Time required: It could take several years to site and purchase land for the dewatering of the sludge

2.5.2.4. Estimated costs: >\$85,000

2.5.2.5. Possible funding sources: Existing funding constraints only allow for the COE to fund the dredging and open-lake disposal of the dredged material. Any incremental costs associated with disposing of the dredged material that exceed the cost of open-lake disposal may have to be borne by interests other than the COE. However, note that Section 1135 of the Water Resources Development Act (WRDA) of 1986, as amended, authorizes the COE to modify COE project operations to restore environmental quality. Also, Section 204 of WRDA of 1992 allows for the COE to protect, restore and create aquatic habitat, including wetlands, in connection with dredging at authorized federal navigation projects. An example here may involve investigating the use of Rochester Harbor dredged material for wetland restoration or creation. These authorities allow for a 75%/25% federal/non-federal cost share, with all operation and maintenance costs being a non-federal responsibility.

2.5.2.6. Possible implementors: COE

2.5.2.7. Expected benefits: This may affect water quality in Lake Ontario at the disposal site for dredged material. (The U.S. Army COE notes that, although there are temporary water quality effects, they are unaware of any violations in State water quality standards that occur during the

2.4.3.4. Possible funding sources: Monroe County

2.4.3.5. Possible implementors: COE, Monroe County

2.4.3.6. Expected benefits: Restoration of the Turning Basin to wetland would provide wildlife habitat and improve water quality.

disposal of dredged material at the existing open-lake site. In addition, any long-term water quality effects that result from the disposal of dredged material at this site are indiscernible from ambient levels in Lake Ontario.)

2.6. Restore the Genesee River estuary to its natural state as much as possible

2.6.1. Background

Status: Proposal withdrawn

Use impairments addressed: All except #12

Additional information: The current state of the Genesee River is very different than its natural state because of the management of the Genesee River and development on the surrounding land.

2.6.2. Proposal

2.6.2.1. Description: It was proposed that the Genesee River should be returned to its natural state as much as possible. This could involve removing the piers along the mouth of the Genesee River to encourage the reestablishment of a Charlotte wetland, or it could mean removing some of the dams along the River in order to create a more natural flow. However, removing the piers would disrupt the natural, recreational, and economic activity in Rochester Harbor. The dams along the Genesee River are used for flood control and electricity generation, so removing them would have an impact on RG&E and the people who live downstream of the dams.

There may also be more feasible projects that could be implemented to help restore the Genesee River closer to its natural state. But, because of the difficulty in pinpointing specific projects at this time, the proposal was withdrawn.

2.7. Establish a policy for commercial wastewater discharges from sand filter systems

2.7.1. Background

Status: Proposal withdrawn

Additional information: Sand filters are beds of granular material at least 24 inches deep and underlain by graded gravel and collecting tile. Filters can either be free access (open filter), or they can be buried in the ground (buried filter). Wastewater is applied intermittently to the surface of the bed through distribution pipes or troughs and the filters entrap, sorb, and assimilate materials in the wastewater. These filters are used to treat wastewater from small commercial and institutional developments and from individual homes. Typically, they would be used to polish effluents from septic tank or aerobic treatment processes.

The current policy with regards to sand filters is to have the Monroe County Department of Health review the plans for wastewater discharges from commercial sources, and, if they meet certain guidelines, approve them. The New York State Department of Environmental Conservation then issues the discharge permits. Thirty-six facilities in Monroe County are currently using sand filters.

2.7.2. Proposal

2.7.2.1. Description: To protect bodies of water which were already stressed by phosphorus, it was suggested that policies be created to regulate phosphorus levels in commercial discharges from sand filter systems. Each stressed body of water would need its own requirements based on its condition. After being treated in a sand filter, wastewater would then have to be treated to remove excess phosphorus before finally being discharged.

According to John Felsen, this type of a program would be difficult to implement. A study on each individual stream that a sand filter discharges into would be needed. Phosphorus removal would require chemical treatment. He also said that the addition of extra chemical treatment for a sand filter may also mean the addition of an operator for the filter. In his opinion such a program would be costly and unnecessary. Based on these points made by John Felsen, the proposal was withdrawn.

2.8. Create a stormwater State Pollution Discharge Elimination System educational action

2.8.1. Background

Status: High priority

Use impairments addressed: #6-10, 13 & 14

Additional information: Background information and a description of the State Pollution Discharge Elimination System (SPDES) stormwater discharge permitting system can be found in section 6.12 of the *Stage II Rochester Embayment RAP*.

Compliance with stormwater SPDES provisions needs to be improved in the following areas:

- Application for permits.
- Compliance with the requirements of the permits.
- Enforcement.
- Filing of Stormwater Pollution Prevention Plans by municipalities.

2.8.2. Proposal

2.8.2.1. Description: The proposed educational action would involve a workshop to discuss the requirements of the Stormwater Pollution Prevention Plan, emphasizing the plan for ongoing pollution prevention after the construction phase. The workshop would last at least a half a day. It would target municipalities and their engineers. Prior coordination with New York State Department of Environmental Conservation (NYSDEC) Region 8 would be required. At the workshop, NYSDEC staff would cover the requirements of the Stormwater Pollution Prevention Plan with support from the Monroe County Department of Health and Soil and Water Conservation District.

2.8.2.2. Additional information: It should be stressed at the workshop that towns need enabling legislation that would allow a code enforcement officer or town engineer to enter property for inspection.

2.8.2.3. Time required: 30-40 hours of planning and 1 day for holding the workshop

2.8.2.4. Estimated costs: If the workshop is held at the Cornell Cooperative Extension Auditorium it would cost \$200 to \$500 for expenses. It would cost about \$1,000 for a planner to plan this workshop. Therefore, total costs should be around \$1,200 to \$1,500.

2.8.2.5. Possible funding sources: NYSDEC, U.S. Environmental Protection Agency, Monroe County, SWCD, and participants

2.8.2.6. Possible implementors: Representatives from the Monroe County Department of Health, SWCD, NYSDEC, and the municipalities would form a four-person committee to plan the workshops.

2.8.2.7. Expected benefits: Improved understanding of the stormwater SPDES permits would result in reduced pollutant loadings to area lakes, ponds and streams.

2.9. Reevaluate the rankings of the remedial measures, studies and monitoring methods every six years

2.9.1. Background

Status: High priority

Use impairments addressed: All

Additional information: The ranking processes for urban remedial measures, studies and monitoring methods are described in sections 10.1 and 10.3, respectively, of the *Stage II Rochester Embayment RAP*. The Urban Ranking Task Group method for decision making is described in Appendix E and the process for studies and monitoring methods is given in Appendix F of the *Stage II RAP Appendices*. Section 11.5.3.3 of *Stage II* describes the six-year RAP progress report.

2.9.2. Proposal

2.9.2.1. Description: Every six years, two ranking task groups would reevaluate remedial measures and studies/monitoring methods that have not been completed or are not yet underway. The reevaluation of the rankings would always be scheduled to occur one year before the six-year progress report, so that the results could be included in the report. The first six-year progress report is due in 2003, and therefore the reevaluation would occur in 2002. This reevaluation is a requirement expected in a RAP update document by the New York State Department of Environmental Conservation.

2.9.2.2. Time required: About eight hours of work will be needed from each ranking task group member (about 20 members total), and about eight additional hours per meeting to write agendas, minutes and attachments. About three meetings for each of the two task groups (urban remedial measures; studies and monitoring) will be needed.

2.9.2.3. Estimated costs: Approximately \$5,000

2.9.2.4. Possible funding source: Monroe County

2.9.2.5. Possible implementors: Monroe County Health Department Bureau of Water Quality Planning

2.9.2.6. Expected benefits: Would help to make the RAP dynamic and adaptable to changing conditions, and it would renew commitment to the RAP actions.

2.10. Investigate and remediate stormwater problems at Durand-Eastman Beach associated with local streams

2.10.1 Background

Status: Not evaluated; already being implemented

Use impairment addressed: Beach closings

Additional information: During storm events, pollution problems in the form of high fecal coliform counts have been present along the Durand-Eastman beach. A sampling program concluded that polluted non-point source stormwater from streams ONT-114 and ONT-115, which drain into Sherry Swamp, is a cause of this coliform problem. The current outfall from Sherry Swamp carries water under Lakeshore Boulevard and discharges it onto Durand-Eastman beach.

2.10.2. Proposal

2.10.2.1. Description: This proposal would remediate the stormwater-related problems at the beach that are linked to the nearby streams by rerouting Sherry Swamp's stormwater discharge.

A 1992 study conducted by the Sear-Brown Group recommended that the stormwater discharge from Sherry Swamp be routed through Van Lare's 66-inch secondary outfall, which extends 7,000 feet into Lake Ontario. That way the stream storm discharge from Sherry Swamp cannot pollute the beach. This project would require that a new intake structure be constructed in the center of the pond and this would have to be connected to the 66-inch outfall, which is no longer used by Van Lare. This project is currently number eight on the Clean Water/Clean Air Bond Act Project Priority List.

2.10.2.2. Time required: Two to three months for construction would be needed for each project.

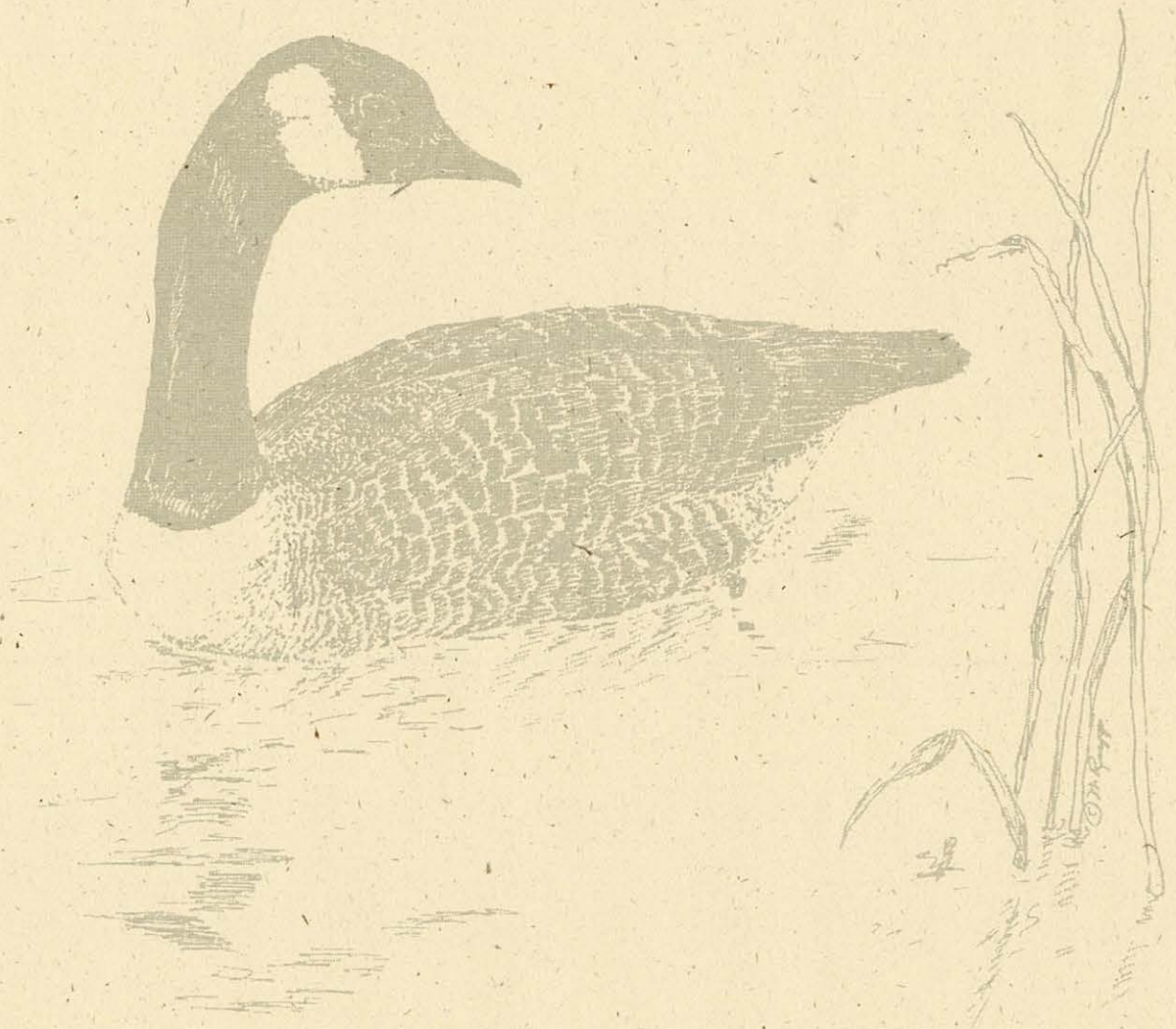
2.10.2.3. Estimated costs: \$425,000

2.10.2.4. Possible funding sources: Monroe County/Bond Act submission

2.10.2.5. Possible implementors: Monroe County

2.10.2.6. Expected benefits: Improvement of the water quality at the Durand-Eastman Beach

Chapter 3: Studies



3.1. Study the impact of the Erie Canal on the streams west of the Genesee River

3.1.1. Background

Status: Not evaluated; already being implemented

Use impairments addressed: #6, 8, 9, 10, 11, 13 & 14

Additional information: Section 3.17.1 of the *Stage II Rochester Embayment RAP* describes the relationship between the streams in Monroe County and the Erie Canal. Section 3.17.3 of the *Stage II RAP* describes a study that the Monroe County Environmental Health Laboratory has already done for the streams east of the Genesee River.

3.1.2. Proposal

3.1.2.1. Description: A study of the impact of the Erie Canal on the streams west of the Genesee River.

3.1.2.2. Additional information: As a result of the Monroe County/U.S. Geological Survey (USGS) Cooperative Agreement, flow rate, turbidity, total phosphorus concentration and other data are being collected in Northrup Creek. An upstream-downstream comparison study will be done to see how the Canal affects Northrup Creek. The plan is to use the Northrup Creek data to extrapolate impact for the other streams west of the River. The extrapolations will be based on the canal flow rates to these other streams. According to Richard Burton, this can be done because the Erie Canal water has a more uniform quality west of the Genesee River than it does east of the River. Sources of pollution to the other streams will be inferred by analyzing the land uses.

This proposal is already in the process of implementation so there is no need to evaluate it.

3.1.2.3. Time required: Approximately 3 days of measuring flow rates and 2 days of calculations for extrapolating for each stream. According to Richard Burton of the Monroe County Department of Health, most of the work on this project should be done by the end of 1997.

3.1.2.4. Estimated costs: To have an Environmental Laboratory Technician work 40 hours per stream would cost \$700 per stream.

3.1.2.5. Possible funding sources: Monroe County

3.1.2.6. Possible implementors: Monroe County Environmental Health Laboratory

3.1.2.7. Expected benefits: The knowledge on how the Erie Canal affects the streams west of the Genesee River

3.2 Add the percentage contribution from each source to *Stage II RAP* Table 3-19 relating use impairments to causes and sources

3.2.1. Background

Status: Not recommended at this time

Use impairments addressed: #1, 6, 7, 8, 9, 10, 11, & 14

Additional information: The updated Rochester Embayment use impairments, causes and sources table can be found in section 3.12 of the *Stage II Rochester Embayment RAP* (Table 3-19). It can also be found in the *RAP Executive Summary*, Section 2.3.

3.2.2. Proposal

3.2.2.1. Description: This project would concentrate on those use impairments that have known causes with multiple known sources. They are:

- PCBs (use impairment #1)
- Mirex (use impairment #1)
- Dioxin (use impairment #1)
- DDT (use impairment #1)
- Oxygen depletion (use impairments #6, 7)
- Fecal coliform (use impairments #7, 10)
- Ammonia (use impairment #7)
- Turbidity/sedimentation (use impairments #7, 9, 10, 11)
- Excess nutrients/algae/phosphorus (use impairments #8, 9, 10, 11)
- Litter (use impairment #11)
- Dead fish below Lower Falls (use impairment #11)

A task group of technical experts would be established to perform this study. For each cause of a use impairment, it would be necessary to:

- Achieve consensus on the sources listed in Table 3-19. (Should some of the listed sources be combined for calculation? Have some been remediated? Do some need to be better defined?)
- Decide whether or not to perform separate calculations for the River and Lake portions of the Embayment.
- Select the time frame for which mass loadings will be calculated.
- Identify protocols to calculate loadings from all sources.
- Collect data and perform computations.

3.2.2.2. Additional information: Attributing percentages to the sources of phosphorus is proposed to be done as part of a RAP action. Section 7.13.2 of the *Stage II RAP* describes a remedial action relating to phosphorus loadings in the Embayment. Participants in a RAP public workshop chose this remedial action as one of the first to be implemented. It will be implemented by the Eutrophication Oversight Committee.

3.2.2.3. Time required: To get estimates of percentages would take 6- 8 technical experts working several hours a month for more than a year.

3.2.2.4. Estimated costs: \$72,000

3.2.2.5. Possible funding sources: USGS, Monroe County

3.2.2.6. Possible implementors: USGS, Monroe County

3.2.2.7. Expected benefits: The study would indicate what sources are contributing the most to a cause of a use impairment. Such information would be useful in determining where to concentrate remedial efforts.

3.3. Support a study of the thermal effects of the RG&E discharge at Russell Station on eutrophication problems in the Rochester Embayment

3.3.1. Background

Status: Not recommended at this time

Use impairment addressed: Eutrophication or undesirable algae

Additional information: The release of heated water from industrial activity into a body of water may have an impact on incubation, hatching, growth, fecundity, and the survival of aquatic organisms, such as algae. In the Rochester Embayment, the decomposition of algae promotes the growth of coliform bacteria, creating potential health problems.

3.3.2. Proposal

3.3.2.1. Description: Recommend to the Monroe County Department of Parks that a proposed study with the U.S. Army Corps of Engineers on shoreline eutrophication include the effect of the thermal discharge from Russell Station.

3.3.2.2. Additional information: The Monroe County Department of Parks and the U.S. Army Corps of Engineers are discussing a joint study on eutrophication along the lakeshore. It is proposed that a recommendation be made to the Monroe County Department of Parks that the thermal discharge from RG&E be included in this joint study, if the study takes place. The recommendation would be written by a Monroe County Department of Health staff person. The recommendation would be reviewed, revised and submitted to the Director of the Monroe County Department of Parks.

The New York State Pollutant Discharge Elimination System Discharge Permit for RG&E permits a daily maximum discharge temperature of 103° F (39.5°C). It permits a daily maximum intake/discharge temperature difference of 45°F (25°C). The thermal discharge limits are set to assure the protection and propagation of a balanced indigenous population of shellfish, fish and wildlife in and on Lake Ontario. The New York State Department of Environmental Conservation has reviewed the permit and has determined that the limits will assure protection.

The thermal input from Russell Station to Lake Ontario is limited to a discharge zone area, which has been estimated to typically be about 206 acres at the Lake surface and 47 acres on the bottom of the Lake. Outside this limited area there is no temperature increase within Lake Ontario due to this discharge. Thermal impacts upon planktonic algae would be limited to the time it takes such organisms to pass through the discharge zone, which would only be on the order of hours.

In 1976, RG&E did a theoretical evaluation of the impact of the thermal plume on *Cladophora* at Russell Station. RG&E determined that the life activities and biomass of *Cladophora* would be severely limited around the surface discharge point. Outside this zone, *Cladophora* would not be impacted. The report concluded that the Russell thermal plume from Slater Creek has a negligible adverse impact on *Cladophora*.

Since 1997, *Spirogyra* algae has been present in measurements made at Ontario Beach in June and July. *Cladophora* algae is the dominant species from mid-July through Fall.

3.3.2.3. Time required: Ten hours for the writing of a draft letter, for review and comment, and for revisions after review.

3.3.2.4. Estimated costs: <\$250 for the recommendation to the Monroe County Department of Parks.

3.3.2.5. Possible funding sources: Monroe County Department of Health

3.3.2.6. Possible implementors: Monroe County Department of Health

3.3.2.7. Expected benefits: Further understanding about whether or not the RG&E thermal discharge contributes to the eutrophication problem at Ontario Beach.

3.4. Study the effect of the Court Street Dam on the benthic community upstream from the dam and require that environmental effects be strongly considered as a factor in regulating water levels above the dam

3.4.1. Background

Status: Proposal withdrawn

Use impairment addressed: Degradation of benthos

Additional information: Raising and lowering the water levels of a river can have a negative impact on the health of the river's benthic, or bottom-dwelling, organisms. RG&E can regulate the Genesee River's level with the Court Street Dam.

3.4.2. Proposal

3.4.2.1. Description: It is proposed that a study be done to examine the effects of the operation of the Court Street Dam on the benthic community upstream. This would mean comparing the current benthic community to one where there is no dam. It also is proposed that environmental effects be considered as a factor in regulating water levels above the Court Street Dam.

3.4.2.2. Additional information: According to Paul Schmied of the New York State Department of Environmental Conservation (NYSDEC), no benthos data is available for the Court Street Dam. He believes that the effect of the dam's operation on the benthos is minimal. In the summer, the dam only fluctuates water levels a little, therefore the benthos is not really affected. In the winter, at peak levels, benthic organisms are either dead or buried in the mud.

A study of the benthic community upstream from the Court Street Dam could be similar to the study described in section 4.5.2 of the *Stage II RAP*. However, the study would probably be limited to the Phase 1 (species composition, abundance and diversity) study, which should provide a good picture of the health of the benthic community upstream of the dam.

Due to the many changes in conditions in and around the Genesee River since the Court Street Dam was built, a suitable control site that would represent "before dam" conditions could not be identified. Therefore, the proposal was withdrawn.

3.4.2.3. Time required: Approximately one year

3.4.2.4. Estimated costs: \$15,000 to \$20,0000

3.4.2.5. Possible funding sources: NYSDEC, RG&E

3.4.2.6. Possible implementors: NYSDEC, local university

3.4.2.7. Expected benefits: A study to determine if dam operations can affect the benthic community upstream of the dam may help to make up for a current lack of information on the subject.

3.5. Focus on local foundries, past and present, to investigate potential sources of PCBs

3.5.1. Background

Status: Not recommended at this time

Use impairments addressed: #1, 3, 5, & 6

Additional information: According to *The Late, Great Lakes: An Environmental History* (Ashworth, 1986), PCBs were used in aluminum foundries as lubricants for molds from the 1950s to the 1970s. It may be possible that aluminum foundries in Monroe County have contributed to the release of PCBs into local waters.

3.5.2. Proposal

3.5.2.1. Description: This study would help to determine the possible locations of PCB-contaminated sediments and soils. The first step would be to learn the extent of PCB use by foundries. The second step would be to locate the foundries. Monroe County telephone directories from the 1950s to the 1970s are available from the Rochester public library system. From these directories one could identify the foundries and, by cross-referencing the given addresses with a map, one could locate the foundries. This research could be done by an intern. The information would be forwarded to the Monroe County Waste Site Advisory Committee (WSAC) and the Monroe County Environmental Management Council (EMC). (See Section 6.18 of the *Stage II RAP* to learn more about the activities of the WSAC.) The EMC could use the information when reviewing proposed developments to ensure that developers take historic uses of land into account.

Additional resources that may be helpful in locating sites where PCBs were used are:

- Polk Directories (annual directories of businesses and residents, listed by alphabet, address and telephone), located at the public library.
- Sanborn Fire Insurance Maps, located at the public library. (This would be a good source for the City of Rochester, but may not be a source for the suburban areas.)
- Interviews with long-time residents in the municipalities.

The historian at the library may be able to suggest additional resources.

3.5.2.2. Time required: An intern could accomplish the library research in about a month. The time of a professional staff person would be required for supervision of the intern.

3.5.2.3. Estimated costs: An intern could work for college credit instead of pay. Using a paid intern would cost about \$1,000. There would be an additional cost for the time of a staff person to supervise the intern.

3.5.2.4. Possible funding sources: Monroe County, NYSDEC

3.5.2.5. Possible implementors: Monroe County

3.5.2.6. Expected benefits: May help to locate potential PCB concentrations in sediments and soils

3.6. Verify whether a fishless segment exists in the lower Genesee River using gill nets

3.6.1. Background

Status: To be referred to the Studies and Monitoring Task Group

Use impairment addressed: Degradation of fish and wildlife populations

Additional information: Background information and a description of the intensive hydroacoustic fish survey can be found in Section 4.2 of the *Stage II Rochester Embayment RAP*.

3.6.2. Proposal

3.6.2.1. Description: According to Dr. James Haynes of the SUNY Brockport Department of Biological Sciences, a study using gill nets would be less expensive and may provide more useful information than a hydroacoustic study. This proposal should be referred to the Studies and Monitoring Task Group as a possible alternative to a hydroacoustic study.

The study would involve placing two gill nets and two trap nets at a suspected fishless site and at a control site. The four nets would be placed at the sites in the afternoon and collected the following morning after spending 18 hours in the Genesee River. This would be done at least once for three seasons: Spring, Summer, and Fall. The number of fish caught during each session would be counted and the experimental site would be compared to the control. Conclusions would then be made based on that information.

Since no large fishkills have been reported when these suspected fishless segments have temporarily appeared, it has been surmised that the fish either avoid a region of the River when the local water quality is poor or they move rapidly through that region to better portions of the River. The nets would be able to capture migrating fish and would give some idea of the behavior of fish in these segments.

3.6.2.2. Additional information: During the *Lower Genesee River Study* (New York State Department of Environmental Conservation, August 1995), weekly fish-finder sampling trips over two five-month field seasons were unable to verify the existence of a fishless segment.

3.6.2.3. Time required: About 2 days per season for a 4-person team to place and collect the nets, organize the data and prepare a report.

3.6.2.4. Estimated costs: Up to \$12,000

3.6.2.5. Possible funding sources: Monroe County, New York State Department of Environmental Conservation, anglers clubs, City of Rochester

3.6.2.6. Possible implementors: Local universities

3.6.2.7. Expected benefits: Would verify whether fishless segments exist in the Genesee River

3.7. Review the list of Rochester Embayment Priority Chemical Pollutants for possible additions or deletions

3.7.1. Background

Status: Referred to the Toxics Oversight Committee, Priority Chemical Pollutant Ranking Subcommittee

Additional information: The list of Priority Chemical Pollutants for the Rochester Embayment can be found in the *Stage II RAP*, Table 3-20.

3.7.2. Proposal

3.7.2.1. Description: The Evaluation Committee for New Proposals does not need to evaluate this proposed study. The Toxics Oversight Committee, Priority Chemical Pollutant Ranking Subcommittee has agreed to review the list for possible additions or deletions.

3.8. Discover the reasons for the large differences from year to year in Toxics Release Inventory (TRI) data

3.8.1. Background

Status: High Priority

Use impairments addressed: # 1, 3, 8, 9, 10, 11 & 13

Additional information: Table 5-5 in the *Stage I Rochester Embayment RAP* and Table 3-13 in the *Stage II Rochester Embayment RAP* provide stack emissions data for Allegany, Livingston, Genesee, Monroe and Orleans counties from different years. This data is from the Toxics Release Inventory (TRI) database.

3.8.2. Proposal

3.8.2.1. Description: The purpose of this study would be to learn the reasons why large differences, both increases and decreases, exist for some individual chemical stack emissions data from year to year. First, it would have to be determined which chemical emissions underwent large changes by comparing the county stack emissions data for the years for which it is available. Then the individual chemical stack emissions for a county can be looked at on a company-by-company level to see which companies had contributed to the large differences in the emission of the chemical. Those companies that had large differences would be contacted and an explanation for the change in emissions would be requested.

Expected reasons include: Change in industrial production levels, modifications to production processes; implementation of pollution prevention measures, change in reporting requirements for industry sector and size, change in chemical use reporting thresholds, and reporting compliance.

3.8.2.2. Additional information: Both the company and county TRI data can be obtained from the New York State Department of Environmental Conservation if the Water Quality Bureau does not already have the data. The criteria for the definition of a “large” difference in stack emissions would have to be determined. Perhaps a five- to ten-fold difference would define a “large difference.”

3.8.2.3. Time required: About 50 hours for a single junior planner to gather the data and contact companies. The junior planner could be assisted by a student intern.

3.8.2.4. Estimated costs: Approximately \$18/hour, for a maximum cost of \$900. The student intern could work for college credit.

3.8.2.5. Possible funding sources: Monroe County, New York State Department of Environmental Conservation (NYSDEC)

3.8.2.6. Possible implementors: Monroe County Department of Health, NYSDEC

3.9. Consider alternative modes of transporting concrete so that dredging of the Genesee River will not be required

3.9.1. Background

Status: Proposal withdrawn

Use impairments addressed: # 6, 7, 10, 11

3.9.2. Proposal

3.9.2.1. Description: If Portland Cement Company vessels are the sole reason for the U.S. Army Corps of Engineers(COE) dredging of the Rochester Harbor, investigate alternative methods of shipping concrete so that dredging of the Harbor will be unnecessary.

3.9.2.2. Additional information: The COE dredges 22 feet at the harbor entrance and 21 feet in the channel, as compared to a standard reference point in Ontario (25 feet from the surface of the water to the bottom at the harbor entrance and 24 feet in the channel). There is one additional commercial interest using the Rochester Harbor, the Spirit of Rochester tour boat. Some dredging would have to be done for the Spirit of Rochester and recreational boats, but the COE does dredge further upstream because of Portland Cement. Portland Cement is a very active user of the Harbor. If the Company used the harbor only once or twice a year, the COE would consider discontinuing the dredging for this purpose.

Funding for dredging comes from the Harbor Trust Fund, a fund developed by taxing the commercial interests that require dredging. The fund is also used to dredge for recreational boating where there is no commercial need.

3.10. Study alternatives for the use of herbicides to control roadside vegetation on the Monroe County highway system

3.10.1. Background

Status: High priority

Use impairments addressed: #3, 5, 14, and possibly #9

Additional information: Vegetation grows along roadsides and may hide signs and guard rails, compromising the safety of motorists, pedestrians and others using the roads. Herbicides are currently sprayed along some of the roadsides in Monroe County to control the vegetation that grows there. Mowing is done in some areas but is difficult near posts. Since roads and waterbodies are often separated by guard rails, chemicals sprayed there may enter the water below.

Concerns about herbicides in watersheds include:

- Herbicides may have a harmful effect on the water and the flora and fauna present in and around it.
- Synergistic effects of compounds in the spray solution are not known.
- Surfactants used to help herbicides bond to plants may be absorbed through amphibian skin and any effect is unknown.
- Variable factors present in nearby waterbodies, such as pH or temperature, may affect bioavailability or take-up of chemicals.
- Rainfall immediately after spraying may run off the roadside and fill ditches. In this and other ways, the runoff could carry chemicals into distant waterbodies or contaminate groundwater.
- Groundwater contamination may present a health hazard to those who depend upon wells for drinking water.

Alternatives to explore may include using asphalt around posts, using low-growing plant species, or mowing using an articulated roadside mower. Weeds might be controlled with a program such as Adopt-a-Highway.

3.10.2 Proposal

3.10.2.1. Description: A task group of technical experts and concerned citizens would identify viable alternatives to the spraying of herbicides along County roadsides. The study would include making recommendations to improve existing requirements, including reporting. The Monroe County Department of Transportation (DOT) would be asked to participate in the task group and to assist with the development of alternatives. Representatives of other agencies and organizations would also be asked to participate.

In a timely fashion, the task group would make a recommendation about alternatives to the WQMAC, which would then make a recommendation to the Monroe County DOT on the use of alternatives to spraying of herbicides.

3.10.2.2. Additional information: In Monroe County herbicide applicators are certified, but State law does not require this. (It requires only that the supervisors of the applicators be certified.)

The New York State Department of Environmental Conservation (NYSDEC) has stated that laboratory procedures are not sufficient for testing whether herbicide formulations are mixed correctly.

State law does not require prohibition of spraying near a waterbody other than a State-regulated wetland, but the Monroe County DOT states that their applicators do not spray near streams. Ditches with no water in them at the time of application can be sprayed.

3.10.2.3. Time required: (1) Research and preparation of recommendations: Twelve persons, 10 hours each; (2) review and revisions: 10 hours; (3) staff assistance: 10 hours; (Total: 140 hours)

3.10.2.4. Estimated costs: The task group will probably be made up of a mixture of volunteers, representatives participating as part of their jobs, and one support staff. Assuming 6 volunteers, 6 paid positions contributing work time, and one support staff, the cost would be about \$2,000.

3.10.2.5. Possible funding sources: Monroe County Department of Health (staff time), Monroe County DOT

3.10.2.6. Possible implementors: WQMAC, Monroe County Department of Health, Monroe County DOT

3.10.2.7. Expected benefits: Water quality and flora and fauna would not be impacted by the application of herbicides. County actions would serve as a positive example for other counties and for citizens.

3.11. Determine and evaluate alternatives for the uses of pesticides and herbicides in Monroe County

3.11.1. Background

Status: High Priority

Use impairments addressed: #3, 5, 14, and possibly #9

Additional information: Unwanted vegetation, insects and other pests occur in many places and may affect aesthetics or economic returns. Herbicides and pesticides are currently used in Monroe County to control unwanted vegetation, insects, etc. Any chemicals applied or their breakdown products may eventually enter water bodies.

Concerns about herbicides and pesticides in watersheds include:

- These compounds may cause harmful effects to non-target biota in the water and riparian areas.
- Synergistic effects of these compounds are unknown but potentially large.
- Surfactants, oils, and other carriers used in herbicide and pesticide formulations also may be toxic to biota (e.g., absorbed through the skin of amphibians and the gills of fish).
- The degree of harm of herbicides and pesticides in aquatic systems may be influenced by water quality conditions (e.g., temperature, pH, dissolved oxygen, etc.).
- Rainfall soon after applications of pesticides and herbicides causes rapid runoff of these compounds into local water bodies.
- Groundwater contamination presents health hazards to those who depend on wells for drinking water.

3.11.2. Proposal

3.11.2.1. Description: For independent study credit, students from local colleges will engage in library research and interviews with knowledgeable people in the public and private sectors to identify alternative, non-chemical strategies to control unwanted vegetation, insects, etc. in Monroe County. Results of these studies, in the form of one or more reports, will be presented to the Monroe County Water Quality Management Advisory Committee (WQMAC) for discussion and possible recommendations to county agencies, local governments, private applicators, etc., regarding ways to reduce herbicide and pesticide use in Monroe County.

Due to the Food Quality Protection Act, dynamic changes are currently occurring in the pesticide industry. Consequently it is recommended that the students contact all key agencies and organizations involved in drafting guidelines and regulations under the Act, including, but not limited to Cornell Cooperative Extension, Cornell University, the New York State Department of Environmental Conservation (NYSDEC), and the U.S. Environmental Protection Agency.

3.11.2.2. Additional information: The New York State Pesticide Reporting Law (Chapter 279, Laws of 1996) was enacted on July 8, 1996. The Law requires every certified commercial pesticide applicator, commercial permit holder, and importers, manufacturers and compounders of pesticides to report regulated pesticide activities from January 1 through December 31 each year. The first report was due to the NYSDEC no later than February 1, 1998 for the period

January 1 through December 31, 1997. NYSDEC, in conjunction with Cornell University, is required to develop a pesticide sales and use computer database and generate an annual report summarizing pesticide sales, quantity of pesticides used, category of applicator, and region of application. The first report is due July 1, 1998. This information will provide estimates of the types and amounts of pesticides used in Monroe County annually.

State law does not prohibit application of pesticides or herbicides near a water body other than a State-regulated wetland.

A committee composed of representatives of Monroe County departments has been formed to incorporate the use of Integrated Pesticide Management into Monroe County policy and to share information among departments. The committee is not studying alternatives to pesticides or herbicides.

3.11.2.3. Time required: Approximately six months for each independent study project

3.11.2.4. Estimated costs: None; students will earn college credit for their efforts

3.11.2.5. Possible funding sources: Not applicable

3.11.2.6. Possible implementors: Local colleges or universities

3.11.2.7. Expected benefits: Obtain information on the types and amounts of pesticides and herbicides applied in Monroe County annually. Inform County residents of problems with and alternatives to common uses of pesticides and herbicides. Reduce runoff of pesticides and herbicides into local water bodies.

3.12. Identify and eliminate problems caused by in-building drains and cross connections

3.12.1. Background

Status: High Priority

Use impairments addressed: #6-14

Additional information: In Monroe County there has been no uniform long-term policy for the connection of residential and non-residential in-building drains, such as floor drains, to sewer systems. Some of these drains are noted in records and some are not. Some of these drains discharge into sanitary sewers, some discharge into dry wells, and some discharge into storm sewers. Some of the common chemicals poured into these drains are oils, degreasers, and paints (which should be recycled). In-building drains should lead to a sanitary sewer so that any contaminants will not go directly to a waterway or groundwater. There is a concern that some of these in-building drains may have been set up improperly and are contributing to water pollution in Monroe County.

A cross connection occurs when a sewer connection goes to the wrong place. Sanitary wastewater may end up in storm sewers, polluting waterways, or stormwater may end up in sanitary sewers, causing water treatment plants to become overburdened. A cross connection is most often the result of human error. Sometimes stormwater is discharged into sanitary sewers simply because there are no convenient storm sewers in the area. As an example, the Town of Chili has been experiencing great increases of flow into sanitary sewers during storm events. This is in part because sump pumps have been inadvertently connected to sanitary sewers. The Monroe County Department of Environmental Services did house-by-house inspection of the Buffalo Road and Union Street areas. Of the 670 homes inspected, 62 were found to have illegal sump pump connections to sanitary sewers. The alternatives for remediating this problem will need further evaluation with the cooperation of the Town of Chili.

Planners should consider requirements for storm sewers in any developing area to receive non-contaminated water from down spouts and sump pumps.

3.12.2. Proposal:

3.12.2.1. Description: A pilot program would be set up for a single Monroe County town or smaller area within a town that has a county/town intermunicipal agreement. The program would involve inventory and documentation of all of the residential and non-residential in-building drains (including garages) and cross connections in the defined area. This may include some dye testing and smoke testing to help determine where a drain or sewer connection discharges.

3.12.2.2. Time required: Development of a pilot program, inventory and documentation, would take about two years, based on a similar project in Plymouth MN.

3.12.2.3. Estimated costs: Approximately \$30,000 was estimated for inventory and documentation of *in-building drains* in one town. In Plymouth, MN the cost of an inspection program for *cross connections* in a city of 50,000 (larger than the size of a likely pilot program)

was \$250,000. The cost would vary widely depending on the size of the pilot program. These cost estimates do not include the cost of remediation which could be very expensive.

3.12.2.4. Possible funding sources: Monroe County, municipality, grant sources

3.12.2.5. Possible implementors: Monroe County, municipality

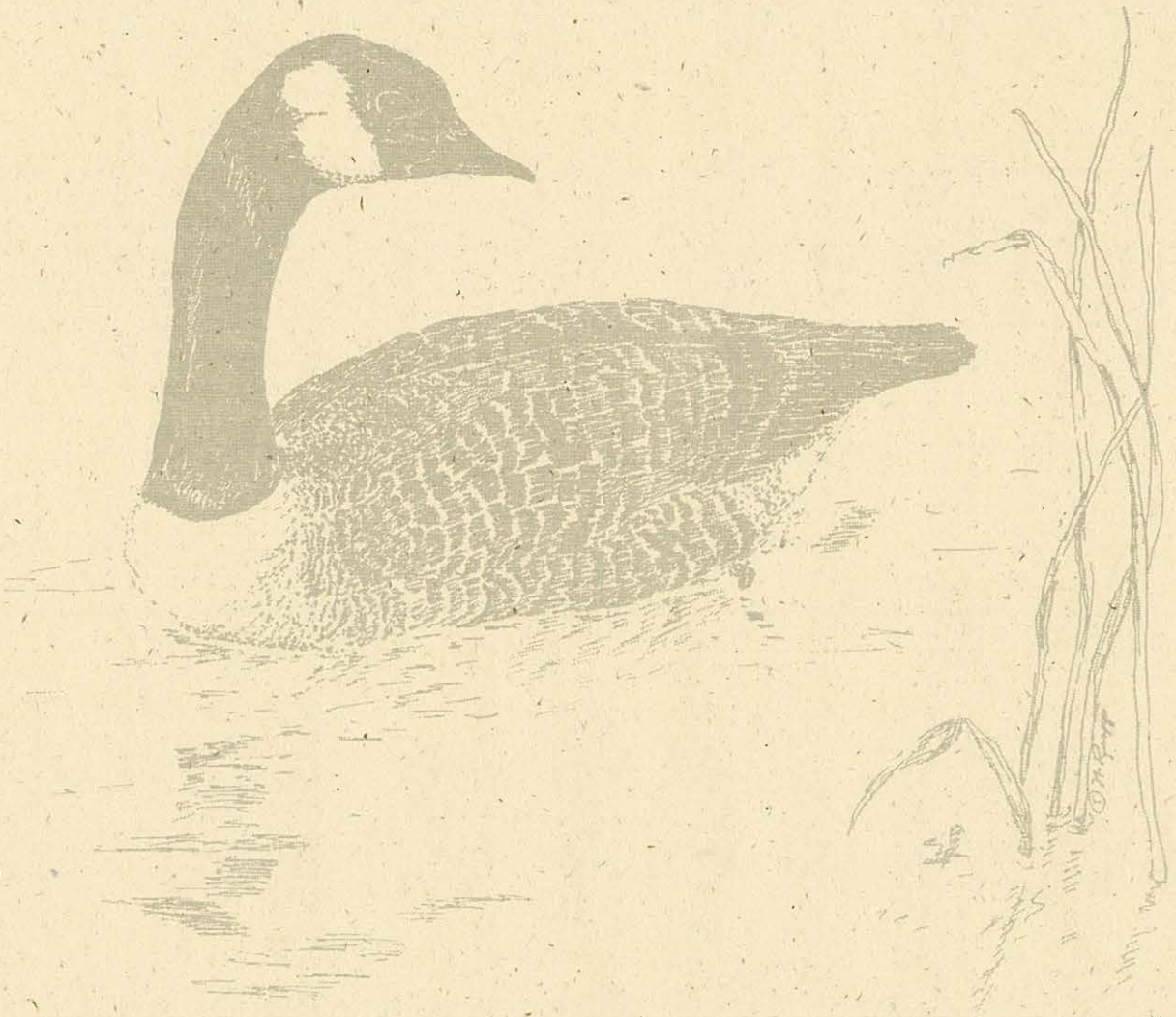
3.12.2.6. Expected benefits: The pilot program could become the basis for:

- An education program in the pilot program area
- Remediation in the pilot program area
- An inspection program in a larger area
- Improvements and requirements for construction and inspection of new facilities with in-building drains and/or sewer connections.

Use of this information could result in: (1) Less pollution of groundwater due to in-building drains that are not connected to a sewer system, (2) Less pollution discharged to waterways via in-building drains or sanitary waste connections to storm sewers, (3) Less stormwater discharge into sanitary sewers and less frequent overburden of wastewater treatment plants.

1. The first step in the process of identifying a problem is to define the problem clearly. This involves identifying the symptoms of the problem and determining the scope of the problem. Once the problem has been defined, the next step is to identify the causes of the problem. This involves identifying the factors that are contributing to the problem and determining the underlying causes. Once the causes have been identified, the next step is to develop a plan of action to address the problem. This involves identifying the steps that need to be taken to solve the problem and determining the resources that will be needed to implement the plan. Finally, the last step in the process is to evaluate the results of the plan and determine whether the problem has been solved. This involves monitoring the progress of the plan and making adjustments as needed.

Chapter 4: Monitoring Methods



4.1. Monitor the surge control project at the mouth of the Genesee River

4.1.1. Background

Status: Proposal withdrawn

Use impairment addressed: Beach closings

Additional information: There is ongoing monitoring and modeling of Ontario Beach and the Genesee River. This is described in Sections 6.42 and 9.3.1 of the *Stage II Rochester Embayment RAP*.

4.1.2. Proposal

4.1.2.1. Description: Determine if the surge control project affects beach closings in the Rochester Embayment by learning if there is a change in beach conditions that can be positively linked to the project.

4.1.2.2. Additional information: The U.S. Army Corps of Engineers (COE) did an Environmental Assessment of the surge control project in accordance with the National Environmental Policy Act of 1969. The COE determined a Finding of No Significant Impact for the surge control project.

After consultation with Don Borkowski of the COE and Richard Burton of the Monroe County Environmental Health Laboratory, the proposal was withdrawn. The surge control project is expected to have virtually no impact, either positive or negative, on the water quality at Ontario Beach.

4.2. Monitor a species population after a species has been introduced

4.2.1. Background

Status: Not recommended at this time

Use impairments addressed: #3, 5, & 14

4.2.2. Proposal

4.2.2.1. Description: This proposed monitoring method would involve stocking mink, otter, or other species in an area of the lower Genesee River to serve as an indicator of environmental quality. The animals would be monitored for population changes. Information that would be needed before a release includes:

- Baseline water quality assessment.
- Forage base for the animals.
- Viability of location - The minimum of 20 animals needed for a release would require several thousands of acres. The area should not have many roads or bridges where the animals can be killed.

Consultation with a wildlife specialist would be part of the planning for a release.

4.2.2.2. Additional information: General inferences can be made about the environmental quality of the chosen area based on the population monitoring. However, if it is concluded that the quality of the environment is poor, then a more intensive study may have to be started to determine the causes. Many of the experts at the International Joint Commission (IJC) 1991 Expert Consultation Meeting on Mink and Otter felt that there is not enough known about the status of the mink and otter in the Great Lakes Basin and that there is insufficient knowledge about factors that can affect that status. Therefore, those animals may currently be a poor choice for bioindicator species for an intensive study.

A wide variety of environmental organizations and business interests are sponsoring the New York River Otter Project, Inc. The Project's primary objective is to transfer approximately 180 to 270 otters from areas of New York State where the otter is faring well to nine carefully selected locations in central and western New York over a period of 10 years. As of Summer 1997, 60 otters have been released. By Fall 1997, 10-15 otters wearing transmitters will have been released in Letchworth Park. They will be monitored by a PhD candidate from Pennsylvania State University. (Any monitoring of other released otters will be visual.)

4.2.2.3. Time Required: The proposed project would require many years of monitoring. (The Letchworth Park project will be monitored for one year, the lifetime of the transmitters.)

4.2.2.4. Estimated costs: Initial stocking costs would be about \$20,000 for a healthy wild otter population of ten males and ten females, about \$5,000 for mink.

4.2.2.5. Possible funding sources: U.S. Fish & Wildlife Service (USFWS), New York State Department of Environmental Conservation (NYSDEC), nonprofit group to be a fundraiser, grants

4.2.2.6. Possible implementors: USFWS, NYSDEC, university

4.3. Periodically inventory municipalities on their land use policies designed to help meet water quality goals

4.3.1. Background

Status: Recommended

Use impairments addressed: All

4.3.2. Proposal

4.3.2.1. Description: The assessment of the land use policies of the municipalities in Monroe County is proposed. This assessment would be similar to a "report card" and would consist of two methods:

Method 1. Inventory of town regulations and policies that are pertinent to water quality such as:

- Town drainage and erosion control policies
- Town intergovernmental agreements with Monroe County to protect water quality
- Towns that have environmental overlays for their zoning maps
- Enforcement of the stormwater State Pollution Discharge Elimination System
- Development of stormwater wetlands
- Open space preservation programs
- Construction specifications and conditions for permits

This data could be collected by an intern working with the Monroe County Environmental Management Council (EMC) or the Monroe County Bureau of Water Quality Planning.

Method 2. Land use categories in a town would be mapped, based on an examination and interpretation of aerial photographs. An imperviousness rating scheme would be selected to relate each land use category to a percentage of imperviousness. Given the number of acres in each land use category in the town and the imperviousness of each category, a percentage of imperviousness for the town could be calculated. It should be stated, along with the imperviousness percentage results, what the accuracy of this method is. The mapping would have to be performed by Monroe County Department of Planning and Development staff or by a consultant.

For either method, a baseline inventory should be conducted as soon as possible. After the information is collected, it should be reviewed by a sub-group of the Monroe County Water Quality Management Advisory Committee (WQMAC) with participation by members of the EMC and Monroe County Water Quality Coordinating Committee (WQCC). It would have to be determined how often the inventory would be repeated. Every five years is the suggested time period.

There would be no consequences to these assessments, but reports on the municipalities would be available to the public.

4.3.2.2. Additional information: An environmental "report card" has the potential to cause hard feelings. The EMC does not currently have the staff or funding to contribute to this project.

4.3.2.3. Time required:

Method 1. An intern would need about four months full time to do an inventory of the town drainage policies, etc. Review of the data would take five people about 24 hours each. A significant amount of staff time would be needed to oversee the project.

Method 2. It would take approximately one week to remap a town to show land use, about 20 weeks total. (Some of the towns may have been recently mapped as part of a watershed plan.)

4.3.2.4. Estimated costs:

Method 1. An intern could work for college credit. If paid, intern costs would be about \$4,500. There could be a significant additional cost for staff time to oversee the project (approximate value of \$4,000). The cost of reviewing the data would vary depending on how many of the reviewers are volunteers. It could vary from \$4,000 to \$8,500.

Method 2. It would cost \$20/hour for a County staff person to do a remapping for a total cost of about \$16,000. An outside consultant would cost more.

4.3.2.5. Possible funding sources: Monroe County

4.3.2.6. Possible implementors: WQMAC, EMC, WQCC, Monroe County Department of Planning and Development

4.3.2.7. Expected benefits: An inventory of towns may be an incentive for towns to increase their water quality protection activities and would provide valuable information for persons involved with water quality.

4.4. Encourage more stringent permit limits and increased monitoring if and when permit limits for chemicals on the list of High Priority Chemical Pollutants are documented

4.4.1. Background

Status: Recommended

Use impairments addressed: #1, 3, 5, 6, 7, 8, 9, 10, 11, 13 & 14

Additional information: The list of High Priority Chemical Pollutants can be found in Table 3-12 of the *Stage II Rochester Embayment RAP*. The proposal for documenting changes in permit limits for chemicals on the list of High Priority Chemical Pollutants, when permits of Rochester Embayment watershed facilities are renewed, is described in section 9.14.2 of the *Stage II RAP*. Based on the information in Table 10-7 of the *Stage II RAP*, 38% of the Studies and Monitoring Task Group voted "high priority" on this proposed monitoring method.

4.4.2. Proposal

4.4.2.1. Description: It is proposed that Monroe County track evolving permit limits and chemical standards and criteria for the Rochester Embayment RAP High Priority Chemical Pollutants (HPCPs) with regard to State Pollution Discharge Elimination System (SPDES) permits. The New York State Department of Environmental Conservation (NYSDEC) would create a retrieval from the Permit Compliance System database of SPDES permits targeting:

- Facilities in Monroe County
- Chemicals on the HPCP list
- Permit renewal dates (SPDES permit renewal dates are also published in the biweekly *Environmental Notice Bulletin* on an ongoing basis.)

Such a retrieval would be requested every five years, as that is the length of time for a SPDES permit. (Permit renewal is staggered so that all permits are not renewed in the same year.) A Monroe County Department of Health Water Quality Planning Bureau staff person would work with the NYSDEC to establish the process.

When a permit is soon to be renewed at a facility that discharges a HPCP, Monroe County representatives would contact NYSDEC to obtain any new criteria, standards, or information regarding the chemicals on the HPCP list. A system for commenting on SPDES permits is already in place. In their comments, Monroe County representatives should note that the permit involves HPCPs for the Rochester Embayment and use that as a basis for encouraging stricter permit limits and increased monitoring.

As a result of the Great Lakes Initiative/Guidance (see the *Stage II RAP*, Section 6.4), there will soon be stricter standards and criteria for bioaccumulative chemicals of concern, some of which are on the Rochester Embayment list of HPCPs.

4.4.2.2. Time required: A few hours a year

4.4.2.3. Estimated costs: Under \$100/year

4.4.2.4. Possible funding sources: Monroe County

4.4.2.5. Possible implementors: Monroe County Department of Health, NYSDEC

4.4.2.6. Expected benefits: Monroe County could keep track of changing permit criteria and standards as well as comment on the proposed permit limits to the NYSDEC

4.5. Encourage the NYSDEC to alter SPDES permit reporting requirements and database storage so that accurate annual loadings can be calculated as a monitoring method

4.5.1. Background

Status: Not recommended at this time

Use impairments addressed: All except additional costs to agriculture and industry

Additional information: The difficulties of using the current New York State Department of Environmental Conservation (NYSDEC) State Pollution Discharge Elimination System (SPDES) reporting and database system for calculating annual loadings are described in Section 3.13 of the *Stage II Rochester Embayment RAP*. Water year 1991 (October 1990 to September 1991) SPDES data were used for both stages of the RAP. Data for Stage I represented total loadings from all sources, but for Stage II the data were broken down into discharges from individual sources. Calculating the yearly average loadings for each individual company was difficult and had to be performed manually by a NYSDEC staff person, as the NYSDEC's requirements for reporting vary depending on the circumstances.

4.5.2. Proposal

4.5.2.1. Description: To encourage the NYSDEC to alter its SPDES reporting requirements, it is proposed that a formal request be sent to NYSDEC from the Monroe County Water Quality Management Agency (WQMA) with the backing of the Water Quality Coordinating Committee (WQCC) and Water Quality Management Advisory Committee (WQMAC). This request, in the form of a letter, would ask NYSDEC Bureau of Watershed Management to change its reporting requirements for SPDES permits in the Rochester Embayment in order to allow for the monitoring of loadings. Some discussion at meetings of the WQMA, WQCC and WQMAC members would be needed to help in the preparation of this letter.

4.5.2.2. Additional information: According to Robert Townsend, from the NYSDEC Bureau of Watershed Management, NYSDEC is not planning on changing its reporting requirements for SPDES permits. Reporting requirements for SPDES permits are done on a company-by-company basis and are also based on the particular conditions of the body of water the company is discharging into, hence the differences in reporting requirements. The purpose of the permitting system and its associated database are to protect the waters of New York State, not to calculate loadings or concentrations. Because much of the information in the database is reported as maximum values, Townsend suggests that trend analysis is the best way to use the database for comparison purposes. He also says that the SPDES data is not the most accurate way to measure loadings for the Rochester Embayment because the SPDES only measures point sources, while most of the pollution in the Embayment may be due to nonpoint sources.

Instead of changing the database, Townsend suggests implementing monitoring programs to measure for various contaminants. Such monitoring programs provide more accurate information on the level of contamination. It would also be possible to do an upstream-downstream monitoring approach to determine possible sources of pollution.

If there is still a desire to calculate annual loadings from SPDES permit data, then the calculations would have to be done manually. This was done for the *Stage I Rochester*

Embayment RAP, and it required a significant amount of time to accomplish. Unlike the first set of calculations, these new calculations would not be done by a NYSDEC staff person.

4.5.2.3. Time required: It would take about 12 hours for a Bureau of Water Quality Planning staff person to lead discussions at WQMA, WQCC and WQMAC meetings, write a formal request, request comments, make revisions and submit the letter to the NYSDEC.

4.5.2.4. Estimated costs: It would cost about \$300 to have a staff person work on the formal request

4.5.2.5. Funding sources: Monroe County

4.5.2.6. Possible implementors: Bureau of Water Quality Planning, WQMA, WQCC, WQMAC

4.6. Monitor indicator species populations and compare with historical data – candidates include sturgeon and whitefish

4.6.1. Background

Status: Projects are already being implemented, additional methods to be implemented

Use impairment addressed: Fish and wildlife habitat

4.6.2. Proposal

4.6.2.1. Description: Monitor indicator species populations and compare with historical results

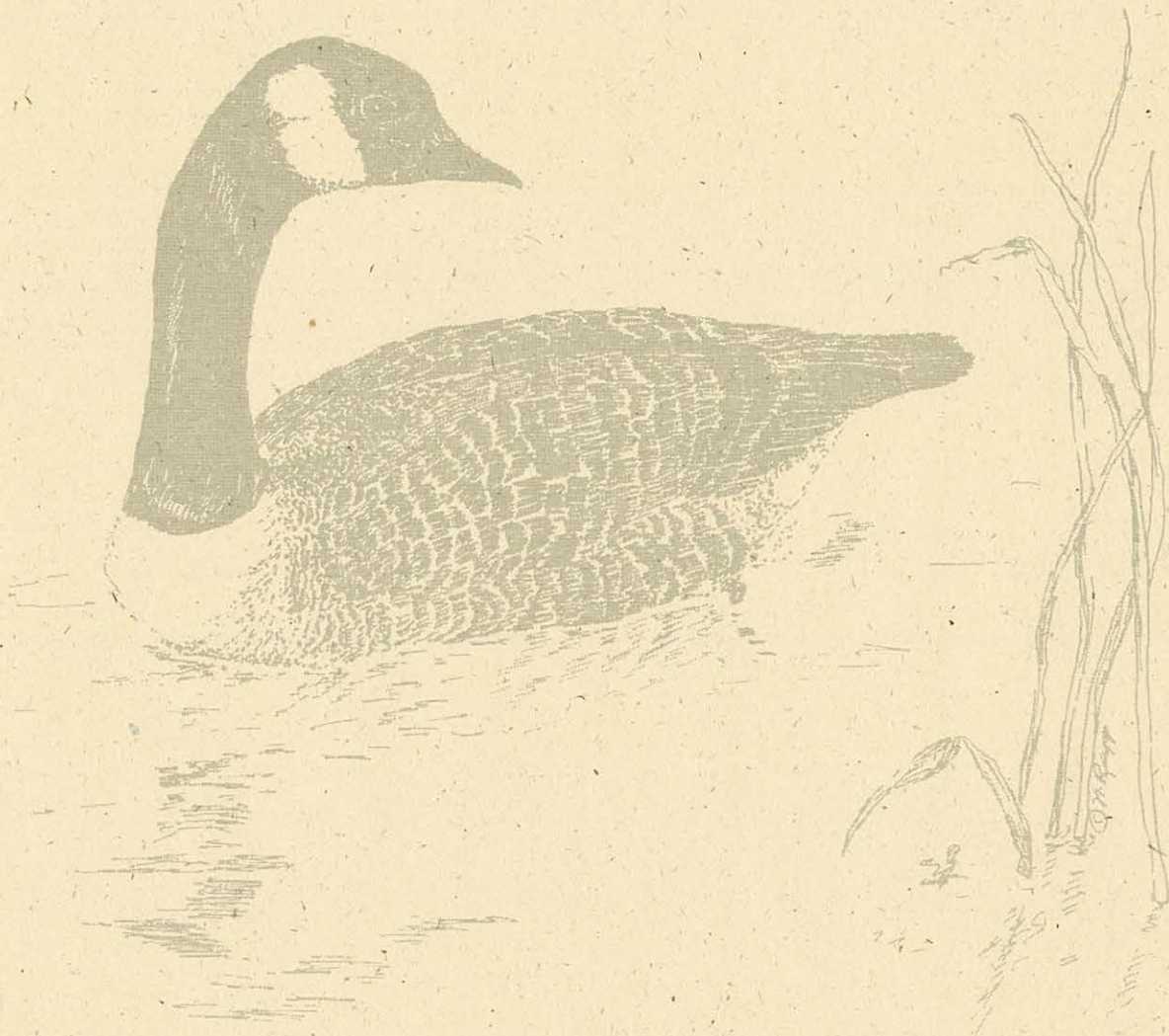
4.6.2.2. Additional information: Section 9.13.2 of the *Stage II RAP* proposes a monitoring method: “Monitoring Fish and Wildlife Habitat.” It would build upon the existing Marsh Monitoring Program and the proposed New York State Department of Environmental Conservation Reference Wetlands System to monitor wetland habitat quality and quantity in the Embayment. This monitoring method was ranked as “high priority” by 90% of the Studies and Monitoring Task Group. (See Table 10-7 of the *Stage II RAP*.)

An additional monitoring method proposed in the *Stage II RAP* is described in Section 9.1.2: Levels of bioaccumulative chemicals of concern in resident biota. In this monitoring method, the snapping turtle is proposed as an indicator species because:

- It is a top predator that is known to accumulate high levels of bioaccumulative chemicals of concern.
 - It remains resident in local bays, creeks and rivers and does not enter Lake Ontario.
- This monitoring method was ranked as “high priority” by 100% of the Studies and Monitoring Task Group. (See Table 10-7 of the *Stage II RAP*.)

Other monitoring projects, which are already underway, are also described in Sections 9.1 and 9.13 of the *Stage II RAP*.

Appendix A: Evaluation Ranking System and Display Matrix



Evaluation Committee for New Proposals
Proposed Evaluation Procedure: November 12, 1997 Draft

Background for this action can be found in Section 7.24 of the Stage II Rochester Embayment Remedial Action Plan. It is proposed that the procedures described below be used by the Evaluation Committee for New Proposals (Evaluation Committee) to evaluate proposed remedial measures, studies, and monitoring methods for the RAP.

The evaluation system is as follows:

1. The Evaluation Committee for New Proposals will be formed as per the guidelines set forth in Section 7.24 of the Stage II RAP.
2. Before the Evaluation Committee meets for the first time, members will receive copies of the proposed remedial measures, studies, monitoring methods and the proposed evaluation procedure.
3. The Evaluation Committee will meet for the first time. Any suggestions and questions regarding the proposals and the evaluation procedure will be discussed at this time. A consensus must be reached on a evaluation procedure.
4. The Monroe County Health Department Bureau of Water Quality Planning staff will revise the evaluation system, if necessary. They will then send copies of the new evaluation system (if needed) to each committee member.
5. Committee members will each evaluate the proposals and send results to the Water Quality Planning staff by an agreed upon date.
6. The Bureau of Water Quality Planning staff will prepare a summary of the evaluation results. They will note any proposal for which there is relative agreement. Relative agreement will be determined by a two-thirds majority of the committee members giving a proposal a "recommended" or "not recommended" score. All proposals that do not fit this category will be considered "unresolved". A wall display will also be developed which will show the evaluation results for each proposal, which proposals are in relative agreement and which are unresolved, and any other information that would be considered useful.
7. A second meeting will be held to discuss the results. A series of debates may be the chosen method of discussion. Any debate on whether a proposal should be considered recommended or not should concentrate on the unresolved proposals first. Debates on the proposals for which there is relative agreement should be held only after any unresolved proposals have been debated. Additional meetings may be held if it is deemed necessary to complete this debating phase.
8. At the end of each debate, committee members will be asked to vote on the debated proposal. Members will vote on whether a proposal is "recommended" or "not recommended". The majority (> 50%) vote of the committee members will determine the appropriate list for the proposal. All of the "not recommended" proposals will be kept on file for possible reevaluation later.

9. The Evaluation Committee for New Proposals will present its preliminary lists to the full membership of the Water Quality Management Advisory Committee (WQMAC) and the Water Quality Coordinating Committee (WQCC). The full membership of the WQMAC and the WQCC will review the Evaluation Committee's lists and make separate recommendations to the Water Quality Management Agency (WQMA). The WQMA will consider these recommendations and approve a final list of new remedial measures, studies, and monitoring methods to add to the lists in sections 10.1 and 10.3 the Stage II RAP.

Evaluation Committee for New Proposals
Proposed Scoring Criteria
 Draft: August 1997

Each individual Evaluation Committee member will assign a score between 1 and 5 to each of the proposals for each of the criteria (benefit, cost, feasibility, and popularity). Committee members will refer to the Scoring Criteria Guide when assigning scores. Evaluation Committee members will compute their total score for each proposal by calculating the sum of (1) the benefit score; and (2) the implementation score, which is the average of the cost, feasibility, and popularity scores. Total scores will range between 2 and 10.

Any total score which is 7 or greater will be tentatively considered a "recommended" score. Any score lower than 7 will be tentatively considered a "not recommended" score. The members will then give their benefit score, implementation score, and total score to the Bureau of Water Quality Planning staff by the agreed upon date.

$\text{Total Score} = \text{Benefit Score} + \left[\frac{(\text{Cost Score} + \text{Feasibility Score} + \text{Popularity Score})}{3} \right]$

Benefit Score Criteria:

Table 1A. Benefit Scoring Guide for Proposed Remedial Measures

SCORE	Impact on Use Impairment(s)		# of Use Impairments Addressed		Urgency
5	Very significant	or	Several (≥3)	or	Without action, irreparable damage will occur
4	Significant		Several		Without action, the use impairment will become worse
3	Moderate		Several		The use impairment is not becoming worse
2	Some		> 1		The use impairment is not becoming worse
1	Very limited		1		Even without action, the use impairment is being lessened

Table 1B. Benefit Scoring Guide for Proposed Studies

SCORE	Need for Study
5	The proposed study would define the existence of a Use Impairment <i>OR</i> it would provide vital information about sources
4	Undefined
3	Undefined <i>OR</i> the proposed study would "bracket" sources by type
2	Undefined
1	Professional judgement could be substituted for the proposed study <i>OR</i> the proposed study would add somewhat to understanding about sources

Table 1C. Benefit Scoring Guide for Proposed Monitoring Methods

SCORE	Need for Monitoring
5	There is a great need for monitoring of the use impairment
4	Undefined
3	There is a need for monitoring of the use impairment
2	Undefined
1	There is little need for additional monitoring

Cost Score Criteria:

Table 2. Cost Scoring Guide for Proposed Remedial Measures, Studies, and Monitoring Methods

SCORE	Cost Range for Implementation of Proposal
5	\$0 to \$10,000
4	\$10,001 to \$35,000
3	\$35,001 to \$60,000
2	\$60,001 to \$85,000
1	Greater than \$85,000

Feasibility Score Criteria:

Table 3. Feasibility Scoring Guide for Proposed Remedial Measures, Studies, and Monitoring Methods

SCORE	Definition
5	The proposal has a very high likelihood of success because the proposal is a continuation of an ongoing program, the technology is proven, and/or funding is available.
4	The proposal has a high likelihood of success
3	The proposal has a moderate likelihood of success
2	The proposal is experimental and/or funding will be difficult to obtain
1	The proposal is very experimental and/or funding will be very difficult to obtain

Popularity Score Criteria:

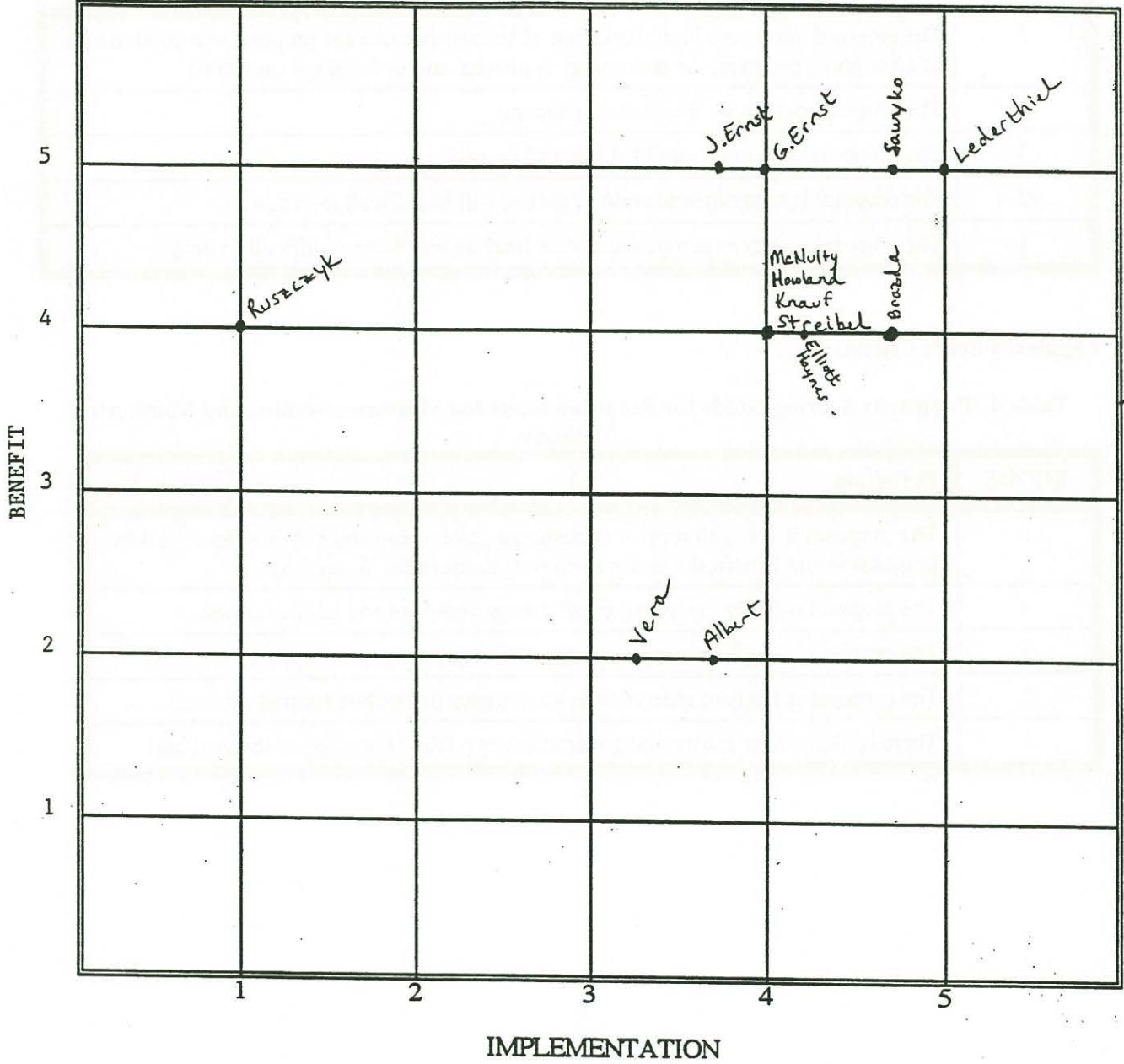
Table 4. Popularity Scoring Guide for Proposed Remedial Measures, Studies, and Monitoring Methods

SCORE	Definition
5	The proposal is likely to receive widespread government and public support and the proposal would benefit the entire Rochester Embayment Watershed.
4	The proposal is likely to receive significant government and public support
3	The proposal is likely to receive some government and public support
2	The proposal is likely to receive little government and public support
1	There is likely to be substantial government or public opposition to the proposal

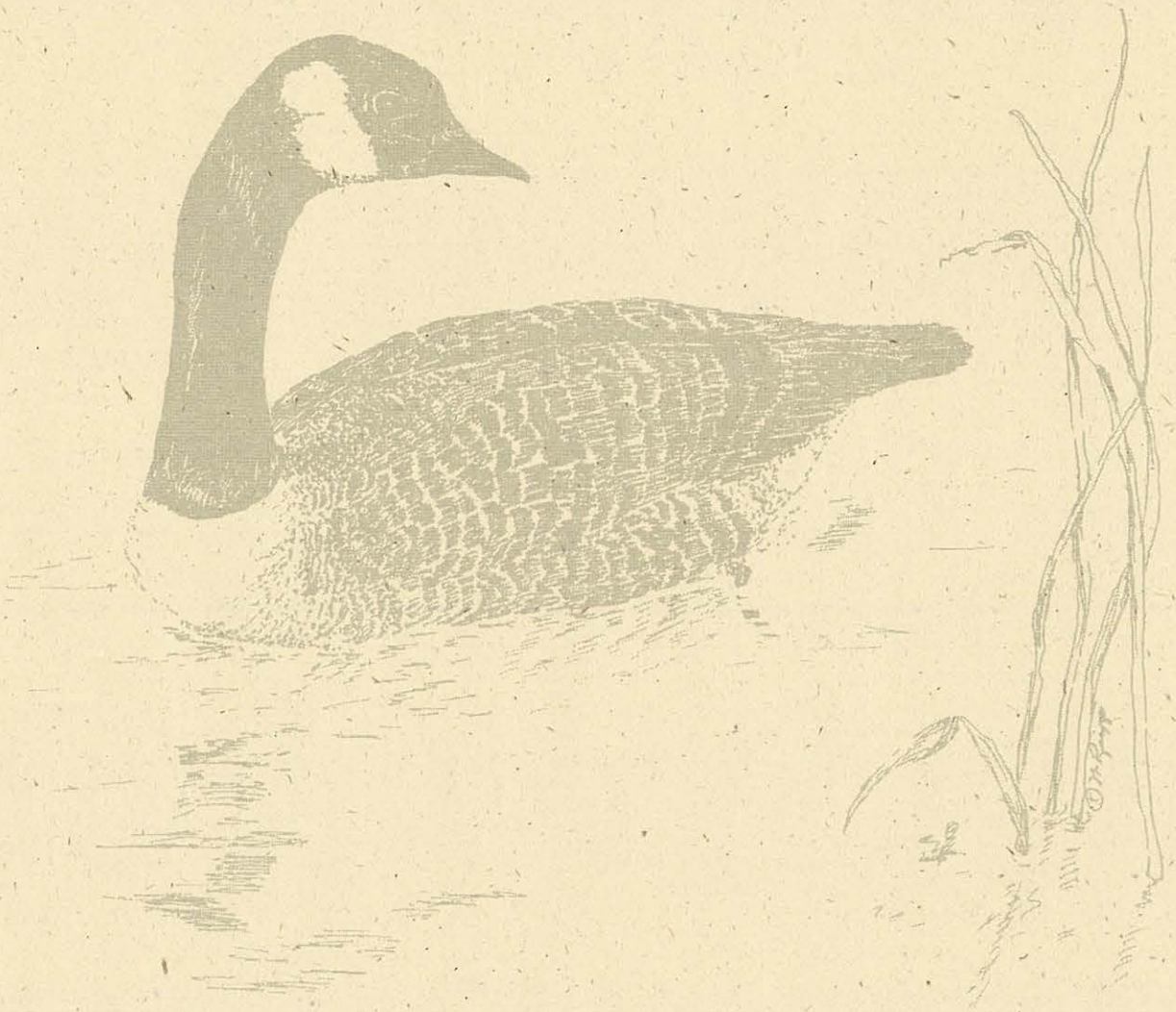
EVALUATION COMMITTEE FOR NEW RAP PROPOSALS

Number of action: RM 4

Name of action: Create Stormwater State Pollution Discharge elim. system educational act



Appendix B: Approvals, NYSDEC Comments, and WQMA Resolution



**Monroe County Water Quality Coordinating Committee Approval of the
Recommendations of the Evaluation Committee for New RAP Proposals**

Excerpt from the minutes of the Monroe County Water Quality Coordinating Committee, May 7, 1998:

**REVIEW, COMMENT, AND RECOMMENDATION TO WQMA ON ATTACHED
RECOMMENDATION OF THE "EVALUATION COMMITTEE FOR NEW RAP
PROPOSALS"**

- Motion made to recommend that WQMA accept recommendations of Remedial Measures Task Group. Consensus was reached to accept these recommendations and refer on to the WQMA.

**Monroe County Water Quality Management Advisory Committee Approval of the
Recommendations of the Evaluation Committee for New RAP Proposals,
With Amendments**

Excerpt from the minutes of the Monroe County Water Quality Management Advisory Committee, June 11, 1998:

**PRESENTATION: RESULTS OF EVALUATIONS COMMITTEE FOR NEW
REMEDIAL ACTIONS**

- John Ernst suggested that the original study number 10 should be reinstated as study number 10A which would be high-priority (Study alternatives for the use of herbicides to control roadside vegetation on the Monroe County highway system). "Determine and evaluate alternatives for the uses of pesticides and herbicides in Monroe County" would be study number 10B. Mike McNulty put the suggestion in the form of a motion, which Kathy Harter seconded. 16 Yes; 2 No; 3 Abstain.
- Ed Watson made a motion that Remedial Measures #1 and #11 be combined as a high-priority study to be limited to a town or smaller pilot area. Bill Smith seconded the motion. 19 Yes; 2 No
- A motion was made to recommend the Evaluation Committee's report to the WQMA including the two amendments just voted upon. 21 Yes. **This is a consensus of all present voting WQMAC members.**

**New York State Department of Environmental Conservation
Division of Water**

**Bureau of Watershed Management, Room 398
50 Wolf Road, Albany, New York 12233-3508
Phone: (518) 457-3656 FAX: (518) 485-7786**



September 16, 1998

Ms. Carole Beal
Monroe County Department of Health
Water Quality Planning
Room 962, P.O. Box 92832, 111 Westfall Rd.
Rochester, NY 14692-8932

Re: Comments on Proposed New Remedial Actions for the Rochester Embayment RAP

Dear Carole:

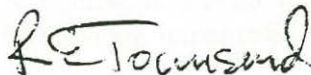
I have reviewed your September 1, 1998 letter and have the following comments to make. I will briefly list each proposed recommendations to be incorporated into the Rochester Embayment RAP Stage 2 list of remedial measures. These recommendations include remedial measure action, study, and monitoring proposals:

1. Develop intergovernmental agreement with U.S. Army Corps of Engineers to address increase in dredging area. (Note: a separate proposal to eliminate harbor dredging was dropped due to provisions of safety laws) - No other comment.
2. Plan and conduct a workshop to communicate SPDES stormwater permit requirements. (Note: emphasis would be on stormwater pollution prevention plans). - Comment: Prior coordination with DEC Region 8 will be required)
3. Reevaluate the rankings of remedial activities, ongoing and proposed, every six years. - Comment: This is an expected requirement to producing a RAP update document.
4. Identify cross connections in sewer areas to correct problems. - No other comment.
5. Determine reasons for differences in Toxics Release Inventory data for stack emissions - Comment: Expected reasons include: change in industrial production levels; modifications to production processes; implementation of pollution prevention measures; reporting requirements for industry sector and size; chemical use reporting thresholds; and reporting compliance.

6. Evaluate alternatives for use of pesticides and herbicides. - Comment: Study should focus on making recommendations to improve existing requirements including reporting.
7. Address improperly connected building floor drain problems. - Comment: Harmful chemicals to storm sewers should be the focus.
8. Inventory municipal land use policies and regulations; apply to water quality planning. - No other comment.
9. Encourage more stringent SPDES standards for local facilities using RAP chemicals of concern. - Comment: I believe the intent is to require increased monitoring levels and more stringent limits on the discharges of priority pollutants and not necessarily to address standards as stated. The permit writing process is very comprehensive and state-of-the-art considering the recent requirements under the Great Lakes Water Quality Initiative. Therefore efforts in regards to affecting the permit requirements should be focused on the adequacy of monitoring. DEC can certainly assist in providing a retrieval list for permits up for renewal.

By copy of the letter to Region 8 DEC, I request they contact you to further clarify or input comments in regards to these proposals. I should note that the nine selected proposed remedial actions were selected out of a list of 29.

Sincerely,

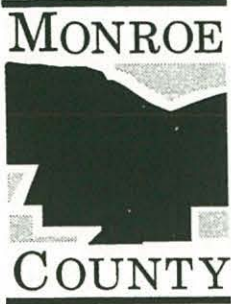


Robert E. Townsend, P.E.
Great Lakes and Estuaries Section
Bureau of Watershed Management

Enclosure *to c.c. only*

cc: Dick Draper
Tom Pearson, Region 8

RET:bjc



Department of Health

John D. Doyle
County Executive

Andrew S. Doniger, M.D., M.P.H.
Director

October 6, 1998

Robert Townsend
New York State Department of
Environmental Conservation
50 Wolf Road
Albany, NY 12233-3502

Dear Mr. Townsend:

Thank you for your careful review of the proposed new remedial measures for the Rochester Embayment RAP and your comments in the letter of September 16, 1998. I will note below our response to your comments, where applicable, and also note the measures for which you had no comment.

1. Develop intergovernmental agreement with U.S. Army Corps of Engineers to address increase in dredging area. (Remedial Measure #5B) *No comment.*
2. Plan and conduct a workshop to communicate SPDES stormwater permit requirements. (Remedial Measure #9)

Comment: Prior coordination with DEC Region 8 will be required.

Response: The following statement has been added to the text of Remedial Measure #9: Prior coordination with New York State Department of Environmental Conservation (NYSDEC) Region 8 will be required.

3. Reevaluate the rankings of the remedial activities, ongoing and proposed, every six years. (Remedial Measure #10)

Comment: This is an expected requirement to producing a RAP update document

Response: The following statement has been added to the text of Remedial Measure #10: This reevaluation is a requirement expected in a RAP update document by the New York State Department of Environmental Conservation.

Robert Townsend
October 6, 1998

4. Identify cross connections in sewer areas to correct problems. (Remedial Measure #11)
No comment.

5. Determine reasons for differences in Toxics Release Inventory data for stack emissions.
(Study #8)

Comment: Expected reasons include: Change in industrial production levels, modifications to production processes, implementation of pollution prevention measures, change in reporting requirements for industry sector and size, change in chemical use reporting thresholds, and reporting compliance

Response: This statement has been added to the text of Study #8.

6. Evaluate alternatives for use of pesticides and herbicides. (Originally Study #10, Study #10A as amended by the WQMAC)

Comment: The study should focus on making recommendations to improve existing requirements, including reporting.

Response: A statement has been added to the text of Study #10: The study would include making recommendations to improve existing requirements, including reporting. The intent of the WQMAC was to focus on alternatives.

7. Address improperly connected building floor drains. (Remedial Measure #1)

Comment: Harmful chemicals to storm sewers should be the focus.

Response: A statement has been added to the text of Remedial Measure #1: There is a concern that some of these in-building drains may have been set up improperly and are discharging harmful chemicals to storm sewers in Monroe County.

8. Inventory municipal land use policies and regulations; apply to water quality planning.
(Monitoring Method #3) *No comment.*

9. Encourage more stringent permit standards for local facilities using RAP chemicals of concern. (Monitoring Method #4)

Comment: I believe the intent is to require increased monitoring levels and more stringent limits on the discharges of priority pollutants and not necessarily to address standards as stated. The permit writing process is very comprehensive and state-of-the-art considering the recent requirements under the Great Lakes Water Quality Initiative. Therefore efforts in regards to affecting the permit requirements should be focused on the adequacy of monitoring. DEC can certainly assist in providing a retrieval list for permits up for renewal

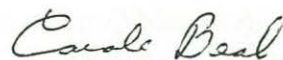
Robert Townsend
October 6, 1998

Response: The title of Monitoring Method #4 has been changed to: Encourage more stringent permit limits and increased monitoring if and when permit limits for chemical on the list of High Priority Chemical Pollutants are documented. In the text, "standards" has been changed to "limits" and "increased monitoring" has been added where appropriate.

You may wish to comment also on the Monroe County Water Quality Management Advisory Committee amendments to the proposals of the Evaluation Committee, which were mailed to you along with the proposals. I have enclosed an additional copy. If you choose to comment, please do so by October 27 so that the Monroe County Water Quality Management Agency can prepare for final approval of the proposals in November.

If you have any questions, please call me at 716-292-3935. Note that I will be on vacation October 9-16.

Sincerely,



Carole Beal
Water Quality Planning Bureau

Attachment

cc: Margy Peet

New York State Department of Environmental Conservation

Division of Water

Bureau of Watershed Management, Room 398
50 Wolf Road, Albany, New York 12233-3508
Phone: (518) 457-3656 FAX: (518) 485-7786



John P. Cahill
Commissioner

November 6, 1998

Ms. Carole Beal
Monroe County Department of Health
Water Quality Planning
Room 962, P.O. Box 92832, 111 Westfall Rd.
Rochester, NY 14692-8932

Re: Comments: Revisions to the Proposed Remedial Actions for the Rochester Embayment RAP

Dear Carole:

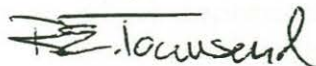
As we discussed, I have no additional comments on the revisions to the proposed new remedial actions for the Rochester Embayment RAP. My letter of September 16 contains the original comments on the nine new proposed remedial actions. These comments still apply. Per your request, this letter documents no comments on the revisions (this letter may be needed as part of the formal steps of adding the new remedial actions to the RAP). I also want to take this opportunity to review some key points regarding these comments.

Comments serve to document review by NYSDEC and keep the Region 8 office informed of the RAP proceedings. Because of my position as RAP Coordinator for DEC, I must make such reviews as efficient and effective as possible. In some instances, the comments may not be all inclusive for DEC; however, they are intended to point to areas that may require further investigation or consideration for ongoing program activities.

My concerns in the first round of comments were 1) to make sure that activities addressing SPDES permit requirements in DEC Region 8 are coordinated with the Avon Office, 2) that studies that pursue additional alternative considerations should first look at improving existing requirements and reporting, and 3) that toxic concerns should focus on monitoring and limit requirements and not changing water quality standards.

If you have any questions, please call me at 518-457-9603. Thank you.

Sincerely,



Robert E. Townsend, P.E.
Great Lakes and Estuaries Section
Bureau of Watershed Management

cc: Dick Draper
Tom Pearson, Region 8
RET:bjc

Monroe County Water Quality Management Agency Resolution 98-1
Incorporation of New Proposed Remedial Actions, Studies and Monitoring Methods in the
Stage II Rochester Embayment Remedial Action Plan

Adopted December 11, 1998

WHEREAS, the Monroe County Water Quality Management Agency adopted the Stage II Rochester Embayment Remedial Action Plan at a meeting on July 8, 1997; and

WHEREAS, the New York State Department of Environmental Conservation certified to the U.S. Environmental Protection Agency, on December 30, 1997, that the Rochester Embayment Remedial Action Plan is part of New York State's water quality plan; and

WHEREAS, the Stage II Rochester Embayment Remedial Action Plan recommended that new proposals for remedial measures, studies and monitoring methods should be evaluated every three years; and

WHEREAS, an Evaluation Committee for New Remedial Action Plan Proposals formed in January 1998 with the purpose of evaluating new proposals for remedial actions, studies and monitoring methods; and

WHEREAS, the Evaluation Committee reached consensus on recommendations for new remedial actions, studies and monitoring methods on March 26, 1998, and referred its recommendations to the Monroe County Water Quality Management Advisory Committee and the Monroe County Water Quality Coordinating Committee; and

WHEREAS, the Monroe County Water Quality Management Advisory Committee has been jointly appointed by the New York State Department of Environmental Conservation and the Monroe County Executive to advise on the implementation of the Rochester Embayment Remedial Action Plan; and

WHEREAS, the Monroe County Water Quality Management Advisory Committee reviewed the recommendations of the Evaluation Committee and, at its June 11, 1998 meeting, reached consensus to accept the recommendations with the following two amendments, and to refer the amended recommendations to the Monroe County Water Quality Management Agency:

- Proposed Amendment #1. Study Number #10 should be divided into two parts, both of which should be high priority studies:
 - Study #10A. Study alternatives for the use of herbicides to control roadside vegetation on the Monroe County highway system
 - Study #10B. Determine and evaluate alternatives for the uses of pesticides and herbicides in Monroe County
- Proposed Amendment #2. Remedial Measures #1 and #11 should be combined as a high-priority study of problems caused by in-building drains and cross connections, to be limited to a town or smaller pilot area; and

WHEREAS, the Monroe County Water Quality Coordinating Committee advises the Monroe County Water Quality Management Agency on matters of water quality policy; and

WHEREAS, the Monroe County Water Quality Coordinating Committee reviewed the recommendations of the Evaluation Committee and, at its May 7, 1998 meeting, reached consensus to accept the recommendations and refer the recommendations to the Monroe County Water Quality Management Agency; and

WHEREAS, the New York State Department of Environmental Conservation has reviewed the recommendations of the Evaluation Committee and the proposed amendments of the Monroe County Water Quality Management Advisory Committee and has approved the proposed responses to its comments; and

WHEREAS, the Monroe County Water Quality Management Agency met on December 11, 1998 to review the recommendations of the Evaluation Committee; the referrals of the Monroe County Water Quality Management Advisory Committee and the Monroe County Water Quality Coordinating Committee; and the comments of the New York State Department of Environmental Conservation, with the purpose of incorporating the recommendations and comments into the Stage II Remedial Action Plan; and

WHEREAS, the Monroe County Water Quality Management Agency came to consensus on December 11, 1998 that amendments should be made to the recommendations of the Evaluation Committee;

NOW, THEREFORE BE IT RESOLVED,

That the recommendations of the Evaluation Committee, as amended by the Monroe County Water Quality Management Agency, and the comments of the New York State Department of Environmental Conservation should be incorporated into the Stage II Remedial Action Plan.

The following Monroe County Water Quality Management Agency members or their representatives communicated their support for the resolution of December 11, 1998: Richard Mackey, Deputy County Executive; Andrew Doniger, M.D., Director, Monroe County Department of Health; Frank Dolan, Director, Monroe County Department of Transportation; Rocco DiGiovanni, Director, Monroe County Department of Planning and Development; Frank Winkler, Natural Resources Conservation Service; Douglas Dobson. Monroe County Legislature.

In addition, the following interested parties were in attendance for the approval of the resolution: John Lamb, Monroe County Department of Planning and Development; Robert King, PhD., Cornell Cooperative Extension; Richard Elliott, Richard Burton, Margy Peet, Carole Beal, Monroe County Department of Health.

THE BOARD OF DIRECTORS OF THE COMPANY HAS REVIEWED THE FINANCIAL STATEMENTS OF THE COMPANY FOR THE YEAR ENDED 31st MARCH 2014 AND IS OF THE OPINION THAT THE FINANCIAL STATEMENTS GIVE A TRUE AND FAIR VIEW OF THE FINANCIAL POSITION OF THE COMPANY AT THE END OF THAT YEAR AND OF ITS PERFORMANCE AND CASH FLOWS FOR THAT YEAR.

THE BOARD OF DIRECTORS OF THE COMPANY HAS REVIEWED THE FINANCIAL STATEMENTS OF THE COMPANY FOR THE YEAR ENDED 31st MARCH 2014 AND IS OF THE OPINION THAT THE FINANCIAL STATEMENTS GIVE A TRUE AND FAIR VIEW OF THE FINANCIAL POSITION OF THE COMPANY AT THE END OF THAT YEAR AND OF ITS PERFORMANCE AND CASH FLOWS FOR THAT YEAR.

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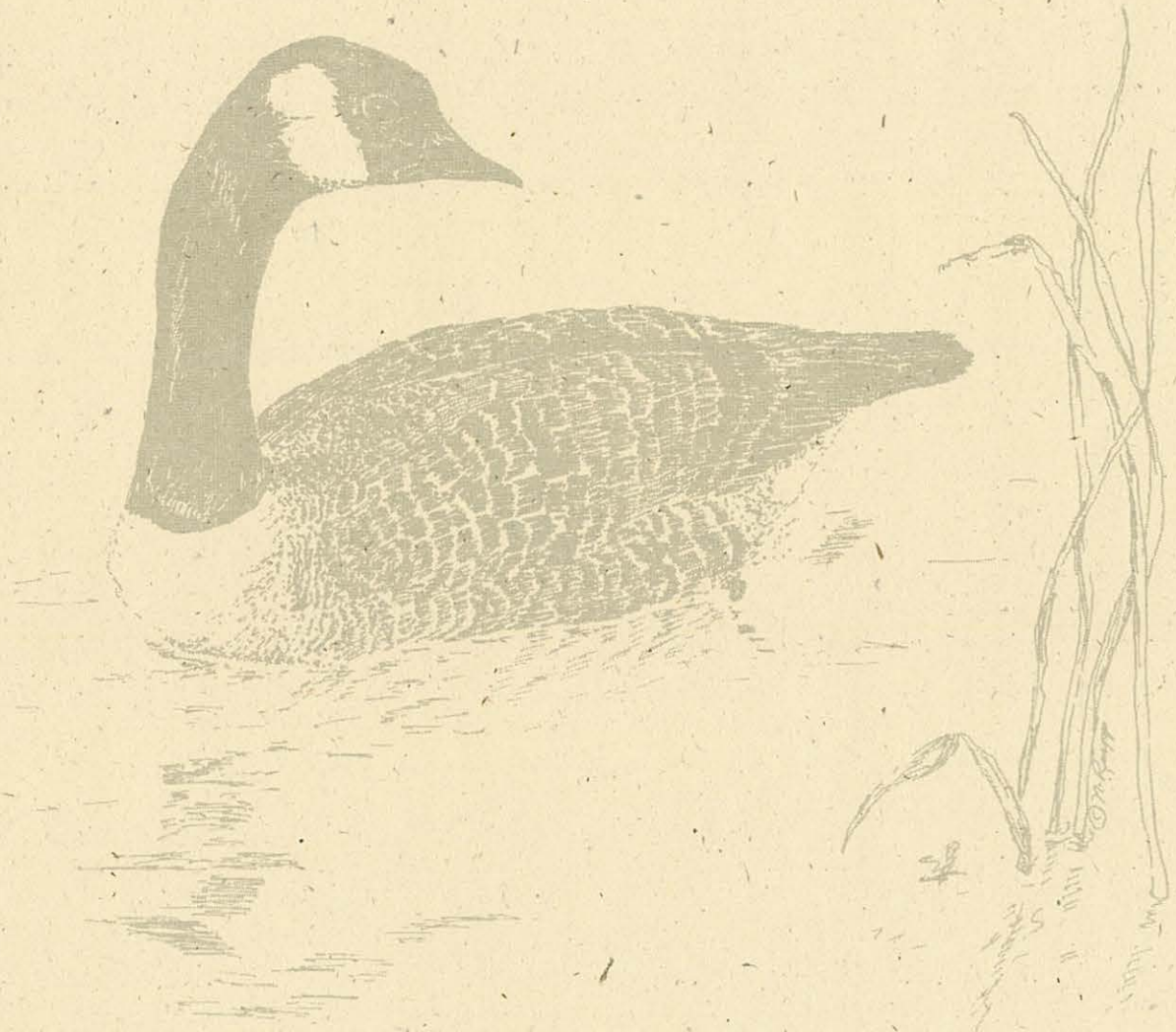
NOTES TO THE FINANCIAL STATEMENTS

THE FINANCIAL STATEMENTS OF THE COMPANY FOR THE YEAR ENDED 31st MARCH 2014 HAVE BEEN PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE COMPANIES ACT 2006 AND THE FINANCIAL REGULATIONS 2008.

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THE FINANCIAL STATEMENTS OF THE COMPANY FOR THE YEAR ENDED 31st MARCH 2014 HAVE BEEN PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE COMPANIES ACT 2006 AND THE FINANCIAL REGULATIONS 2008.

Appendix C: Resources



Appendix C. Resources

Chapter 2. Remedial Actions

2.1. Explore opportunities to reduce the use of road salt and to use alternative deicing materials as part of the intergovernmental agreement process

Monroe County Environmental Management Council (November 1987). *The Use of Road Deicing Salt on State Roads in Monroe County*.

Peet, Margy, Department of Health. Personal communication with Andrew Fuller, July 9, 1997.

2.2. Support a proposed study on ways to reduce erosion in the Genesee River due to the flow regime from the Mt. Morris dam

Eberhardt, Tony, U.S. Army COE. Personal communication with Carole Beal, October 28, 1997.

McNulty, Mike. Personal communication with Andrew Fuller, June 19, 1997.

Pickard, Scott, U.S. Army Corps of Engineers. Personal communication with Carole Beal, August 22, 1997.

Yaksich, Stephen M., U.S. Army COE. Letter to Carole Beal, September 4, 1997.

Young, Richard A. (June 4, 1997). *Postglacial to Modern Channel Erosion and Overbank Deposition Rates - Mt. Morris to Genesee Reach - Genesee River, NY*.

Yu, Paul, U.S. Army Corps of Engineers. Personal communication with Andrew Fuller, June 20, 1997.

2.3. Eliminate dredging of the Rochester Harbor

Great Lakes Cleanup Fund (September 1994). *Environmental Impacts of Dredging and Sediment Disposal*.

McNulty, Mike. Personal communication with Andrew Fuller, June 19, 1997.

Pickard, Scott, U.S. Army Corps of Engineers. Personal communication with Andrew Fuller, June 20, 1997.

2.4. Restore the Turning Basin of the lower Genesee River to marshland

Borkowski, Don, U.S. Army Corps of Engineers. Personal communication with Carole Beal, August 22, 1997.

Davis, Bill. Personal communication with Andrew Fuller, June 23, 1997.

McNulty, Mike. Personal communication with Andrew Fuller, June 19, 1997.

Pickard, Scott, U.S. Army Corps of Engineers. Personal communication with Andrew Fuller, July 15, 1997.

Pickard, Scott, U.S. Army Corps of Engineers. Personal communication with Carole Beal, August 22, 1997.

2.5. Use dredged silts to rebuild topsoils on land

McNulty, Mike. Personal communication with Andrew Fuller, June 19, 1997.

Pickard, Scott, U.S. Army Corps of Engineers. Personal communication with Andrew Fuller, June 20, 1997.

Pickard, Scott, U.S. Army Corps of Engineers. Personal communication with Carole Beal, August 22, 1997.

Yaksich, Stephen M., U.S. Army Corps of Engineers. Letter to Carole Beal, September 4, 1997.

2.6. Restore the Genesee River estuary to its natural state as much as possible

Davis, Bill. Personal communication with Andrew Fuller, June 23, 1997.

McNulty, Mike. Personal communication with Andrew Fuller, June 19, 1997.

Pickard, Scott, U.S. Army Corps of Engineers. Personal communication with Andrew Fuller, July 15, 1997.

2.7. Establish a policy for commercial wastewater discharges from sand filter systems

Albert, Joe, Monroe County Department of Health. Personal communication with Andrew Fuller, June 16, 1997.

Environmental Protection Agency. *EPA Design Manual: Onsite Wastewater Treatment and Disposal Systems*.

Felsen, John, Monroe County Department of Health. Personal communication with Andrew Fuller, June 16, 1997.

2.8. Create a stormwater State Pollution Discharge Elimination System educational action

Gillette, Douglas, NYSDEC. Personal communication with Carole Beal, September 10, 1997.

NYSDEC. *What You Should Know About the General Permit for Storm Water Discharges Associated with a Construction Activity*.

Smith, Paula, Monroe County Soil and Water Conservation District. Personal communication with Andrew Fuller, June 16, 1997.

2.9. Reevaluate the rankings of the remedial measures, studies and monitoring methods every six years

Beal, Carole, Monroe County Department of Health. Personal communication with Andrew Fuller, June 19, 1997.

Stage II Rochester Embayment Remedial Action Plan (1997), Chapter 11.

2.10. Investigate and remediate stormwater problems at Durand-Eastman Beach associated with local streams

Burton, Richard, Monroe County Environmental Health Laboratory. Meeting with Carole Beal, August 20, 1997.

Finnell, Jim, The Sear-Brown Group. Personal communication with Andrew Fuller, June 25, 1997.

Finnell, Jim, The Sear-Brown Group. Personal communication with Carole Beal, August 18, 1997.

Scarborough, Andy, Monroe County Pure Waters. Personal communication with Andrew Fuller, July 16, 1997.

The Sear-Brown Group (1992). *Beach Water Pollution Problem*.

The Sear-Brown Group (1992). Engineering Report: Book I - Summary • Durand-Eastman Park Phase II Improvements • Preliminary Design.

The Sear-Brown Group (1994). *Proposed Stormwater Retention Wetland*.

Chapter 3. Studies

3.1. Study the impact of the Erie Canal on the streams west of the Genesee River

Brown, Gary, Monroe County Department of Health. Personal communication with Andrew Fuller, June 25, 1997.

Burton, Richard, Monroe County Department of Health. Personal communication with Andrew Fuller, June 25, 1997.

McNulty, Mike. Personal communication with Andrew Fuller, June 19, 1997.

Peet, Margy, Monroe County Department of Health. Personal communication with Andrew Fuller, June 30, 1997.

3.2. Add the percentage contribution from each source to Stage II RAP Table 3-19 relating use impairments to causes and sources

Beal, Carole, Monroe County Department of Health. Personal communication with Andrew Fuller, June 30, 1997.

Burton, Richard, Monroe County Environmental Health Laboratory. Meeting with Carole Beal, August 20, 1997.

3.3. Support a study of the thermal effects of the RG&E discharge at Russell Station on eutrophication problems in the Rochester Embayment

Burton, Richard, Monroe County Environmental Health Laboratory. Meeting with Carole Beal, August 21, 1997.

McNulty, Mike. Personal communication with Andrew Fuller, June 19, 1997.

Metropolitan Washington Council of Governments (December 1990). *Thermal Impacts Associated with Urbanization and Stormwater Management: Best Management Practices*.

New York State Pollutant Discharge Elimination System Discharge Permit for Rochester Gas and Electric Corporation: June 1, 1994 - June 1, 1999.

Rochester Gas & Electric Corp. (August 1977). *Russell Station (Station 7) 316(a) Demonstration*.

Sawyko, Paul, RG&E. Personal communication with Andrew Fuller, June 20, 1997.

Berkeley, Phil, U.S. Army Corps of Engineers. Personal communication with Carole Beal, August 25, 1997.

3.4. Study the effect of the Court Street Dam on the benthic community upstream from the dam and require that environmental effects be strongly considered as a factor in regulating water levels above the dam

McNulty, Mike. Personal communication with Andrew Fuller, June 19, 1997.

Schmied, Paul, NYSDEC. Personal communication with Andrew Fuller, July 2, 1997.

3.5. Focus on local foundries, past and present, to investigate potential sources of PCBs

Hartshorn, Louise. Notes sent to Carole Beal, September 5, 1997.

McNulty, Mike. Personal communication with Andrew Fuller, June 19, 1997.

Vacco, Carolyn, Monroe County Historian. Personal communication with Andrew Fuller, July 1, 1997.

3.6. Verify whether a fishless segment exists in the lower Genesee River using gill nets

Abraham, Bill, NYSDEC. Personal communication with Andrew Fuller, June 16, 1997.

Haynes, Jim, SUNY Brockport. Personal communication with Andrew Fuller, June 24, 1997.

Neuderfer, Gary, New York State Department of Environmental Conservation. Letter to Carole Beal, August 28, 1997.

3.7. Review the list of Rochester Embayment Priority Chemical Pollutants for possible additions or deletions

Beal, Carole, Monroe County Department of Health. Personal communication with Andrew Fuller, August 5, 1997.

3.8. Discover the reasons for the large differences from year to year in Toxics Release Inventory (TRI) data

Nelson, Ray. Personal communication with Andrew Fuller, June 20, 1997.

3.9. Consider alternative modes of transporting concrete so that dredging of the Genesee River will not be required

Graham, Arthur, Monroe County Water Quality Management Advisory Committee. Personal communication with Carole Beal, August 27, 1997.

Graham, Arthur, Monroe County Water Quality Management Advisory Committee. Personal communication with Carole Beal, September 2, 1997.

Pickard, Scott, U.S. Army Corps of Engineers. Personal communication with Carole Beal, August 28, 1997.

Borkowski, Don, U.S. Army Corps of Engineers. Personal communication with Carole Beal, September 4, 1997.

3.10. Study alternatives for the use of herbicides to control roadside vegetation on the Monroe County Highway system

WQMAC Herbicides Alternatives Sub-Committee. Meeting of December 4, 1997.

WQMAC. Minutes of June 12, 1997.

3.11. Determine and evaluate alternatives for the use of pesticides and herbicides in Monroe County

WQMAC Herbicides Alternatives Sub-Committee. Meeting of December 4, 1997.

WQMAC. Minutes of June 12, 1997.

Evaluation Committee for New RAP Proposals. Meeting of March 26, 1998.

3.12. Identify and eliminate problems caused by in-building drains and cross connections

Brewster, Marty. Personal communication with Andrew Fuller, June 23, 1997.

Elliott, Richard, Monroe County Department of Health. Personal communication with Andrew Fuller, June 26, 1997.

Helgeson, Scott (March, 9, 1995). *City of Plymouth - Sump Discharge Reduction Program - Proposal to the City.*

Putt, William, Monroe County Department of Environmental Services. Personal communication with Andrew Fuller, July 21, 1997.

Chapter 4. Monitoring Methods

4.1. Monitor the surge control project at the mouth of the Genesee River

Madden, Anna, Monroe County Department of Health. Personal Communication with Andrew Fuller, June 18, 1991.

Ruszczyk, Michael, Eastman Kodak Company. Personal communication with Andrew Fuller, June 18, 1997.

Ruszczuk, Michael, Eastman Kodak Company. Personal communication with Carole Beal, August 22, 1997.
U.S. Army Corps of Engineers (May 1995). *Wave Surge Project: Design Analysis - Environmental Assessment on Proposed Navigation Improvements at Rochester Harbor, New York.*

4.2. Monitor a species population after a species has been introduced

IJC (March, 1991). *Proceedings of the Expert Consultation Meeting on Mink and Otter.*
Money, Dennis, New York River Otter Project, Inc. Personal Communication with Andrew Fuller, June 18, 1997.
Money, Dennis, New York River Otter Project, Inc. Personal Communication with Carole Beal, August 18, 1997.
Money, Dennis, New York River Otter Project, Inc. Personal Communication with Carole Beal, August 21, 1997.
Ruszczuk, Mike, Kodak. Personal Communication with Andrew Fuller, June 18, 1997.

4.3. Periodically inventory municipalities on their land use policies designed to help meet water quality goals

McNulty, Mike. Personal communication with Andrew Fuller, June 19, 1997.
McNulty, Mike. Personal communication with Carole Beal, September 10, 1997.
Monroe County Environmental Management Council (1976). *An Approach to Environmental Management in Monroe County.*
Ormsby, Art. Monroe County Department of Planning. Personal communication with Andrew Fuller, June 19, 1997.
Quarterman, Susanne, Monroe County EMC. Fax to Carole Beal, September 2, 1997.

4.4. Encourage more stringent permit limits and increased monitoring if and when permit limits for chemicals on the list of High Priority Chemical Pollutants are documented

Haynes, Jim, SUNY Brockport. Personal communication with Andrew Fuller, June 24, 1997.
Townsend, Bob, NYSDEC. Personal communication with Andrew Fuller, July 9, 1997.
Townsend, Bob, NYSDEC. Personal communication with Carole Beal, August 22, 1997.

4.5. Encourage the NYSDEC to alter SPDES permit reporting requirement and database storage so that accurate annual loadings can be calculated as a monitoring method

Beal, Carole, Monroe County Department of Health. Personal communication with Andrew Fuller, June 13, 1997.
Townsend, Bob, New York State Department of Environmental Conservation. Personal communication with Andrew Fuller, June 13, 1997.

4.6. Monitor indicator species populations and compare with historical data – candidates include sturgeon and whitefish

Rochester Embayment Remedial Action Plan, Stage II (1997), Section 9.1, Section 9.13, Section 10.3.

