Appendix J:
Public Comment Period
Comments and Responses

Rochester Embayment Remedial Action Plan Public Meeting
February 25, 1997

Summary of Discussion: Breakout Group #1

Marna Gadoua (New York State Department of Environmental Conservation), as facilitator, requested that those present introduce themselves and describe their interest in the RAP document. The following individuals participated in Breakout Group #1.

Marna Gadoua, New York State Department of Environmental Conservation (NYSDEC), facilitator
Carole Beal, Monroe County Department of Health (MCDOH)
Margit Brazda, MCDOH, Monroe County Water Quality Management Advisory Committee (WQMAC)
Betty Lou Brett, WQMAC
Ken Budinski, Cranberry Pond interest
Andrew Doniger, Director, MCDOH
Richard Elliott, MCDOH, WQMAC
Gerry Ernst, WQMAC
Bill Hallahan, Honeoye Creek and Irondequoit Creek interest
Kathy Harter, WQMAC
Cory Ireland, Rochester Democrat and Chronicle
Robert Jonas, WQMAC
Butch Jones, MCDOH
T.S. Manickam, NYSDEC, Region 9
Jim Maynard, Northrup Creek interest
V. Glenn McIninch, Long Pond interest
Mike McNulty, WQMAC
Ray Morris, Sweden Conservation Board
Steve Reigle, WQMAC
Andrea Ruta, MCDOH intern
Paul Sawyko, Rochester Gas & Electric Corporation, WQMAC
Paul Schallino, citizen
Francis Smith, Trout Unlimited
Pat Smith, Trout Unlimited
Gary St. John, Henrietta Conservation Board, Monroe County Environmental Management Council

Question #1: Marna Gadoua requested that the participants identify what they think is the most important water quality problem or use impairment. The results are summarized below.

Table J-1. Summary of Participants I - Most Important Water Quality Problem

Use Impairment	Number of persons who selected the use impairment
Loss of fish and wildlife habitat	10
Drinking water consumption and taste and odor problems	7
Restrictions on fish and wildlife consumption	5
Degradation of phytoplankton and zooplankton populations	3
Degradation of fish and wildlife populations (for mink only)	1
Bird or animal deformities or reproductive problems (mink only)	1
Degradation of benthos	1
Eutrophication or undesirable algae	1
Beach closings	1
Added costs to agriculture or industry	1
Restrictions on dredging activities	0
Degradation of aesthetics	0

Comments about the selection of the most important use impairment

1. Chose "Restrictions on fish and wildlife consumption" because some families rely on fish as a primary food source. (Andrea Ruta)

2. Chose "Drinking water consumption and taste and odor problems" because I notice a water odor when swimming. (V. Glenn McInnch)

Other comments

1. I'm surprised about water being rated high as a use impairment because our public drinking water systems are good. (Mike McNulty)

Response at the breakout group: There is the perception that the water is not good because of taste and odor. (Betty Lou Brett, Mike McNulty; others)
Additional response: The breakout group did not seem to question the safety of the public drinking water supply. In the selection of the most important use impairment, the drinking water impairment seemed to serve as a surrogate for impaired water quality, with taste and odor problems as an indicator of impaired water quality.

2. I am concerned that not enough is tested for in the drinking water. (Gerry Ernst)
Response: The Monroe County Water Authority monitors regularly for approximately 200 parameters, including toxic substances. The Water Authority is a good source of information about the drinking water supply for most of the County outside the City of Rochester (telephone: 442-2000).

3. Whether or not there is a problem depends on the drinking water source. (Unidentified)
Response: All of the public drinking water sources in the Rochester Embayment watershed produce safe drinking water.

4. Municipalities dump raw sewage into the Lake. (Ken Budinski)
Response: This does not happen on a routine basis. One exception is separate sanitary and storm sewers that have leaks in them that allow stormwater to infiltrate into the sewers. Another is the direct connection of sump pumps to sanitary sewers. This can occur when there are no storm sewers in the neighborhood. Sump pumps can add a tremendous stormwater loading to a sanitary sewer. When the capacity of the sewers is exceeded, raw sewage may be discharged to nearby waters. Power failures or mechanical failures at sewage pump stations also sometimes cause discharges of raw sewage to streams, the River or the Lake. In all cases when this occurs, it is required that the discharges be reported in writing to the Monroe County Department of Health and the New York State Department of Environmental Conservation. Records of the reports are available for public review. For information about combined sewer overflows to the *Genesee River*, see Question #2, Discussion Involving Eutrophication, Comment #5.

5. Why is industrial waste not included in the list of use impairments? (Ray Morris)
Industrial pollution is most important. (Unidentified)
Response: Industrial pollution is not considered to be a *use impairment*. However, it can be one of the *causes* of many of the use impairments.

6. Kodak dumps everything at night. (Unidentified)
Response: Kodak has New York State Department of Environmental Conservation permits for its solid waste management program and its wastewater discharge system. Any violations of the permits are generally well publicized. Any knowledge of illegal dumping activities should be reported directly to the New York State Department of Environmental Conservation at 716-226-2466.

7. Realize the interconnectedness of use impairments #9 and #14. This is due mainly to overdevelopment, such as in the Irondequoit Bay watershed. Valuable habitat is being destroyed. (Fran Smith)
Response: There are many interconnections among the use impairments.

8. Note that human health concerns are not on the IJC list. (Betty Lou Brett)
Response: This is true. However, three of the use impairments are directly related to human health: restrictions on fish and wildlife consumption, drinking water consumption, and beach closings. Human health concerns are also addressed in the Stage II RAP by recognizing that the "ecosystem approach," a guiding principle of RAP development, includes humans. Two locally developed Stage II RAP goals are also related to human health. (See Chapter 5 of the Stage II RAP.)

Question #2: Marna Gadoua requested that participants identify which actions are most important for addressing the use impairments. The following comments were listed.

Comments involving general water quality:

1. Watershed drainage plans and wetland creation and protection are important. Identify watershed issues. (Pat Smith)
Complete basin water quality plans. Focus on the watershed approach. Water quality problems are mostly local problems. (McNulty)
Response: These comments endorse the following proposed actions on watershed drainage plans and stormwater wetland creation:

- Urban Action 10c: "Develop stormwater wetlands as part of intergovernmental agreements" (Section 7.10.4)
- Urban Action 10d: "Develop stormwater wetlands as part of watershed drainage plans" (Section 7.10.5)
- Urban Action 23: "Complete basin water quality plans for each of the three drainage basins in the Rochester Embayment watershed" (Section 7.23)
- Rural Action 39: "Gather data in preparation for watershed plans and a Genesee River basin plan" (Section 7.39)

2. Lawn care programs are needed. (Gerry Ernst)
We need more concentration on education for homeowners. Lawn care is an example. (Pat Smith)
Homeowners don't think about the impact of what they do on the environment. (Unidentified)
Response: These comments endorse education for homeowners on lawn care. The following actions on lawn care are proposed in the Stage II RAP:

- Urban Action 15a: "Conduct demonstration project" (Section 7.15.2)
- Urban Action 15b: "Targeted public education effort" (Section 7.15.3)
- Urban Action 15c: "Implement Homescape program" (Section 7.15.4)

- Rural Action 34b: "Targeted public education effort" (Section 7.34.3)
- Rural Action 34c: "Implement Homescape program" (Section 7.34.3)

3. Education must be a high priority. (Unidentified)
Response: This comment endorses water quality education. The following public education actions are proposed in the Stage II RAP:

Urban
- Action 1b: "Educate about and identify equipment containing PCBs within industrial, commercial, municipal and residential locations" (Section 7.1.3)
- Action 6: "Expand the storm drain stenciling project" (Section 7.6.2)
- Action 15a: "Conduct demonstration project (on lawn care)" (Section 7.15.2)
- Action 15b: "Targeted public education effort (on lawn care)" (Section 7.15.3)
- Action 15c: "Implement Homescape program (on lawn care)" (Section 7.15.4)
- Action 17a: "Workshop for local officials" (Section 7.17.2)
- Action 17b: "Distribution/presentation of wetlands information" (Section 7.17.3)
- Action 17d: "Make elementary and middle school teachers aware of wetlands curriculum materials and encourage field trips" (Section 7.17.5)
- Action 22a: "Establish a local water quality not-for-profit organization" (Section 7.22.2)
- Action 22b: "Create a water quality education coordinator position" (Section 7.22.3)

Rural
- Action 25.3: "Educate about and identify equipment containing PCBs at commercial, municipal, educational and residential locations" (Section 7.25.3)
- Action 29: "Expand the storm drain stenciling project" (Section 7.29.2)
- Action 31d: "Education (on septic systems)" (Section 7.31.5)
- Action 34b: "Targeted public education effort (on lawn care)" (Section 7.34.3)
- Action 34c: "Implement Homescape program (on lawn care)" (Section 7.34.4)
- Action 36: "Educate local officials and the public on the value of wetlands" (Section 7.36)
- Action 38: "Develop public education structure" (Section 7.38)

Comments involving toxics:

1. Form a small business task group. (Ray Morris)
Response: This comment endorses the proposed Urban Action 4b: "Initiate a process to promote pollution prevention among small businesses in the Rochester Embayment watershed" (Section 7.4.3)

Comments involving eutrophication:

1. There is a eutrophication problem in Mendon Ponds: weeds in the ponds, geese. (V. Glenn McInnch)

Response: It is true that geese contribute nutrients such as phosphorus and nitrates, and that weeds are a sign of many nutrients in a pond. It is also true that the largest of the Mendon Ponds, 100 Acre Pond, has an overgrowth of Eurasian milfoil and other aquatic plants. However, a study of 100 Acre Pond has shown that is relatively well protected from development and that it is naturally eutrophic. Its shallow depth and warm water temperatures promote plant growth. Also, as existing plants decompose, they provide more fertilizer for more plant growth. This is referred to as internal cycling of phosphorus.

2. Create wetlands out of dry detention ponds. (Gary St. John)
Response: This comment endorses the proposed Urban Action 10a: "Continue dry basin conversions" (Section 7.10.2)

3. Expand the highway projects task group to retain runoff from highways/plantings, etc. Town Highway Departments need guidance and could do a lot more to protect water quality. (Unidentified)
Response: This comment endorses the proposed Urban Action 10f: "Expand Highway Projects Task Group effort" (Section 7.10.7)

4. Sewage is a big problem. Municipalities are exempt from government regulation. There is no enforcement against municipalities. Spencerport is getting away with polluting Northrup Creek. (Ken Budinski)
Responses at the breakout group:

- The County has assisted in upgrading the Spencerport wastewater treatment plant. (Beal)
- The Spencerport wastewater treatment plant has no phosphorus limitations due to its size, an average flow through the plant of less than 1 million gallons/day. (Elliott)
- A proposed intergovernmental agreement among Ogden, Spencerport, Parma and Greece will address problems in the Northrup Creek/Long Pond watershed. (Beal)

Additional response: Municipalities are not exempt from government regulation. The NYSDEC issues discharge permits to *all* municipal systems (known as Publicly Owned Treatment Works - POTWs). Spencerport has operated its POTW in compliance with its SPDES permit. As has been noted, the regulations that are applicable may depend on the average flow through the treatment plant.

5. The area near the Driving Park bridge over the Genesee River is another sewage source. (Unidentified)
Some sewage is still going into storm sewers in the City of Rochester. (Betty Lou Brett)
Response: The City of Rochester has less than 25% of its system configured as separate sanitary and storm sewers. (It is the only municipality in Monroe County with a combined sewer system.) There are no intentional cross connections of sanitary sewers to storm sewers. On occasion, individual sanitary service laterals are found connected to a storm sewer. These are improper connections and every effort is made to have these corrected.

In the past, routine overflows from combined sewers in the City would occur even during periods of light precipitation. In the 1970s and 1980s a tunnel system was constructed as part of the Combined Sewer Overflow Abatement Program (CSOAP). The tunnel system now captures virtually all combined sewer overflows for conveyance and treatment at the Van Lare Wastewater Treatment Facility. CSOAP also included additional treatment facilities at the Van Lare plant to handle the additional sewage. The CSOAP tunnel system has been in partial operation since 1986 and in full operation for about three years.

The overflow of diluted combined sewage from the CSOAP tunnel system generally occurs if the design capacity of the tunnel is exceeded. The CSOAP system was designed for a particular maximum storm event, known as a "design storm." There are times when a storm that occurs over the CSOAP drainage area exceeds this design storm (e.g., higher intensity and/or longer duration than the design storm.) The County Department of Environmental Services uses operational experience and weather forecasting techniques to maximize the use of CSOAP storage volume to capture and treat the maximum amounts of combined sewer overflows.

When there is an occasional combined sewer overflow from the tunnel system to the Genesee River it occurs near the *Route 104* bridge, not the Driving Park bridge. The last overflow that occurred near Driving Park was in 1996. It was a short duration event due to a blockage in a sewer. The problem has been corrected and should not occur again based strictly on weather. There is a small separate *storm* sewer outfall adjacent to the east end of the Driving Park Bridge. It discharges stormwater as designed during a rain event.

6. Upgrade sewage treatment plants. (Bob Jonas)
We need higher standards for treatment plants. (Ken Budinski)
Set phosphorus loading goals. People outside of the Northwest Quadrant seem to run under another set of constraints. Standards seem to depend on size and budgets. Set a single standard, instead of different standards for different treatment plants. Towns seem to upgrade when pressure is applied. (Jim Maynard)
Not all municipalities are treated equally under State Pollution Discharge Elimination System (SPDES) program. We need all municipalities involved in the process. (Unidentified)
We need higher, enforceable standards for municipal SPDES permits. (Unidentified)
Response: These comments endorse the following proposed actions:

- Urban Action 13a: "Establish an annual phosphorus pollutant loading goal for the Rochester Embayment. Set annual pollutant loading limits for watershed wastewater treatment plants that will help achieve this goal" (Section 7.13.2)
- Urban Action 13b: "Maximize phosphorus removal from the effluent of small wastewater treatment plants" The Village of Spencerport is an example of how a small wastewater treatment plant can be assisted in removing phosphorus from its effluent. The Spencerport plant has no phosphorus limitations due to its size. In a cooperative effort between the Monroe County Department of Environmental Services (DES) and the Village of Spencerport, the DES staff suggested that ferrous sulfate be added to the

treatment process. As a result, total phosphorus discharge from the Spencerport plant was greatly reduced. For more information on this project, see the Stage II RAP, Section 7.13.3.

- Rural Action 32a: "Investigate phosphorus discharge from small wastewater treatment plants" (Section 7.32.2)

7. There are illegal connections of sanitary wastes to storm sewers. (Unidentified)
Response: Monroe County and Livingston County are two counties that have programs to identify and remediate illegal connections (or "cross connections"). Some municipalities also have such programs. The idea of promoting programs to identify and remediate cross connections in all sewered areas will be added to the Stage II RAP list of proposals to evaluate in 1997. (See Section 7.24 and Section 7.40, both entitled: "Continually evaluate and implement proposals for possible new remedial measures") Phase II of the Federal Stormwater Regulations is under discussion now. It may be the mechanism to implement the monitoring of stormwater and to look for cross-connections from sanitary sewers. (See Section 6.12, "Federal Stormwater Regulations.")

8. In Wyoming County, manure is pumped into Oatka Creek. DEC does not enforce. Dairy operations have killed several miles of stream life on several occasions. We need programs to keep manure out of watersheds. (Fran Smith)
Response: This comment endorses the following proposed actions:

- Urban Action 14: "Intensify the implementation of agricultural best management practices" (Section 7.14)
- Rural Action 33: "Intensify the implementation of agricultural best management practices" (Section 7.33)

NYSDEC Region 9 response: In general, farmers do not pump manure directly into a waterbody. Complaints which are received regarding manure running into a stream or creek are usually related to the over-application of liquid manure on fields to be cropped or manure application during inclement weather. The NYSDEC Region 9 office has not received complaints of manure discharges to Oatka Creek. The Department does respond to water quality incidents related to farm operations. Reports of such incidents along Oatka Creek in Wyoming County, however, have not been received by the NYSDEC Region 9 office.

Question #3: Marna Gadoua asked the participants how they think the RAP should measure success. (There was not sufficient time to complete this exercise.)

1. Need more media coverage on environmental issues (both positive and negative). (Brett)
Response: Note that one of the proposed monitoring methods described in the Stage II RAP is to assess public attitudes and knowledge about water quality. (See Section 9.15.)

Summary of Discussion: Breakout Group #2

Susan Balmouth (New York State Department of Environmental Conservation), as facilitator, requested that those present introduce themselves and describe their familiarity with the RAP document. The following individuals participated in Breakout Group #2.

Susan Balmouth, New York State Department of Environmental Conservation (NYSDEC)
Wendy Rosenbach, NYSDEC
Bill Dodge
Margy Peet, Monroe County Health Department (MCDOH)
Drew Smith, Monroe County Department of Environmental Services (MCDES)
Max Streibel, Monroe County Legislature
Ed Sander, Monroe County Fishery Advisory Board
Jill Mastrototaro, Intern, MCDOH
Harry Reiter, MCDES
Janet Moffet, Monroe County Water Quality Management Advisory Committee (WQMAC)
Jim Haynes, SUNY Brockport
Paul Hunt, MCDOH
Bob Townsend, NYSDEC
Jeff Archer, City of Rochester
Tom Goodwin, Monroe County Department of Planning and Development
Dena Owens
Arthur Graham, WQMAC
Clark Pieper, WQMAC
Chris Fredette, WQMAC
Todd Stevenson, MCDOH
John Ernst, WQMAC
Jerry Lederthiel
Juergen Granss
Dick Swacen

Question #1: Susan Balmouth requested that each of the participants identify what they think is the most important water quality problem or use impairment. The results are summarized below.

Table J-2. Summary of Participants II - Most Important Water Quality Problem

Use Impairment	Number of persons who selected the use impairment
Loss of fish and wildlife habitat	9
Drinking water taste and odor problems	4

Use Impairment	Number of persons who selected the use impairment
Restrictions on fish and wildlife consumption	3
Beach closings	2
Eutrophication or undesirable algae	1
Degradation of phytoplankton and zooplankton populations	1
Degradation of fish and wildlife populations (mink)	1
Bird or animal reproductive problems (mink only)	1
Degradation of benthos	1

The following comments were made as part of the process of identifying what the participants felt were the most important water quality problems.

1. *Working towards clean water for drinking solves other problems as well, such as eutrophication (Paul Hunt)*

2. *Solving certain problems addresses several use impairments (Max Streibel)*

3. *Phosphorus and pesticides are a concern (John Ernst)*

4. *Fish and wildlife populations serve as indicators of other problems (Dick Swacen)*

5. *Hormone disrupters and reproductive problems are a concern (Jerry Lederthiel)*

Question #2: Susan Balmouth requested that participants identify which actions are most important for addressing the use impairments. The following comments and questions were listed.

General water quality comments/questions:

1. *Has the RAP ranked the use impairments? (Paul Hunt)*
Response: Margy Peet explained that the use impairments have not been ranked.

2. *Many of the use impairments are related and can be grouped. For example, use impairments*

8-11 (eutrophication or undesirable algae, drinking water taste and odor problems, beach closings, and degradation of aesthetics) are closely related as are use impairments 3 and 14 (degradation of fish and wildlife populations and the loss of fish and wildlife habitat). (Jim Haynes)

3. *Completing the basin water quality plans should be a high priority because they would lay the foundations for future actions. (Arthur Graham)*
Response: The Urban Ranking Task Group ranked the completion of basin water quality plans (see Chapter 7 section 23) as a high priority action. The Rural Ranking Task Group also ranked the development of watershed plans (see Chapter 7 section 39) as a high priority action.

4. *Intermunicipal efforts and public involvement should be high priorities because they contribute to a good process. Also, small watershed plans would increase public participation. (Paul Hunt)*
Response: The Urban Ranking Task Group ranked the implementation of intergovernmental agreements (see Chapter 7 section 9 "Institute intergovernmental agreements") as a high priority. The Rural Ranking Task Group ranked the implementation of intergovernmental agreements (see Chapter 7 section 30 "Institute intergovernmental agreements in the rural counties in the Rochester Embayment watershed") as a low priority. For information regarding watershed plans, see comment 3 above.

Comments involving eutrophication:

1. *What is "degradation of benthos"? (Max Streibel)*
Response: Jim Haynes explained that the benthic macroinvertebrate community (benthos are small organisms such as clams, worms, insect larvae, and crayfish that live on the bottom of water bodies) is considered to be degraded when it diverges from unimpacted control sites. For example, the benthic macroinvertebrate community is considered to be degraded when it is lacking in biodiversity.

2. *How is the discharge from the Spencerport Wastewater Treatment Plant monitored? (Jerry Lederthiel)*
Response: Jim Haynes explained that Spencerport conducts its own monitoring and provides this information to New York State.

3. *Municipalities need to be educated regarding the importance of impervious surface mitigation. (Dick Swacen)*
Response: The Stage II RAP includes a section "Reduce and mitigate impervious surfaces" (see Chapter 7 section 11). One of the actions outlined in this section is a workshop to educate the development community, municipalities, and the general public regarding the impact of impervious surfaces on water quality and possible mitigating strategies. The Urban Ranking Task Group ranked this action as a high priority. The Rural Ranking Task Group ranked this

action as a low priority.

4. *The dredging of the Genesee River is conducted for the benefit of a single ship which transports concrete. Consider less frequent dredging (perhaps every 2-3 years). (Ed Sander)*
Response: It is proposed in Chapter 7 section 8 "Enact an intergovernmental agreement (IGA) with the Army Corps of Engineers" that an IGA between Monroe County and the Corps be established in order to ensure that restrictions on overflow dredging remain in effect indefinitely. It is also proposed that this IGA include provisions to minimize the frequency of dredging (especially during the bathing season). Also, please note that currently the Corps dredges the Genesee River shipping channel every other year.

In addition, Chapter 7 section 24 "Continually evaluate and implement proposals for possible new remedial measures" describes a process to evaluate new ideas for remedial measures that were proposed during the review of the Stage II RAP. Appendix D "Remedial Measures, Studies, and Monitoring Methods to be Evaluated in 1997" lists a number of ideas that have been submitted as part of the review of the Stage II RAP. Several of these relate to the dredging of the Genesee River including "Eliminate dredging of the Rochester Harbor", "Restore the Turning Basin of the lower Genesee River to marshland", and "Restore the Genesee River estuary to its natural state as much as possible".

5. *Consider alternative modes of transporting concrete (so that dredging of the Genesee River would not be required). (Arthur Graham)*
Response: This idea has been added to the list of new ideas (Appendix D) that were submitted as part of the review of the Stage II RAP. (see Chapter 7 section 24)

6. *The dredging issue should be revisited. Would cement still cost 20-30% (more than current prices) if it could not be transported by ship? (Dick Swacen)*
Response: This idea is closely related to the comment listed as number 5 above and will be added to the list of new ideas found in Appendix D.

7. *There have been concerns that the dredging contractor fails to discharge the dredged materials in the designated location. (Jim Haynes)*
Response: These concerns are discussed in Chapter 6 section 25 "Inspection/Monitoring of Dredging". In order to insure that dredged materials are discharged in the designated location, the United States Army Corps of Engineers uses an on-site construction inspector and requires that the disposal location be recorded. In addition, most dredging contractors now use the Global Positioning System in order to identify the disposal location.

8. *Is the cost of dredging included in the cost of cement? (Chris Fredette)*
Response: The cost of dredging is paid for by the United States Army Corps of Engineers and therefore is not included in the cost of cement.

9. *Dredging should not be conducted during the bathing beach season. (Juergen Granss)*
Response: As discussed under comment #4 above, Chapter 7 section 8 "Enact an intergovernmental agreement with the Army Corps of Engineers" includes a proposal to work with the Corps to minimize the frequency of dredging, especially during the swimming season. Other constraints also impact the timing of dredging. The New York State Department of Environmental Conservation (NYSDEC) must grant a permit for dredging. One of their concerns is the impact of dredging on fishery resources. Because of this, there is often a constraint on how soon in the Spring and how late in the Fall dredging can occur. Monroe County has been working with the U.S. Army Corps of Engineers and the NYSDEC to try to insure that the interests of fishing and bathing are balanced in making decisions on when dredging should be allowed.

10. *Consider using Irondequoit Bay as a deep water port so that the Genesee River would not need to be dredged. (Jerry Lederthiel)*
Response: In recognition of a commercial need, the Genesee River has been authorized by the United States Congress as a deep draft harbor. In contrast, Irondequoit Bay has only been authorized as a small boat harbor and therefore is dredged between 8 and 9 feet, depending on location. The Bay would have to be dredged to a depth of 20 feet in order to accommodate the cement ship which utilizes the Genesee River shipping channel. Such a project would require Congressional reauthorization and would cost millions of dollars just to complete the initial dredging and the associated strengthening of the breakwater. In addition, there are no deep water port facilities located on Irondequoit Bay and the land surrounding the Bay is committed to other uses. Also, because Irondequoit Bay is classified by New York State as a Class I wetland, it is likely that there would be a number of wetland regulatory issues associated with developing a deep water port in the Bay.

11. *In establishing a phosphorus loading goal, the impact on fisheries should be considered. (Ed Sander)*
Response: The following wording has been added to Chapter 7 section 13 "Implement a phosphorus point source management strategy" under the heading "Data gathering, modeling, and analysis". "The impact of near-shore phosphorus reduction on sport fish populations."

12. *The construction of wetlands addresses both eutrophication related use impairments and the loss of fish and wildlife habitat. (Dena Owens)*
Response: Table 7-1 "Summary of Possible New Remedial Measures and the Use Impairments that they Address" contains this type of information. For example, the possible new remedial measure "Manage stormwater quality" (which includes actions such as the conversion of dry stormwater basins to wetlands) is linked with both eutrophication and habitat related use impairments.

Question #3: Susan Balmouth asked the group how they think the RAP should measure success. The following comments were made.

General water quality comments:

1. *Water quality in the Rochester Embayment should be compared with that in other areas of concern in the Great Lakes. (Jerry Lederthiel)*
Response: This comparison can be done as part of the action proposed in Chapter 7 section 2 "Promote interaction with the Lake Ontario Lakewide Management Plan and other Lake Ontario Remedial Action Plans regarding critical pollutant sources located outside the Rochester Embayment watershed." Members of the Monroe County Water Quality Management Advisory Committee would attend meetings or correspond with other Lake Ontario RAP Committees and would also review other Lake Ontario RAP documents in detail.

2. *Use Sustainable Seattle and Toronto as a models. (Dick Swacen and Jeff Archer)*
Response: In developing the Stage II RAP, the Water Quality Planning Bureau of the Monroe County Health Department reviewed a number of water quality activities in other RAP areas and across the county via publications, conferences, etc. Several of these activities served as inspiration for proposals found in Chapters 4, 7, and 9. This informal monitoring of water quality efforts in other parts of the country will continue.

Toxics comments:

1. *Mink populations should be measured. (Paul Hunt)*
Response: This idea has been added to the list of monitoring methods to be evaluated in 1997 as found in Appendix D. (see Chapter 7 section 24)

2. *Gather data such as contaminant levels in fish. (Paul Hunt)*
Response: The New York State Department of Environmental Conservation directs sampling programs for chemical contaminants in fish and shellfish. The selection of species to be sampled is based upon knowledge of historical species contamination levels, fish tissue fat content, and popularity to anglers. The data is used by the New York State Department of Health for establishing recreational fishery health advisories. For additional information on this subject, see Chapter 6 section 2 "Fish flesh monitoring and annual advisory".

3. *The lifting of the fish consumption advisories would indicate success. (Jerry Lederthiel)*
Response: The "virtual elimination of toxic substances causing fish consumption advisories" is one of the goals established through the RAP process. According to the International Joint Commission, "restrictions on fish and wildlife consumption" can be delisted as a use impairment (water quality problem) "when contaminant levels in fish and wildlife populations do not exceed current standards, objectives or guidelines, and no public health advisories are in effect for human consumption of fish or wildlife".

Eutrophication comments:

1. *Monitor algae blooms. (Jim Haynes)*
Response: Chapter 9 section 3 "Monitoring for eutrophication and *Cladophora"* includes two proposed algae monitoring methods. These are "Prepare periodic status reports on *Cladophora* in Lake Ontario" and "Use aerial photography to monitor *Cladophora* beds".

2. *The elimination of beach closings would be a measure of success. (no name)*
Response: One of the goals that was established through the RAP process is that "public beaches in the Rochester Embayment are open for swimming, based upon best available health and safety standards. According to the International Joint Commission, "beach closings" can be delisted as a use impairment "when waters, which are commonly used for total-body contact or partial-body contact recreation, do not exceed standards, objectives, or guidelines for such use".

Habitat comments:

1. *Monitor bird and amphibian populations through the Marsh Monitoring Program. (Bob Townsend)*
Response: Chapter 9 section 13 "Monitoring of fish and wildlife habitat" includes a proposal to build upon the existing Marsh Monitoring program and the proposed Reference Wetland System in order to monitor wetland habitat quality and quantity.

2. *Monitor indicator species populations and compare with historical data. Candidates include sturgeon and whitefish. (Dick Swacen)*
Response: The Marsh Monitoring program (as mentioned in comment 1 above) focuses on monitoring two groups of vertebrates, birds and amphibians, because they are susceptible to environmental deterioration. They are also easily detected during the breeding season and thus are more easily surveyed by volunteers than other candidate groups. The idea of monitoring sturgeon and whitefish populations will be added to the list of monitoring methods to be evaluated in 1997 (Appendix D).

3. *Monitoring should focus on resident species such as largemouth bass and snapping turtles. (Jim Haynes)*
Response: A proposal to monitor levels of bioaccumulative chemicals of concern in resident biota is outlined in Chapter 9 section 1 "Monitoring for toxics".

4. *Monitor both resident and mobile species. (Jeff Archer)*
Response: Chapter 9 "Surveillance and Monitoring Program" of the Stage II RAP includes proposals to monitor both resident and mobile species. For example, section 1 "Monitoring for toxics" outlines a proposal to monitor levels of bioaccumulative chemicals of concern in resident biota (snapping turtles). Also, Chapter 9 includes a proposal to build upon the existing Marsh Monitoring program which surveys amphibian and bird populations (see Chapter 9 section 13

"Monitoring fish and wildlife habitat").

Written comments received from Bill Dodge during the week of the Public Meeting

Perhaps the most important way to measure the success of the RAP is the depth, beyond the already converted, into the population that the RAP messages penetrate. The amount of resources that become available to solve the problems may be directly related to this population penetration. To the unconverted, the measurement of success will be solving visual, odor, and recreational impairments. If the depth of conversion increases, a commitment to human health issues will follow. A disaster in the drinking water system would of course have an immediate effect in the general population, but it would fade soon after the problem was remediated. The most obvious way to increase the depth of penetration is a wide-ranging educational effort. (Bill Dodge)

Response: Public education and involvement are the key to the success of the RAP actions. Proposed public education actions are listed above under Breakout Group #1, Question #2. One of two proposed monitoring methods should be used to measure the success of public education:

- Utilize intern to develop and conduct water quality survey (Section 9.15.2)
- Coordinate with professional pollster to conduct water quality survey (Section 9.15.3)

Some of the proposed monitoring methods will involve public participation:

- Establish volunteer *Cladophora* watches (Section 9.7.2)
- Use volunteers to collect and monitor litter in and along waterways (Section 9.9.2)
- Build upon the existing Marsh Monitoring Program and the proposed Reference Wetlands system to monitor wetland habitat quality and quantity in the Rochester Embayment watershed (Section 9.13.2)
- Implement citizen monitoring of stream habitat (Section 9.13.3)
- Establish volunteer environmental watchdogs (Section 9.14.3)

Public participation will also be needed for local watershed planning and other activities. At the April 1, 1997, public meeting we will ask for help from the general public in selecting five of the high priority actions to undertake in 1997.

The most important water quality problems are not the ones most often quoted. As many people recognized at the February 25 RAP review meeting, the visual, odor and recreational problems get the most press, and therefore will be most likely to be addressed. The most critical problems are preventing new pollution sources, controlling existing pollution sources and cleaning up the pollutants already in place. The food chain starts in the benthos, grows throughout the water column and in one way or another will reach humans by their senses - air pollution, fish, amphibian, waterfowl consumption, or plants using irrigation and runoff water. (Bill Dodge)

Response: Among the high priority proposed actions that will impact the food chain directly by decreasing the availability of toxic chemicals are:

- Urban Action 3b: "Promote substance ban policy (Section 7.3.3)

- Urban Action 4a: "Initiate comprehensive pollution prevention efforts" (Section 7.4.2)
- Urban Action 4b: "Initiate a process to promote pollution prevention among small businesses in the Rochester Embayment watershed" (Section 7.4.3)
- Rural Action 26a: "Promote antidegradation policy" (Section 7.26.2)
- Rural Action 28: "Identify location and extent of hazardous waste sites" (Section 7.28.2)
- Rural Action 33: "Intensity the implementation of agricultural best management practices" (Section 7.33.2)

Other high priority and recommended proposed actions will impact the food chain indirectly. Most of the proposed actions will impact several use impairments (see Stage II RAP Table 7-1).

Presently the most obvious action to solve the senses/recreational impairments is the reduction of litter and phosphorus entering the watershed. The most critical actions to solve the food chain problem are measurement (determining the base level of pollutants in separable parts of the watershed) and monitoring (determining changes in the previously measured pollutant levels. Studies to determine the effect of pollutant levels that can be tolerated by plants and animals are as critical as measuring/monitoring. As reducing pollution takes an enormous amount of financial and human resources, measuring/monitoring helps ensure that the most critical problems can be addressed earliest and studies help ensure that resources are not wasted where a problem is only thought to exist. (Bill Dodge)

Monitoring is considered to be, not an action, but the measure of success of one or more actions. Measurement, as you have defined it, would be the baseline established before the actions are undertaken.

Onsite toxicity studies were performed by the New York State Department of Environmental Conservation for fathead minnows and selected macroinvertebrates. (See the Stage II RAP Section 3.16.) Proposed studies do not include determining the effect of pollutant levels that can be tolerated. They do include:

- "Does the Lake Ontario portion of the Rochester Embayment suffer from degradation of benthos?" (Section 4.5)
- "Are phytoplankton and zooplankton populations in the Lake Ontario portion of the Rochester Embayment impaired?" (Section 4.7)

Comments received from Richard Burton, Monroe County Department of Health
March 13, 1997

Comments: Chapter 11 "Management of RAP Implementation" should address the need to establish technical external oversight groups that would (1) monitor progress towards delisting the use impairments, (2) provide input on the direction of RAP implementation, and (3) keep the RAP process current. An oversight group should be established for each of the groupings of use impairments (toxics, eutrophication, drinking water, and habitat).

These oversight groups could be subcommittees of the Monroe County Water Quality Management Advisory Committee (WQMAC) and should be modeled on the Priority Pollutant Task Group (for information on this Task Group, see Chapter 3 Section 5 "Ranking of High Priority Chemical Pollutants"). It will be critical that these groups include representatives from a broad cross-section of the community including academia, industry, government and public interest groups. Some of the committee members would likely be existing members of the WQMAC and Water Quality Coordinating Committee.

One of the primary charges of the oversight groups would be to monitor progress towards delisting the use impairments. As a first step in this process, the groups should propose a delisting target date to the WQMAC and the WQCC. The WQMAC and WQCC should then recommend that the Water Quality Management Agency and the New York State Department of Environmental Conservation establish a goal that the use impairments will be delisted by the target date. The purpose of the established goal would be to build support for remedial activities.

The next step would be to develop realistic and achievable use impairment delisting criteria and key result measures. After the delisting criteria have been established, the groups would, on a regular basis, review monitoring data and report on progress towards delisting. This reporting might be accomplished through the proposed Six Year RAP Progress Report and/or at the Water Resources Board's annual fall conference.

Another of the oversight groups' roles would be to provide input on the direction of RAP implementation. Because many of the groups' members would be from outside of county government, they could provide a more objective evaluation of the progress that is being made towards delisting. As part of this process, the groups could provide recommendations regarding the direction of RAP implementation.

A third role for the oversight groups would be to keep the RAP process current by establishing a formal link with the academic community. In this role, the groups might provide information on research as reported in the literature or serve as "peer reviewers" of RAP implementation activities.

DRAFT Response: The idea of creating technical external oversight committees that would establish delisting criteria and monitor progress is a refinement of an idea that is already included in Chapter 11 "Management of Remedial Action Plan Implementation". Chart 11-1.b. "RAP Implementation - Institutional Structure" outlines the role of the various agencies, organizations, and committees in implementing the RAP, including the Monroe County Water Quality Management Advisory Committee (WQMAC). The development of restoration targets and/or quantitative delisting criteria is one of the roles that is listed for the WQMAC.

The following revisions will be made to Chapter 11 in order to reflect the comments submitted by Richard Burton and the discussion that took place at the April 17, 1997 WQMAC meeting.

1. The following wording will be added to the cell in Chart 11-1.b. which outlines the role of the WQMAC in RAP implementation. "Establish technical external oversight groups that will develop realistic use impairment delisting criteria, monitor progress towards delisting, and provide input on the direction of RAP implementation."

2. Section 11.5 "Mechanism to Track RAP Implementation" will be revised in the following manner.

- The third sentence in section 11.5.1 "Background" will be revised to read "This tracking will be achieved through existing processes including *the Monroe County Water Quality Management Advisory Committee (WQMAC)* and a number of Water Resources Board programs."

- The first two sentences in section 11.5.3 "Tracking Process" will be revised to read "A number *of new and* existing processes will be used to track implementation of the RAP. These include *technical external oversight groups*, workshops, newsletters, reports, and conferences."

- A new subsection entitled "Technical External Oversight Groups" will be added to section 11.5.3 "Tracking Process". This subsection will include all of the ideas outlined in the comments submitted by Richard Burton with the exception of the idea that a delisting target date should be established as a first step. At its April 17, 1997 meeting, the WQMAC came to consensus that a delisting target date should not be established until realistic and achievable use impairment delisting criteria have been established. The WQMAC believes that without specific delisting criteria to consider, it would not be possible to establish a delisting target date.

- The second sentence of the fourth paragraph in section 11.5.3.3 "Six-Year RAP Progress Report" will be revised to read "The development of the RAP Progress Report will require the active involvement of NYSDEC staff, the Monroe County WQCC, *the WQMAC (including the technical external oversight groups),* and representatives of the

rural counties."

- The list of types of information to be included in the Six-Year RAP Progress Report (see section 11.5.3.3) will be amended as follows. The sixth bullet will be revised so that it reads "Description of progress in delisting use impairments for the Rochester Embayment Area of Concern (*with input provided by the WQMAC and the technical external oversight groups*). A new bullet, which reads as follows, will be added to the list. "Recommendations from the WQMAC/technical external oversight groups regarding the direction of RAP implementation".

March 21, 1997

Ms. Margy Peet
Monroe County Department of Health
Water Quality Planning
P.O. Box 92832
111 Westfall Road
Rochester, New York 14692-8932

Dear Ms. Peet:

Subject: Comments on "Rochester Embayment Remedial Action Plan Stage II" Draft Dated January 1997

Eastman Kodak Company operates research, manufacturing, distribution and office facilities in Monroe County and is a permitted discharger to the Monroe County Pure Waters Sanitary Sewer System and to the Genesee River. Kodak will be directly affected by the Remedial Action Plan for the Rochester Embayment Stage II (RERAP). Thus, we have a direct and vital interest in the proposed draft and any revisions recommended or required by the International Joint Commission, the New York State Department of Environmental Conservation, or as a result of Monroe County's analysis of public comments.

Kodak has a long history of participating in the Water Quality Management Advisory Committee, the Priority Pollutant Task Group, the Studies and Monitoring Task Group, and the Urban Ranking Task Group during development of both Stage I and Stage II of the RERAP. The County is to be applauded for the open and public process by which these documents were developed and reviewed. In particular, we recognize the massive effort that has been required to develop the Stage II draft and the effort put forth by the County to be responsive to the comments provided by committee members.

However, in Chapter 3 the County has the opportunity to update RERAP Stage I and improve the Draft Stage II. While the County has attempted to be responsive to our previous comments by including ranking disclaimers in the text (page 3-17), we believe the public will be misled by and focus on the scientifically incorrect data and rankings presented in the Tables. Therefore, we urge the County to revise the list of "Top 21 Pollutants" (the list), information contained in Tables 3-6, 3-7, 3-8, 3-11 and 3-12 before issuing the RERAP Stage II as final. Further, we ask that pollutants that can no longer be rationalized as belonging on "the list" be removed and placed on a new list of pollutants identified as having been evaluated and delisted. Kodak believes that the County should use the best and most current scientific and loading information available to list and rank pollutants.

Attachments 1, 2, and 3 contain comments supporting changes to the Tables which are of particular interest to Kodak.

Chapter 3 Fails to Address Speciation of Metals

In the Responsiveness Summary for RERAP Stage I (page A-32, A73), the County responded to the Industrial Management Council's (IMC) concern that speciation was inadequately considered by stating that:

"The speciation issue raised is important. However, current reporting of chemical discharges is not broken down in this manner, and if we put only some species of substances on the list, data would not be available. Table 5-1 remains as it did in the Stage I report. However, for the finalizing of Table 5-2, which is being done by the Priority Pollutant Task Group (PPTG) as part of the Stage II RERAP, this issue (will) be considered."

The PPTG concluded its work on Chapter 3 in January 1994 without adequately addressing the speciation of metals. It appears they did so with the understanding that the County would seek guidance from NYSDEC and USEPA regarding speciation. The County acknowledges that it failed to follow through on this expectation. Kodak asks that this be done before finalizing Chapter 3.

The County should not utilize worse case assumptions when listing or ranking pollutants, particularly when provided with adequate scientific information supporting more appropriate decisions. When ranking metals in general, and silver in particular, Kodak urges the County to utilize parameters related to the toxic form (ionic) and not intermix the data with that from other forms of the metal in order to derive a worse case ranking. That is, consider the toxicity, bioaccumulation, persistence and loadings of the toxic form of the metal exclusively, when that is the most environmentally relevant species.

Kodak does not believe it is necessary to list or rank all species of a metal particularly when the scientific evidence clearly shows that some species are not now or ever likely to cause a use impairment.

We believe that the County has been provided with sufficient information to justify changes to the tables in Chapter 3 based on the following:

1) IMC's comments on RERAP Stage I, Dr. Kenneth A. Robillard's letter dated January 8, 1993 (Attachment 1).

2) The comments presented at the August 1996 WQMAC meeting.

3) The information provided at the Priority Ranking Task Group meetings in October, 1996 and January, 1997 (Attachment 2).

4) Attachment 3 and these comments.

We have summarized the changes needed to the tables in Chapter 3 as follows:

Silver

Table 3-7: Change the score for ionic silver to 0 for persistence which changes the average score to 2.

Table 3-8: Modify by changing ionic silver's Total Score to 2 and the Effect Rank to 13.

The loading information in Tables 3-9 and 3-10 should be changed to reflect the loading of ionic silver. The Waste Water Order of Magnitude and Air Order of Magnitude should be changed from 5 and 6 respectively to 1 and the discharge rank to 18 to reflect ionic silver loadings.

Table 3-11: Change by deleting use impairment #6 associated with silver and adjusting the points given to 0. Ionic silver is not found in sediments.

Table 3-12: Change to show a final value for ionic silver of 31.

In addition we ask that a footnote be added to Table 3-12 to explain that 1 was added to the points from Table 3-11 to prevent division by 0.

If the County is concerned with the total loading of silver in the RERAP rather than the toxic species, Tables in Chapter 3 should be changed as follows:

Table 3-6: Change silver toxicity score to 0 for toxicity and change the average score to 0. The toxicities of silver metal, adsorbed silver and insoluble silver salts and silver complexes are orders of magnitude lower than that of ionic silver. These are the silver species being discharged and persisting in the environment, not ionic silver.

Table 3-7: Change the bioaccumulation score for silver to 0 and the Average Score from 7 to 5.

Table 3-8: Change silver's Environmental Effects Score to 0, Bioaccumulation/ Persistence Score to 5, Total Score to 5 and the Effect Rank to 21.

Table 3-11: Change by deleting use impairment #6 associated with silver and the adjusted points to 0. Ionic silver is not found in sediments. Environmentally relevant forms of silver which may be found in sediments have no credible association with impairment of the benthos and less of an association to any benthic impairment than cadmium, DDT and Furans which are rated 0.

Table 3-12: Change to reflect a final value for silver of 24.

Methylene Chloride (DCM)

All relevant and applicable toxicological, pharmacokinetic, and epidemiological data indicate that the mouse is an inappropriate model to predict the human carcinogenic response to DCM. A weight-of-evidence scientific evaluation suggests that DCM is clearly not a direct acting human carcinogen, but rather may act in certain animal species to induce tumors through an epigenetic mechanism that is linked to a saturable enzyme process.

If DCM is not removed from "the list", we ask that a carcinogenicity score of 6 be used in Table 3-5 which is more reflective of the actual scientific data and better describes the carcinogenic potential of DCM in mammalian systems (Attachment 3). This change and appropriate changes made to subsequent tables will not change the ranking of DCM.

Kodak is pleased to provide the following new information to the County.

Phthalate Esters

Table 3-12, "Rochester Embayment Remedial Action Plan Top 21 Pollutants", includes two phthalate esters, di-(2-ethylhexyl) phthalate (DEHP) and di-n-octyl phthalate (DnOP), both of which have an assigned cumulative value of 26. A current review of the scientific literature [1-4], including several recent publications, reveals that this value and several of the DEHP and DnOP hazard ranking scores are incorrect and should be changed. Specifically, scores for carcinogenicity, aquatic toxicity (both acute and sub-lethal) and bioaccumulation should be revised in order to be consistent with current knowledge regarding the fate and effects of these two compounds. The following information supports our recommendation.

Carcinogenicity (Table 3-5)

In reviewing the scores for carcinogenicity, sublethal effects, and the EPA potency factor listed in Table 3-5, it appears that the effects of bis (2-ethylhexyl) phthalate (DEHP, CAS No. 117-81-7) and di-n-octyl phthalate (DNOP, CAS no. 117-84-0) have been confused and need to be corrected. This confusion may stem from the tradename designation of DEHP as "Platinol DOP and Kodaflex DOP"; however, DEHP and DnOP are quite different substances which have completely different toxicological profiles (see Toxicological Profile for Di(2-ethylhexyl)phthalate, USDHHS TP-92/05, PB93-182400; Toxicological Profile for Di-n-octylphthalate, June 1994).

For example, the carcinogenicity score of "8" for DnOP is incorrect since there are no known cancer studies of DnOP. A repeated-exposure study of DEHP in rats conducted in Poland has been mistakenly identified as demonstrating long-term effects of DnOP based on an English translation of the summary (Piekacz et al., 1971). However, a complete translation of the paper indicates that the study used DEHP (reported as DOP) rather than DnOP. In addition, DnOP has been shown to be not mutagenic in short-term mutagenicity assays (Toxicological Profile, 1994), and it is not a peroxisome proliferator in rat liver (Lake et al., 1984), a phenomenon which has been associated withk liver carcinogenesis in rodents. Upon reviewing the information on DnOP, the US EPA concluded that DnOP did not pose acute or chronic

human health concerns and removed this substance from the list of materials in Section 313 of EPCRA (Oct 6, 1993).

The scores for sublethal effects are also incorrect in that no reproductive toxicity was observed when DnOP was tested in a continuous breeding study (Heindel et al., 1989), and no subchronic effects where observed in studies in which animals were treated with up to 1000 mg/kg/day (Lake et al., 1984; hinton et al, 1989). In addition no subchronic effects ere reported in the Toxicological Profile published by the ATSDR.

Aquatic Toxicity (Acute and Sub-Lethal) (Table 3-6)

Some recent publications review [1-3] and clarify much of the historical data on the aquatic toxicity of phthalate esters and present additional new information. Based on the best available data, it is apparent that neither DEHP nor DnOP are likely to cause any adverse acute aquatic toxicity. Similarly, the weight of evidence is convincing that DEHP is not chronically toxic to aquatic life. (Historical data suggesting DEHP was chronically toxic has been judged invalid by the original investigators.) Although DnOP has not been tested to the same extent as DEHP, their similar physical, chemical, and aquatic toxicological properties suggests that DnOP is not likely to be chronically toxic. Therefore, both chemicals should have a score of "0" for aquatic toxicity, a score of "0" for sub-lethal effects, animals, and an Environmental Effects Score (average) of "0".

Bioaccumulation (Table 3-7)

DEHP and DnOP like other high molecular weight phthalate esters are hydrophobic compounds with high n-octanol/water partition coefficients (K_{ow}). High K_{ow} values presume a high potential to bioconcentrate. However, it has been shown that phthalate esters in general and DEHP in particular do not bioconcentrate in the aquatic and terrestrial food chain because of metabolism[4]. The relatively rapid metabolism of DEHP by vertebrate and other organisms having well developed metabolic systems prevents bioaccumulation in spite of high K_{ow} values. Typical measured BCF values for DEHP are 10-600, depending on species and test conditions. Most of the BCF values are less than 200. A review of the phthalate esters, including DEHP and DnOP, during development of the "Water Quality Guidance for the Great Lakes System" (GLI), led to the conclusion that they were not bioaccumulative chemicals of concern in the Great Lakes. The bioaccumulation score for both DEHP and DnOP should be "4", and the Score (average) should be "4".

Potential for Adverse Effect (Table 3-8)

Based on the requisite changes described above, the Total Score for potential for adverse effect for DEHP and DnOP should be Toxicity Score (4.00) + Environmental Effects Score (0) + Bioaccumulation/Persistence Score (4) = 8. Thus, DEHP and DnOP should have the highest effect rank, equivalent to the lowest potential for adverse effects.

Ranking for Prioritization (Table 3-12)

Taking into consideration the revised adverse effects score, the final prioritization value for DEHP and DnOP should be "29".

Remove Silver, Methylene Chloride (DCM) and Phthalate Esters From List of "Top 21 Pollutants"

In the responsiveness summary for the RERAP Stage I dated August 1993 (page A-30, A68) the County stated that "It is recognized that the pollutant list should be dynamic and responsive to new information. This list should change as new information becomes available".

Silver, DCM and phthalate esters are not associated with any known use impairment in the Rochester Embayment or the open waters of Lake Ontario. In addition, there is no credible evidence to link these chemicals to any suspected or unknown use impairment. We believe that Kodak has provided adequate information to justify their removal from "the list".

The County should consider the following:

1. The mere presence of a pollutant is insufficient evidence to assume or suspect the causation of an impairment.

2. The RERAP needs to focus on those pollutants credibly associated with use impairments.

3. The County does not have the resources to adequately address every pollutant present in the embayment.

Therefore, the County should remove from "the list" any pollutant not credibly associated with a use impairment in the Rochester Embayment or Lake Ontario. Otherwise we have a "list" driving the search for impairments rather than impairments driving the search for the cause and solution.

Conclusion

Kodak recognizes that "the list" and rankings of other pollutants in Chapter 3 may change when the County applies better and more current loading, speciation, toxicity, environmental fate and effect, and bioaccumulation information. The relative ranking of a pollutant is less of a concern to Kodak than that the best scientific information be used to place pollutants on "the list", in ranking them once they are listed, and removing them from "the list" when appropriate.

It is our understanding that the County is not under any statutory or regulatory deadline to issue RERAP Stage II as final and should take the time necessary to revise Chapter 3. Merely including these comments and those of others as part of a "Responsiveness Summary" is inadequate and will adversely impact the credibility of the document. Kodak urges the County to either change Chapter 3 of RERAP Stage II, or delete it entirely, before issuing the final report. Kodak recognizes the additional work required to adequately finalize RERAP Stage II and we are prepared to assist.

It is of paramount importance to Kodak's global competitiveness and the viability of Kodak Park as

a manufacturing site, that the most current and best scientific data be utilized whenever silver, DCM and other chemicals used in manufacturing imaging products are the subject of environmental discussions and public documents.

Kodak appreciates the opportunity to present these comments to you and hopes they will serve to improve the quality of the final document. If you have any questions regarding our comments please contact me at (716-722-3805).

Sincerely,

Michael A. Ruszczyk
Manager, Surface Water Issues

Attachments

NOTES:

1. Adams, W.J., G.R. Biddinger, K.A. Robillard and J.W. Gorsuch, "A Summary of the Acute Toxicity of 14 Phthalate Esters to Representative Aquatic Organism," Environ. Toxicol. and Chem. Vol. 14, No. 9, pp: 1569-1574 (1995).

2. Rhodes, J. E., W.J. Adams, G.R. Biddinger, K.A. Robillard and J.W. Gorsuch, "Chronic Toxicity of 14 Phthalate Esters to Daphnia magna and Rainbow Trout (Oncorhynchus mykiss)," Environ. Toxicol. and Chem. Vol. 14, No. 11, pp: 1967-1976 (1995).

3. Staples, C.A., W.J. Adams, T.F. Parkerton, J.W. Gorsuch, G.R. Biddinger and K. Reinert, "Aquatic Toxicity of Eighteen Phthalate Esters-A Review," accepted for publication in Environ. Toxicol. And Chem.

4. Stapes, C.A., D. R. Peterson, T. F. Parkerton and W. J. Adams, "A Literature Review: The Environmental Fate of Phthalate Esters," accepted for publication in Chemosphere.

Center for Applied Aquatic Science and Aquaculture
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April 13, 1997

Ms. Margy Peet, Water Quality Coordinator
Monroe County Department of Health
111 Westfall Road
P.O. Box 92832
Rochester, NY 14692

Dear Margy:

My comments on Kodak's comments on the Priority Pollutant Section of the Stage II RAP follow. My comments are based on the following observations/assumptions: 1) Kodak employs good scientists who do good science and often publish it in the open literature (the acid test of acceptance by the scientific community); 2) Kodak scientists have a long record of substantial contributions to the RAP process and have always played straight with the County; and 3) the current documents are consistent with items 1 & 2. In my opinion, what follows works from the easiest to the hardest issues to resolve.

Methylene Chloride (DCM)

I find the evidence and reasoning to delist methylene chloride from our RAP PPL to be most compelling. It was always the high volume of releases that kept this chemical relatively high on the list, not its toxicity. In particular, the studies cited showing the differences between biotransformation processes in mice and other animals (especially humans) combined with the lack of effects demonstrated in several large epidemiological studies convince me that there is little point in the county expending scarce resources on what is very unlikely to be a problem.

Phthalate Esters

As pointed out in Mike Ruszczyk's letter, it is crucial that we deal with the actual phthalate compounds that are being released or are present in the Rochester AOC. I lack the chemical competence to know if the confusion in the literature really has been cleared up, nor do I know which phthalates are being released here now or the relative toxicities of those compounds (are DEHP and DnOP the only ones we have here or are there more we should know about?). Once we get a list of what is being discharged here and a discussion of toxicities similar to the materials I have received on DCM and silver, we should be able to make well reasoned decisions on which, if any, phthalates we should keep on the PPL. Until then, I do not think we can make a decision one way or the other.

CAASA Tel: 716-395-5783 FAX: 716-395-2741 E-mail: jhaynes@acspr1.acs.brockport.edu

Silver

A very good case has been made theoretically that we do not need to worry much about silver toxicity in the Rochester AOC. The toxicity testing data are overwhelmingly clear that free silver (Ag^+, provided by $AgNO_3$ in the tests) is far more toxic than forms which are released into the environment or likely to be found in aquatic sediments (e.g., AgCl, Ag thiosulfate, Ag_2S). On page 5 of Attachment II of Mike's letter, Joe Gorsuch presents data that suggests the actual concentration of Ag^+ coming out of a POTW could be as high as 0.03-0.05 ug/L, a level that is somewhat more than one order of magnitude below the acute 10 day LC_{50} values of the most sensitive aquatic test organisms (about 1 ug Ag^+/L; Rodgers et al., ms. submitted). Thus,a theoretical potential for ionic silver to cause chronic effects at levels entering the environment remains.

What we critically do not know about silver is what is actually going on locally. In particular, 1) What are Kodak's (other industries?) actual Ag^+ discharges to the Genesee River?; 2) What species of silver are actually found in Genesee River sediments above and below the Kodak discharge, and what are their concentrations in the sediments?; and 3) What are the acid volatile sulfate conditions in Genesee River sediments (this is critical in converting the dangerous form of silver to non-dangerous silver sulfide). Perhaps the answers to these questions already exist, in which case another appropriately explanatory document from Kodak would allow the RAP committees to make a fully informed judgement on where, if at all, to place silver on the PPL. If the information does not exist, then I suggest we have a very high priority study to add to the Stage II RAP.

In sum, we are close to being able to delist methylene chloride, phthalates and silver, which will allow us to concentrate on other chemicals we know are important. Before we can delist, however, we need some critically important information. I also think it is very important to get input from regulatory scientists (EPA, DEC) and academic toxicologists (e.g., Tom Gasiewicz) about the same information I have discussed above. As you know, this is not my primary area of expertise, so I could be way off of some bases.

Because I must help several of my graduate students get started on field research projects this Friday, I will not be able to make the meeting. In some consolation, perhaps, two of the students are beginning County-related priority projects (chironomid deformities and invertebrate diversities in the Irondequoit Bay and Genesee River watersheds).

With best regards,

James M. Haynes
Professor/Coordinator of CAASA

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New York State Department of Environmental Conservation
50 Wolf Road, Albany, New York, 12233-3508

John P. Cahill
Acting
Commissioner

April 14, 1997

Ms. Margy Peet, RAP Coordinator
Water Quality Planning
Monroe County Department of Health
350 East Henrietta Road, Bldg. #5
Rochester, NY 14620

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To MARGY Peet	From Bob Townsend
Co. Monroe Co. DOH	Co. WATER DEC
Dept.	Phone # 518-457-9603
Fax # 716-274-6115	Fax #

Re: Response to Kodak Comments on the Ranking of Priority Chemical Pollutants
Rochester Embayment Remedial Action Plan (RAP)

Dear Ms. Peet:

I have discussed the issue concerning the toxicity of the different forms of silver involving the ranking scheme used to define the priority of silver as a contaminant in the Rochester Embayment RAP with a number of NYSDEC water program professionals. After presenting recommendations on how to specifically proceed with revising Section 3.5 of the draft Stage 2 document, I will list the background information or rational used to support these recommendations. My specific recommendations for revising the section are:

1. Maintain your schedule to publish the Stage 2 RAP final in August of 1997.
2. Incorporate the realistic concerns of Kodak in the ranking process by adjusting the ranking scheme to lower the priority of the pollutant(s) at issue; however, do not delete all concern for these parameter(s) nor delete their identified relationship to the use impairments.
3. Because Section 3.5 on ranking in the RAP is identified as "an update of information in the Stage 1 RAP", and if it is to be included in the Stage 2 document at all, it is only right that the Tables and narratives must be updated now to reflect current thinking and issues. The other option, as Kodak has suggested, is to delete this update of Stage 1 information at this time.
4. Keep the metals listed in the tables as they are (do not break out metal forms) but make ranking decisions based on considerations for the <u>total</u> form of the metal. For example, the ranking of Silver "total" must consider both the toxic (ionic) form and the less threatening (compound) form of silver. Total silver would be the sum of the dissolved and particulate forms. Ranking would have to somehow <u>average</u> these considerations instead of compounding them.
5. Therefore, reassess silver in all tables keeping in mind that the reassessment must consider, weigh, and average the ionic/organic (toxic) and compound/complex (nontoxic salt) forms of the metal. Table 3-5 may need to have a small toxicity score assigned. Because silver has surface water quality standards, as defined on page 3-26 of Stage 1 (that are based on human health and aquatic considerations), this may be reason enough to indicate some toxicity score.

APR 14 1997

6. Adjust Table 3-6 to indicate a lower environmental effects score for silver (select a value between 3 and 5) as obtained by averaging an ionic form concern of "6 to 10" with a complex form concern of "0". Another way to lower the average score by keeping the aquatic concern at 10 would be to use zeros as numerical substitutes for "no data". The effect on other parameters in the table would then need to be assessed to assure consistency.
7. Adjust Table 3-7 accordingly. Total Silver would therefore have a bioaccumulation of 4 and a persistence of 5 (10 for ionic plus 0 for complex divided by 2) for an average bioaccumulation/ persistence score of 4.5. Also, the bioaccumulation factor could be lower (say 2) resulting an overall lower average score.
8. Adjust Table 3-8. Assuming the Task group assigns a toxicity score of 1, and using an environmental effects score of 3 (averaging an ionic concern of 6 with a complex concern of zero), and adding the adjusted bioaccumulation/persistence score of 4.5, a total score of 8.5 is obtained which equates to an approximate effect rank of 21.
9. Table 3-9 remains the same. Table 3-10 would need adjustment to reflect a lower average order of magnitude for total silver. I would estimate orders of magnitude for water and air of between 1 and 3. Using 2 for each, for a total of 4, would produce a corresponding rank of approximately 8.
10. Table 3-11 remains the same. Adjust Table 3-12 to indicate a higher value for the final ranking (potential for adverse effect rank of 21 plus a discharge rank of 8 divided by 1.5) equal to approximately 20.

In arriving at these recommendations, I had discussions with John Zambano, Water Quality Standards Section; Jeff Myers, water monitoring and assessment; Angus Eaton, chemical industry discharge permits; Ed Kuzia, toxicity testing; Larry Skinner, Fish and Wildlife; Bob Lange, Fish and Wildlife, and Larry Bailey, laboratory analytical services. My discussions focused on the toxicity of silver and not on revising the ranking scheme. Useful points to support the decision making rational for less of a toxic concern regarding silver include:

1. It is true that the ionic form of silver is the toxic form of concern and that the ionic form combines readily into silver compounds that present little threat. Concern for Silver as a priority contaminant to Fish and Wildlife in New York State has not been the case. To bioaccumulate silver needs to be available as an organic compound (e.g. as is the concern with methyl mercury); however, silver is preferentially found as an inorganic compound (e.g. silver sulfide) in the environment.
2. The SPDES point source discharge permit limit for silver is developed as a technology standard or limit considering the human health effect levels, although an aquatic water quality standard does exist. We measure for total recoverable silver which is derived from the dissolved and particulate portions. The ionic component would have to be estimated as a part of the total. Kodak can reportedly measure the ionic form based on experience in their process. We do know that silver can exhibit some toxicity even though we only measure for it in the total form. Typically, silver is not included in routine metal analyses in New York State, nor in Lake Ontario, although we must keep in mind that the large discharge of silver associated with Kodak is unique to the Rochester area.
3. We are not expert enough to say that silver is not of a concern in the environment, nor do we know how much bioavailability it has, although it appears to be low. The bioavailability is a measure of the acid soluble part of the silver which may become available through the food chain. One must consider the acid soluble nature of a metal and the impact that this bioavailability can have on an organism. The impact of silver in sediments and particulates on benthic organisms and the bioavailability aspects of this are not well understood.

4. The March '97 and January '93 Kodak letters have a sound research basis and document a valid concern for the way silver is handled; however the research work is admittedly experimental. Ionic silver is identified as the most toxic form of silver, but the toxicity of silver compounds and complexes are not totally eliminated. This issue is not going to be readily resolved in the RAP, but any update on the subject must address it fairly.

5. Because the measurement and interpretation of the effect of results in setting silver standards is complicated and debatable, EPA has not set chronic value silver water quality standards/criteria.

In conclusion, my assessment indicates that Kodak is correct in their request that much less concern be placed on silver and that revision to the ranking scheme is warranted. I also believe that the updated Section 3.5 must "tell it like it is" and include this issue as one that needs to be further explored and ultimately resolved outside of the Stage 2 document and reported on in a RAP Update document. Working within the ranking scheme developed by the task group has its limits and presents certain difficulties by selected boundary conditions. The ranking system must however accommodate new information as suggested in the above ten recommendations. A narrative should also be included in this Section 3.5 identifying this issue. Progress reporting can then focus on resolving this and a number of other priority determinations (investigations and assessments) that are needed to make progress towards delisting the Rochester Embayment Area of Concern.

By lowering the rank of silver, but not deleting it, on the priority chemical pollutants list and identifying the issue to be resolved, RAP progress can continue. It is important to keep in mind some fundamentals of RAPs: Stage 1 is a report on defining the use impairments, causes, and sources; Stage 2 is a report on remedial strategies. The purpose of Stage 2 is not to update Stage 1. As you know, a line must be drawn somewhere on how much current and updated information is to be included in a RAP document. A RAP Update report, after the Stage 2 document is completed, is the appropriate vehicle in which to revisit and focus on further revising the list of priority pollutants, use impairments, remedial strategies, and most importantly the progress towards assessing and delisting use impairments and developing delisting criteria.

Monroe County Department of Health has done an outstanding job in involving the public and taking on an ecosystem approach in the development of the RAP. This foundation should now focus on implementing remedial measures and defining and assessing the delisting criteria and priorities that will lead to the ultimate delisting of the Rochester Embayment Area of Concern. Unfortunately, none of the persons I discussed the silver issue with, nor I, can attend the April 18th meeting. I hope this letter helps to resolve this issue in the RAP and serves to keep the final publication of the Stage 2 document on schedule. Please call me with any questions 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
Barbara Spinwebber, EPA
Fred Luckey
Bruce Kirschner, IJC

TOTAL P.03

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
WATER

April 14, 1997

SUBJECT: Ranking Environmental Hazards of Silver

FROM: Charles Delos, Environmental Scientist C. Delos
Health and Ecological Criteria Division

TO: Margaret Peet, Monroe County Dept. of Health

I have examined the material you have sent, which included the Ranking of High Priority Chemical Pollutants, and three pages of the March 21 Kodak letter.

The aquatic toxicity of metals is a difficult subject area. How toxic a given concentration of metal is depends on what else is in the water. That is, the same concentration of silver may exert greatly different toxicity depending on the character of the water used for testing and the form of silver added.

The type of aquatic toxicity testing traditionally used for assessing silver toxicity involves adding silver nitrate to very clean water. This combination maximizes the toxicity of silver to the tested aquatic organisms, because it minimizes the presence of constituents with which silver can interact to yield less toxic forms. Kodak's concern is that such testing tends to overstate the actual potential for silver problems in the Genesee River.

EPA's Duluth, Minnesota, Laboratory obtains the water it uses for toxicity testing from Lake Superior, which is one of the cleanest, most oligotrophic lakes in the world. That is, the concentration of particles and of organic matter is very low in its waters. To check the validity of a criterion EPA proposed a few years ago, the Duluth Lab ran side-by-side silver toxicity tests using Lake Superior water and using St. Louis River water. The St. Louis River runs through Duluth, receiving the wastewaters from sewage treatment and industrial facilities, before it empties into Lake Superior. I do not think of the St. Louis River as being greatly different in character than the Genesee River.

The results of these tests showed that fifty times as much silver nitrate had to be added to Saint Louis River water than to Lake Superior water to achieve the same toxicity. These results were part of the reason EPA decided not to complete the

process of publishing a final criterion for silver. We have had some discussions with representatives from Kodak and other silver dischargers about the type of data that would be needed for EPA be able to develop a silver criterion that could be reliably applied to a variety of water bodies. However, the work would be expensive and is not currently budgeted.

I believe Kodak's concerns about overstating silver risks may have some basis. EPA, however, for several technical reasons, prefers not to address silver (and other metals) through the free ion concentration (suggested by Kodak), and especially not when indicating discharge loads.

To appropriately rank risks in the Genesee River, I would suggest that it might be reasonable to treat silver as being perhaps 1-2 orders of magnitude less toxic than you had assumed in assigning it its aquatic toxicity score. In addition, Kodak makes an interesting point about persistence. As an element, silver is of course completely persistent. However, dissolved silver in its toxic form would not be expected to persist. I would expect relatively little likelihood of silver causing problems in Genesee River sediments, and lacking bioaccumulative potential, no likelihood of causing problems in Lake Ontario (in direct contrast to a pollutant such as mercury).

With the installation of current control technologies, including Pretreatment Standards, and Best Practicable and Best Available Treatment, I believe that ambient water toxicity due to non-bioaccumulative metals is rather unusual outside of mining areas. On the other hand, for such metals regulatory problems (as opposed to environmental problems) are common, in large measure an artifact of overestimating biological availability in the non-pristine ambient waters to which lab-based criteria are applied.

In conclusion, there may be some reasons for considering changes that would reduce silver's rank in Table 3-12. I might add here that I was a little surprised not to see ammonia listed in the table, since on a nationwide basis the aquatic life problems attributable to ammonia toxicity and oxygen demand greatly exceed those attributable to any other pollutant (as do the control costs). However, if municipalities in your area have already installed sufficient treatment, it may well be that ammonia need no longer be considered a priority.

I hope this has helped a little. If you have further questions, do not hesitate to contact me at (phone) 202-260-7039, (fax) 202-260-1036, or (e-mail) delos.charles@epamail.epa.gov.

SIERRA CLUB - ROCHESTER REGIONAL GROUP
42 TYRINGHAM ROAD • ROCHESTER, NY 14617 • 716-342-2734

April 16, 1997

Margy Peet
Water Quality Planning
Monroe County Department of Health
111 Westfall Road, P.O. Box 92832
Rochester, NY 14692

Dear Margy:

This is my response to the comments from Eastman Kodak on Priority Pollutant Section of the RAP.

First of all, I am uncomfortable with the way the process is evolving. What bothers me most is that the Priority Pollutant Task Group appears to be lacking enough representation by individuals knowledgeable in toxicology who are speak from the environmental advocate point of view. The comments and attachments submitted by Mike Ruszczyk are indeed impressive. They come from people much more knowledgeable in the field of toxicology than myself. (I don't even pretend to understand chemistry). However they obviously come from a particular point of view. And it would seem that in order to evaluate them, it would be necessary to have them reviewed by people equally knowledgeable but either impartial or from the opposing point of view. Perhaps you have been able to find more people to do this. If so, this concern has been satisfied. At any rate my comments below are based on the information I have been able to uncover.

Silver

The issue raised is that of speciation of silver. I gather that most of the silver Kodak discharges is in the form of metallic silver which is felt to be less toxic than ionic silver.

In its draft Toxicological Profile for Silver, the Agency for Toxic Substances and Disease Registry recognizes the different forms in which silver may be found, and bases most of its treatment on silver compounds since that is the form most likely to be encountered in hazardous waste, in the air, or in sewage effluent. Human health effects include skin discoloration, abdominal pain, granular deposits in the eye, and reduced night vision, but most of these seem to occur after fairly high levels of exposure and/or over a relatively long period of time. I don't think they are what the RAP is addressing.

The environmental effects could be quite different. These are not treated nearly as extensively in the mentioned report, but it does recognize that silver is bioaccumulative in aquatic species. Silver is

found in sediments in much higher concentration than in the water, and it adsorbs to marine algae with concentration factors in the tens of thousands. A New Jersey Department of Health Hazardous Substance Fact Sheet on silver states that, "Silver and its compounds have high chronic toxicity to aquatic life."

None of this speaks to the speciation issue. However the ATSDR draft profile makes the statement that in the environment, over time, silver may change from a compound form to metallic silver and back again. This would seem to lend support for treating silver as a substance without differentiating its different forms as far as the RAP is concerned. I am in no position to judge the merits of either side of this issue, but the need for more expert opinion (such as from the EPA) seems evident.

Methylene Chloride (DCM)

This has been an issue of contention for a long time; and I doubt if we will resolve it to everyone's satisfaction now. I have learned (as reported in the December issue of Environmental Health Perspectives) that after reevaluating methylene chloride for about 10 years, OSHA "has determined that, based on animal and human data, methylene chloride poses a significant cancer risk for workers at the current exposure limits." OSHA has developed a new rule with a workplace standard of 25 ppm as an 8-hour time-weighted average as opposed to the current standard of 500 ppm.

Based on the above, there would seem to be little justification for reducing the carcinogenicity score of DCM.

Phthalate Esters

I confess I was not able to find any information about these Phthalates. One person I talked with suggested that Kodak may have done more work on these than anyone else. Again, I would appreciate a review by a disinterested party, but I have no reason to contest Kodak's position. I note that in the RAP draft, Table 3-22 the only facility discharging either of these substances is Atochem. That was in 1991, and it may be different now.

Sincerely,

Raymond L. Nelson

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
WATER

April 23, 1997

SUBJECT: Questions about Methylene Chloride, DnOP, and DEHP

FROM: Charles Delos, Environmental Scientist
Health and Ecological Criteria Division
C. Delos

TO: Margaret Peet, Monroe County Dept. of Health

In your April 17 communication you asked about Kodak's issues on methylene chloride and the phthalate esters, DnOP and DEHP.

Methylene Chloride

In the National Toxics Rule (40 CFR 131.36), EPA set its criterion for methylene chloride on the basis of potential carcinogenicity. This Rule, however, does not apply to New York State as a regulation, only a guidance (recommendations). New York either has established its own criterion (which might be the same as or different from EPA's) or has determined that a methylene chloride standard is not needed in the state. Assuming that the State has not made its own assessment that methylene chloride is not carcinogenic, I believe you are on sound *policy* grounds in declining to assess methylene chloride differently than either the State or Federal programs.

On the other hand, although I am not familiar with the studies on methylene chloride, I am aware that EPA health scientists have been dealing with the type of issues raised by Kodak, and that EPA's guidelines for assessing carcinogenicity have been undergoing change. If you need an expert opinion on the technical merits of Kodak's arguments, then I can pass your question along to an appropriate person. However, I don't think we could or would give you any sort of commitment that a future EPA assessment would change methylene chloride's classification to non-carcinogen.

Phthalate Esters

EPA has no criteria, either aquatic life or human health, for DnOP. I am not aware of any particular concerns about a need for such criteria.

In the National Toxics Rule, EPA set its criterion for DEHP on the basis of potential carcinogenicity. Consequently, everything I said above about methylene chloride could apply also to DEHP.

In data compiled for the Great Lakes Initiative, the available measured BCF for DEHP indicated a much lower value than would be predicted from its octanol-water partition coefficient or from the likely hydrophobicity of its structure. This would occur if Kodak's statement about rapid metabolism of DEHP were correct. Based on the measured BCF, DEHP would not be considered bioaccumulative.

In its GLI work, EPA found no data relevant to DnOP, and assumed that DnOP bioaccumulation was similar to DEHP.

Finally, regarding aquatic life toxicity of DEHP, the stringent LOEL (lowest observed effect level) that appears in many EPA criteria summaries (including a widely distributed wall chart), is based on a toxicity test result about three orders of magnitude below any other test result. EPA now judges that test result to be erroneous. My guess is that Kodak is referring to the same test in their p. 5 statement about "Historical data...has been judged invalid", although I was not aware that the original investigators had also disclaimed the result.

If you have further questions, contact me at (phone) 202-260-7039, (fax) 202-260-1036, or (e-mail) delos.charles@epamail.epa.gov.

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

John P. Cahill
Acting Commissioner

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To Margaret Peet	From T.A. Myers
Co. Monroe Co. DOH	Co. NYS-DEC
Dept.	Phone # 518-457-7130
Fax # 716-274-6115	Fax # 518-485-7786

May 7, 1997

Ms. Margaret Peet, Water Quality Coordinator
Monroe County Department of Health
111 Westfall Road, P.O. Box 92832
Rochester, NY 14692

Dear Ms. Peet:

I have received your letter requesting clarification of information contained in ***The 1989-90 Rotating Intensive Basin Studies Report*** (May, 1992). Regarding your specific questions:

- It is possible that some portion of the silver detected during the macro-invertebrate (midge) tissue analysis could be attributed to either sediment on the outside of the organism, or from sediment moving through its gut. We do not take any specific measures (i.e., cleaning, holding) to eliminate this possibility. However, in our professional opinion, the level of silver in the sample is sufficiently high that it is unlikely that these possibilities could account for all of the silver detected.

- Regarding "Tissue Analysis Parameters Above Background Levels," *Background Levels* are established by our Stream Biomonitoring Unit (SBU). These levels are based on the statistical distribution of contaminant concentrations for all macroinvertebrate tissue samples collected by the SBU throughout the state. Specifically, *background levels* refer to concentration levels for individual parameters that correspond to the upper end of the statewide distribution. The adjective *provisional* reflects that these criteria values have not yet been codified in law or regulation.

  For the record, we no longer use the phrase *Above Background Level* because "background" implied a concentration level that is un-impacted by anthropogenic sources. These threshold concentrations we cite do, however, allow for some anthropogenic contribution. Rather than *Above Background Level*, we presently use the phrase *Exceeding the Level of Concern*.

Beyond your specific questions, the central issue outlined in your letter--whether or not silver

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in the bottom sediment is bioaccumulative and toxic--is one that can be investigated with a laboratory bioassay/uptake study. While our staff is not in a position to conduct a study, we would be interested and willing to provide guidance/assistance to such an effort. Please contact Bob Bode at (518) 285-5682 to pursue this possibility.

I hope that this response answers your questions. Should you have any additional questions or need any further information, please do not hesitate to contact me at (518) 457-7130.

Sincerely,

Jeffrey A. Myers
Watershed Assessment and Research

cc: Bob Bode
Carole Beal, Monroe County Health Department (w/ RIBS Appdx)

May 12, 1997

Mrs. Margy Peet
Monroe County Department of Health
Water Quality Planning
P.O. Box 92832
111 Westfall Road
Rochester, New York 14692-8932

Dear Margy:

Subject: Comments on April 17, 1997 "Strawman" Proposal for Scoring High Priority Chemical Pollutants List of the Stage II RAP

Kodak appreciates the opportunity to provide comments on the "Strawman" developed by Monroe County and as presented and discussed in our meeting on April 18, 1997. These comments are based on inputs provided by Mr. J. Gorsuch, and Drs. M. Hirsch, D. Juberg and K. Robillard of Eastman Kodak Company.

Table 3-5.

Kodak believes that a human health toxicity score of zero is appropriate for silver and should be included in Table 3-5.

Kodak supports the retention of an assigned toxicity score of zero for silver based on the recognition that silver is not associated with adverse human health effects. In 1991, the U.S. EPA deleted the Maximum Contaminant Level (MCL) for silver based on this recognition (Federal Register Vol. 56, p. 3573, January 30, 1991):

"On May 22, 1989, EPA proposed to delete the current MCL for silver (Ag), because the only potential adverse effect from exposure to silver in drinking water is argyria (a discoloration of the skin). EPA considers argyria a cosmetic effect since it does not impair body function. Also, silver is seldom found at significant levels in water supplies and drinking water has never been identified as the cause of argyria in the United States."

Kodak believes that toxicity scores should reflect the scientific database for each identified pollutant of concern and for silver there are no known health effects resulting from environmental exposures.

Therefore, Kodak believes that a human health toxicity score of zero is appropriate for silver and should be included in Table 3-5.

Table 3-6.

Kodak recommends that a cumulative toxicity score for silver be assigned a value of 1 which conservatively recognizes the relative proportions of ionic and non-ionic species present in the environment.

Our understanding of the relationships between metal speciation and ecotoxicity has improved substantially. There now exists a considerable body of information for metals in general, and silver in particular, that shows how toxicity varies with different chemical forms (species) of the metals. The ionic, dissociated and soluble form of the metal is almost always most toxic. While, complexed, bound and adsorbed species of the metal are several orders of magnitude less toxic. Therefore, in Table 3-6 it is appropriate and technically correct to assess the ecotoxicity of specific metals species. For silver, this is simplified by the large difference in toxicity between silver ion (Ag^+) and other forms of silver that are likely to be present in the aquatic environment, such as silver sulfide, silver organo-thiols, and silver halides. Thus, it is possible to deal with two classes for silver: the relatively toxic Ag^+, and all other species which are relatively non-toxic. Similar consideration should be given treating all the metals in Table 3-6 in this manner, although for some metals it may be necessary to use more than two classes.

This type of assessment for metals which considers speciation has ample precedent. For example, the ecotoxicity of ammonia is expressed as a function of free ammonia, not ammonium ion or total ammonia. Also, the environmental impact of chromium is based on consideration of the presence Cr^{VI} and Cr^{III}, not on total chromium. Ideally, the same speciation-based assessment should be used for silver.

An alternative approach suggested in the strawman proposal is to "average" the toxicity scores for silver ion and for the other relatively non-toxic forms of silver. Though much less rigorous and less technically sound, this approach may be useful as an interim measure. It is somewhat similar to the process of estimating cumulative toxicity, but using relative ranking scores rather than toxicity units. Like the process of estimating cumulative toxicity, the "averaging" process should consider the fractional amounts of the different silver species. Again, this is simplified by considering two categories of species, one category being the toxic Ag^+ ion, and the second category being the other relatively non-toxic species. The fractional amounts of these species can be determined from monitoring data reported by Lytle, by Wen et. al., and by Kramer. Their speciation studies performed at several locations showed that the maximum fractional amount of dissolved silver (the upper bound for the actual silver ion concentration) was <30% and typically <10%. In many cases, the fractional amount of dissolved silver was shown to be <1%. Thus, the cumulative toxicity of silver may be estimated as:

$$(.1)x(10) + (.99)x(0) = 1.0.$$

Because silver ion constitutes such a small percentage of the silver that is present, the cumulative toxicity score essentially will be the value associated with the relatively non-toxic species.

Modeling of Silver Sulfide Speciation in the Genesee River Using MINTEQA2 v3.10.

At the meeting on April 18, 1997 Kodak's Dr. Marianne Hirsch agreed to model silver speciation as discharged from Kodak's wastewater treatment plant. A description of the model and the results are presented below.

MINTEQA2 is a geochemical equilibrium speciation model for dilute aqueous systems. This model was developed by the USEPA at Athens, Georgia. It calculates equilibrium speciation of components based on thermodynamic constants from a U.S. Geological Survey database and initial concentrations for the constituents of interest input by the operator. The output of the program is a listing of the species present in solution.

To model the discharge of silver sulfide to the Genesee River, water chemistry parameters of Lake Ontario were entered, including chloride level, hardness and pH. Silver levels were calculated from the discharge per day at Kodak's wastewater treatment plant, divided by the critical flow of the Genesee River (lowest flow expected in 10 years). The program input thus received a concentration of silver ions, and one-half of that concentration of sulfur ion was added as hydrosulfide ion, to account for the 2:1 ratio of silver:sulfide in the discharged silver species.

Based on these input parameters, MINTEQA2 predicts that 100% of the silver resulting from the silver sulfide discharge remains as silver sulfide. From an initial concentration of 9×10^{-8}, the final dissolved concentration is calculated to be 6.48×10^{-15} mol/liter. Therefore, very little if any measurable free silver ion would be predicted to be formed from the discharge of silver sulfide to the Genesee River even using parameters from Lake Ontario, which are believed to be more rigorous.

Kodak recommends that a cumulative toxicity score for silver be assigned a value of 1 which conservatively recognizes the relative proportions of ionic and non-ionic species present in the environment.

Should the County not accept Kodak's recommendation outlined above than at a minimum, the following footnote should be added to Table 3-6.

Silver toxicity and environmental effects scores are based on the ionic form. This form is not likely to be found in the environment. The forms found in the environment cause no or low toxicity to aquatic organisms.

Table 3-7.

Kodak asks that a bioaccumulation score of 0 be assigned to silver.

Unlike many organic chemicals, metals as a class, do not bioaccumulate within tissues. Charles Delos (USEPA) in his letter of April 14, 1997 to Margy Peet regarding "Ranking Environmental Hazards of Silver" states he "expects little likelihood of silver causing problems in Genesee River sediments, and *lacking bioaccumulative potential* (emphasis added), no likelihood of causing problems in Lake Ontario."

This lack of bioaccumulation potential was recently demonstrated in a freshwater sediment study by M. Hirsch. In the study by Hirsch, the bioaccumulation factor (BAF) of silver in *Lumbriculus variegatus* (sediment-ingesting oligochaete) was determined to be 0.18.

Thus, lacking bioaccumulative potential and applying the Ontario Ministry of the Environment Scoring System guidelines (p. 8), materials with bioconcentration factors of less than or equal to 20 should be assigned a parameter score of 0.

Kodak asks that a bioaccumulation score of 0 be assigned to silver.

If the County decides to score the bioaccumulation of silver greater than 0, Kodak asks that the following footnote be added to table 3-7:

Silver bioaccumulation score is based on the ionic form. This form is not likely to be found in the environment. Non-ionic forms found in the environment are unlikely to bioaccumulate. Silver persistence score is based on non-ionic forms which are likely to be found in the environment.

Table 3-11.

Kodak asks that the use impairment of "degradation of the benthos" in the Rochester Embayment be reconsidered, and that the identification of silver as the possible source of the use impairment be deleted.

Kodak asks that silver be scored 0, or 0.05 if the newly proposed revisions to use impairment scoring is adopted.

Kodak believes that scoring silver as a possible linkage to a known use impairment is not supportable by the data presented in the "Biennial Report Rotating Intensive Basin Studies Water Quality Assessment Program 1989-1990" (RIBS) report or in the "Lower Genesee River Study".

Silver was but one of the many metals and organic chemicals detected in the chironomids analyzed in 1989, and a crayfish in 1990 that was reported in Table 6 of the RIBS report. Certainly one crayfish cannot be considered a "representative sample". It is unclear from the RIBS report whether the chironomid samples were collected using clean techniques to avoid contamination, and whether the chironomids were allowed to clear their guts (generally 24 hours needed) before they were prepared for analyses. If gut clearance was not performed, then results should not be interpreted as tissue residues.

Even if clean techniques were used and the chironomids were allowed to clear their guts, the U.S. Army Corps of Engineers Miscellaneous Paper D-96-1 (July 1996), states "Bioaccumulation is a measurable phenomenon, rather than an effect." Without an observable effect linked to a chemical or physical characteristic, it is impossible to determine what concentration of that chemical constitutes an "unacceptable adverse effect".

According to the NYS DEC 1992 and 1993 report on the Genesee River, silver was not detected in the pore water of the sediment (1993 lower detection limit was 0.75 µg/L), and it was not found above levels of concern in benthic organisms, as established by NYS DEC. Therefore, the findings in the 1992 RIBS report were not verified.

It should be noted that chironomids exposed to silver chloride at concentrations above 2 mg/L (water exposures) and sideswimmers above 2560 mg/kg (in sediment) were not adversely affected (Rodgers, et al, 1997). Also, oligochaetes exposed to 440 mg/kg of silver sulfide (the silver compound most likely found in the environment) neither accumulated silver (BAF of 0.18) nor was their reproduction or growth adversely affected. (Hirsch, 1998)."

In the 1993 Genesee River report, the DEC stated that the primary benthic organisms found among all river sites were chironomids and oligochaetes, and suggested that this lack of diversity was contributed in part to the fine silt and clay substrate, although toxicity was noted at Stations 1A and 4. The toxicity at Station 4 was believed due to No. 2 fuel oil. Lack of benthic diversity appears to be due to the natural composition of the sediment. To consider the lack of benthic diversity to be a use impairment is inappropriate.

Kodak asks that the use impairment of "degradation of the benthos" in the Rochester Embayment be reconsidered, and that the identification of silver as the possible source of the use impairment be deleted.

Kodak asks that silver be scored 0, or 0.05 if the newly proposed revisions to use impairment scoring is adopted.

We hope these comments will be helpful to the County in addressing Kodak's concerns relative to the ranking of silver in the Rochester Embayment Remedial Action Plan Stage II. We look forward to discussing these comments and those of others at the upcoming meeting of the Priority Pollutant Ranking Task Group on May 16, 1997.

Sincerely,

Michael A. Ruszczyk
Manager, Surface Water Issues

MAR:rab

References

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THE SILVER COUNCIL

May 15, 1997

Mrs. Margy Peet
Monroe County Department of Health
Water Quality Planning
P.O. Box 92832
111 Westfall Road
Rochester, NY 14692-8932

Subject: Comments on the "Rochester Embayment Remedial Action Plan Stage II" (Draft-January, 1997)

Dear Mrs. Peet;

The Silver Council appreciates the opportunity to provide comments on the proposed Rochester Embayment Remedial Action Plan (RERAP). We support protection of the environment and management of materials that may cause detrimental effects, but we are also aware that problems may be inherent with schemes that "score" chemical risk based on general characteristics and broad-scale toxicological testing. The Silver Council believes that the scoring system employed in the RERAP has shortcomings that cause significant overestimation of potential risks from silver.

The Silver Council and our predecessor organization, the Silver Coalition, represent the manufacturers and users of photographic imaging materials. Dentists, veterinarians, doctors, hospitals, photographers, printers, financial institutions, photographic processing services, police departments and numerous colleges and universities use silver-containing photographic materials that must be processed to produce an image. After processing and silver removal, some residual silver may be found in the wastewaters which are generally discharged to sewage treatment plants. Therefore there are a number of small and large businesses in the Rochester area that may be impacted by decisions based on inappropriately derived "high" scores for silver.

Photoprocessing wastewaters, like other wastes, require thoughtful management. To help in determining the extent of such management, the photographic industry has been supporting scientific research on the fate, transport and toxicity of silver in the environment for more than five years. We have found that silver in environmentally realistic forms and concentrations presents little or no risk to the environment. These findings are counter to the outcome of the RERAP ranking utilizing the Ontario Ministry of the Environment Scoring System (Hazardous Contaminants Branch, Ontario Ministry of the Environment, March, 1990).

We believe that the contradiction is the result of gaps in the data used in the scoring, improper use of available information and flaws in the system itself. The primary issue, one that is a driver for the relatively high scoring of risk for silver, is found in Table 3-6, "Criterion 1, Potential for Adverse Effects, Sub-Criterion 1B, Environmental Effects." Silver is given a score of 10 as a result of having "ND" in the two "Sublethal Effects" columns and a 10 in the "Aquatic Toxicity" column. This is representative of all three of the problems noted above. The lack of

The Silver Council/ twp/c:..state/NY-RERAP

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available data on sublethal effects is handled in this system by dropping them from consideration, so that the entire score for this sub-criterion rests on the "Aquatic Toxicity". As a result silver has a higher score than DDT, since there is no reduction of the final value due to averaging.

The score of 10 in "Aquatic Toxicity" is itself inflated because the toxicological tests that are the basis for the scoring use only the "free" ionic form of silver, a form that scarcely exists in the environment. It is well documented that ionic or "free" silver is the most toxic form. Cooper and Jolly (1970), for example, indicated that ionic silver is the most toxic form of silver, and subsequent work by a number of investigators [for example, Buccafusco *et al* (1981), Nebecker *et al* (1983), LeBlanc *et al* (1984)] has repeatedly demonstrated this to be true. However, the silver compounds that are dominant in photoprocessing effluents and in the environment - silver thiosulfate complexes, silver chloride, silver sulfide - are orders of magnitude less toxic than ionic silver, if toxic at all.

Hogstrand *et al*, (1996) measured the 96-hour and 168-hour 50-percent-lethal concentration (LC_{50}) values for rainbow trout of silver thiosulfate, $Ag(S_2O_3)_n$, and found they were 13,000 and 15,000 times greater (i.e., less toxic) than comparable values for the free silver ion (Ag^+), presented as silver nitrate or $AgNO_3$: 11.7 µg Ag per L and 9.1 µg Ag per L, respectively, versus 161,000 and 137,000 µg Ag per L. They were not able to determine the LC_{50} value of silver chloride, $Ag(Cl)_{(s)}$, because of the low water solubility of that compound. There was no observed mortality at the highest test concentration, 100,000 µg Ag per liter.

LeBlanc *et al*. (1984) also tested the acute toxicity of ionic silver (as silver nitrate), silver chloride, silver sulfide and silver thiosulfate complexes and the 28-day embryo-larval toxicity of the latter two compounds on the fathead minnow. The acute LC_{50} value for silver nitrate was 16 µg/L (in water with a hardness of 38 mg/L as $CaCO_3$). Silver chloride was about 300 times less acutely toxic, silver sulfide was at least 15,000 less acutely toxic and silver thiosulfate was more than 17,500 less acutely toxic. The embryo-larval tests of silver sulfide showed no significant effects to percent hatch, larval survival, average weight or total length at 11,000µg/L (as total silver), the highest concentration that could be tested based on the solubility of this compound. Similar tests using silver thiosulfate complex provided an estimated maximum acceptable toxic concentration (MATC) between 16,000 µg/L and 35,000 µg/L (as total silver).

Wood *et al*. (1996a,b) compared the effects of ionic silver (as silver nitrate) with silver thiosulfate complex [$Ag(S_2O_3)_n^-$]. They found that "Whereas 10 µg/L Ag (as $AgNO_3$) caused a variety of internal disturbances related to loss of plasma Na^+ and Cl^-, 3000-fold greater $Ag(S_2O_3)_n^-$ had very minor effects - a moderate transient metabolic alkalosis and an apparent expansion of plasma volume" (Wood *et al*., 1996b).

The Silver Council, therefore, does not believe that the score of 10 is an accurate representation of the risk presented by silver in the environment. We suggest that scoring for silver should be on a compound-by-compound basis to provide a fairer indication of the potential for environmental harm. If this is problematical, then, at the least, it should be noted that the score is established for ionic silver, and that species of silver actually found in the environment would have scores that are significantly lower. We estimate that the greatest possible "Environmental Effects" score for environmentally relevant silver species would be 2, yielding a total score of 9 (as opposed to 15), moving silver to an effects rank of 20.

Completing the calculations in Table 3-12 would lead to a Final Value of 22 (as opposed to 12), a more realistic but still overprotective estimate of risk.

The picture that is painted of silver in recent research appears to be one in which the ionic or "free" form is sufficiently active that, if it should occur, it very quickly combines with other materials that are common throughout the environment. These complexed forms are stable and not very soluble in water, consequently the free silver ion (Ag^+), while it may be present in aquatic systems, is scarcely or not at all available to an organism. Thus, silver is not proving to be a problem because relevant forms of silver, those that one will actually find in the environment, do not include ionic silver. The Silver Council believes that appropriate handling of silver-bearing effluents and recovery of silver using available technologies, as provided in The Code of Management Practice for Silver Dischargers, will protect the environment from any possible effects of silver.

The Silver Council thanks you in advance for considering our comments. We would appreciate a response to the that we have presented. This could be a letter addressing our comments specifically, or a general response to comments received on the proposal.

Sincerely,

Thomas W. Purcell, Ph.D.
Senior Vice President, Science

REFERENCES

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
WATER

May 15, 1997

SUBJECT: Why Doesn't EPA Express its Criterion in Terms of Ionic Silver?

FROM: Charles Delos, Environmental Scientist C. Delos
Health and Ecological Criteria Division

TO: Margaret Peet, Monroe County Dept. of Health

You have asked why EPA does not express its aquatic life criterion in terms of free ionic silver.

First, it is not possible to do that at this time because the concentration of free ionic silver in the toxicity tests underlying the criterion were not measured, and cannot be confidently estimated. Aquatic toxicity tests are not done in distilled water, but rather in natural water that is low in particulate matter but having a normal amount of dissolved minerals, which may interact with silver. While nearly all silver in such tests is likely to be dissolved, only a small portion of it may be present as the free ion.

Second, expert opinion, independent of EPA, has been recently turning away from the idea that the free ionic concentrations of metals, by themselves, are as a general rule good predictors of toxicity. These experts would prefer that the entire chemistry affecting the metal be taken into account, and are proposing the development of mathematical models to do that. Consequently, that is the direction EPA intends to follow in the future.

In the meantime, however, it is recognized that the current criteria, applied as dissolved metal, do not always yield reliable results, and that silver is particularly problematic in this regard.

If you have further questions, contact me at (phone) 202-260-7039, (fax) 202-260-1036, or (e-mail) delos.charles@epamail.epa.gov.

Response to Comments Related to Section 3-5
Draft, May 19, 1997

Response to Comments from Eastman Kodak and Ray Nelson about Section 3-5

In order to respond to comments submitted by Eastman Kodak Company, the Monroe County Department of Health contacted the U.S. Environmental Protection Agency (USEPA), the New York State Department of Environmental Conservation (NYSDEC), and the International Joint Commission (IJC) by telephone and by letter. Written responses were received from both the NYSDEC and the USEPA. The IJC was not able to respond to our concerns at this time. Information about OSHA studies was retrieved from the Internet.

In addition, letters regarding this issue were also received from WQMAC member Ray Nelson, and the Silver Council. Two meetings of the Priority Pollutant Task Group were also held. At the May 16th meeting of the Priority Pollutant Task Group, the Task Group analyzed the comments from Eastman Kodak and from WQMAC member Ray Nelson and information from USEPA, NYSDEC, and OSHA. Changes have been made to RAP section 3.5 as a result of consensus achieved at that meeting. Those in attendance for all or parts of the May 16th meeting were Tom Gasiewicz, Bob Townsend, Dick Burton, Carole Beal, Margy Peet, Rick Elliott, Ray Nelson, Jim Haynes, Mike Schifano, Daland Juberg, Mike Ruszczyk, Ken Robillard, Margit Brazda, Jim Griepenburg. The changes are summarized below:

Silver:

- In Table 3-6, Potential for Adverse Effects, Sub-Criterion 1B, Environmental Effect, the score for aquatic toxicity has been changed from 10 to 1.9. This score reflects the differing toxicity of ionic and other forms of silver. The formula (.10) x (10) + (.90) x (1) was used to derive the score of 1.9. In the calculation, the .10 and the .90 refer to estimated proportions of ionic and non-ionic silver suggested by Eastman Kodak and the 10 and the 1 refer to toxicity and represent orders of magnitude.
- In Table 3-7, Potential For Adverse Effects, Sub-Criterion 1C, Bioaccumulation/Persistence, the score for bioaccumulation was changed from 4 to 0 based on the 1998 study (accepted for publication) entitled "Toxicity of silver sulfide-spiked sediments to the freshwater amphipod Hyalella axteca" by Marianne Hirsch, Health and Environmental Laboratory, Eastman Kodak Company.
- In Table 3-7, Potential for Adverse Effects, Sub-Criterion 1C, Bioaccumulation/Persistence, the score for persistence was changed from 10 to 9. This was based on the formula (.10 x 0) + (.90 x 10) = 9. In this calculation, the .10 and the .90 refer to the estimated proportions of ionic and non-ionic silver. The 0 and the 10 refer to persistence scores. Non-ionic silver is very persistent and ionic silver is not.
- The average score for Bioaccumulation/Persistence in Table 3-7 is now 4.5. Previously it was 7.
- Table 3-8 has been changed to reflect the scores that were changed in Tables 3-6 and 3-7. This results in the effect rank for silver going from 15 to 21.

- The silver loading score has not been changed on Tables 3-9 and 3-10.
- The method for scoring linkage to use impairment has been changed as per a proposal made by the Monroe County Department of Health. The new method considers two primary factors: whether a use impairment was known or possible, and whether a linkage between the chemical and a use impairment was known, possible, or unknown. Data provided in Chapter 4 of the Stage I RAP, and new information contained in Chapter 3 of the Stage II RAP are the primary references for determining the scores. A summary of this information is shown in Table 3-19. The grid below outlines the new scoring method that was used to develop scores in Table 3-11:

Linkage	**Use Impairment***	**Score**
Known	Known	1
Possible	Known	0.5
Unknown	Known	0.1
Known	Possible	0.2
Possible	Possible	0.1
Unknown	Possible	0.05

Using this new formula, silver was assigned a linkage to use impairment score of .1, representing an unknown linkage with a known use impairment. The Priority Pollutant Task Group arrived at a score of 0.1 based on the 1998 study (accepted for publication) "Toxicity of silver sulfide-spiked sediments to the freshwater amphipod Hyalella axteca" by Marianne Hirsch, Health and Environmental Laboratory, Eastman Kodak Company. Also considered was information received from NYSDEC. The group also proposed additional studies be conducted to follow up on the NYSDEC's Rotating Intensive Basin Study published in 1992.

- Table 3-12, Tentative Ranking for Prioritization, has now been completely changed based primarily on the new scheme for Linkage to Use Impairment. The final score for silver is now 240, which moves silver from a rank of 6 to a rank of 10.

Methylene Chloride:

- After lengthy discussion, and review of information about methylene chloride provided by OSHA in its final rule on Occupational Exposure to Methylene Chloride that became effective April 10, 1997, it was decided to keep the score for methylene chloride at 10. Also considered was the criteria established by the Ontario Ministry of the Environment for scoring.

Phthalate Esters:

- After considering information provided by Eastman Kodak and USEPA, the Priority Pollutant Task Group agreed it was appropriate to amend the scores for di-(2-ethyl hexyl) phthalate (DEHP) as follows: Table 3-6, aquatic toxicity score changed from 2 to 0; Table 3-7, bioaccumulation score changed from 7 to 4. The Priority Pollutant Task Group agreed it was appropriate to amend the scores for di-n-octyl phthalate (DNOP) as follows: Table 3-6, aquatic toxicity changed from 2 to 0; sub-lethal effects, animals, changed from 8 to 0; Table 3-7, bioaccumulation score changed from 7 to 4.

Formula for determining final ranking of chemical pollutants:

WQMAC member Ray Nelson proposed to the Priority Pollutant Task Group that the formula for determining the final ranking of chemical pollutants be changed. The formula originally used by the Priority Pollutant Task Group is as follows: [Adverse Effect Rank + Point & NPS Discharge Rank divided by Linkage to use impairment score]. Ray Nelson suggested that an alternative method of final ranking would be to use one of the two following formulas: [Adverse Effect Score x Point & NPS Discharge Score x Linkage to use impairment score] or
[Adverse Effect Score x Point & NPS Wastewater Discharge Score x Linkage to use impairment score].

The Priority Pollutant Task Group discussed these two scoring methods and decided to stay with the original ranking formula. The following were the major points that were made in the May 16th discussion that were considered in making the decision to stay with the original formula:

- The guiding principles of the formula used were to 1) equally weigh discharge and effects so that loading and adverse effects are treated equally; and 2) Linkage to use impairment was given greater weight than either adverse effects or discharge. The philosophical approach used was related to the RAP which is driven by use impairments. This was the intentional bias. These guiding principles will be documented and highlighted throughout RAP Section 3-5, particularly on tables that might stand alone. To deal with the wide range in discharges, the PPTG transformed discharges to the log scale to make discharge numbers and adverse effects numbers of equivalent scales. Because of log values, adding adverse effects and discharge is appropriate rather than multiplying or dividing.
- Multiplying with arithmetic numbers would allow loading to overwhelm toxicity. Loading would drive the system. Multiplying would focus attention and give higher priority to chemicals that have discharges. Multiplying is a different philosophical approach than that chosen and is another option. There is not an absolute truth using any method. Both the adding and multiplying approaches may be flawed.
- The scoring process was intended to be advisory only. The list must be used with critical judgement. There needs to be a disclaimer in the text about how to use the ranking.
- Loading is not a meaningful way to express dose.
- Discharge data does not include all nonpoint sources, however air monitoring data was

available for some chemicals.

- We wanted to keep scores small, which is why we added and then divided.

Miscellaneous Changes to Section 3-5:

We should amend the introduction to section 3.5 of the RAP as follows:

- Rewrite paragraph #2 as follows: *In 1992, a Priority Pollutant Task Group was established. Their initial charge was to prioritize the list of 84 pollutants noted above. It was thought that a ranked list of pollutants would be useful in setting priorities for further study and/or action. As work of the priority pollutant task group progressed, the individuals in the group (listed below in Step #2) conducted a list reduction that identified pollutants from the list of 84 that they deemed most important (see Step #2, below). From this exercise, a list of 21 pollutants was included in the Stage I RAP (page 5-40). The Task Group then modified a set of criteria developed by the Ontario Ministry of the Environment and used those criteria to rank the 21 pollutants (see Step #3, below).*

We should rewrite the text in section 3.5, page 3-16, Step #2 as follows:

- *In order to reduce the list to a manageable number, each member was asked to review the list of 84 and identify the pollutants that they felt were of greatest concern based on their own professional knowledge and experience. All together, 12 different factors were used to develop the initial list of 21. The factors included IJC priorities, large quantities of discharge, toxicity, linkage with use impairments, etc. The group decided to include in their list reduction exercise, all of the substances that were suggested. So the outcome of this first step was a preliminary list of High Priority Chemical Pollutants (See Stage I RAP, page 5-40).*

  It should be noted that there are other pollutants linked with use impairments besides the ten identified in the current list of 21. They include benzene, toluene, and xylene (seeping from the face of the lower falls in the Genesee River); phenols, some PAHs (1 is on the list); Copper, Iron, Nickel, and Chloride.

We should rewrite the text in section 3.5, page 3-16, Step #3 as follows: *The third step was to rank the list of 21 pollutants. A procedure was developed to use three criteria:*

- *Potential for adverse effects*
- *Point and non-point discharges*
- *Linkage to known use impairments*

The outcome represents an indication of the relative ranking of a manageable list of pollutants identified by the Priority Pollutant Task Group as having high priority.

It was agreed... (currently the 3rd paragraph)

A portion of the third step,...(currently the 1st paragraph)
The remaining criteria and the formula for determining the final ranks were developed by the Task Group. The criteria are outlined below." (currently the 4th paragraph).

Step #3, Criterion 3, Linkage to Use Impairments should be changed as follows:

- *This scoring system considered two primary factors: whether a use impairment was known or possible, and whether a linkage between the chemical and a use impairment was known, possible, or unknown. Data provided in chapter 4 of the Stage I RAP, and new information contained in the remainder of this chapter are the primary references for determining the scores. The scoring system assigns the greatest score to a known linkage and a known use impairment and lesser scores to those situations where less is known. An effort was made to do this in a stepped fashion. A summary of this information is shown in Table 3-19. The outcome of the "Linkage to Use Impairments" analysis is shown in Table 3-11. The grid shown below outlines the scoring method that was used to develop scores in Table 3-11:*

Linkage	***Use Impairment***	***Score***
Known	*Known*	*1*
Possible	*Known*	*0.5*
Unknown	*Known*	*0.1*
Known	*Possible**	*0.2*
Possible	*Possible**	*0.1*
Unknown	*Possible**	*0.05*

**In the case of use impairments, we are considering "unknown" use impairments that are identified in Table 3-19 to be "possible" use impairments.*

Step #4 should be rewritten to reflect the next steps as we now see them.

- *Ask the IJC Science Advisory Board to review the silver, methylene chloride, and phthalate ester figures that we used in the analysis.*
- *Conduct a full analysis of all of the pollutants of concern in the Rochester Embayment.*
- *Amend the existing list of 84 pollutants of concern to include any new information that has been made available. Examples of new information include the need to consider adding ammonia and anthracene to the list of 84 pollutants.*
- *Add a representative to the Priority Pollutant Task Group who has toxicological background and who represents an environmental group.*
- *Ask the NYSDEC Bureau of Monitoring and Assessment to resample midges in the Lower Genesee River using "clean" methods of tissue analysis to determine whether or not silver is in the tissues.*

- *Re-evaluate the "degradation of benthos" as a use impairment designation in the Genesee River with respect to factors other than oxygen depletion. We may have to consider Chironomid deformities and benthic diversity as indicators of a possible impairment.*
- *The Priority Pollutant Task Group should consider appropriate delisting criteria and provide its findings to the WQMAC and its subcommittees which will be developing delisting criteria for the use impairments.*

Change Table 3-11 (Criterion 3, Linkage to Use Impairments) to reflect new information gathered in the Stage II RAP and the new scoring procedure. The Revised Table 3-11 is attached.

Table 3-11. Linkage to Use Impairments Scores

	Linkage/Use Impairment (#)	Score	Total
PCB	Known/Known (1)	1	2.5
	Possible/Known (3)	0.5	
	Possible/Known (5)	0.5	
	Possible/Known (6)	0.5	
Phosphorus	Known/Known (8)	1	4.5
	Known/Known (9)	1	
	Known/Known (10)	1	
	Known/Known (11)	1	
	Possible/Known (13)	0.5	
Dioxin	Known/Known (1)	1	1
Chlordane	Known/Known (1)	1	1.5
	Possible/Known (6)	0.5*	
DDT & metab.	Known/Known (1)	1*	1
Mercury	Possible/Known (3)	0.5*	0.5
Benzo (a)	Possible/Possible (4)	0.1	0.1
Silver	Unknown/Known (6)	0.1	0.1
Cadmium	Possible/Known (6)	0.5*	0.5
Mirex & photo	Known/Known (1)	1	1
Furan	Unknown/Possible	0.05	0.05
Dieldrin	Unknown/Possible	0.05	0.05
Alkylated lead	Unknown/Possible	0.05	0.05
Heptachlor	Unknown/Possible	0.05	0.05
Methylene chloride	Unknown/Possible	0.05	0.05
Hexachlorobenzene	Unknown/Possible	0.05	0.05
Di-n-octyl phthalate	Unknown/Possible	0.05	0.05
Toxaphene	Unknown/Possible	0.05	0.05
Aldrin	Unknown/Possible	0.05	0.05
Di-(2-ethylhexyl) phthalate	Unknown/Possible	0.05	0.05
Cyanide	Unknown/Possible	0.05	0.05

*Revision due to the updating of Table 3-19

Table 3-12. Rochester Embayment Remedial Action Plan Top 21 Chemical Pollutants as Recommended by the Priority Pollutant Task Group Revised: May 19, 1997

Substance	Adverse Effects Rank	+	Discharge Rank	/	Linkage Score	=	Final Value
Phosphorus	16		1		4.5		3.8
PCB	3		8		2.5		4.4
Dioxin	1		11		1		12
Chlordane	7		11		1.5		12
DDT & metab.	4		11		1		15
Mercury	6		6		0.5		24
Mirex & photo	10		18		1		28
Cadmium	13		5		0.5		36
Benzo (a)	5		8		0.1		130
Silver	21		3		0.1		240
Alkylated lead	15		3		0.05		360
Furan	1		18		0.05		380
Dieldrin	8		11		0.05		380
Heptachlor	10		11		0.05		420
Methylene chloride	19		2		0.05		420
Hexachlorobenzene	12		11		0.05		460
Toxaphene	14		11		0.05		500
Di-(2-ethylhexyl) phth.	17		8		0.05		500
Aldrin	8		18		0.05		520
Di-n-octyl phthalate	20		6		0.05		520
Cyanide	18		18		0.05		720

Pollutants at the top of the list are of highest priority.

xc. [illegible]
M Garland

TOWN OF BRIGHTON

Sandra L. Frankel
SUPERVISOR

RECEIVED

March 25, 1997

John D. Doyle
County Executive
39 W. Main St.
Rochester, N.Y. 14614

Re: Proposed Rochester Embayment Remedial Action Plan

Dear Mr. Doyle:

My staff and I have reviewed the January, 1997 draft of the Executive Summary and have the following comments to offer with regard to possible remedial measures:

1] The Town agrees that intergovernmental agreements may contribute to the improvement of water quality (action 9), and now has such an agreement with the County. This mechanism can then be used to implement the other actions for which the Town may share responsibilities with the County. The development of drainage plans for various watersheds (action 10d) may be one such.

2] The Town agrees as to the value of created wetlands, both new and retrofits, to "filter" stormwater (actions 10a and 10c). We will look for County assistance, however, in solving the attendant problems of mosquitoes, visual screening, etc.

3] The Town would be pleased to participate in the deliberations of the Highway Projects Task Group on improved stormwater management for major road reconstruction projects (action 10f).

Thank you for your consideration.

Sincerely,

Sandra L. Frankel
Supervisor

APR 0 8 1997

cc: L. Garner-Goldstein
R. Santirocco
Town Board

2300 Elmwood Avenue • Rochester, New York 14618 • 716-473-8800 • Fax 716-473-8115

Response to point #1:

Monroe County looks forward to using the existing inter-governmental agreement with Brighton to identify a strategy to develop drainage plans. We will put this item on the agenda for our inter-governmental agreement meeting scheduled for October 14, 1997.

Response to point #2:

Monroe County appreciates the support of the Town on policies to create wetlands to manage stormwater quality. Monroe County staff will be happy to provide information to respond to town and neighborhood concerns that might arise about the potential for mosquitoes and aesthetic problems that have been linked by some to created wetlands.

Response to point #3:

Monroe County appreciates the Town's interest in participating in any effort to expand the Highway Projects Task Group to include State and Municipal Departments of Transportation and public works in water quality protection. While this activity was not chosen as one of the five top projects to be initiated immediately, we will be sure to invite Brighton to assist us when a task force is initiated to advance this work. Meanwhile, we will put this item on the agenda for our October 1997 inter-governmental agreement meeting to see if there are other opportunities to initiate a smaller scale effort on this issue between the Town and the County. It should also be noted that the County Water Quality Management Agency has established a Monroe County Highway Project Water Quality Improvement Strategy that calls for the County to invite municipal representatives to participate in a project field visit to identify long-term water quality management opportunities for County highway projects. To receive a copy of this policy, contact the Monroe County Water Quality Management Agency staff at 274-8442.

Draft Stage II Rochester Embayment Remedial Action Plan
Responsiveness Summary to Comments by the International Joint Commission

Response to comments of Bruce Kirschner, April 16, 1997:

1. On page 3-9, section 3.4 is titled Evidence for Rochester Embayment use impairments and the next bold heading is "International Joint Commission use impairments." I suggest using Rochester Embayment rather than International Joint Commission in relation to any mention of use impairments since the 14 use impairments listed in the Great Lakes Water Quality Agreement were compiled by the Parties and not the International Joint Commission.
Response: The suggested change has been made.

2. It is extremely useful to have compiled the air loading data contained in Table 3-14. The author is to be commended.
Response: The data was compiled by personnel at the Monroe County Environmental Health Laboratory.

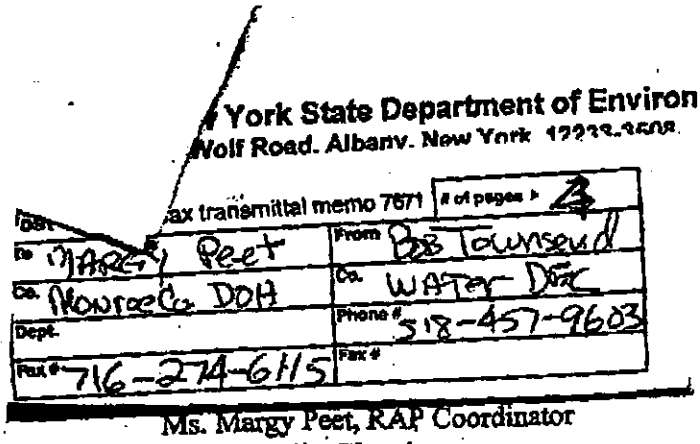
3. The authors might want to note on page 6-38, another key difference between RAPs and LaMPs is Annex 2 explicitly notes that LaMPs shall include "a definition of the threat to human health...posed by Critical Pollutants, singly or in synergistic or additive combinations with another substance..."
Response: The suggested addition has been made.

4. The use of ranking for possible new remedial measures is very important and the authors are commended for taking this action. Any other Areas of Concern could benefit from this activity.
Response: The ranking process was possible because of the willing participation of:

- Members of the Monroe County Water Quality Management Advisory Committee, including economic, public official, public interest and citizen representatives.
- Members of Water Quality Coordinating Committees and/or health and planning departments of six counties
- New York State Department of Environmental Conservation.
- Other technical personnel
- Other local government representatives

5. In summary, the January 1997 draft document is impressive in scope and on behalf of the International Joint Commission, I look forward to its formal review.

York State Department of Environmental Conservation
Wolf Road, Albany, New York 12233-3508



May 14, 1997

John P. Cahill
Acting
Commissioner

Ms. Margy Peet, RAP Coordinator
Water Quality Planning
Monroe County Department of Health
350 East Henrietta Road, Bldg. #5
Rochester, NY 14620

Re: Resolving DEC Comments on the Stage 2 RAP Document

Dear Margy:

This purpose of this letter is to suggest language changes to the Stage 2 Rochester RAP to resolve the concerns raised by our DEC Region 8 Office. The three items of concern involve remedial measures addressing phosphorus, dry basin conversion, and swirl concentrators. After discussing these subject areas with Tom Pearson and Dick Burton, I believe some adjustments to the wording in the RAP are necessary to clarify intent and implications. Because each ongoing or proposed remedial measure is an independent action (that the RAP neither authorizes or approves), project implementation is subject to approval under existing regulations and must also comply with technical guidance.

As you know, a Remedial Action Plan communicates the comprehensive study of an Area of Concern and identifies the sequencing and scheduling of actions (as much as possible) that are needed to fully restore the beneficial uses. The RAP serves to influence all environmental program activities, incorporating the watershed and ecosystem approaches, and can accelerate events. A RAP therefore is more than a plan, it is a process incorporating three formal stages to document the restoration and protection activities that together will achieve delisting of the Area of Concern. DEC endorsement of the RAP means we support the goal and the basis for conducting remedial activities. The RAP cannot, however, commit DEC resources and should explain concerns in areas where DEC policy and existing environmental program activities may conflict or have reservations with proposed remedial measures.

With that said, below are the suggested language changes, several of which have already been incorporated by previous discussions with your planning bureau staff. I'll group these by the three items of concern noted above and add a fourth item for other suggested wording changes:

1. **Phosphorus Loading Reductions** - In the revised final draft RAP dated January 1997 which includes the Appendix, the phosphorus detergent ban is discussed in chapter 6.26. (Chapter 6 measures are completed or ongoing). In chapter 7.13 (Chapter 7 is possible new measures) the

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strategy calls for implementation of a phosphorus point source management strategy. The strategy in chapter part 7.13.2 calls for establishing an annual phosphorus loading goal, setting limits for wastewater treatment plants, and establishing a partnership with DEC to accomplish this. Even though a ten year period is projected, the stated direction of this activity is inconsistent with NYSDEC law, regulation, and policy. Most importantly, the impact of further phosphorus reduction (i.e. how many pounds are desired to be removed and what effect this will have on the environment) needs to be determined prior to implementing further remedial measures. We need to be sure that excess phosphorus from the watershed is in fact the cause of algal blooms in the Embayment area. The wording in section 7.13.2 needs to be changed:

* Up-front, the proposed action to establish an annual P loading goal is good. The second sentence to set limits for POTWs (Publicly Owned Treatment Works) to achieve this goal should be deleted and replaced "to determine the pounds of phosphorus to be removed and assess the impact this will have on algal reduction."
* Reference to loading limit setting measures should not state nor imply that DEC will add or modify SPDES permits. The guidance/strategy for setting phosphorus limits is well established and is not under consideration for change. Statewide implications, as well as local DEC policy, must be considered and noted when calling for the implementation of remedial measures.
* The focus in the narrative of this section should be on defining the cause of the algae in the Embayment and what effect the watershed, or Embayment itself, has on causing the problem; only then can remedial measures be assessed for implementation. If necessary, local phosphorus limits may be needed in local sewer use ordinances where assessments have recommenced this course of action. On the other hand, nonpoint source control measures may be the single most effective preventive measure. At this point, the RAP recommends reductions of phosphorus from all possible contributing sources which may not be totally realistic or the most cost effective approach.
* The implementation statement (at the bottom of page 7-68) implies that DEC has the resources and desire to conduct these phosphorus reduction activities; neither is true, and the reader should not believe that DEC is going to take the lead in this activity. This entire section needs to be reworded to focus local resources on studying the impact of these proposed activities.
* In the rural activities section 7.32.2 (on page 7-162) the DEC is identified as to activities that should be conducted at small POTWs. Again the statements say or imply that DEC has the resources and desire to conduct these phosphorus reduction activities at rural POTWs; neither is true, and the reader should not believe that DEC is going to take the lead in this activity. In fact, if a phosphorus reduction effort were determined necessary, DEC would probably focus all effort on the nonpoint source area. Local entities must first study the impact of this proposed activity.

2. **Dry Basin Conversions** - In the completed or ongoing remedial measures section 6.34 (of Chapter 6), the Dry Basin Conversion program for managing stormwater is described very well as an activity that Monroe County has been pursuing for some time. The Nationwide Urban Runoff Program as well as the New York State Nonpoint Source Implementation Program and the Great Lakes National Program Office support this program. Local DEC Water and Fisheries staff still have reservations in supporting these created wetlands activities because the long-term maintenance aspects have not been addressed adequately, the seasonal aspects of wetland pollutant removal and

release are not understood, the potential of creating contaminated sediment dredge material exists, and the thermal impacts upon receiving waters is a concern . Monroe County DOH has developed several of these created wetlands and has some data supporting the success of removals without negative impact. It is believed that whatever pollutants can be captured upstream in the watershed, will not end up in the Rochester Embayment, and will therefore benefit downstream water quality. We need to be sure these concerns are addressed; suggested narrative additions are:

* The effectiveness statement on page 6-156 describes the public concern for increased mosquito populations. The DEC concerns for thermal impacts (that are also noted on this page) should be expanded to include the other three concerns described above (i.e. maintenance, seasonal aspects, contaminated dredge materials)
* In section 7.10.2 the description and benefit narratives for continued dry basin conversions are written well and already include a narrative to address DEC's concern for thermal impact (pages 7-44 and 7-45). Again, this section should be expanded to also include the other concerns of maintenance, seasonal aspects, and contaminated dredge materials.

3. Swirl Concentrator Demonstration Project - As a general rule, DEC does not believe swirl concentrators are effective in treating stormwater (i.e. the application should be for CSOs). Therefore pursuing the implementation of Best Management Practices (BMPs) in the watershed is strongly favored by DEC to reduce stormwater pollution (RAP document note: BMP implementation is already a proposed RAP activity). However, Monroe County has a unique opportunity for limited stormwater treatment. Stormwater pollutants can be concentrated in a reduced volume of flow, stored in the sanitary sewer tunnel overflow system, and than treated. Suspended solids and BOD removals are expected. This demonstration project needs some additional narrative to describe both the opportunity and the difficulty of coordinating implementation. Maintenance considerations should also be addressed.

* Wording should be added to section 7.10.3 describing the needed coordination among the various agencies to complete a successful swirl concentrator demonstration project (e.g. Monroe County needs local sewer authority approval to add flow to the overflow tunnel system).

4. Other Comments / Suggested Wording Changes -

* The description of the stormwater research, demonstration, and implementation program on pages 6-136 to 6-139 is very good. The "internal" phosphorus consideration is an important one for Irondequoit Bay and the Embayment. The monitoring data and reporting results from the Empire Wetlands project will provide useful information to address the concerns of constructing and maintaining stormwater wetlands. This data should also be useful in assessing aspects of dry basin conversions. Some improved wording concerning the collection and importance of this monitoring data is needed.

* The statement on page 6-191 addressing the clean up of other sources of contamination such a local streams to reopen Durand Beach is questioned. Has this been expanded upon? If not, it would be important to reference where the beach reopening strategy is described or planned to be developed in an update document.

* Section 7.3 calls for promoting the NYSDEC Water Quality Enhancement and Protection Policy. It should be noted in 7.3.2 that the new Discharge Restriction Categories effective in 1993 already provide an enhanced aspect to the existing antidegradation policy. In section 7.3.3, the wording in the second paragraph could use some adjustment because NYSDEC will probably not proceed with bans unless they are implemented on a larger scale by USEPA. In the second line (and in the title of this section) change the word "promote" to "support". Start the third sentence with "Given" instead of "After". Suggest when using the words "substance ban" in a sentence (2nd to last in this 2nd paragraph) that the word "restrictions" be added. At the present, the term "substance ban" alone is too strong of a language and if anything is implemented, it will probably be in a form involving use restrictions. The last two sentences in this paragraph are unnecessary at this point and should be lowered in activity to considerations or deleted.

* The emphasis in section 7.5.2 for promoting NYS law with the assistance of NYSDEC, as noted at the end of the 2nd paragraph, is unrealistic at this time given the resources and regulatory climate. This should be changed to an independent action or a consideration.

These comments are made to facilitate finalization of the RAP Stage 2 document under the current August 1997 target date. If you have any questions, please call me at 518-457-9603.

Sincerely,

RE Townsend

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

cc: Phil DeGaetano
Dick Draper
Tom Pearson, DEC Region 8
Dick Burton, MCDOH

TOTAL P.05

Response to Comments by the New York State Department of Environmental Conservation, Region 8
(as reported in the May 14, 1997 letter from Robert Townsend)
Draft: May 22, 1997

Townsend letter, item #1. Phosphorus Loading Reductions

Sub-Section 7.13.2: Establish an annual phosphorus pollutant loading goal for the Rochester Embayment. Set annual pollutant loading limits for watershed wastewater treatment plants that will help achieve this goal
The following changes will be made to this sub-section:
1. The title will be changed to say "any permitted facilities without a phosphorus limit" instead of "wastewater treatment plants" in order to make the sub-section apply more generically.
2. The term "facilities" will be used throughout the sub-section instead of "wastewater treatment plants."
3. The Implementation paragraph in the description (7.13.2.1) will be changed as follows:
- Delete the first bullet.
- New first bullet: Identify the facilities for which loading limits are necessary.
- New second bullet: Compute permit annual loadings for identified facilities using the calculated negative impact loading (see Goal Setting).
- New third bullet: Compute concentration limits.
- New fourth bullet: Implement the computed limits through a local sanitary code, in cooperation with NYSDEC.

4. Possible implementors (7.13.2.5): "Municipal wastewater treatment plants" and "NYSDEC" will be deleted.

Sub-section 7.13.3: Maximize phosphorus removal from the effluent of small wastewater treatment plants
The following changes will be made to this sub-section:
1. The title will be changed to say "any permitted facilities without a phosphorus limit" instead of "small wastewater treatment plants."
2. The term "facilities" will be used throughout the sub-section instead of "wastewater treatment plants."
3. Possible implementors (7.13.3.5): "Permitted dischargers" will be substituted for "municipalities."

Townsend letter, item #2. Dry Basin Conversions

Section 6.34: Dry Basin Conversions and sub-section 7.10.2: Manage Stormwater Quality in Existing and Newly Developing Urban Areas

The following narrative will be added to the "Effectiveness" component of 6.34 and the "Expected benefits" component of 7.10.2.

"The NYSDEC has also expressed concern regarding the maintenance and seasonal variations in performance of created wetlands. The Monroe County Environmental Health Laboratory is conducting extensive monitoring in order to verify maintenance costs and seasonal pollutant removal effectiveness. The Laboratory will share this data with the NYSDEC.

One of the primary maintenance issues associated with created wetlands is the removal and disposal of accumulated sediments. In order to address this issue, the Laboratory is measuring sedimentation rates at both the Mill Road detention facility and at the Empire Wetlands project (for further information regarding these projects, see Chapter 6 Section 28 "Irondequoit Basin Stormwater Research, Demonstration, and Implementation"). In addition, the Laboratory is examining the flow of pollutants through these systems in order to better understand where they are stored. While created wetlands have the capacity to retain pollutants, whether or not sediment disposal will become a problem will be determined with data from the Mill Road project. Also, it is important to note that the municipalities are required to accept responsibility for maintenance in order to be eligible for grant funds through the current dry basin conversion program.

In regards to winter performance of created wetlands, monitoring is being conducted at the Mill Road detention facility. The Laboratory does not believe that winter performance will be significantly reduced."

Townsend letter, item #3. Swirl Concentrator Demonstration Project

Sub-section 7.10.3. Conduct Swirl Concentrator Demonstration Project
The following revisions will be made to this sub-section.
1. The second sentence in 7.10.3.1. "Description" will be revised to read "A swirl concentrator is installed into the existing storm sewer and uses centrifugal force to concentrate solids and direct them *in a reduced volume* to a sanitary sewer".
2. An additional sentence that reads as follows will be added to the "Description" component. "Until this project is funded, it will be important to evaluate the use of such devices in other locations such as New York City, Oakfield, and Batavia in order to determine how these uses apply to Monroe County's proposal, so that the County can demonstrate the best technology."
3. The "Possible implementors" component of this sub-section will be revised to read "Department of Environmental Services, Pure Waters Division in cooperation with the Monroe County Health Department."

Townsend letter, item #4: Other Comments/Suggested Wording Changes, Bullet #1

Section 6.28: Irondequoit Basin Stormwater Research, Demonstration, and Implementation
The purpose and importance of the monitoring being conducted in the Empire Wetlands by the Monroe County Environmental Health Laboratory is described in the response to Item #2. A reference to Section 6.34 "Dry Basin Conversions" will be added to the description of the Empire Wetlands project in Section 6.28. Also, it should be noted that the Empire Wetlands are a natural system which has been modified in order to treat stormwater runoff. The Empire Wetlands are not an example of a dry basin conversion project.

Townsend letter, item #4: Other Comments/Suggested Wording Changes, Bullet #2

Section 6.44: Van Lare Stormwater Management Effort
The following information will be added to Section 6.44 in order to address the reviewer's concerns. In 1985, the Monroe County completed the Durand Eastman Park Comprehensive Plan. The Plan established both short and long-term goals for the Park. One of the long-term goals is to develop bathing facilities and formally reopen Durand Beach. However, no time frame was established.

In regards to the remediation of other sources of fecal coliform bacteria to Durand Beach, there is a proposal to pipe one of the local streams through the old Van Lare outfall pipe in order to minimize the impact of the stream on the beach. Preliminary design work for this proposal has been completed. However, a decision regarding implementation of this proposal has not been made.

Townsend letter, item #4: Other Comments/Suggested Wording Changes, Bullet #3

Section 7.3: Promote the New York State Water Quality Enhancement and Protection Policy
The following changes will be made to the section:
1. Additional information, 2nd paragraph: The first sentence will be changed to say "The policy has three main parts, one of which is an existing regulation, Discharge Restriction Categories, and two of which are proposed policy or activity modifications."
2. Description, 2nd paragraph (7.3.2.1): A sentence will be added at the beginning of the paragraph: "The new Discharge Restriction Categories, effective in 1993, already provide an enhanced aspect to the existing antidegradation policy."
3. Description, last paragraph 7.3.3.1): The following changes will be made to the paragraph:

- The word "promote" will be changed to "support" in the first sentence.
- The second sentence will begin: "If the policy development is completed..."
- The last two sentences will be deleted.

Townsend letter, item #4: Other Comments/Suggested Wording Changes, Bullet #4

Sub-Section 7.5.2: Promote the enactment of a New York State law that would require environmental audits be submitted to local government agencies, including health departments
7.5.2.1. Description, 2nd paragraph: The second sentence will begin" The WQMAC, in its role as the RAP advisory committee, should promote the enactment of such a law, *and seek* the assistance..."

Response to WQMAC Comments at May 22, 1997 Meeting
Draft: June 9, 1997

Comments on results of Priority Pollutant Task Group meetings on Section 3.5

Can the persistent forms of silver cause a problem in the future?
For persistent (non-toxic) forms of silver in Genesee River sediments or in the gut of fish to be converted to the ionic (toxic) form, the sediment pore water and gut fluids would have to be replaced with concentrated nitric acid, and all organic and other inorganic constituents would need to be removed to prevent complexing with the silver ion.

Is the loading of silver considered?
Yes. The discharge is the loading.

Is Kodak discharging a significant amount of silver?
Kodak discharged 7,536 pounds of silver from October 1990 through September 1991, the time period upon which the Priority Pollutant Task Group calculations were based.

There should be a score for "no linkage."
Consideration of a "no linkage" score will be an action item for the Priority Pollutant Task Group.

Has there been any study of phthalate as a film on water?
John Ernst has agreed to submit information on this topic.

Discussion of responsiveness summary for RAP Section 3.5, Ranking of High Priority Chemical Pollutants

Page 1, first bullet:
The change in the environmental effects score for silver is not shown.
The change in this score will be added.

Page 2, Phthalate esters
Do not complete response for phthalates until information from John Ernst has been seen.
Any need for revisions will be considered after John Ernst submits information.

Page 3, fourth bullet:
Change wording to: "Loading to the environment is not a meaningful way to express dose to an organism."
This change has been made.

Page 4, second bullet, second paragraph:
Why is the last sentence necessary?
It would be helpful to name chemicals that have linkages.
First sentence: Say "chemical pollutants."
Work out clearer wording. (Sawyko, Thompson and Beal volunteered to do this.)
The new wording is as follows: "Eighteen chemical pollutants are listed as known or possible causes of use impairments in the Rochester Embayment. (See Table 3-19, Rochester Embayment Use Impairments, Causes and Sources.) They are: PCBs, mirex, dioxin, chlordane, DDT, phenols, mercury, PAHs, cadmium, copper, iron, nickel, silver, fuel oil, chemical seeps (benzene, toluene, xylene), and chloride (in road salt). Of these, nine are on the list of High Priority Chemical Pollutants: PCBs, mirex, dioxin, chlordane, DDT, mercury, benzo(a)pyrene (a PAH), cadmium, and silver."

When there is a new study similar to the RIBS study, what would be used as a control?
A study has not yet been designed.

Appendix K:
Public Workshop
April 1, 1997

Rochester Embayment Remedial Action Plan Public Workshop: Minutes
April 1, 1997

Participants (62 total)

Ann Baker, Rochester Area Foundation
Carole Beal, Monroe County Department of Health (MCDOH)
Robert Beutner, MCDOH intern
Hope Black, Monroe County Water Quality Management Advisory Committee (WQMAC), League of Women Voters
Margit Brazda, MCDOH
Betty Lou Brett, WQMAC
Martin Brewster, Town of Pittsford
Richard Burton, MCDOH
Bruce Butler, citizen
Renee Casler, Monroe County Department of Planning and Development
Margaret Cleary, MCDOH
Charles Colby, WQMAC, Monroe County Farm Bureau
Gerry Ernst, WQMAC
John Ernst, WQMAC
Charlotte Fraser, League of Women Voters
Chris Fredette, WQMAC, Monroe County Environmental Management Council, Rochester Committee for Scientific Information
Barry Fry, WQMAC
Michael Garland, Monroe County Executive's Office
Thomas Goodwin, Monroe County Department of Planning and Development
Mark Gregor, City of Rochester Department of Environmental Services
Bill Hallahan, citizen
James Haynes, SUNY Brockport Department of Biological Science
Andy Howland, citizen
Robert Jonas, WQMAC
H. Jones, citizen
Tim Keef, Town of Brighton
Cheryl Kesel, citizen
Greg Kesel, citizen
David Klein, The Nature Conservancy
Ed Knapp, Grandview Beach Neighborhood Association
Jeff Kosmala, Town of Greece Engineering Department
Gerald Lederthiel, citizen
Bob Long, citizen
Carl Maier, Grand View Heights Association

Joseph Makarewicz, SUNY Brockport Department of Biological Science
T.S. Manickam, NYS Department of Environmental Conservation (NYSDEC) Region 9
Jim Maynard, Grand View Heights Association
V. Glen McIninch, citizen
Michael McNulty, WQMAC, Trout Unlimited
Janet Moffett, WQMAC
Ray Nelson, WQMAC, Sierra Club
Chuck O'Neill, NYS Sea Grant Extension
Dena Owens, SUNY Environmental Science and Forestry
Tom Pearson, NYSDEC Region 8
Margy Peet, MCDOH
Clark Pieper, WQMAC, A. Clark Enterprises
Steven Reigle, WQMAC
Michael Ruszczyk, WQMAC, Industrial Management Council
Andrea Ruta, MCDOH intern
Paul Sawyko, WQMAC, Rochester Gas & Electric Corporation
Michael Schifano, Monroe County Department of Environmental Services (MCDES)
Andy Smith, WQMAC
Francis Smith, Trout Unlimited
Patricia Smith, Trout Unlimited
Paula Smith, Monroe County Soil & Water Conservation District
William Smith, WQMAC, New York Water Environment Association
Todd Stevenson, MCDOH
Max Streibel, WQMAC, Monroe County Legislature
Orlean Thompson, WQMAC
Edward Watson, WQMAC, Rochester Engineering Society
Frank Winkler, Natural Resources Conservation Service
David Zorn, WQMAC, Genesee/Finger Lakes Regional Planning Council

I. Review of February 25 Public Meeting

Margit Brazda gave an overview of the February 25 RAP Public Meeting. Participants at that meeting were asked what they thought were the most important water quality problems/use impairments in our area. The following use impairments were at the top of the list:

- Loss of fish and wildlife habitat
- Drinking water taste and odor problems
- Restrictions on fish and wildlife consumption

II. Remedial actions that are underway in 1997 (See the Stage II RAP Section 10.1 for information about the ranking of proposed urban actions and the final ranked list.)

Margy Peet reviewed the urban (Monroe County) actions that are already underway. They are shown in the following table. (Rural actions will be implemented by Allegany, Genesee, Livingston, Ontario and Wyoming Counties.)

Table K-1. RAP Remedial Actions Underway in 1997

Action	Activity	Implementors	Ranking
Complete basin water quality plans	Long Pond/ Northrup Creek watershed plan	County Health Dept., local governments	High priority
	Black Creek sub-watershed plan	County Health Dept., Chili	
Continue developing & implementing intergovernmental agreements (IGAs)	Maintain agreements with Brighton, Chili & Greece	County Health Dept.	High priority
	Seek IGAs with Ogden, Parma & Spencerport	County Health Dept.	
	Seek IGA with Henrietta or IGA among Irondequoit basin towns	County Health Dept., Irondequoit Watershed Collaborative	
Develop created wetlands through IGAs	Encourage wetland development at biannual meetings with existing partners	County Health Dept.	High priority
	Develop new IGAs	County Health Dept.	
Continue dry basin conversions to wetlands	Seek partners to convert dry basins	County Environmental Health Lab.	High priority

Action	Activity	Implementors	Ranking
Develop watershed-based drainage plans & recommend remedial actions	Develop Irondequoit watershed drainage plan	Irondequoit Watershed Collaborative	High priority
	Develop Black Creek sub-watershed drainage strategy	County Health Dept., Chili	
List programs, contacts & elementary school curricula for teachers	Hire wetlands intern who will develop list for wetlands issues	County Health Dept. Bureau of Water Quality Planning	High priority
Establish pollution prevention team to focus on 1 or more chemical pollutants	Mercury pollution prevention team for hospitals and dental offices	County Health & Environmental Services Depts., University of Rochester, Eastman Dental Center	High priority
Evaluate proposals for new remedial actions that are suggested	Conduct ranking	County Health Dept. Bureau of Water Quality Planning	Recommended
Plan workshops for local officials to educate about the benefits of wetlands	Hire wetlands intern who will plan workshop	County Health Dept. Bureau of Water Quality Planning	Recommended
Develop & staff a speaker's bureau to solicit audiences & give presentations on the value of wetlands	Hire wetlands intern who will develop program	County Health Dept. Bureau of Water Quality Planning	Recommended
Advance water quality studies & monitoring (described in Chapter 4 & 9, and Section 10.3)	Establish a water quality monitoring and studies task group	County Environmental Health Lab. & Bureau of Water Quality Planning	Studies & monitoring activity

III. Weighted Voting for new remedial actions to advance in 1997 (See the Stage II RAP Section 10.1 for information about the ranking of proposed urban actions and the final ranked list.)

Margy Peet summarized a list of 13 proposed RAP actions for Monroe County, five of which can be initiated in 1997. The list included:

- "High priority" actions identified in the RAP that are not already underway (11). (See Executive Summary, Table 3-1.)

- "Recommended" actions identified in the RAP and endorsed at the February 25 Public Meeting (2). (See Appendix G.)

Participants were invited to nominate additional recommended actions to be voted on. Four were submitted. They are:

- Use IGAs to facilitate the use of municipal land use powers to protect fish and wildlife habitat
- Implement a program to identify and rank critical habitat
- Institute streambank erosion control programs as part of drainage plans for watersheds
- Promote changes to NYSDEC existing antidegradation policy

The remaining high priority and recommended actions, that are not ongoing or among the five initiated in 1997, will be implemented in the future (see Executive Summary, Table 3-1.). The order of implementation has not been determined.

Voting was conducted in the following manner:
1. One wall sheet was available for each of the proposed actions to be voted upon (17 total).
2. Each participant was given 28 ballots (red dots) to place on the wall sheets. A maximum of 7 votes per person was allowed for any one action.
3. The five actions receiving the most votes will be initiated in 1997.

During and after the voting, participants also volunteered for the task groups that will further plan and initiate the actions, either in 1997 or in the future. (See Section 11.3 of the Stage II RAP for an explanation of RAP action implementation.)

The proposed actions that will be initiated in 1997 are the first five (the shaded portion) in the following table:

Table K-2. Voting for Additional RAP Actions to Implement in 1997

Proposed Actions	# Votes	Ranking by the Urban Ranking Task Group	Volunteers
Establish an annual phosphorus loading goal and set wastewater treatment plant discharge limits	184	High priority	Andy Howland Robert Jonas Steve Reigle Janet Moffett V.G. McIninch Barry Fry Bill Smith Richard Burton Max Streibel

Proposed Actions	# Votes	Ranking by the Urban Ranking Task Group	Volunteers
Promote pollution prevention among small businesses	179	High priority	Hope Black Mark Gregor Janet Moffett Orlean Thompson Bruce Butler
Maximize phosphorus removal from effluent of small wastewater treatment plants	166	High priority	Jim Maynard Steve Reigle Mike Schifano V.G. McInnch Greg Kesel
Establish a local water quality not-for-profit organization	156	High priority	Carl Maier Jim Maynard Robert Jonas Steve Reigle Hope Black Chuck Colby Andy Howland Frank Winkler Betty Lou Brett
Advance one of three actions designed to educate homeowners regarding lawn care practices	123	Recommended; endorsed at the Public Meeting	Martin Brewster S.C. Fredette Janet Moffett Frank Winkler Hope Black
Use IGAs to facilitate the use of municipal land use powers to protect fish and wildlife habitat	107	Recommended; proposed at this workshop	Michael McNulty Steve Reigle Andy Howland Andy Smith S.C. Fredette
Organize a workshop for the community regarding impervious surfaces	96	High priority	Robert Jonas Chris Fredette
Expand the highway projects task group effort	95	High priority	

Proposed Actions	# Votes	Ranking by the Urban Ranking Task Group	Volunteers
Establish County policy for package wastewater treatment plants	94	High priority	Michael McNulty Max Streibel A. Clark Pieper
Implement a program to identify and rank critical habitat	84	Recommended; proposed at this workshop	David Klein Charlotte Fraser Betty Lou Brett
Create an agricultural best management practices coordinator position	84	Recommended; endorsed at the Public Meeting	
Stencil storm drains with "Do Not Dump" message	77	High priority	Patti Smith Jim Maynard
Institute streambank erosion control programs as part of drainage plans for watersheds	57	Recommended; proposed at this workshop	
Enact an IGA with the U.S. Army Corps of Engineers	45	High priority	
Promote NYS substance ban policy	39	High priority	Andy Howland
Conduct a demonstration of a swirl concentrator	39	High priority	
Promote changes to NYSDEC existing antidegradation policy	10	Recommended; proposed at this workshop	

IV. Volunteers for activities that were not included in weighted voting

Participants also volunteered for existing water quality activities, as follows:

<u>Evaluate proposals for new remedial actions that are suggested</u>

- Andy Howland
- John Ernst
- Gerry Ernst
- Jerry Lederthiel

Advance water quality studies and monitoring

- Andy Howland
- Bill Hallahan

Clean-a-Stream

- Bill Hallahan
- Andy Howland
- Barry Fry
- Fran and Pat Smith (Trout Unlimited)

Third annual environmental fair at the Seneca Park Zoo

- Seth Green Chapter of Trout Unlimited

V. Parking Lot

Other suggestions were made at the Workshop that should be considered at the appropriate time:

- Consider American Society for Testing and Materials information/standards when promoting a NYS substance ban policy.
- Consider other audiences (such as the general public) when hosting a wetlands workshop.

Appendix L:
Resolutions

MONROE COUNTY WATER QUALITY MANAGEMENT ADVISORY COMMITTEE
RESOLUTION 97-2

APPROVED JUNE 12, 1997

WHEREAS, the Monroe County Water Quality Management Advisory Committee (WQMAC) has been appointed to advise the Monroe County Executive on issues related to water quality in the county and to advise both Monroe County and the New York State Department of Environmental Conservation on the preparation of the Rochester Embayment Remedial Action Plan (RAP); and

WHEREAS, the Draft Stage II Rochester Embayment Remedial Action Plan has been prepared; and reviewed by the Monroe County WQMAC; and

WHEREAS, the Monroe County WQMAC has advised on the Draft Stage II Rochester Embayment Remedial Action Plan throughout its preparation; and

WHEREAS, public input on the Draft Stage II RAP was solicited at a February 25, 1997 public meeting, an April 1, 1997 Implementors Workshop, several smaller meetings with other counties and organizations, and through mailings and newspaper advertisements; and

WHEREAS, public input was received at public meetings and in writing; and

WHEREAS, the Monroe County WQMAC has reviewed summaries of the public meetings and written comments from the public; and

WHEREAS, the Monroe County WQMAC has reviewed the written responses to public comments prepared by staff at the Monroe County Department of Health;

NOW, THEREFORE, BE IT RESOLVED,

That the Monroe County Water Quality Management Advisory Committee (WQMAC) recommends that the Stage II Rochester Embayment Remedial Action Plan be amended according to the Monroe County Department of Health Responsiveness Summary accepted by the WQMAC on June 12, 1997; and

The Monroe County WQMAC recommends that the Stage II RAP be approved by the Monroe County Water Quality Management Agency and the New York State Department of Environmental Conservation with the following recommendations:

Response to Comments from Eastman Kodak and Ray Nelson about Section 3.5

Page 1, first bullet:
Add: "The change in the aquatic toxicity score changes the environmental effects score for silver to 1.9.

Page 1, third bullet, 4th sentence:
Change to: "The 0 and the 10 refer to persistence scores."

Page 3, fourth bullet:
Change wording to: "Loading to the environment is not a meaningful way to express dose to an organism."

Page 4, second bullet, second paragraph:
Change the wording to: "Eighteen chemical pollutants are listed as known or possible causes of use impairments in the Rochester Embayment. (See Table 3-19, Rochester Embayment Use Impairments, Causes and Sources.) They are: PCBs, mirex, dioxin, chlordane, DDT, phenols, mercury, PAHs, cadmium, copper, iron, nickel, silver, fuel oil, chemical seeps (benzene, toluene, xylene), and chloride (in road salt). Of these, nine are on the list of High Priority Chemical Pollutants: PCBs, mirex, dioxin, chlordane, DDT, mercury, benzo(a)pyrene (a PAH), cadmium, and silver."

Response to Comments by the New York State Department of Environmental Conservation

Townsend letter, item #1. Phosphorus Loading Reductions (Sub-Section 7.13.2)
Change the title to: "Establish an annual phosphorus pollutant loading goal for the Rochester Embayment. Set annual pollutant loading limits for any permitted facilities that discharge phosphorus that will help achieve this goal."

Response to Comments from Richard Burton about Chapter 11

Table 11-1 Schedule of Activities:

- The Table should be revised to include the following concept. The Oversight Committees should develop preliminary delisting criteria by November 1997. The Delisting Target Date Task Group should develop a preliminary target date by December 1997. The Oversight Committees should develop criteria by March of 1998. The Delisting Target Date Task Group should develop a refined target date by May of 1998.
- Identify who will be responsible for each activity
- The activities should be placed in chronological order
- The Table should be split into a short and long-term actions
- The Tables should be identified as tentative

The Flow Chart entitled "The Establishment of a Delisting Target Date, the Development of

Realistic Delisting Criteria, and the Oversight of RAP Implementation"

- Boxes 2 and 3 should be combined
- The Oversight Committees should be described as ad hoc rather than as subcommittees of the WQMAC
- The Oversight Committees should be appointed by the WQMAC and report to the WQMAC

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

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

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

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

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

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

Additional narrative to be added to Chapter 11 (*please note, this narrative replaces the flow chart entitled "The Establishment of a Delisting Target Date, the Development of Realistic Delisting Criteria, and the Oversight of RAP Implementation*):

11.5.3.1 Delisting Target Date Task Group

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

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

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

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

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

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

Initially, the Task Group will conduct the following research.

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

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

11.5.3.2 Technical Oversight Committees

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

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

- Keep the RAP process current

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

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

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

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

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

The following Monroe County Water Quality Management Advisory Committee members were present for the unanimous vote to pass Resolution 97-1:

Hope Black
Margit Brazda
Richard Elliott
John Ernst/Gerry Ernst
Chris Fredette
Barry Fry
Arthur Graham
Kathy Harter
Robert Jonas
Anne Klumpp
Marie Krenzer
Janet Moffett
Ray Nelson
Jerrold Poslusny
Mariana Rhoades
Michael Ruszczyk
Paul Sawyko
Andy Smith
William Smith
Linda Vera
Elmer Wagner
Edward Watson
Charles Worboys

Monroe County Water Quality Coordinating Committee Consensus Recommendation on the Rochester Embayment Remedial Action Plan

The following recommendation is based on the responsiveness summary reviewed at the May 1, 1997 and June 5, 1997 meetings of the Water Quality Coordinating Committee.

The following recommendation to the Monroe County Water Quality Management Agency was made at the June 5, 1997 meeting of the Monroe County Water Quality Coordinating Committee. This recommendation was reached by complete consensus of those present at the meeting. Those present at the June 5, 1997 meeting were: Martin Brewster, Town of Pittsford Public Works; Roxanne DiLaura, New York State Department of Transportation; Harry Reiter, Monroe County Environmental Services; Jerry Santangelo (for Chris Schleiter), Town of Greece Department of Public Works; Renee Cassler, Monroe County Planning and Development Department; Jim Costello, Ann Watts, Town of Penfield; Mike Garland, Monroe County Executive's Office; Margy Peet, Monroe County Health Department; S. Chris Fredette, Bob Jonas, Water Quality Management Advisory Committee; Sue Quarterman, Monroe County Environmental Management Council; Michael Loewke, Monroe County Legislature; Brian Eshenaur, Cornell Cooperative Extension.

The recommendation reached is as follows:

Regarding responses to R. Burton's comments, the WQCC recommends that setting the target date for delisting should be done after the oversight committees establish delisting criteria. Also, Table 11-1 should be considered "tentative" and identified as such. Other items in the responsiveness summary should be acted on as proposed.

Water Quality Management Agency Resolution 97-2
Acceptance of the Rochester Embayment Remedial Action Plan

Monroe County Water Quality Management Agency.

Adopted July 8, 1997

WHEREAS the Rochester Embayment of Lake Ontario has been identified as an Area of Concern by the International Joint Commission for which a Remedial Action Plan is needed, and;

WHEREAS, the New York State Department of Environmental Conservation contracted with Monroe County to prepare the Rochester Embayment Remedial Action Plan; and

WHEREAS, Monroe County prepared the Stage I Rochester Embayment Remedial Action Plan that was published by the New York State Department of Environmental Conservation in August of 1993; and

WHEREAS, Monroe County prepared the Stage II Rochester Embayment Remedial Action Plan which was published in draft form in January of 1997; 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 Water Quality Management Agency to advise both agencies on the preparation of the Rochester Embayment Remedial Action Plan; 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, public input on the Draft Stage II RAP was solicited at a February 25, 1997 public meeting, an April 1, 1997 Implementors Workshop, several smaller meetings with other counties and organizations, and through mailings and newspaper advertisements; and

WHEREAS, public input was received at public meetings and in writing; and

WHEREAS, a draft responsiveness summary has been prepared that summarizes the comments received on the draft Stage II RAP, and proposes changes to the draft Stage II RAP based on those comments; and

WHEREAS, the Monroe County Water Quality Management Advisory Committee has reviewed the draft responsiveness summary and made a recommendation to the New York State Department of Environmental Conservation and the Monroe County Water Quality Management Agency in the form of its Resolution 97-2, adopted on June 12, 1997; and

WHEREAS, the Monroe County Water Quality Coordinating Committee has reviewed the draft

responsiveness summary and made a recommendation to the Monroe County Water Quality Management Agency at its June 5, 1997 meeting; and

WHEREAS, representatives of the New York State Department of Environmental Conservation (NYSDEC) and the Monroe County Water Quality Management Agency (MCWQMA) met together on July 8, 1997 to review the RAP Responsiveness Summary and the Stage II RAP with a purpose of finalizing the Stage II Rochester Embayment Remedial Action Plan; and

WHEREAS, at the joint meeting of the NYSDEC and the MCWQMA, those present heard a summary of the contents of the Remedial Action Plan, a summary of the draft responsiveness summary, and considered the recommendations of the Monroe County Water Quality Management Advisory Committee and the Monroe County Water Quality Coordinating Committee; and

WHEREAS, at the joint meeting of the NYSDEC and the MCWQMA, those present came to consensus to changes that should be made to the draft responsiveness summary that will in turn require changes to make the draft Stage II RAP a final Stage II RAP;

NOW, THEREFORE BE IT RESOLVED,

That the Monroe County Water Quality Management Agency recommends that the responsiveness summary for the Stage II Rochester Embayment Remedial Action Plan be amended as follows:

- Page 54 of the responsiveness summary, under item titled "Townsend letter, item #4: Other Comments/Suggested Wording Changes, Bullet #3". The last line of item 1. Should read "...and two of which are proposed policy or activity modifications."

- Incorporate changes recommended in the Water Quality Management Advisory Committee Resolution #97-2 approved June 12, 1997.

That the Monroe County Water Quality Management Agency recommends that the Stage II RAP be finalized in accordance with the revised responsiveness summary; and

That the Monroe County Water Quality Management Agency recommends that the Stage II RAP be implemented as resources permit as per the recommendations at the April 1, 1997 Implementors Workshop and the steps outlined in the amended RAP Chapter 11.

The following Water Quality Management Agency members or their representatives were in attendance for unanimous support of the resolution on July 8, 1997:

Richard Mackey, Deputy County Executive, Chairman
Allen Cassady, Monroe County Parks Director
Frank Dolan, Director, Monroe County Department of Transportation
Frank Winkler, District Conservationist, Natural Resources Conservation Service
Mark Ballerstein & Mike Kent, Monroe County Department of Environmental Services

James Nugent, Monroe County Water Authority
John Ernst, Chairman, Monroe County Water Quality Management Advisory Committee
Max Streibel, Monroe County Legislator
Mike Loewke, Monroe County Legislator

In addition, the following interested parties were in attendance for the approval of the resolution:
John Hicks, NYSDEC Regional Director
Robert Townsend, NYSDEC, Albany
Mike Garland, County Executive's Office
Richard Elliott, Monroe County Department of Health
Richard Burton, Monroe County Department of Health
Margaret Peet, Monroe County Department of Health
Margit Brazda, Monroe County Department of Health
Paula Smith, Monroe County Soil and Water Conservation District
Carole Beal, Monroe County Department of Health
Todd Stevenson, Monroe County Department of Health

Monroe County Water Quality Management Agency
Meeting Minutes prepared by Margy Peet
July 8, 1997

Those present: Richard Mackey, Deputy County Executive, Chairman; Mike Garland, Office of the County Executive; Mike Kent and Mark Ballerstein, Department of Environmental Services; Al Cassady, Department of Parks; Andy Doniger, Rick Elliott, Richard Burton, Margy Peet, Margit Brazda, Carole Beal, Todd Stevenson, Department of Health; Max Streibel and Mike Loewke, Monroe County Legislature; Frank Winkler, Monroe County Soil and Water Conservation District; Richard Burton; John Ernst, Chairman, Water Quality Management Advisory Committee; Frank Dolan, Monroe County Department of Transportation; John Hicks and Robert Townsend, New York State Department of Environmental Conservation; Jim Nugent, Monroe County Water Authority; Paula Smith, Monroe County Soil and Water Conservation District.

In the absence of Deputy County Executive Mackey, Al Cassady served as meeting manager.
Items that are underlined are action items.

1. Introductions were made.

2. The meeting purpose and desired outcomes were reviewed.

3. Overview of RAP purpose, Status of Other New York RAPs, Context and Summary of State/County Partnership, Robert Townsend, NYSDEC, Albany.

Bob provided an overview of RAP purpose, the status of other New York RAPs being prepared by the NYSDEC, and highlighted the uniqueness of the Rochester Embayment RAP's partnership between NYSDEC and Monroe County. Bob also summarized activities that NYSDEC may conduct to implement the RAP. Bob outlined potential funding opportunities including the Bond Act, the Great Lakes Protection Fund, Section 319 of the Clean Water Act, and the New York State Environmental Protection Fund.

4. Overview of major components of Stage I & II RAP, Margy Peet, Monroe County Department of Health.

Major components of the Stage II RAP include summary of remedial measures already taken or under way, funding alternatives, ranked list of 10 studies, ranked list of 16 monitoring methods, recommendations for actions in both the urban and rural portions of the basin, and a RAP implementation strategy.

5. Review of Responsiveness Summary Highlights.

A. Public Meeting & Public Workshop Comments/Outcomes, Margit Brazda. Margit outlined the process and outcomes for two public events held this Spring to seek feedback on the RAP. Approximately 80 people attended the two meetings. Those in attendance ranked loss of fish and wildlife habitat as the most important use impairment. At the RAP implementors workshop, those in attendance conducted weighted voting that resulted in 5 top RAP actions to be initiated in 1997

B. Eastman Kodak Comments/responses, Carole Beal. The Priority Pollutant Task Group (PPTG) developed a scoring process to rank High Priority Chemical Pollutants for the Rochester Embayment. Carole outlined the general concerns transmitted by Kodak regarding the priority pollutant process. Kodak's concerns focused on the scoring of four of the chemicals on the list: silver, methylene chloride, and two phthalate esters. Kodak submitted scientific papers to support their position. Carole also summarized the process used to address those concerns and highlighted appropriate parts of the responsiveness summary. The County Health Department independently collected scientific information and developed a "straw man" proposal for changes in the scoring. The PPTG used the proposal as a basis for discussion and reached consensus on revisions to the scoring, and therefore to the ranking of the four chemicals.

C. RAP Implementation, Todd Stevenson: Todd highlighted portions of RAP Chapter 11 that outlines the process that will be followed to establish implementation task groups, delisting criteria, and delisting target dates as well as a process for tracking and evaluating implementation.

D. NYSDEC Comments, Bob Townsend: Bob Townsend stated that NYSDEC supports changes to the RAP as outlined in the responsiveness summary and that the RAP should be finalized based on that. A discussion ensued regarding the dry basin conversions demonstration aspects.

6. Review of Recommendations:

A. Recommendations from WQMAC , John Ernst. John noted that the WQMAC resolution should be numbered as resolution 97-2 rather than 97-1. John reported that the advisory committee was unanimous in supporting these changes to the RAP.

B. Recommendations from WQCC, Frank Winkler: Frank reported the support of the WQCC which are consistent with the changes recommended by the WQMAC.

7. Consensus on changes to RAP Responsiveness Summary and Action on WQMA RAP Resolution, John Hicks, Richard Mackey.

A revised draft resolution was distributed and reviewed. The revised resolution reflects comments by NYSDEC. John Hicks and Bob Townsend reported that after the final changes to the RAP are made, NYSDEC will send the RAP to others such as the U.S. Environmental Protection Agency and the International Joint Commission for information. They do not formally approve it. NYSDEC will then incorporate the RAP into the State Water Quality Management Plan.

Max Streibel noted his concern that we insure continued communication with the IJC on the RAP, particularly on issues of lake levels that may affect water quality.

Mark Ballerstein moved, and Al Cassady seconded a motion that the revised draft resolution be approved. The motion carried unanimously.

8. Revised WQMA Highway Policy: Review and Action, Frank Winkler.

The revised resolution as recommended by the Water Quality Coordinating Committee was reviewed was reviewed. Frank explained that the change is minor and as a result of the County Farmland Protection Board's concern. Frank noted that the Farmland Protection Board is supportive of this revised wording. John Hicks moved and Frank Dolan seconded a motion that the revised resolution be adopted. The motion carried unanimously.

9. WQMA Stormwater Award Recommendation/Action, Paula Smith.

Paula explained that as an incentive to developers and contractors and engineers, the WQCC recommended that a stormwater award be given annually. Applications were solicited this year and a recommendation has been made that Pittsford receive the award. Paula circulated the application. Paula asked for ideas about how to grant the award. The suggestion was made that it be done by County Executive Doyle at a full meeting of the Monroe County Legislature. Paula has a draft letter to send to the Town that she will get to Dick Mackey for approval.

Frank Dolan moved, and Mike Garland seconded a motion that the award be given to the Town of Pittsford. The motion carried unanimously.

10. Ontario Beach Water Quality Issues, Al Cassady. Al reported that to date, the beach has been having its best year for awhile. Algae removal by Parks staff is helping. Pure Waters is also assisting. Durand Eastman has been a recent focus due to safety, and there may be further action there. A meeting was held on July 1 with the U.S. Army Corps of Engineers. Funding under section 22 has been granted. The Corps is doing a scope of services. The County will provide information to help. The Corps will develop alternatives and hope it will help the algae situation.

11. Environmental Bond Act Update, Mike Garland, John Hicks:

John Hicks reported that a project list has been completed. Public input will now be collected. Mike Garland noted that the Clean Water Program Application Packages are scheduled to be sent out next week.

12. Distribution of Brief Project Updates Handout and items for next agenda:. Margy Peet distributed a 2-sided listing of brief project updates. Regarding items for the next agenda, it was requested that an update be given on the Irondequoit Bay Oxygenation project.