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**BUFFALO RIVER**  
**REMEDIAL ACTION PLAN**  
**STATUS REPORT**

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June 1995

New York State Department of Environmental Conservation

This Buffalo Remedial Action Plan Status Report was prepared by the New York State Department of Environmental Conservation in cooperation with the Buffalo River Remedial Advisory Committee.

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## EXECUTIVE SUMMARY

In November 1989 the Buffalo River Remedial Action Plan (RAP) was issued. A Remedial Advisory Committee (RAC) was formed early in 1990 to assist the DEC in the implementation of the RAP. The RAC is representative of concerned groups within the community that have an interest in the Buffalo River.

The Remedial Action Plan contained initial agency commitments to implement the remedial action strategy. Subsequent commitments and accomplishments were reported in three earlier status reports. This report summarizes the accomplishments through March 1995 and identifies the activity projections for the period beginning April 1995.

### Stream Water Quality Monitoring

- A flow activated sampling station was established by DEC on the Buffalo River at Ohio Street. Event related sampling has been undertaken and was continued into the 1992-93 year. A report on the findings was completed.
- A dissolved oxygen sampling program was undertaken by DEC. The data analysis indicated the need for computer modeling of stream interactions to assess the data relative to dissolved oxygen demand. The computer modeling and analysis activity is continuing.

### Bottom Sediments

- Requirements for sediment transport model improvements were developed by a contractor for DEC. Funding of the model improvements were

deferred as sediment transport modeling of the Buffalo River was undertaken by USEPA under the Assessment and Remediation of Contaminated Sediments (ARCS) program.

- The U.S. Environmental Protection Agency completed a five year Assessment and Remediation of Contaminated Sediments (ARCS) Program related to the control and removal of toxic pollutants in bottom sediments. The evaluation of bottom sediment contamination in the Buffalo River included sediment assessment, risk assessment, identification of pollutant loadings from inactive hazardous waste sites and the application of mass balance modeling to assess remediation options.
- A dredging technology evaluation program was undertaken along the Buffalo River by the U.S. Army Corps of Engineers during 1992-93. The efficiency of several dredging cutter heads were assessed in the evaluation program. A report on the evaluation is under preparation.
- Methods for determining sediment criteria are continuing to be developed by USEPA.

#### Inactive Hazardous Waste Sites

- All Phase I investigations for sites in the Buffalo River basin have been completed.
- Phase II investigations have been completed for all but the ENRX site. An investigation is currently underway at this site.

- Two Remedial Investigation/Feasibility Studies (RI/FS) are currently underway at the Bern Mental and the Mr. C's Cleaners sites.
- Remedial design is currently ongoing at four sites; Buffalo Color, Land Reclamation, Niagara Transformer, and Scott Aviation.
- A remedial waste removal action is currently underway at the Behringer site and a remedial construction action is currently underway at the Union Road site.

#### Municipal & Industrial Wastewater Facilities

- Discharge permit monitoring and renewal activities are ongoing. Pollution prevention measures are being initiated.

#### Combined Sewer Overflows

- A combined sewer system model has been developed and verified for the main interceptors of the Buffalo Sewer Authority collection system network. Operational simulations have been undertaken and cost estimates of alternatives for overflow reduction/treatment have been developed.
- System modeling is being initiated on a sub-system basis to assess flow conveyance capability and the potential to enhance in-system storage within each sub-basin.

## Fish & Wildlife Habitat

- A plan to assess fish and wildlife habitat conditions and improvement potential has been developed. Funding to initiate habitat assessment has been obtained and field work was initiated by DEC during 1991-92. A compilation of existing habitat conditions in the Area of Concern and the immediate upstream watershed was completed during 1992-93. A report on the findings has been completed.
- Funding was also provided by the USEPA for faculty and students at the New York State University College at Buffalo to conduct physical mapping, siltation rate evaluations and additional biological surveys within the Area of Concern. A report summarizing these activities has been completed.
- With the completion of the Phase I assessment, a determination of additional needs to develop a habitat improvement scheme was prepared by the U.S. Fish and Wildlife Service under an agreement with Erie County and with DEC. A report on this work was completed.
- A habitat improvement plan design was initiated under contract by Erie County with the involvement of the City of Buffalo, U.S. Fish and Wildlife Service, U.S. Army Corps of Engineers and the DEC.

## CHAPTER I INTRODUCTION

The Buffalo River Remedial Action Plan (RAP) was completed and issued in November 1989. To track implementation of the Remedial Action Plan, DEC has issued a series of status reports to illustrate the progress on remediation by listing accomplishments in the previous reporting periods and describing commitments for the current period. This is the fourth status report which has been issued since the completion of the RAP.

To assist DEC in the remediation process a Remedial Advisory Committee (RAC) was formed early in 1990. The RAC is representative of concerned groups within the community that have an interest in the Buffalo River. The groups include government officials, public interest groups (non-economic), economic interests and private citizens. In addition to RAC members, agencies at all levels of government are asked to participate and provide input in RAP implementation as needed.

DEC and other responsible agencies have been, and are currently carrying out remediation of environmental problems along the Buffalo River. The remedial strategy outlined in the RAP included initial commitments to be undertaken to advance the remediation of the Buffalo River. A summary of the status of these undertakings and an overview of current commitments is presented.

CHAPTER 2  
ACCOMPLISHMENTS THROUGH 1995

An overview of accomplishments through 1995 describing the objectives, responsible agency and status is shown in Table 1. A more detailed description follows. Under each accomplishment the "Next step:" heading denotes those actions needed to carry forward the overall RAP strategy.

A. Stream Water Quality Monitoring

1. Flow Activated Sampling Station

Establish a flow activated sampling station on the lower Buffalo River.

DEC established a flow activated sampling station at Ohio Street for sample collection during high flow events. The station has been used to collect water samples during high flow periods. The station was utilized to collect samples for the determination of pesticides, mirex, PCBs, PAHs, hexachlorobenzene and metals. A report on the findings has been completed. The data was utilized for comparative evaluation of the ARCS program sediment dynamics and toxics modeling.

2. Dissolved Oxygen Measurements

Conduct dissolved oxygen measurements on the Buffalo River.

DEC made extensive dissolved oxygen measurements under a variety of conditions and at different depths and cross sections. In addition, biochemical oxygen demand measurements were made to

determine upstream, bottom sediment, and other sources of oxygen demand. The data analysis indicated the need for detailed computer modeling to assess the conditions associated with dissolved oxygen demand. Computer modeling has been undertaken to assess river data to ascertain the causes of low dissolved oxygen.

Next step: Further effort related to model verification is to be undertaken.

## B. Bottom Sediments

### 1. Sediment dynamics modeling

Develop requirements for improvements to a sediment dynamics model that would allow sediment scouring and deposition to be accurately predicted under a wide variety of flow conditions, and for alternative dredging scenarios.

A review and analysis of previous modeling on the Buffalo River was made and requirements for sediment model improvements were developed by a contractor for DEC.

Funding of the model improvements were deferred as sediment dynamics modeling of the Buffalo River was being undertaken by the USEPA under the Assessment and Remediation of Contaminated Sediments (ARCS) program. Sediment dynamics modeling was incorporated with toxics modeling in the ARCS program. The modeling included assessment of the alternatives of no action, cessation of navigational dredging and dredging of nearshore areas all with and without current watershed loadings.

## 2. Criteria Development

Develop methods for determining sediment criteria that have scientific validity.

The USEPA has been working for several years on developing and validating tests and associated acceptance criteria that would allow decisions to be made relative to the likely environmental impacts of contaminated sediments.

Next step: Once a criteria methodology has been developed by EPA, DEC will apply this methodology to the Buffalo River sediments.

## C. Inactive Hazardous Waste Sites

### 1. Phase I Site Investigations

Conduct Phase I investigations involving existing data accumulation and assessment.

All Phase I studies for the Buffalo River basin have been completed by DEC (Appendix A, Tables A-1 and A-2).

Next step: The conduct of Phase II investigations, which include preliminary field studies to fill data gaps to complete the initial site assessment, can be scheduled.

### 2. Phase II Site Investigations

Conduct Phase II field investigations to fill data gaps to complete initial site assessments.

A Limited Environmental Assessment, which is generally the equivalent to a Phase II investigation, was completed at the Behringer site. (Appendix A, Tables A-1 and A-2).

A Phase II site investigation is ongoing at the ENRX site.

Next step: Once Phase II site investigations are complete, the sites are ranked and determinations of need for the conduct of Remedial Investigation/Feasibility Studies (RI/FS) are made. Once an RI/FS is determined to be required, implementation action can be initiated under a DEC Consent Order by the responsible party or directly by DEC in the absence of a known responsible party.

### 3. Remedial Investigation/Feasibility Studies

Conduct Remedial Investigation/Feasibility Studies to define contaminant pathways and assess alternative remedial measures.

Remedial Investigation/Feasibility Studies were completed during this report period at the Scott Aviation, Niagara Transformer, and ARO sites.

Next step: Once Remedial Investigation/Feasibility Studies are complete, site remedial measures can be designed.

### 4. Remedial Design

Conduct Remedial Design

A remedial design was completed for the Union Road site.

Remedial design is ongoing at the Buffalo Color sites.

Next step: Once remedial design is complete remedial construction can begin.

5. Remedial Action

Conduct Remedial Action

Remedial actions were completed at the Madison Wire site, and an Interim Remedial Action was completed at Bern Metal.

Once remediation is completed the sites will be monitored.

D. Municipal and Industrial Wastewater Facilities

Discharge Permit Monitoring and Renewal

Continue discharge permit monitoring to achieve compliance with secondary treatment for municipal discharges and best available technology and best management practices for industrial discharges.

DEC has reviewed self-monitoring reports from dischargers, inspected facilities in operation and independently sampled effluent to check on the validity of self-monitoring data. General compliance with permit requirements has been maintained.

Next step: Each permit will be reassessed as part of the ongoing DEC water quality and technology evaluation process.

E. Combined Sewer Overflows

Combined Sewer System Modeling

Evaluate the combined sewer system model currently under development to assess its ability to reflect Sewer system response to various storm events and system operation plans.

The Buffalo Sewer Authority (BSA) has undertaken an evaluation of initial model development and testing along with additional system monitoring to verify the modeled system response. Model adjustment and refinement has been completed. Selected simulations have been run to assess main interceptor system conditions and alternative operational schemes. Cost estimates of alternatives for overflow reduction/treatment have been developed.

Next step: Apply the combined sewer system model on a sub-basin basis to assess flow conveyance capability and the potential for enhanced in-system storage.

F. Fish and Wildlife Habitat

Habitat Improvement Potential

Develop plan to assess fish and wildlife habitat conditions and improvement potential.

A plan was developed by DEC which specifically identified work to be undertaken to assess existing habitat conditions, both aquatic and terrestrial, in the Buffalo River and to identify potentials for

habitat improvement. The work plan was segmented into phases for accomplishment. Funding was obtained and field work was undertaken by DEC to compile data on existing habitat conditions in the Area of Concern and the immediate upstream watershed.

Funds were also provided through the USEPA for faculty and students of the New York State University College at Buffalo to conduct physical mapping, siltation rate evaluations and additional biological surveys relative to the Area of Concern in the Buffalo River.

The preparation of a habitat improvement scheme was undertaken by the U.S. Fish and Wildlife Service under an agreement with Erie County and with DEC.

Reports on all of the above projects have been completed.

Next step: Design of habitat improvement projects along the Buffalo River.

**TABLE 1**  
**BUFFALO RIVER REMEDIAL ACTION PLAN**  
**ACCOMPLISHMENTS THROUGH 1995**

<u>Objective</u>	<u>Target Completion Date</u>	<u>Responsible Agency</u>	<u>Status</u>	<u>Projected Completion Date</u>
<b>A. Stream Water Quality Monitoring</b>				
1. Conduct high flow event sampling with flow activated sampling station	March 1993	DEC	Complete	
2. Conduct modeling of dissolved oxygen data	March 1994	DEC	Complete <sup>1/</sup>	
<b>B. Bottom Sediments</b>				
1. Conduct sediment dynamics modeling	March 1994	EPA (ARCS)	Complete	
2. Develop methods for determining sediment criteria	?	EPA	Ongoing	?

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<sup>1/</sup> Verification applications are ongoing.

TABLE 1 (Continued)  
 BUFFALO RIVER REMEDIAL ACTION PLAN  
 ACCOMPLISHMENTS THROUGH 1995

<u>Objective</u>	<u>Target Completion Date</u>	<u>Responsible Agency</u>	<u>Status</u>	<u>Projected Completion Date</u>
<b>C. Inactive Hazardous Waste Sites</b>				
1. Conduct Phase II site investigations		DEC		
. ENRX	March 1994		Ongoing	March 1996
2. Conduct Remedial Investigation/ Feasibility Studies		DEC		
. Scott Aviation	November 1994		Complete	
. Niagara Transformer	September 1993		Complete	
. ARQ Corporation	March 1994		Complete	
3. Conduct Remedial Design		DEC		
. Buffalo Color	March 1994		Ongoing	March 1996
. Union Road	March 1994		Complete	
4. Conduct Remedial Action		DEC		
. Bern Metal (Interim Remedial Action)	September 1993		Complete	
. Madison Wire	March 1994		Complete	

**TABLE 1 (Continued)**  
**BUFFALO RIVER REMEDIAL ACTION PLAN**  
**ACCOMPLISHMENTS THROUGH 1995**

<u>Objective</u>	<u>Target Completion Date</u>	<u>Responsible Agency</u>	<u>Status</u>	<u>Projected Completion Date</u>
<b>D. Municipal and Industrial Wastewater Facilities</b>				
Continue discharge permit monitoring	On-going	DEC	Ongoing	Ongoing
<b>E. Combined Sewer Overflows</b>				
Conduct initial sub-system assessment of conveyance capacity and enhanced in-system storage	March 1994	BSA	Complete <sup>1/</sup>	
<b>F. Fish and Wildlife Habitat</b>				
Conduct Phase I assessment of habitat conditions and improvement potential	September 1993	DEC & EPA	Complete	
Conduct development of habitat improvement scheme	September 1994	Erie Co. & USF&W	Complete	

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<sup>1/</sup> Initial assessment complete, continued evaluation ongoing

**CHAPTER 3**  
**COMMITMENTS**

The following is a description of 1995 commitments describing objectives, time for completion and responsible agency. An overview of agency commitments is shown in Table 2.

**A. Stream Water Quality Modeling**

**1. Dissolved Oxygen Measurements**

Conduct computer modeling to assess dissolved oxygen measurements on the Buffalo River.

Computer modeling to assess dissolved oxygen demand measurements is being undertaken. An assessment has been made of the benefits of supplemental water input from the Buffalo Harbor to the Buffalo River through the Buffalo River Improvement Corporation pumping and transmission system. Further effort related to model verification is being undertaken.

Completion date - March 1997

Responsible agency - DEC

Next step: Once the exact nature of the low dissolved oxygen is understood and the contributing causes are identified, remedial measures can be planned.

## B. Bottom Sediments

### 1. Sediment dynamics modeling

Develop a sediment dynamics model that would allow sediment scouring and deposition to be accurately predicted under a wide variety of flow conditions, and for alternative dredging scenarios.

A sediment dynamics model of the Buffalo River has been developed for the USEPA under the Assessment and Remediation of Contaminated Sediments (ARCS) program. This model provides predictions of sediment scour and deposition under a variety of flow conditions in the Area of Concern.

The ARCS program sediment dynamics and toxics models provide information necessary for an assessment of the feasibility of remediation through sediment deposition and armoring. Evaluation of the modeling effort is ongoing.

Completion date - March 1997

Responsible agency - DEC

Next step: Upon completion of the evaluation of the actions modeled funding may be required to implement the selected alternative.

### 2. Criteria Development

Develop methods for determining sediment criteria that have scientific validity.

EPA is developing and validating tests and associated acceptance criteria that would allow

decisions to be made relative to the likely environmental impacts of contaminated sediments. This work will be brought to a conclusion with a report on recommended tests and criteria.

Completion date - ?

Responsible agency - USEPA

Next step: Once a criteria methodology has been developed by EPA, DEC will apply this methodology to the Buffalo River sediments. Funds to support this could come from a demonstration project under the Clean Water Act, Section 118. It would include both the development of site specific criteria, and actual testing of the bottom sediments.

C. Inactive Hazardous Waste Sites

1. Phase II Site Investigations

Conduct Phase II field investigations to fill data gaps to complete initial site assessments.

A Phase II investigation is underway at the ENRX site.

Completion date - March 1996

Responsible agency - DEC

Next step: Once Phase II site investigations are complete, the sites are ranked and determinations of need for the conduct of Remedial Investigation/ Feasibility Studies (RI/FS) are made. Once an RI/FS is determined to be required, implementation action can be initiated under a DEC Consent Order

by the responsible party or directly by DEC in the absence of a known responsible party.

2. Remedial Investigation/Feasibility Studies

Conduct Remedial Investigation/Feasibility Studies to define contaminant pathways and assess alternative remedial measures.

Remedial Investigation/Feasibility Studies are underway at two sites, Bern Metal and Mr. C's Cleaners.

Completion date - June 1996

Responsible agency - DEC

Next step: Once Remedial Investigation/Feasibility Studies are complete, site remedial measures can be designed.

3. Remedial Design

Conduct Remedial Design

Remedial design is underway at five sites; Buffalo Color, Niagara Transformer, ARO, Scott Aviation, and Land Reclamation.

Completion date - September 1996

Responsible agency - DEC

Next step: Once design is complete, remedial action can be implemented.

4. Remedial Action

Conduct Remedial Action

A remedial waste removal action is underway at the Behringer site.

Completion date - March 1996

Responsible agency - DEC

Remedial construction action is underway at the Union Road site.

Completion date - March 1997

Responsible agency - DEC

Next step: Once waste removal is completed at the Behringer site, an assessment will be made to determine if any further action is required. Upon completion of remedial action at the Union Road site, the site will be monitored.

D. Municipal and Industrial Wastewater Facilities

Discharge Permit Monitoring and Renewal

Continue discharge permit monitoring to achieve compliance with secondary treatment for municipal discharges and best available technology and best management practices for industrial discharges.

DEC reviews self-monitoring reports from discharges, inspects facilities in operation and independently samples effluent to check on the validity of self-monitoring data. Significant violations of permit conditions trigger compliance

or enforcement measures. The provision for pollution prevention measures has been initiated.

Completion date - Ongoing

Responsible agency - DEC

Next step: Each permit will be reassessed to meet water quality standards and the technology requirements applicable at the time of renewal.

E. Combined Sewer Overflows

Combined Sewer System Modeling

Apply the combined sewer system model to assess sub-basin flow conveyance capacity and the potential for enhanced in-system storage.

Sub-basin system characteristics and flow data were obtained for entry into the Buffalo Sewer Authority (BSA) combined sewer system model to assess system conditions and alternative operation schemes for the initial sub-basin. Further assessment effort is required to complete the sub-basin evaluation.

Completion date - March 1997

Responsible agency - BSA

Next step: Once the exact nature of potential system modifications is defined, remedial measures including enhanced in-system storage can be planned.

F. Fish and Wildlife Habitat

Habitat Improvement Potential

Implement plan to assess fish and wildlife habitat conditions and improvement potential.

Habitat loss impairs beneficial uses such as fishing and observing wild birds and animals. The combination of dredging and bulkheading on the Buffalo River has substantially reduced fish habitat by eliminating many productive shallow waters and wetlands. A plan has been developed by DEC which specifically identifies the work to be undertaken to assess the existing habitat conditions.

A compilation of existing habitat conditions in the Area of Concern and the immediate upstream watershed are undertaken by DEC. In addition, under funding provided by USEPA faculty and students from the New York State University College at Buffalo completed physical mapping, siltation rate evaluations and additional biological surveys relative the Area of Concern.

Upon completion of Phase I of the assessment a determination of additional needs to develop a habitat improvement scheme was prepared by the U.S. Fish and Wildlife Service under an agreement with Erie County and DEC which lead to site selection for preservation and improvement of habitat.

Funds have been provided through the USEPA for the design of five habitat improvement projects along the Buffalo River. This design work is being

undertaken under contract by Erie County with the involvement of the City of Buffalo, U.S. Fish and Wildlife Service, U.S. Army Corps of Engineers and the DEC.

Completion date - March 1996

Responsible agency - Erie County and USEPA

Next step: Implementation of the designed improvement projects for which funds are available to complete.

TABLE 2  
BUFFALO RIVER REMEDIAL ACTION PLAN  
1995 COMMITMENTS

<u>Objective</u>	<u>Target Completion Date</u>	<u>Responsible Agency</u>
<b>A. Stream Water Quality Modeling</b>		
1. Evaluate modeling of dissolved oxygen data	March 1997	DEC
<b>B. Bottom Sediments</b>		
1. Evaluate sediment dynamics modeling	March 1997	DEC
2. Develop methods for determining sediment criteria	?	EPA
<b>C. Inactive Hazardous Waste Sites</b>		
1. Conduct Phase II site investigations		DEC
. ENRX	March 1996	
2. Conduct Remedial Investigation/ Feasibility Studies		DEC
. Bern Metal	March 1996	
. Mr. C's Cleaners	June 1996	
3. Conduct Remedial Designs		DEC
. Niagara Transformer	March 1996	
. ARO	September 1996	
. Scott Aviation	March 1996	
. Land Reclamation	March 1996	
. Buffalo Color	March 1996	

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1/ See Appendix A for this and other ARCS activities.

TABLE 2 (Continued)  
 BUFFALO RIVER REMEDIAL ACTION PLAN  
 1995 COMMITMENTS

<u>Objective</u>	<u>Target Completion Date</u>	<u>Responsible Agency</u>
4. Conduct remedial actions		DEC
. Behringer	March 1996	
. Union Road	March 1997	
D. Municipal and Industrial Wastewater Facilities		
Continue discharge permit monitoring	Ongoing	DEC
E. Combined Sewer Overflows		
Continue initial sub-system assessment of conveyance capacity and enhanced in-system storage	March 1997	BSA
F. Fish and Wildlife Habitat		
Conduct design of five habitat improvement sites.	March 1996	Erie Co. & EPA

**APPENDIX**

**A. INACTIVE HAZARDOUS WASTE SITE REMEDIATION**

## INACTIVE HAZARDOUS WASTE SITE REMEDIATION

At the time of preparation of the Remedial Action Plan thirty-two sites were identified in the Buffalo River basin where hazardous wastes may have been deposited. New information obtained as a result of work undertaken during 1993-95 is summarized and underlined in Table A-1. Site investigation and remediation program progress in the Buffalo River basin is shown in Table A-2.

Seven new sites were identified in the Buffalo River basin since the completion of the RAP. These sites have been added to the above listings.

TABLE A-1  
 REMEDIATION STATUS  
 HAZARDOUS WASTE SITES  
 BUFFALO RIVER WATERSHED

FOUR-DIGIT SITE CODE	SITE NAME	SITE CODE	REMEDIATION STATUS	CONTAMINANT MIGRATION CONCERNS
<b>CAYUGA CREEK</b>				
915092	Town of Marilla	D	Phase I investigation completed. Phase II investigation completed. Delisted December 1992	No hazardous waste confirmed at this site.
915069	Leicester Reclamation	D	Phase I investigation completed. Phase II investigation completed. Delisted February 1991	Analysis of groundwater indicates the site is impacting groundwater quality. Surface water results do not indicate a significant contamination condition exists.
915082	Stodola Road	D	Phase I investigation completed. Phase II investigation completed. Delisted March 1991	This site is proximate to Cayuga Creek with slightly elevated levels of metals and phenolics.
915064	Dresser Industries	D	Phase I investigation completed. Phase II investigation completed. Delisted July 1991	Potential for contaminant migration is considered to be unlikely due to extremely low levels of contaminants found at site.
915105	Village of Depue Borden Road	D	Phase I investigation completed. Supplemental sampling completed. Delisted October 1990	The site contains foundry sands with phenolic based binders. A portion of the site has been excavated. Investigations indicate no hazardous waste present on site.

TABLE 2-1 (Continued)  
 REMEDIATION STATUS  
 HAZARDOUS WASTE SITES  
 BUFFALO RIVER WATERSHED

NUMBER	SITE NAME	SITE CODE	REMEDIATION STATUS	CONTAMINANT MIGRATION CONCERNS
915070	Lead Reclamation	3	Phase I investigation complete. Phase II investigation completed. Remedial Action underway.	Data indicates presence of contaminants in groundwater and surface water. Contaminant migration confirmed.
915129	Old Land Reclamation	2A	Phase I investigation complete. Phase II investigation completed. Supplemental Phase II investigation underway.	Soil and leachate sampling indicates the presence of inorganic and organic contaminants. Proximity of this site to Cayuga Creek indicates a potential for contaminant movement to the Creek.
915128	Union Road	2	Phase I investigation completed. RI/FS completed. Record of Decision issued. Remedial Action underway.	Site contains sludges and tail. Data indicates the presence of elevated levels of heavy metals in tail. Surface water and sediment sampling confirm the migration of lead from the site.
<b>BUFFALO CREEK</b>				
915088	Northern Demolition	5	Phase I investigation completed. Site deleted in 1989.	Data does not indicate hazardous waste present on site.
<b>CARROWIN CREEK</b>				
915062	CID (Chaffee Landfill)	4	Leachate collection system installed.	Data available indicates no contaminant migration.
915130	MI View Terrace	D	Phase I investigation completed. HSEPA removal action performed.	Data indicated presence of total cyanides in waste material. Site remediated.

TABLE A-1 (continued)  
 REMEDIATION STATUS  
 HAZARDOUS WASTE SITES  
 BUFFALO RIVER WATERSHED

NUMBER	SITE NAME	SITE CODE	REMEDIATION STATUS	COMMITMENT MIGRATION CONCERN
915019	West Express Transfer Station	D	Phase I Investigation completed. Phase II Investigation completed. Delisted December 1992	Data does not indicate hazardous waste present on site.
915036	Madison Wire Indian Church Road	I	Phase I & II Investigations completed. PI/II's completed in 1989. Removal action for drums and liquids completed by EPA. Design of remedial alternative completed. Remedial action completed.	Soil, sediment and surface water samples show the presence of heavy metals and organics. Potential for contaminant migration is very unlikely.
915059	Stoughton Park	I	Phase I Investigation completed. Buffalo Urban Regional Agency investigated site in 1983.	Analytical data shows contamination of soil and groundwater with heavy metals and phenols. However no significant contaminant migration indicated.
915021	Erie Lachineuna Railroad	D	Phase I Investigation completed. Site was delisted in 1989.	Investigation indicated no hazardous waste disposed on site.
915040	Rebill Oil Corporation	I	Phase I Investigation completed. Phase II Investigation completed.	Investigation indicates no significant contaminant migration. On-site bioremediation demonstration progressing.
915037	Houdaille-Mansel	D	Expropriations for remediation Consent Order failed. State funded Remedial Investigation/Feasibility Study completed. Delisted March 1994	Data does not indicate hazardous waste present on site.

TABLE A-1 (Continued)  
 REMEDIATION STATUS  
 HAZARDOUS WASTE SITES  
 BUFFALO RIVER WATERSHED

NUMBER	SITE NAME	SITE CODE	REMEDIATION STATUS	CONTAMINANT MIGRATION CONCERNS
915017	Donner Barns Coals	3	Phase I Investigation completed. Phase II Investigation completed.	Groundwater and surface water is contaminated with organic compounds and heavy metals.
915012 (A,B)	Buffalo Color	2	RIFTS completed. Record of Decision issued. Remedial design underway.	Site contains organic and inorganic contaminants. Migration of contaminants to Buffalo River is confirmed.
915012C	Buffalo Color	B	Deep well has been properly closed etc. Site delisted in 1993.	
915004	Alited Chemical Industrial Chemical Division	D	Phase II Investigation completed. RCRA closure underway. Delisted February 1993.	Investigations did not indicate the presence of hazardous waste on site.
915071	Lahigh Valley Railroad	E	Phase II Investigation is completed. Supplemental sampling program completed.	Groundwater and soil are contaminated with organics and metals. There is a limited potential for contaminant migration. Tanks which were source of contamination have been removed.
915034	MacAuspeacor-Brooks	D	Phase II Investigation completed. Delisted March 1991.	Investigations did not indicate the presence of hazardous waste on site.
915041	Kellenberg-Batz	D	Phase I Investigation completed. Supplemental sampling completed. Delisted May 1991.	Investigations did not indicate the presence of hazardous waste on site.

TABLE A-1 (Continued)  
 REMEDIATION STATUS  
 HAZARDOUS WASTE SITES  
 BUFFALO RIVER WATERSHED

NUMBER	SITE NAME	SITE CODE	REMEDIATION STATUS	CONTAMINANT MIGRATION CONCERN
915072	Tift Park Nature Preserve	2	Phase II investigation completed. Supplemental sampling program completed.	Low level organic and metal contamination.
915116	Bergart & Mendi	4	Site has been remediated under Consent Order.	PCB contaminated soils have been remediated.
915126	Clinton-Bailey	D	Phase I investigation completed. Phase II investigation completed. Relieved March 1995	Data indicates the presence of heavy metals (arsenic) and organic compounds in soil samples at site. Potential for contaminant migration limited. Drums removed completed in 1991.
915113	U.S. Steel - Eastern Div.	D	Phase I investigation complete. Supplemental sampling program completed. Relieved April 1995	Investigations did not indicate the presence of hazardous waste on site.
915131	Tift-Hopkins Street	2A	Phase I investigation is complete. Phase II investigation completed.	Potential for contaminant migration has not been determined.
915133	Amurcon	4	Investigation by Amurcon has been completed and remedial system is in operation.	Data does not indicate potential for contaminant migration.

TABLE 4-1 (Continued)  
 REMEDIATION STATUS/  
 BUFFALO RIVER WATERSHED

NUMBER	SITE NAME	SITE CODE	REMEDIATION STATUS	CONTAMINANT MIGRATION CONCERNS
<b>SOURCES TO SOURCE OF BUFFALO RIVER</b>				
915080	Tinner Beach	D	Phase I Investigation complete. Corps of Engineers had undertaken sampling of surface and groundwater, sediment, flora and fauna. Dated September 1991.	Potential for contaminant movement to Duke Harbor exists.
<b>SITES IDENTIFIED SUBSEQUENT TO RMP COMPLETION</b>				
915146	Niagara Transformer (4)	R	Interim Remedial Measures completed. Remedial Investigation/Feasibility Study completed. Remedial design underway.	PCBs in soil/sediments/surface water found in storm water ditch. Potential for contaminant migration to Buffalo River exists.
915135	Barn Metal Corporation (4)	2	Phase I Investigation complete. USEPA Emergency Removal Action completed. DPC Remedial Investigation/Feasibility Study underway.	Heavy metals known to be present in soils. Potential for contaminant migration limited.
915147	AMC Corporation (1)	2	Remedial Investigation/Feasibility Study completed.	Groundwater contamination confirmed. Limited site migration.
915149	Scott Aviation (1)	2	Remedial Investigation/Feasibility Study completed. Remedial design underway.	Groundwater contamination confirmed. No off-site migration occurring.

TABLE 1-1 (Continued)  
 REMEDIATION STATUS  
 HAZARDOUS WASTE SITES  
 BUFFALO RIVER WATERSHED

WBSNR	SITE NAME	SITE CODE	REMEDIATION STATUS	CONTAMINANT MIGRATION CONCERN
21519	ENRX (4)	2A	MR. Remedial action completed. REC. Phase II Investigation under review.	Potential for contaminant migration limited.
21518	Behlinger Property (4) (Lemon Street)	2	Limited environmental assessment completed. REC. to CERCLIS remedial action.	Limited migration potential from lead contamination only.
21517	Mr. C's Cleaners (3)	2	Phase II Investigation completed. Remedial Investigation/Feasibility study underway.	Groundwater contamination exists. Potential for contaminant migration confirmed.

WATER BODY

- (1) Cayuga Creek
- (2) Buffalo Creek
- (3) Cassinovia Creek
- (4) BUFFALO RIVER

TABLE A-1

SITE CODES

Classification 1 - causing or presenting an imminent danger of causing irreversible or irreparable damage to the public health or environment -- immediate action required;

Classification 2 - significant threat to the public health or environment -- action required;

Classification 2a - temporary classification assigned to sites for which there is inadequate data to assign them to the other classifications;

Classification 3 - does not present a significant threat to the public health or environment -- action may be deferred;

Classification 4 - site properly closed -- requires continued management;

Classification 5 - site properly closed, no evidence of present or potential adverse impact -- no further action required;

Classification D - site delisted, no hazardous waste present on site.

**TABLE A-2  
INACTIVE HAZARDOUS WASTE SITE  
REMEDIATION PROGRAM PROGRESS  
BUFFALO RIVER BASIN**

	Phase I	Phase II	Remedial Invest. Feasibil. Study	Remedial Design	Remedial Constr.	Remediation Complete or Not Required
<b>CAYUGA CREEK</b>						
Town of Marilla	-----	-----	-----	-----	-----	----->
Lancaster Reclamation	-----	-----	-----	-----	-----	----->
Stocks Pond	-----	-----	-----	-----	-----	----->
Dresser Industries	-----	-----	-----	-----	-----	----->
Village of Depew-Borden Road	-----	-----	-----	-----	-----	----->
Land Reclamation	-----	-----	-----	->	-----	----->
Old Land Reclamation	-----	->	-----	-----	-----	----->
Union Road	-----	-----	-----	-----	->	----->
<b>BUFFALO CREEK</b>						
Northern Demolition	-----	-----	-----	-----	-----	----->
<b>CAZENOVIA CREEK</b>						
CID	-----	-----	-----	-----	-----	----->
Hiview Terrace	-----	-----	-----	-----	-----	----->
<b>BUFFALO RIVER</b>						
W. Seneca Transfer Station	-----	-----	-----	-----	-----	----->
Madison Wire	-----	-----	-----	-----	->	----->
Houghton Park	->	-----	-----	-----	-----	----->
Erie Lackawanna RR	-----	-----	-----	-----	-----	----->
Mobil Oil Corp.	-----	-----	-----	-----	-----	----->
Houdaille-Manzel	-----	-----	-----	-----	-----	----->
Donner Hanna Coke	-----	->	-----	-----	-----	----->

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**TABLE A-2 (Continued)  
 INACTIVE HAZARDOUS WASTE SITE  
 REMEDIATION PROGRAM PROGRESS  
 BUFFALO RIVER BASIN**

	Phase I	Phase II	Remedial Invest. Feasibil. Study	Remedial Design	Remedial Constr.	Remediation Complete or Not Required
<b>BUFFALO RIVER</b>						
Buffalo Color (2)	-----	-----	-----	----->	-----	----->
Buffalo Color - Deep Well	-----	-----	-----	-----	-----	----->
Allied Chemical	-----	-----	-----	-----	-----	----->
Lehigh Valley RR	-----	----->	-----	-----	-----	----->
Mac Naughton Brooks	-----	-----	-----	-----	-----	----->
Mollenberg-Betz	-----	-----	-----	-----	-----	----->
Tifft Farm	-----	----->	-----	-----	-----	----->
Bengart & Memel	-----	-----	-----	-----	-----	----->
Clinton-Bailey	-----	-----	-----	-----	-----	----->
U.S. Steel	-----	-----	-----	-----	-----	----->
Tifft-Hopkins	-----	-----	-----	-----	-----	----->
Ameron	-----	-----	-----	-----	-----	----->
<b>ADJACENT TO MOUTH OF BUFFALO RIVER</b>						
Times Beach	-----	-----	-----	-----	-----	----->
<b>SITES IDENTIFIED SUBSEQUENT TO RAP COMPLETION</b>						
Niagara Transformer	-----	-----	-----	----->	-----	-----
Bern Metal	-----	-----	----->	-----	-----	-----
ARO	-----	-----	-----	----->	-----	-----
Scott Aviation	-----	-----	-----	----->	-----	-----
ENRX	-----	----->	-----	-----	-----	-----
Mr. C's Cleaners	-----	-----	----->	-----	-----	-----
Behringer	-----	-----	-----	-----	----->	-----

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