

Remedial Action Plan Stage II.V
Working Documents

September, 1998

Remedial Action Plan Stage II.V
Working Documents for the
Grand Calumet River / Indiana Harbor Ship Canal
Area of Concern

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CARE COMMITTEE MISSION STATEMENT

The purpose of the Citizen's Advisory for the Remediation of the Environment (CARE) Committee is to advise IDEM on development and implementation of the Remedial Action Plan (RAP) for the Grand Calumet River, Indiana Harbor Ship Canal and Nearshore Lake Michigan Area of Concern. CARE also will advise other agencies that work with IDEM to ensure consistency and adherence with the REMEDIAL ACTION PLAN and to ensure that these agencies promote the REMEDIAL ACTION PLAN. The REMEDIAL ACTION PLAN is a requirement of the 1987 Great Lakes Water Quality Agreement that mandates an ecosystem approach for restoring beneficial uses.

Specifically, the purpose of CARE is to:

- Advise IDEM on the REMEDIAL ACTION PLAN
- Review components of the REMEDIAL ACTION PLAN
- Advocate and encourage agencies' actions to be consistent with the REMEDIAL ACTION PLAN
- Review State resources pertaining to the REMEDIAL ACTION PLAN
- Advise IDEM on the adequacies of RAP components
- Recommend a time-line for implementation of the REMEDIAL ACTION PLAN
- Promote activities consistent with the REMEDIAL ACTION PLAN
- Monitor and track implementation, and suggest appropriate action

EXECUTIVE SUMMARY

Remedial Action Plan STAGE II ADDENDUM

In the early 1980s, a visionary local plan for restoration of the Grand Calumet River, located in northwest Indiana, inspired the concept of Remedial Action Plans. The International Joint Commission (IJC) proposed that governments, environmentalists and other stakeholders collaborate to develop such plans for all places throughout the Great Lakes watershed where objectives of the Great Lakes Water Quality were not being achieved. Today the Remedial Action Plan for the Grand Calumet River Area of Concern (AOC) incorporates many local initiatives that address the complex problems in this area.

In December, 1997, the State of Indiana described these initiatives in the Stage II Remedial Action Plan (Stage II RAP) submitted to the IJC. The Citizens Advisory for the Remediation of the Environment (CARE) Committee and the Indiana Department of Environmental Management (IDEM) decided to evaluate whether the multitude of regulatory and remedial efforts described in the Stage II RAP would restore beneficial uses enough to remove the Grand Calumet River and Indiana Harbor Ship Canal from the IJC's list of AOCs. Results of this evaluation will be submitted as an addendum to the Stage II RAP.

Beginning with the draft matrix contained in the Stage II RAP, the CARE Committee and IDEM worked to identify how existing remedial measures would impact beneficial use impairments in the AOC. By showing the negative impact from environmental stressors, a web diagram for each beneficial use was developed to show how sources of stress effect each beneficial use. Through this exercise, IDEM and the CARE Committee determined that each beneficial use may not be impacted by all sources of stress. By using root cause analysis, web diagrams were developed to show how sources of stress continue to affect each beneficial use. Through this exercise, the CARE Committee determined that each beneficial use may not be impacted by all sources of stress. Consequently, this analysis will sort beneficial uses and activities to allow the greatest return for our efforts. Web diagrams for each of the fourteen beneficial uses are enclosed.

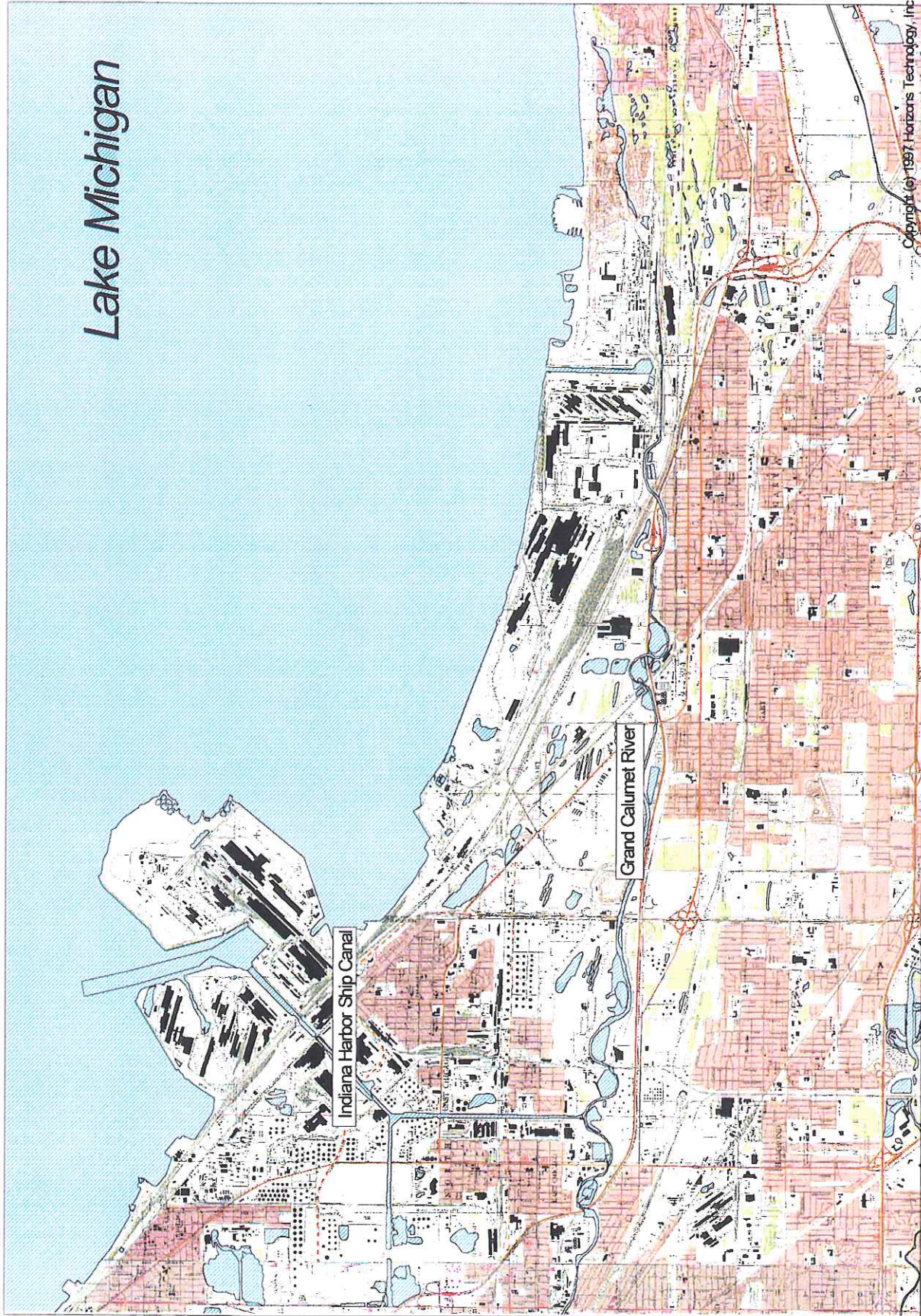
The CARE Committee designed a flowchart to help analyze the relationships among the beneficial uses, the sources of stress and the remedial actions in progress to restore the beneficial uses. The outcome of the flow chart depends on answers to a series of questions designed to determine if injury caused by the stress source can be prevented or reversed; whether or not remediation is needed or can occur; and how enhancement or improvement of the current condition can be achieved with further actions that may ultimately lead to the restoration of a beneficial use. If complete restoration of the beneficial use is not possible, the process identifies mitigation possibilities. Finally, the flow chart identifies additional actions needed to achieve the maximum eventual result. This flow chart is enclosed.

To date we have learned that some beneficial uses may be more readily restored than others based upon current remedial measures or actions. As we move forward, it is important to be mindful of the complexity of this AOC and the relationships among all activities and their impact. The exercises may also suggest instances where greater restoration efforts are needed. In

some cases it has also showed that more than one impaired use may be alleviated by the same action. For example, actions that may protect human health may also prevent tainting of fish flavor or eliminate restrictions on fish consumption. The intense analysis and debate resulting from the use of these tools have helped the CARE Committee and IDEM to sort out relationships among the many problems and restoration activities. The resultant Stage II addendum will more clearly prioritize where actions should be focused in order to ultimately delist the AOC and provide for entire ecosystem balance.

Grand Calumet River/Indiana Harbor Ship Canal Area of Concern

Lake Michigan



4 Miles

2

0

Date of Map: October 1998



DEFINED AREAS (REACHES) IN THE GRAND CALUMET RIVER

Reach No.	Reach Description	Remediation No.	Public Consent Order	Regulatory Action	Voluntary Remediation	No Remediation Planned	Remediation Methodology	Project Owner (Potential)	Start Date	End Date (Projected)
R-1	Grand Calumet Lagoons	R 1.1		Natural Resource Damage Assessment (NRDA)		Restoration plan will be developed		Natural Resource Trustees		
R-2	Headwaters to Pennsylvania Railroad Bridge	R 2.1	US Steel Clean Water Act, RCRA, NRDA (RAP II, page 112 #D.4)	NRDA			Hydraulic Dredge	US Steel	1990	2003
R-2	Headwaters to Pennsylvania Railroad Bridge	R 2.2	Gary Sanitary District -- TSCA Closure (RAP II, page 113 #D.7)					Gary Sanitary District	October, 1992	
R-3	Pennsylvania Railroad Bridge to Cline Ave.	R 3.1		NRDA	South Bank of the Grand Cal in Gary, Ambridge/Mann area (RAP II page 89 #C2a)			Lake County Soil and Water Conservation District	June 15, 1995	
R-4	Cline Ave. to Kennedy Ave.	R 4.1	H & H Auto/Fluff (RAP II page 111 #D1)	NRDA			Fluff removal and habitat restoration	H & H		
R-4	Cline Ave. to Kennedy Ave.	R 4.2	Gary Lagoons (RAP II page 116 #D10)				Soil & Sediment excavation; revegetation	USEPA Superfund Removal	April 12, 1998	
R-4	Cline Ave. to Kennedy Ave.	R 4.3			Ralston Street Lagoons (RAP II page 93 #C9)			Gary Sanitary District		
R-5	Kennedy Ave. to 151st St.	R 5.1		NRDA						
R-6	Fork of E-W Branch of Ship Canal to west end of Roxanna Marsh	R 6.1	Inland Steel Sediment Characterization Study in the Indiana Harbor Ship Canal (RAP II page 113 #D5)	NRDA				Ispat Inland Inc.	June, 1993	
R-6	Fork of E-W Branch of Ship Canal to west end of Roxanna Marsh	R 6.2			Roxanna Marsh in East Chicago (RAP II page 89 # C2b)			Lake County Soil and Water Conservation District	June, 1993	
R-7	West end of Roxanna Marsh to the Indiana/Illinois border									
R-8	151st to Columbus Drive	R 8.1		NRDA						
R-9	Columbus Dr. to RR Overpass and the Lake George Branch of the IHSC	R 9.1		NRDA	Memorandum of Cooperation (RAP II page 84 #B15)			AMOCO, Mobil Oil, NIPSCO, Phillips Pipeline, Safeway Kleen	1992	
R-10	RR Overpass to the Indiana Harbor	R 10.1	AMOCO Pipeline Company (RAP II page 111 #D2)	NRDA				AMOCO		
R-10	RR Overpass to the Indiana Harbor	R 10.2	Inland Steel Sediment Characterization Study in the Indiana Harbor Ship Canal (RAP II page 113 #D5)					Ispat Inland Inc.	June, 1993	
R-10	RR Overpass to the Indiana Harbor	R 10.3	Removal Action by LTV Steel (RAP II page 115 #D6)				Sediment removal; hydraulic dredge			
R-10	RR Overpass to the Indiana Harbor	R 10.4	AMOCO Soil Characterization Work Plan and Ground Water Evaluation/AMOCO Agreed Order (RAP II pages 114-116 #s D8 & D9)					AMOCO	December, 1995	

ACTIVITIES ADVANCING THE RESTORATION OF BENEFICIAL USES

RAP II ACTIONS TO ATTAIN GOALS	BENEFICIAL USES THAT ARE IMPAIRED IN THE GRAND CALUMET AREA OF CONCERN														KEY IMPLEMENTATION ELEMENTS				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	OWNER or PRINCIPAL DRIVER (Person or Organization)	PLANS IN PLACE (Yes, No or TBD)	INDICATORS ESTABLISHED (Yes, No or TBD)	START DATE (Date or TBD)	END DATE (Date or TBD)
<div style="border: 2px solid green; border-radius: 10px; padding: 5px; display: inline-block; color: red; font-weight: bold;"> REVISED 9/24/98 </div>	VOLUNTARY ACTION INITIATED THROUGH THE RAP																		
	1. The Cooperative Partnership Effort	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Steering Committee	Yes	TBD	1996	TBD
	2. Sediment Cleanup Restoration Alternatives Project (SCRAP)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	IDEM	Yes	TBD	1996	TBD
	3. The Native Revegetation of Steel Slag Project	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Inland & Hammond San. Dist.	Yes	TBD	1996	TBD
	4. The RAP GIS System	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	IDEM	Yes	TBD	1995	TBD
ADDITIONAL VOLUNTARY ACTIONS SUPPORTING RAP GOALS																			
1. Corridor Planning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Grand Cal Task Force	Yes	TBD	1997	TBD	
2. Public Outreach and Education	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	All reps	Some	TBD	TBD	TBD	
3. Citizen Advisory Groups	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	CAC's	Yes	TBD	TBD	TBD	
4. The Southern Lake Michigan Conservation Initiative	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="radio"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	The Nature Conservancy	Yes	TBD	In Progress	TBD	
5. The Ivanhoe Nature Preserve Restoration	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="radio"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	The Nature Conservancy	Yes	TBD	In Progress	TBD	
6. The Clarke & Pine Nature Preserve, Eastern Addition Restoration	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="radio"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	IDEM /IDNIR / USFWS	Yes	TBD	In Progress	TBD	
7. The Lost Marsh Restoration	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="radio"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	AMOCO	Yes	TBD	In Progress	TBD	
8. Interagency Technical Task Force on E. coli	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	IDEM /IDNR	Yes	TBD	1997	TBD	

● = Directly Related; ○ = Supportive; □ = Not Related
(Definitions at end of Matrix)

ACTIVITIES ADVANCING THE RESTORATION OF BENEFICIAL USES

RAP II ACTIONS TO ATTAIN GOALS	BENEFICIAL USES THAT ARE IMPAIRED IN THE GRAND CALUMET AREA of CONCERN														KEY IMPLEMENTATION ELEMENTS				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	OWNER or PRINCIPAL DRIVER (Person or Organization)	PLANS IN PLACE (Yes, No or TBD)	INDICATORS ESTABLISHED (Yes, No or TBD)	START DATE (Date or TBD)	END DATE (Date or TBD)
<div style="border: 2px solid green; padding: 5px; display: inline-block;"> REVISED 9/24/98 </div>	ADDITIONAL VOLUNTARY ACTIONS SUPPORTING RAP GOALS (Cont'd)																		
	9. Indianapolis Boulevard Sewer Project	●	●	●	●	●	●	○	●	□	●	□	○	●	INDOT / AMOCO / IDEM	Yes	TBD	Began in ____?	Finished already 93?
	10. Amoco Bank Clearing and Stabilization Project	●	●	●	●	●	●	○	●	□	●	□	○	●	Amoco	Yes	TBD	TBD	TBD
	11. Coordinated Resource Management Process	○	○	○	○	○	○	○	□	□	○	□	○	○	IDEM	Yes	TBD	TBD	TBD
	12. Great Lakes Watershed Initiative	○	○	○	○	○	○	○	○	□	○	○	○	○	IDEM	TBD	TBD	1994	TBD
	13. Sediment Transport Model	○	○	○	○	○	○	□	○	□	○	○	□	○	Amy Corps of Engineers		TBD	TBD	TBD
	14. Dredged Sediments Disposal	●	●	●	●	●	●	□	●	□	●	●	●	●	IDEM / USEPA	Yes	TBD	1997	TBD
	15. Memorandum of Cooperation (MOC)	●	●	●	●	●	●	□	●	□	●	●	●	●	Five Companies	Yes	TBD	1994	TBD
	16. Lake Michigan Air Directors Consortium	○	○	□	○	□	□	□	□	□	○	○	○	○	LADCO	Yes	TBD	1990	1991
	17. Ridesharing	□	□	□	□	□	□	□	□	□	○	○	□	□	Air Pollution Boards	Yes	TBD	1993	TBD
	18. Clean Cities Program	□	□	□	□	□	□	□	□	□	○	○	□	□	USDOE	Yes	TBD	TBD	TBD
	19. Ozone Action Days	□	□	□	□	□	□	□	□	□	○	○	□	□	Three States	Yes	TBD	1995	TBD
	20. Ozone Transport Assessment Group (OTAG)	□	□	□	□	□	□	□	□	□	○	○	□	□	OTC	Yes	TBD	1995	TBD
	21. Atmospheric Deposition	○	○	○	○	○	□	□	□	□	○	○	○	○	USGS	Yes	TBD	1992	1998

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(Definitions at end of Matrix)

ACTIVITIES ADVANCING THE RESTORATION OF BENEFICIAL USES (CONT'D)

RAP II ACTIONS TO ATTAIN GOALS	BENEFICIAL USES THAT ARE IMPAIRED IN THE GRAND CALUMET AREA OF CONCERN														KEY IMPLEMENTATION ELEMENTS					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	OWNER or PRINCIPAL DRIVER (Person or Organization)	PLANS IN PLACE (Yes, No or TBD)	INDICATORS ESTABLISHED (Yes, No or TBD)	START DATE (Date or TBD)	END DATE (Date or TBD)	
<div style="border: 2px solid green; border-radius: 15px; padding: 5px; display: inline-block;"> <p style="color: red; font-weight: bold; margin: 0;">REVISED 9/24/98</p> </div>	FEDERAL, STATE & LOCAL REGULATORY ACTIONS SUPPORTING RAP GOALS																			
	1. Natural Resource Damage Assessment	●	●	●	●	●	●	●	●	○	●	○	●	●	●	IDEM/IDNR / USFWS/NOAA /NPS	Yes	TBD	1986	TBD
	2. Soil and Water Conservation District (SWCD) Programs	●	●	●	●	●	○	○	○	□	●	□	●	●	●	Local	Yes	TBD	TBD	TBD
	2a. The south bank of the Grand Calumet River in Gary, Ambridge/Marr area	○	○	○	○	○	○	○	○	□	●	○	○	○	○	Lake Co SWCD	Yes	TBD	TBD	TBD
	2b. Roxanna Marsh in East Chicago	●	●	●	●	●	○	○	○	□	●	□	●	●	●	Lake Co SWCD	Yes	TBD	TBD	TBD
	2c. The east shore of Wolf Lake in Hammond	○	○	○	○	○	□	□	□	□	●	□	○	○	○	Lake Co SWCD	Yes	TBD	In Progress	TBD
	3. Coastal Coordination Project	□	□	□	□	□	□	□	○	○	○	○	○	○	○	IDNR	Yes	TBD	In Progress	TBD
	4. Watershed Management Program	●	●	○	○	○	○	○	○	○	○	○	○	○	○	IDEM	Yes	TBD	1996	TBD
	5. Water Quality Certification (401) & (404)	□	□	○	○	○	○	○	○	□	●	○	○	○	○	ACOE/USEPA / IDEM	Yes	TBD	TBD	TBD
	6. Storm Water Control Program, Including Best Management Practices	○	○	○	○	○	○	○	○	□	○	□	○	○	○	IDEM	Yes	TBD	TBD	TBD
	7. Control of Urban Runoff	●	●	●	●	●	●	●	●	□	●	□	○	○	○	IDEM	Yes	TBD	TBD	TBD
	8. U.S. Army Corps of Engineers' Indiana Harbor and Canal Dredging Project	●	●	●	●	●	●	●	●	○	●	●	○	○	○	ACOE	Yes	TBD	1972	TBD
9. Ralston Street Lagoon	○	○	○	○	○	○	○	○	□	○	○	○	○	○	GSD	Yes	TBD	TBD	TBD	
10. Elimination of the Use of Slag as Fill Material	○	○	○	○	○	○	○	○	□	●	□	○	○	○	IDNR	Yes	TBD	TBD	TBD	
11. U.S. EPA Advanced Identification of Sites (AIDS) Program	○	○	○	○	○	○	○	○	○	○	○	○	○	○	USEPA	Yes	TBD	1985	TBD	
12. Hazardous Waste - Facilities regulated under the Resource Conservation and Recovery Act	○	○	○	○	○	○	○	○	□	○	○	○	○	○	IDEM	Yes	TBD	1990	TBD	

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(Definitions at end of Matrix)

ACTIVITIES ADVANCING THE RESTORATION OF BENEFICIAL USES (CONT'D)

RAP II ACTIONS TO ATTAIN GOALS	BENEFICIAL USES THAT ARE IMPAIRED IN THE GRAND CALUMET AREA of CONCERN														KEY IMPLEMENTATION ELEMENTS					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	OWNER or PRINCIPAL DRIVER (Person or Organization)	PLANS IN PLACE (Yes, No or TBD)	INDICATORS ESTABLISHED (Yes, No or TBD)	START DATE (Date or TBD)	END DATE (Date or TBD)	
<div style="border: 2px solid green; border-radius: 15px; padding: 10px; display: inline-block;"> <p style="color: red; font-weight: bold; margin: 0;">REVISED 9/24/98</p> </div>	FEDERAL, STATE & LOCAL REGULATORY ACTIONS SUPPORTING RAP GOALS (Cont'd)																			
	13. Solid Waste (legal Dumps)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	IDEM / Legal	Yes	Yes	In Existence	TBD
	14. State Clean Up	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	IDEM	Yes	Yes	In Existence	TBD
	15. Superfund	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	USEPA	Yes	Yes	In Existence	
	16. Waste Minimization	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	USEPA / IDEM	Yes	Yes	1984	TBD
	17. Transportation Programs (Non-point source run-off)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	IDEM	Yes	TBD	In Existence	TBD
	18. Air Toxics Program	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	IDEM	Yes	TBD	1987	2001
	19. Mercury	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	IDEM	Yes	TBD	1997	TBD
	20. Dioxin	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	USEPA	Yes	TBD	TBD	1999
	21. Accidental Releases	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	IDEM / USEPA	Yes	TBD	1997	TBD
	22. Particulate Matter (PM10)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	IDEM	Yes	TBD	TBD	TBD
	23. Ozone	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	USEPA	Yes	Yes	1997	2007
	24. Reformulated Gasoline	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Local	Yes	In Existence	1995	TBD

● = Directly Related; ○ = Supportive; □ = Not Related
(Definitions at end of Matrix)

ACTIVITIES ADVANCING THE RESTORATION OF BENEFICIAL USES (CONT'D)

RAP II ACTIONS TO ATTAIN GOALS	BENEFICIAL USES THAT ARE IMPAIRED IN THE GRAND CALUMET AREA OF CONCERN														KEY IMPLEMENTATION ELEMENTS					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	OWNER or PRINCIPAL DRIVER (Person or Organization)	PLANS IN PLACE (Yes, No or TBD)	INDICATORS ESTABLISHED (Yes, No or TBD)	START DATE (Date or TBD)	END DATE (Date or TBD)	
<div style="border: 2px solid green; border-radius: 15px; padding: 5px; display: inline-block;"> REVISED 9/24/98 </div>	THE ENVIRONMENTAL PERFORMANCE PARTNERSHIP AGREEMENT																			
	25a. Prevention / Reduction of Pollutants Entering the System	○	○	○	○	○	○	○	○	○	○	○	○	○	○	IDEM / USEPA	Yes	2 Yr. ENPPA	To be Negotiated	To be Negotiated
	25b. Achievement of Air Quality Standards	○	○	○	○	○	○	○	○	○	○	○	○	○	○	IDEM / USEPA	Yes	2 Yr. ENPPA	To be Negotiated	To be Negotiated
	25c. Meet Surface Water Quality Standards	○	○	○	○	○	○	○	○	○	○	○	○	○	○	IDEM / USEPA	Yes	2 Yr. ENPPA	To be Negotiated	To be Negotiated
	25d. Prevention of Sediment Accumulation	○	○	○	○	○	○	○	○	○	○	○	○	○	○	IDEM / USEPA	Yes	2 Yr. ENPPA	To be Negotiated	To be Negotiated
	25e. Municipal solid waste disposal will be reduced by 50 percent before January 1, 2001. Non-Municipal solid waste disposal will be reduced.	○	○	○	○	○	○	○	○	○	○	○	○	○	○	IDEM / USEPA	Yes	2 Yr. ENPPA	To be Negotiated	To be Negotiated
	25f. Solid waste disposal will be safely managed.	○	○	○	○	○	○	○	○	○	○	○	○	○	○	IDEM / USEPA	Yes	2 Yr. ENPPA	To be Negotiated	To be Negotiated
	25g. Protect Ground Water	○	○	○	○	○	○	○	○	○	○	○	○	○	○	IDEM / USEPA	Yes	2 Yr. ENPPA	To be Negotiated	To be Negotiated
	25h. Prevent and Clean Up Contaminated Sites	○	○	○	○	○	○	○	○	○	○	○	○	○	○	IDEM / USEPA	Yes	2 Yr. ENPPA	To be Negotiated	To be Negotiated
	25i. Increase Protection and Restoration of Critical Habitat by 100 percent by the Year 2007.	○	○	○	○	○	○	○	○	○	○	○	○	○	○	IDEM / IDNR / USFWS	Yes	2 Yr. ENPPA	To be Negotiated	To be Negotiated

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ACTIVITIES ADVANCING THE RESTORATION OF BENEFICIAL USES (CONT'D)

RAP II ACTIONS TO ATTAIN GOALS	BENEFICIAL USES THAT ARE IMPAIRED IN THE GRAND CALUMET AREA OF CONCERN														KEY IMPLEMENTATION ELEMENTS				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	OWNER or PRINCIPAL DRIVER (Person or Organization)	PLANS IN PLACE (Yes, No or TBD)	INDICATORS ESTABLISHED (Yes, No or TBD)	START DATE (Date or TBD)	END DATE (Date or TBD)
	Wildlife Consumption	Tainting of Fish & Wildlife	Degraded Fish & Wildlife Populations	Fish Tumors or Other Deformities	Bird or Animal Deformities or Reproductive Problems	Degradation of Benthos	Restrictions on Dredging Activities	Eutrophication or Undesirable Algae	Restrictions on Drinking Water Consumption or Taste & Odor Problems	Beach Closings	Degradation of Aesthetics	Added Costs to Agriculture or Industry	Degradation of Phytoplankton & Zooplankton Populations	Loss of Fish & Wildlife Habitat					
REVISED 9/24/98	ADMINISTRATIVE ORDERS, AGREED ORDERS & CONSENT DECREES THAT SUPPORT RAP GOALS																		
D																			
1. H & H Autofuel Containment Removal Project	○	○	●	□	●	□	□	□	□	□	●	□	□	●	Yes	No	TBD	TBD	TBD
2. Amoco Pipeline Company	●	●	●	●	●	●	●	●	●	□	●	□	●	●	Yes	TBD	TBD	TBD	TBD
3. U.S. Steel (water decree)	●	●	●	●	●	●	●	●	●	□	●	●	●	●	No	No	TBD	TBD	TBD
4. U.S. Steel (sediment)	●	●	●	●	●	●	●	●	●	□	●	●	●	●	No	No	TBD	TBD	TBD
5. Inland Steel Sediment Characterization Study in the IHSC	●	●	●	●	●	●	●	●	●	□	●	●	●	●	Yes	No	TBD	TBD	TBD
6. Removal Action by LTV Steel	●	●	●	●	●	●	●	●	●	○	●	●	●	●	Yes	No	Completed	1997	TBD
7. Gary Sanitary District (GSD)	●	●	●	●	●	●	●	●	●	□	●	●	●	●	No	No	TBD	TBD	TBD
8. Amoco Soil characterization Work Plan and Ground Water Evaluation	●	●	●	●	●	●	●	●	●	□	●	●	●	●	Yes	No	1995	TBD	TBD
9. Amoco Agreed Order	●	●	●	●	●	●	●	●	●	□	●	●	●	●	Yes	No	In Existence	TBD	TBD
10. Gary Lagoons Removal Site, 5622 and 5624-34 Industrial Highway	●	●	●	●	●	●	●	●	●	□	●	●	●	●	Yes	No	1996	TBD	TBD
11. United States Steel Corporation (U.S. Steel)	○	○	○	○	○	○	○	○	○	□	○	○	○	○	Yes	TBD	In Existence	TBD	TBD

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MATRIX ANALYSIS

<p style="text-align: center;">M o s t</p> <p style="text-align: center;">BENEFICIAL USES DIRECTLY IMPACTED</p> <p style="text-align: center;">F e w e s t</p>	<p style="text-align: center;">Beneficial Uses Most Supported by Activities</p>	<p style="text-align: center;">Activities With Special Consideration</p>
<p style="text-align: center;">Beneficial Uses Directly Impacted by Greatest Number of Activities</p>	<p style="text-align: center;">Activities Supporting the Restoration of Beneficial Uses</p>	
<p style="text-align: center;">Direct Impact</p>	<p style="text-align: center;">IMPACT LEVEL OF ACTIVITIES</p>	
<p style="text-align: center;">No Impact</p>		

ACTIVITIES & BENEFICIAL USES SORTED AND ARRANGED TO DETERMINE AREAS OF IMPACT LEVELS

Activity / Beneficial Use	KEY IMPLEMENTATION ELEMENTS															
	11	14	3	5	6	9	7	13	8	12	10	OWNER or PRINCIPAL DRIVER (Person or Organization)	PLANS IN PLACE (Yes, No or TBD)	INDICATORS ESTABLISHED (Yes, No or TBD)	START DATE (Date or TBD)	END DATE (Date or TBD)
6. Removal Action by LTV Steel	●	●	●	●	●	●	●	●	●	●	○	USEPA / LTV	Yes	Project Completed	1997	1997
15. Superfund	●	●	●	●	●	●	●	●	●	●	□	USEPA	Yes	Yes	In Existence	Continuing
3. U.S. Steel (water decree)	●	●	●	●	●	●	●	●	●	●	□	USEPA	Yes	TBD	1998	Continuing
5. Inland Steel Sediment Characterization Study in the IHSC	●	●	●	●	●	●	●	●	●	●	□	USEPA / INLAND	Yes	Yes	1997	Continuing
1. Natural Resource Damage Assessment	●	●	●	●	●	●	●	●	●	●	○	IDEM / IDNR / USFWS / NOAA / NPS	Yes	TBD	1996	Continuing
8. U.S. Army Corps of Engineers' Indiana Harbor and Canal Dredging Project	●	●	●	●	●	●	●	●	●	●	○	ACoE	Yes	TBD	1972	2030
25h. Prevent and Clean Up Contaminated Sites	●	●	●	●	●	●	●	●	●	●	●	IDEM / USEPA	Yes	2 Yr. EnPPA	To be Negotiated	To be Negotiated
4. U.S. Steel (sediment)	●	●	●	●	●	●	●	●	●	●	□	USEPA / USS	Yes	TBD	1998	2003
7. Gary Sanitary District (GSD)	●	●	●	●	●	●	●	●	●	●	□	USEPA / IDEM / GSD	No	No	TBD	TBD
8. Amoco Soil characterization Work Plan and Ground Water Evaluation	●	●	●	●	●	●	●	●	●	●	□	IDEM / AMOCO	Yes	Yes	1991	Continuing
9. Amoco Agreed Order	●	●	●	●	●	●	●	●	●	●	□	IDEM / AMOCO	Yes	Yes	In Existence	2020

Additional Actions Necessary to Delist

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Voluntary Action initiated Through the RAP

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ACTIVITIES & BENEFICIAL USES SORTED AND ARRANGED TO DETERMINE AREAS OF IMPACT LEVELS

Activity ID	Activity Description	Key Implementation Elements														Start Date (Date or TBD)	End Date (Date or TBD)		
		11	14	3	5	2	1	4	6	9	7	13	8	12	10			Plans in Place (Yes, No or TBD)	Indicators Established (Yes, No or TBD)
14.	Dredged Sediments Disposal	●	●	●	●	●	●	●	●	●	●	●	●	●	●	Yes	TBD	1997	Continuing
14.	State Clean Up	●	●	●	●	●	●	●	●	●	●	●	●	●	●	Yes	Yes	In Existence	Continuing
25i.	Increase Protection and Restoration of Critical Habitat by 100 percent by the Year 2007.	●	●	●	●	●	●	●	●	●	●	●	●	●	●	Some	Some	1996	Continuing
2.	Amoco Pipeline Company	●	●	●	●	●	●	●	●	●	●	●	●	●	●	Yes	Yes	1995	Continuing
10.	Gary Lagoons Removal Site; 5622 and 5624-34 Industrial Highway	●	●	●	●	●	●	●	●	●	●	●	●	●	●	Yes	Project Completed	1998	Continuing
15.	Memorandum of Cooperation (MOC)	●	●	●	●	●	●	●	●	●	●	●	●	●	●	Yes	TBD	1994	Continuing
9.	Indianapolis Boulevard Sewer Project	●	●	●	●	●	●	●	●	●	●	●	●	●	●	Yes	Project Completed	1995	Continuing
10.	Amoco Bank Cleaning and Stabilization Project	●	●	●	●	●	●	●	●	●	●	●	●	●	●	Yes	Project Completed	1995	Continuing
2.	Soil and Water Conservation District (SWCD) Programs	●	●	●	●	●	●	●	●	●	●	●	●	●	●	Yes	TBD	TBD	Continuing
7.	Control of Urban Runoff	●	○	●	●	●	●	●	●	●	●	●	●	●	●	Yes	TBD	TBD	Continuing
2b.	Roxanna Marsh in East Chicago	●	●	●	●	●	●	●	●	●	●	●	●	●	●	Yes	TBD	TBD	Continuing



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ACTIVITIES & BENEFICIAL USES SORTED AND ARRANGED TO DETERMINE AREAS OF IMPACT LEVELS

	KEY IMPLEMENTATION ELEMENTS											END DATE (Date or TBD)							
	11	14	3	5	2	1	4	6	9	7	13		8	12	10	OWNER or PRINCIPAL DRIVER (Person or Organization)	PLANS IN PLACE (Yes, No or TBD)	INDICATORS ESTABLISHED (Yes, No or TBD)	START DATE (Date or TBD)
18. Air Toxics Program	<input type="checkbox"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	IDEM	Yes	Yes	1994	Continuing
19. Mercury	<input type="checkbox"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	IDEM	Yes	Yes	1997	Continuing
A Protection of critical habitats	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	CARE Habitat Sub-Comm.	TBD	TBD	1996	Continuing
1. H & H Aupfufur Containment Removal Project	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	USEPA	No	No	TBD	TBD
4. The Southern Lake Michigan Conservation Initiative	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	The Nature conservancy	TBD	TBD	In Progress	TBD
4. Watershed Management Program	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	IDEM	Yes	TBD	1996	Continuing
2. Sediment Cleanup Restoration Alternatives Project (SCRAP)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	IDEM	Yes	TBD	1996	Sep-97
20. Dioxin	<input type="checkbox"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	USEPA / IDEM	Yes	Yes	1999	Continuing
10. Elimination of the Use of Slag as Fill Material	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	IDNR	Yes	TBD	TBD	TBD
C Wetland Protection / Restoration	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	IDEM	Yes	TBD	1996	Continuing
D Instream Habitat Restoration	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	Several	Some	TBD	1996	Continuing
B Riparian Restoration	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	Several	Some	TBD	1996	Continuing
2c. The east shore of Wolf Lake in Hammond	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	Lake Co SWCD	Yes	TBD	In Progress	Continuing

Degradation of
 Loss of Fish & Wildlife Habitat
 Degraded Fish & Wildlife Habitat
 Bird or Animal Derivatives
 Tainting of Fish & Wildlife Populations
 Restrictions on Fish & Wildlife Flavor
 Fish Tumors or Other Derivatives
 Consumption
 Restrictions on Drinking Water
 Degradation of Taste & Odor Problems
 Restrictions on Dredging Activities
 Zooplankton Populations &
 Eutrophication or Undesirable Algae
 Added Costs to Agriculture or Industry
 Beach Closings

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ACTIVITIES & BENEFICIAL USES SORTED AND ARRANGED TO DETERMINE AREAS OF IMPACT LEVELS

	KEY IMPLEMENTATION ELEMENTS											END DATE (Date or TBD)							
	11	14	3	5	2	1	4	6	9	7	13		8	12	10	OWNER or PRINCIPAL DRIVER (Person or Organization)	PLANS IN PLACE (Yes, No or TBD)	INDICATORS ESTABLISHED (Yes, No or TBD)	START DATE (Date or TBD)
E	Invasive Plant Control	●	○	□	□	□	□	□	□	□	○	●	□	□	Several	Some	TBD	1996	Continuing
5.	The Ivanhoe Nature Preserve Restoration	●	●	●	○	□	□	□	□	□	□	□	□	□	The Nature Conservancy	Yes	TBD	In Progress	TBD
6.	The Clarke & Pine Nature Preserve, Eastern Addition Restoration	●	●	●	○	□	□	□	□	□	□	□	□	□	IDEM / IDNR / USFWS	Yes	TBD	In Progress	TBD
7.	The Lost Marsh Restoration	●	●	●	○	□	□	□	□	□	□	□	□	□	AMOCO	Yes	TBD	In Progress	TBD
3.	The Native Revegetation of Steel Slag Project	●	●	●	□	□	□	□	□	□	□	□	□	□	Inland & Hammond San. Dist.	Yes	TBD	1996	Continuing
13.	Solid Waste (Illegal Dumps)	●	●	●	□	□	□	□	□	□	□	□	□	□	IDEM / Legal	Yes	Yes	In Existence	Continuing
2a.	The south bank of the Grand Calumet River in Gary, Ambridge/Marm area	●	○	○	○	○	○	○	○	○	○	○	○	○	Lake Co SWCD	Yes	TBD	TBD	Continuing
5.	Water Quality Certification (401) & (404)	●	○	○	○	○	○	○	○	○	○	○	○	○	ACoE / USEPA / IDEM	Yes	TBD	TBD	Continuing
1.	Corridor Planning	●	○	○	□	○	○	○	○	○	○	○	○	○	Grand Cal Task Force	Yes	TBD	1997	Continuing
8.	Interagency Technical Task Force on E. coli	●	□	□	□	□	□	□	□	□	□	□	□	□	IDEM / IDNR	Yes	TBD	1997	TBD
25d.	Prevention of Sediment Accumulation	○	○	○	○	○	○	○	○	○	○	○	○	○	IDEM / USEPA	Yes	2 Yr. ENPPA	To be Negotiated	To be Negotiated

Degradation of
 Loss of Fish & Wildlife Habitat
 Aesthetics
 Degraded Fish & Wildlife Habitat
 Bird or Animal Disturbance
 Problems of Reproductive
 Tainting of Fish & Wildlife Populations
 Restrictions on Fish & Wildlife Flavor
 Consumption
 Fish Tumors or Other Definitives
 Degradation of Benthos
 Restrictions on Drinking Water
 Consumption or Taste & Odor Problems
 Degradation of Dredging Activities
 Zooplankton Populations
 Eutrophication or Undesirable Algae
 Added Costs to Agriculture or Industry
 Beach Closings

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	KEY IMPLEMENTATION ELEMENTS											INDICATORS ESTABLISHED (Yes, No or TBD)	START DATE (Date or TBD)	END DATE (Date or TBD)				
	11	14	3	5	2	1	4	6	9	7	13				8	12	10	OWNER or PRINCIPAL DRIVER (Person or Organization)
23. Ozone	○	□	□	□	□	□	□	□	□	□	□	□	●	□	IDEM / USEPA	Yes	1997	2010
11. United States Steel Corporation (U.S. Steel)	○	●	○	○	○	○	○	○	○	○	○	○	○	□	IDEM / USS	Yes	In Existence	Continuing
11. U.S. EPA Advanced Identification of Sites (ADID) Program	○	●	○	○	○	○	○	○	○	○	○	○	○	□	USEPA	Yes	1985	TBD
1. The Cooperative Partnership Effort	○	○	○	○	○	○	○	○	○	○	○	○	○	○	Steering Committee	Yes	1996	Continuing
4. The RAP GIS System	○	○	○	○	○	○	○	○	○	○	○	○	○	○	IDEM	Yes	1995	Continuing
2. Public Outreach and Education	○	○	○	○	○	○	○	○	○	○	○	○	○	○	All reps	Some	1997	Continuing
3. Citizen Advisory Groups	○	○	○	○	○	○	○	○	○	○	○	○	○	○	CAC's	Yes	1980's	Continuing
21. Accidental Releases	○	○	○	○	○	○	○	○	○	○	○	○	○	○	IDEM / USEPA / SERC	Yes	1998	Continuing
25a. Prevention / Reduction of Pollutants Entering the System	○	○	○	○	○	○	○	○	○	○	○	○	○	○	IDEM / USEPA	Yes	To be Negotiated	To be Negotiated
25c. Meet Surface Water Quality Standards	○	○	○	○	○	○	○	○	○	○	○	○	○	○	IDEM / USEPA	Yes	To be Negotiated	To be Negotiated
25g. Protect Ground Water	○	○	○	○	○	○	○	○	○	○	○	○	○	○	IDEM / USEPA	Yes	To be Negotiated	To be Negotiated

- Beach Closings
- Added Costs to Agriculture or Industry
- Eutrophication or Undesirable Algae
- Zooplankton Populations
- Degradation of Phytoplankton & Zooplankton Populations
- Degradation of Dredging Activities
- Restrictions on Drinking Water
- Restrictions on Taste & Odor Problems
- Consumption of Benthos
- Degradation of Benthos
- Degradation of Other Detritus
- Fish Tumors or Other Deformities
- Restrictions on Fish & Wildlife Consumption
- Restrictions on Fish & Wildlife Flavor
- Tainting of Fish & Wildlife Populations
- Problems or Reproductive
- Degraded Fish & Wildlife Populations
- Loss of Fish & Wildlife Habitat
- Aesthetics

Voluntary Action Initiated Through the RAP

Voluntary Action Supporting RAP Goals

Federal, State & Local Actions Supporting the RAP

The Environmental Performance Partnership Agreement

Administrative & Agreed Orders, Consent Decrees Supporting RAP

Additional Actions Necessary to Delist

● = Directly Related; ○ = Supportive; □ = Not Related

ACTIVITIES & BENEFICIAL USES SORTED AND ARRANGED TO DETERMINE AREAS OF IMPACT LEVELS

	KEY IMPLEMENTATION ELEMENTS																		
	11	14	3	5	2	1	4	6	9	7	13	8	12	10	OWNER or PRINCIPAL DRIVER (Person or Organization)	PLANS IN PLACE (Yes, No or TBD)	INDICATORS ESTABLISHED (Yes, No or TBD)	START DATE (Date or TBD)	END DATE (Date or TBD)
12	Great Lakes Watershed Initiative	○	○	○	○	○	○	○	○	○	○	○	○	○	IDEM	Yes	TBD	1994	1998
9	Ralston Street Lagoon	○	○	○	○	○	○	○	○	○	○	○	○	○	GSD	Yes	TBD	TBD	TBD
12	Hazardous Waste - Facilities regulated under the Resource Conservation and Recovery Act	○	○	○	○	○	○	○	○	○	○	○	○	○	IDEM	Yes	TBD	1990	TBD
17	Transportation Programs (Non-point source run-off)	○	○	○	○	○	○	○	○	○	○	○	○	○	NIRPC /INDOT	Yes	Yes	In Existence	Continuing
6	Storm Water Control Program, Including Best Management Practices	○	○	○	○	○	○	○	○	○	○	○	○	○	IDEM	Yes	TBD	TBD	Continuing
16	Waste Minimization	○	○	○	○	○	○	○	○	○	○	○	○	○	USEPA /IDEM	Yes	Yes	1984	Continuing
11	Coordinated Resource Management Process	○	○	○	○	○	○	○	○	○	○	○	○	○	IDEM	Yes	TBD	TBD	TBD
13	Sediment Transport Model	○	○	○	○	○	○	○	○	○	○	○	○	○	Army Corps of Engineers	Yes	TBD	1996	Continuing
21	Atmospheric Deposition	○	○	○	○	○	○	○	○	○	○	○	○	○	USGS /IDEM	Yes	Being Developed	1992	Continuing
3	Coastal Coordination Project	○	○	○	○	○	○	○	○	○	○	○	○	○	IDNR	Yes	TBD	In Progress	Continuing
16	Lake Michigan Air directors Consortium	○	○	○	○	○	○	○	○	○	○	○	○	○	LADCO	Yes	TBD	1990	Continuing

Degradation of Aesthetics
 Loss of Fish & Wildlife Habitat
 Degraded Fish & Wildlife Populations
 Bld or Animal Disturbances of Reproductive
 Tainting of Fish & Wildlife
 Restrictions on Fish & Wildlife Flavor
 Fish Tumors or Other Deformities
 Degradation of Benthos
 Restrictions on Drinking Water
 Consumption or Taste & Odor Problems
 Restrictions on Dredging Activities
 Degradation of Phytoplankton & Zooplankton Populations
 Eutrophication or Undesirable Algae
 Added Cost to Agriculture or Industry
 Beach Cleanings

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ACTIVITIES & BENEFICIAL USES SORTED AND ARRANGED TO DETERMINE AREAS OF IMPACT LEVELS

Activity / Beneficial Use	KEY IMPLEMENTATION ELEMENTS											END DATE (Date or TBD)							
	11	14	3	5	2	1	4	6	9	7	13		8	12	10	OWNER or PRINCIPAL DRIVER (Person or Organization)	PLANS IN PLACE (Yes, No or TBD)	INDICATORS ESTABLISHED (Yes, No or TBD)	START DATE (Date or TBD)
18. Clean Cities Program	○	□	□	□	□	□	□	□	□	□	□	□	○	□	USDOE	Yes	TBD	TBD	TBD
19. Ozone Action Days	○	□	□	□	□	□	□	□	□	□	□	□	○	□	IDEM / NIRPC	Yes	TBD	1995	Continuing
20. Ozone Transport Assessment Group (OTAG)	○	□	□	□	□	□	□	□	□	□	□	□	○	□	OTC	Yes	Project Completed	1997	1997
22. Particulate Matter (PM10 & PM2.5)	○	□	□	□	□	□	□	□	□	□	□	□	○	□	IDEM / USEPA	Yes	Yes	1995	Continuing
24. Reformulated Gasoline	○	□	□	□	□	□	□	□	□	□	□	□	○	□	USEPA	Yes	Yes	1995	Continuing
25b. Achievement of Air Quality Standards	○	□	⊙	□	⊙	⊙	⊙	□	□	□	□	□	○	□	IDEM / USEPA	Yes	2 Yr. ENPPA	To be Negotiated	To be Negotiated
25f. Solid waste disposal will be safely managed.	○	□	□	□	□	□	□	□	□	□	□	□	○	□	IDEM / USEPA	Yes	2 Yr. ENPPA	To be Negotiated	To be Negotiated
25e. Municipal solid waste disposal will be reduced by 50 percent before January 1, 2001. Non-Municipal solid waste disposal will be reduced.	○	□	□	□	□	□	□	□	□	□	□	□	○	□	IDEM / USEPA	Yes	2 Yr. ENPPA	To be Negotiated	To be Negotiated



Voluntary Action initiated Through the RAP

Voluntary Action Supporting RAP Goals

Federal, State & Local Actions Supporting the RAP

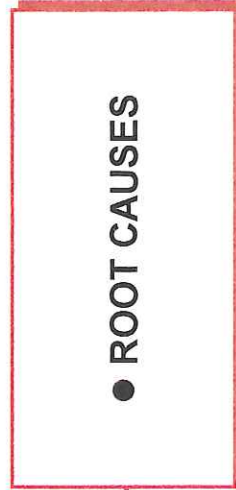
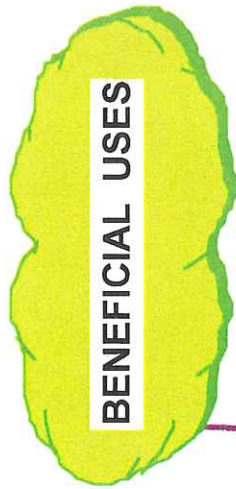
The Environmental Performance Partnership Agreement

Administrative & Agreed Orders, Consent Decrees Supporting RAP

Additional Actions Necessary to Deelist

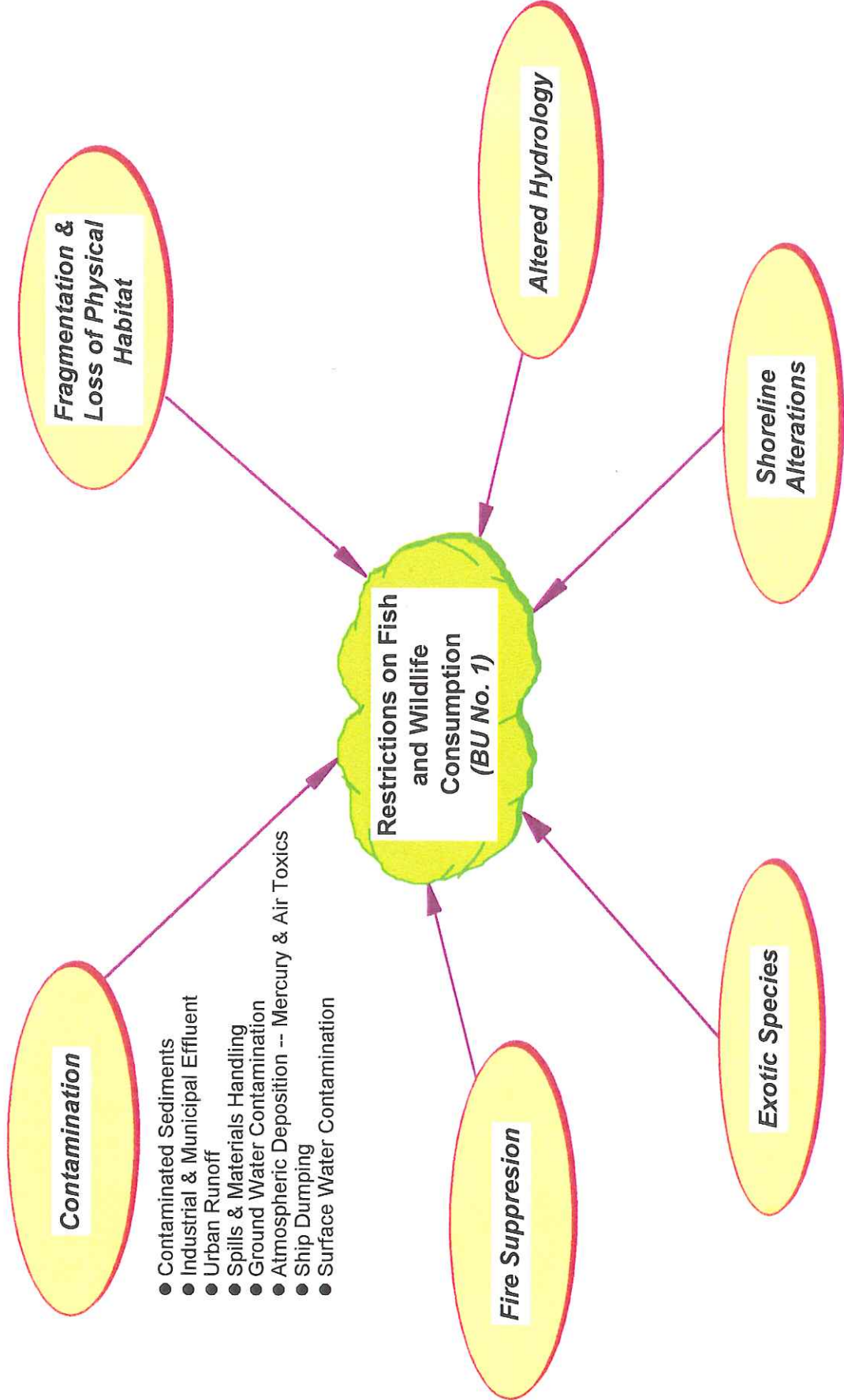
● = Directly Related; ○ = Supportive; □ = Not Related

EVOLVING INTO AN ECO-SYSTEM APPROACH



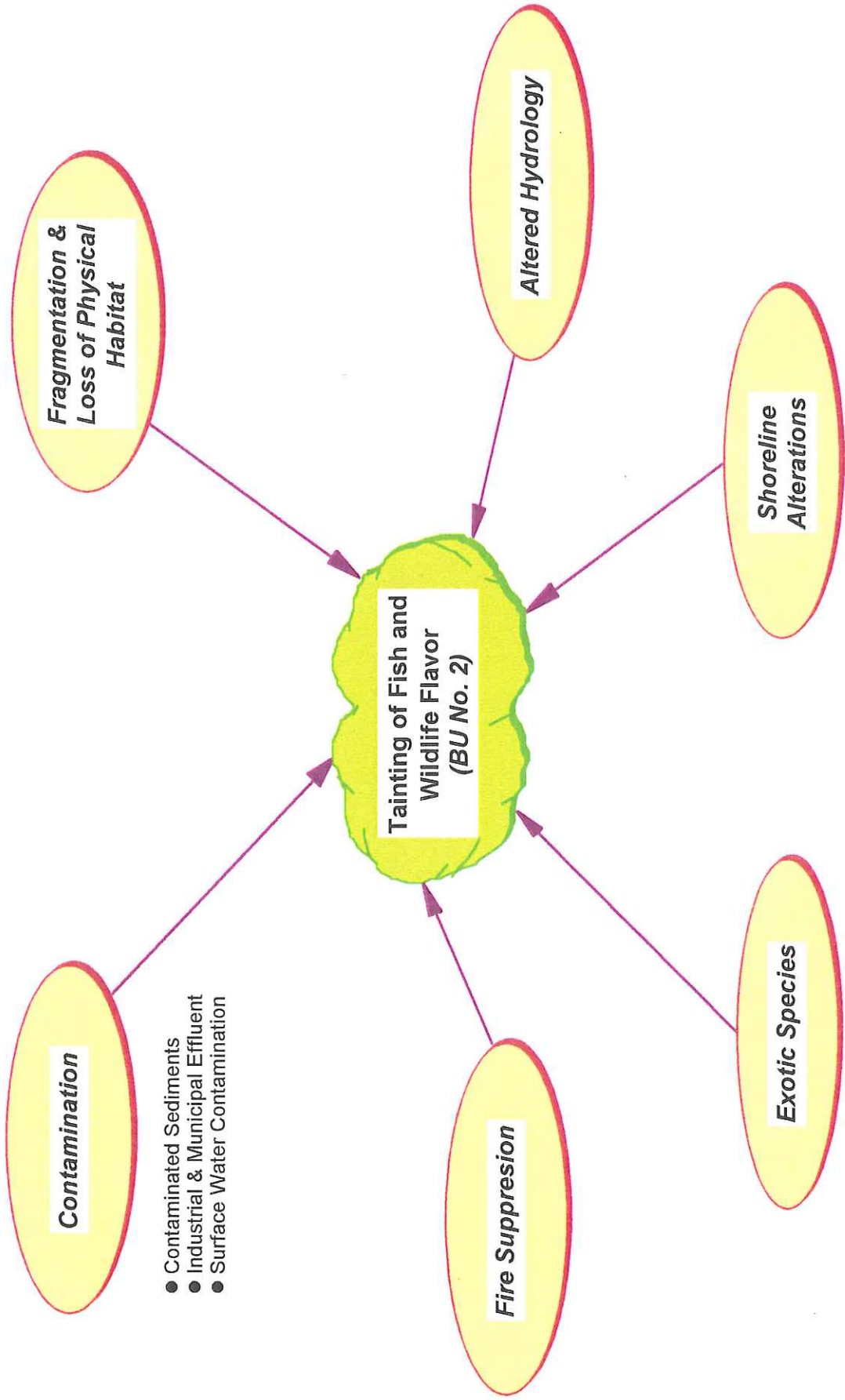
- LINK ALL BENEFICIAL USES
- IDENTIFY MAJOR STRESSORS "WEBS"
- IDENTIFY ROOT CAUSES
- SEEK SOLUTIONS (Flow Chart)
- COORDINATE ACTIVITIES "ACTIVITY MATRIX"

THE STRESSORS & THEIR SOURCES (ROOT CAUSES) WHICH IMPAIR THIS BENEFICIAL USE



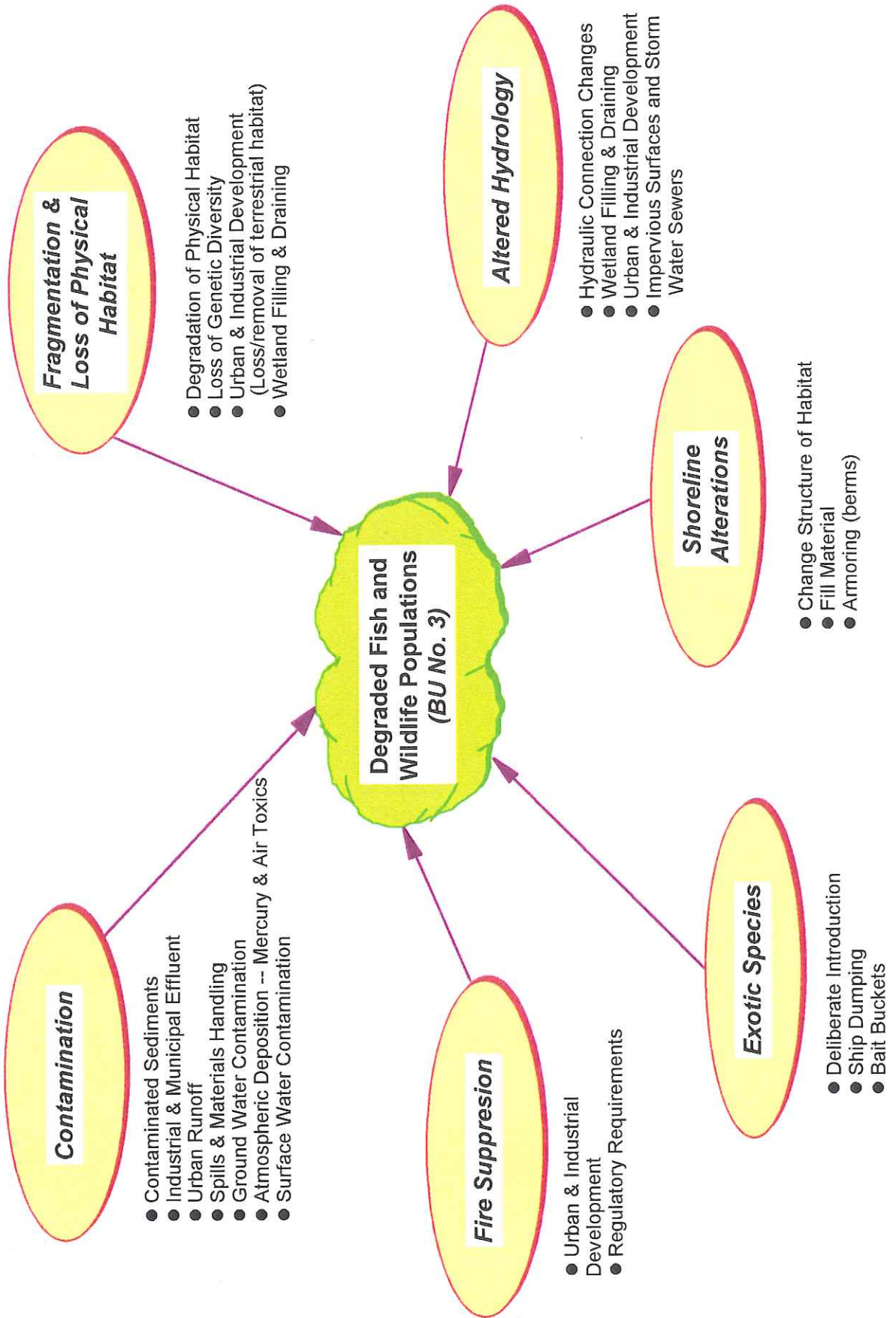
NOTE: Mercury and PCB's are the primary pollutants of concern

THE STRESSORS & THEIR SOURCES (ROOT CAUSES) WHICH IMPAIR THIS BENEFICIAL USE

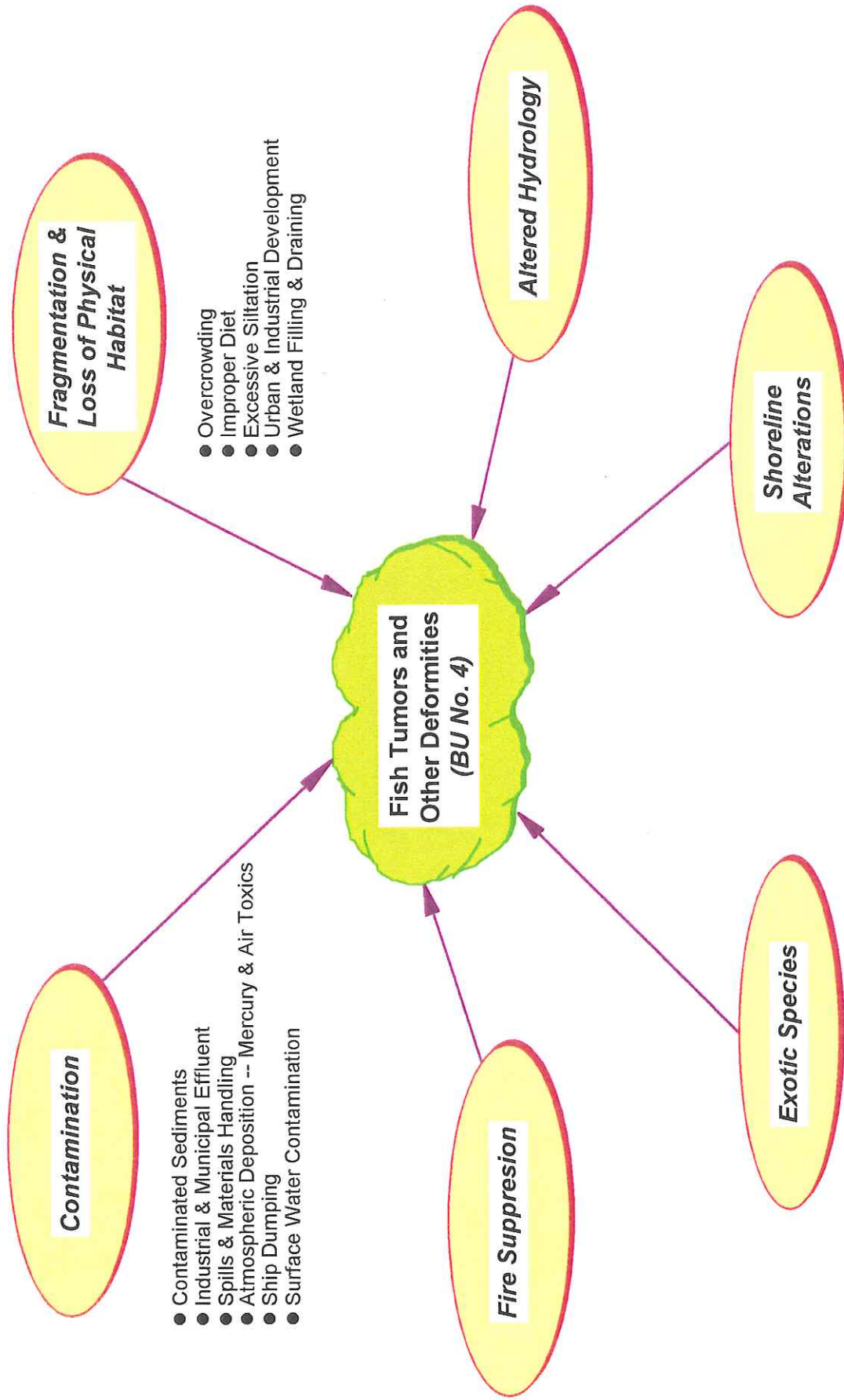


NOTE: Phenols and low dissolved oxygen levels are of concern

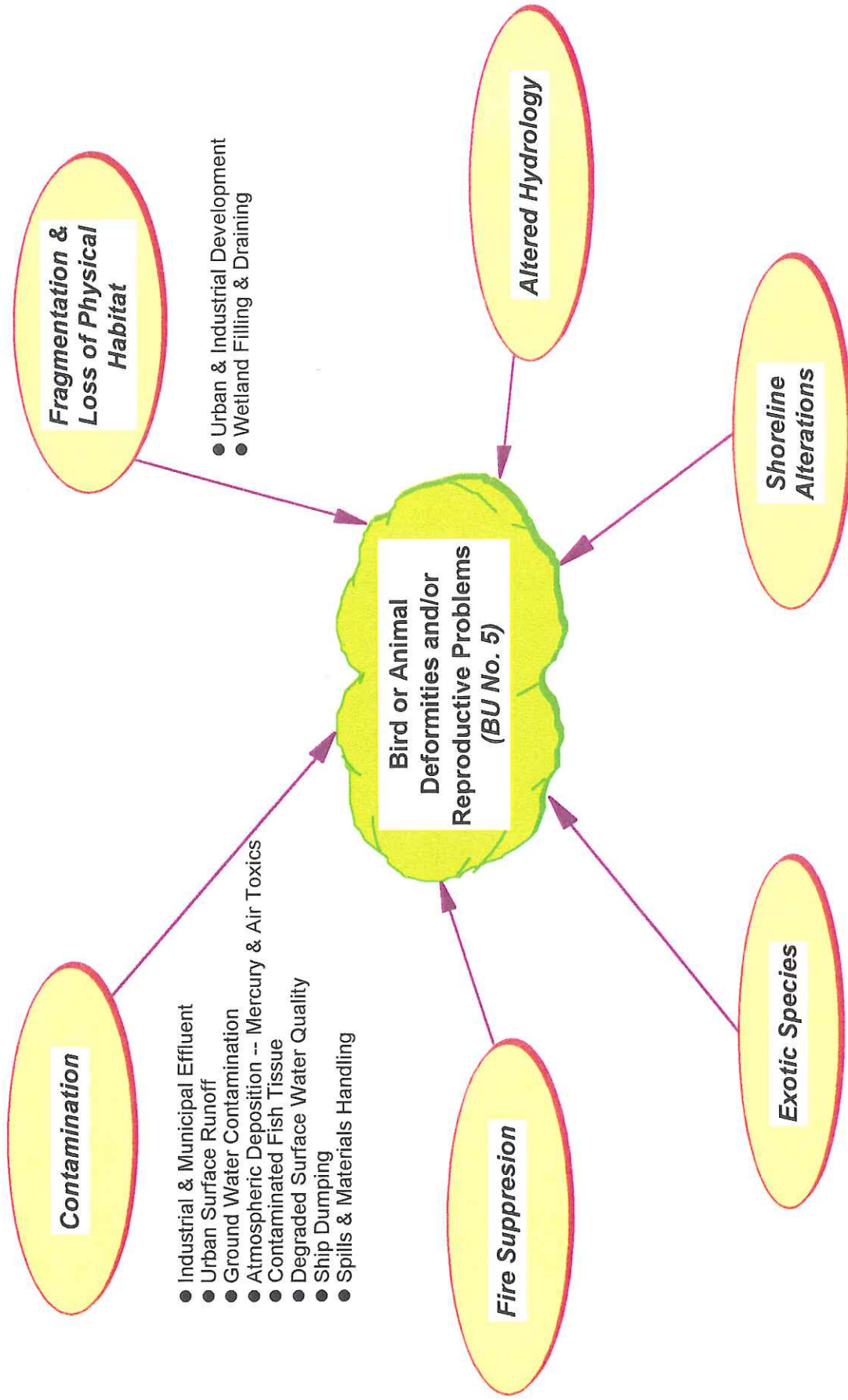
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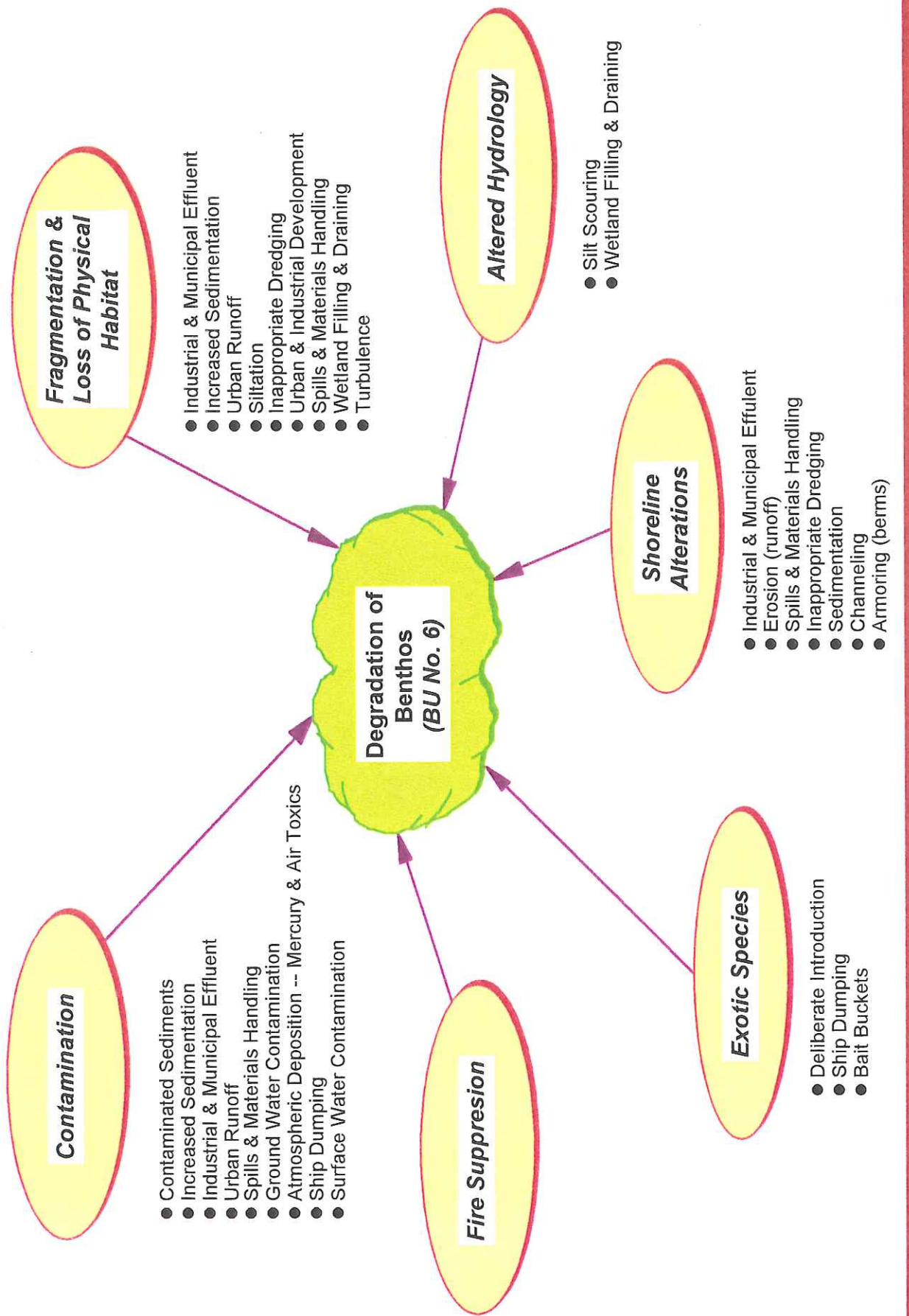
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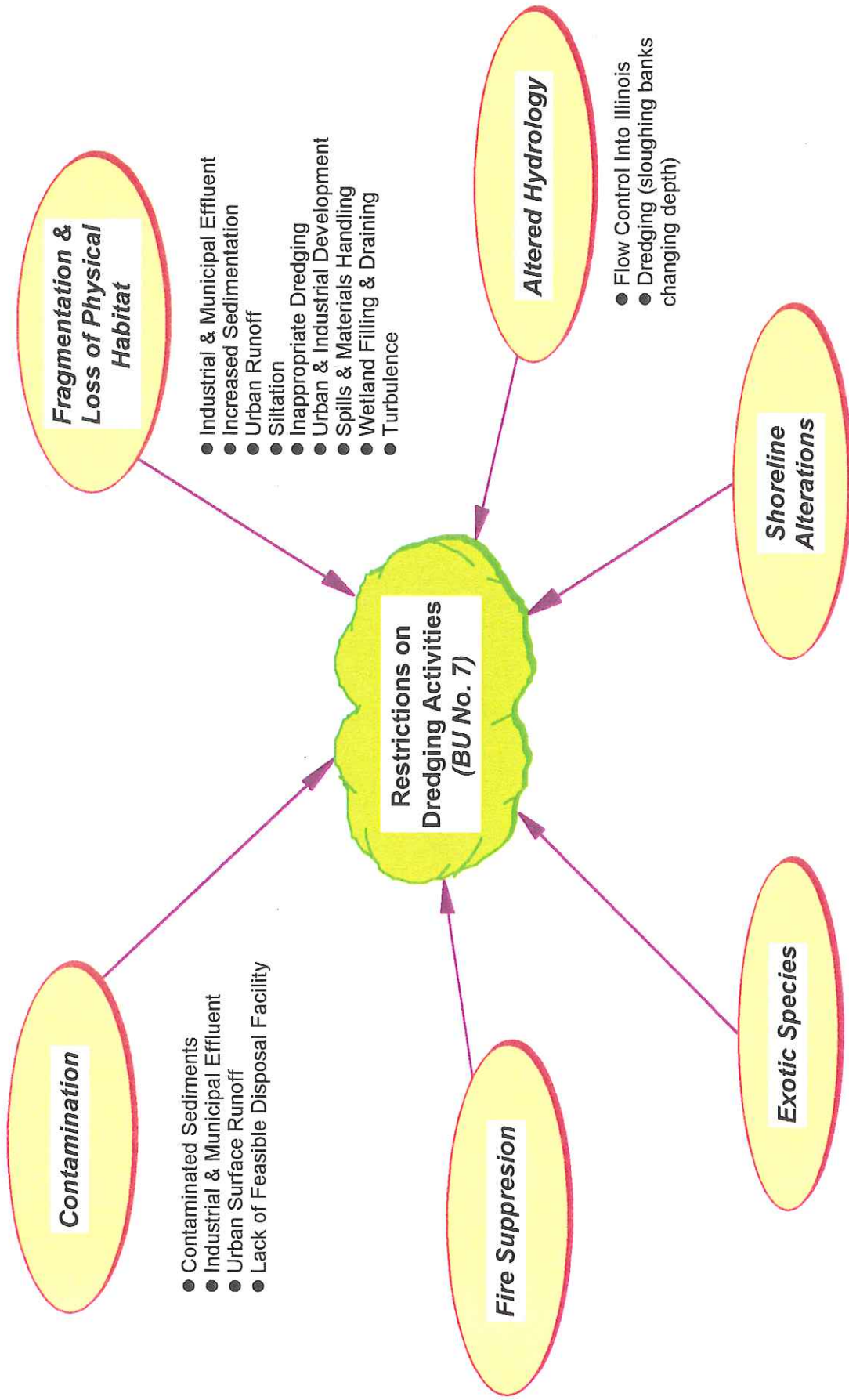
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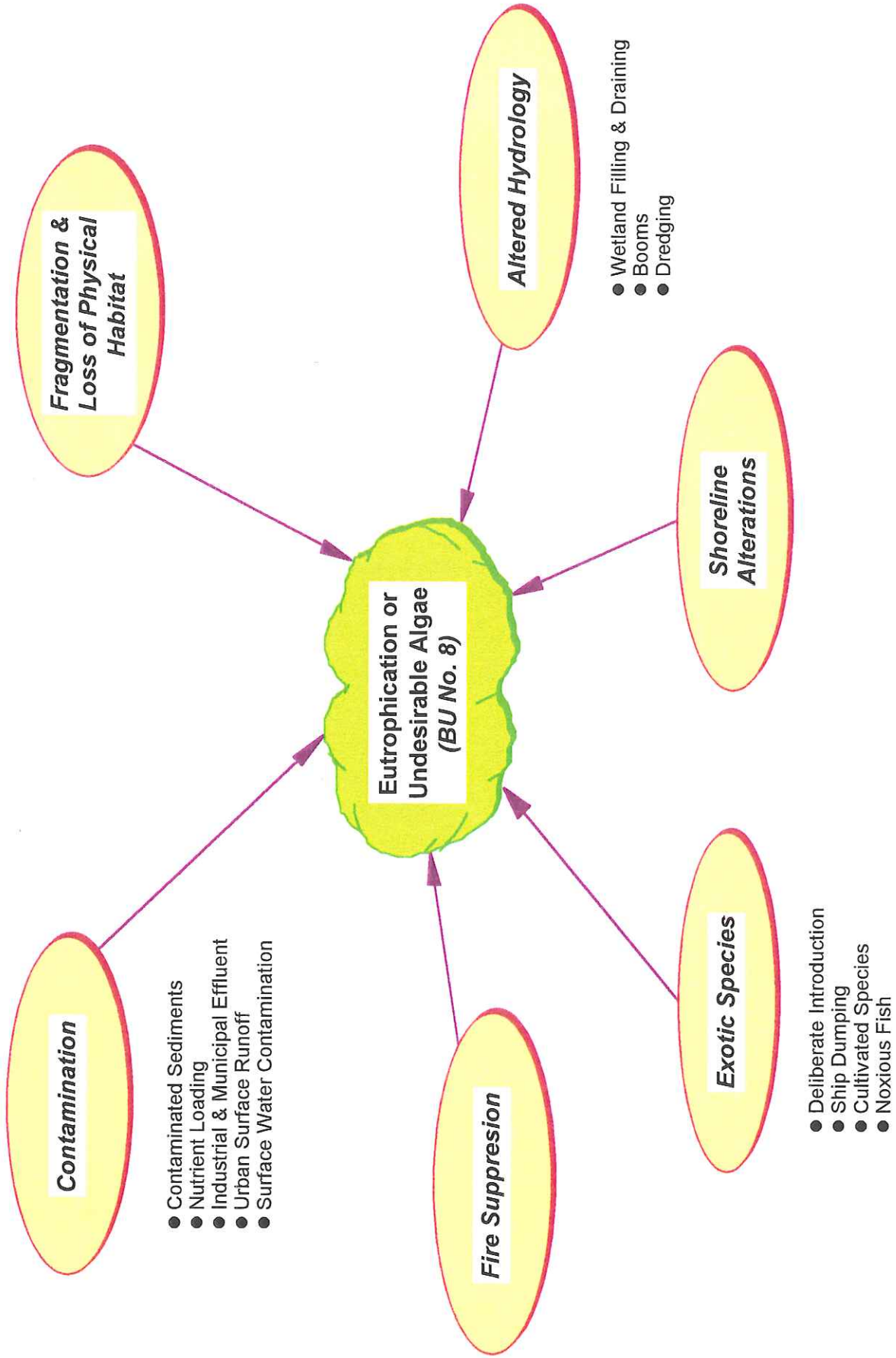
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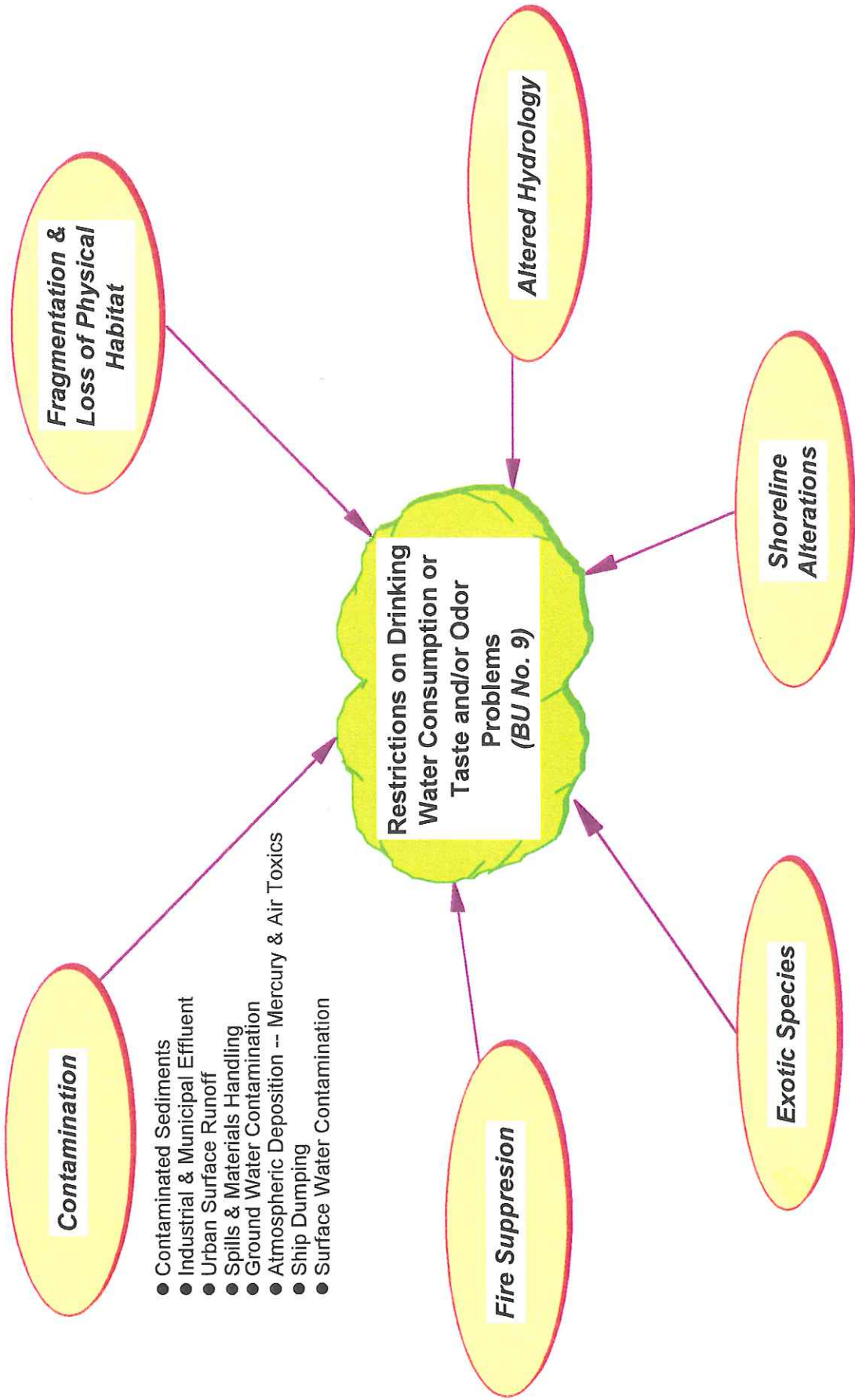
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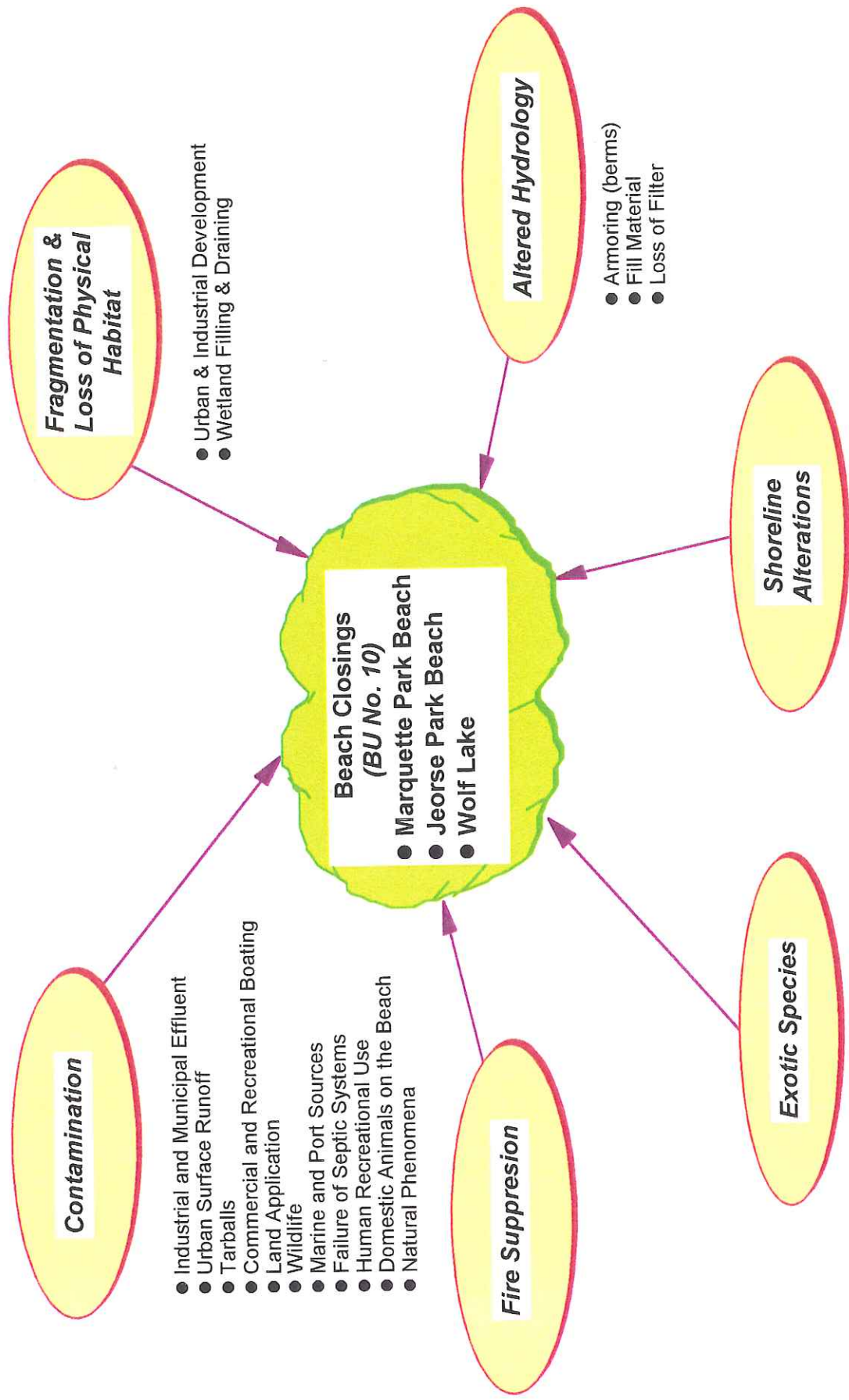
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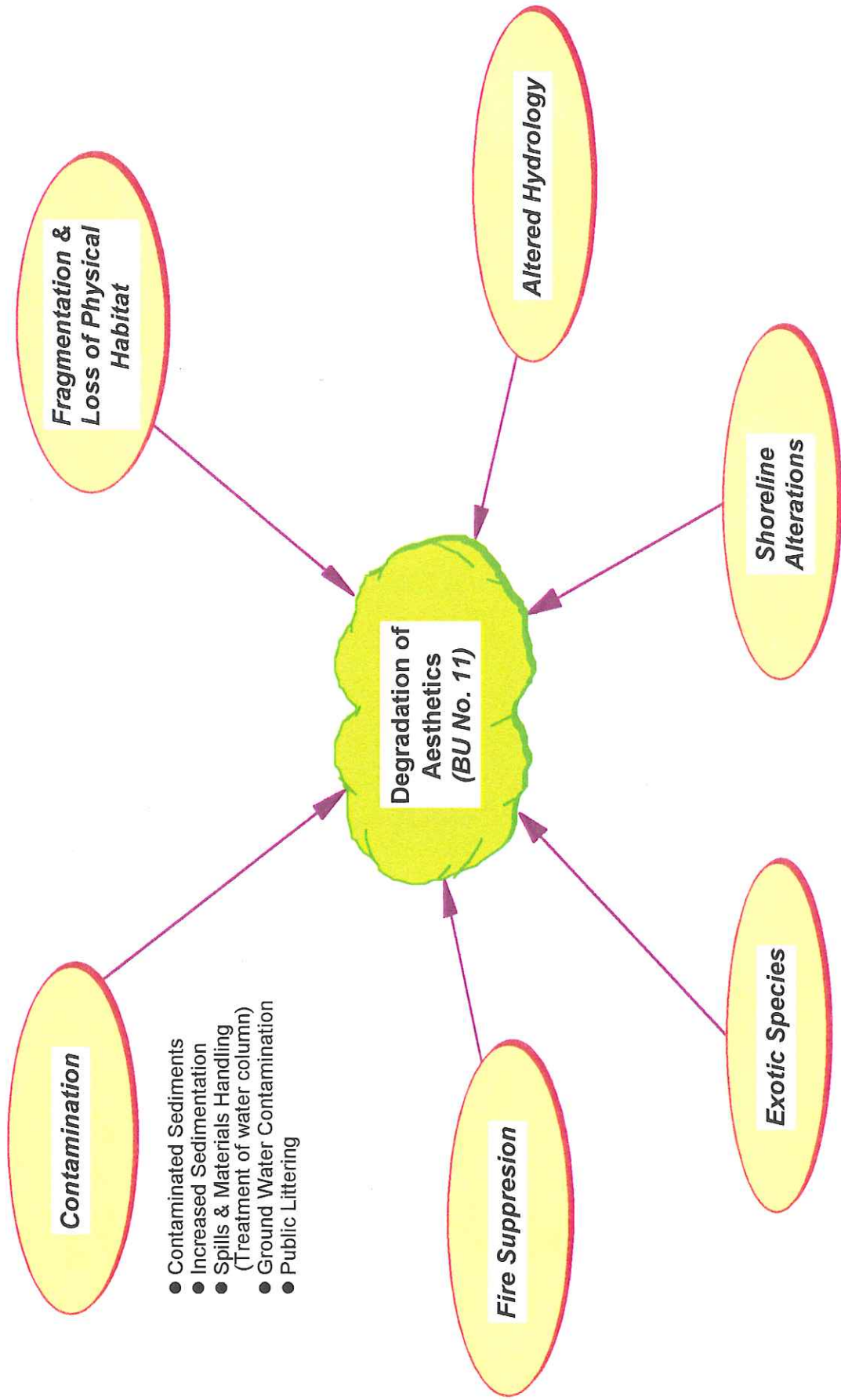
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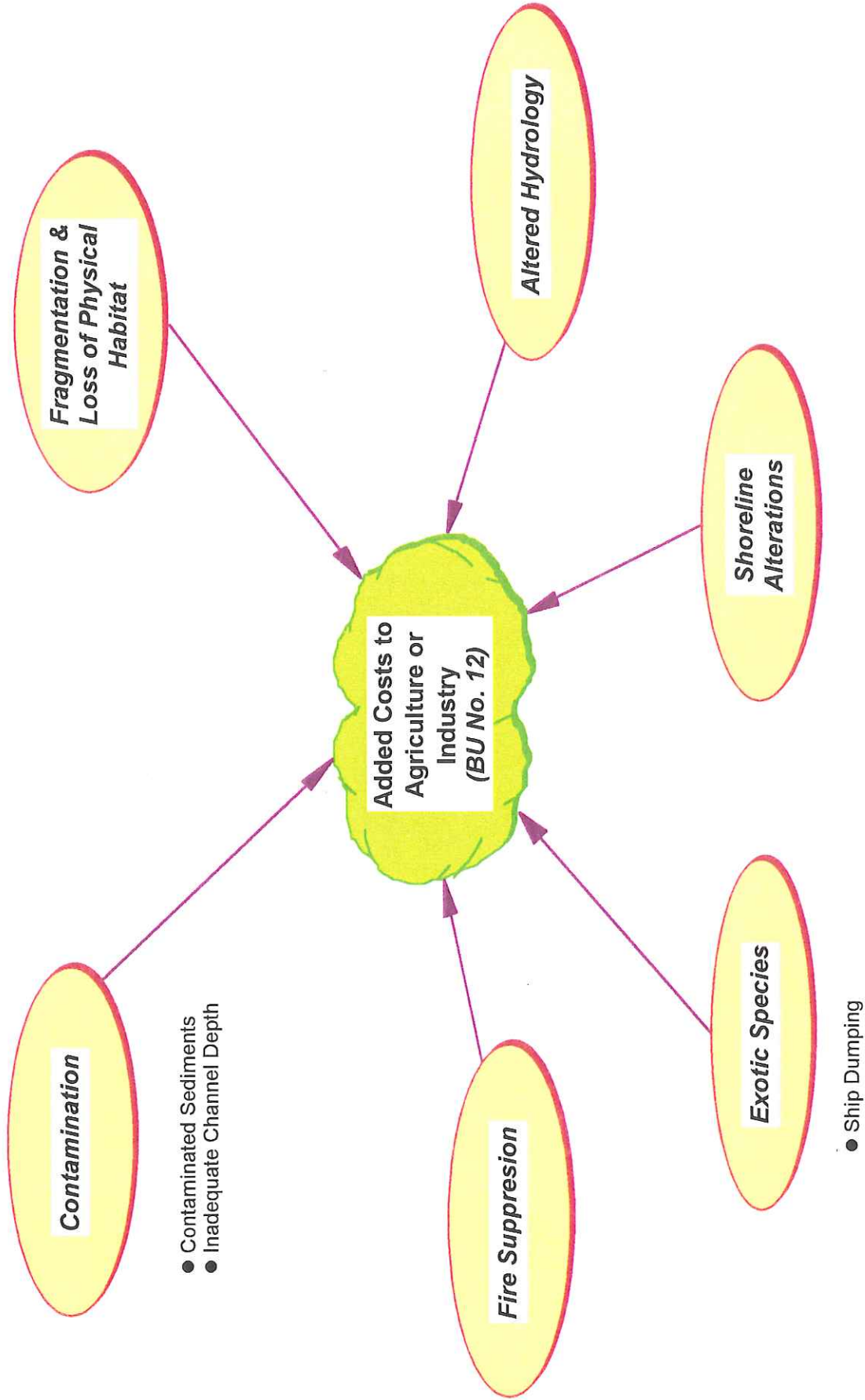
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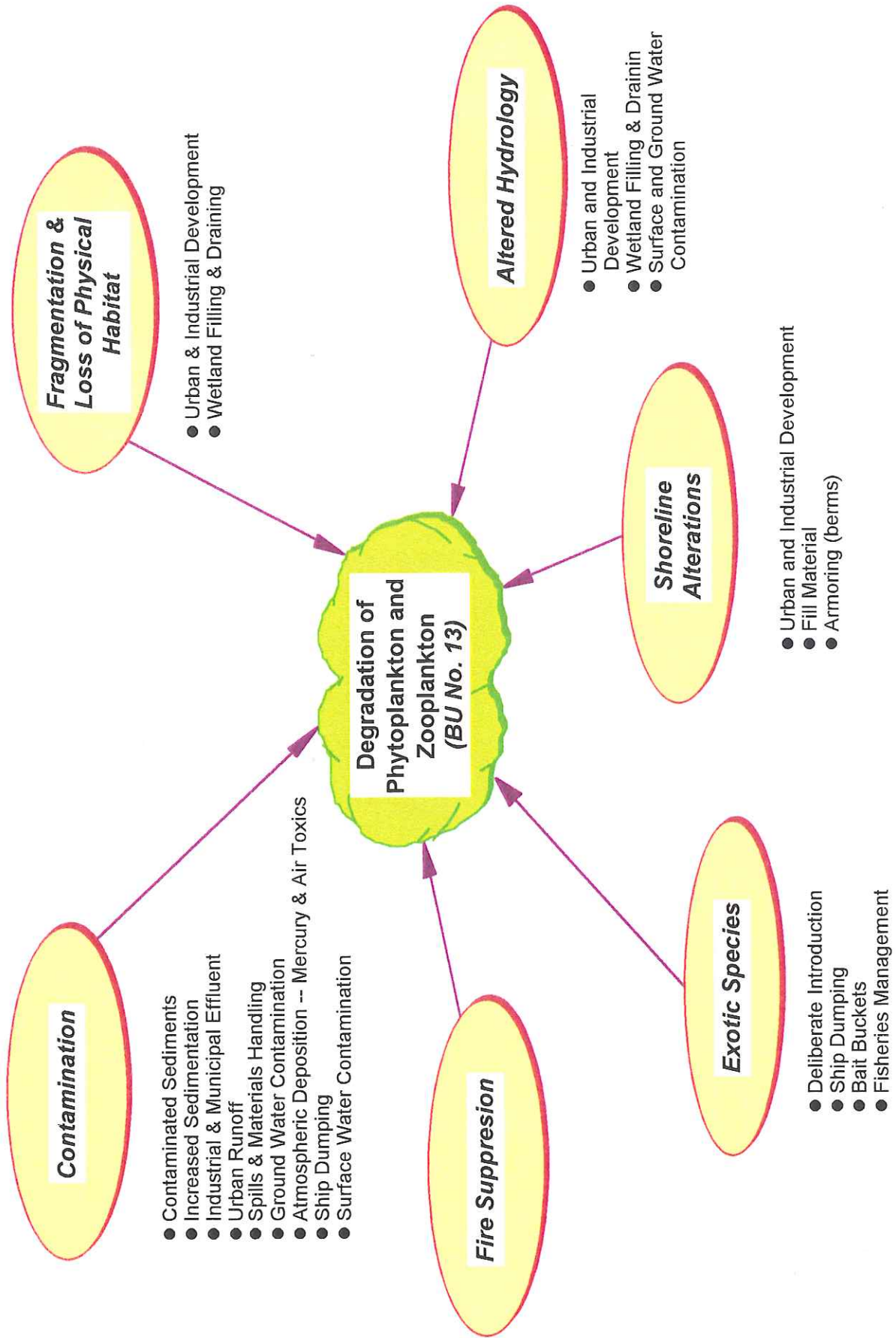
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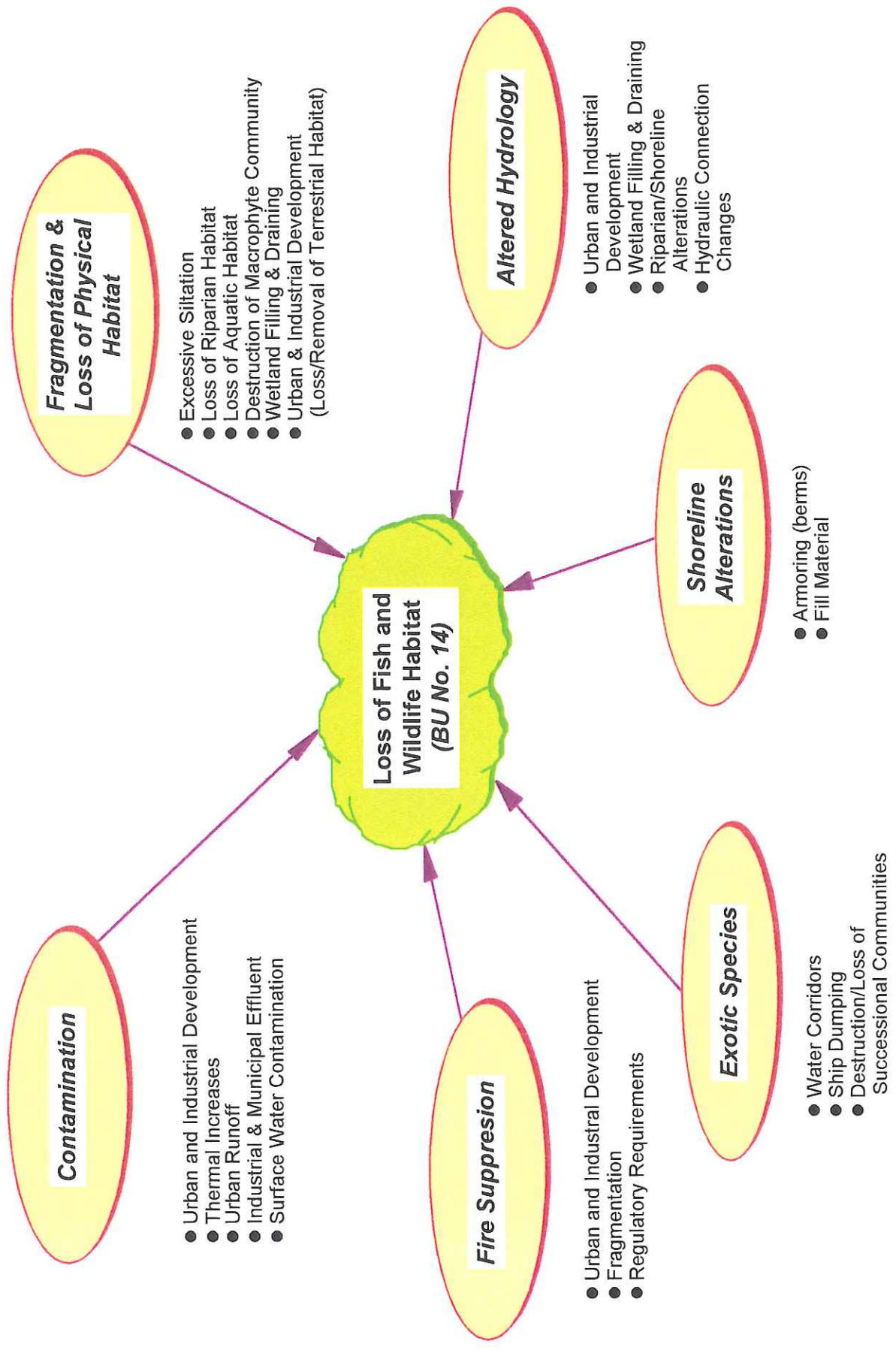
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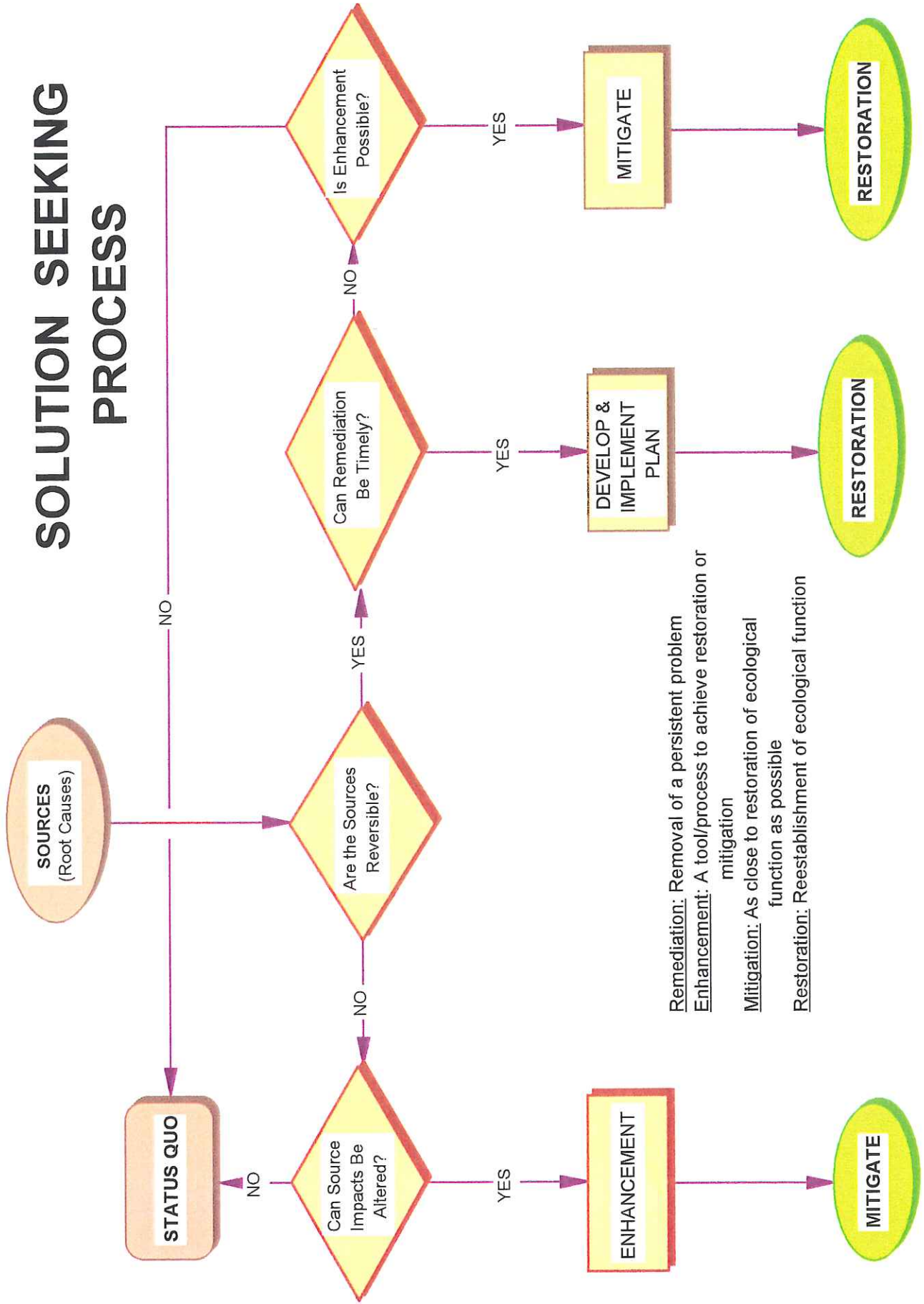
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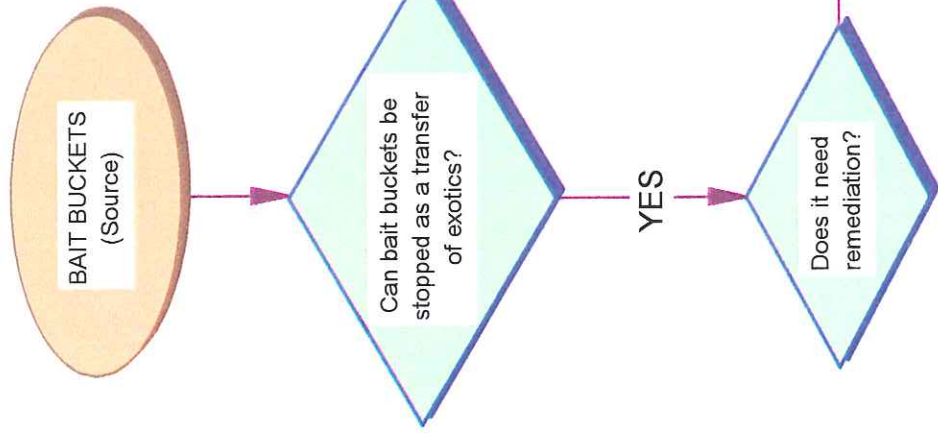
THE STRESSORS & THEIR SOURCES (ROOT CAUSES) WHICH IMPAIR THIS BENEFICIAL USE



SOLUTION SEEKING PROCESS



BAIT BUCKET EXAMPLE



Takes one of the sources of **exotic species**, as it relates to the **impairment of benthos**, & runs it through the **flowchart** to determine what actions can be taken to eliminate or modify it as a source. (Only the relevant portions of the flowchart are shown.)

Enhancement: e.g.
education, enforcement

Mitigation:
management of
existing species

Restoration:
Prevents
introduction of new
exotics

Stressor: FIRE SUPPRESSION

Causes/Sources:

Fragmentation

Extent of Impact: Changes intensity and fire pattern.
Needed Activities: Enhancement: Need solid burn plans based on ecological goals for each site coordinated between sites. Burn plan includes corridor planning. Use best fire frequency and pattern.

Regulatory requirement

Extent of Impact: Need to apply for a variance to burn.
Needed Activities: Enhancement: make process easier; instead of yearly, perhaps every five years.

Urban & Industrial Development

Extent of Impact: Can't be reversed —>status quo.
Needed Activities: Smoke management problem.
Better public relations.

Stressor: CONTAMINATION

Causes/Sources:

Contaminated sediment

Extent of Impact: Reversible.
Remediation: Relates to other Stressor (Loss of Physical Habitat/Altered Hydrology). Just restoring sediment may not be sufficient, hence relationship to other stressors and enhancement efforts.
Needed Activities: Either remove or isolate. If end-goal is solely sediment then done.

Urban & Industrial Development (historical)

Extent of Impact: Reversible, except for the slag.
Needed Activities: Removal, clean-up, brownfield efforts (U.S. Lead is an example);
Enhancement for nonreversible —> revegetation; slurry wall.

Urban & Industrial Development (future)

Extent of Impact: Preventable.
Needed Activities: Remediation: proper regulatory practices.
Enhancement: pollution prevention & best management practices.

Thermal Increases

Extent of Impact: Can prevent fluctuations.
Needed Activities: Proper regulatory practices.
Enhancement: pollution prevention & best management practices.

Industrial & Municipal Effluent

Extent of Impact: Reversible.
Needed Activities: Remediation: Great Lakes Initiative Regulations; meet permit limits.
Enhancement --examples: additional treatment; de-ionized water; diffusion filters.

Urban Runoff

Extent of Impact: Preventable.
Needed Activities: Best Management Practices; carbon filters on parking lot drains; riparian zones; sand filters.
Enhancement: creating wetlands -> considered a treatment.

Ground Water

Extent of Impact: Reversible and preventable.
Needed Activities: Remediation: containment or removal. Physical & treatment barrier...especially relative to fish and wildlife habitat.
Restoration: Prevent by stop dumping.

Surface Water

Extent of Impact: Preventable.
Needed Activities: Regulation (NPDES; Storm water Runoff; GLI).
Enhancement: Operations & management.

Stressor: FRAGMENTATION AND LOSS OF PHYSICAL HABITAT

Causes/Sources:

Excessive siltation

Extent of Impact: Preventable and Reversible.
Needed Activities: Discussion about the effect of its existence (contaminated or not) in the river or wetland.
Critique the use of slag without proper washing. (Ex. Roadbed material).
The river dredging will help determine what kind of problems exist.

Need Remediation: Yes: Bank stabilization; removal of sand bars.

Loss of Riparian Habitat

- Extent of Impact: Preventable.
Habitat is restricted to a very narrow zone next to the river.
Sediment remediation will have a major impact. The river corridor should be wide with trees.
- Needed Activities: Regulation.
Planting trees.
Development of a Zone of vegetation.
Exotic removal.
- Suggested Narrative: To determine how to remedy loss of riparian habitat, it is important to read a description of what the river was once like. We must realize that the river can never revert to its former status, however its potential to reconnect specific sites should be developed.

Loss of Aquatic Habitat

- Extent of Impact: Major.
Not exactly reversible.
- Needed Activities: Creation of new wetlands.
Restoration of some areas.
Mitigation (somewhere else).
Creation of river habitat.

Stressor: EXOTIC SPECIES

Causes/Sources:

Destruction of Macrophyte Community (Big plants)

- Extent of Impact: Reversible to a point.
- Needed Activities: Once the system comes back, native communities can be replanted if conditions allow.
Community structure can be restored in some places.

Stressor: SHORELINE ALTERATION

Causes/Sources:

Wetland Filling and Draining

- Extent of Impact: Extensive.

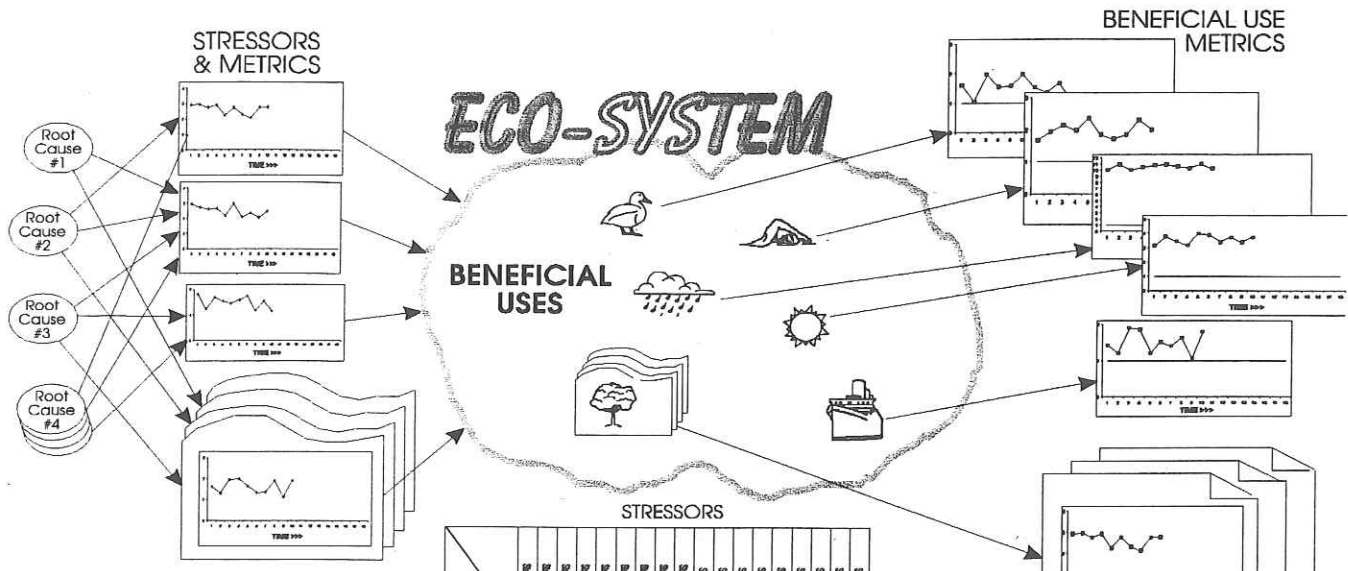
Needed Activities: Preventable.
Reversible in small isolated areas.
Incentives for mitigation.
Excavate and restore.
Triennial review.
The ADID (Advanced Identification of Wetlands) program.

Urban and Industrial Development

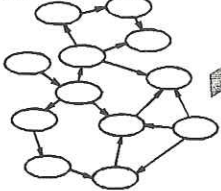
Extent of Impact: Extensive.
Somewhat reversible.
Needed Activities: Look at opportunities for effective corridors.
Exceptions for Brownfield redevelopment.
Different management of public rights of way.
Encouragement of native landscaping.

Loss or Removal of Terrestrial Habitat

Extent of Impact: Extensive.
Somewhat reversible.
Needed Activities: Exceptions for Brownfield redevelopment.
Different management of public rights of way.
Encourage native landscaping.
Protect what is left.



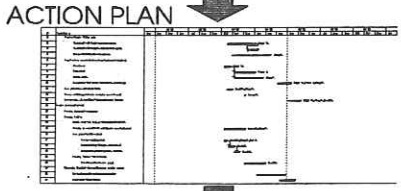
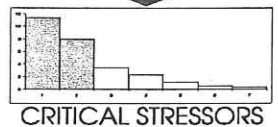
RELATIONSHIPS BETWEEN BENEFICIAL USES



STRESSORS

	Stressor 1	Stressor 2	Stressor 3	Stressor 4	Stressor 5	Stressor 6	Stressor 7	Stressor 8	Stressor 9	Stressor 10	Stressor 11	Stressor 12	Stressor 13	Stressor 14	Stressor 15
Ben. Use #1	X														
Ben. Use #2	X	X													
Ben. Use #3	X	X	X												
Ben. Use #4	X	X	X	X											
Ben. Use #5	X	X	X	X	X										
Ben. Use #6	X	X	X	X	X	X									
Ben. Use #7	X	X	X	X	X	X	X								
Ben. Use #8	X	X	X	X	X	X	X	X							
Ben. Use #9	X	X	X	X	X	X	X	X	X						
Ben. Use #10	X	X	X	X	X	X	X	X	X	X					
Ben. Use #11	X	X	X	X	X	X	X	X	X	X	X				
Ben. Use #12	X	X	X	X	X	X	X	X	X	X	X	X			
Ben. Use #13	X	X	X	X	X	X	X	X	X	X	X	X	X		
Ben. Use #14	X	X	X	X	X	X	X	X	X	X	X	X	X	X	

BENEFICIAL USES



PLAN

"DO" the Action Plan

DO

- STRESSOR DATA
- BENEFICIAL USE DATA
- STATISTICAL & ANALYTICAL TOOLS TO EVALUATE PROGRESS
- ACTION PLAN STATUS

IMPROVING?

CHECK

CONTINUE UNTIL BENEFICIAL USE IS DELISTED

REVISE ACTION PLAN

ACT

Current Approaches to northwest Indiana Sustainable Development

By
Mark Reshkin
Northwest Indiana Forum

The Quality of Life Council is a public/private partnership formed to promote sustainable development in the northwest Indiana metropolitan region of Lake, Porter and LaPorte Counties. Sustainability is a holistic approach to regional development that promotes environmental quality, a strong economy and social equity. This approach builds on the strengths of the region to eliminate environmental degradation, concentrated urban core poverty, racial segregation, and political fragmentation.

Sustainable development organizations evolve and establish their focus in different ways in different geographic regions and northwest Indiana is no exception. It may take longer here because no single city or interest dominates the area and there is no history of strong regional cooperation.

In the QLC efforts to date, we have found that working together we can attain the goals of more than one interest group in a single project. For example, expanding mass transit from north and south Lake County to the zone of commerce and industry which now lies in the central part of the county along the U. S. Route 30 corridor and creating a shuttle bus system in that corridor will do the following:

- assist those coming off the welfare rolls to find and get to entry level jobs,
- reduce miles driven in a non-attainment air quality area, and
- provide needed employees and more customers in the retail corridor.

There has never been a period such as today in northwest Indiana with representatives from very different interest groups meeting to resolve issues and finding that they agree on most issues and, at the least, can better define their differences on remaining issues. Partnerships of many kinds are evolving and those pertaining to coastal concerns are discussed later in this presentation.

It is the mission of the QLC to insure that a diverse group of public and private sector leaders meet regularly to formally promote continuous improvement in the quality of life in northwest Indiana by:

- Encouraging an appreciation for regional solutions to the challenges we face in achieving and sustaining a high quality of life;
- Sponsoring needed research to improve the quality of life;
- Identifying and advocating for needed sustainable development projects, and,
- Developing and monitoring key indicators of the quality of life.

It is the Vision to see the formation of northwest Indiana into a unified metropolitan region with a quality of life at the highest possible level, creating value for all residents, attracting globally competitive business and industry, and fostering living conditions based on preserving and maintaining the integrity and beauty of the natural environment.

The QLC's Values are expressed below and in the conviction that northwest Indiana's strengths and resources, when properly developed and used, will result in a metropolitan region with a high quality of life for all of its residents. The QLC has adopted a policy structure as a guide to the region's decision makers to assist in the creation of a higher quality of life.

- Building and maintaining a healthy environment by pursuing region-wide programs that meet or exceed the standards for air quality, water quality, pollution prevention, the disposal, reduction, and elimination of solid and toxic waste, and the most desirable forms of energy efficiency;

- Conserving the land resource by promoting controlled growth, regional land use policies, greenways, and mass public transportation;
- Developing and maintaining the region's economic health through brownfield redevelopment, eco-industrial park development, and developing or attracting environmentally sound and globally competitive business and industry;
- Serving a diverse and changing population by promoting policies to reduce concentrated urban core poverty, promote welfare to work, encourage affordable housing, and advance crime prevention and community policing;
- Managing the region by promoting consensus on clear policies and agreements to pursue mandated changes to meet established regional goals.

The QLC became a formal organization in September 1997, following two years of discussion and planning. The QLC consists of the full membership of the Council and the QLC Executive Board. To carry out its mission, the QLC forms ad hoc action groups to work on specific issues, or puts the support of the Council behind existing organizations already working on important issues. The Northwestern Indiana Regional Planning Commission (NIRPC) serves as the fiscal agent for the QLC.

The six northwest Indiana institutions of higher education serve as the sponsors for the QLC, with the presidents or chancellors of these institutions serving as the chair and vice chair of the Council. The QLC meets quarterly and the QLC Executive Board meets in the intervening months. Individual members of the QLC are selected based on position, capability, and demonstrated leadership. The QLC Executive Board selects membership candidates for approval by the QLC.

The QLC has adopted an action-oriented approach to addressing issues and activities that will improve the quality of life in northwest Indiana. At each quarterly meeting, the QLC hears in-depth presentations on specific issues and develops consensus through facilitated discussion on the appropriate action plan.

For its initial projects, the QLC has selected three important issues that affect all aspects of the quality of life in northwest Indiana:

- Regional Transit Authority: Regional public transportation is important for promoting air quality, improving the region's opportunity structure by making jobs more accessible, reducing traffic congestion, and promoting the dignity of mobility as a fundamental attribute of the quality of life. The RTA Task Force, formed by the QLC, has developed a regional plan for public transportation and is working to develop local financial support for the proposed system. Additionally, the Task Force assisted the successful legislative effort to create an RTA for northwest Indiana.
- Brownfield Redevelopment: Developing the many brownfields in northwest Indiana, especially in the urban core of East Chicago, Gary, and Hammond, is fundamental to revitalizing the urban area, reducing concentrated urban core poverty, and stopping the loss of farmlands and open spaces. The Brownfield Task Force has developed a vision statement and is now working on plans to increase support for the existing brownfield redevelopment organizations.
- Quality of Life Indicators: Developing indicators of improvement in key sustainable development areas established measurable objectives for the region and is valuable for use as a public tool to measure progress toward accomplishing sustainability. The QLC will contract with the Heartland Center to develop the quality of life indicators.
- The QLC is conducting research and developing positions for consideration of other important issues including:
 - land use, open space, and controlled growth
 - taxation and public financing policies;
 - volunteer action center
 - affordable housing strategy; and,
 - educational excellence in public supported schools.

The QLC, however, is but one partnership effort occurring in northwest Indiana some of which you have heard about earlier this morning. The following is an attempt to focus on those which are coastal activities. The challenge in northwest Indiana is how to restore natural areas, remediate past pollution, and encourage economic growth while improving social equity. This is the sustainable development goal in the coastal corridor. We've had a century of economic growth and are now about to enter a century of continued economic growth but accompanied by environmental quality restoration and improvement. It can be done here.

- Two attempts were made to establish coastal zone management. I consider CZM to be sustainable development in a particular ecosystem -nearshore waters and adjacent coastal lands: a 1976-The effort failed because it could not generate the necessary state legislation; and in the early 1990's- a second attempt languished under the attack of the wise use interests and the lack of elected officials support. I believe that coastal coordination (the word zone must be dropped) can occur here only if there is support from such groups as Quality of Life Council, elected officials, and such specific area organizations such as CARE, the Grand Calumet River Visioning body, the Bethlehem Steel corp. community committee and others.
- The Remedial Action Plan (RAP), with an Area Of Concern covering the entire coastline of Lake County, it sets in motion a series of activities to remediate a century of pollution. It is a road map for recovery for perhaps a 30 year effort.
- Dredging Activities are an integral part of remediating past pollution here. They include the U.S. Army Corps of Engineers harbor dredging and confined disposal facility at the river's mouth and dredging of segments of the river by various responsible parties. The first of these efforts is the dredging of a five mile stretch at the river's headwaters by the U. S. Steel Corporation.
- The Grand Calumet River Visioning effort is just beginning and none to soon because we are on the threshold of determining what should be the preservation, restoration and use of the corridor's natural resources. A vision of what the restoration and uses can be is needed to gain public input, understanding and support for the many projects involved.
- The Grand Calumet River/Harbor Corridor Partnering/Coordinating efforts are an attempt to better coordinate efforts among many participants and many projects and to avoid duplication and conflict.
- There are several concurrent efforts to preserve the greater Chicago area's natural resources and biodiversity. Among them are Chicago Wilderness, the Calumet National Heritage Area - Calumet Ecological Park and the Strategic Open Lands At Risk (SOLAR) of the Open Lands Project. These are primarily northeast Illinois programs attempting to extend into northwest Indiana.
- The Northwest IN Environmental Initiative Action Plan is one of the U. S. Environmental Protection Agency's geographic initiatives and includes all of Indiana's Lake Michigan coastal area.
- Brownfield Redevelopment in northwest Indiana consists of both a three city public effort, the Northwest Indiana Brownfield Redevelopment Project and a private sector approach the Northern Indiana Center for Land Reclamation.
- The Natural Resource Damage Assessment is an effort to restore and/or replace natural resources lost as the result of the many years of pollution. It overlays many of the activities described above.

In conclusion, in the QLC and these several partnering efforts, we see representatives of key interest groups meeting and talking together. They find that they agree on many issues and that they can more readily define their differences on the issues in contention. Call it mediation, facilitation or just common sense and courtesy, there has not been a time in my 30 plus years here that has been better for cooperative, mutual resolution of issues. It make me proud of northwest Indiana.