Al Gore 9/25/96

- Environmental report card
  - Coordinate monitoring efforts
  - Guide decision-making
  - Account to the public

Report Card Goals

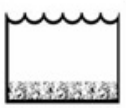
Environmental Baseline	Status
Decision-making Guide	ID problems Prioritize problems Geo-target problems ID threats ID remedial action groups
Public Accounting	Trends
Coordinate Monitoring	Information Inventory ID information gaps

Report Card Information

- Entire basin
  - Segments
  - Water uses
  - Causes
  - Sources
  - Metadata

WATER QUALITY REPORT CARD

COLOR KEY: GOOD, CONCERN, FAIR, POOR, N/A

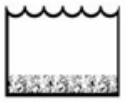
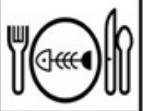
	AQUATIC LIFE							RECREATION		FISH EDIBILITY
										
SEGMENT	BIOLOGY	CHEMISTRY	NUTRIENTS	TOXICS	SEDIMENTS	FLOW	HABITAT	BACTERIA	AESTHETICS	FISH TISSUE

Millers River

WATER QUALITY REPORT CARD

2000 Assessment

COLOR KEY: GOOD, CONCERN, FAIR, POOR, N/A

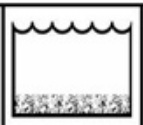
	AQUATIC LIFE							RECREATION		FISH EDIBILITY
										
SEGMENT	BIOLOGY	CHEMISTRY	NUTRIENTS	TOXICS	SEDIMENTS	FLOW	HABITAT	BACTERIA	AESTHETICS	FISH TISSUE
MILLERS RIVER										
to Whitney pond										
to Winchendon WWTF										
to Otter River										
to South Royalston										
to Orange Center										
to Erving WWTF										
to Connecticut River										
OTTER RIVER										
to Gardner WWTF										
to Seaman Paper Co.										
to Millers River										
TULLY RIVER										
East Branch										
Boyce Brook										
West Branch										
Lawrence Brook										
Main Stem										

Millers River

WATER QUALITY REPORT CARD

2000 Assessment

COLOR KEY: GOOD, CONCERN, FAIR, POOR, N/A

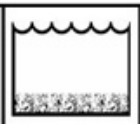
	AQUATIC LIFE							RECREATION		FISH EDIBILITY
									
SEGMENT	BIOLOGY	CHEMISTRY	NUTRIENTS	TOXICS	SEDIMENTS	FLOW	HABITAT	BACTERIA	AESTHETICS	FISH TISSUE
MILLERS RIVER										
to Whitney pond	F					Q				Hg
to Winchendon WWTF		pH		U		Q		B	C	Hg,PCB
to Otter River		pH	P	U		Q				Hg, PCB
to South Royalston			P		PCB					Hg,PCB
to Orange Center	A,F	pH	P		PCB	Q				Hg, PCB
to Erving WWTF	A,F	pH	P		PCB	Q				Hg, PCB
to Connecticut River		pH	P	U	PCB	Q			C	Hg, PCB
OTTER RIVER										
to Gardner WWTF	I,F	DO,pH,T	P						C	Hg, PCB
to Seaman Paper Co.	I,F	DO,pH, T	P	U	Me	Q	S		C,D	Hg, PCB
to Millers River	I,F	pH	P		PCB	Q			O,C,D	Hg, PCB
TULLY RIVER										
East Branch	F	pH					S		G	Hg, PCB
Boyce Brook		pH								Hg, PCB
West Branch										Hg, PCB
Lawrence Brook		pH								Hg,PCB
Main Stem	F									Hg, PCB

Millers River

WATER QUALITY REPORT CARD

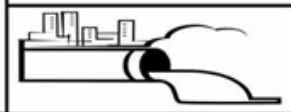
2000 Assessment

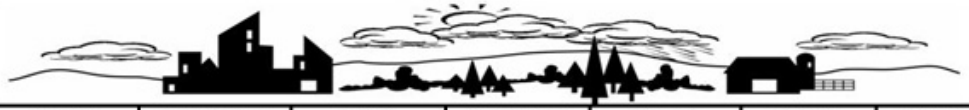
COLOR KEY: GOOD, CONCERN, FAIR, POOR, N/A

	AQUATIC LIFE							RECREATION		FISH EDIBILITY
										
SEGMENT	BIOLOGY	CHEMISTRY	NUTRIENTS	TOXICS	SEDIMENTS	FLOW	HABITAT	BACTERIA	AESTHETICS	FISH TISSUE
MILLERS RIVER										
to Whitney pond	3					1				2
to Winchendon WWTF		4		4		4		1	1	2
to Otter River	3	3	3	1		4		1	2	2
to South Royalston	3	3	3	2	4	4	3		2	2
to Orange Center	4	2	2	4	2	2			2	2
to Erving WWTF	4	2	2	4	1	2			2	2
to Connecticut River	3	3	3	4	1	4	3		2	2
OTTER RIVER										
to Gardner WWTF	4	2	2				3	1	2	1
to Seaman Paper Co.	4	3	3	1	2	4	3		2	2
to Millers River	4	2	2	4	4	2	3		2	2
TULLY RIVER										
East Branch	4	1					3		2	1
Boyce Brook	3	1							2	1
West Branch	4	1					3		2	1
Lawrence Brook	4	1					3		2	1
Main Stem	3								2	1

SOURCES OF POLLUTION

COLOR KEY:
- KNOWN SOURCE
- SUSPECTED SOURCE
- POTENTIAL SOURCE
- N/A





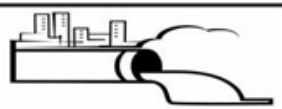
SEGMENT	POINT SOURCES		NON-POINT SOURCES						
	MUNICIPAL	INDUSTRIAL	STORM WATER	RESOURCE EXTRACT.	LAND DISPOSAL	SEDIMENT	HYDRO MODIFICA.	OTHER	UNKNOWN

Millers River

WATER QUALITY REPORT CARD

2000

COLOR KEY:
- KNOWN SOURCE
- SUSPECTED SOURCE
- POTENTIAL SOURCE
- N/A



SEGMENT	POINT SOURCES		NON-POINT SOURCES						
	MUNICIPAL	INDUSTRIAL	STORM WATER	RESOURCE EXTRACT.	LAND DISPOSAL	SEDIMENT	HYDRO MODIFICA.	OTHER	UNKNOWN
MILLERS RIVER									
to Whitney Pond							WDL,IMP	ATM	
to Winchendon WWTF	CSO					SED*		ATM	
to Otter River	MTF				LDF	SED*		ATM	
to South Royalston						SED		ATM	
to Orange Center						SED	IMP,FLW	ATM	
to Erving WWTF						SED	IMP,FLW	ATM	
to Connecticut River					LDF	SED	FLW	ATM	
OTTER RIVER									
to Gardner WWTF			URB			SED*		ATM	
to Seaman Paper Co.	MTF,MS4		HWY	S&G		SED*		ATM	
to Millers River	MTF		HWY	S&G		SED		ATM	
TULLY RIVER									
East Branch					LDF	SED*	FLW	ATM	
Boyce Brook						SED*		ATM	
West Branch						SED*		ATM	
Lawrence Brook						SED*		ATM	
Main Stem						SED*		ATM	

Nashua River Watershed Water Quality 1973	Above Clinton WWTP	Below Clinton WWTP	Above Leominster WWTP	Below Leominster WWTP	Above Pepperell Pond	Below Pepperell Pond	Pepperell Pond	Nissitissit and Squannacook
I. Ecological Health	35	35	20	35	30	35	35	90
A. Biology	NS	NS	NS	NS	NS	NS	NS	S
B. Chemistry	NS	NS	NS	NS	NS	NS	NS	S
Baseline	NS	NS	NS	NS	NS	NS	NS	S
Nutrients	NS	NS	NS	NS	NS	NS	NS	S
Toxics	NS	NS	NS	NS	NS	NS	NS	S
C. Sediments	NA	NA	NA	NA	NA	NA	NS	NA
D. Hydrology	S	S	S	S	S	S	S	S
E. Habitat	NS	NS	NS	NS	NS	NS	NS	S
II. Public Health	65	65	30	30	30	50	40	80
A. Bacteria	NS	NS	NS	NS	NS	NS	NS	P
Swimming	NS	NS	NS	NS	NS	NS	NS	P
Boating	NS	NS	NS	NS	NS	NS	NS	S
B. Aesthetics	S	S	NS	NS	NS	P	NS	S
C. Toxics in Fish	NA	NA	NA	NA	NA	NA	NA	NA

Water Quality 1993	Above Clinton WWTP	Below Clinton WWTP	Above Leominster WWTP	Below Leominster WWTP	Above Pepperell Pond	Below Pepperell Pond	Pepperell Pond	Nissitissit and Squannacook
I. Ecological Health	90	75	65	70	70	90	90	85
A. Biology	S	P	NS	NA	NS	S	NA	S
B. Chemistry	S	P	NS	NA	NS	S	S	S
Baseline	S	S	S	S	S	S	S	T(pH)
Nutrients	S	P	S	S	S	S	S	S
Toxics	?	P	NS	NA	NS	S	S	S
C. Sediments	NA	NA	NA	NA	NA	NA	NA	NA
D. Hydrology	S	S	S	S	S	S	?	S
E. Habitat	S	S	P	S	S	S	?	S
II. Public Health	95	70	50	95	80	95	75	95
A. Bacteria	S	NS	NS	S	P	S	S	S
Swimming	S	NS	NS	S	P	S	S	S
Boating	S	S	NS	S	S	S	S	S
B. Aesthetics	S	S	P	S	S	S	S	S
C. Toxics in Fish	S	S	NA	NA	S	S	NS	S

Millers River Sampling Plan

	Millers River Mainstem					Otter River			Beaver Brook	Priest Brook	West Branch Tully Brook	East Branch Tully Brook	Lawrence Brook	Tully River
	MA 35-01	MA 35-02	MA 35-03	MA 35-04	MA 35-05	MA 35-06	MA 35-07	MA 35-08	MA 35-09	MA 35-10	MA 35-11	MA 35-12	MA 35-13	MA 35-14
I. Ecological Health	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
A. Biology	NA	NA	NA	NA	NA	T	NS	NS	NA	NA	S	NS	NS	NA
B. Chemistry	S	NS	NA	NA	NA	S	NS	NS	NA	NS	NA	NA	NA	NA
Baseline	T (pH)	NA	NA	NA	NA	T (DO)	NS	NS (DO)	NA	NA	NA	NA	NA	NA
Nutrients	S	NA	NA	NA	NA	S	NS	NS	NA	NA	NA	NA	NA	NA
Toxics	T	NS	NA	T	S	S	NA	NS	NA	NS	NA	NA	NA	NA
C. Sediments	NA	NA	NS	NS	NS	NA	NA	NS	NA	NA	NS	NS	NS	NA
D. Hydrology	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
E. Habitat	NA	NA	NA	NA	NA	S	S	S	NA	NA	S	S	S	NA
II. Public Health	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
A. Bacteria	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Swimming	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Boating	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B. Aesthetics	NA	NA	NA	NA	NA	S	NA	NS	NA	NA	NA	NA	NA	NA
C. Toxics in Fish	NS	NS	NS	NS	NS	S	S	NS	NS	NS	NS	NS	NS	NS

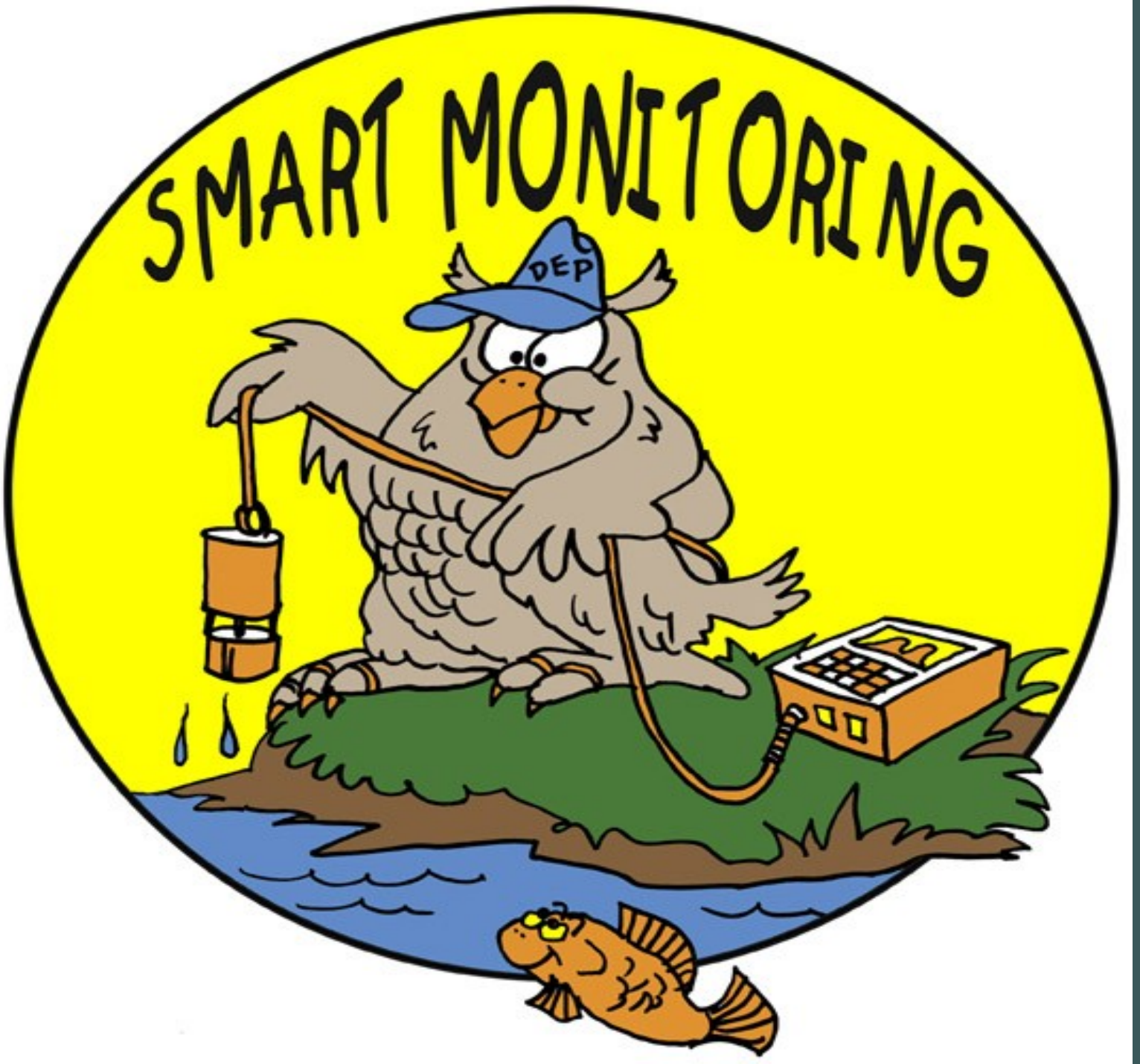
	305b Report Recommendations
	Additional SMART Recommendations

Report Card Summary

Status	Color codes / Response indicators for water uses
ID problems Prioritize problems Geo-target problems ID threats ID remedial action groups	Colors/ Causes card View Columns View Rows Color coded in yellow Indicators / Sources card
Trends	Multiple years / indicators better than uses
Information Inventory ID Data gaps	Metadata card

Report Card Uses

- Four page 305b report
- Water quality managers
- Group discussions (planning)
- Priorities for grant funding
- Coordinating with other monitoring groups
- Outreach (general public)


SMART MONITORING
DEP