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1. *Phragmites australis* (Common Reed)

Phragmites australis is a tall, grass-like plant with long, narrow leaves and a dense, upright growth habit. It is commonly found in wetlands, marshes, and along water bodies.

Phragmites australis is a tall, grass-like plant with long, narrow leaves and a dense, upright growth habit. It is commonly found in wetlands, marshes, and along water bodies.

2. *Spartina patens* (Cordgrass)

Spartina patens is a grass-like plant with long, narrow leaves and a dense, upright growth habit. It is commonly found in wetlands, marshes, and along water bodies.

Spartina patens is a grass-like plant with long, narrow leaves and a dense, upright growth habit. It is commonly found in wetlands, marshes, and along water bodies.

3. *Scirpus americanus* (Sedges)

Scirpus americanus is a grass-like plant with long, narrow leaves and a dense, upright growth habit. It is commonly found in wetlands, marshes, and along water bodies.

Scirpus americanus is a grass-like plant with long, narrow leaves and a dense, upright growth habit. It is commonly found in wetlands, marshes, and along water bodies.

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4. *Cyperus tenuiflorus* (Sedges)

Cyperus tenuiflorus is a grass-like plant with long, narrow leaves and a dense, upright growth habit. It is commonly found in wetlands, marshes, and along water bodies.

Cyperus tenuiflorus is a grass-like plant with long, narrow leaves and a dense, upright growth habit. It is commonly found in wetlands, marshes, and along water bodies.

5. *Eleocharis acicularis* (Sedges)

Eleocharis acicularis is a grass-like plant with long, narrow leaves and a dense, upright growth habit. It is commonly found in wetlands, marshes, and along water bodies.

Eleocharis acicularis is a grass-like plant with long, narrow leaves and a dense, upright growth habit. It is commonly found in wetlands, marshes, and along water bodies.

6. *Eleocharis obtusa* (Sedges)

Eleocharis obtusa is a grass-like plant with long, narrow leaves and a dense, upright growth habit. It is commonly found in wetlands, marshes, and along water bodies.

Eleocharis obtusa is a grass-like plant with long, narrow leaves and a dense, upright growth habit. It is commonly found in wetlands, marshes, and along water bodies.

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Looking Forward

**Table 1.5 P2 Implementation Barriers**

State Agency	MT	NE	NV	NH	NJ	NM	NY	NC	ND	OH	OR	PA	PA*	SC	SD	TN	TX	TX**	UT	VT	VA	WI	WI**	WY	Total	%
Lack of capital	x	x	x	x	x			x	x	x		x	x	x			x	x	x	x	x	x		x	36	69
Staff change	x		x		x				x			x		x			x			x	x		x		21	40
Lack of management commi. men.			x		x								x	x							x		x		18	35

Montana\*\*= Peak to Prairie P2 Information  
 Pennsylvania\*= PA DEP  
 Pennsylvania\*\*= PENNTAP  
 Texas\*= Lower Colorado River Authority

Texas\*\*= TNRCC  
 Wisconsin\*= Wisconsin DNR  
 Wisconsin\*\*= Solid and Hazardous Waste Education Center, UW Extension

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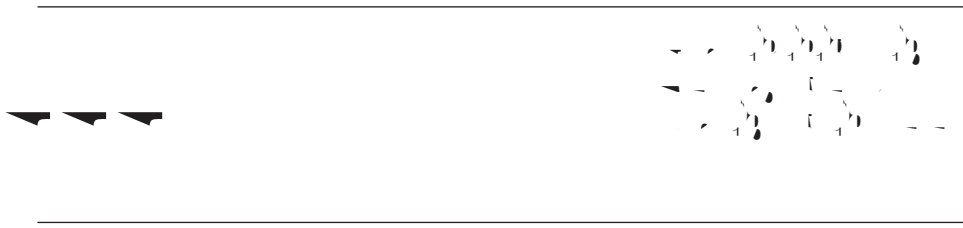
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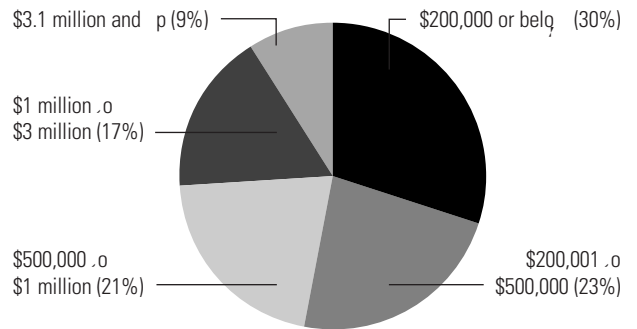
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**Table 1.2 General Program Information continued**

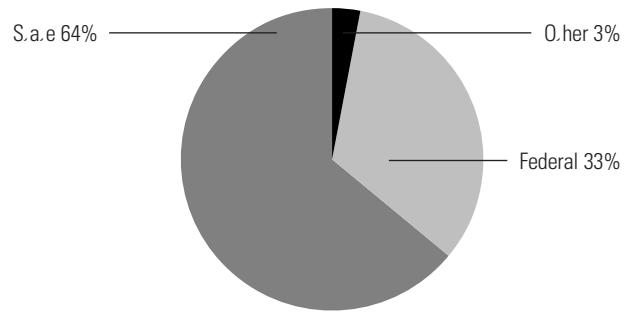
Local government and other non-federal agencies	AL	CA	CO	FL	IL*	IL**	KY	OK	OH	DC	Total	%	Ave	S.federal and non-federal aggregate	Total	%	Ave
<b>Program location</b>																	
Reg. la.or_			x	x			x				3	30					
Non-reg. la.or_	x	x			x		x		x		5	50					
Univer_i_							x				1	10					
Economic developmen.	x						x				2	20					
Local government.		x	x					x	x		4	40					
Small business developmen. center							x	x			2	20					
Non-profit.	x						x			x	3	30					
<b>Program type</b>																	
Small business assistance	x		x				x	x			4	40			33	55	
Technical assistance	x			x	x		x	x	x		6	60			51	82	
Reg. la.or_																	



### State Agency Budget Breakdown



### State Budget Contributors







Category	Sub-Category	Value	Unit
A	1	10	%
	2	20	%
	3	30	%
	4	40	%
B	1	15	%
	2	25	%
	3	35	%
	4	45	%
C	1	20	%
	2	30	%
	3	40	%
	4	50	%
D	1	25	%
	2	35	%
	3	45	%
	4	55	%
E	1	30	%
	2	40	%
	3	50	%
	4	60	%

**Table 1.3 Data Gathering Statistics**

**Table 1.3 Data Gathering Statistics**

Local Agency and other non-.a.e agency	AL	CA	CO	FL	IL**	IL***	KY	OK	OH	DC	Total	%	S.a.e and non-.a.e aggregate	Total	%
This program collected data	x	x			x	x	x		x		6	60		51	84
Documentation available	x				x	x	x				4	40		24	39
Survey	x				x						2	20		30	49
Case study	x		x	x	x				x		5	50		37	61
Other														5	8

The above are measured to collect data.  
 Illinois \*\* = Great Lakes Regional Partnership  
 Illinois \*\*\* = NORBIC Environmental Alliance Center





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**Table 1.4**

	<b>Pollution Prevented (pounds)</b>				<b>Energy Conservation (kWh)</b>	<b>Water Conservation (gallon )</b>	<b>Total Cost Savings (\$)</b>	<b>Impact on Economy (\$)</b>
	Air	Water	Waste	Combined*				
1990	NA	NA	NA	4,900,000	NA	NA	700,338	NA
1991	NA	NA	57,212,749	1,500,000	NA	NA	498,450	NA
1992	NA	NA	56,819,001	1,800,000	NA	228,000	2,148,622	108,700
1993	73,000	6,086,000	70,504,845	4,300,000	9,950,700	3,503,107	6,553,680	112,300
1994	13,465,495	13,128,035	170,028,741	2,000,000	150,700	30,600,000	6,850,173	858,191
1995	858,043	7,166,726	107,966,076	50,000	332,500	117,004,500	2,626,176	1,411,250
1996	3.7E10	229,019,655	3.0384E10	3,000,000	14,368,300	382,857,318	128,913,123	901,400
1997	1.1E10	1,259,966,957	2.405E10	200,838,662	7,446,500	1,244,234,855	97,193,109	2,429,011
1998	1.67E10	1.266E10	1.428E10	329,526,411	84,510,560	366,466,200	256,976,968	112,376,335
1999	25,595,600	5,417,635,672	893,995,152	157,000,251	72,770,924	893,647,984	50,949,572	8,997,300
2000	122,011,189	488,483,448	4,521,112,448	87,385,857	25,787,663	1,078,826,263	112,913,997	17,088,953
<b>Total</b>	<b>6.486E10</b>	<b>2.008E10</b>	<b>8.043E10</b>	<b>1,228,138,181</b>	<b>215,317,847</b>	<b>4,117,368,227</b>	<b>666,324,208</b>	<b>144,283,440</b>

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*Environmenal Protection, EPA Should Strengthen its  
Efforts to Measure and Encourage Pollution Prevention*

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Pollution Prevention Opportunity for the Oil  
Field Service Industry







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*Ann al Repo,  
on Poll, ion P e en ion in Indiana-*

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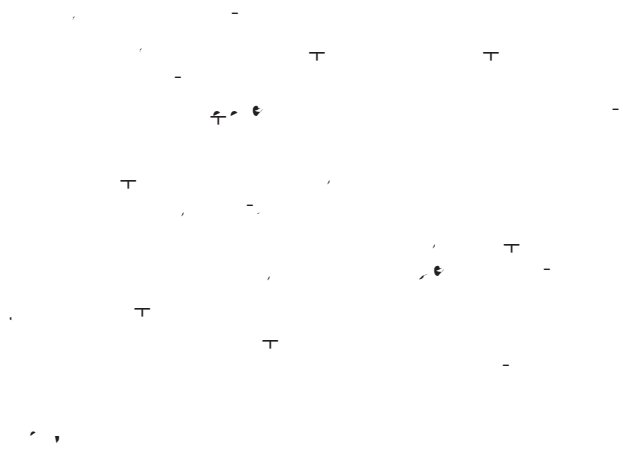
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 - Ca e Hi, o i e of Co,  
 Sa ing Th o gh Wa, e Red ç ion b Small Ind, i e in  
 Tenne, ee (TVA 14: Po e Tool)-

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**Illinois, NORBIC Environmental Assistance Center**

| <b>Pollution Prevented (pounds)</b> |       |       |           | <b>Energy Conservation</b> | <b>Water Conservation</b> | <b>Total Cost Savings</b> | <b>Impact on Economy</b> |
|-------------------------------------|-------|-------|-----------|----------------------------|---------------------------|---------------------------|--------------------------|
| Air                                 | Water | Waste | Combined* | (kWh)                      | (gallon )                 | (\$)                      | (\$)                     |



**Kentucky, Jefferson County Air Pollution Control District, Pollution Prevention Program**

| Pollution Prevented (pounds) |       |       |           | Energy Conservation (kWh) | Water Conservation (gallon ) | Total Cost Savings (\$) | Impact on Economy (\$) |
|------------------------------|-------|-------|-----------|---------------------------|------------------------------|-------------------------|------------------------|
| Air                          | Water | Waste | Combined* |                           |                              |                         |                        |

**Massachusetts Department of Environmental Protection, Toxic Use Reduction Program**

|      | Pollution Prevented (pounds) |       |            |           | Energy Conservation (kWh) | Water Conservation (gallon ) | Total Cost Savings (\$) | Impact on Economy (\$) |
|------|------------------------------|-------|------------|-----------|---------------------------|------------------------------|-------------------------|------------------------|
|      | Air                          | Water | Waste      | Combined* |                           |                              |                         |                        |
| 1991 |                              |       | 57,200,000 |           |                           |                              |                         |                        |
| 1992 |                              |       | 51,800,000 |           |                           |                              |                         |                        |
| 1993 |                              |       | 49,400,000 |           |                           |                              |                         |                        |
| 1995 |                              |       | 42,800,000 |           |                           |                              |                         |                        |
| 1996 |                              |       | 30,100,000 |           |                           |                              |                         |                        |
| 1998 |                              |       | 33,700,000 |           |                           |                              |                         |                        |

**Michigan Department of Environmental Quality, Environmental Assistance Division**

|      | Pollution Prevented (pounds) |             |            |           | Energy Conservation (kWh) | Water Conservation (gallon ) | Total Cost Savings (\$) | Impact on Economy (\$) |
|------|------------------------------|-------------|------------|-----------|---------------------------|------------------------------|-------------------------|------------------------|
|      | Air                          | Water       | Waste      | Combined* |                           |                              |                         |                        |
| 1998 | 706,278                      | 432,740,391 | 7,653,347  |           |                           | 160,000,000                  |                         |                        |
| 1999 | 12,580                       | 14,332,607  | 97,530,862 |           |                           | 351,437,400                  |                         |                        |
| 2000 | 33,000                       |             | 30,800     |           |                           | 463,000,000                  |                         |                        |





**New Jersey Department of Environmental Protection**

|      | Pollution Prevented (pounds) |       |       |           | Energy Conservation (kWh) | Water Conservation (gallon ) | Total Cost Savings (\$) | Impact on Economy (\$) |
|------|------------------------------|-------|-------|-----------|---------------------------|------------------------------|-------------------------|------------------------|
|      | Air                          | Water | Waste | Combined* |                           |                              |                         |                        |
| 1999 |                              |       |       |           |                           |                              | 5,000,000               |                        |
| 2000 |                              |       |       |           |                           |                              | 30,000,000              |                        |

**New Mexico Environment Department, Green Zia Environmental Excellence Program**

|      | Pollution Prevented (pounds) |       |       |           | Energy Conservation (kWh) | Water Conservation (gallon ) | Total Cost Savings (\$) | Impact on Economy (\$) |
|------|------------------------------|-------|-------|-----------|---------------------------|------------------------------|-------------------------|------------------------|
|      | Air                          | Water | Waste | Combined* |                           |                              |                         |                        |
| 1999 |                              |       |       |           |                           |                              | 5,000,000               |                        |
| 2000 |                              |       |       |           |                           |                              | 30,000,000              |                        |

**Hill Country Environmental Excellence Program**

|      | Pollution Prevented (pounds) |       |           |           | Energy Conservation (kWh) | Water Conservation (gallon ) | Total Cost Savings (\$) | Impact on Economy (\$) |
|------|------------------------------|-------|-----------|-----------|---------------------------|------------------------------|-------------------------|------------------------|
|      | Air                          | Water | Waste     | Combined* |                           |                              |                         |                        |
| 1992 |                              |       | 4,800,000 |           |                           |                              | 24,888                  |                        |
| 1993 |                              |       | 350,000   |           |                           |                              |                         |                        |
| 1994 |                              |       | 16,000    |           |                           |                              | 4,051,464               |                        |
| 1995 |                              |       | 741,871   |           |                           |                              | 508,000                 |                        |
| 1996 |                              |       | 236,992   |           |                           | 41,685,000                   | 1,270,000               |                        |
| 1997 | 24,000                       |       | 479,268   |           |                           | 160,000                      | 1,350,000               |                        |
| 1998 |                              |       | 15,038    |           |                           |                              | 324,000                 |                        |
| 1999 |                              |       | 600,000   |           |                           | 583,590                      | 848,700                 |                        |
| 2000 | 44,189                       |       | 875       |           |                           |                              | 169,700                 |                        |

**North Carolina Division of Pollution Prevention and Environmental Assistance**

|      | Pollution Prevented (pounds) |           |            |           | Energy Conservation (kWh) | Water Conservation (gallon ) | Total Cost Savings (\$) | Impact on Economy (\$) |
|------|------------------------------|-----------|------------|-----------|---------------------------|------------------------------|-------------------------|------------------------|
|      | Air                          | Water     | Waste      | Combined* |                           |                              |                         |                        |
| 1992 |                              |           |            |           |                           | 228,000                      | 1,600,000               |                        |
| 1993 | 40,000                       |           | 710,000    |           |                           |                              | 5,000,000               |                        |
| 1994 |                              | 10,000    |            |           |                           | 22,700,000                   | 667,500                 |                        |
| 1995 |                              | 7,000,000 | 21,700,000 |           |                           |                              | 639,300                 |                        |
| 1996 |                              |           |            |           |                           | 1,400,000                    | 9,700,000               |                        |
| 1997 | 32,000                       | 4,400,000 | 20,600,000 |           |                           | 40,200,000                   | 8,500,000               |                        |
| 1998 |                              | 319,500   |            |           |                           | 12,100,000                   | 23,000,000              |                        |
| 1999 | 50,000                       | 77,000    | 8,200,000  |           |                           | 668,000                      | 6,000,000               |                        |
| 2000 |                              | 30,000    | 2,900,000  |           |                           |                              | 211,600                 |                        |

**Ohio Environmental Protection Agency, Office of Pollution Prevention**

|      | Pollution Prevented (pounds) |            |                |           | Energy Conservation (kWh) | Water Conservation (gallon ) | Total Cost Savings (\$) | Impact on Economy (\$) |
|------|------------------------------|------------|----------------|-----------|---------------------------|------------------------------|-------------------------|------------------------|
|      | Air                          | Water      | Waste          | Combined* |                           |                              |                         |                        |
| 1994 | 12,231,883                   | 37,535     | 12,776,984     |           |                           |                              |                         |                        |
| 1998 | 69,500,000                   | 14,000,000 | 13,400,000,000 |           | 32,000,000                | 27,000,000                   | 192,300,000             | 5,000,000              |
| 1998 | 15,600,000                   | 4,600,000  | 361,000,000    |           |                           |                              |                         |                        |
| 2000 |                              |            | 285,398,697    |           |                           |                              |                         |                        |

**Ohio, City of Cincinnati, Office of Environmental Management, P2 Program**

|      | Pollution Prevented (pounds) |       |       |           | Energy Conservation (kWh) | Water Conservation (gallon ) | Total Cost Savings (\$) | Impact on Economy (\$) |
|------|------------------------------|-------|-------|-----------|---------------------------|------------------------------|-------------------------|------------------------|
|      | Air                          | Water | Waste | Combined* |                           |                              |                         |                        |
| 1993 | 33,000                       |       |       |           |                           |                              |                         |                        |

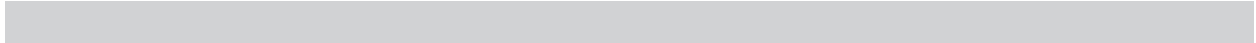
**Pennsylvania DEP, Office of P2 and Compliance Assistance**



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**Texas Commission on Environmental Quality, Texas P2 and Industry Assistance**

| <b>Pollution Prevented (pounds)</b> | <b>Energy Conservation</b> | <b>Water Conservation</b> | <b>Total Cost Savings</b> | <b>Impact on Economy</b> |
|-------------------------------------|----------------------------|---------------------------|---------------------------|--------------------------|
|-------------------------------------|----------------------------|---------------------------|---------------------------|--------------------------|

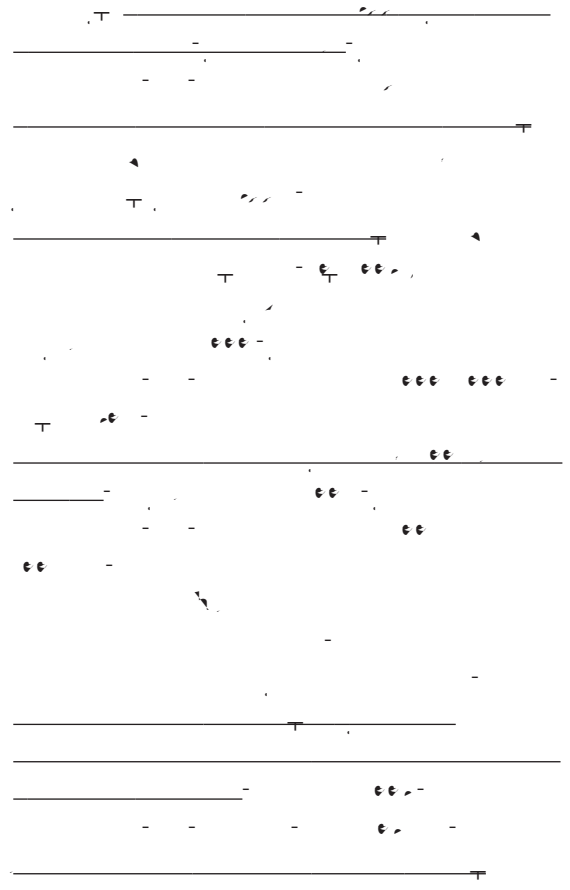


**IN Clean Manufacturing Tech and  
Safe Materials Institute**

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http://ecn.purdue.edu/cm.i

**Indiana Dept of Env Management**

Office of P2 and Tech Assistance  
Jim Mahern  
150 W. Market St.  
Indianapolis, IN 46204





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