

# Appendix B

## Profiles of State CSO Programs

Region 1	B.1 Connecticut	5	B.18 Illinois	
	B.2 Maine		B.19 Indiana	
	B.3 Massachusetts		B.20 Michigan	
	B.4 New Hampshire		B.21 Minnesota	
	B.5 Rhode Island		B.22 Ohio	
	B.6 Vermont		B.23 Wisconsin	
2	B.7 New Jersey	7	B.24 Iowa	
	B.8 New York		B.25 Kansas	
3	B.9 Delaware	8	B.26 Missouri	
	B.10 District of Columbia		B.27 Nebraska	
	B.11 Maryland		B.28 South Dakota	
	B.12 Pennsylvania		9	B.29 California
	B.13 Virginia		10	B.30 Alaska
	B.14 West Virginia			B.31 Oregon
4	B.15 Georgia	10	B.32 Washington	
	B.16 Kentucky			
	B.17 Tennessee			



## CSO Permits

8

## Permitted CSO Outfalls

19

## NPDES Authority/Water Quality Standards Authority

Georgia Department of Natural Resources  
Environmental Protection Division (GDNR-EPD)

## State Online Resources

[www.ganet.org/dnr/environ/](http://www.ganet.org/dnr/environ/)

○ CSO Permits

50 0 50 100 Miles

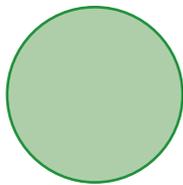


### Status of CSO Policy Requirements

Number of Permits

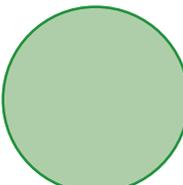
Percent

#### BMP Requirements



▼ NMC	8	100%
▼ Some BMPs	0	0%
▼ No BMPs	0	0%
<b>Total</b>	<b>8</b>	<b>100%</b>

#### Facility Plan Requirements



▼ LTCP	8	100%
▼ Other Facility Plan	0	0%
▼ No Facility Plan	0	0%
<b>Total</b>	<b>8</b>	<b>100%</b>

### Program Highlights

- Georgia has eight CSO permits covering three CSO communities: Atlanta, Albany, and Columbus.
- All CSSs are meeting requirements associated with the NMC, as a result of State law requiring CSO elimination or upgrade in the early 1990s.
- The State does not consider LTCPs to be completed until post construction compliance monitoring has been conducted; therefore, no systems in Georgia have completed LTCP requirements.
- Initial GDNR-EPD assessments identified six CSO communities. Three have since completed separation projects, leaving three CSO communities in the state.

### Strategy for CSO Control and NPDES Permitting

Georgia has three CSO communities, dominated by the large Atlanta system, which holds six of the state's eight CSO permits. In 1989, there were six CSO communities; over time, half of those cities have separated and are no longer considered CSO communities by GDNR-EPD. All CSO communities have adopted the NMC as a result of CSO permit requirements.

Due to a recent court ruling in an enforcement action, both GDNR-EPD and EPA Region 4 are reviewing Atlanta's CSO documents, including the recently submitted Atlanta CSO Remedial Measures Report. Atlanta's CSO program will likely cost approximately \$1 billion when completed.

Columbus has an advanced demonstration facility for CSO treatment technologies. Studies at the facility have involved exploring various vortex separation and filtration

processes for pollutant removals, as well as various disinfection methods for pathogen inactivation. Columbus has spent approximately \$95 million on CSO controls.

### Permitting Program

The NPDES program is administered through GDNR-EPD. The NMC are required for all systems; however, there is no regular reporting mechanism for communities to send this information to the state. Draft LTCPs have been developed by the communities. The state, however, does not consider LTCPs to have been completed until all monitoring has been conducted. Therefore, no systems in Georgia have completed the LTCP requirements.

### Water Quality Standards Program

In Georgia, the water quality standards officials do not have direct interaction with the CSO program as the LTCPs are being developed or reviewed. The City of Atlanta is requesting a water quality standards review as part of its effort to develop and implement an LTCP.

### Enforcement Program

GDNR-EPD has enforcement authority for CSOs in Georgia. The City of Atlanta is under a Federal Consent Decree regarding its CSO program. Because of the complexity of the issues in Atlanta, and as a result of a lawsuit in district court, the State of Georgia, EPA Region 4, and a Federal district judge all have some degree of authority over Atlanta's program. EPA Region 4 and GDNR-EPD have joint review authority over Atlanta's LTCP. Atlanta did not achieve compliance with the NMC on schedule and has other non-CSO related violations.

## CSO Permits

17

## Permitted CSO Outfalls

299

## NPDES/Water Quality Standards Authority

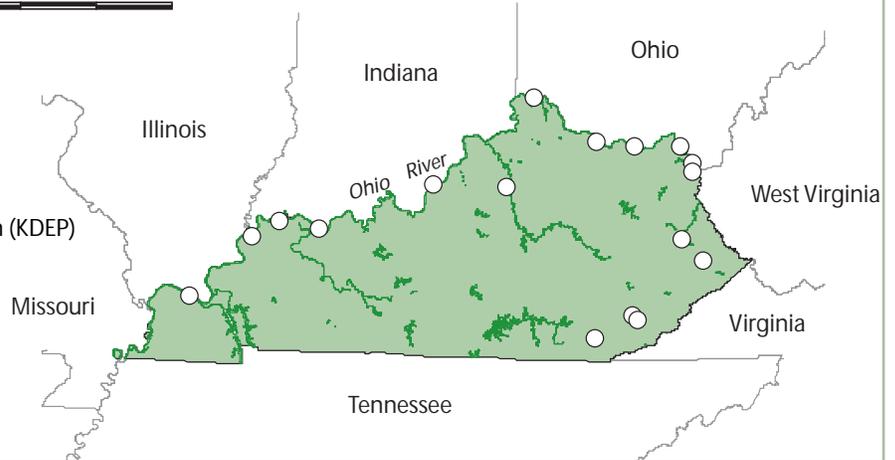
Kentucky Department for Environmental Protection (KDEP)

## State Online Resources

[www.nr.state.ky.us/nrepc/dep/dep2.htm](http://www.nr.state.ky.us/nrepc/dep/dep2.htm)

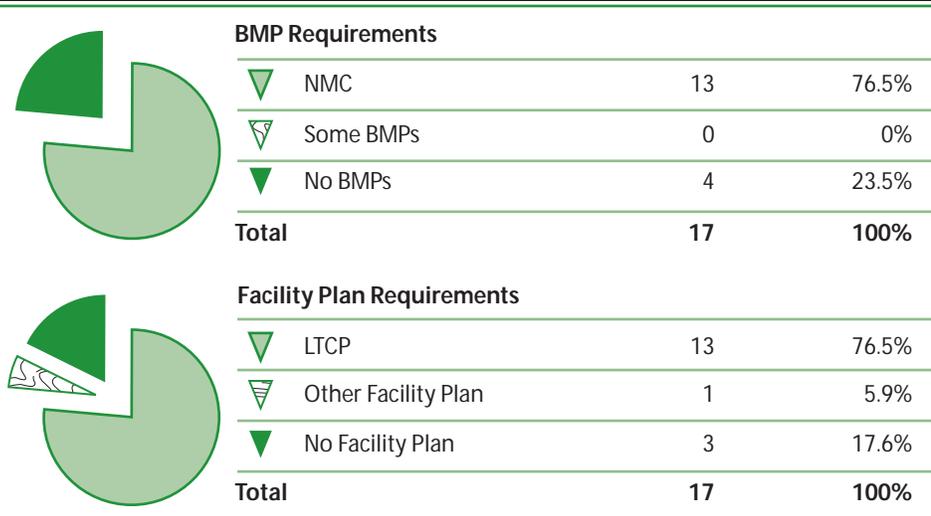
○ CSO Permits

50 0 100 Miles



## Status of CSO Policy Requirements

Number of Permits    Percent



## Program Highlights

- Of the seven CSO communities that have implemented and documented the NMC, six have also submitted and initiated LTCPs. For the remaining 10 CSO communities, NMC and LTCP documentation is in progress or is not required. No community is overdue with its submittals.
- Kentucky explicitly promotes a comprehensive watershed management approach for all point and nonpoint sources in the CSO permit language. Covered sources include storm, separate sanitary, and combined sewer systems.
- Kentucky encourages use of the presumption approach over the demonstration approach in developing LTCPs.
- Initial CSS assessments of the State identified 18 CSO permittees; there are currently 17.

## Strategy for CSO Control and NPDES Permitting

KDEP began its CSO control program in the early 1990s. Kentucky implemented the program by developing standard CSO-related permit language for its NPDES permits. This standard language requires an approved Combined Sewer Operational Plan (CSOP). The CSOP has three principal objectives:

- Ensure that if CSOs occur, they occur only as a result of wet weather.
- Bring all wet weather CSO discharges into compliance with technology-based and/or water quality-based requirements of the CWA.
- Minimize the impacts of CSOs on water quality, aquatic biota, and human health.

The specified contents of the CSOP follow the NMC and LTCP provisions of the CSO Control Policy, although the terms "NMC" and "LTCP" are not explicitly used in the permit language. Nonetheless, the NMC requirements are outlined in the standard permit

language. In addition, the CSO community is required to evaluate and select alternatives for CSO controls, as well as develop a schedule of implementation, which is updated annually in required CSOP annual reports. When selecting long-term CSO controls and performance goals, the state encourages use of the "presumption approach" over the "demonstration approach."

Other components of KDEP's approach involve watershed management and flood protection. The state promotes, explicitly in the CSO permit language, a comprehensive watershed management approach for all point and nonpoint sources, including storm, separate sanitary, and combined sewer systems. CSO-related permit language also requires coordination of the implementation of community flood protection programs and CSO abatement programs, such that implementation of one program does not adversely impact the other.

### Permitting Program

Since the early 1990s, all NPDES permits covering CSO communities have contained a Special Conditions section for CSOs. This section lists the authorized overflow locations and states that this authorization is premised on the conditions outlined within the permit. The conditions generally include implementation of the NMC and development and implementation of an LTCP. The elements of the NMC and the LTCP are to be documented in the CSOP, which must be approved by the state. Annual updates to the CSOP must also be submitted to the state to maintain compliance with the permit.

Seven of the 17 CSO communities have implemented and acceptably documented the NMC. Six of these seven communities have also submitted and initiated implementation of LTCPs, but no community has completed implementation of an LTCP. (The single sewer separation project that has been completed was not done as part of an LTCP.)

For the remaining communities, NMC and LTCP documentation is either in progress and not yet due to the state, or not required. Four CSO communities do not have documentation requirements, although they do have NMC and LTCP language in their permits. Submittals are not considered necessary since: 1) two communities have an inactive system, i.e., rarely have overflows; 2) one community is in the process of separating its collection system; and 3) one community is deactivating its treatment facility and connecting its collection system to another CSS where documentation is required.

### Water Quality Standards Program

A formal state process for review and evaluation of water quality standards exists; however, none of the CSO communities have requested a water quality standards review to date. Consequently, no review of water quality standards for a CSO receiving water has been conducted.

In general, KDEP staff responsible for the water quality standards program are not involved in the CSO planning process, and generally do not give CSO-impacted waters any special consideration during the triennial review process for water quality standards.

### Enforcement Program

No enforcement order within the State of Kentucky is CSO-related. One CSO community is involved in an enforcement action, but it is not specifically related to a CSO issue. NPDES permits are the only enforceable mechanism used to date for the NMC and LTCP requirements in CSO communities, and this has resulted in general compliance with state submittal schedules and progress in implementation.

### CSO Permits

3

### Permitted CSO Outfalls

50

### NPDES Authority

Tennessee Department of Environmental Conservation (TDEC)

### Online Resources

[www.state.tn.us/environment/](http://www.state.tn.us/environment/)  
[www.state.tn.us/environment/water.htm#Program](http://www.state.tn.us/environment/water.htm#Program)



Status of CSO Policy Requirements		Number of Permits	Percent
	<b>BMP Requirements</b>		
	NMC	3	100%
	Some BMPs	0	0%
	No BMPs	0	0%
<b>Total</b>		<b>3</b>	<b>100%</b>
	<b>Facility Plan Requirements</b>		
	LTCP	3	100%
	Other Facility Plan	0	0%
	No Facility Plan	0	0%
<b>Total</b>		<b>3</b>	<b>100%</b>

- ### Program Highlights
- CSO communities were required to submit a CSO study by administrative order.
  - All CSO permits require communities to implement BMPs similar in scope to the NMC, and to monitor CSO discharges.
  - Bristol and Knoxville chose complete sewer separation as their primary control. Bristol had completed separation prior to the CSO Control Policy.
  - Initial CSS assessments by TDEC identified five CSO permittees. Two have since been separated and there are now only three.

## Strategy for CSO Control and NPDES Permitting

Tennessee began addressing CSOs in the mid-1980s. Each CSO community was issued an administrative order by TDEC that required the submission of CSO study and outlined a compliance schedule. CSO outfalls identified in the study were included in the community's NPDES permit. All CSO communities were required in their permits to implement several BMPs as part of their CSO control plan. The BMPs required by TDEC are analogous to the NMC. CSO communities are also required to monitor the frequency, duration, and pollutant loading from CSO outfalls. TDEC uses the monitoring information to help characterize the water quality impacts of the CSO discharges.

Two cities completed separation projects and are no longer considered by TDEC to be combined systems. As part of their CSO control plans, the three remaining communities chose a combination of wastewater treatment plant and pump station upgrades, optimization of in-line storage, construction of sewage holding tanks, and implementation of primary treatment at CSO outfalls.



## CSO Permits

107

## Permitted CSO Outfalls

813

## NPDES Authority

Illinois Environmental Protection Agency (IEPA)

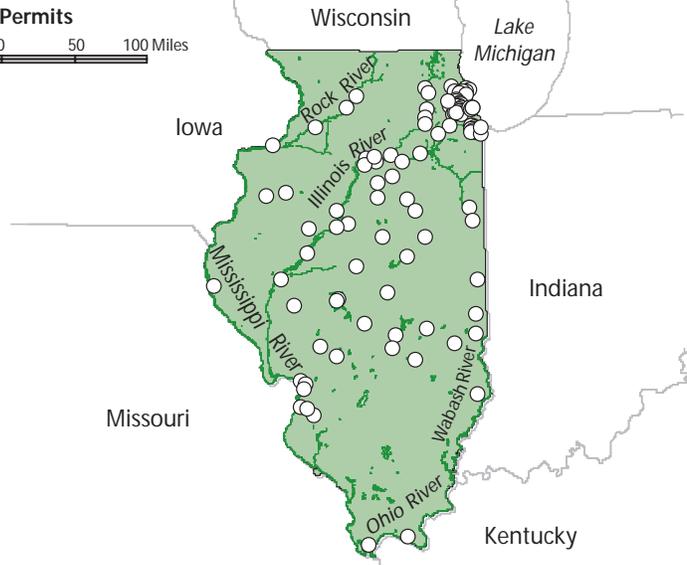
## Water Quality Standards Authority

Illinois Pollution Control Board (IPCB)

## Online Resources

<http://www.epa.state.il.us/>

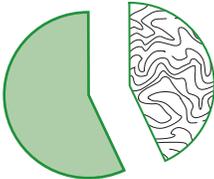
○ CSO Permits  
50 0 50 100 Miles



## Status of CSO Policy Requirements

Number of Permits    Percent

### BMP Requirements



▼ NMC	61	57.0%
▼ Some BMPs	46	43.0%
▼ No BMPs	0	0%
<b>Total</b>	<b>107</b>	<b>100%</b>

### Facility Plan Requirements



▼ LTCP	0	0%
▼ Other Facility Plan	107	100%
▼ No Facility Plan	0	0%
<b>Total</b>	<b>107</b>	<b>100%</b>

## Program Highlights

- Illinois' program includes an approach pre-dating the 1994 CSO Control Policy in establishing control criteria presumed to protect water quality and allowing a demonstration that some other criteria are protective.
- 61 of the CSO communities are implementing the NMC. The remaining 46 have implemented the six minimum measures identified in EPA's 1989 CSO Strategy. Permits issued since 1994 require the NMC; however, public notification is required only for CSO discharges to sensitive areas.
- CSO treatment is often provided in the form of primary treatment at the headworks of the WWTP.
- There is one federal enforcement action involving a CSO community in Illinois.

## Strategy for CSO Control and NPDES Permitting

IEPA has treatment standards in place for CSOs under Section 306.305 of the Illinois Code. The treatment standards presume that CSO communities are meeting water quality standards as long as they are meeting three conditions:

- All dry weather flows and the first flush of storm flows, as determined by IEPA, shall meet applicable effluent standards;
- Additional flows, up to ten times the average dry weather flow for the design year, shall receive a minimum of one hour retention for primary treatment and 15 minutes retention for secondary disinfection; and
- Flows in excess of ten times dry weather flow shall be treated to the extent necessary to prevent depression of oxygen levels and accumulations of sludge deposits, floating debris, and solids.

Communities can alternatively apply for an exception to the above requirements, and IPCB has approved exceptions for 21 CSO communities that did not need to meet the requirements of Section 306.305. These "exception" communities, which include Aurora, Cairo, and Alton, generally have reduced requirements written into their IPCB orders.

Illinois asserts its CSO program is similar to the federal CSO Control Policy because the Section 306.305 treatment standard is similar to the presumption approach in the federal policy, while the exception procedure is similar to the demonstration approach.

CSO treatment is often provided in the form of primary treatment at the headworks of the WWTP.

### Permitting Program

IEPA is the NPDES authority. Illinois has 107 CSO communities, of which 61 are required to implement the NMC. Compliance with the NMC is typically documented in Operation and Maintenance reports or Municipal Compliance Plans produced by the communities. All CSO communities have permit requirements for the six minimum measures identified in the EPA's 1989 National CSO Control Strategy; notices were issued in 1994 that the additional three measures would be required. Most communities responded and have had updated operational plans approved. Permits issued since 1994 include requirements for all of the NMC. Illinois does not require public notification of CSO events, except in designated sensitive waters.

Including Chicago, 56 permittees in Illinois are included in the Chicago Tunnel and Reservoir Project (TARP). Nearly all of these communities have satellite collection systems that use the treatment plants of the Metropolitan Water Reclamation District of Greater Chicago (MWRDGC), but have their own CSO outfalls. Many of these communities, whose permits were issued in 1994 and have not yet been reissued, are awaiting reissuance of the MWRDGC permit. They will be covered under an associated general permit.

Plans for controlling CSOs were primarily developed prior to the CSO Control Policy and included in municipal or facilities plans. Recently issued permits are now requiring that CSO communities develop monitoring plans to verify whether the controls put in place have achieved the goals of protecting water quality. If monitoring indicates that water quality objectives are not being met, new control plans will have to be developed.

### Water Quality Standards Program

Water quality standards are the under jurisdiction of IPCB. Illinois bacterial standards are based on a geometric mean fecal coliform level of 200 cfu/100ml, with no more than 10 percent of samples exceeding 400 cfu/100ml. This standard is applicable May through October.

The State asserts that most communities in Illinois are meeting the requirements of Section 306.305, which is presumed to meet water quality standards in Illinois. As mentioned previously, 21 CSO communities have an exception to Section 306.305.

### Enforcement Program

Through a Performance Partnership Agreement, EPA is providing IEPA with direct compliance and enforcement assistance in the following areas: performing wet-weather inspections, with emphasis on CSO and SSO inspections; offering pretreatment WWTP seminars; and facilitating seminars for industrial users of specific WWTPs. There is one federal CSO enforcement action in Illinois. IEPA does not have administrative order authority.

## CSO Permits

107

## Permitted CSO Outfalls

898

## NPDES Authority

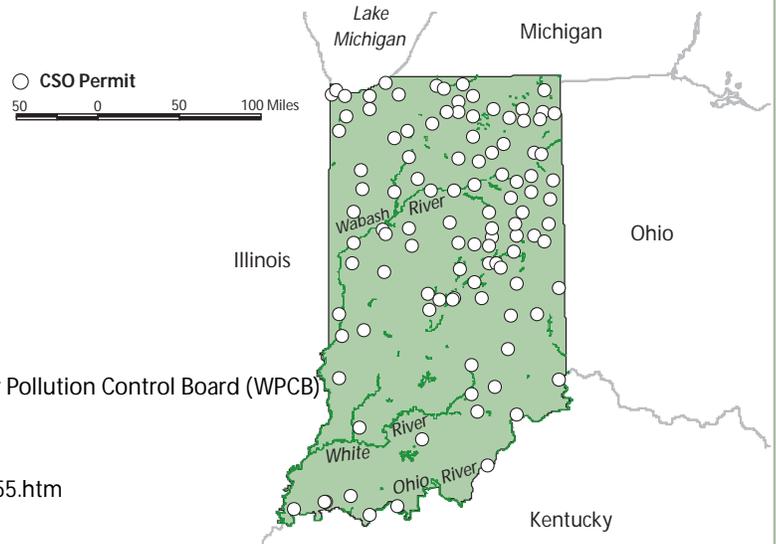
Indiana Department of Environmental Management (IDEM)

## Water Quality Standards Authority

IDEM; public comment and disputes handled by Indiana Water Pollution Control Board (WPCB)

## Online Resources

[www.dep.state.pa.us/dep/deputate/watermgt/wsm/facts/fs2655.htm](http://www.dep.state.pa.us/dep/deputate/watermgt/wsm/facts/fs2655.htm)



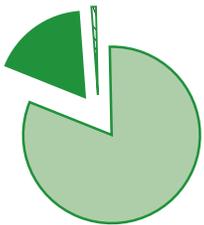
## Status of CSO Policy Requirements

Number of Permits    Percent



### BMP Requirements

▼ NMC	93	86.9%
▼ Some BMPs	0	0%
▼ No BMPs	14	13.1%
<b>Total</b>	<b>107</b>	<b>100%</b>



### Facility Plan Requirements

▼ LTCP	87	81.3%
▼ Other Facility Plan	1	1.0%
▼ No Facility Plan	19	17.7%
<b>Total</b>	<b>107</b>	<b>100%</b>

## Program Highlights

- Indiana has 107 CSO permits, covering 105 CSO communities.
- Most permits issued since 1994 require NMC (93 out of 107). Previously, permits required only six minimum controls.
- Indiana communities report compliance with the first eight NMC through submission and approval of Operation and Maintenance Plans; the ninth NMC is satisfied through Stream Reach Characterization and Evaluation Reports (SRCER).
- Most permittees are required to develop LTCPs (87 of 107). Five have been submitted to date.
- A law passed in 2000 (SEA 431) will allow temporary suspension of designated use following a storm event; guidance has recently been provided for communities on this provision.
- Initial CSS assessments of the state identified approximately 130 CSO permittees; there are currently 107 CSO permittees.

## Strategy for CSO Control and NPDES Permitting

IDEM issued its Final Combined Sewer Overflow Strategy in May 1996. Amendments were in accordance with EPA's 1994 CSO Control Policy. The IDEM final strategy enhances the previous 1991 State CSO strategy's six minimum control requirements by including three additional controls and adding a requirement for the development of an LTCP. Operational plans that were previously submitted by communities to document implementation of the six minimum controls would have to be updated via the NPDES permit process or through permit modification to account for the newly added minimum controls.

### Permitting Program

IDEM is the NPDES authority. CSO communities are required to implement the NMC; 93 of 107 permits have NMC requirements. CSO communities are also required to submit a CSO Operational Plan as part of the Operation and Maintenance Plan documents. The Operational Plan (CSOOP) serves as the reporting mechanism for documentation of the NMC. A SRCER is required for most communities; it addresses the monitoring requirement of the NMC. Several small communities and communities that are planning to separate its sewers do not have requirements to develop SRCERs.

LTCPs are required in 87 of 107 NPDES permits, however most of the LTCP due dates are in 2001 and beyond. Some communities that are separating their sewers or whose permits have not been recently renewed do not have LTCP requirements. Five communities have submitted LTCPs; none have been approved.

IDEM conducts inspections of CSO facilities on an annual or biannual basis. About 75 percent of the inspections are conducted by IDEM, while EPA Region 5 conducts the remaining 25 percent.

### Water Quality Standards Program

The Indiana WPCB is the rule-making arm of the IDEM water group and is responsible for reviewing and revising water quality standards. Use attainability analyses and water quality standards reviews are conducted by IDEM. In 1990, Indiana required that all waters at all times must support full-body contact uses. The state defines full-body contact as a daily maximum level for *E. coli* of 235 cfu/100ml, which has subsequently been judicially interpreted as an end-of-pipe standard. Partly as a result of this decision, the legislature adopted SEA 431 in 2000 to allow targeted relief from this requirement, provided specific criteria are met.

Under SEA 431 CSO communities may request a suspension of designated use for no more than four days after CSO discharge. IDEM guidance on SEA 431 provisions was issued in May 2001. Between 50–75 percent of CSO communities are expected to take advantage of the SEA 431 suspension of use. Such suspensions of use are considered to be changes to water quality standards and must be reviewed and approved by EPA. Suspensions of use are not likely to take place in areas that are genuine swimming areas, such as the beaches on Lake Michigan.

### Enforcement Program

Several CSO communities have been issued warnings of noncompliance, generally for failure to develop a CSOOP or a SRCER. In 2000, seven communities received a warnings of noncompliance. An additional two communities are expected to be referred to enforcement for failure to develop a SRCER in 2001. Five additional communities have already been referred to enforcement for failure to develop a CSOOP, SRCER, or both.

## CSO Permits

52

## Permitted CSO Outfalls

297

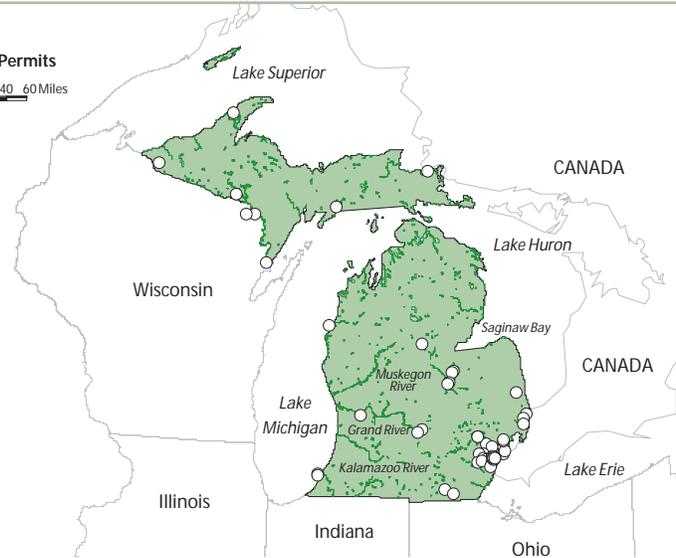
## NPDES Authority/Water Quality Standards Authority

Michigan Department of Environmental Quality (MDEQ)

## State Online Resources

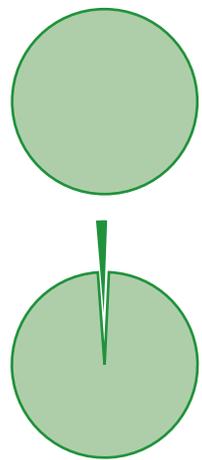
[www.deq.state.mi.us/](http://www.deq.state.mi.us/)

○ CSO Permits  
20 0 20 40 60 Miles



## Status of CSO Policy Requirements

Number of Permits    Percent



### BMP Requirements

▼ NMC	52	100%
▼ Some BMPs	0	0%
▼ No BMPs	0	0%
<b>Total</b>	<b>52</b>	<b>100%</b>

### Facility Plan Requirements

▼ LTCP	51	98%
▼ Other Facility Plan	0	0%
▼ No Facility Plan	1	2%
<b>Total</b>	<b>52</b>	<b>100%</b>

## Program Highlights

- Michigan requires design storm-based "adequate treatment" as a basis for the LTCP design. CSO communities may propose alternate treatment levels similar to EPA's "demonstration approach."
- The Rouge River Valley (Metro Detroit) is the largest CSO project, encompassing 48 communities (20 permits).
- 48 of 52 CSO communities have submitted LTCPs and received State approval.

## Strategy for CSO Control and NPDES Permitting

MDEQ requires that all CSO communities implement the NMC, and develop an LTCP. Although Michigan did not place emphasis on solids and floatables control during the interim/initial phases of the CSO Control Plans, control of solids and floatables has been required as part of the construction phase of the LTCP. Michigan requires that communities either eliminate (via sewer separation) or provide "adequate treatment" of CSOs. Adequate treatment is defined as follows:

- Retention and full treatment of the one-year, one-hour design storm.
- Primary treatment of the ten-year, one-hour design storm (primary treatment is defined as 30-minute detention time).
- Limited treatment of flows above the ten-year, one-hour design storm.

Communities that meet these requirements are presumed to meet water quality standards, corresponding to a more protective standard than the presumption approach outlined in EPA's 1994 CSO Control Policy. Some communities are attempting to demonstrate that they can achieve water quality standards with lesser treatment than that required under Michigan's adequate treatment definition. This approach is explicitly allowed in the permit.

In addition to the design standards above, approximately 25 communities have separated their sewers and are no longer considered CSSs. Several others have eliminated CSO outfalls.

### Permitting Program

MDEQ is the NPDES authority. Michigan's CSO program is implemented in two phases. Phase I requires operational improvement to minimize overflows, overflow monitoring, and construction of interim CSO control projects where feasible. Phase I also requires development of a final program leading to elimination or adequate treatment of CSOs. Phase II is the implementation of the final program in subsequent NPDES permits. All communities have submitted LTCPs, and all plans have had some degree of approval, with the exception of some projects and communities in the Rouge River watershed.

A special case in the State of Michigan is the Rouge River Watershed in and around Metro Detroit, which includes 48 communities and is spread over three counties in southeast Michigan. The Rouge River is a National Demonstration Project for wet weather pollution control and watershed management. Approximately 20 CSO-related NPDES permits are associated with communities in the Rouge River area. In many cases, these permits include several co-permittees, including the county and neighboring communities. Total costs for CSO control in the Rouge River watershed are expected to total \$1-\$3 billion when all controls are implemented by approximately 2005.

### Water Quality Standards Program

MDEQ has jurisdiction over the water quality standards program. In general, Michigan water quality standards staff are not involved in LTCP reviews, except when a community is attempting to demonstrate that it can achieve water quality standards with lesser treatment than that required under Michigan's "adequate treatment" approach. All communities meeting the design standards specified for CSO control are presumed to meet water quality standards.

Michigan rules allow the use of alternate design flows (i.e., alternate to 7Q10 low flows or 95 percent exceedance flows) when determining water quality-based requirements for intermittent wet weather discharges such as treated combined sewer overflows.

### Enforcement Program

In cases where municipalities have been unwilling or unable to agree to corrective program schedules acceptable to MDEQ, enforcement actions have been taken. Several "Director's Final Orders" have been issued to communities to develop and implement an LTCP. In addition, there is litigation and a consent order in the Rouge River Watershed. EPA Region 5 and the federal district court are also actively reviewing progress in the Rouge River CSO program.

### CSO Permits

3

### Permitted CSO Outfalls

9

### NPDES/Water Quality Standards Authority

Minnesota Pollution Control Agency (MPCA)

### Online Resources

[www.pca.state.mn.us/water/index.html](http://www.pca.state.mn.us/water/index.html)



Status of CSO Policy Requirements		Number of Permits	Percent
	<b>BMP Requirements</b>		
	NMC	3	100%
	Some BMPs	0	0%
	No BMPs	0	0%
<b>Total</b>		<b>3</b>	<b>100%</b>
	<b>Facility Plan Requirements</b>		
	LTCP	0	0%
	Other Facility Plan	3	100%
	No Facility Plan	0	0%
<b>Total</b>		<b>3</b>	<b>100%</b>

## Program Highlights

- Sewer separation has been required in permits since the late 1970s, before issuance of the CSO Control Policy. Permit conditions are essentially the NMC, and separation is the LTCP.
- A 10-year, \$331 million sewer separation program in Minneapolis, St. Paul, and South St. Paul was more than 95 percent complete when the CSO Control Policy was published in 1994. Separation was completed in 1996.
- Minneapolis and St. Paul still have eight outfalls that are capable of having a CSO; however, the two CSOs belonging to St. Paul have not overflowed within the past 5 years. The cities monitor inflow and infiltration sources and will close the regulators when they have verified that sufficient flow has been removed. Five to six regulators may remain open to protect upstream facilities. South St. Paul has no remaining outfalls and is no longer a CSO community.
- In 1993, the City of Red Wing began a program to separate all remaining combined sewers within 10 years. The program is on schedule.



### CSO Permits

93

### Permitted CSO Outfalls

1,421

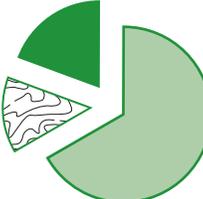
### NPDES/Water Quality Standards Authority

Ohio Environmental Protection Agency (OEPA)

### Online Resources

[www.epa.state.oh.us/oeпа.html](http://www.epa.state.oh.us/oeпа.html)



Status of CSO Policy Requirements	Number of Permits	Percent
<b>BMP Requirements</b>		
 ▼ NMC	77	82.8%
▼ Some BMPs	0	0%
▼ No BMPs	16	17.2%
<b>Total</b>	<b>93</b>	<b>100%</b>
<b>Facility Plan Requirements</b>		
 ▼ LTCP	62	66.7%
▼ Other Facility Plan	13	14.0%
▼ No Facility Plan	18	19.4%
<b>Total</b>	<b>93</b>	<b>100%</b>

### Program Highlights

- Operational Plans are required by Ohio's CSO Strategy to document implementation of the NMC.
- 80 percent (62 out of 77 required) of CSO communities have submitted Operational Plans. 16 communities are not required to implement the NMC. Of these, three have not had permits renewed since 1995 and 13 are completing separation projects.
- LTCPs are required for 62 of the 93 CSO communities. 25 LTCPs have been submitted to date and nine have been approved.
- Small communities that are separating sewers are not required to develop LTCPs.
- Initial CSS assessments of the State identified 101 CSO permittees; there are currently 93 CSO permittees.

### Strategy for CSO Control and NPDES Permitting

OEPA issued its revised CSO Strategy in 1995, which closely follows EPA's CSO Control Policy. Prior to 1995, OEPA required six minimum measures for CSO communities. The major provisions of Ohio's CSO Strategy require communities to:

- Develop an Operational Plan that includes documentation of the NMC.
- Conduct wet weather stress testing to maximize the ability of the wastewater plant to treat wet weather flows.
- Develop an LTCP.

There are some exceptions to the requirement to develop an LTCP. Small communities that are separating their sewers are not required to develop an LTCP. Communities that do not discharge to State Resource Waters, bathing waters, or within 500 yards of a public water supply intake, and for which there are no documented water quality

impacts attributable to CSOs, initially must characterize and monitor the collection system, but are not immediately required to develop a full LTCP. Development of an LTCP may be required pending a review of the characterization and monitoring data or future stream survey results. Approximately 35 percent of CSO communities fall in this latter category.

Most Ohio CSO communities are using the presumption approach in their LTCPs, choosing to capture and provide treatment for 85 percent of wet weather flows reaching the collection system. Only a handful of communities are currently working with the demonstration approach as the basis for their LTCPs.

### Permitting Program

Prior to 1995, OEPA only required six of the minimum measures to be implemented. For three CSO communities which have not had permits renewed since that time, the NMC are not required. For all others (except for 13 communities that are completing separation projects) the NMC are required by their NPDES permits. Operational Plans are the mechanism by which Ohio communities report on the implementation of the NMC. Approximately 80 percent of communities have submitted these plans to the state.

LTCPs are required for approximately 62 of the 93 communities. Small communities planning to separate its sewers are not required by the state to develop an LTCP. The state has received 25 of the required LTCPs to date, nine of which have been approved.

### Water Quality Standards Program

Ohio has an active in-stream biological monitoring program to assess water quality and compliance with standards. Bacterial standards in Ohio water bodies are set for fecal coliform and *E. coli*; however, only fecal coliform standards are included in NPDES permits. The fecal coliform standards are:

Designated Use	Water Quality Standard
Secondary recreation	No more than 10 percent of samples can exceed 5000 cfu/100mL
Primary recreation	Geometric mean cannot exceed 1000 cfu/100mL No more than 10 percent of samples can exceed 2000 cfu/100mL
Bathing beaches	Geometric mean cannot exceed 200 cfu/100mL No more than 10 percent of samples can exceed 400 cfu/100mL

The bacterial standards apply only during the May through October recreation season. Most water bodies in Ohio are classified for primary recreation, while bathing beach standards apply only at actual bathing beaches. Four communities in Ohio have requested water quality standards reviews and submitted biological monitoring data as part of its CSO control plans; reviews have been conducted as a result. No changes in standards have resulted from these reviews.

### Enforcement Program

When an enforcement action is brought in Ohio, the entire NPDES permit is examined, not only the CSO provisions. OEPA has used both Judicial Consent Orders and Administrative Orders in its enforcement program, with the majority of enforcement actions taking the form of Judicial Consent Orders. OEPA has issued enforcement orders for: NMC implementation (three) LTCP development (two); and LTCP implementation (four). (There is overlap between the categories.) In addition, OEPA has joined in EPA Region 5 enforcement actions in Youngstown and Toledo.

## CSO Permits

2

## Permitted CSO Outfalls

123

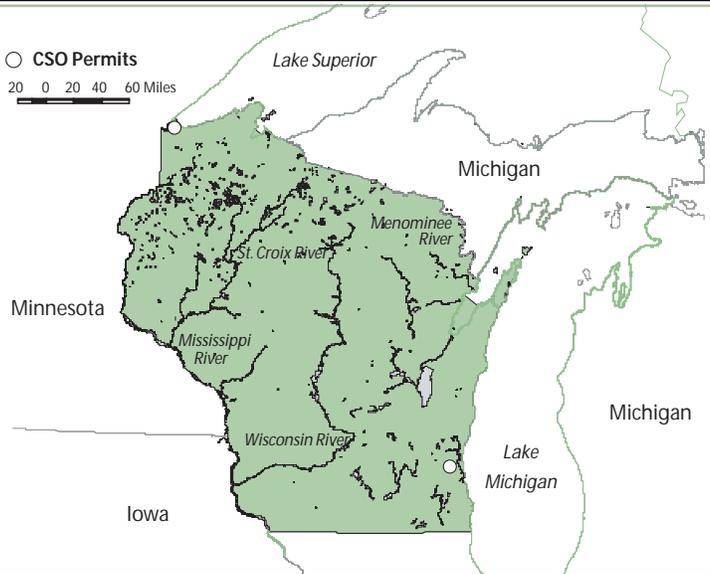
## NPDES/Water Quality Standards Authority

Wisconsin Department of Natural Resources (WDNR)

## State Online Resources

[www.dnr.state.wi.us/environment/protect/water.html/](http://www.dnr.state.wi.us/environment/protect/water.html/)

○ CSO Permits  
20 0 20 40 60 Miles



## Status of CSO Policy Requirements

### Number of Permits

### Percent

#### BMP Requirements

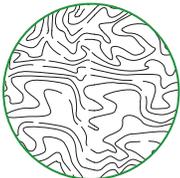


▼ NMC	0	0%
▼ Some BMPs	0	0%
▼ No BMPs	2	100%

#### Total

2 100%

#### Facility Plan Requirements



▼ LTCP	0	0%
▼ Other Facility Plan	2	100%
▼ No Facility Plan	0	0%

#### Total

2 100%

## Program Highlights

- Wisconsin has two CSO permittees; Superior and Milwaukee.
- The Milwaukee Metropolitan Sewerage District has maintained an in-line storage system (ISS) for the conveyance and storage of wet-weather flows since 1994. This system consists of a series of tunnels having a total capacity of 400 million gallons and a combined length of more than 20 miles. Since 1994, the ISS has kept more than 37 million gallons of untreated CSO and SSO from entering area waterways, including Lake Michigan. Between 1994 and 2000, CSOs decreased from approximately 40–60 events per year to an average of 2.5 events per year.
- The City of Superior operates a satellite treatment facility for combined wastewater. The permit requires this facility to meet secondary effluent treatment limitations.
- The NMC have not formally been required in permits, since CSO facility plans were issued prior to the issuance of the CSO Control Policy.



## CSO Permits

15

## Permitted CSO Outfalls

102

## NPDES Authority/Water Quality Standards Authority

Iowa Department of Natural Resources (IDNR)

## Online Resources

[www.state.ia.us/government/dnr/organiza/epd/comp\\_enf/index.htm](http://www.state.ia.us/government/dnr/organiza/epd/comp_enf/index.htm)  
[www.state.ia.us/government/dnr/organiza/epd/wastwtr/wastwtr.htm/](http://www.state.ia.us/government/dnr/organiza/epd/wastwtr/wastwtr.htm/)

○ CSO Permits

50 0 50 100 Miles



## Status of CSO Policy Requirements

Number of Permits    Percent

### BMP Requirements

▼ NMC	1	6.7%
▼ Some BMPs	14	93.3%
▼ No BMPs	0	0%
<b>Total</b>	<b>15</b>	<b>100%</b>

### Facility Plan Requirements

▼ LTCP	1	6.7%
▼ Other Facility Plan	6	40.0%
▼ No Facility Plan	8	53.3%
<b>Total</b>	<b>15</b>	<b>100%</b>

## Program Highlights

- The current state CSO strategy was developed in 1990 and requires evaluating hydraulic capacity and incorporating the six minimum measures into operations and maintenance plans; the strategy was incorporated into NPDES permits issued/reissued through the mid-1990s.
- Some CSOs were addressed under FEMA-funded hydraulic capacity separation and upgrade projects following Mississippi River floods.
- IDNR is working to incorporate the NMC and LTCPs into permits, with stakeholder involvement, as they are reissued.
- 13 of 15 facilities have documented capacity upgrades, separation, hydraulic rehabilitation, and general improvements to treat more wet-weather flows; these improvements are generally included in facility planning documents and capital improvement plans, or were formalized through a compliance schedule in an enforceable order for hydraulic overloads.

## Strategy for CSO Control and NPDES Permitting

IDNR based its CSO program on the 1989 National CSO Control Strategy and formalized its state strategy in 1990 to:

- Eliminate dry-weather CSOs (ensure that CSOs occurred only during wet weather events).
- Encourage communities to separate sewers where possible.
- Bring all CSO discharge points into compliance with technology-based requirements of the CWA and applicable state water quality standards.
- Minimize the impacts of wet-weather overflows on water quality, aquatic biota, and human health.

The strategy also outlines an approach and time frame for inventorying all CSO discharge points; evaluating current water quality standards criteria and stream use

designations, and technology-based limitations for wet-weather CSO water quality impacts; a rule-making process within the state for implementing the strategy; and a process for including this in the NPDES permitting process.

After the CSO Control Policy was developed, Iowa chose to continue with implementation of its current state strategy, citing the following rationale: time and investment in formalizing the Iowa state strategy, uncertainty of whether or not the CSO Control Policy would be modified and/or made law, similarity of the six minimum measures and the new NMC, lack of formal state program funding for the CSO program, and prioritization of permitting backlogs.

### Permitting Program

Since inception of its CSO strategy through 1999, IDNR included a section called "Special Conditions—Combined Sewer Overflows" in all NPDES permits covering CSO communities that had not been identified as moving forward with complete separation. Generally, this condition included the following provisions:

- Documentation specifying the collection system as having both combined storm and sanitary sewers with CSOs.
- The hydraulic capacity determined within 6 months of issuance date, for each sewer between the point of overflow and the treatment facility.
- An operational plan, developed and submitted within nine months of issuance date, with the objective of meeting the six minimum measures outlined in the National CSO Control Strategy and implement the approved plan within one year.
- A re-opener clause related to possible changes in state standards or effluent limits related to CSOs.

During the last round of permit reissuance, EPA Region 7 objected to IDNR not including the CSO Control Policy program elements in NPDES permits for CSO communities. IDNR now has an approach of contacting the CSO communities to develop a consensus/stakeholder approach and time frame for implementing the NMC and developing an LTCP. This approach is formalized in a special CSO section of the reissued permit. Beginning in 2000, reissued permits include a special condition with the following stipulations:

- Development and submission of an operational plan for implementing the NMC within six months of permit issuance;
- Implementation of the operational plan within 24 months of issuance and documentation of implementation;
- Submission of an LTCP within 36 months of issuance;
- Provision not to discharge any pollutant at a level that causes or contributes to an in-stream excursion above the numeric or narrative criteria in Iowa's water quality standards; and
- A re-opener clause that addresses changes in water quality standards, information indicating that the proposed level of CSO controls aren't meeting water quality standards, or new information generated from the LTCP.

To date, one CSO community permit has been reissued with identified milestones for implementing the CSO Control Policy objectives in the NPDES permit, and three others are pending reissuance. Of the original 20 CSO communities identified, five have completely separated their systems, and one community was found not to have a combined sewer system. Recently, Iowa issued a draft permit to the City of Des Moines for its CSOs, effectively increasing the number of Iowa permits by one. Des Moines had been covered under a regional wastewater treatment provider's permit.

Based on the 2000 Amendments to the CWA, IDNR plans on evaluating the codification of the CSO Control Policy and determining how to formally incorporate the Policy into its state regulatory program.

### **Water Quality Standards Program**

While a process for evaluation of water quality standards was identified in the IDNR CSO Strategy, the approach was not formalized or implemented state-wide. IDNR staff responsible for the water quality standards program are not involved in the CSO planning process, have not conducted any reviews for receiving waters impacted by CSOs, and generally do not give CSO-impacted waters any special consideration during the triennial review process for water quality standards.

### **Enforcement Program**

Ongoing enforcement actions within Iowa's CSO communities are not specifically CSO-related. Administrative orders and other actions, at the state and regional level, have been issued to address effluent limits and loadings issues related to hydraulic capacity problems during wet weather conditions. Those orders within CSO communities have led to CSO planning, abatement, and elimination.



### CSO Permits

3

### Permitted CSO Outfalls

71

### NPDES/Water Quality Standards Authority

Kansas Department of Health and Environment (KDHE)

### Online Resources

[www.kdhe.state.ks.us/](http://www.kdhe.state.ks.us/)  
[www.kdhe.state.ks.us/water/index.html](http://www.kdhe.state.ks.us/water/index.html)



Status of CSO Policy Requirements		Number of Permits	Percent
	<b>BMP Requirements</b>		
	NMC	3	100%
	Some BMPs	0	0%
	No BMPs	0	0%
<b>Total</b>		<b>3</b>	<b>100%</b>
	<b>Facility Plan Requirements</b>		
	LTCP	3	100%
	Other Facility Plan	0	0%
	No Facility Plan	0	0%
<b>Total</b>		<b>3</b>	<b>100%</b>

### Program Highlights

- All three CSO communities (Kansas City, Atchison, and Topeka) have submitted plans for implementation of the NMC. All three NMC plans have been approved by KDHE and the communities are implementing them.
- Permits for all three CSO communities require submittal of an LTCP. Kansas City and Topeka have submitted their LTCPs for review by KDHE, these plans are presently under review.
- The NPDES permit for Atchison, effective September 1, 2001, requires completion of an LTCP by October 1, 2004.



## CSO Permits

9

## Permitted CSO Outfalls

49

## NPDES/Water Quality Standards Authority

Missouri Department of Natural Resources (MDNR)

## Online Resources

[www.dnr.state.mo.us/deq/homedeq.htm](http://www.dnr.state.mo.us/deq/homedeq.htm)

[www.dnr.state.mo.us/deq/wpcp/homewpcp.htm](http://www.dnr.state.mo.us/deq/wpcp/homewpcp.htm)

○ CSO Permits  
20 0 20 40 60 Miles



## Status of CSO Policy Requirements

### Number of Permits

### Percent



#### BMP Requirements

▼ NMC	4	44.4%
▼ Some BMPs	0	0%
▼ No BMPs	5	55.6%

#### Total

9

100%



#### Facility Plan Requirements

▼ LTCP	4	44.4%
▼ Other Facility Plan	1	11.2%
▼ No Facility Plan	4	44.4%

#### Total

9

100%

## Program Highlights

- CSO planning for Kansas City has been a high priority due in part to highly-publicized CSO/SSO problems in Brush Creek. Kansas City is implementing the NMC and developing an LTCP.
- The City of Cape Girardeau is nearing completion of their sewer separation program.
- The Metropolitan St. Louis Sewer District has submitted an LTCP to MDNR.
- The City of Sedalia and MDNR are negotiating effluent limitations for a CSO treatment project.
- Missouri will be reissuing expired permits with requirements for the NMC and LTCPs.



### CSO Permits

2

### Permitted CSO Outfalls

26

### NPDES/Water Quality Standards Authority

Nebraska Department of Environmental Quality (NDEQ)

### State Online Resources

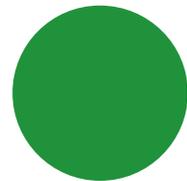
[www.deq.state.ne.us/](http://www.deq.state.ne.us/)  
[www.deq.state.ne.us/Programs.nsf/pages/WQD](http://www.deq.state.ne.us/Programs.nsf/pages/WQD)



### Status of CSO Policy Requirements

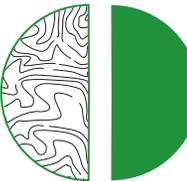
Number of Permits    Percent

#### BMP Requirements



▼ NMC	0	0%
▼ Some BMPs	0	0%
▼ No BMPs	2	100%
<b>Total</b>	<b>2</b>	<b>100%</b>

#### Facility Plan Requirements



▼ LTCP	0	0%
▼ Other Facility Plan	1	50%
▼ No Facility Plan	1	50%
<b>Total</b>	<b>2</b>	<b>100%</b>

### Program Highlights

- The Cities of Omaha and Plattsmouth are Nebraska's only CSO dischargers. The City of Ord, which was previously identified as having some combined sewers, has eliminated CSO discharges.
- Omaha has voluntarily implemented the NMC and is developing a watershed approach to LTCP development.
- Neither community has a CSO requirement in its current permit. CSO requirements will be added to the Plattsmouth general NPDES permit when it is reissued, and Omaha will have a separate CSO permit by the end of 2001.

### Strategy for CSO Control and NPDES Permitting

Plattsmouth discharges to the Missouri River. Permit requirements to address CSO discharges will be included in the reissuance of its general NPDES permit, which is currently under review.

Omaha, which discharges to the Missouri River and tributaries, has voluntarily implemented the NMC. The management plan for implementing the NMC was submitted to NDEQ in 1997. This management plan continues to be revised as necessary to reflect operation and maintenance changes.

Omaha is also in the process of collecting background information so that a watershed approach can be used in developing an LTCP. Elements of the watershed-based LTCP include defining baseline conditions, developing the range of beneficial uses, defining CSO and non-CSO control levels, and the selection and implementation of a CSO control program. NDEQ anticipates issuing a separate CSO permit to the City of Omaha before the end of 2001.



## CSO Permits

1

## Permitted CSO Outfalls

1

## NPDES/Water Quality Standards Authority

South Dakota Department of Environment and Natural Resources (SDENR)

## State Online Resources

[www.state.sd.us/denr/denr.html](http://www.state.sd.us/denr/denr.html)



Status of CSO Policy Requirements		Number of Permits	Percent
	<b>BMP Requirements</b>		
	NMC	1	100%
	Some BMPs	0	0%
	No BMPs	0	0%
<b>Total</b>		<b>1</b>	<b>100%</b>
	<b>Facility Plan Requirements</b>		
	LTCP	1	100%
	Other Facility Plan	0	0%
	No Facility Plan	0	0%
<b>Total</b>		<b>1</b>	<b>100%</b>

- ### Program Highlights
- South Dakota's one CSO community, Lead, chose sewer separation as its primary CSO control.
  - Sewer separation is approximately 10 percent complete.

## Strategy for CSO Control and NPDES Permitting

Lead, South Dakota's only CSO community, has one outfall. It was originally listed in the permit for the local sanitary district; however, following the release of EPA's CSO Control Policy, the sanitary district requested that the CSO outfall be removed from its permit and the community be permitted directly. In December of 1996, the SDENR issued a CSO permit to the community. The permit required implementation and documentation of the NMC and development of an LTCP. The LTCP was approved in January of 1999, and it recommended sewer separation as the primary CSO control. The community has completed approximately 10 percent of the proposed sewer separation and plans to achieve full separation within the next few years.



### CSO Permits

3

### Permitted CSO Outfalls

41

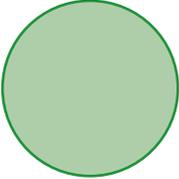
### NPDES/Water Quality Standards Authority

California Regional Water Quality Control Boards (RWQCBs)

### Online Resources

[www.swrcb.ca.gov/](http://www.swrcb.ca.gov/)



Status of CSO Policy Requirements	Number of Permits	Percent
<b>BMP Requirements</b>		
 NMC	3	100%
 Some BMPs	0	0%
 No BMPs	0	0%
<b>Total</b>	<b>3</b>	<b>100%</b>
<b>Facility Plan Requirements</b>		
 LTCP	1	33%
 Other Facility Plan	2	67%
 No Facility Plan	0	0%
<b>Total</b>	<b>3</b>	<b>100%</b>

- ### Program Highlights
- California's RWQCBs develop Basin Plans which include CSO planning.
  - California has three CSO permits covering two CSO communities: San Francisco and Sacramento.
  - San Francisco's CSO approach was developed prior to EPA's 1994 CSO Control Policy; NMC were implemented and an LTCP was not required because of pre-policy planning efforts.
  - Sacramento's CSO program was adapted to meet CSO Policy requirements; NMC were implemented, and an LTCP was approved and is being implemented.
  - Provisions were developed for variations to State water quality standards and designated uses.
  - Initial CSS assessments of the State identified four CSO permittees; currently there are three CSO permittees.

### Strategy for CSO Control and NPDES Permitting

California's State Water Resources Control Board (SWRCB) administers water rights, water pollution control, and water quality functions for the state as part of the California EPA. Operating under the umbrella of the SWRCB are nine RWQCBs, whose missions are to develop and enforce water quality objectives and implementation plans that will best protect the beneficial uses of the state's waters. The RWQCBs are region-specific, recognizing local differences in climate, topography, geology and hydrology within the large and diverse State of California. RWQCBs develop "Basin Plans" for each major watershed, issue NPDES permits, take enforcement action against violators, and monitor water quality. The two CSO communities (San Francisco and Sacramento) fall within the governance of RWQCB Region 2 (San Francisco Bay) and RWQCB Region 5 (the Central Valley), respectively.

### San Francisco Bay RWQCB CSO Approach

In the mid-1970s, the San Francisco Bay RWQCB approved a Master Plan and Environmental Impacts Statement and Report developed to address San Francisco's CSOs. These planning efforts led to the implementation of a series of structural and in-system controls prior to the development of the CSO Control Policy. Site-specific solutions were developed and implemented based on San Francisco's sewer system (two distinct systems; many steep slopes hindering storage in the system), with the overall objective of addressing CSO impacts on public health in high-contact areas such as public parks, beaches, and recreation areas.

### Central Valley RWQCB CSO Approach

In the early 1990s, the Central Valley RWQCB required Sacramento to initiate planning to address hydraulic capacity issues that were resulting in frequent CSOs, SSOs, and street flooding. After the development of the CSO Control Policy, the Central Valley RWQCB required that the previously initiated planning effort include the provisions identified in the Policy. This approach was formalized by requiring NMC and development of an LTCP in the NPDES permit. The LTCP focused on reducing flow into the system and increasing both storage and treatment capacity.

## Permitting Program

The RWQCBs issue NPDES permits within California, with input and oversight by EPA Region 9. All CSO facilities have special conditions within the permit that outline facility requirements, which are based on the community's status in planning and implementing CSO controls. All California NPDES permits for CSOs have narrative language requiring the ongoing operation of the system through use of the NMC.

In the San Francisco area, two NPDES permits contain CSO provisions. The San Francisco Bay RWQCB has included special CSO language in both permits requiring the NMC and certifies that all NMC have been implemented. LTCPs are not required in San Francisco as pre-policy planning efforts led to nonstructural and structural controls that meet its water quality objectives (see discussion under Water Quality Standards Program below).

In Sacramento, the Central Valley RWQCB administers one NPDES permit to the City of Sacramento for the CSS and wet weather treatment facilities. The Central Valley RWQCB formalized the requirements for NMC and the development of an LTCP in the 1996 reissuance of the NPDES permit. The RWQCB has certified that all NMC are in place and that projects identified in the approved LTCP will be completed by 2001.

## Water Quality Standards Program

By law, the RWQCBs are required to develop, adopt, and implement Water Quality Control Plans (Basin Plans) for major watersheds. Basin Plans provide the framework for protection of water quality in California; they also include identification of beneficial uses, water quality objectives to protect beneficial uses, and an implementation program to ensure that beneficial uses are protected. All basin plans undergo triennial reviews. The SWRCB developed two state-wide water quality control documents: Water Quality Control Plan for Ocean Waters of California (Ocean Plan) and Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California (Thermal Plan). These plans describe objectives and effluent limitations for ocean waters. None of the plans specifically address CSO-impacted waters; however, general provisions are cited which consider modifications to water quality objectives in cases where compliance would be prohibitively expensive or technically impossible.

The San Francisco RWQCB has issued two orders related to CSO-impacted water quality standards:

- The Board Order, issued in 1979, allowed for different long-term average overflow frequencies (1, 4, or 10) per year for specific overflow points within San Francisco's Bayside combined sewer system. The order was based on CSO planning information (i.e., facility costs to achieve specific overflow frequencies and associated water quality benefits), staff findings, and public input. The approach identified in the order was expected to provide adequate protection of beneficial uses.
- In 1979, the SWRCB also issued (and EPA Region 9 approved) an exception to all water quality standards in the Ocean Plan for shoreline CSOs for San Francisco's Oceanside combined sewer system (Order WQ79-16). The general findings, issued in 1979, indicated that this exception would not compromise the protection of ocean waters for beneficial uses. This approach would therefore be presumed to provide an adequate level of control to meet the water quality-based provisions of the CWA (and thus numerical limits applicable to treated shoreline CSOs were not needed).

There are no known CSO-related water quality standards actions within the Central Valley RWQCB.

### Enforcement Program

The RWQCBs have authority to implement and enforce the water quality laws, regulations, policies, and plans to protect the waters of the state. RWQCBs have a number of formal and informal enforcement mechanisms that can be issued to CSO communities. For the two CSO communities in California, one enforcement action has been issued for violations of state water quality provisions directly related to CSOs. A Cease and Desist Order was issued to Sacramento requiring them to address chronic CSOs, SSOs, and sanitary sewage erupting from manholes during wet weather events. This order initiated Sacramento's pre-CSO Policy planning efforts and eventually led to the development and implementation of its LTCP.



## CSO Permits

1

## Permitted CSO Outfalls

3

## NPDES Authority

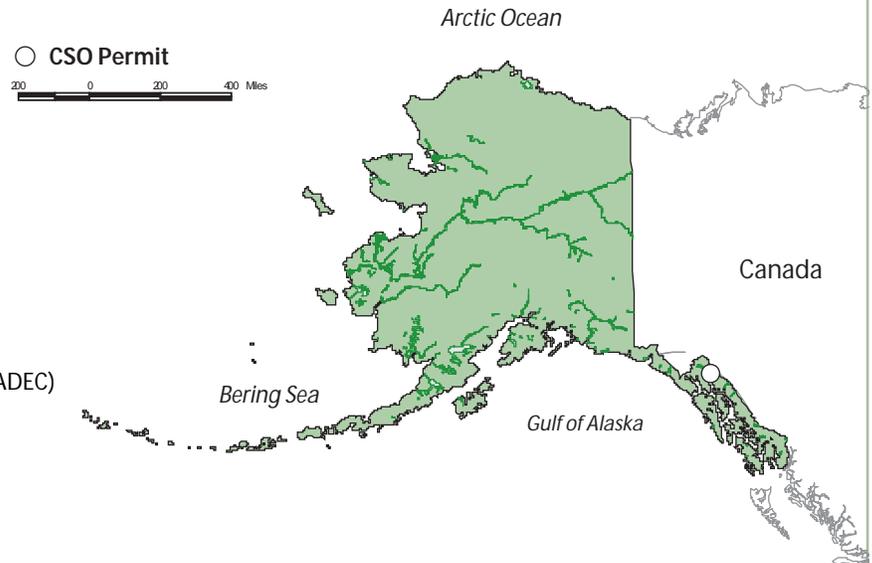
EPA Region 10

## Water Quality Standards Authority

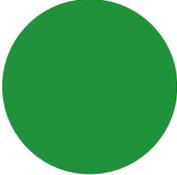
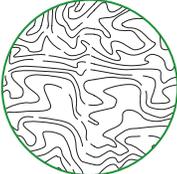
Alaska Department of Environmental Conservation (ADEC)

## State Online Resources

[www.state.ak.us/dec/deh/water/drinking.htm](http://www.state.ak.us/dec/deh/water/drinking.htm)



## Status of CSO Policy Requirements

	Number of Permits	Percent
<b>BMP Requirements</b>		
 ▼ NMC	0	0%
▼ Some BMPs	0	0%
▼ No BMPs	1	100%
<b>Total</b>	<b>1</b>	<b>100%</b>
<b>Facility Plan Requirements</b>		
 ▼ LTCP	0	0%
▼ Other Facility Plan	1	100%
▼ No Facility Plan	0	0%
<b>Total</b>	<b>1</b>	<b>100%</b>

## Program Highlights

- Alaska's one CSO community, Juneau/Douglas, chose sewer separation as its approach for long-term CSO control.
- EPA Region 10, the permitting authority, is proposing to require the NMC and separation plan as an LTCP alternative during re-issuance of the permit in December 2001.

## Strategy for CSO Control and NPDES Permitting

Because Alaska has one CSO community (Juneau/Douglas), a state-wide CSO approach or strategy was not developed. The community chose to eliminate CSOs through systematic separation of its combined sewer, starting with separation in the lower, flatter areas and integrating sewer separation with other capital improvement projects. To reduce the overall number and severity of CSOs, the community also developed a protocol for routing more flow to the treatment facility as the separation work progressed. Implementation of this approach is ongoing.

## Permitting Program

EPA Region 10 is the NPDES authority for Alaska; ADEC certifies the permits issued by the region. Since the community committed to separate its combined system, EPA Region 10 did not formalize the components identified in the CSO Control Policy into the last

NPDES permit (1996). EPA Region 10 included a CSO section in the permit requiring monitoring and reporting of CSOs. The current permit expires in 2001, and Region 10 indicates that the new permit will include provisions for implementing and reporting the NMC and for formalizing the sewer separation schedule.

### **Water Quality Standards Program**

ADEC is responsible for the development, issuance, and implementation of Alaska's water quality standards. State standards do not allow for or address variances or amendments to current water quality standards for CSO-impacted waterways. The community's approach (i.e., separation) will eliminate the need for the state to consider variances or amendments to current water quality standards.

### **Enforcement Program**

Both EPA Region 10 and ADEC are responsible for enforcement and compliance of NPDES permitting within the State of Alaska. There are no documented enforcement efforts or activities related to CSOs.

### CSO Permits

3

### Permitted CSO Outfalls

99

### NPDES/Water Quality Standards Authority

Oregon Department of Environmental Quality (ODEQ)

### Online Resources

<http://waterquality.deq.state.or.us/wq/>



Status of CSO Policy Requirements		Number of Permits	Percent
	<b>BMP Requirements</b>		
	NMC	3	100%
	Some BMPs	0	0%
	No BMPs	0	0%
	<b>Total</b>	<b>3</b>	<b>100%</b>
	<b>Facility Plan Requirements</b>		
	LTCP	3	100%
	Other Facility Plan	0	0%
	No Facility Plan	0	0%
	<b>Total</b>	<b>3</b>	<b>100%</b>

- ### Program Highlights
- All three CSO communities (Astoria, Corvallis, and Portland) are under a stipulation and final order to reduce CSOs.
  - Corvallis is eliminating overflows through the construction of additional treatment facilities (scheduled for completion by December 2001).
  - Portland and Astoria are in the process of constructing additional treatment facilities.
  - Oregon's overflow reduction program predates the CSO Control Policy (and the 1989 National CSO Control Strategy).
  - Initial CSS assessments of the State identified 30 CSO permittees. There are currently three CSO permits.

### Strategy for CSO Control and NPDES Permitting

Prior to the 1989 National CSO Control Strategy, ODEQ had a mechanism in place for addressing overflows. The program generally did not differentiate between overflows from combined and separate sanitary sewers. In 1981, the Oregon Environmental Quality Commission (EQC) adopted rules specifying that:

*Sewerage Construction programs should be designed to eliminate raw sewage bypassing during the summer recreation season (except for a storm event greater than the 1 in 10 year 24-hour storm). A program and timetable should be developed through negotiations with each affected source. Bypasses which occur during the remainder of the year should be eliminated in accordance with an approved longer term maintenance based correction program. More stringent schedules may be imposed as necessary to protect drinking water supplies and shellfish growing areas." (OAR 340-41-034(3) (f)).*

Oregon's policy provided a means to prioritize overflows for reduction or elimination. For example, overflows that contribute to shellfish contamination were among the first targeted for elimination. Many CSO communities within the Willamette Valley that experienced overflows during the summer recreation period were required to undertake corrective action to eliminate summer overflows; other CSO communities that were under a longer term permit schedule elected to separate its systems.

As the program progressed and permits came up for renewal, all CSO communities with reported outfalls were placed under a compliance schedule to eliminate overflows in accordance with the EQC policy, or were required to assess the frequency and duration of overflows to aid in determining further compliance actions that may be needed. Although these actions did not anticipate EPA's 1989 National CSO Control Strategy, Oregon's program did acknowledge the CWA objectives to address point sources of pollution that can affect compliance with water quality standards and beneficial use protection.

## CSO Permits

11

## Permitted CSO Outfalls

219

## NPDES/Water Quality Standards Authority

Washington Department of Ecology (Ecology)

## Online Resources

[www.ecy.wa.gov/](http://www.ecy.wa.gov/)  
[www.ecy.wa.gov/programs/wq/wqhome.html](http://www.ecy.wa.gov/programs/wq/wqhome.html)



Status of CSO Policy Requirements		Number of Permits	Percent	
	<b>BMP Requirements</b>			
		NMC	11	100%
		Some BMPs	0	0%
		No BMPs	0	0%
<b>Total</b>		<b>11</b>	<b>100%</b>	
	<b>Facility Plan Requirements</b>			
		LTCP	11	100%
		Other Facility Plan	0	0%
		No Facility Plan	0	0%
<b>Total</b>		<b>11</b>	<b>100%</b>	

### Program Highlights

- The state program was initiated in 1987 and allows one average annual overflow.
- The state program requires a CSO reduction plan, which Ecology equates to an LTCP. Annual reporting and five-year updates to CSO reduction plans are also required.
- All CSO communities have submitted NMC documentation, and all but one (a newly permitted facility) have submitted and are implementing CSO reduction plans.
- A CSO compliance schedule is included in the NPDES permits.
- Initial CSS assessments of the state identified 15 CSO permittees; there are currently 11 permittees.

## Strategy for CSO Control and NPDES Permitting

In 1985, the Washington state legislature enacted law within the state code to begin CSO planning through Ecology. The goal of the code was to achieve the greatest reduction in CSO discharges as soon as possible. In response to this code, Chapter 173-245 of the Washington Administrative Code (WAC), "Submission of Plans and Reports for Construction and Operation of Combined Sewer Overflow Reduction Facilities," was developed and enacted in 1987 to enable Ecology to administer the program. The principal features of the code required the development of a CSO reduction plan to reduce overflows to an average of no more than one per year. Required components of the reduction plans are as follows:

- Documentation of CSO activity—Complete a field assessment and mathematical modeling study to determine CSO locations, overflow frequency, and overflow quantity, and to characterize the discharge and assess historical impacts.

- Analysis of control/treatment alternatives—Consider and assess use of BMPs (e.g., sewer ordinances, pretreatment, sewer maintenance programs, I/I programs, etc.), storage and disinfection, routing more flow to the plant, site/outfall treatment, and separation.
- Analysis of selected treatment/control projects—Analyze water quality impacts of the control projects.
- Priority ranking—Rank the selected control alternatives to ensure impacts to sensitive areas are the highest priority and other projects are ranked based on cost-effectiveness and overall environmental benefits.
- Schedule—Propose a schedule for achieving the greatest reduction as soon as possible (if more than five years; include the priority projects over the first five years).

Ecology evaluated its program and determined that it exceeded or met the goals of EPA's CSO Control Policy, certifying that CSO reduction plans equated to LTCPs. The only deficiency noted was in meeting the public participation component, which was not listed in the Ecology requirements. Ecology is working to ensure this requirement is met by CSO communities as they develop their controls and programs.

### Permitting Program

NPDES permitting is handled through the four regional Ecology offices; three offices have CSO-permitted facilities with more than 70 percent of the facilities under the management of the Northwest regional office. All regional offices have included CSO conditions within the NPDES permit for CSO communities requiring the following:

- A list of CSO outfall locations.
- Annual reports on CSO activities and overflows for the past year and planned projects for the next year.
- A CSO reduction plan amendment, due upon renewal of the permit.
- A compliance schedule.

All CSO facilities have submitted NMC, and all but one (a newly permitted collection system) have submitted and are implementing controls identified in its CSO reduction plans. As permits are reissued, Ecology is attempting to include additional CSO conditions to ensure that public participation is addressed in CSO planning at all facilities.

### Water Quality Standards Program

Water quality standards revisions and triennial reviews are conducted by Ecology's headquarters office. No special considerations are given to CSO-impacted waters, as the state's policy on CSOs (no more than one annual average overflow) is believed to enable communities to meet water quality standards. There are no provisions or plans for allowing revisions or variances to water quality standards within state waters.

### Enforcement Program

Enforcement of the CSO program is handled through Ecology and inherently is included in the review of the annual CSO reports, progress made in meeting water quality objectives, and progress made in completing projects as outlined in the CSO reduction plan. Ecology staff can issue compliance or other enforcement orders that are incorporated into a compliance schedule attached to the NPDES permit. EPA Region 10 also has program oversight; however, there are no known EPA-enforcement actions related to CSO compliance in Washington.