



State of Ohio Environmental Protection Agency

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# Sewage Sludge Use or Disposal in Ohio - Calendar Year 2002

Prepared by:  
Sewage Sludge Management Program  
Permits and Compliance Section  
Ohio EPA - Division of Surface Water

## **Sewage Sludge Use or Disposal in Ohio - Calendar Year 2002**

Publicly owned treatment works and semi-public treatment works (hereinafter collectively referred to as POTWs) in Ohio are required to have an effective National Pollutant Discharge Elimination System (NPDES) permit to discharge treated effluent to waters of the State. Included in Part II of most NPDES permits is a requirement that an annual sewage sludge report, describing sewage sludge use or disposal activities for the previous year, be submitted to the Ohio Environmental Protection Agency (EPA). The purpose of this requirement is to provide information on sewage sludge management trends, to identify areas where Ohio EPA should focus its technical and compliance assistance efforts, and to provide data to support public education and outreach activities.

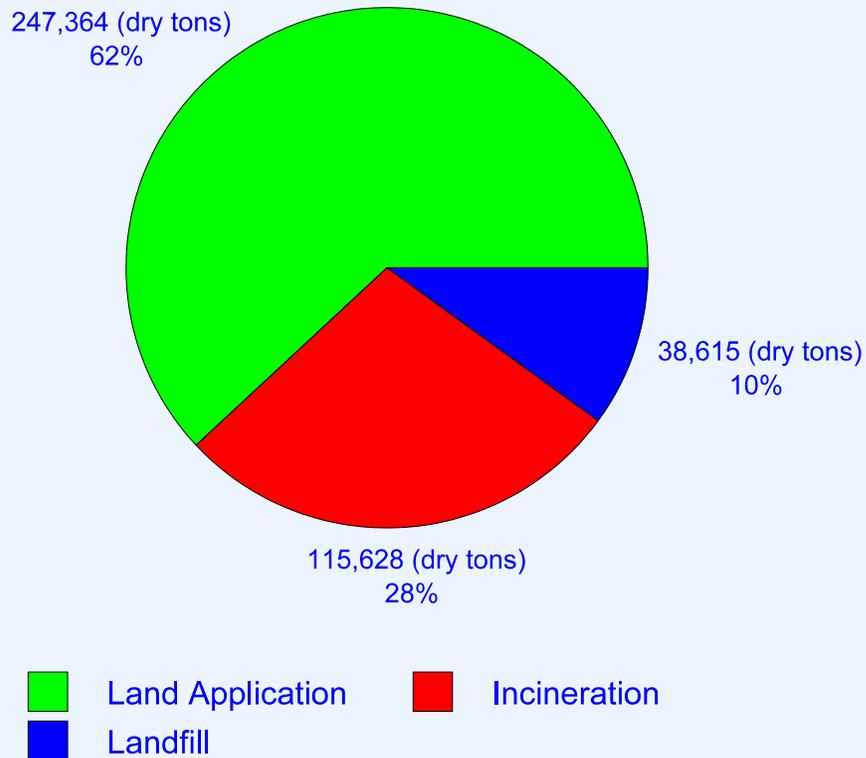
Each fall annual sewage sludge report forms and instructions are mailed to NPDES permit holders that are required to submit an annual sewage sludge report. When the forms for calendar year 2002 were mailed, 1,498 of the 1,587 NPDES permitted POTWs were required to submit an annual sewage sludge report. 1,319 completed annual sewage sludge reports were returned for calendar year 2002. A sewage sludge facility is classified as a major when it has an average daily effluent flow greater than or equal to one million gallons per day, or has an Ohio EPA approved industrial pretreatment program, or both. Major POTWs generate approximately ninety per cent of the sewage sludge in Ohio.

There are several means by which POTWs in Ohio use or dispose of sewage sludge. The most common are land application for agronomic benefit, incineration, and disposal in a landfill. Table 1 tabulates these three options as reported to Ohio EPA.

**Table 1: Sewage Sludge Use or Disposal in Ohio; Calendar Year 2002**

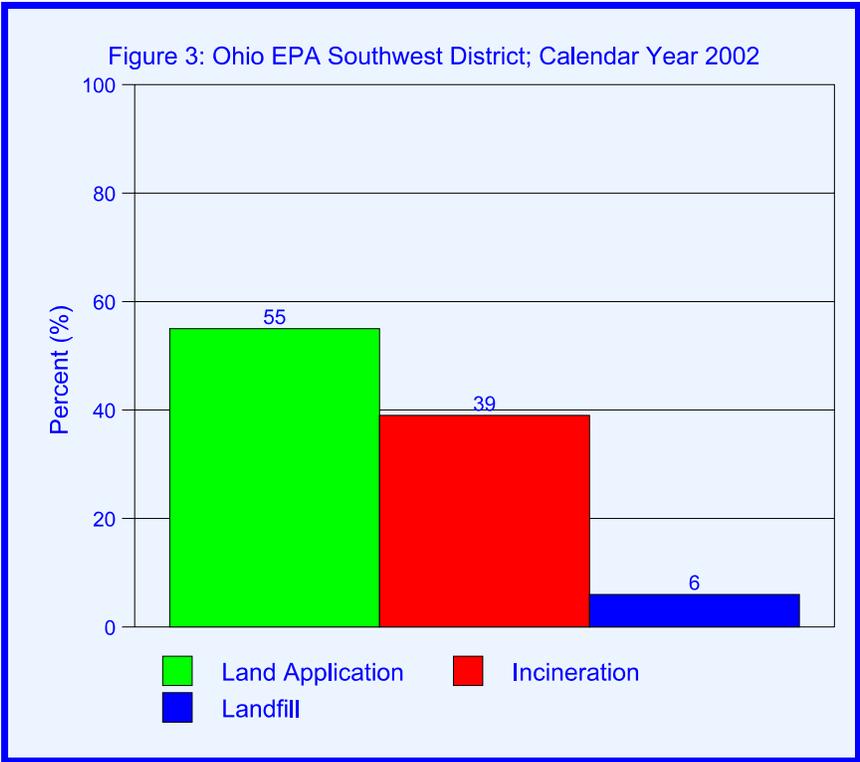
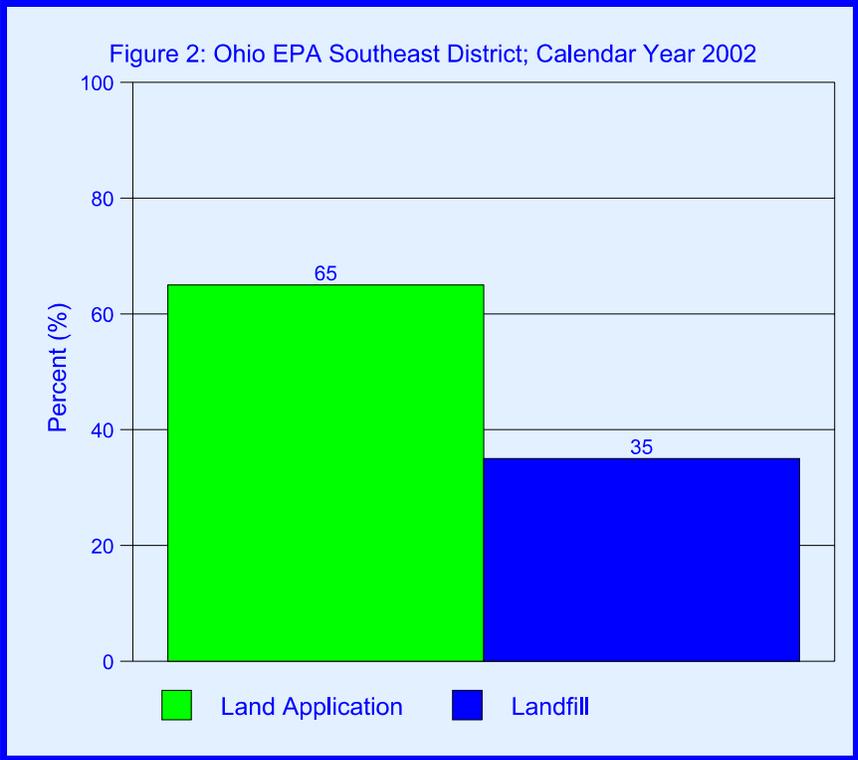
	<b>Dry Tons</b>	<b>%</b>
Land Application	247,364	62
Incineration	115,628	28
Landfill	38,615	10
<b>Sub-Total</b>	<b>401,607</b>	<b>100</b>
Out-of-State	17,728	
<b>Total</b>	<b>419,335</b>	

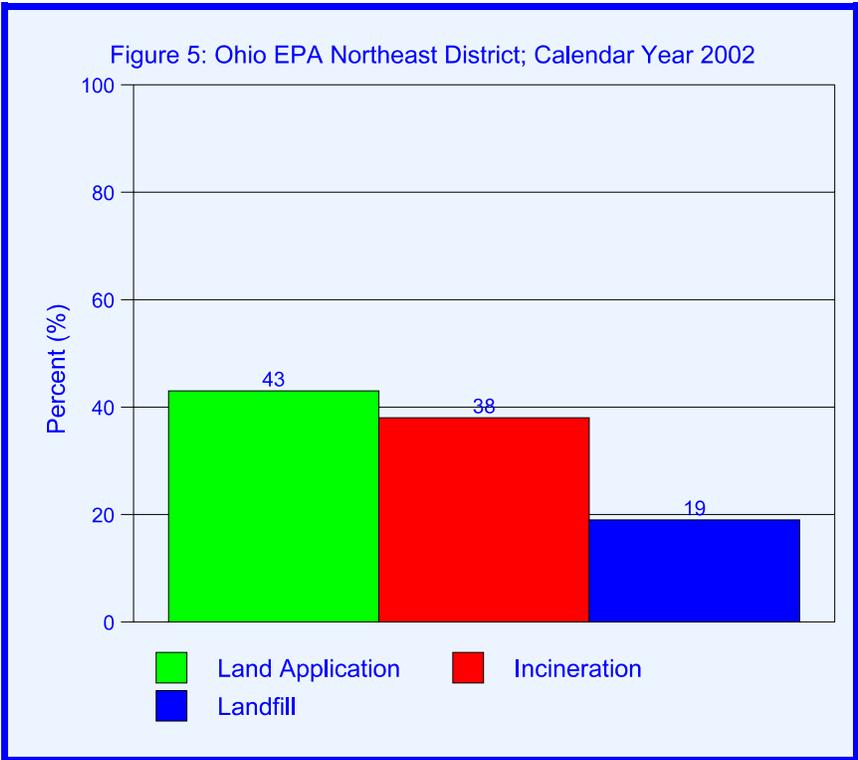
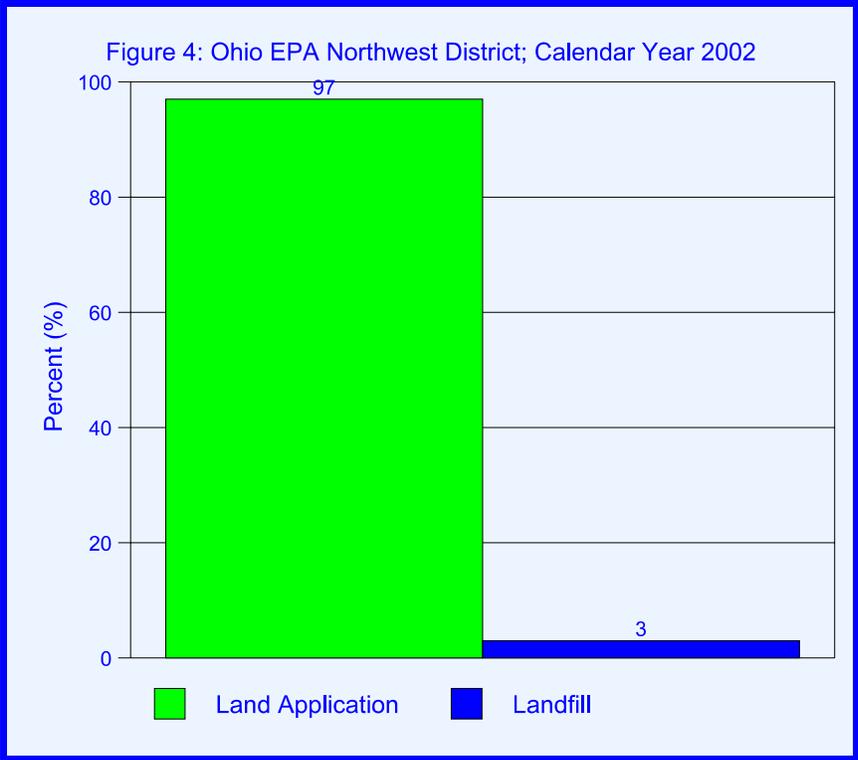
Figure 1: Sewage Sludge Use or Disposal in Ohio; Calendar Year 2002

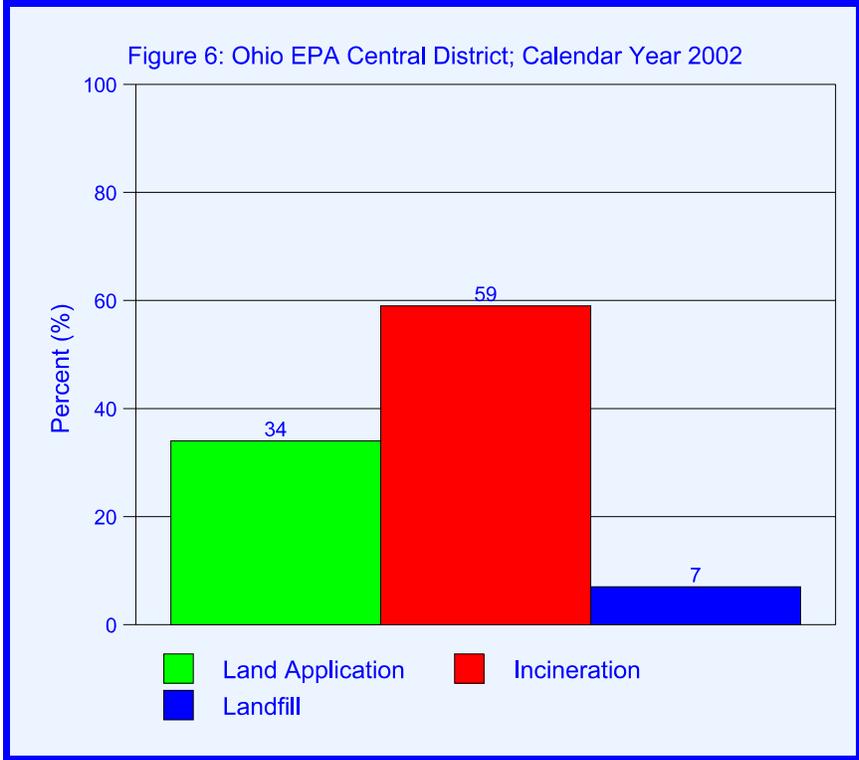


### **Sewage Sludge Use or Disposal by Ohio EPA District**

Ohio is one of the most diverse states in the country. This characteristic results from the high degree of variability in the topography, land use, geology, and geography across the State. These factors impact how Ohio municipalities use or dispose of the sewage sludge they generate. Figure 1 (above) shows the statewide totals for sewage sludge generated within the state. Figures 2 through 6, on subsequent pages, illustrate how POTWs in the five Ohio EPA Districts use or dispose of the sewage sludge they generate (see the Appendix for District Office boundaries). Note the significant quantities of sewage sludge land applied for agronomic benefit in the more rural areas of the state versus that incinerated in the major population centers of Ohio. Regardless of the Ohio EPA District, landfill rates are low.

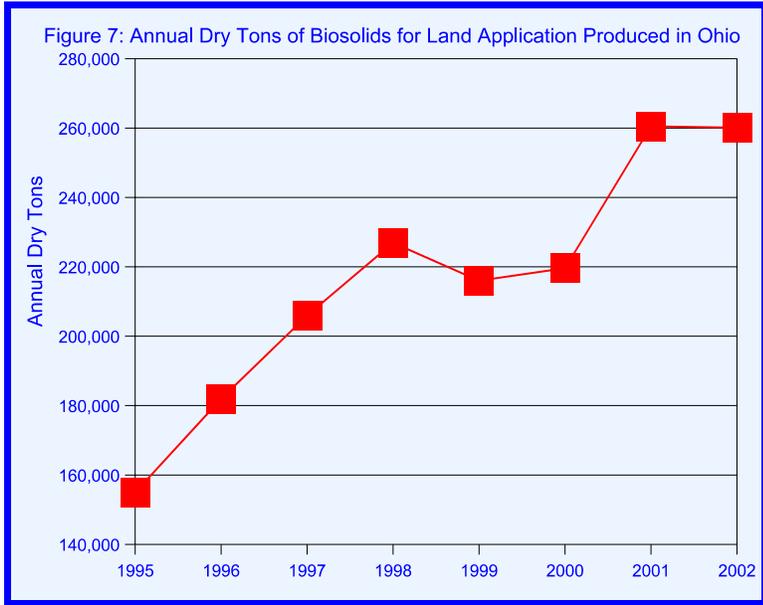






**Trend in Biosolids Land Application in Ohio**

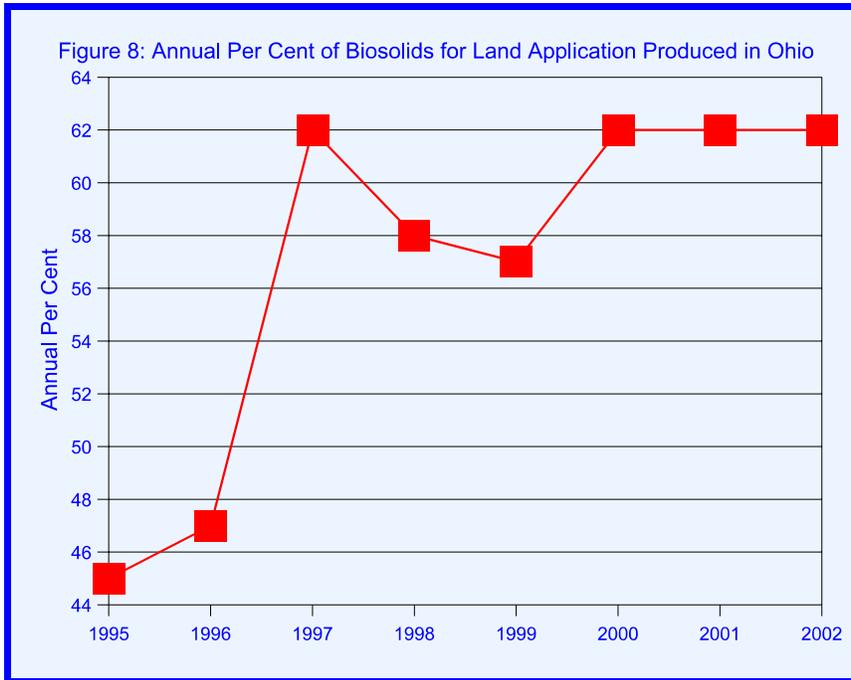
Sewage sludge destined for land application must meet strict treatment criteria of Title 40



of the Code of Federal Regulations, Part 503 (the same treatment criteria are found in Chapter 3745-40 of the Ohio Administrative Code). After such treatment, sewage sludge is commonly called biosolids. To be considered biosolids, sewage sludge must have low levels of heavy metal pollutants, be treated to reduce pathogen numbers, and meet criteria for vector attraction reduction. There has been a steady upward trend in dry tons of biosolids produced in Ohio since calendar year 1995, as shown in Figure 7.

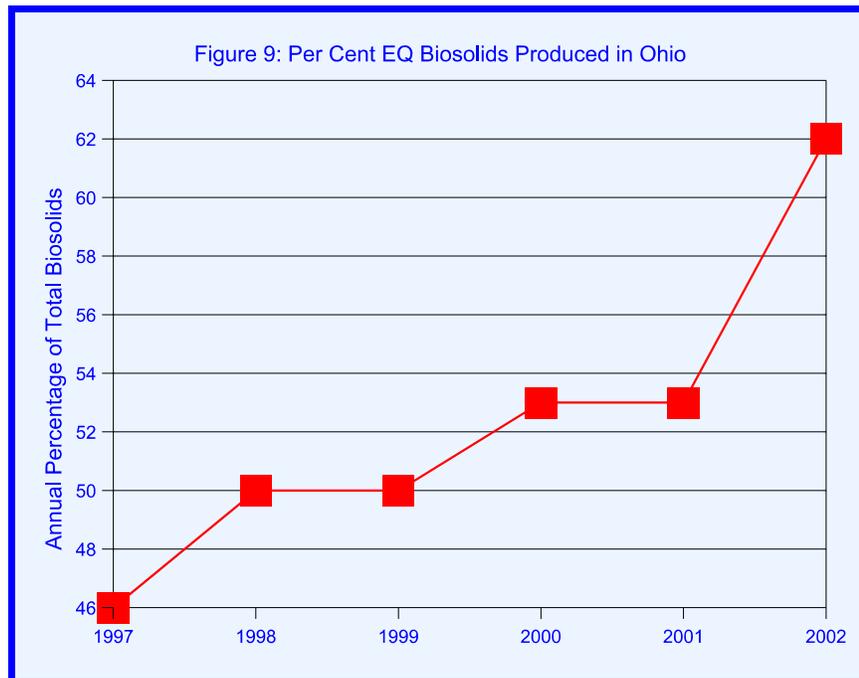
The per cent that biosolids for land application comprises of the total sewage sludge generated annually in Ohio is shown in Figure 8. This value appears to be leveling off at sixty per cent, plus or minus. This relates back to the incineration of sewage sludge that

occurs in many of Ohio's densely populated urban areas. Any significant change in per cent biosolids produced will probably be due to future changes in incineration practices.



Of interest is the relative dry tons of biosolids for land application treated to a Class A pathogen requirement (see Figure 9). In calendar year 2002, sixty-two per cent of the biosolids for land application produced in Ohio met Class A, and also Exceptional Quality criteria. Exceptional

Quality means the biosolids were treated with a Class A pathogen reduction option, met one of vector attraction reduction options one through eight, and had heavy metal loadings below the monthly average limits. The Class A pathogen reduction treatment options reduce pathogen numbers to below detection limits. Class A biosolids are approved for general distribution and marketing as a result of verified pathogen reduction.

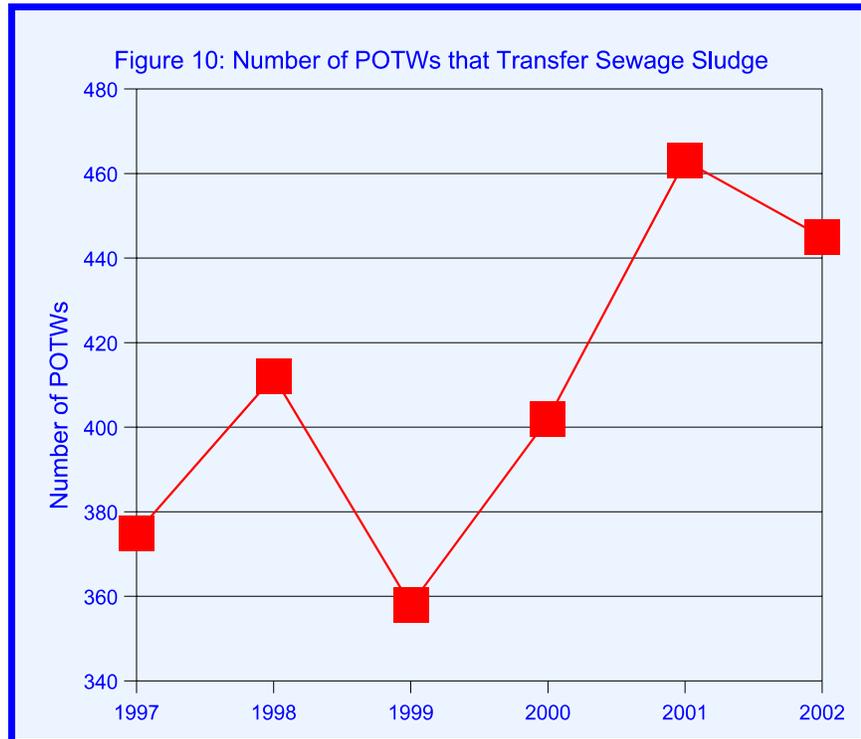


Class B pathogen reduction is not as rigorous, but the potential of human contact with Class B biosolids is greatly reduced. Class B biosolids are approved for use only in places where there is a low probability of human exposure.

### **Trend in Regionalization of Sewage Sludge Use or Disposal Management Efforts**

Many Ohio POTWs realize that the creation of regional sewage sludge treatment facilities can help offset higher costs of sewage sludge use or disposal by spreading those costs over a larger population of shareholders. Regionalization can also provide benefits from an environmental standpoint. Replacement of many smaller treatment operations with a few large operations, some producing Exceptional Quality biosolids, helps to promote the beneficial reuse of sewage sludge and improves the quality of biosolids that are introduced to the environment. Regionalization can be beneficial from a regulatory perspective in that technical and compliance assistance resources are more efficiently utilized on a few larger facilities than on many smaller ones.

Figure 10 illustrates the quantity of sewage sludge transferred from one facility to another for further treatment or disposal. A total of 445 POTWs transferred the sewage sludge they generated in calendar year 2002 to another POTW.



## **Ohio EPA, Division of Surface Water, Sewage Sludge Management Program Update**

Many changes occurred in the sewage sludge management program in 2002.

The sewage sludge management program hired new staff at the end of 2002. Two field coordinators will perform most of the field, and office, sewage sludge management duties of the Ohio EPA. Megan Carr is located in the NWDO and will have primary responsibility for NWDO and NEDO sewage sludge management. Contact information for Megan Carr is (419) 373-3003 or [megan.carr@epa.state.oh.us](mailto:megan.carr@epa.state.oh.us). Suzanne Matz is located in Central Office and will have primary responsibility for CDO, SEDO, and SWDO sewage sludge management. Contact information for Suzanne Matz is (614) 644-2034 or [suzanne.matz@epa.state.oh.us](mailto:suzanne.matz@epa.state.oh.us). Two college interns were hired in 2002 for the GIS project. The interns are delineating the land application sludge sites of Ohio in GIS.

Considerable activity took place in 2002 relating to Ohio EPA's efforts to receive 503 delegation from USEPA. Receipt of delegation would allow Ohio EPA to administer a 503 based sewage sludge management program. Ohio Administrative Code rules for the disposal, use, storage, or treatment of sewage sludge in Ohio were adopted by the Director on January 8, 2002. Those rules became effective on April 8, 2002. A Policy Manual, DSW Policy 0100.028 Ohio's Sewage Sludge Rules: Chapter 3745-40 of the Ohio Administrative Code, is available at the following website:

<http://www.epa.state.oh.us/dsw/sludge/biosolid.html>.

This policy manual contains the full text of the rules, information to provide clarification to the rules in a Frequently Asked Questions format, and other supporting information of Ohio's Sewage Sludge Management Program.

Ohio EPA Sewage Sludge Management Program goals for 2002 are to receive delegation from USEPA, develop NPDES permit standard language for the sewage sludge part of the permit, propose revisions to Ohio's sewage sludge management rules, and continue outreach to stakeholders as these changes proceed. The three major components of a delegation application submittal to USEPA are:

1. Program Description
2. Memorandum of Agreement between USEPA and the applicant
3. Certification that the applicant has the legal authority to run the program

Ohio EPA has submitted a Delegation Application Package to the Ohio Attorney General's Office for review. This is required by law. The review is expected to be favorable.

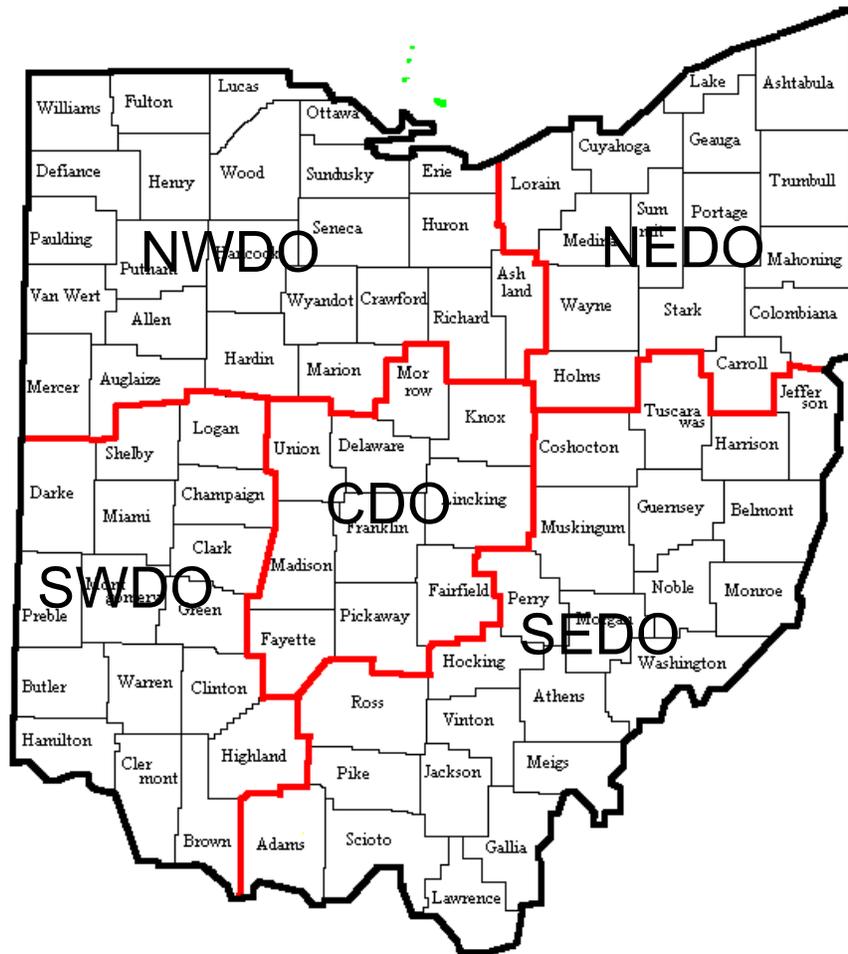
## **USEPA Sewage Sludge Program Update**

The biggest biosolids news out of USEPA in calendar year 2002 is the decision to not add dioxin to the list of regulated pollutants in 40 CFR 503. Further information on the decision

can be found on the following website:

<http://www.epa.gov/OWM/mtb/biosolids/index.htm>

Appendix: Ohio EPA District Offices



Southeast District Office  
 2195 Front Street  
 Logan, OH 43138  
 (800) 686-7330

Southwest District Office  
 401 East Fifth Street  
 Dayton, OH 45402-2911  
 (800) 686-8930

Northwest District Office  
 347 North Dunbridge Road  
 Bowling Green, OH 43402  
 (800) 686-6930

Northeast District Office  
 2110 East Aurora Road  
 Twinsburg, OH 44087  
 (800) 686-6330

Central District Office  
 3232 Alum Creek Drive  
 Columbus, OH 43207-3417  
 (800) 686-2330