

## Florida

### Infrastructure & Wastewater

	2004 Data	2018 Data	
Total Number of WWTPs:	1220 (survey), 322 CWNS	1776	
<b>WWTP &amp; Biosolids Infrastructure Totals</b>			
Number of Separate Preparers (in- or out-of-state, receiving solids from your state):	34	25	-----
WWTPs (see note, right)	900	866	-----
Number of operating sludge incinerators in your state (total):	0	0	-----
Fluidized bed:	0	0	-----
Multiple hearth:	0	0	-----
Number of Part 258 landfills in your state accepting sewage sludge:	data not requested for 2004	~10	-----
Number of WWTPs in your state with industrial pre-treatment programs:	data not requested for 2004	68	-----
Number of WWTPs in your state with <i>sludge</i> lagoons:	data not requested for 2004	0	-----
<b>Wastewater Flow Totals</b>			
Total statewide average daily wastewater flow (MGD):	data not requested for 2004	1,500	-----
Total statewide WWTP <i>design</i> capacity for wastewater flow (MGD):	data not requested for 2004	2,700	-----
Total statewide average daily <i>dry weather</i> flow (MGD):	data not requested for 2004	N/A	-----
<b>Other Totals</b>			
Number of documented odor & nuisance complaints received by state in 2018 related to biosolids transportation and use or disposal outside of the gates of the WWTP:	data not requested for 2004	N/A	-----
Number of WWTPs involved in those complaints:	data not requested for 2004	N/A	-----
Percent of population served by on-site systems (e.g. septic systems):	no data	30%	-----

A correction to the 2004 data: there were about 2000 facilities in 2004 but there was a reason 1200 was provided. • The 1776 WWTPs in 2018 include package plants. • In 2018, there are 866 facilities transferring their biosolids, but this can include transfer to larger WWTPs, not just to the 25 separate preparers. Several lime stabilization separate preparers have closed in the past several years. • There are about 10 landfills taking wastewater solids out of a total of about 50 modern lined landfills in the state. • Some IPP programs, such as at Jacksonville, apply to many WWTPs. • Wastewater flow numbers are best estimates by the state biosolids coordinator and is close to estimate by Selple et al. 2020. • There were about 42 septage management facilities permitted in 2018 under the biosolids regulations. • The percent of population served by septic is estimated.

### Biosolids Use and Disposal

UNITS:	Dry U.S. tons	Dry U.S. tons	
<b>BIOSOLIDS USED OR DISPOSED, 2018 (adjusted total): 412,000</b>			
<b>Summary</b>			
	Number of Entities (WWTPs & Sep. Preparers) Going To...	Quantity of Biosolids	Number of Entities (WWTPs & Sep. Preparers) Going To...
			Quantity of Biosolids
Beneficial Use (applied to soils, not including ADC)	1,220	249,000	187
Disposal & Alternative Dispositions	no data	51,000	309
Other	0	0	0
<b>TOTAL</b>	<b>1,220</b>	<b>300,000</b>	<b>496</b>
			<b>412,154</b>
<b>Beneficial Use</b>			
	Number of Entities (WWTPs & Sep. Preparers) Going To...	Quantity of Biosolids	Number of Entities (WWTPs & Sep. Preparers) Going To...
			Quantity of Biosolids
Agricultural (EQ, Class A, & Class B)	1200	198,000	151
Forestland (EQ, Class A, & Class B)	0	0	0
Reclamation (EQ, Class A, & Class B)	0	0	0
Class A EQ (called "Class AA" in Florida) Distribution (bagged or bulk, public distribution, or unsure where it went)	20	51,000	36
Beneficial Use Subtotal	1,220	249,000	187
Long-term storage	0	0	0
Number of acres to which biosolids were applied:	no data		83,900
<b>Disposal &amp; Alternative Dispositions</b>			
	Number of Entities (WWTPs & Sep. Preparers) Going To...	Quantity of Biosolids	Number of Entities (WWTPs & Sep. Preparers) Going To...
			Quantity of Biosolids

**NOTE:** Quantity of sewage sludge or biosolids used or disposed means the quantity that goes out the gate of the WRRFs and separate preparers - the final products.

Some facilities practice multiple use and disposal methods. Numbers are based primarily on electronic reporting with identified errors corrected.

The 1201 facilities reported for land application include septage management facilities, of which there are about 46. In sum, the total number of beneficial biosolids programs is approximately 141. • The land application data are primarily based on electronically reported data with identified errors corrected. • The total of 232,322 dry U. S. tons of Class AA EQ material includes bulk alkaline stabilized and other products, and the total is for the finished products combined, not the wastewater solids going into the process. This somewhat inflates the biosolids totals for the state; for example, up until 2014, a large N-Viro facility near Tampa produced a product that was as little as 15% biosolids and mostly coal ash. But this was a rare anomaly, and that particular facility is no longer operating. For 2016, FL DEP reported 191,344 dry tons of final Class AA biosolids distributed (2% went out of state; the rest was used in FL), so the amount of Class AA has been increasing in recent years. • In 2016, 5 out-of-state facilities sent nearly 10,00 dry tons into Florida (e.g. Milorganite). • Acreage is approved acreage for permitted sites where biosolids were land applied, but some acreage may not have been used in 2018. • FL DEP notes that there were about 140 permitted land application sites in Florida in about 2018.

Landfill (total)	no data	51,000	306	80,000
Burial	data not requested for 2004	data not requested for 2004	306	80,000
Alternative daily (ADC), intermediate, or final cover	data not requested for 2004	data not requested for 2004	N/A	N/A
Surface Disposal	0	0	0	0
Incineration	0	0	3	1,806
Cement kiln or industrial furnace	data not requested for 2004	data not requested for 2004	0	0
Deep well injection	data not requested for 2004	data not requested for 2004	0	0
Gasification	data not requested for 2004	data not requested for 2004	0	0
Pyrolysis	data not requested for 2004	data not requested for 2004	0	0
Disposal & Alternative Dispositions Subtotal	-	51,000	309	81,806
<b>TOTAL</b>	<b>1,220</b>	<b>300,000</b>	<b>496</b>	<b>412,154</b>

Landfill data are electronically reported data with identifiable errors corrected. • The 3 "incineration" facilities are WWTPs that send solids to waste-to-energy facilities where the solids are burned as fuel. These are not sewage sludge incinerators (not sludge-only incinerators).

### Biosolids Quality Summary

	Number of Entities (WWTPs & Sep. Preparers) Producing...	Quantity of Biosolids	Number of Entities (WWTPs & Sep. Preparers) Producing...	Quantity of Biosolids	
Class A EQ	24	107,000	36	232,322	NOTE: For "number of entities," the total may not match because some entities go to more than one use or disposal.  These quantities are the final product quantities which include compost (derived from biosolids and yard waste) and lime-treated biosolids.
Other Class A	0	0	0	0	
Class B	1,176	163,000	151	98,026	
Other (no data, etc.)	1,200	30,000	309	81,806	
<b>TOTAL</b>	<b>2,400</b>	<b>300,000</b>	<b>496</b>	<b>412,154</b>	

### Biosolids Treatment Practices

	Estimated Number of WWTPs or Separate Preparers Using...	Estimated Quantity of Biosolids Produced Using...	Estimated Number of WWTPs or Separate Preparers Using...	Estimated Quantity of Biosolids Produced Using...	
<b>Stabilization</b>					The "other" Class AA is the BCR Neutralizer process that uses a chlorine dioxide process. • Class AA biosolids are a special designation under Florida regulations. Processes to achieve Class AA include heat-drying (some are pelletized), composting, ATAD digestion (sometimes creating liquid Class AA biosolids), advanced anaerobic digestion, and alkaline stabilization (e.g. the Bioset and Nviro processes, as well as lime pasteurization).
<b>Aerobic Digestion (total)</b>	a majority	no data			
Class A (ATAD/Other)	data not requested for 2004	data not requested for 2004	2	564	
Class B	data not requested for 2004	data not requested for 2004	no data	no data	
<b>Anaerobic digestion (AD) (total)</b>	several	no data			
Class A (e.g. thermophilic)	data not requested for 2004	data not requested for 2004	1	1,082	
Class B (mesophilic)	data not requested for 2004	data not requested for 2004	no data	no data	
WWTPs co-digesting (FOG, food, glycol, etc.)	data not requested for 2004	data not requested for 2004	no data	N/A	
Biogas used (heating, electricity, fuel, etc./scf/year)	data not requested for 2004	data not requested for 2004	no data	N/A	
<b>Lime/Alkaline (total)</b>	600	no data			
Class A lime/alkaline	data not requested for 2004	data not requested for 2004	4	42,906	
Class B lime/alkaline	data not requested for 2004	data not requested for 2004	no data	no data	
<b>Composting</b>	4	no data	9	90,464	
<b>Thermal (e.g. heat drying, not incineration/gasification/pyroly)</b>	7	no data	13	93,820	
<b>Gasification</b>	data not requested for 2004	data not requested for 2004	0	0	
<b>Pyrolysis</b>	data not requested for 2004	data not requested for 2004	0	0	
<b>Hydrolysis (thermal, chemical, etc.)</b>	data not requested for 2004	data not requested for 2004	0	N/A	
<b>Long-term (agoons, reed beds, etc.)</b>	no data	no data	no data	no data	
<b>Oxidation ditch / extended aeration</b>	data not requested for 2004	data not requested for 2004	no data	no data	
<b>Other stabilization technology</b>	no data	no data	6	3,487	
<b>Dewatering</b>					
<b>Belt Filter Press</b>	no data	no data	no data	no data	
<b>Plate &amp; Frame Press</b>	no data	no data	no data	no data	
<b>Screw Press</b>	no data	no data	no data	no data	
<b>Centrifuge</b>	no data	no data	no data	no data	
<b>Vacuum Filter</b>	no data	no data	no data	no data	
<b>Drying beds (open-air)</b>	no data	no data	no data	no data	
<b>Solar drying (e.g. in greenhouse)</b>	data not requested for 2004	data not requested for 2004	no data	no data	
<b>Other dewatering technology</b>	no data	no data	no data	no data	
<b>Thickening</b>					
<b>Gravity thickener</b>	data not requested for 2004	data not requested for 2004	no data	no data	
<b>Gravity belt thickener (GBT)</b>	data not requested for 2004	data not requested for 2004	no data	no data	
<b>Centrifuge</b>	data not requested for 2004	data not requested for 2004	no data	no data	
<b>Dissolved air flotation (DAF)</b>	data not requested for 2004	data not requested for 2004	no data	no data	
<b>Other thickening technology</b>	data not requested for 2004	data not requested for 2004	no data	no data	
<b>Other</b>					
<b>Biosolids sold in bags (explain at right what size bags)</b>	data not requested for 2004	data not requested for 2004	no data	no data	