

فــركــز الإحــصـاء STATISTICS CENTRE



Water Statistics

2014

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Introduction

This report presents water statistics in the Emirate of Abu Dhabi for the year 2014. It contains desalinated water statistics including production and consumption of desalinated water and water transmission system, in additional to water quality. It also contains wastewater statistics that includes wastewater quality and treatment plants capacity.

The key sources of data used in the report are the Environment Agency - Abu Dhabi, Abu Dhabi Water & Electricity Authority - ADWEA, Abu Dhabi Sewerage Services Company (ADSSC).

The "Explanatory Notes" section at the end of this report provides an explanation of the key terms and technical concepts used in this publication. Readers are encouraged to refer to that section in conjunction with reading the statistics and information outlined in the publication.

Key Points

Water statsics

Water statistics are considered one of the most important branches of environmental statistics. Water statistics include water resources and types as well the amount consumed and sanitation statistics. Abu Dhabi government seeks to optimum utilization of water resources, conservation of natural resources and to meet the growing need for water in various areas. Non- conventional water resources are of great importance in Abu Dhabi. Non- conventional water resources include sea water desalination and waste water treatment and reuse.

Desalinated water statistcs

Economic development and population growth require more water supplies. Development plans aim at forecasting demand and supply of water resources. Water desalination industry enjoys great significance in the Emirate of Abu Dhabi to meet the growing demand. Data shows that the available desalinated water in the Emirate of Abu Dhabi in 2014 totaled 1,149.8 MCM, of which1,126.3 MCM consumed.

Consumption of desalinated water

Table 1.1 reveals that available desalinated water in Emirate of Abu Dhabi increased in 2014 by 3.4% compared with 2013. As a result of the population growth taking place in Abu Dhabi, the annual consumption of desalinated water rose by 4.1% compared with 2013. The public consumption of desalinated water accounted for 98% of the total available desalinated water in 2014. Table 1.1 also shows the stability of per capita daily consumption of equals 1.2 cubic meter/ day in 2014.

Table 1.1: Consumption of desalinated water

Item	2005	2010	2011	2012	2013	2014
Total of available desalinated water	742.1	962.8	999.2	1,084.7	1,112.3	1,149.8
Total Consumption of desalinated water	667.0	873.0	961.5	1,059.2	1,082.5	1,126.3
Daily consumption	1.8	2.4	2.6	2.9	2.9	3.1
Daily average per capita (cubic meters)	1.3	1.2	1.2	1.2	1.2	1.2

Source: Abu Dhabi Water and Electricity Company (ADWEC), Statistics Centre - Abu Dhabi



Figure 1: Total of available desalinated water

Source: Abu Dhabi Water and Electricity Company (ADWEC), Statistics Centre - Abu Dhabi

Consumption of desalinated water by region

Table 1.2 shows that consumption of desalinated water in Abu Dhabi Emirate classified by region. Where the consumption increased in 2014 within 4.2% compared to 2013. Abu Dhabi city share of consumption reached 60.6% of the total Emirate consumption, followed by Al Ain region at 26.1% and Al Gharbia region at 13.3%.

Table 1.2: Consumption of desalinated water by region

Region	2005	2008	2009	2010	2011	2012	2013	2014
Total consumption	667.0	773.8	790.0	873.0	961.5	1,059.2	1,082.5	1,126.3
Abu Dhabi	413.9	480.1	490.2	529.0	592.6	653.1	656.9	682.4
Al Ain	161.2	186.9	190.9	232.2	259.1	286.4	293.2	293.8
Al Gharbia	92.0	106.7	108.9	111.7	109.9	119.8	132.4	150.1

Source: Abu Dhabi Water and Electricity Company (ADWEC)

Water quality

General network water quality

The Emirate of Abu Dhabi conducts sample analysis to ensure that the specifications of water conform to national and international standards as shown in table 1.3. The average values and concentrations are within the permissible limits and conform to international standards. Table 1.3 also shows the number of samples measured and the number of samples within the accepted standards.

Measurement type	Unit of Measurement	Prescribed concentration or Value (Maximum unless otherwise stated)	Samples Average	Number of Samples measured	Number of Samples within the accepted standards
Color	mg/l pt/CO scale	15	2.5	4,402	4,388
Turbidity (including suspended solids)	NTU	4	0.6	4,402	4,388
Odor (including Hydrogen Sulphide	Dilution Number	*	0	4,402	4,402
Taste	Dilution Number	*	0	4,402	4,402
Total Dissolved Solids	mg/l	100 (minimum) 1000(Maximum)	118.5	4,402	2,351
Calcium hardness	mg/l as CaCO₃	200 at 25 °C	45.3	4,401	4,401
Total hardness	mg/l as CaCO₃	300 at 25 °C	50.9	4,402	4,402
Residual chlorine	mg/ I Cl2	0.20 (minimum) 0.50(Maximum)	0.3	4,402	4,220
Conductivity	µmhos/cm	160(minimum) 1600(Ma0ximum)	195.7	2,359	2,351
Hydrogen ion	pH Value	7.0(minimum) 9.2(Maximum)	8.2	4,402	4,402

Table 1.3: Water quality by type of measurement - 2013

Source: Abu Dhabi Water and Electricity Authority

*Unobjectionable

Marine water quality

The territorial waters of the Emirate of Abu Dhabi are fairly nutrient-rich. Nutrient inputs into the sea from sand storms, dust, sewage discharges especially land runoff near-shore areas. Examples of important nutrients in the seawater essential for the life and growth of plants and phytoplankton include nitrites, nitrates, phosphates, and silicates. Generally, nutrients level rises in closed areas where it is difficult for water renewal to occur or in industrial zones, which have intensive human activities.

The salinity in the Arabian Gulf is relatively high because of combined influence of restricted exchange of Gulf waters with the open ocean, the high evaporation rates caused by high temperatures, in addition to the desalination industry.

Tables below presents readings of Abu Dhabi city marine waters quality for 2013 and 2014 in terms of temperature, acidity, salinity, dissolved oxygen, in addition to nutrients, such as phosphate, nitrates, and others. The readings have been token at monitoring stations at certain depths in ten locations in 2013 and more than twenty locations in 2014.

As shown in table 1.4, the salinity in marine waters in the city of Abu Dhabi in 2013 ranges between 34.7 – 45.9 Practical Salinity Unit (psu). Regarding dissolved oxygen, most of the readings taken are between 4.6 – 6.2 mg/litre and these are ideal levels for supporting the life of marine living species.

Table 1.4: Marine water quality - 2013

Sample No.	Secchi Depth	Acidity	Salinity	Temreature	Dissolved oxygen (DO)	Biological Oxygen Demand (BOD)
	metre	рН	psu	C°	mg/l	mg/l
1	1.3	8.3	45.9	27.7	5.8	3.7
2	0.8	8.3	34.7	28.3	6.2	4.3
3	1.5	8.2	45.8	28.0	4.9	3.6
4	1.3	8.0	45.7	28.1	4.7	3.3
5	1.8	8.1	44.6	28.2	4.9	3.2
6	2.4	8.1	43.2	27.8	5.0	2.8
7	2.1	8.1	42.7	27.9	4.9	3.3
8	2.0	8.0	43.1	27.8	4.0	3.1
9	1.9	8.1	42.9	27.9	4.6	3.5
10	2.6	8.1	45.8	28.7	4.6	3.1

Source: Environment Agency - Abu Dhabi

Table 1.5: Concentration of Nutriant in Marine water – 2013 (microgram / litre)

(moogram / moo					
Sample No.	Chlorophyll	Phosphate PO	Silicate SiOo	Nitrate	Nitrite
		1 04	0103	NOS	
1	10.8	657.5	824.2	1,041.0	52.5
2	25.5	3,124.2	3,882.5	2,262.4	388.3
3	6.6	491.7	611.7	700.8	39.17
4	2.3	678.3	937.5	490.8	13.3
5	2.1	318.3	602.5	261.7	10.0
6	0.8	137.5	444.2	220.8	0.0
7	0.9	137.5	930.0	205.8	2.5
8	1.5	236.7	1,595.8	561.7	15.8
9	1.2	130.0	1,089.2	275.8	2.5
10	1.2	254.2	616.7	289.2	5.0

Source: Environment Agency - Abu Dhabi

In 2014 presents readings of Abu Dhabi city marine waters salinity ranged between 34.6 and 47.9 psu as shown in table 1.6, and the majorty of dissolved Oxygen reading ranged between 4.7 and 6.9 mg/l and It is the optimal levels to support the life of marine organisms.

In the Table 1.7, contain the chemichal measuremnts of nutriant concentration in Abu Dhabi marine water.

Secchi Depth	Acidity	Salinity	Temreature	Dissolved oxygen (DO)	Biological Oxygen Demand (BOD)
metre	рН	psu	C°	mg/l	`mg/l
1.0	8.3	47.9	27.9	5.2	3.9
0.6	8.4	34.6	28.8	6.9	4.5
1.1	8.3	47.2	28.5	5.1	3.5
1.2	8.1	46.9	28.7	4.7	4.1
1.4	8.2	45.8	28.2	4.9	3.0
2.6	8.2	44.4	28.0	5.0	3.2
1.8	8.1	44.2	28.2	5.1	3.3
1.6	8.1	44.1	28.5	4.7	3.4
1.7	8.1	44.4	28.2	4.8	3.3
2.1	8.2	47.7	29.5	4.7	3.4
-	7.8	18.6	32.6	4.7	4.3
-	8.1	33.0	32.7	5.1	3.2
4.4	8.1	47.1	30.7	5.4	3.0
2.4	8.1	43.6	30.5	5.3	3.0
4.0	8.1	47.3	30.1	4.9	4.5
3.7	8.1	47.0	30.0	5.1	3.5
3.3	8.1	46.7	29.8	5.1	3.0
2.4	8.0	44.9	29.4	4.5	4.0
2.6	8.1	46.2	30.7	5.2	3.0
3.3	8.1	46.7	29.8	5.1	3.0
2.4	8.0	44.9	29.4	4.5	4.0
2.6	8.1	46.2	30.7	5.2	3.0
	Secchi Depth netre 1.0 0.6 1.1 1.2 1.4 2.6 1.8 1.6 1.7 2.1 - 4.4 2.4 4.0 3.7 3.3 2.4 2.6 3.3 2.4 2.6	Secchi DepthAciditymetrePH1.08.30.68.41.18.31.28.11.48.22.68.21.88.11.68.11.78.12.18.2-7.82.18.2-7.81.58.12.48.13.38.12.48.02.68.13.38.12.48.02.68.1	Secchi DepthAciditySalinitymetrePHpsu1.08.347.90.68.434.61.18.347.21.28.146.91.48.245.82.68.244.41.88.144.21.68.144.11.78.144.42.18.247.7-7.818.6-8.133.04.48.147.12.48.143.64.08.147.33.78.146.72.48.044.92.68.146.23.38.146.72.48.044.92.68.146.23.38.146.72.48.044.92.68.146.23.38.146.72.48.044.92.68.146.2	Secchi DepthAciditySalinityTemreaturemetrePHpsuC*1.08.347.927.90.68.434.628.81.18.347.228.51.28.146.928.71.48.245.828.22.68.244.428.01.88.144.228.21.68.144.128.51.78.144.428.22.18.247.729.5-7.818.632.6-8.133.032.74.48.147.130.72.48.143.630.54.08.147.330.13.78.146.729.82.48.044.929.42.68.146.729.82.48.044.929.42.68.146.230.7	Secchi DepthAciditySalinityTemesatureDissolved oxygen (DO)metrePHpsuC°mg/l1.08.347.927.95.20.68.434.628.86.91.18.347.228.55.11.28.146.928.74.71.48.245.828.24.92.68.244.428.05.01.88.144.228.25.11.68.144.128.54.71.78.144.428.24.82.18.247.729.54.7-7.818.632.64.7-7.818.630.55.34.08.147.130.75.42.48.147.330.14.93.78.147.030.05.13.38.146.729.85.12.48.044.929.44.52.68.146.729.85.12.48.044.929.44.52.68.146.729.85.12.48.044.929.44.52.68.146.729.85.12.48.044.929.44.52.68.146.729.85.12.48.044.929.44.52.68.146.230.75.2 <t< td=""></t<>

Table	1.6:	Marine	water	quality -	- 2014
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Source: Environment Agency - Abu Dhabi

Sample	Chlorophyll	Phosphate	Silicate	Nitrate	Nitrite
NU.		PO₄	SiO₃	NO ₃	NO ₂
1	5.3	924.2	773.3	169.2	-
2	24.4	2,351.7	3,527.5	9,144.2	11,913.3
3	5.7	470.8	665.0	215.8	-
4	2.1	350.0	1,085.8	448.3	329.2
5	1.8	230.8	790.0	105.0	-
6	0.7	193.3	399.2	120.0	104.2
7	0.6	259.2	636.7	157.5	137.5
8	1.0	282.5	1,026.7	388.3	173.3
9	1.0	270.0	1,354.2	175.0	225.8
10	0.8	224.2	544.2	145.0	235.0
11	1.9	370.0	11,793.3	5,245.0	48.3
12	1.8	236.7	8,133.3	5,395.0	31.7
13	0.3	-	200.0	220.0	15.0
14	0.4	-	370.0	285.0	-
15	0.3	90.0	1,055.0	175.0	-
16	0.5	105.0	475.0	355.0	15.0
17	0.4	-	415.0	175.0	15.0
18	0.4	380.0	465.0	350.0	15.0
19	0.5	90.0	175.0	265.0	-
20	0.4	-	415.0	175.0	15.0
21	0.4	380.0	465.0	350.0	15.0
22	0.5	90.0	175.0	265.0	0.0

Table 1.7: Concentration of Nutriant in Marine water – 2014 (microgram / litre)

Source: Environment Agency - Abu Dhabi

Wastewater statsics

Quantity of wastewater

Wastewater treatment aims at reducing the pollution caused by different sources such as industry, and service and domestic activities. Wastewater treatment is one way of utilizing water and diversifying its sources, especially when water resources are scarce. Figure 2 shows the wastewater inflow, treated wastewater and treated wastewater reuse from 2008 till 2014. In 2014 the quantity of wastewater inflow totaled 322.7 MCM, an increase of 9.4% than 2013 as shown in table 2.1. Tables 2.2 and 2.3 illustrate that 97% of the total quantity of wastewater inflow was treated. Data shows that 61% of the treated wastewater was reused to irrigate green areas as shown in Figure 3.

Table 2.1: Quantity of wastewater inflow by region

(million cubic meter)

Region	2008	2009	2010	2011	2012	2013	2014
Total	218.5	233.8	255.5	259.6	275.5	295.0	322.7
Abu Dhabi	160.4	173.1	188.8	185.9	203.7	219.7	237.2
Al Ain	50.5	52.1	57.3	62.8	58.4	60.5	71.2
Al Gharbia	7.6	8.7	9.4	10.9	13.4	14.8	14.3

Abu Dhabi Sewerage Services Company (ADSSC)

Table 2.2: Quantity of treated wastewater by region

(million cubic meter)

Region	2008	2009	2010	2011	2012	2013	2014
Total	213.8	220.9	246.6	243.1	265.4	283.0	312.9
Abu Dhabi	156.3	165.2	183.0	181.0	196.4	209.4	231.3
Al Ain	50.0	48.1	54.8	52.3	55.9	59.1	67.6
Al Gharbia	7.5	7.6	8.8	9.8	13.1	14.5	14.0

Abu Dhabi Sewerage Services Company (ADSSC)

Table 2.3 : Quantity of treated wastewater reuse by region

(million cubic meter)

Region	2008	2009	2010	2011	2012	2013	2014
Total	124.1	119.6	126.3	133.5	138.8	153.8	191.7
Abu Dhabi	73.3	71.7	65.5	73.0	75.4	86.5	115.6
Al Ain	45.3	40.6	52.0	51.5	54.8	58.0	66.0
Al Gharbia	5.5	7.3	8.8	9.0	8.6	9.3	10.1

Abu Dhabi Sewerage Services Company (ADSSC)



Figure 2: Quantity of wastewater

Source: Abu Dhabi Sewerage Services Company

Figure 3: Percentage distribution of re-used and nonreused of the treated wastewater



Source: Statistics Centre - Abu Dhabi

Wastewater treatment plants capacity

The total capacity of wastewater treatment plants amounted to 466.8 MCM in 2014, a decrease of 0.8% compared with 2013. The conventional treatment plants accounted for the largest share of wastewater treatment plants at 98.9%, while non- conventional plants 1.1% only as shown in tables 2.4 to 2.6.

Table 2.4: Total Wastewater Treatment Plants Capacity by Region

Million	cubic	metre)
IVIIIIOII	Cubic	meacy

Region	2005	2010	2011	2012	2013	2014
Total	135.8	437.0	436.9	405.2	470.5	466.8
Abu Dhabi	95.9	360.3	360.3	328.6	344.4	369.9
Al Ain	29.4	65.4	65.3	65.3	112.7	81.7
Al Gharbia	10.5	11.3	11.3	11.3	13.4	15.2

Source: Abu Dhabi Sewerage Services Company

Table 2.5: Total Conventional Wastewater Treatment Plants Capacity by Region

(Million cubic metre)									
Region	2005	2010	2011	2012	2013	2014			
Total	134.4	414.4	419.9	404.6	469.3	461.6			
Abu Dhabi	95.9	343.8	343.8	328.6	343.8	365.4			
Al Ain	29.2	59.5	65.0	65.0	112.3	81.3			
Al Gharbia	9.3	11.1	11.1	11.1	13.1	14.9			

Source: Abu Dhabi Sewerage Services Company

Table 2.6: Total Non-Conventional Wastewater Treatment Plants Capacity by Region (Million cubic metre)

Region	2005	2010	2011	2012	2013	2014
Total	1.4	22.6	17.0	0.6	1.2	5.2
Abu Dhabi	-	16.4	16.4	0.0	0.6	4.6
Al Ain	0.2	5.9	0.3	0.3	0.4	0.4
Al Gharbia	1.2	0.3	0.3	0.3	0.3	0.3

Source: Abu Dhabi Sewerage Services Company

In 2013, the percentage of operated organic load to designed load was 62%, where the hydraulic load of plant operating capicity stood at 295 thousand cubic meters. The percentage of operated hydraulic load to designed load was 39%, where the hydraulic load stood at 135 thousand kilogram per day, as shown in table 2.7.

	Plant Desi	gn Capacity	Plant Opera	ating Capacity	Plant Status		
Region	Hydraulic Load	Organic Load	Hydraulic Load	Organic Load	Operated Organic Load to	Operated Hydraulic Load to	
	(m ³)	(Kg BOD / d)	(m³)	(Kg BOD / d)	Designed (%)	Designed (%)	
Total	477,397	348,512	295,066	135,515	35	62	
Abu Dhabi	351,326	194,947	219,718	62,024	32	63	
Al Ain	112,705	178,631	60,540	60,506	34	54	
Al Gharbia	13,366	10,935	14,807	12,985	119	111	

Table 2.7: Status of Sewage	Freatment Plants	by Design a	and Operating	Capacity to
Hydraulic and Organic Load	- 2013			

Source: Abu Dhabi Sewerage Services Company

In 2014, the percentage of operated organic load to designed load was 69%, where the hydraulic load of plant operating capicity stood at 323 thousand cubic meters. The percentage of operated hydraulic load to designed load was 43%, where the hydraulic load stood at 157 thousand kilogram per day, as shown in table 2.8.

Table 2.8: Status of Sewage	Freatment Plants I	by Design a	nd Operating	Capacity to
Hydraulic and Organic Load	- 2014			

	Plant Desi	gn Capacity	Plant Opera	ating Capacity	Plant Status	
Region	Hydraulic Load	Organic Load	Hydraulic Load	Organic Load	Operated Organic Load to	Operated Hydraulic Load to
	(m³)	(Kg BOD / d)	(m³)	(Kg BOD / d)	Designed (%)	Designed (%)
Total	466,812	364,651	322,681	157,295	43	69
Abu Dhabi	369,941	259,397	237,230	107,298	41	64
Al Ain	81,680	91,352	71,190	39,025	43	87
Al Gharbia	15,191	13,903	14,261	10,972	79	94

Source: Abu Dhabi Sewerage Services Company

Wastwater quality

With the increasing demand on wastewater treatment and reuse in the Emirate of Abu Dhabi, the environmental monitoring level and health standards of wastewater treatment, reuse or disposal also increased. There are several parameters that are examined in the process of wastewater treatment, such as the daily amount of dry sludge, the concentrations of biochemical oxygen demand and suspended solids. Table 2.9 and 10.2 shows that wastewater is basically treated to produce water that conforms to the international standards for irrigation of green spaces or disposal in the sea.

Table 2.9: Mean annual concentration of main pollutants in wastewater before and after treatment mean - 2013

Pollutenat type	Maximum allowed limit of wastewater disposal	Before treatment	After treatment
Biological Oxygen Demand (BOD5)	50	230.2	5.2
Chemical oxygen demand (COD)	100	474.1	25.2
Total Dissolved Solids (TDS)	1,500	779.2	738.2
Total phosphorus (P)	2	8.1	6.0
Total Suspend Solids (TSS)	50	215.8	7.5
Ammonia (NH ₃)	2	29.6	4.6
Source: Statistics Centre - Abu Dhabi			

Table 2.10: Mean annual concentration of main pollutants in wastewater before and after treatment mean - 2014

Pollutenat type	Maximum allowed limit of wastewater disposal	Before treatment	After treatment
Biological Oxygen Demand (BOD ₅)	50	216.5	5.2
Chemical oxygen demand (COD)	100	437.4	20.9
Total Dissolved Solids (TDS)	1,500	1,283.9	898.0
Total phosphorus (P)	2	4.1	3.7
Total Suspend Solids (TSS)	50	-	-
Ammonia (NH ₃)	2	-	-
Source: Statistics Centre - Abu Dhabi			

The tables below shows the daily average of some pollutants types, where the daily amount of sludge production increased to 119.2 and 134.4 tons per day for 2013 and 2014 respectively where the percentage increased between the two years, approximately 13%. In addition, percentage of biochemical oxygen demand (BOD) increased between 2013 and 2014 up to 22%.

Table 2.11: Average daily amount of dry sludge by region

(Tons/day)

Region	2006	2009	2010	2011	2012	2013	2014
Total	97.7	164.8	135.6	149.6	164.7	119.2	134.4
Abu Dhabi	73.2	122.1	100.4	110.1	115.6	92.8	105.5
Al Ain	24.2	40.6	29.1	33.5	42.0	21.4	25.0
Al Gharbia	0.3	2.1	5.1	6.0	7.1	5.0	3.9

Source: Abu Dhabi Sewerage Services Company

Table 2.12: Average daily concentration of BOD by region

(kg/day)

Region	2006	2009	2010	2011	2012	2013	2014
Total	82,071	115,726	119,012	107,694	170,231	128,560	157,058
Abu Dhabi	54,944	75,901	87,931	79,673	125,640	99,680	107,297
Al Ain	23,958	33,104	26,683	23,885	33,700	17,740	39,025
Al Gharbia	3,169	6,722	4,398	4,136	10,891	11,140	10,736

Source: Abu Dhabi Sewerage Services Company

Table 2.13: Average daily concentration of suspended solids by region

(Tons/day)

Region	2006	2009	2010	2011	2012	2013	2014
Total	69.47	89.94	97.38	103.11	148.40	564.43	-
Abu Dhabi	47.08	70.04	73.06	71.828	100.65	234.26	-
Al Ain	22.09	19.90	20.74	28.274	38.30	197.45	-
Al Gharbia	0.29	-	3.59	3.012	9.45	132.72	-

Source: Abu Dhabi Sewerage Services Company

Explanatory Notes

Glossary

This report contains certain terms specific to environment and necessary when analyzing the environment statistics of Abu Dhabi Emirate. They include the following terms:

Biochemical oxygen demands (BOD)

Amount of dissolved oxygen required by organisms for the aerobic decomposition of organic matter present in water. This is measured at 20 degrees Celsius for a period of five days. The parameter yields information on the degree of water pollution with organic matter ^{(1).}

Biological treatment:

It is a wastewater treatment employing aerobic and anaerobic micro-organisms that results in decanted effluents and separate sludge containing microbial mass together with pollutants. Biological treatment processes are also used in combination or in conjunction with mechanical treatment ⁽¹⁾

Desalinated Water:

Total volume of water obtained from desalination of (i.e., seawater and brackish water ... etc) (1).

Mechanical treatment:

It is the treatment of a physical and mechanical nature that results in decanted effluents and separate sludge. Mechanical processes are also used in combination and/or in conjunction with biological and advanced unit operations. Mechanical treatment includes processes as sedimentation, flotation, etc ⁽¹⁾.

Sea water:

Sea water is water from a sea or ocean. On average, sea water in the world's oceans has a salinity of ~3.5 per cent. This means that for every 1 litre (1000 ml) of sea water there are 35 grams of salts (mostly, but not entirely, sodium chloride) dissolved in it $^{(3)}$.

Sewage sludge production (dry matter)

The accumulated settled solids, either moist or mixed, with a liquid component as a result of natural or artificial processes, that have been separated from various types of waste water during treatment ^{(3).}

Total public water supply:

Water supplied by economic units engaged in collection, purification and distribution of water including desalting of sea water to produce water as the principal product of interest, and excluding system operation for agricultural purposes and treatment of waste water solely in order to prevent pollution.) It corresponds to ISIC division 41. Deliveries of water from one public supply undertaking to another are excluded ^{(1).}

Total reuse of freshwater:

Freshwater that has undergone wastewater treatment and is deliverable to a user as reclaimed wastewater. This means the direct supply of treated wastewater to the users. Excluded is wastewater discharged into watercourse and used again downstream ^{(1).}

Total wastewater generated:

Quantity of water in cubic meters, which have no purpose to use , or because of its presence or quantity or quality in the time in which it found

Total wastewater treatment:

Process to render waste water fit to meet applicable environmental standards or other quality norms for recycling or reuse ^{(1).}

Treated in other treatment plants:

Treatment of wastewater in any non-public treatment plants, i.e. industrial wastewater plants. Excluded from 'Other wastewater treatment' is treatment in under independent treatment facilities such as septic tanks ^{(1).}

Treatment in independent treatment facilities:

Individual private treatment facilities to treat domestic and other wastewater in cases where a public waste water network is not available or not justified either because it would produce no environmental benefits . Examples of such systems are treatment in wastewater tanks ^{(1).}

Wastewater treated in public treatment plants:

All treatment of wastewater in municipal treatment plants by official authorities, or by private companies for local authorities, whose main purpose is wastewater treatment ⁽¹⁾.

Water transmission system availability:

Water Transmission System Availability is calculated in percentage in terms of the summation of the availabilities of transmission system components, such as pumps, water transmission lines, storage tanks, and surge vessels.

Data sources

The key sources of data used in the report are the Environment Agency - Abu Dhabi, Abu Dhabi Water and Electricity Company – ADWEC, Abu Dhabi Distribution Company, Al Ain Distribution Company, Abu Dhabi Water & Electricity Authority - ADWEA, Abu Dhabi Sewerage Services Company (ADSSC) and Abu Dhabi Transmission & Despatch Company (TRANSCO).

The data are processed and passed to Statistic Centre – Abu Dhabi for further editing and compilation.

Notes on tables

Unless otherwise indicated, all figures released in this publication pertain to the Emirate of Abu Dhabi. Unless details in tables refer to regions, the figures relate to the total of the Emirate. Wherever "Abu Dhabi" is used in this publication, it refers to Abu Dhabi region and not to the whole Emirate.

Due to rounding, some totals may not equal the sum of components.

More information and next release

For more information about environmental statistics and other official statistics, please visit the statistics link on the SCAD website at http://www.scad.ae The next release is expected in October 2016 for 2015 data.

References

"1. United Nations Economic and Social Comission for Western Asia (ESCWA). (2007). Compendium of environment statistics in the ESCWA region. New York"

2. United Nation Statistics Division (UNSD). (1997). Glossary of environment statistics (F, No 67). New York

"3. United Nation Statistics Division (UNSD). (2010). Questionnaire 2010 on environment statistics (section: water). Retrieved from http://unstats.un.org/unsd/environment/questionnaire2010.htm"





