Data Table 13.1 Freshwater Resources and Withdrawals

	Annual Internal Renewable Water Resources {a}		Annual River Flows		Annual Withdrawals						
	Total (cubic km)	1995 Per Capita (cubic meters)	From Other Countries (cubic km)	To Other Countries (cubic km)	Year of Data	(cubic km)	Percentage of Water Resources {a}	Per capita (cubic meters)	Sectoral Withdrawals (percent) {b} Domestic	Industry	Agriculture
WORLD	**41,022.0**	**7,176**			**1987**	**3,240.00**	**8**	**645**	**8**	**23**	**69**
AFRICA	**3,996.0**	**5,488**			**1995**	**145.14**	**4**	**199**	**7**	**5**	**88**
Algeria	14.8	**528**	0.4	0.7	1990	4.50	30	180	25 c	15 c	60 c
Angola	184.0	16,618	X	X	1987	0.48	0	57	14 c	10 c	76 c
Benin	25.8	4,770	15.5	X	1994	0.15	1	28	23 c	10 c	67 c
Botswana	14.7	9,886	11.8	X	1992	0.11	1	83	32 c	20 c	48 c
Burkina Faso	28.0	2,713	X	X	1992	0.38	1	40	19 c	0 c	81 c
Burundi	3.6	563	X	X	1987	0.10	3	20	36 c	0 c	64 c
Cameroon	268.0	20,252	0.0	0.0	1987	0.40	0	38	46 c	19 c	35 c
Central African Rep	141.0	42,534	X	X	1987	0.07	0	26	21 c	5 c	74 c
Chad	43.0	6,760	28.0	X	1987	0.18	0	34	16 c	2 c	82 c
Congo	832.0	321,236	610.0	X	1987	0.04	0	20	62 c	27 c	11 c
Cote d'Ivoire	77.7	5,451	1.0	X	1987	0.71	1	66	22 c	11 c	67 c
Egypt	58.1	923	55.5	0.0	1992	56.40	97	956	6 c	9 c	85 c
Equatorial Guinea	30.0	75,000	0.0	X	1987	0.01	0	15	81 c	13 c	6 c
Eritrea	8.8	2,492	6.0	X	X	X	X	X	X	X	X
Ethiopia	110.0	1,998	0.0	X	1987	2.21	2	51	11 c	3 c	86 c
Gabon	164.0	124,242	0.0	X	1987	0.06	0	57	72 c	22 c	6 c
Gambia, The	8.0	7,156	5.0	X	1982	0.02	0	30	7 c	2 c	91 c
Ghana	53.2	3,048	22.9	X	1970	0.30	1	35	35 c	13 c	52 c
Guinea	226.0	33,731	0.0	X	1987	0.74	0	140	10 c	3 c	87 c
Guinea-Bissau	27.0	25,163	11.0	X	1991	0.02	0	17	60 c	4 c	36 c
Kenya	30.2	1,069	10.0	X	1990	2.05	7	87	20 c	4 c	76 c
Lesotho	5.2	2,551	0.0	X	1987	0.05	1	30	22 c	22 c	56 c
Liberia	232.0	76,341	32.0	X	1987	0.13	0	56	27 c	13 c	60 c
Libya	0.6	111	0.0	0.0	1994	4.60	767	880	11 c	2 c	87 c
Madagascar	337.0	22,827	0.0	0.0	1984	16.30	5	1,584	1 c	0 c	99 c
Malawi	18.7	1,678	1.1	X	1994	0.94	5	86	10 c	3 c	86 c
Mali	67.0	6,207	40.0	X	1987	1.36	2	162	2 c	1 c	97 c
Mauritania	11.4	5,013	11.0	X	1985	1.63	14	923	6 c	2 c	92 c
Mauritius	2.2	1,979	0.0	0.0	1974	0.36	16	410	16 c	7 c	77 c
Morocco	30.0	1,110	0.0	0.3	1992	10.85	36	427	5 c	3 c	92 c
Mozambique	208.0	12,997	111.0	0.0	1992	0.61	0	41	9 c	2 c	89 c
Namibia	45.5	29,545	39.3	X	1991	0.25	1	180	29 c	3 c	68 c
Niger	32.5	3,552	29.0	X	1988	0.50	2	69	16 c	2 c	82 c
Nigeria	280.0	2,506	59.0	X	1987	3.63	1	41	31 c	15 c	54 c
Rwanda	6.3	792	X	X	1993	0.77	12	102	5 c	2 c	94 c
Senegal	39.4	4,740	13.0	X	1987	1.36	3	202	5 c	3 c	92 c
Sierra Leone	160.0	35,485	0.0	X	1987	0.37	0	99	7 c	4 c	89 c
Somalia	13.5	1,459	7.5	X	1987	0.81	6	98	3 c	0 c	97 c
South Africa	50.0	1,206	5.2	X	1990	13.31	27	359	17 c	11 c	72 c
Sudan	154.0	5,481	119.0	56.5	1995	17.80	12	633	4 c	1 c	94 c
Swaziland	4.5	5,275	1.9	X	1980	0.66	15	1,171	2 c	2 c	96 c
Tanzania	89.0	2,998	9.0	X	1994	1.16	1	40	9 c	2 c	89 c
Togo	12.0	2,900	0.5	X	1987	0.09	1	28	62 c	13 c	25 c
Tunisia	3.9	443	0.3	0.0	1990	3.08	78	381	9 c	3 c	89 c
Uganda	66.0	3,099	27.0	X	1970	0.20	0	20	32 c	8 c	60 c
Zaire	1,019.0	23,211	84.0	X	1990	0.36	0	10	61 c	16 c	23 c
Zambia	116.0	12,267	35.8	X	1994	1.71	1	186	16 c	7 c	77 c
Zimbabwe	20.0	1,776	5.9	X	1987	1.22	6	136	14 c	7 c	79 c
EUROPE	**6,234.6**	**8,576**			**1995**	**455.29**	**7**	**626**	**14**	**55**	**31**
Albania	21.3	6,190	11.3	X	1970	0.20	1	94	6	18	76
Austria	90.3	11,333	34.0	56.3	1991 d	2.36	3	304	33	58	9
Belarus, Rep	73.8	7,277	21.7	54.9	1989	3.00	5	295	32	49	19
Belgium	12.5	1,236	4.1	8.4	1980	9.03	72	917	11	85	4
Bosnia and Herzegovina	X	X	X	X	X	X	X	X	X	X	X
Bulgaria	205.0	23,378	187.0	X	1988	13.90	7	1,544	3	76	22
Croatia, Rep	61.4	13,660	X	X	X	X	0	X	X	X	X
Czech Rep	58.2	5,653	X	X	1991 d	2.74	5	266	41	57	2
Denmark	13.0	2,509	2.0	11.0	1990	1.20	9	233	30	27	43
Estonia, Rep	17.6	11,490	4.7	X	1989	3.30	21	2,097	5	92	3
Finland	113.0	22,126	3.0	108.0	1991 d	2.20	2	440	12	85	3
France	198.0	3,415	18.0	150.0	1990	37.73	19	665	16	69	15
Germany	171.0	2,096	75.0	X	1991 d	46.27	27	579	11	70	20
Greece	58.7	5,612	13.5	45.2	1980	5.04	9	523	8	29	63
Hungary	120.0	11,864	114.0	120.0	1991 d	6.81	6	661	9	55	36
Iceland	168.0	624,535	0.0	170.0	1991 d	0.16	0	636	31	63	6
Ireland	50.0	14,073	3.0	40.0	1980	0.79	2	233	16	74	10
Italy	167.0	2,920	7.6	X	1990	56.20	34	986	14	27	59
Latvia, Rep	34.0	13,297	16.8	X	1989	0.70	2	262	42	44	14
Lithuania, Rep	24.2	6,541	10.4	X	1989	4.40	19	1,190	7	90	3
Macedonia, former Yugoslav Rep	X	X	X	X	X	X	X	X	X	X	X
Moldova, Rep	13.7	3,093	11.4	12.0	1989	3.70	29	853	7	70	23
Netherlands	90.0	5,805	80.0	86.0	1991 d	7.81	9	518	5	61	34
Norway	392.0	90,385	8.0	392.0	1985	2.03	1	488	20	72	8
Poland, Rep	56.2	1,464	6.8	X	1991 d	12.28	22	321	13	76	11
Portugal	69.6	7,085	31.6	33.9	1990	7.29	10	739	15	37	48
Romania	208.0	9,109	171.0	40.0	1994	26.00	13	1,134	8	33	59
Russian Federation	4,498.0	30,599	227.0	54.0	1991	117.00	3	790	17	60	23
Slovak Rep	30.8	5,753	X	X	1991 d	1.78	6	337	X	X	X
Slovenia, Rep	X	X	X	X	X	X	X	X	X	X	X
Spain	111.3	2,809	1.0	17.0	1991 d	30.75	28	781	12	26	62
Sweden	180.0	20,501	4.0	X	1991 d	2.93	2	341	36	55	9
Switzerland	50.0	6,943	7.5	X	1991 d	1.19	2	173	23	73	4
Ukraine	231.0	4,496	34.4	47.3	1989	34.70	40	673	16	54	30
United Kingdom	71.0	1,219	0.0	67.0	1991 d	11.79	17	205	20	77	3
Yugoslavia, Fed Rep	X	X	X	X	X	X	X	X	X	X	X

	Annual Internal Renewable Water Resources {a}		Annual River Flows		Annual Withdrawals						
	Total (cubic km)	1995 Per Capita (cubic meters)	From Other Countries (cubic km)	To Other Countries (cubic km)	Year of Data	(cubic km)	Percentage of Water Resources {a}	Per capita (cubic meters)	Sectoral Withdrawals (percent) {b} Domestic	Industry	Agriculture
NORTH & CENTRAL AMERICA	**6,443.7**	**15,369**			**1995**	**608.44**	**9**	**1,451**	**9**	**42**	**49**
Belize	16.0	74,419	X	X	1987	0.02	0	109	10	0	90
Canada	2,901.0	98,462	51.5	2,850.0	1991 d	45.10	2	1,602	18	70	12
Costa Rica	95.0	27,745	X	X	1970	1.35	1	780	4	7	89
Cuba	34.5	3,125	0.0	X	1975	8.10	23	870	9	2	89
Dominican Rep	20.0	2,557	X	X	1987	2.97	15	446	5	6	89
El Salvador	19.0	3,285	X	X	1975	1.00	5	245	7	4	89
Guatemala	116.0	10,922	X	X	1970	0.73	1	139	9	17	74
Haiti	11.0	1,532	X	X	1987	0.04	0	7	24	8	68
Honduras	63.4	11,216	8.0	8.0	1992	1.52	2	294	4	5	91
Jamaica	8.3	3,392	0.0	X	1975	0.32	4	159	7	7	86
Mexico	357.4	3,815	X	X	1991 d	77.62	22	899	6	8	86
Nicaragua	175.0	39,477	X	X	1975	0.89	1	367	25	21	54
Panama	144.0	54,732	X	X	1975	1.30	1	754	12	11	77
Trinidad and Tobago	5.1	3,905	0.0	X	1975	0.15	3	148	27	38	35
United States	2,478.0	9,413	18.9	1,890.0	1990	467.34	19	1,870	13 c	45 c	42 c
SOUTH AMERICA	**9,526.0**	**29,788**			**1995**	**106.21**	**1**	**332**	**18**	**23**	**59**
Argentina	994.0	28,739	300.0	X	1976	27.60	4	1,043	9	18	73
Bolivia	300.0	40,464	X	X	1987	1.24	0	201	10	5	85
Brazil	6,950.0	42,957	1,760.0	X	1990	36.47	1	246	22	19	59
Chile	468.0	32,814	X	X	1975	16.80	4	1,626	6	5	89
Colombia	1,070.0	30,483	X	X	1987	5.34	0	174	41	16	43
Ecuador	314.0	27,400	X	X	1987	5.56	2	581	7	3	90
Guyana	241.0	288,623	X	X	1992	1.46	1	1,812	1	0	99
Paraguay	314.0	63,306	220.0	X	1987	0.43	0	109	15	7	78
Peru	40.0	1,682	X	X	1987	6.10	15	300	19	9	72
Suriname	200.0	472,813	X	X	1987	0.46	0	1,189	6	5	89
Uruguay	124.0	38,920	65.0	X	1965	0.65	1	241	6	3	91
Venezuela	1,317.0	60,291	461.0	X	1970	4.10	0	382	43	11	46
ASIA	**13,206.7**	**3,819**			**1987**	**1,633.85**	**12**	**542**	**6**	**9**	**85**
Afghanistan, Islamic State	50.0	2,482	X	X	1987	26.11	52	1,830	1	0	99
Armenia	13.3	3,687	2.1	5.2	1989	3.80	46	1,145	13	15	72
Azerbaijan	33.0	4,364	20.2	X	1989	15.80	56	2,248	4	22	74
Bangladesh	2,357.0	19,571	1,000.0	X	1987	22.50	1	220	3	1	96
Bhutan	95.0	57,998	X	X	1987	0.02	0	14	36	10	54
Cambodia	498.1	48,590	410.0	X	1987	0.52	0	64	5	1	94
China	2,800.0	2,292	0.0	X	1980	460.00	16	461	6	7	87
Georgia, Rep	65.2	11,942	7.9	20.2	1989	4.00	7	741	21	37	42
India	2,085.0	2,228	235.0	X	1975	380.00	18	612	3	4	93
Indonesia	2,530.0	12,804	X	X	1987	16.59	1	96	13	11	76
Iran, Islamic Rep	117.5	1,746	X	X	1975	45.40	39	1,362	4	9	87
Iraq	109.2	5,340	66.0	X	1970	42.80	43	4,575	3	5	92
Israel	2.2	382	0.5	0.0	1989	1.85	86	408	16 c	5 c	79 c
Japan	547.0	4,373	0.0	X	1990	90.80	17	735	17	33	50
Jordan	1.7	314	0.4	X	1975	0.45	32	173	29	6	65
Kazakhstan, Rep	169.4	9,900	56.0	32.0	1989	37.90	30	2,294	4	17	79
Korea, Dem People's Rep	67.0	2,801	X	X	1987	14.16	21	687	11	16	73
Korea, Rep	66.1	1,469	X	X	1992	27.60	42	632	19	35	46
Kuwait	0.2	103	0.0	X	1974	0.50	X	525	64	32	4
Kyrgyz Rep	61.7	13,003	0.0	38.3	1989	11.70	24	2,729	3	7	90
Lao People's Dem Rep	270.0	55,305	X	X	1987	0.99	0	259	8	10	82
Lebanon	5.6	1,854	0.6	0.9	1975	0.75	16	271	11	4	85
Malaysia	456.0	22,642	X	X	1975	9.42	2	768	23	30	47
Mongolia	24.6	10,207	X	X	1987	0.55	2	273	11	27	62
Myanmar	1,082.0	23,255	X	X	1987	3.96	0	101	7	3	90
Nepal	170.0	7,756	X	X	1987	2.68	2	150	4	1	95
Oman	1.9	892	0.0	X	1975	0.48	24	564	3	3	94
Pakistan	468.0	3,331	170.0	X	1975	153.40	33	2,053	1	1	98
Philippines	323.0	4,779	0.0	X	1975	29.50	9	686	18	21	61
Saudi Arabia	4.6	254	0.0	X	1975	3.60	164	497	45	8	47
Singapore	0.6	211	0.0	X	1975	0.19	32	84	45	51	4
Sri Lanka	43.2	2,354	0.0	X	1970	6.30	15	503	2	2	96
Syrian Arab Rep	53.7	3,662	27.9	30.0	1976	3.34	9	435	7	10	83
Tajikistan, Rep	101.3	16,604	47.9	86.9	1989	12.60	13	2,455	5	7	88
Thailand	179.0	3,045	69.0	X	1987	31.90	18	602	4	6	90
Turkey	193.1	3,117	7.0	69.0	1991 d	33.50	17	585	24 c	19 c	57 c
Turkmenistan, Rep	72.0	17,573	68.9	52.6	1989	22.80	33	6,390	1	8	91
United Arab Emirates	2.0	1,047	0.0	X	1980	0.90	299	884	11	9	80
Uzbekistan, Rep	129.6	5,674	98.1	X	1989	82.20	76	4,121	4	12	84
Viet Nam	376.0	5,044	X	X	1992	28.90	8	414	13	9	78
Yemen, Rep	5.2	359	X	X	1987	3.40	136	335	5	2	93
OCEANIA	**1,614.3**	**56,543**			**1995**	**16.73**	**1**	**586**	**64**	**2**	**34**
Australia	343.0	18,963	0.0	X	1985	14.60	4	933	65	2	33
Fiji	28.6	36,416	0.0	X	1987	0.03	0	42	20	20	60
New Zealand	327.0	91,469	0.0	325.0	1991 d	2.00	1	589	46	10	44
Papua New Guinea	801.0	186,192	X	X	1987	0.10	0	28	29	22	49
Solomon Islands	44.7	118,254	0.0	X	1987	0.00	0	0	40	20	40

Source: Compiled by World Resources Institute.

Notes: a. Annual Internal Renewable Water Resources usually include river flows from other countries. b. Unless otherwise noted, sectoral withdrawal percentages are estimated for 1987. c. Sectoral percentages date from the year of other annual withdrawal data. d. Data are from the early 1990s, if not otherwise defined. Regional and world totals may include countries not listed. Total withdrawals may exceed 100 percent due to groundwater drawdowns or river inflows.
0 = zero or less than half the unit of measure; X = not available. For additional information, see Sources and Technical Notes.

Data Table 13.2 Wastewater Treatment

	Wastewater Treatment (Percentage of Population Served)											
	Primary Treatment			Secondary Treatment			Tertiary Treatment			All Treatments		
	1980	1985	1990s	1980	1985	1990s	1980	1985	1990s	1980	1985	1990s
EUROPE												
Austria	10.0	7.0	2.0	25.0	53.0	42.0	3.0	5.0	28.0	38.0	65.0	72.0
Belgium	X	X	X	22.9	X	X	X	X	X	22.9	X	X
Czech Rep	X	X	X	X	47.5	49.6	X	X	X	X	47.5	50.6
Denmark	X	18.0	8.0 a	X	66.0	69.0	X	7.0	21.0 a	X	91.0	98.0 a
Finland	2.0	0.1	X	15.0	10.0	10.0	48.0	62.0	67.0	65.0	72.1	77.0
France	X	X	7.5 a	X	X	X	X	X	X	61.5	64.0	68.3 a
Germany	10.2	7.5	6.5	64.7	70.5	31.5	5.0	6.7	47.6	79.8	84.0	85.6
Greece	X	0.7	0.7	0.5	9.3	10.7	X	X	X	0.5	10.0	11.4
Hungary	7.0	8.0	9.0 a	12.0	17.0	22.0 a	X	X	X	19.0	25.0	31.0 a
Iceland	X	X	2.0	X	X	X	X	X	X	X	X	2.0
Italy	X	X	X	X	X	X	X	X	X	30.0	X	60.7 a
Luxembourg	16.0	14.0	3.2	65.0	69.0	82.2	X	X	5.0	81.0	83.0	90.4
Netherlands	7.0	8.0	0.5	56.0	72.0	83.5	9.0	7.0	9.3	73.0	87.0	93.3
Norway	7.0	8.0	13.0 a	1.0	1.0	1.0 a	26.0	33.0	43.0 a	34.0	42.0	57.0 a
Poland, Rep	X	X	10.8	X	X	26.5	X	X	X	X	X	37.3
Portugal	X	X	9.4 a	X	X	11.4 a	X	X	0.1 a	2.3	3.5	20.9 a
Spain	8.8	13.2	15.0	9.1	15.8	40.1	X	X	0.4	17.9	29.0	59.1
Slovak Rep	X	X	X	27.3	36.4	41.7 a	X	X	X	27.3	36.4	41.7 a
Sweden	1.0	1.0	1.0 a	20.0	11.0	7.0	61.0	82.0	88.0	82.0	94.0	95.0
Switzerland	X	X	X	X	36.0	27.0	X	48.0	64.0	73.0	84.0	91.0
United Kingdom	6.0	6.0	13.6	51.0	52.0	61.5	25.0	25.0	12.3	82.0	83.0	87.4
NORTH & CENTRAL AMERICA												
Canada	14.0	13.0	15.0	25.0	23.0	20.0	25.0	27.0	28.0	64.0	63.0	63.0
Mexico	X	X	X	X	X	19.2	X	X	X	X	X	21.8
United States	15.9	14.2	10.8 a	28.0	31.0	62.0	25.0	28.0	26.7 a	70.0	74.0	71.6 a
ASIA												
Japan	X	X	X	30.0	36.0	50.1	X	X	X	30.0	36.0	50.1
Korea, Rep	X	X	4.0	X	X	39.0	X	X	X	X	X	43.0
Turkey	0.1	0.1	1.3	X	0.2	4.6	X	X	0.5	0.1	0.3	6.3
OCEANIA												
New Zealand	10.0	8.0	X	49.0	80.0	X	X	X	X	59.0	88.0	X

Source: Organisation for Economic Co-Operation and Development.

Notes: a = 1990. X = not available. For additional information, see Sources and Technical Notes.

Data Table 13.3 Marine Fisheries, Yield and State of Exploitation

	Marine Catch (metric tons)						Total Marine Catch {a} (metric tons)		% of Stocks Fully Fished, Overfished, Depleted, or Recovering	Discards (as a % of overall catch) {c}
	Marine Fish		Cephalopods		Crustaceans					
	1981-83	1991-93	1981-83	1991-93	1981-83	1991-93 {b}	1981-83	1991-93 {b}	in 1992 {b}	1988-92
WORLD	**57,918,077**	**67,693,259**	**1,553,445**	**2,720,813**	**3,134,594**	**4,829,607**	**62,606,116**	**75,243,679**	**69**	**24**
ATLANTIC OCEAN	**20,021,612**	**17,952,537**	**462,521**	**1,033,307**	**800,437**	**988,810**	**21,284,570**	**19,974,654**	**X**	**25**
Northwest	1,897,887	1,577,845	51,029	40,365	202,057	305,189	2,150,973	1,923,399	67	19
Northeast	10,282,914	9,270,963	41,737	44,194	211,097	249,000	10,535,747	9,564,156	61	27
Western Central	1,488,739	1,290,928	10,179	20,198	240,278	265,441	1,739,195	1,576,567	37	47
Eastern Central	2,781,365	3,072,082	193,295	219,203	44,844	64,340	3,019,504	3,355,625	85	14
Southwest	1,227,792	1,385,200	155,899	701,456	87,039	90,653	1,470,730	2,177,309	82	27
Southeast	2,342,915	1,355,519	10,383	7,891	15,122	14,187	2,368,421	1,377,598	X	14
PACIFIC OCEAN	**32,561,167**	**42,562,810**	**1,007,483**	**1,485,455**	**1,492,360**	**2,924,635**	**35,061,010**	**46,972,900**	**X**	**24**
Northwest	16,966,580	17,696,934	730,777	887,824	786,514	1,608,874	18,483,871	20,193,632	100	26
Northeast	1,787,664	2,429,484	22,751	19,061	96,162	209,971	1,906,577	2,658,516	50	22
Western Central	4,623,724	6,630,468	157,116	272,053	447,947	867,112	5,228,787	7,769,634	63	27
Eastern Central	1,461,318	1,192,035	22,712	47,582	88,678	80,591	1,572,708	1,320,208	29	33
Southwest	361,883	733,006	71,796	78,525	8,174	7,291	441,853	818,822	45	21
Southeast	7,359,998	13,880,883	2,331	180,410	64,885	150,796	7,427,214	14,212,089	50	15
INDIAN OCEAN	**3,627,006**	**5,957,119**	**32,818**	**132,166**	**405,268**	**616,398**	**4,065,091**	**6,705,683**	**X**	**26**
Western	1,859,183	3,304,919	11,293	72,833	234,900	330,696	2,105,376	3,708,448	X	30
Eastern	1,767,823	2,652,200	21,525	59,333	170,368	285,702	1,959,715	2,997,235	X	22
MEDITERRANEAN AND BLACK SEA	**1,559,733**	**1,163,870**	**50,623**	**69,885**	**34,870**	**49,628**	**1,645,227**	**1,283,383**	**X**	**25**
ANTARCTIC	**148,559**	**56,923**	**0**	**0**	**401,659**	**250,137**	**550,218**	**307,060**	**X**	**10**
ARCTIC	**0**	**0**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**

Source: Food and Agriculture Organization of the United Nations (FAO).

Notes: a. Total catch includes marine fish, cephalopods, and crustaceans only. b. Percentage of marine fish, crustacean, and mollusc stocks assessed by FAO. c. Discards are shown as a percentage of total catch plus discards (overall catch). Marine catch includes aquaculture production.
0 = zero or less than half the unit of measure; X = not available.
For additional information, see Sources and Technical Notes.

Data Table 13.4 Marine and Freshwater Catches, Aquaculture, and Fish Consumption

	Average Annual Marine Catch		Average Annual Freshwater Catch		Average Annual Aquaculture Production 1991-93 (000 metric tons)							Per Capita Annual Food Supply from Fish and Seafood	
	(000 metric tons) 1991-93	Percent Change Since 1981-83	(000 metric tons) 1991-93	Percent Change Since 1981-83	Fresh-water Fish	Diad-romous Fish	Marine Fish	Crus-taceans	Molluscs	Total Fish and Shellfish	Other {a}	Total 1990-92 (kg)	% Change Since 1980-82
WORLD	**82,772.1**	**23**	**15,930.9**	**85**	**8,562.4**	**1,154.5**	**362.8**	**949.3**	**3,552.0**	**14,581.1**	**5,329.5**	**12.8**	**18.8**
AFRICA	**3,244.5**	**23**	**1,792.0**	**35**	**52.8**	**1.8**	**11.5**	**0.5**	**2.1**	**68.8**	**7.4**	**7.3**	**(13.5)**
Algeria	88.4	43	0.4	X	0.1	0.0	0.0	0.0	0.0	0.2	X	3.3	10.0
Angola	69.8	(37)	7.0	(7)	X	X	X	X	X	0.0	X	15.0	(8.0)
Benin	8.8	147	31.2	(6)	0.1	X	X	X	X	0.1	X	10.2	(15.5)
Botswana	X	X	1.9	41	X	X	X	X	X	0.0	X	4.2	21.2
Burkina Faso	X	X	7.2	(0)	0.0	X	X	X	X	0.0	X	1.9	35.7
Burundi	X	X	22.0	87	0.1	X	X	X	X	0.1	X	3.7	13.3
Cameroon	59.3	(18)	20.7	3	0.1	X	X	X	X	0.1	X	10.1	(25.7)
Central African Rep	X	X	13.5	4	0.3	X	X	X	X	0.3	X	4.9	(11.4)
Chad	X	X	71.7	72	X	X	X	X	X	0.0	X	4.6	42.3
Congo	19.8	2	22.5	80	0.1	X	X	X	X	0.1	X	33.1	16.4
Cote d'Ivoire	62.1	(13)	18.8	(13)	0.3	X	X	X	X	0.3	X	15.8	(17.6)
Egypt	86.5	207	210.0	70	28.4	X	9.2	X	X	37.6	X	7.3	32.5
Equatorial Guinea	3.2	44	0.4	X	X	X	X	X	X	0.0	X	X	X
Eritrea	2.0 b	X	0.5 b	X	X	X	X	X	X	0.0	X	X	X
Ethiopia	0.1 c	(70)	4.3	24	0.0	X	X	X	X	0.0	X	0.1	0.0
Gabon	22.6	24	2.2	20	0.0	X	X	X	X	0.0	X	27.4	(29.4)
Gambia, The	19.8	122	2.5	(9)	X	X	X	0.0	X	0.0	X	13.7	20.2
Ghana	333.0	64	55.0	32	0.4	X	X	X	X	0.4	X	25.3	16.0
Guinea	35.2	56	3.8	167	0.0	X	X	X	X	0.0	X	8.1	12.0
Guinea-Bissau	5.0	46	0.2	491	X	X	X	X	X	0.0	X	2.2	(36.3)
Kenya	6.1	(11)	176.2	144	0.7	0.3	X	0.1	X	1.2	X	7.3	106.6
Lesotho	X	X	0.0	67	0.0	0.0	X	X	X	0.0	X	1.5	(24.1)
Liberia	4.8	(52)	4.0	0	0.0	X	X	X	X	0.0	X	13.3	(1.2)
Libya	8.5	(28)	0.1	X	0.1	X	X	X	X	0.1	X	2.4	(72.5)
Madagascar	78.6	306	28.4	(29)	0.4	0.0	X	0.3	X	0.7	0.3	7.5	28.6
Malawi	X	X	64.2	9	0.2	X	X	0.0	X	0.2	X	9.5	13.1
Mali	X	X	67.2	(4)	0.0	X	X	X	X	0.0	X	7.4	(30.3)
Mauritania	85.8	42	5.3	(11)	X	X	X	X	X	0.0	X	15.4	34.0
Mauritius	19.7	124	0.1	133	0.0	X	0.0	0.1	0.0	0.1	X	19.2	16.1
Morocco	586.1	46	1.7	64	0.0	0.2	0.3	X	0.1	0.6	X	7.0	9.9
Mozambique	26.3	(28)	4.1	(18)	0.0	X	X	X	X	0.0	X	3.0	(19.6)
Namibia	275.8	2,305	1.1	1,486	0.0	X	X	X	0.0	0.0	1.8	10.6	6.7
Niger	X	X	2.5	(60)	0.0	X	X	X	X	0.0	X	0.5	(65.2)
Nigeria	176.1	15	104.2	(9)	15.3	X	1.2	X	X	16.5	X	4.8	(66.6)
Rwanda	X	X	3.6	220	0.1	X	X	X	X	0.1	X	0.2	(25.0)
Senegal	332.5	48	23.3	56	0.0	X	X	0.0	0.0	0.0	X	21.0	(7.1)
Sierra Leone	48.0	35	13.7	(15)	0.0	X	X	X	X	0.0	X	12.9	(40.3)
Somalia	15.1	54	0.3	(6)	X	X	X	X	X	0.0	X	2.3	59.1
South Africa	584.2	(33)	2.7	193	0.8	1.1	0.0	0.0	1.8	3.7	0.3	9.5	10.0
Sudan	1.5	(29)	30.7	13	0.2	X	X	X	X	0.2	X	0.9	(37.2)
Swaziland	X	X	0.1	37	0.0	X	X	X	X	0.0	X	X	X
Tanzania	51.2	55	282.6	42	0.4	X	X	X	X	0.4	4.9	15.2	27.0
Togo	0.2	107	X	X	0.1	X	X	X	X	0.1	X	12.4	2.8
Tunisia	86.5	35	0.4 b	X	X	0.2	0.7	0.0	0.1	1.0	X	9.9	21.7
Uganda	X	X	241.6	42	0.1	X	X	X	X	0.1	X	14.0	12.9
Zaire	2.1	167	150.3	49	0.7	X	X	X	X	0.7	X	7.7	17.2
Zambia	X	X	66.0	22	3.6	X	X	0.0	X	3.6	X	7.7	(15.1)
Zimbabwe	X	X	21.9	38	0.0	0.1	X	0.0	X	0.2	X	1.5	(43.9)
EUROPE	**18,197.9**	**X**	**998.8**	**X**	**240.0**	**454.9**	**20.2**	**2.3**	**587.8**	**1,305.1**	**4.3**	**21.0 d**	**16.4 d**
Albania	2.2	(64)	1.3	(59)	0.1	0.0	0.0	X	0.4	0.6	X	2.3	(31.7)
Austria	X	X	4.4	(3)	1.2	2.7	X	0.0	X	3.9	X	9.2	60.8
Belarus, Rep	X	X	14.8	X	X	X	X	X	X	0.0	X	X	X
Belgium	37.2	(23)	0.8	X	0.3	0.5	X	X	X	0.8	X	19.2 e	5.3 e
Bosnia and Herzegovina	X	X	2.8 b	X	X	X	X	X	X	0.0	X	X	X
Bulgaria	27.7	(72)	9.5	(33)	7.2	0.7	X	X	0.0	7.9	X	2.6	(60.4)
Croatia, Rep	26.1 c	X	5.4 c	X	4.9	0.3 c	0.3 c	X	0.2 c	5.7	X	X	X
Czech Rep	X	X	24.4 b	X	22.3 b	0.5 b	X	X	X	22.8	X	X	X
Denmark	1,738.0	(7)	36.3	62	X	41.7	X	X	X	41.7	X	18.8	(0.4)
Estonia, Rep	209.4	X	3.0	X	0.1 c	0.4 c	X	X	X	0.5	X	X	X
Finland	88.8	3	53.8	(23)	0.0	18.2	X	X	X	18.2	X	29.8	7.5
France	768.6	(0)	52.1	137	8.2	44.5	0.4	0.0	202.0	255.2	0.1	30.7	24.8
Germany	259.9	(50)	49.1	25	14.8	24.9	0.0	X	35.2	74.9	X	20.4	(2.9)
Greece	166.9	80	11.7	26	0.3	2.2	9.1	X	10.3	21.8	0.0	21.7	28.0
Hungary	X	X	27.4	(34)	12.7	0.0	X	X	X	12.7	X	4.0	(7.0)
Iceland	1,447.6	42	0.8	103	X	2.8	0.0	X	X	2.8	X	137.9	60.3
Ireland	278.8	38	1.0	704	X	11.8	X	X	18.8	30.6	X	17.5	10.5
Italy	500.0	1	54.9	26	5.2	39.1	6.0	0.0	104.0	154.4	3.3	21.2	44.4
Latvia, Rep	237.2	X	1.6	X	0.5	0.0 c	X	X	X	0.5	X	X	X
Lithuania, Rep	257.0	X	5.5	X	3.4	0.0 c	X	X	X	3.4	X	X	X
Macedonia, former Yugoslav Rep	X	X	1.6	X	0.7	X	X	X	X	0.7	X	X	X
Moldova, Rep	X	X	5.0	X	X	X	X	X	X	0.0	X	X	X
Netherlands	454.0	(5)	2.8	(16)	1.1	0.7	X	X	57.3	59.1	X	10.4	2.0
Norway	2,425.2	(8)	0.5	50	X	154.8	0.0	X	0.0	154.8	X	X	X
Poland, Rep	412.4	(35)	49.7	87	22.1	4.2	X	X	X	26.2	X	12.6	6.5
Portugal	298.3	17	1.7	X	0.0	1.9	0.4	0.0	4.0	6.2	X	49.1	66.1
Romania	50.2	(70)	34.9	(37)	27.0	X	X	0.0	X	27.0	X	7.5	(12.8)
Russian Federation	5,326.6	X	375.2	X	95.8	1.0 c	0.0 b	0.0 c	0.7 c	97.5	1.4 c	X	X
Slovak Rep	X	X	2.8 b	X	0.8 b	0.8 b	X	X	X	1.6	X	X	X
Slovenia, Rep	2.4 c	X	0.6 c	X	X	X	X	X	X	0.0	X	X	X
Spain	1,283.3	(8)	30.0	11	0.4	19.2	3.5	2.2	148.1	173.5	X	38.8	23.3
Sweden	297.1	17	5.4	42	0.0	5.8	X	0.0	1.2	7.0	X	27.8	(0.1)
Switzerland	X	X	4.0	13	0.1	1.1	X	X	X	1.2	X	13.7	42.2
Ukraine	502.5	X	105.3	X	65.7 c	0.5	0.0 c	X	0.2 c	66.5	X	X	X
United Kingdom	837.2	(4)	15.8	83	0.0	56.8	X	0.0	5.4	62.2	X	19.6	14.6
Yugoslavia, Fed Rep	0.3 c	X	4.5 c	X	1.4	0.0 c	X	X	0.0 c	1.4	X	X	X

	Average Annual Marine Catch		Average Annual Freshwater Catch		Average Annual Aquaculture Production 1991-93 (000 metric tons)							Per Capita Annual Food Supply from Fish and Seafood	
	(000 metric tons) 1991-93	Percent Change Since 1981-83	(000 metric tons) 1991-93	Percent Change Since 1981-83	Fresh-water Fish	Diad-romous Fish	Marine Fish	Crus-taceans	Molluscs	Total Fish and Shellfish	Other {a}	Total 1990-92 (kg)	% Change Since 1980-82
NORTH & CENTRAL AMERICA	**8,246.5**	**17**	**576.2**	**153**	**255.9**	**73.9**	**0.3**	**44.4**	**161.2**	**535.7**	**0.0**	**17.8**	**23.0**
Belize	2.0	42	0.0	(89)	0.0	X	X	0.1	X	0.1	X	5.9	(11.9)
Canada	1,278.5	(4)	51.4	(2)	0.0	36.9	0.0	X	11.4	48.3	0.0	23.3	13.7
Costa Rica	15.8	20	2.1	352	1.4	0.0	X	0.8	0.0	2.2	X	6.5	6.6
Cuba	103.9	(40)	20.3	66	19.3	X	0.0	0.0	0.8	20.0	X	14.4	(24.1)
Dominican Rep	13.0	25	2.1	(31)	0.5	0.0	X	0.4	0.0	0.9	X	7.8	(0.8)
El Salvador	7.6	(42)	4.7	507	0.1	X	0.2	0.2	X	0.4	X	2.2	4.7
Guatemala	3.3	2	4.0	936	0.3	X	X	0.6	0.0	1.0	X	0.8	26.3
Haiti	4.8	(16)	0.5	67	X	X	X	X	X	0.0	X	4.0	12.1
Honduras	21.4	153	0.3	107	0.2	X	X	5.9	X	6.1	X	0.9	(33.3)
Jamaica	7.3	(8)	3.4	2,571	2.7	X	X	0.0	0.0	2.7	X	16.0	(14.3)
Mexico	1,131.9	(10)	167.5	293	12.6	1.3	X	2.7	29.0	45.6	X	10.2	(10.0)
Nicaragua	6.7	39	0.4	10	0.0	X	X	0.1	X	0.1	X	1.0	3.6
Panama	151.9	7	0.4	X	0.2	X	X	3.6	X	3.8	X	12.0	(12.0)
Trinidad and Tobago	12.6	199	X	X	0.0	X	X	0.0	X	0.0	X	11.7	(17.4)
United States	5,319.6	36	318.6	177	218.4	35.8	X	29.6	120.0	403.8	X	22.3	39.1
SOUTH AMERICA	**15,822.5**	**93**	**360.1**	**15**	**37.4**	**66.3**	**0.0**	**117.9**	**7.1**	**228.7**	**51.4**	**8.3**	**1.2**
Argentina	746.7	85	12.1	(8)	X	0.6	X	0.0	0.0	0.6	0.0	6.6	10.0
Bolivia	X	X	5.6	21	0.1	0.2	0.0	X	X	0.3	X	1.1	(52.2)
Brazil	576.9	(10)	213.1	5	24.2	0.7	X	2.7	0.2	27.8	X	6.3	(0.5)
Chile	6,137.0	67	12.4	6,499	X	60.7	0.0	X	6.8	67.5	51.4	22.9	26.2
Colombia	97.9	260	40.2	(15)	10.7	1.5	0.0	7.9	X	20.1	X	2.3	(47.3)
Ecuador	350.2	(31)	3.7	559	1.6	1.1	X	102.1	0.0	104.8	X	10.4	(5.5)
Guyana	39.9	21	0.8	11	0.0	X	X	0.0	X	0.1	X	39.8	0.3
Paraguay	X	X	15.7	359	0.1	X	X	X	X	0.1	X	3.5	200.0
Peru	7,390.4	187	33.3	49	0.4	1.2	X	4.0	0.1	5.6	X	22.1	4.3
Suriname	8.9	182	0.4	202	0.0	X	X	0.0	X	0.0	X	7.0	(59.8)
Uruguay	129.0	(5)	0.5	153	0.0	X	X	0.0	X	0.0	X	5.0	0.0
Venezuela	337.2	74	22.3	38	0.4	0.2	X	1.1	0.1	1.8	0.0	12.5	0.0
ASIA	**36,318.9**	**X**	**12,180.5**	**X**	**7,836.3**	**547.5**	**330.5**	**782.2**	**2,736.0**	**12,232.4**	**5,251.3**	**12.4 d**	**30.1 d**
Afghanistan, Islamic State	X	X	1.2	(19)	X	X	X	X	X	0.0	X	0.1	0.0
Armenia	X	X	4.4	X	1.5	0.3	X	X	X	1.8	X	X	X
Azerbaijan	X	X	38.2	X	X	X	X	X	X	0.0	X	X	X
Bangladesh	283.9	115	684.4	23	197.4	X	X	21.2	X	218.6	X	7.4	3.7
Bhutan	X	X	0.3	37	0.0	X	X	X	X	0.0	X	X	X
Cambodia	34.4	678	78.2	34	7.2	X	X	X	X	7.2	X	12.4	75.9
China	8,668.8	168	6,415.6	303	5,470.3	X	59.2	193.7	1,684.6	7,407.8	3,501.1	10.3	107.4
Georgia, Rep	43.1	X	2.9	X	0.9 c	0.0 c	X	X	X	0.9	X	X	X
India	2,462.0	68	1,738.1	78	1,305.4	0.9	X	42.8	2.0	1,351.1	X	3.9	29.7
Indonesia	2,578.2	71	854.0	66	245.4	151.5	8.6	147.9	X	553.3	95.0	14.5	22.1
Iran, Islamic Rep	231.5	219	86.5	650	27.4	0.7	X	X	X	28.2	X	4.3	161.2
Iraq	3.8	(47)	16.6	(2)	12.6	X	X	X	X	12.6	X	1.0	(61.8)
Israel	3.4	(71)	16.1	15	12.3	0.4	0.9	0.0	X	13.7	X	20.4	26.8
Japan	8,334.6	(22)	186.9	(12)	21.1	93.1	239.4	2.2	454.1	809.9	624.4	75.4	17.3
Jordan	0.0	(92)	0.0	127	0.0	X	X	X	X	0.0	X	2.4	(24.2)
Kazakhstan, Rep	X	X	79.2	X	X	X	X	X	X	0.0	X	X	X
Korea, Dem People's Rep	1,659.7	13	107.3	26	10.7	1.8	X	13.0	53.3	78.8	121.2	42.5	21.4
Korea, Rep	2,560.0	12	37.2	(15)	13.1	4.3	4.0	0.5	330.8	352.7	556.9	58.6	35.3
Kuwait	6.2	(3)	X	X	X	X	0.0	X	X	0.0	X	9.6	(3.4)
Kyrgyz Rep	X	X	1.2	X	X	X	X	X	X	0.0	X	X	X
Lao People's Dem Rep	X	X	29.8	21	12.7	X	X	X	X	12.7	X	6.7	(9.0)
Lebanon	1.8	29	0.1	33	X	0.1	X	X	X	0.1	X	0.4	(36.8)
Malaysia	623.5	(13)	18.2	27	11.2	4.3	1.3	3.3	61.5	81.6	X	24.6	(39.4)
Mongolia	X	X	0.1	(56)	X	X	X	X	X	0.0	X	1.1	10.0
Myanmar	612.3	37	189.7	34	5.1	X	X	0.0	X	5.1	X	15.1	4.6
Nepal	X	X	16.3	278	10.1	X	X	X	X	10.1	X	0.8	187.5
Oman	115.5	23	X	X	X	X	X	0.0	X	0.0	X	X	X
Pakistan	443.4	62	120.0	105	12.9	0.0	X	0.0	X	13.0	X	2.1	23.5
Philippines	1,690.9	34	589.6	7	92.5	186.3	3.6	78.6	36.1	397.2	337.8	32.5	(0.9)
Saudi Arabia	44.3	36	2.1	X	2.2	X	0.2	0.2	X	2.5	X	6.5	(29.1)
Singapore	12.1	(32)	0.0	(94)	X	0.3	0.5	0.4	1.1	2.2	X	X	X
Sri Lanka	187.4	4	20.9	(37)	3.5	X	X	0.7	X	4.2	X	10.8	(28.1)
Syrian Arab Rep	1.5	48	4.0	29	4.2	0.1	X	X	X	4.3	X	0.5	(76.7)
Tajikistan, Rep	X	X	3.8	X	X	X	X	X	X	0.0	X	X	X
Thailand	2,837.0	52	271.9	80	127.0	2.4	0.9	197.4	51.8	379.4	0.1	25.1	32.7
Turkey	408.3	(14)	46.9	35	0.3	6.8	1.5	X	X	8.6	X	6.2	(20.3)
Turkmenistan, Rep	X	X	40.0	X	X	X	X	X	X	0.0	X	X	X
United Arab Emirates	93.3	33	X	X	0.0	X	0.0	0.0	X	0.0	X	25.4	18.5
Uzbekistan, Rep	X	X	26.3	X	18.9 c	0.1 b	X	X	X	18.9	X	X	X
Viet Nam	795.2	65	271.6	42	133.3	X	X	50.7	X	184.0	4.3	13.9	27.5
Yemen, Rep	82.7	31	0.9	X	X	X	X	X	X	0.0	X	X	X
OCEANIA	**821.1**	**84**	**23.3**	**37**	**0.1**	**8.1**	**0.2**	**1.9**	**57.3**	**67.7**	**11.8**	**21.4**	**13.4**
Australia	225.1	42	4.7	170	0.0	5.4	0.2	1.1	9.3	16.2	6.4	17.8	19.5
Fiji	27.0	8	3.8	123	0.1	X	0.0	0.0	0.0	0.1	0.1	41.1	2.3
New Zealand	461.5	152	1.4	244	X	2.7	X	X	47.9	50.6	X	28.4	30.8
Papua New Guinea	11.3	(12)	13.4	2	0.0	0.0	X	X	0.0	0.0	0.0	21.8	(7.0)
Solomon Islands	53.4	36	X	X	X	X	X	0.0	X	0.0	X	55.7	(9.5)

Source: Food and Agriculture Organization of the United Nations.

Notes: a. Includes production of aquatic plants and seaweeds, which are excluded from marine catch; their harvest is to be subtracted as appropriate. b. One year of data. c. Two years of data.
d. Regional total excludes countries of the former Soviet Union. e. Data are for Belgium and Luxembourg.
Total of aquaculture production is included in the country totals for marine and freshwater catches. World and regional totals include countries not listed and unallocated quantities.
0 = zero or less than half the unit of measure; X = not available; negative numbers are shown in parentheses. For additional information, see Sources and Technical Notes.

Sources and Technical Notes

Data Table 13.1
Freshwater Resources and Withdrawals

Sources: Water resources and withdrawal data come from a variety of sources: J. Forkasiewicz and J. Margat, *Tableau Mondial de Donnees Nationales d'Economie de l'Eau, Ressources et Utilisation* (Departement Hydrogeologie, Orleans, France, 1980); J. Margat, Bureau de Recherches Geologiques et Minieres, Orleans, France, April 1988 (personal communication); Alexander V. Belyaev, Institute of Geography, U.S.S.R. National Academy of Sciences, Moscow, September 1989 and January 1990 (personal communication); Peter Gleick, Pacific Institute, Oakland, California, December 1995 (personal communication); withdrawal and sectoral use data for the United States: Wayne B. Solley, Robert R. Pierce, and Howard A. Perlman, "Estimated Use of Water in the United States, in 1990," *U.S. Geological Survey Circular,* No. 1081 (U.S. Geological Survey, Reston, Virginia, 1993); European Communities—Commission, *Environment Statistics 1989* (Office des Publications Officielles des Communautes Europeennes, Luxembourg, 1990), p. 130; Economic Commission for Europe, *The Environment in Europe and North America* (United Nations, New York, 1992), pp. 15–23; United Nations Economic Commission for Europe (ECE), *ECE Environmental Statistical Database,* on diskette, (Statistical Division, UN/ECE, 1995); Organisation for Economic Co-Operation and Development (OECD), *OECD Environmental Data Compendium* (OECD, Paris, in press, 1995); Food and Agriculture Organization of the United Nations (FAO), *Water Resources of African Countries, A Review* (FAO, Rome, 1995), pp. 14–15; desalination data as footnoted: O.K. Buros for the International Desalination Association, *The Desalting ABC's* (Saline Water Conversion Corporation, Riyadh, Saudi Arabia, 1990), p. 5; and population: United Nations Population Division, *World Population Prospects, the 1994 Revision* (United Nations, New York, 1995). Withdrawal data in this table were updated or confirmed from individual country reports when possible. For example, this was accomplished for Egypt, Morocco, South Africa, the Republic of Korea, Viet Nam, Honduras, Brazil, Guyana, and Japan, based on reports prepared by each country for the United Nations Conference on the Environment and Development held in Rio de Janeiro, Brazil, in 1992. In general, data are compiled from published documents (including national, United Nations, and professional literature) and from estimates of resources and consumption from models using other data, such as area under irrigated agriculture, livestock populations, and precipitation, when necessary.

Annual internal renewable water resources refers to the average annual flow of rivers and groundwater generated from endogenous precipitation. Both estimates of runoff into rivers and recharge of groundwater should be used with caution when comparing different countries because these estimates are based on differing sources and dates. These annual averages also disguise large seasonal, interannual, and long-term variations. When data for *annual river flows from* and *to other countries* are not shown, the internal renewable water resources figure *may* include these flows. These flows could be modified by upstream users. Total outflows from countries are more poorly documented than inflows. When such data are shown they are included in a country's total internal renewable water resources. *Per capita annual internal renewable water resources* data were calculated using 1995 population estimates.

Annual withdrawals as a *percentage of water resources* refer to *total* water withdrawals, not counting evaporative losses from storage basins, as a percentage of internal renewable water resources and river flows from other countries. Water withdrawals also include water from desalination plants in countries where that source is a significant part of all water withdrawals.

Per capita annual withdrawals were calculated using national population data for the year of data shown for withdrawal.

Sectoral withdrawals are classified as *domestic* (drinking water, homes, commercial establishments, public services (e.g., hospitals), and municipal use or provision); *industry* (including water withdrawn to cool thermoelectric plants); and *agriculture* (irrigation and livestock).

Totals may not add because of rounding.

Data Table 13.2
Wastewater Treatment

Source: Organisation for Economic Co-Operation and Development (OECD), *OECD Environmental Data Compendium 1995* (OECD, Paris, 1995, in press).

OECD surveys its members and associates on a variety of environmental questions. Definitions can vary among countries. The *percentage of the population served* is the actual proportion connected to wastewater treatment plants. *Primary treatment* comprises the physical and mechanical processes that remove 20 to 30 percent of the biochemical oxygen demand (BOD) and effluents and separates out sludge. *Secondary treatment* is the additional use of biological treatment, such as the use of anaerobic or aerobic microorganisms that remove 80 to 90 percent of BOD. *Tertiary treatment* consists of advanced added chemical or biological-chemical treatments that remove 95 percent or more of BOD. Years given are the closest available. See the source for country details.

Data Table 13.3
Marine Fisheries, Yield and State of Exploitation

Sources: Marine fishery production: Food and Agriculture Organization of the United Nations (FAO), *Fishstat-PC* (FAO, Rome, 1995); state of exploitation: FAO, unpublished data (FAO, Rome, 1995); bycatch: FAO, *The State of World Fisheries and Aquaculture* (FAO, Fisheries Department, Rome, 1995).

FAO divides the world's oceans into 19 marine statistical areas and organizes *annual catch* data by 1,028 "species items"—species groups separated at the family, genus, or species level. "Catch" refers to average landings and does not include discards (see below). *Marine fish* include the following FAO species groupings: flounders, halibuts, soles, etc.; cods, hakes, haddocks, etc.; redfishes, basses, congers, etc.; jacks, mullets, sauries, etc.; herrings, sardines, anchovies, etc.; tunas, bonitos, bill-fishes, etc.; mackerels, snoeks, cutlassfishes, etc.; sharks, rays, chimeras, etc.; and miscellaneous marine fishes. *Cephalopods* include squids, cuttlefishes, octopuses, etc. *Crustaceans* are the total of the following categories: seaspiders, crabs, etc.; lobsters, spiny-rock lobsters, etc.; squat lobsters; shrimps, prawns, etc.; krill, planktonic crustaceans, etc.; and miscellaneous marine crustaceans. Years shown are 3-year averages. *Total marine catch* differs from marine catch in Data Table 13.4 because the following mollusc categories are not included: abalones, winkles, conchs, etc.; oysters; mussels; scallops; clams, cockles, arkshells, etc.; and miscellaneous marine molluscs. Please refer to the Technical Notes for Data Table 13.4 for the definition of nominal fish catch and additional information on FAO's fishery database. Fish catch data presented in this table include harvests from marine aquaculture production. Marine aquaculture provides an insignificant contribution to the total yields of marine fish and cephalopods.

Percentage of stocks fully fished, overfished, depleted, or recovering provides a

measure of the degree to which fish stocks within FAO's marine statistical areas were exploited as of 1992. Data refer to all marine stocks for which FAO has data. Exploitation levels were determined by comparing catch levels to estimated maximum sustainable yield (MSY) for each stock. Stocks considered *fully fished* are those with yields within 25 percent of MSY. *Overfished* stocks are those where catch exceeds 25 percent of MSY. *Depleted* stocks are fisheries that have essentially collapsed. *Recovering* stocks are fisheries that have collapsed, where fishers are no longer targeting the species (because such stocks are protected, or, more generally, because catch levels do not justify the level of effort).

Discards as a percentage of overall catch refer to the percentage of overall catch (discards plus landings) during the 1988–92 period that consisted of nontarget or low-value species and undersized fish of targeted species.

Individual countries are charged with collecting catch data and reporting them to FAO. The quality of these estimates varies because many countries lack the resources to adequately monitor catch landings within their borders. In addition, fishers sometimes underreport their catches because they have not kept within harvest limits established to manage the fishery. In some cases, catch statistics are inflated to increase the importance of the fishing industry to the national economy.

Data Table 13.4
Marine and Freshwater Catches, Aquaculture, and Fish Consumption

Sources: Marine, freshwater, and aquaculture catches: Food and Agriculture Organization of the United Nations (FAO), *Fishstat-PC* (FAO, Rome, 1995). Food supply from seafood: FAO, *Faostat-PC*, on diskette (FAO, Rome, 1995).

Marine and *freshwater catch* data refer to marine and freshwater fish killed, caught, trapped, collected, bred, or cultivated for commercial, industrial, and subsistence use. Crustaceans and molluscs are included. Statistics for mariculture, aquaculture, and other kinds of fish farming are included in the country totals. Quantities taken in recreational activities are excluded. Figures are the national totals averaged over a 3-year period; they include fish caught by a country's fleet anywhere in the world. Catches of freshwater species caught in low-salinity seas are included in the statistics of the appropriate marine area. Catches of diadromous (migratory between saltwater and freshwater) species are shown either in the marine or inland area where they were caught.

Data are represented as nominal catches, which are the landings converted to a live-weight basis, that is, the weight when caught.

Landings for some countries are identical to catches. Catch data are provided annually to the FAO Fisheries Department by national fishery offices and regional fishery commissions. Some countries' data are provisional for the latest year. If no data are submitted, FAO uses the previous year's figures or makes estimates based on other information. For details on data quality, please refer to the Technical Notes to DataTable 13.3.

Years are calendar years except for Antarctic fisheries data, which are for split years (July 1–June 30). Data for Antarctic fisheries are given for the calendar year in which the split year ends.

Aquaculture is defined by FAO as "the farming of aquatic organisms, including fish, molluscs, crustaceans, and aquatic plants. Farming implies some form of intervention in the rearing process to enhance production, such as regular stocking, feeding, and protection from predators, etc. [It] also implies ownership of the stock being cultivated. . . ." Aquatic organisms that are exploitable by the public as a common property resource are included in the harvest of fisheries.

FAO's global collection of aquaculture statistics by questionnaire was begun in 1984; today, these data are a regular feature of the annual FAO survey of world fishery statistics.

FAO's 1,028 "species items" are summarized in six categories. *Freshwater fish* include carps, barbels, and tilapias, among others. *Diadromous fish* include sturgeons, river eels, salmons, trouts, and smelts. *Marine fish* include a variety of species groups such as flounders, cods, redfishes, herrings, tunas, mackerels, sharks, etc. *Crustaceans* include, among others, freshwater crustaceans, crabs, lobsters, shrimps, and prawns. *Molluscs* include freshwater molluscs, oysters, mussels, scallops, clams, and squids. *Other* includes frogs, turtles, and aquatic plants. Data on whales and other mammals are excluded from this table. For a detailed listing of species, please refer to the most recent *FAO Yearbook of Fishery Statistics* (FAO, Rome), which provides notes to data published in *Fishstat-PC*.

Per capita annual food supply from fish and seafood is the quantity of both freshwater and marine fish and fish products available for human consumption. Data on aquatic plants and whale meat are excluded from the totals. The amount of fish and seafood actually consumed may be lower than the figures provided, depending on how much is lost during storage, preparation, and cooking, and on how much is discarded.