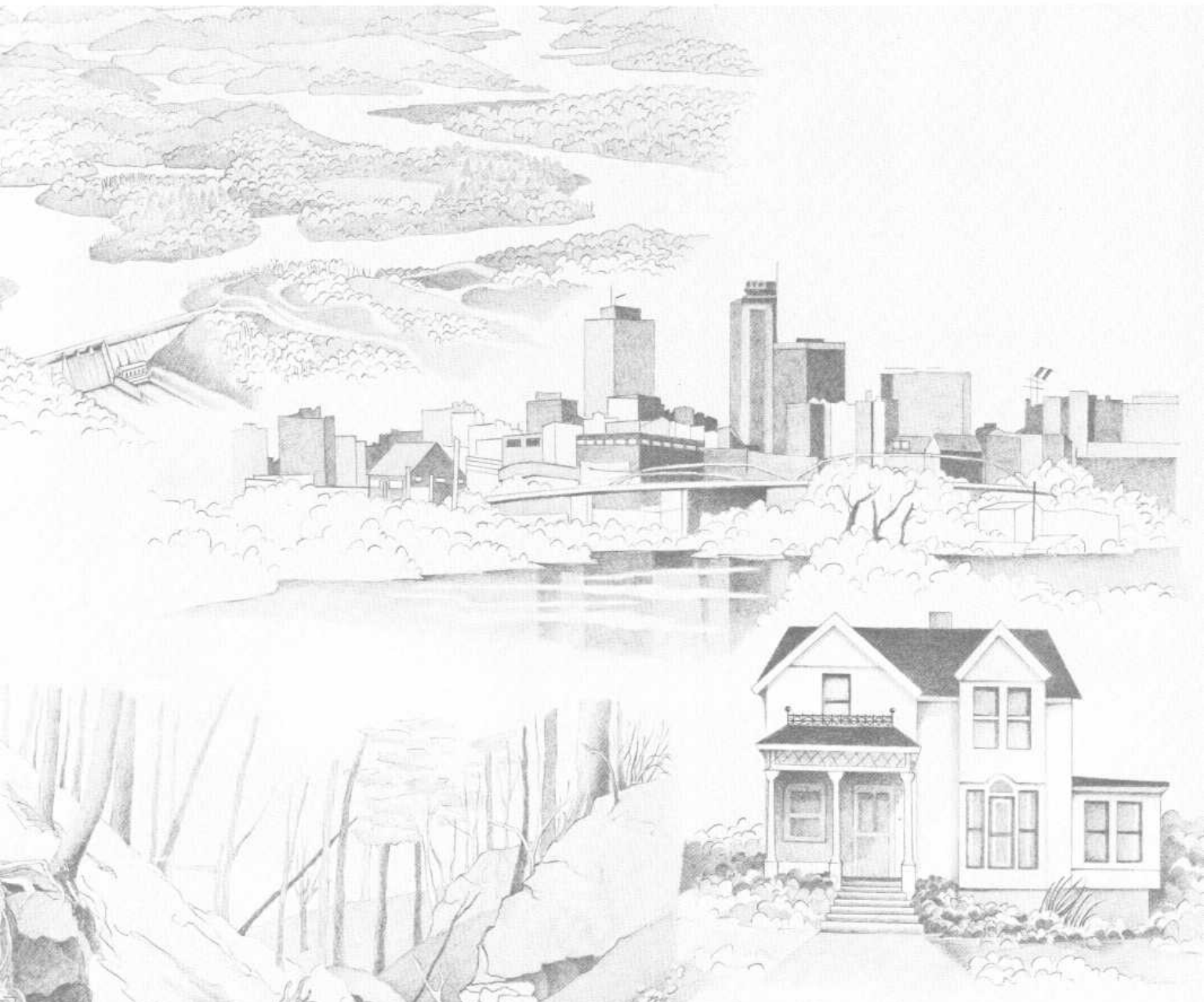
WATER-RESOURCES INVESTIGATIONS REPORT 84-4074

DROUGHT-RELATED IMPACTS ON MUNICIPAL AND MAJOR SELF- SUPPLIED INDUSTRIAL WATER WITHDRAWALS IN TENNESSEE--PART B



Prepared by
U. S. GEOLOGICAL SURVEY

in cooperation with
TENNESSEE DEPARTMENT OF HEALTH AND ENVIRONMENT, Division of Water Management
TENNESSEE VALLEY AUTHORITY, Office of Natural Resources and Economic Development, Division of Air and Water Resources, Regional

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INDEX

	Page
ASG Industries, Inc. (Greenland Plant) (Hawkins)	330
ASARCO, Inc. (New Market Mine) (Jefferson)	330
ASARCO, Inc. (Young Mine and Mill) (Jefferson)	331
Agricultural Chemical Group (Shelby)	335
Alco Chemical Corp. (Hamilton)	355
Alpha Chemical Corp. (Fayette)	335
American Enka Co. (Hamblen)	318
American Limestone Co. (Knox)	318
American Limestone Co. (Knox)	319
Armira Corp. (Hardeman)	322
Arnold Air Force Development Center (Coffee)	312
Arnold Engineering Co. (Sevier)	319
Ashland-Warren, Inc. (Shelby)	335
Ball Metal and and Chemical Corp. (Greene)	318
Beare Co. (Gibson)	344
Bolivar Sand Co. (Hardeman)	322
Bowaters Southern Paper Corp. (McMinn)	357
Bush Brothers and Co. (Jefferson)	318
Buckeye Cellulose Corp. (Shelby)	335
C. F. Industries, Inc. (Hamilton)	355
Candora Marble Co. (Knox)	364
Carbonic Industries Corp. (Hamilton)	355
Cargill, Inc. (Shelby)	335
Celotex Corp. (Shelby)	335
Certainteed Corp. (Shelby)	335
Chattem Drug and Chemical Co. (Hamilton)	355
Cherokee Textile Mills (Sevier)	319
Chromium Mining Smelting Corp. (Shelby)	336
Cities Service Co. (Polk)	357
Clinchfield Railroad including Holston Land Co. (Unicoi)	319
Colonial Fiber Co. (Tipton)	322
Consolidated Aluminum Corp. (Humphreys)	370
Consolidated Aluminum Corp. (Madison)	344
Cumberland Corp. (Hamilton)	355
Cumberland Mountain Sand Co. (Coffee)	312
Delta Refining Co. (Shelby)	336
Dixie Yarns, Inc. (Hamilton)	356
E. I. DuPont De Nemours & Co., Inc. (Hamilton)	356
E. I. DuPont De Nemours & Co., Inc. (Humphreys)	370
E. I. Dupont De Nemours & Co., Inc. (Davidson)	285
E. I. Dupont De Nemours & Co., Inc. (Shelby)	336
E. I. DuPont De NeMours & Co., Inc. (Maury)	302
Dyersburg Fabrics, Inc. (Dyer)	344
East Tennessee Packing Co. (Knox)	364

	Page
Firestone Tire and Rubber Co. (Shelby)	336
Foote Mineral Co. (Humphreys)	370
Ford Motor Co., Inc. (Davidson)	285
Gamble Asphalt Materials, Inc. (Marion)	313
General Electric Memphis Lamp Plant (Shelby)	336
General Portland, Inc. (Hamilton)	356
General Portland, Inc. (Marion)	356
Giles County Materials (Giles)	312
Goodyear Tire and Rubber Co. (Obion)	345
Greenback Industries, Inc. (Loudon)	364
Hardwick Stove Co. (Bradley)	355
Hardy Sand Co. (Benton)	369
Harriman Paperboard Corp. (Roane)	274
Holliston Mills, Inc. (Hawkins)	330
Holston Defense Corp. Plant A and Plant B (Hawkins)	330
Humko Products - Chemical Plant (Shelby)	336
Humko Products, Inc. (Shelby)	336
Inland Container Corp. (Humphreys)	370
Jack Daniel Distillery (Moore)	313
Jersey Miniere Zinc Co. (Montgomery)	285
Jersey Miniere Zinc Co. (Smith)	293
Kellogg Co. (Shelby)	336
Kimberly Clark Corp. (Shelby)	337
Kinkead Industries, Inc. (Obion)	345
Knoxville By-Products (Knox)	331
Lannon Manufacturing Co., Inc. (Coffee)	312
Levi Strauss and Co. (Hickman)	302
Lewis Products (Lewis)	302
Lewisburg Materials (Marshall)	302
Magic Chef, Inc. (Bradley)	355
Martin Marietta Sales, Inc. (Gibson)	344
Mead Papers, Kingsport Plant (Sullivan)	331
Memphis Stone and Gravel Co. (Shelby)	337
Mid American Industries (Shelby)	337
Modine Manufacturing Co. (Knox)	319
Monsanto Industrial Chemicals Co. (Maury)	303
Moody Dunbar, Inc. (Washington)	319
Moody Dunbar Pepper Plant, Inc. (Washington)	319
Nolichucky Sand Co. (Greene)	318
Norandal USA, Inc. (Carroll)	344
North American Rayon Corp. (Carter)	330
Occidental Chemical Corp. (Maury)	302
Occidental Chemical Corp. (Maury)	302

	Page
Occidental Chemical Corp., Furnace Plant (Maury)	303
Olin Corp. (Bradley)	355
Owens-Corning Fiberglass Co. (Madison)	344
Parvin Sand Co. (Greene)	318
Penn-Dixie Industries, Inc. (Marion)	313
Penn-Dixie Industries, Inc. (Sullivan)	331
Pet Inc. (Greene)	318
Presnell Phosphate Co., Inc. (Maury)	303
Pulaski Rubber Co. (Giles)	312
Pulvair Corp. (Shelby)	337
Quaker Oats Co. (Shelby)	337
Ralston Purina Co. - Protein Division (Shelby)	337
Reelfoot Packing Co. (Obion)	345
Joseph Schlitz Brewing Co. (Shelby)	337
Scholze Tannery (Hamilton)	356
Southern Cast Stone Co., Inc. (Knox)	364
Southern Cellulose Products, Inc. (Hamilton)	356
Southern Clay, Inc. (Henry)	369
H. C. Spinks Clay Co., Inc. (Henry)	369
Stauffer Chemical Co., Globe Plant (Maury)	303
Stauffer Chemical Co., Inc. (Maury)	303
Stauffer Furnace Plant (Maury)	303
Ten Mile Stone Co., Inc. (Meigs)	357
Tennessee Asphalt Co. (Henry)	369
Tennessee Dickel Distilling Co. (Coffee)	312
Tennessee Eastman Co. (Sullivan)	331
Tennessee Electrominerals Corp. (Greene)	318
Tennessee Paper Mills, Inc. (Hamilton)	356
Tennessee River Pulp and Paper Co. (Hardin)	369
Tri-State Industries, Inc. (Shelby)	337
Troxel Manufacturing Co., Inc. (Fayette)	335
True Temper Corp. (Wayne)	304
U.S. Steel Corp. (Jefferson)	331
Union Carbide Corp. (Lawrence)	313
Union Carbide Corp., Films Packaging Division (Loudon)	364
United Foods, Inc. (Fayette)	335
United States Department of Energy (Anderson)	274
United States Department of Energy, Oak Ridge Gaseous Diffusion Plant (Roane)	274
Valley Products Co. (Shelby)	337
Velsicol Chemical Corp. (Shelby)	337
M. C. West and Co. (Hickman)	302
Winter Garden, Inc. (Crockett)	344

Table 1.--Public water-supply facilities, Clinch River basin

[*System received all water from primary surface-water or ground-water source; ** purchases part or all water from a primary (*) source; *** purchases part or all water from a secondary (**) source; **** purchases part or all water from a tertiary (***) source]

County and facility name	Tributary basin No.	Population served	Number of connections	Water source and intake location (river mile)	Source capacity (Mgal/d)	Plant design capacity (Mgal/d)	Average water use (Mgal/d)	Gross per capita water use (gal/d)	Additional information (existing problems, and so forth)
Anderson									
*Anderson County Utility Board	19D	2,275	650	Clinch River, Melton Hill Reservoir (52.4)	See additional information	2.000	0.800	184.2	Category 5. Total storage in Melton Hill Reservoir equals 94,100 acre-feet at normal minimum pool elevation of 790 feet above sea level. This provides adequate water to meet Anderson County Utility Board's water demands for more than 90 days. Average water use is expected to increase to 1.200 Mgal/d within the next year due to the anticipated hookup of the Lake City and Caryville - Jacksboro UD's. Storage capacity equals 1,250,000 gallons.
**First UD of Anderson County	19D	6,405	1,830	Coker and Gill Springs (2)	0.288	N/A	.224	65.7	Categories 5 and 7. Storage capacity equals 1,225,000 gallons.
				Anderson County Utility Board	-		.167		
				Hallsdale - Powell UD	-		.030		
**North Anderson County UD	19D	10,029	2,910	Clinch River (R.M. 77.8)	32.900	.576	.576	72.7	Categories 1 and 7. Storage capacity equals 1,825,000 gallons.
				Shetterly Spring (1)	.288		.288		
				Anderson County Utility Board	-		.164		
				Clinton Utilities Board	-		.001		
***Lake City WS	19D	2,097	830	North Anderson County UD	-	N/A	.300	143.1	Categories 1 and 7. Storage capacity equals 750,000 gallons.

Table 1.--Public water-supply facilities, Clinch River basin--Continued

County and facility name	Tributary basin No.	Population served	Number of connections	Water source and intake location (river mile)	Source capacity (Mgal/d)	Plant design capacity (Mgal/d)	Average water use (Mgal/d)	Gross per capita water use (gal/d)	Additional information (existing problems, and so forth)
Anderson--Continued									
**Oliver Springs WS	19D	4,600	1,800	Bacon Spring Anderson County Utility Board	.281 -	.285	.778 .050	180.0	Categories 5 and 8. Occasional turbidity problems after heavy rainfall. Storage capacity equals 1,000,000 gallons.
*Clinton Utilities Board	19D	4,925	2,222	Clinch River (66.3)	33.900	2.500	1.261	247.9	Category 1. Occasional turbidity problems. Storage capacity equals 2,290,000 gallons.
*Norris WS	19D	2,500	562	Spring (1)	.346	.432	.320	100.0	Category 7. Although this system's plant design capacity is 0.432 Mgal/d, it can pump up to 0.532 Mgal/d under emergency conditions. Storage capacity equals 350,000 gallons.
**Andersonville UD	19D	2,223	635	Norris WS Clinton Utilities Board	- -	N/A	.070 .040	49.5	Categories 1 and 7.
*Oak Ridge WS+	19D	22,642	7,917	Clinch River, Melton Hill Reservoir (41.5)	See additional information	16.370	.800	35.3	Category 5. Total storage in Melton Hill Reservoir equals 94,100 acre-feet at normal minimum pool elevation of 790 feet above sea level. This provides adequate water to meet Oak Ridge's water demands for more than 90 days.
Campbell									
*La Follette WD	19C	13,670	5,000	Ollis Creek (Impoundment)	See additional information	2.500	1.200	79.4	Category 5. Ollis Creek impoundment has an estimated storage capacity of about 660 acre-feet of which 600

Table 1.--Public water-supply facilities, Clinch River basin--Continued

County and facility name	Tributary basin No.	Population served	Number of connections	Water source and intake location (river mile)	Source capacity (Mgal/d)	Plant design capacity (Mgal/d)	Average water use (Mgal/d)	Gross per capita water use (gal/d)	Additional information (existing problems, and so forth)
Campbell--Continued									
									acre-feet or about 195,000,000 gallons of water could be utilized for water supply purposes with no inflow. This provides adequate water to meet La Follette's water demands from Ollis Creek impoundment for more than 90 days. Limited storage for treated water and inadequate booster pump capacity. Storage capacity equals 1,500,000 gallons.
**Caryville - Jacksboro UD	19C	6,940	2,000	Cove Lake (Impoundment)	See additional information	0.340	0.330	64.1	Category 5. Cove Lake impoundment has an estimated storage capacity of about 1,730 acre-feet of which 930 acre-feet or about 303,000,000 gallons of water could be utilized for water supply purposes with no inflow. This provides adequate water to meet Caryville - Jacksboro's water demands from Cove Lake impoundment for more than 90 days. Storage capacity equals 700,000 gallons.
				La Follette WD	-		.115		
Claiborne									
*Arthur - Shawnee UD	19B	5,496	1,285	Powell River (65.0)	47.200	1.296	.425	62.6	Categories 3 and 6. Davis Branch impoundment has an estimated storage capacity of about 10 acre-feet of
				Davis Branch (Impoundment)	See additional information		.050		

Table 1.--Public water-supply facilities, Clinch River basin--Continued

County and facility name	Tributary basin No.	Population served	Number of connections	Water source and intake location (river mile)	Source capacity (Mgal/d)	Plant design capacity (Mgal/d)	Average water use (Mgal/d)	Gross per capita water use (gal/d)	Additional information (existing problems, and so forth)
Claiborne--Continued									
									which 9 acre-feet or about 3,000,000 gallons of water could be utilized for water-supply purposes with no inflow. This does not provide adequate water to meet Arthur - Shawnee's water demands from Davis Branch impoundment for 90 days. Storage capacity equals 800,000 gallons.
**Lee County Water Authority	-	2,223	635	Arthur - Shawnee UD	-	N/A	0.131	58.9	Categories 3 and 6. The Lee County Water Authority serves a part of Lee County in southwest Virginia. Storage capacity equals 200,000 gallons.
*Claiborne County UD	19A	7,525	2,150	Ball Creek Spring (1)	3.000	0.900	.500	66.4	Category 7. Storage capacity equals 2,165,000 gallons.
*Lincoln Memorial University WS	19B	1,310	111	Spring (1)	.144	.150	.142	95.4	Category 7. Occasional supply shortages during drought periods and turbidity after heavy rains. Storage capacity equals 340,000 gallons.
**Cumberland Gap WS	19B	286	110	Lincoln Memorial University WS	-	N/A	.017	59.4	Category 7. This system serves a part of southeast Kentucky in Bell County.
Cumberland									
*Crossville WS	20A	20,000	3,776	Obed River (Holiday Hills Lake at the head of the river)	See additional information	4.000	1.800	66.9	Category 5. Together both Holiday Hills and Meadow Park Lakes have an estimated storage capacity of about 8,200

Table 1.--Public water-supply facilities, Clinch River basin--Continued

County and facility name	Tributary basin No.	Population served	Number of connections	Water source and intake location (river mile)	Source capacity (Mgal/d)	Plant design capacity (Mgal/d)	Average water use (Mgal/d)	Gross per capita water use (gal/d)	Additional information (existing problems, and so forth)
Cumberland--Continued									
				Meadow Creek (Meadow Park Lake)	See additional information		.300		acre-feet of which 3,300 acre-feet or about 1.1 billion gallons and 4,300 acre-feet or about 1.4 billion gallons of water respectively could be utilized for water supply purposes with no inflow. This provides adequate water to meet Crossville's water demands from each lake for more than 90 days. Storage capacity equals 2,100,000 gallons.
**Catoosa UD	20A	2,860	1,100	Crossville WS	-	N/A	0.147	51.4	Category 5. Storage capacity equals 300,000 gallons.
**Crab Orchard UD	20A	2,513	547	Crossville WS	-	N/A	.465	113.4	Category 5. Storage capacity equals 950,000 gallons.
***Fairfield Glade WS	20A	2,770	1,108	Crab Orchard UD	-	N/A	.180	65.0	Category 5. Storage capacity equals 1,000,000 gallons.
**Lantana UD	20A	3,280	875	Crossville WS	-	N/A	.150	45.7	Category 5. Some water losses due to leaks in the system's distribution lines. Storage capacity equals 200,000 gallons.
Hancock									
*Sneedville UD	19A	1,272	415	Spring (1)	0.140	0.503	.188	147.8	Category 8. Water losses due to leaks in the system's distribution lines. Storage capacity equals 475,000 gallons.

Table 1.--Public water-supply facilities, Clinch River basin--Continued

County and facility name	Tributary basin No.	Population served	Number of connections	Water source and intake location (river mile)	Source capacity (Mgal/d)	Plant design capacity (Mgal/d)	Average water use (Mgal/d)	Gross per capita water use (gal/d)	Additional information (existing problems, and so forth)
Knox									
*Hallsdale - Powell UD	19D	35,880	11,960	Fowler Spring (1)	.873	3.788	1.300	114.8	Categories 3, 5, and 8. Total storage in Melton Hill Reservoir equals 94,100 acre-feet at normal minimum pool elevation of 790 feet above sea level. This provides adequate water to meet Hallsdale - Powell's water demands for more than 90 days. Hallsdale - Powell UD sells about 0.030 Mgal/d of water to First UD of Anderson County. Storage capacity equals 3,700,000 gallons.
				Granny Bright Spring (1)	.288		.476		
				Beaver Creek (32.0)	1.600		.444		
				Bull Run Creek, Melton Hill Reservoir (3.8)	See additional information		.951		
Morgan									
*Brushy Mountain Prison WS	20B	727	1	Reservoir which is fed by surface water runoff and ground water from a mine	See additional information	0.864	0.120	165.1	Category 5. The estimated storage capacity of this reservoir is about 120 acre-feet of which 110 acre-feet or about 36,000,000 gallons of water could be utilized for water-supply purposes with no inflow. This is adequate to meet Brushy Mountain Prison's water demands for more than 90 days. Storage capacity equals 500,000 gallons.
*Plateau (Wartburg) UD	20B	4,330	990	Crooked Fork Creek	0.000	.415	.175	80.8	Categories 4 and 7. Storage capacity equals 450,000 gallons. The district also has access to a 1,000,000 gallon storage tank
				Wells (3)	.216		.175		

Table 1.--Public water-supply facilities, Clinch River basin--Continued

County and facility name	Tributary basin No.	Population served	Number of connections	Water source and intake location (river mile)	Source capacity (Mgal/d)	Plant design capacity (Mgal/d)	Average water use (Mgal/d)	Gross per capita water use (gal/d)	Additional information (existing problems, and so forth)
Morgan--Continued									
									owned by the Cumberland UD in Roane County.
Roane									
*Cumberland UD	20B	7,000	2,100	Little Emory River (3.0)	.000	.864	.300	71.4	Categories 4 and 7. Storage capacity equals 2,200,000 gallons.
				Springs (2)	.200		.200		
*Harriman UD	20B	8,303	3,335	Emory River (12.9)	.060	3.000	2.030	212.8	Category 4. Occasional periods of discoloration. Storage capacity equals 4,775,000 gallons.
**Swan Pond UD	20B	900	180	Harriman UD	-	N/A	.033	36.7	Category 4.
**Wolf Branch UD	20B	1,968	654	Harriman UD	-	N/A	0.230	116.9	Category 4. Continually increasing water losses due to repeated and numerous breaks in some 7.0 miles of water mains and distribution lines. Storage capacity equals about 109,000 gallons.
Union									
*Maynardville WS	19D	1,240	620	Spring (1)	0.110	0.216	.110	88.7	Category 7. Limited water storage and turbidity during drought conditions. Storage capacity equals 650,000 gallons.

Table 2.--Self-supplied commercial and industrial water users, Clinch River basin

[*System received all water from primary surface-water or ground-water source]

County, industry name (SIC code), and location by city	Tributary basin No.	Number of employees	Water source and intake location (river mile)	Source capacity (Mgal/d)	Average water use (Mgal/d)	Average consumptive water use (Mgal/d)	Additional information (principal products, existing problems, and so forth)
Anderson							
*United States Department of Energy, Y-12 Plant (3498); Oak Ridge	19D	6,000	Clinch River, Melton Hill Lake (41.5) Oak Ridge WS	See additional information -	2.141 6.776	0.087	Category 5. Total storage in Melton Hill Lake equals 94,100 acre-feet at normal minimum pool elevation of 790 feet above sea level. This provides ample water to meet Y-12's water demands for more than 90 days. Product - Weapons components. Storage capacity equals 6,000,000 gallons.
Roane							
*Harriman Paperboard Corporation (2631); Harriman	20B	148	Emory River (11.4) Harriman UD	0.060 -	1.000 .100	-	Category 4. Product - Paperboard. Occasional flooding and turbidity. Storage capacity equals 1,000,000 gallons.
*United States Department of Energy, Oak Ridge Gaseous Diffusion Plant (2819); Oak Ridge	19D	4,037	Clinch River, Watts Bar Lake (between 11.5 and 14.5)	See additional information	10.378	.453	Category 5. Total storage in Watts Bar Lake equals 796,000 acre-feet at normal minimum pool elevation of 735 feet above sea level. This provides adequate water to meet this industry's water demands for more than 90 days. Product - Uranium enrichment. Storage capacity equals 29,550,000 gallons.

Table 3.--Public water-supply facilities, Lower Cumberland River basin

[*System received all water from primary surface-water or ground-water source; ** purchases part or all water from a primary (*) source; *** purchases part or all water from a secondary (**) source; **** purchases part or all water from a tertiary (***) source]

County and facility name	Tributary basin No.	Population served	Number of connections	Water source and intake location (river mile)	Source capacity (Mgal/d)	Plant design capacity (Mgal/d)	Average water use (Mgal/d)	Gross per capita water use (gal/d)	Additional information (existing problems, and so forth)
Cannon									
*Woodbury WS	7A	5,400	1,450	Spring (1)	-	0.640	0.400	74.1	Category 9. Storage capacity equals 750,000 gallons.
Cheatham									
*Ashland City WD	8	2,565	970	Cumberland River, Cheatham Reservoir, Marrowbone Creek embayment (1.1)	See additional information	.622	.400	155.9	Category 5. Total storage in Cheatham Reservoir equals 84,100 acre-feet at minimum pool. This provides adequate water to meet Ashland City's demands for more than 90 days. Storage capacity equal 500,000 gallons.
*Pleasant View UD	8	5,156	1,600	Sycamore Creek (10.8)	5.817	.504	.500	97.0	Category 3. Treatment plant needs to be enlarged. Storage capacity equals 800,000 gallons.
*South Cheatham UD	9B	2,910	1,055	Harpeth River (36.1)	4.847	.460	.280	96.2	Category 3. Turbidity problems during and for a few days after periods of flooding. Storage capacity equals 800,000 gallons.
*River Road UD	8	1,000	350	Spring (1)	-	.144	.070	70.0	Category 9. Storage capacity equals 115,000 gallons.
Davidson									
*Cumberland UD	8	19,000	4,200	Cumberland River, Cheatham Reservoir (207.6)	See additional information	2.488	1.510	79.5	Category 5. Total storage in Cheatham Reservoir equals 84,100 acre-feet at minimum pool. This provides adequate water to meet

Table 3.--Public water-supply facilities, Lower Cumberland River basin--Continued

County and facility name	Tributary basin No.	Population served	Number of connections	Water source and intake location (river mile)	Source capacity (Mgal/d)	Plant design capacity (Mgal/d)	Average water use (Mgal/d)	Gross per capita water use (gal/d)	Additional information (existing problems, and so forth)
Davidson--Continued									
									Cumberland UD demands for more than 90 days. Storage capacity equals 2,700,000 gallons.
*Harpeth Valley UD	8	12,555	4,500	Cumberland River, Cheatham Reservoir (172.6)	See additional information	5.200	3.500	160.1	Category 5. Total storage in Cheatham Reservoir equals 84,100 acre-feet at minimum pool. This provides adequate water to meet Harpeth Valley UD demands for more than 90 days. Storage capacity equals 4,460,000 gallons.
**Brentwood WC	9A	8,000	2,400	Harpeth Valley UD	-	N/A	1.000	125.0	Category 5.
**Fairview WS	9B	4,375	1,250	Harpeth Valley UD Spring (1)	- -	N/A .100	.200 .085	65.1	Categories 5 and 9. Storage capacity equals 300,000 gallons.
*Nashville WD	8	350,000	100,000	Cumberland River, Cheatham Reservoir (195) Cumberland River, Cheatham Reservoir (200)	1,001.765 See additional information	150.000	65.000	184.4	Category 5. Total storage in Cheatham Reservoir equals 84,100 acre-feet at minimum pool. This provides adequate water to meet Nashville WD demands for more than 90 days. Storage capacity equals 80,000,000 gallons.
**La Vergne WS (Rutherford County)	7B	5,494	2,000	Nashville WD Smyrna WD	-	N/A	.443	80.6	Category 5. Storage capacity equals 1,350,000 gallons.
*Madison Suburban UD	8	30,000	12,378	Cumberland River, Cheatham Reservoir (200.5)	See additional information	10.000	7.500	250.0	Category 5. Total storage in Cheatham Reservoir equals 84,100 acre-feet at minimum pool. This provides adequate water to meet

Table 3.--Public water-supply facilities, Lower Cumberland River basin--Continued

County and facility name	Tributary basin No.	Population served	Number of connections	Water source and intake location (river mile)	Source capacity (Mgal/d)	Plant design capacity (Mgal/d)	Average water use (Mgal/d)	Gross per capita water use (gal/d)	Additional information (existing problems, and so forth)
Davidson--Continued									
									Madison Suburban UD demands for more than 90 days. Storage capacity equals 7,600,000 gallons.
*Old Hickory UD	6A	4,132	1,413	Cumberland River, Old Hickory Reservoir (218.9)	See additional information	1.500	0.710	105.0	Category 5. Total storage in Old Hickory Reservoir equals 356,600 acre-feet at minimum pool. This provides adequate water to meet Old Hickory UD demands for more than 90 days. Storage capacity equals 500,000 gallons.
**Lakewood WD	8	2,300	780	Old Hickory UD	-	N/A	.146	63.5	Category 5.
**Rayon City WC	8	3,200	510	Old Hickory UD	-	N/A	.130	40.6	Category 5.
Dickson									
*Harpeth UD	9B	1,800	588	Spring (1)	-	.150	.103	57.2	Category 9. Turbidity occurs after heavy rainfall. Supply will not meet demand in dry weather. Storage capacity equals 100,000 gallons.
*Turnbull UD	9B	3,000	1,251	Turnbull Creek	4.783	1.500	1.250	340.3	Category 3. Occasional turbidity. Storage capacity for treated water equals 1,500,000 gallons. Storage capacity for untreated water equals 4,900,000 gallons.
**White Bluff UD	9B	3,500	970	Turnbull UD	-	.250	.229	65.4	Category 3. Storage capacity equals 2,500,000 gallons.

Table 3.--Public water-supply facilities, Lower Cumberland River basin--Continued

County and facility name	Tributary basin No.	Population served	Number of connections	Water source and intake location (river mile)	Source capacity (Mgal/d)	Plant design capacity (Mgal/d)	Average water use (Mgal/d)	Gross per capita water use (gal/d)	Additional information (existing problems, and so forth)
Dickson--Continued									
*Vanleer WS+	11	1,215	420	Spring (1)	-	.144	.080	65.8	Category 9. Storage capacity equals 50,000 gallons. Water supply will not meet demand during dry weather.
Houston									
*Erin WD+	11	2,192	706	Cumberland River, Lake Barkley (108.3)	See additional information	0.750	0.475	216.7	Category 5. Total storage in Lake Barkley equals 339,200 acre-feet at minimum pool. This provides adequate water to meet Erin WD demands for more than 90 days. Storage capacity equals 1,000,000 gallons.
*Tennessee Ridge WS+	11	1,918	700	Wells (2)	-	.216	.160	83.4	Category 9. Storage capacity equals 100,000 gallons.
Macon									
*Lafayette WS+	12	6,000	2,300	Springs (2)	-	1.000	.500	83.3	Category 9. Storage capacity equals 460,000 gallons.
*Red Boiling Springs WS+	12	1,583	500	Springs (2)	-	1.944	.400	149.7	Category 9. Water supply low during dry summer. Storage capacity equals 300,000 gallons.
**Northwest Clay County UD	12	1,100	378	Red Boiling Springs WS	-	N/A	.163	148.2	Category 9. Storage capacity equals 200,000 gallons.

Table 3.--Public water-supply facilities, Lower Cumberland River basin--Continued

County and facility name	Tributary basin No.	Population served	Number of connections	Water source and intake location (river mile)	Source capacity (Mgal/d)	Plant design capacity (Mgal/d)	Average water use (Mgal/d)	Gross per capita water use (gal/d)	Additional information (existing problems, and so forth)
Montgomery									
*Clarksville WD	11	50,000	17,000	Cumberland River, Lake Barkley (132.8)	See additional information	12.000	10.000	169.3	Category 5. Total storage in Lake Barkley equals 339,200 acre-feet at minimum pool. This provides adequate water to meet Clarksville WD demands for more than 90 days. Storage capacity equals 8,700,000 gallons.
**Cumberland Heights UD	11	2,500	775	Clarksville WD	-	N/A	0.237	94.8	Category 5. Storage capacity equals 100,000 gallons.
**Cunningham UD	11	6,000	1,600	Clarksville WD	-	N/A	.400	66.7	Category 5. Storage capacity equals 800,000 gallons.
**East Montgomery UD+	11	5,273	1,750	Clarksville WD	-	N/A	.450	85.3	Category 5. Storage capacity equals 850,000 gallons.
**Kirkwood UD	10B	300	200	Clarksville WD	-	N/A	.035	116.7	Category 5. Storage capacity equals 50,000 gallons.
**North Montgomery County UD	11	100	31	Clarksville WD	-	N/A	.024	240.0	Category 5.
**Woodlawn UD	11	3,000	1,000	Clarksville WD	-	N/A	.389	83.0	Category 5. Storage capacity equals 500,000 gallons.
***North Stewart WC	11	2,500	720	Woodlawn UD	-	N/A	.140	56.0	Category 5.
Robertson									
*Adams-Cedar Hill UD	10A	2,500	700	Red River (34.1)	23.590	0.346	.150	60.0	Category 3. Debris in the fall of year clogs intake. Storage capacity equals 600,000 gallons.

Table 3.--Public water-supply facilities, Lower Cumberland River basin--Continued

County and facility name	Tributary basin No.	Population served	Number of connections	Water source and intake location (river mile)	Source capacity (Mgal/d)	Plant design capacity (Mgal/d)	Average water use (Mgal/d)	Gross per capita water use (gal/d)	Additional information (existing problems, and so forth)
Robertson--Continued									
*Greenbrier WS+	10A	2,900	950	City Lake	See additional information	.432	.302	104.1	Category 5. If City Lake was full at start of drought, a demand of 0.600 Mgal/d could be met for more than 90 days. Storage capacity equals 175,000 gallons.
*Mill Creek Heights UD	10A	60	20	Spring (1)	-	.050	.004	67.0	Category 9.
*Orlinda WS	10A	400	160	Well (1) Spring (1)	- -	0.110	0.030	75.0	Category 9. Spring used only in emergencies. Flow 30,000 gal/d. Storage capacity equals 75,000 gallons.
*Springfield WS	10A	16,500	5,430	Red River (34.1)	23.590	4.6	1.840	111.5	Category 3. Storage capacity equals 10,500,000 gallons.
*White House UD	10A	40,000	8,500	Cumberland River, Old Hickory Reservoir (217.1)	See additional information	8.000	2.863	71.6	Category 5. Total storage in Old Hickory Reservoir equals 356,600 acre-feet at minimum pool. This provides adequate water to meet White House UD demands for more than 90 days. Taste and odor. Storage capacity equals 4,850,000 gallons.
Rutherford									
*Eagleville WD	9A	555	185	Wells (2)	-	.163	.049	88.3	Category 9. Storage capacity equals 200,000 gallons.
*Murfreesboro WD	7A	35,000	12,000	East Fork Stones (12.3) Spring (1)	1.939 -	13.000	4.365 1.135	118.6	Categories 4 and 9. Storage capacity equals 6,000,000 gallons.

Table 3.--Public water-supply facilities, Lower Cumberland River basin--Continued

County and facility name	Tributary basin No.	Population served	Number of connections	Water source and intake location (river mile)	Source capacity (Mgal/d)	Plant design capacity (Mgal/d)	Average water use (Mgal/d)	Gross per capita water use (gal/d)	Additional information (existing problems, and so forth)
Rutherford--Continued									
**Consolidated UD of Rutherford County	7A	24,000	7,100	Murfreesboro WD Smyrna WD	-	N/A	1.350 .150	62.5	Categories 4, 5, and 9. Storage capacity equals 3,100,000 gallons.
*Smyrna WD	7A	12,000	2,523	Stones River, J. Percy Priest Reservoir (35.5)	See additional information	4.000	1.533	115.3	Category 5. Total storage in J. Percy Priest Reservoir equals 268,000 acre-feet at minimum pool. This provides adequate water to meet Smyrna WD demands for more than 90 days. Storage capacity equals 2,000,000 gallons.
Stewart									
*Dover WD	11	1,400	515	Cumberland River, Lake Barkley (88.8)	1,227.970	0.260	0.130	92.9	Category 5. Total storage in Lake Barkley equals 339,000 acre-feet at minimum pool. This provides adequate water to meet Dover WD demands for more than 90 days. Storage capacity equals 300,000 gallons.
Sumner									
*Gallatin WD	6B	16,000	6,500	Cumberland River, Old Hickory Reservoir (239.1)	See additional information	8.000	3.646	195.6	Category 5. Total storage in Old Hickory Reservoir equals 356,600 acre-feet at minimum pool. This provides adequate water to meet Gallatin WD demands for more than 90 days. Storage capacity equals 7,500,000 gallons.

Table 3.--Public water-supply facilities, Lower Cumberland River basin--Continued

County and facility name	Tributary basin No.	Population served	Number of connections	Water source and intake location (river mile)	Source capacity (Mgal/d)	Plant design capacity (Mgal/d)	Average water use (Mgal/d)	Gross per capita water use (gal/d)	Additional information (existing problems, and so forth)
Sumner--Continued									
**Castalian Springs--Bethpage UD	6B	4,800	1,250	Gallatin WD	-	N/A	.315	65.6	Category 5. Storage capacity equals 350,000 gallons.
**Westmoreland WS	12	2,000	740	Gallatin WD	-	N/A	.201	100.5	Category 5. New treatment plant being constructed. Water will be purchased from Gallatin until completed. Storage capacity equals 610,000 gallons.
*Hendersonville UD+	6B	27,016	8,000	Drakes Creek, Old Hickory Reservoir (4.8)	See additional information	3.000	2.027	75.0	Category 5. Total storage in Old Hickory Reservoir equals 356,600 acre-feet at minimum pool. This provides adequate water to meet Hendersonville UD demands for more than 90 days. Turbidity at times. Storage capacity equals 3,700,000 gallons.
*Portland WS	10A	7,302	2,206	West Fork Drakes Creek (0.35) Spring impoundments (2) used in emergency only.	0.000 -	1.008	0.672	92.0	Categories 4 and 9. Turbidity after heavy rains. Storage capacity 825,000 gallons.
Trousdale									
*Hartsville WD	6B	5,180	1,480	Cumberland River, Old Hickory Reservoir (278.6)	See additional information	1.000	.375	72.4	Category 5. Total storage in Old Hickory Reservoir equals 356,600 acre-feet at minimum pool. This provides adequate water to meet Hartsville WD demands for more than 90 days. Storage capacity equals 675,000 gallons.

Table 3.--Public water-supply facilities, Lower Cumberland River basin--Continued

County and facility name	Tributary basin No.	Population served	Number of connections	Water source and intake location (river mile)	Source capacity (Mgal/d)	Plant design capacity (Mgal/d)	Average water use (Mgal/d)	Gross per capita water use (gal/d)	Additional information (existing problems, and so forth)
Williamson									
*College Grove UD+	9A	579	185	Spring (1)	-	.101	.050	86.4	Category 9. Storage capacity equals 100,000 gallons.
*Franklin WD	9A	16,000	5,200	Harpeth River (89.9)	.032	2.016	2.007	148.4	Categories 4, 5, and 9. Storage capacity equals 5,950,000 gallons.
				Springs (40)	-		.371		
				Harpeth Valley UD	-	N/A	.290		
**Mallory Valley UD+	9A	1,623	458	Franklin WD	-	N/A	.174	107.2	Categories 4, 5, and 9.
**Milcrofton UD	9A	3,000	700	Franklin WD	-	N/A	.120	40.0	Categories 4, 5, and 9. Storage capacity equals 1,100,000 gallons.
*Nolensville UD	8	3,200	1,060	Wells (3)	-	.414	.183	100.3	Categories 5 and 9. Storage capacity equals 150,000 gallons.
				Nashville WD	-	N/A	.138		
Wilson									
*Lebanon WD	6A	17,000	5,728	Cumberland River, Old Hickory Reservoir (263.0)	See additional information	6.000	3.470	171.8	Category 5. Total storage in Old Hickory Reservoir equals 356,600 acre-feet at minimum pool. This provides adequate water to meet Lebanon WD demands for more than 90 days. Storage capacity equals 4,000,000 gallons.
**Gladeville UD	7B	5,500	1,150	Lebanon WD	-	N/A	.252	45.8	Category 5. Storage capacity equals 400,000 gallons.
**Laguardo UD	6A	2,590	875	Lebanon WD	-	N/A	.181	69.9	Category 5.
**Wilson County Water and Wastewater Authority	6A	2,700	900	Lebanon WD	-	N/A	.116	43.0	Category 5.

Table 3.--Public water-supply facilities, Lower Cumberland River basin--Continued

County and facility name	Tributary basin No.	Population served	Number of connections	Water source and intake location (river mile)	Source capacity (Mgal/d)	Plant design capacity (Mgal/d)	Average water use (Mgal/d)	Gross per capita water use (gal/d)	Additional information (existing problems, and so forth)
Wilson--Continued									
*Watertown WS	6A	1,650	550	Wells (2)	-	.324	.145	87.9	Category 9. Storage capacity equals 224,000 gallons. A new 400,000-gallon tank is being constructed to replace a 200,000-gallon tank.
*West Wilson UD+	6A	15,525	5,175	Cumberland River, Old Hickory Reservoir (225.4)	See additional information	2.880	1.300	83.7	Category 5. Total storage in Old Hickory Reservoir equals 356,600 acre-feet at minimum pool. This provides adequate water to meet West Wilson UD demands for more than 90 days. Odor at times. Storage capacity equals 3,600,000 gallons.

Table 4.--Self-supplied commercial and industrial water users, Lower Cumberland River basin

[*System received all water from primary surface-water or ground-water source]

County, industry name (SIC code), and location by city	Tributary basin No.	Number of employees	Water source and intake location (river mile)	Source capacity (Mgal/d)	Average water use (Mgal/d)	Average consumptive water use (Mgal/d)	Additional information (principal products, existing problems, and so forth)
Davidson							
*E. I. Dupont De Nemours and Co., Inc. (2821,2824,1865); Old Hickory	6A	2,830	Cumberland River, Old Hickory Reservoir (218.6)	See additional information	26.736	2.203	Category 5. Products - Textile fibers. Total storage in Old Hickory Reservoir equals 356,600 acre-feet at minimum pool. This provides ample water to meet E. I. Dupont De Nemours demands for more than 90 days. Some problem with turbidity.
*Ford Motor Co., Inc. (2311); Nashville	8	1,500	Cumberland River Cheatham Reservoir (182.3) Metro Nashville WS	See additional information -	13.000 .248	1.203	Category 5. Product - Glass. Total storage in Cheatham Reservoir equals 84,100 acre-feet at minimum pool. This provides ample water to meet Ford Motor Company demands for more than 90 days.
Montgomery							
*Jersey Miniere Zinc Company (3333); Clarksville	11	389	Cumberland River, Lake Barkley (122.5)	See additional information	.800	.370	Category 5. Product - Zinc. Total storage in Lake Barkley equals 339,200 acre-feet at minimum pool. This provides ample water to meet Jersey Miniere Zinc Company demands for more than 90 days. Some problem with turbidity.

Table 5.--Public water-supply facilities, Upper Cumberland River basin

[*System received all water from primary surface-water or ground-water source; ** purchases part or all water from a primary (*) source; *** purchases part or all water from a secondary (**) source; **** purchases part or all water from a tertiary (***) source]

County and facility name	Tributary basin No.	Population served	Number of connections	Water source and intake location (river mile)	Source capacity (Mgal/d)	Plant design capacity (Mgal/d)	Average water use (Mgal/d)	Gross per capita water use (gal/d)	Additional information (existing problems, and so forth)
Campbell									
*Jellico WD	1	4,088	1,168	Proctor Hollow Creek Pond (1)	0.000 -	0.750	0.500	122.3	Category 4. Experiences water shortage at times. Storage capacity equals 750,000 gallons.
Clay									
*Celina WS	4B	2,500	1,000	Obey River (0.25)	See additional information	.500	.280	106.8	Category 1. The Fish Hatchery below Dale Hollow Dam requires a minimum flow of 14 ft^3/s (9.048 Mgal/d). This water is available to Celina WS after it flows from the reservoir, through the fish ponds, and into the Obey River. Occasionally have water quality problems. Storage capacity equals 400,000 gallons.
**Free Hill UD	4B	260	88	Celina WS	-	N/A	.013	50.0	Category 1. Storage capacity equals 100,000 gallons.
DeKalb									
*Dowelltown-Liberty UD+	5C	848	330	Well (1)	-	.108	.085	100.2	Category 9.
*Smithville WS	5C	6,300	1,587	Caney Fork River, Center Hill Reservoir (60.7)	See additional information	4.000	.800	79.4	Category 5. Total storage in Center Hill Reservoir equals 837,400 acre-feet at minimum pool. This provides adequate water to meet Smithville Water System demands for more than 90 days.
**DeKalb UD+	5C	4,369	1,700	Smithville WS	-	N/A	.300	68.7	Category 5.

Table 5.--Public water-supply facilities, Upper Cumberland River basin--Continued

County and facility name	Tributary basin No.	Population served	Number of connections	Water source and intake location (river mile)	Source capacity (Mgal/d)	Plant design capacity (Mgal/d)	Average water use (Mgal/d)	Gross per capita water use (gal/d)	Additional information (existing problems, and so forth)
Fentress									
*Jamestown WD	2B	2,500	956	Impoundment lake of 68.3 acres on White Oak Creek (18.1)	0.065	2.000	0.938	258.8	Category 6. Storage capacity equals 1,750,000 gallons.
**Allardt WS	2A	1,500	300	Jamestown WD	-	N/A	.040	26.7	Category 6. Storage capacity equals 100,000 gallons.
**Fentress County UD	2B	4,000	955	Jamestown WD	-	N/A	.251	62.8	Category 6. Storage capacity equals 325,000 gallons.
Jackson									
*Gainesboro WD	4A	3,500	545	Cumberland River, Cordell Hull Reservoir (359.1)	See additional information	.360	.181	51.7	Category 5. Total storage in Cordell Hull Reservoir equals 204,800 acre-feet at minimum pool. This provides adequate water to meet Gainesboro Water Department demands for more than 90 days. Occasionally have flooding problem. Storage capacity equals 579,000 gallons.
Overton									
*Livingston WD	4A	7,000	2,500	Impounded lake fed by Carr Creek (4.7)	.646	3.000	.800	96.4	Category 5. Turbidity after heavy rain, and algae in summer months. Storage capacity equals 1,600,000 gallons for treated water. Storage capacity equals 150,000,000 gallons for untreated water.
**North Overton UD	4A	1,100	370	Livingston WD	-	N/A	.025	22.7	Category 5. Storage capacity equals 50,000 gallons.

Table 5.--Public water-supply facilities, Upper Cumberland River basin--Continued

County and facility name	Tributary basin No.	Population served	Number of connections	Water source and intake location (river mile)	Source capacity (Mgal/d)	Plant design capacity (Mgal/d)	Average water use (Mgal/d)	Gross per capita water use (gal/d)	Additional information (existing problems, and so forth)
Overton--Continued									
**West Overton UD	4A	1,500	500	Livingston WD Algood WS	- -	N/A	.100 .050	100.00	Category 5.
Pickett									
*Byrdstown WD	3B	3,000	900	Obey River, Dale Hollow Reservoir (45.3)	See additional information	0.432	0.200	66.7	Category 5. Total storage in Dale Hollow Reservoir equals 857,000 acre-feet at minimum pool. This provides adequate water to meet Byrdstown Water Department demands for more than 90 days. Storage capacity equals 450,000 gallons.
Putnam									
*Cookeville WD	5C	18,000	6,444	Caney Fork River, Center Hill Reservoir (45.1)	See additional information	10.250	6.500	272.6	Category 5. Total storage in Center Hill Reservoir equals 837,400 acre-feet at minimum pool. This provides adequate water to meet Cookeville Water Department demands for more than 90 days. Storage capacity will be increased from 5,250,000 gallons to 15,000,000 gallons by March 1983.
**Algood WD	4A	2,995	1,229	Cookeville WD	-	N/A	.271	90.5	Category 5. Storage capacity equals 2,325,000 gallons.
**Bangham UD	5C	2,975	850	Cookeville WD	-	N/A	.160	53.8	Category 5.
**Baxter WD	5C	4,000	950	Cookeville WD	-	N/A	.230	57.5	Category 5. Storage capacity equals 300,000 gallons.

Table 5.--Public water-supply facilities, Upper Cumberland River basin--Continued

County and facility name	Tributary basin No.	Population served	Number of connections	Water source and intake location (river mile)	Source capacity (Mgal/d)	Plant design capacity (Mgal/d)	Average water use (Mgal/d)	Gross per capita water use (gal/d)	Additional information (existing problems, and so forth)
Putnam--Continued									
**Cookeville Boat Dock Road UD+	5C	2,556	900	Cookeville WD	-	N/A	.200	78.2	Category 5.
**Double Springs UD+	5C	2,158	693	Cookeville WD	-	N/A	.132	61.2	Category 5.
**Dry Valley UD+	5C	1,003	383	Cookeville WD	-	N/A	.092	92.0	Category 5.
**Falling Water UD	5C	1,650	514	Cookeville WD	-	N/A	.164	99.4	Category 5.
**Flynns Lick and Granville Water Coop (F L & G Coop)	4A	1,120	441	Cookeville WD	-	N/A	0.061	54.5	Category 5.
**Old Gainesboro Road UD+	5C	2,374	840	Cookeville WD	-	N/A	.232	97.7	Category 5.
*Monterey WD	5A	2,500	1,100	White Pine Creek, Monterey City Lake	0.000	0.345	.250	100.0	Category 6. Water shortages at times because of dry summers. Storage capacity equals 650,000 gallons.
Scott									
*Oneida Water and Sewer Commission	2A	5,800	1,912	North Fork Pine Creek, Howard H. Baker Lake (1.8) Wells (2)	See additional information -	1.010	1.000	98.8	Categories 6 and 9. Shortage of water during severe drought. Storage capacity of treated water equals 1,600,000 gallons. Storage capacity of untreated water equals 200,000,000 gallons.
**Huntsville UD	2A	6,000	1,840	Oneida W&S Commission	-	N/A	.427	71.2	Categories 6 and 9. Storage capacity equals 1,000,000 gallons.
Smith									
*Carthage WD	5C	2,500	921	Cumberland River, Old Hickory Reservoir (308.7)	See additional information	1.400	.602	160.8	Category 5. Total storage in Old Hickory Reservoir equals 356,000 acre-feet at minimum pool. This provides adequate water