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Estimated 2015 Water Use and Surface Water Availability in Alabama

PUBLIC SUPPLY
RESIDENTIAL
IRRIGATION
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AQUACULTURE
INDUSTRIAL
MINING
THERMOELECTRIC POWER

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Estimated 2015 Water Use and Surface Water Availability in Alabama

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Office of the Governor

Kay Ivey
Governor

State of Alabama

Alabama Department of Economic and Community Affairs

Kenneth W. Boswell
Director

Water is an integral part of Alabama's past and will play a key role in its future. From the rolling expanse of the Tennessee River to the beaches along the beautiful Gulf of Mexico, water is what drives Alabama's economic vitality, quality of life, natural resources diversity, and makes the state a great place to live, work, and raise a family. And to help better understand the state of this vital resource, ADECA has developed an updated assessment of Alabama's surface water resources and the estimated 2015 demands being placed upon them.

This report, entitled, *Estimated 2015 Water Use and Surface Water Availability in Alabama*, along with the previously published water use summaries and assessments, are a result of long-standing cooperative efforts among numerous state and federal agencies. ADECA staff in the Office of Water Resources (OWR) spent countless hours collecting, analyzing, and summarizing water flow and water use data to develop this report. We appreciate the numerous organizations, public water systems, and individuals who provide information to OWR under the Alabama Water Use Reporting Program each year. I hope you find this report to be informative and useful.

In the meantime, we are always looking to improve the data and information we provide on Alabama's water resources so if you have any suggestions, please let us know.

ADECA's mission is to build stronger communities and these assessments of water use and availability play an important role in supporting the future growth of Alabama.

Respectfully,

Kenneth W. Boswell
Director

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Abbreviations and Acronyms

ADECA	Alabama Department of Economic and Community Affairs
ADEM	Alabama Department of Environmental Management
AGI	Alabama Department of Agriculture and Industries
AL	Alabama
APC	Alabama Power Company
ARWA	Alabama Rural Water Association
AWURP	Alabama Water Use Reporting Program
COU	Certificate of Use
CP	county population
CWS	community water system
DOE–EIA	Department of Energy, Energy Information Administration
DMR	Discharge Monitoring Report
DWB-ADEM	Drinking Water Branch-Alabama Department of Environmental Management
FT	foot
GIS	geographic information system
GPCD	gallons per capita per day
GPD	gallons per day
GPC	Georgia Power Company
GW	groundwater
HUC	hydrologic unit code
MI^2	square miles
MGD	million gallons per day
MG/L	milligrams per liter
MOR	monthly operating report
NASS	National Agricultural and Statistics Service
NAICS	North American Industry Classification System
NPDES	National Pollutant Discharge Elimination System
NWUIP	National Water Use Information Program
OWR	Office of Water Resources
PSEC	PowerSouth Energy Cooperative
PWSID	Public Water System Identification
RND	Relative Net Demand
SDWIS	Safe Drinking Water Information System
SW	surface water
TVA	Tennessee Valley Authority
UAH	University of Alabama – Huntsville
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USGS	U.S. Geological Survey
USEPA	U.S. Environmental Protection Agency

Abstract

This report provides an assessment of water withdrawals and consumptive water use (or net demand) in Alabama for 2015. Water withdrawals were estimated for eight categories of use—public supply, self-supplied residential, irrigation, livestock, aquaculture, self-supplied industrial, mining, and thermoelectric power by month for both counties and eight-digit hydrologic watersheds (HUC-8) or subbasins for Alabama. The total of all these water withdrawals in 2015 was estimated to be 8,239 million gallons per day (MGD).

The monthly consumptive net demands for 2015 were estimated for three broad categories: public water supply, agriculture, and the combination of industrial, thermoelectric and mining water use and were estimated to total 114 MGD. A comparison between the total 2015 net demands of 114 MGD and the total withdrawals of 8,239 MGD result in an overall consumption rate of just over 1 percent; reflecting the significant impact of returns. The three subbasins with the largest net demands were the Mulberry Fork (03160109; 80 MGD), the Escatawpa (03170008; 53 MGD), and the Cahaba (03150202; 31 MGD). The three subbasins with the lowest net demands (or returns greater than withdrawals) were the Locust Fork (03160111; -75 MGD), the Mobile-Tensaw (03160204; -52 MGD), and the Upper Black Warrior (03160112; -45 MGD). The 2010 total net demand was estimated at 84 MGD with the largest differences from 2015 occurring in the public water supply sector (28 MGD in 2010 versus -70 MGD for 2015). Several factors may account for this, but the most significant is that rainfall in 2010 was approximately 10 inches below normal while rainfall in 2015 was approximately 3 inches above normal.

This report also provides a summary for the monthly relative net demand (RND) ratios for both 2010 and 2015 for each subbasin by calculating the ratio between the net demand and the respective monthly average streamflows. These monthly RND ratios were then used to develop annual average RNDs and four seasonal RND ratios (January-March, April-June, July-September, and October-December). Results of the comparisons revealed that all the monthly 2010 and 2015 net demands were less than the average monthly streamflows for each subbasin. In other words, all the RND ratios were less than 1.00 and the vast majority were below a value of 0.10.

In 2015, the highest RND was 0.316 for the September ratio for the Escatawpa (03170008). For 2010, the highest RND was 0.546 for the October ratio for the Mulberry Fork (03160109). Both of these ratios are significantly higher than the remaining values for each year but are significantly impacted by the water storage and reservoir operations in an adjacent subbasin. Additionally, these ratios occur for only a brief period and the average annual and four seasonal ratios are all significantly lower.

The highest 2015 annual and seasonal RNDs are all for the Escatawpa (03170008) and consist of 0.082 for the average annual ratios, 0.077 for the January-March seasonal ratio, 0.077 for the April-June seasonal ratio, 0.254 for the July-September seasonal ratio, and 0.093 for the October-December seasonal ratio.

The highest 2010 annual and three of the four seasonal 2010 RND ratios are for the Escatawpa (03170008) and consist of 0.097 for the average annual ratio, 0.04 for the January-March seasonal ratio, 0.14 for the April-June seasonal ratio, and 0.254 for the July-September seasonal ratio. For the October-December seasonal ratio, the Mulberry Fork (03160109) with 0.34 ranked slightly above the 0.32 ratio for the Escatawpa (03170008).

Introduction

Alabama's water resources are important for economic growth and aquatic vitality as well as overall quality of life. The rivers, lakes, and streams in the state help sustain communities, provide support for industries and jobs, generate power, irrigate crops, provide critical transportation avenues and links, maintain wildlife, and provide many opportunities for recreation. Management of these water resources needs to be based on periodic comprehensive assessments of the amount of water available across the state.

Since 1950, when the U.S. Geological Survey (USGS) first conducted water-use compilations, significant changes in water use have occurred over the years in Alabama. The early part of history (1950 to 1980) showed a steady increase in water use (MacKichan, 1951, 1957; MacKichan and Kammerer, 1961; Murray, 1968, Murray and Reeves, 1972, 1977; Pierce, 1972; Baker and others, 1982; Solley and others, 1983.) During this time, the expectation was that as the population increased, so would water use. Contrary to this expectation, reported water withdrawals declined in 1985, remained relatively stable through 1995, and increased from 2000 to 2010, before returning back to levels near 1995, in 2015 (Baker and Mooty, 1987; Solley and others, 1988, 1993, 1998; Baker and Mooty, 1993; Hutson and others, 2004a., and Harper and Turner, 2015). These changes have been driven by population growth, economic and industrial development, changes in technology, and compliance with state and federal laws. In the last few years there has also been an increased awareness of the value of water efficiency and conservation that has resulted in more efficient use of water from the rivers, lakes, reservoirs, and groundwater in Alabama.

Water withdrawals have more than doubled in Alabama from 1960 to 2015 from about 4,220 million gallons per day (MGD) to 8,239 MGD (figure 1). The increase in withdrawals primarily occurred from 1960 to 1980 (4,220 MGD to more than 10,350 MGD), while withdrawals in subsequent years have declined somewhat, then increased slightly, but remained nearly constant from 2000 to 2010 before dropping down in 2015 (8,593 MGD in 1985; 8,074 MGD in 1990; 8,286 MGD in 1995; 9,990 MGD in 2000; 10,033 MGD in 2005; 9,997 MGD in 2010; and 8,239 MGD in 2015). The state's population increased about 19 percent from 1960 to 1980, then increased another 25 percent from 1980 to 2015. As a result of the decreased withdrawals as population has increased, gross per capita use has declined. The data indicate that gross per capita water use increased from approximately 1,292 gallons per day (gal/d) for 1960 to a high of 2,661 gal/d for 1980, and then decreased to roughly 1,696 gal/d for 2015. The change in gross per capita water use is mainly attributable to the fluctuation in thermoelectric-power withdrawals for the period.

More water continues to be withdrawn for thermoelectric-power generation than for any other use. Thermoelectric-power withdrawals are large, exclusively from surface water, and therefore, dominate the surface-water trends in Alabama. The dates of the operating schedules of the generating units at the power plants can be compared to the corresponding 5-year water-use data-collection cycle to explain changes in the thermoelectric-power trend. For example, Browns Ferry Nuclear Plant began operation in 1974, closed in March 1985 (the average daily withdrawal was 1,165 MGD in 1985), and began generating power for one unit in July 1991 and a second unit in December 1995 (the average daily withdrawal was 776 MGD in 1995). The water withdrawal for Brown's Ferry in 2005 was 1,990 MGD. After restarting a unit in 2007, water use increased to 2,724 MGD in 2010. This report reflects the Tennessee Valley Authority's (TVA) closure of both the Colbert Fossil and Widows Creek coal powered plants, leading to a substantial drop in water withdrawals for 2015.

Groundwater withdrawals slowly increased from 1960 to 2005, primarily because of increased withdrawals for public supply. Groundwater withdrawals decreased slightly from 2005 to 2010 before increasing slightly in 2015. Since 1985, public-supply withdrawals have accounted for more than 50 percent of groundwater withdrawals in the State.

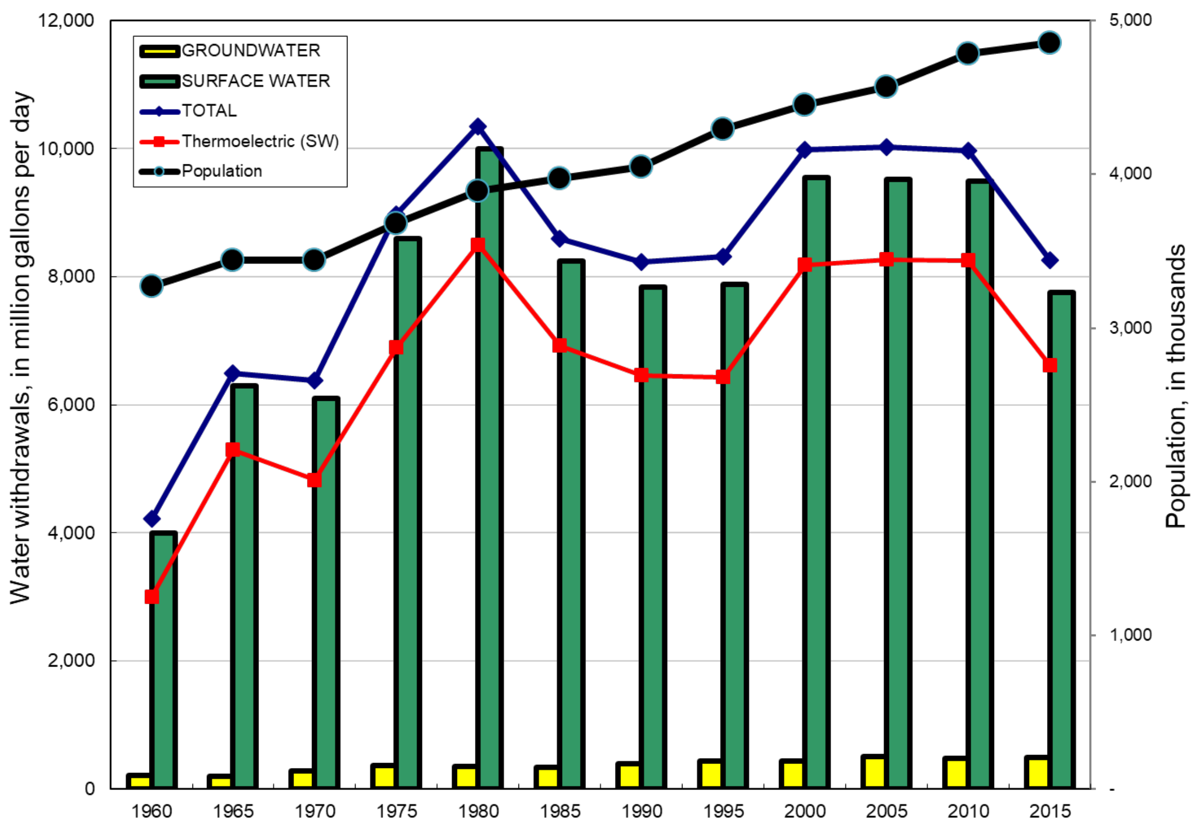


Figure 1. Withdrawals in Alabama, 1960 to 2015, in MGD.

With the passage of the Alabama Water Resources Act in 1993, the State of Alabama established the Office of Water Resources (OWR) within the Alabama Department of Economic and Community Affairs (ADECA). Under the Act, the state also formalized a water-use registration, reporting, and data-collection program that has improved the accuracy and accounting of water use throughout Alabama. Administered by OWR, the Alabama Water Use Reporting Program (AWURP) has become the repository of water-use data for the state. The AWURP provides the framework and structure for the collection of water withdrawal information. Specifically, the AWURP requires that all public water systems as well as non-public (commercial, industrial, mining, and thermoelectric-power facilities) and irrigation water users with a capacity to withdraw 100,000 gallons of water per day or greater obtain a Certificate of Use (COU). Every year, each COU holder is required to report monthly water usage by March 31st of the following year.

Although only established in 1993, OWR provided data for the 1995 USGS water-use compilation. A more complete reporting of public, non-public, and irrigation water-use entities improved the 2000 estimate of water use for Alabama. Both these early efforts only included data at the county level. Since 2000, AWURP has been further supplemented by data from other governmental and non-governmental agencies, greatly improving the comprehensiveness and accuracy of the water-use estimates which has allowed the development of information at the eight-digit Hydrologic Unit Code (subbasin) level. OWR took the lead in publishing water-use compilations for both the *"Estimated Use of Water in Alabama in 2005"* report (hereafter referred to as the 2005 Report) and the *"Estimated Use of Water in Alabama in 2010"* report (hereafter referred to as the 2010 Report).

Purpose and Scope

This report presents water-use estimates by source of supply, water-use sector, county, and hydrologic subregion and subbasin for the State of Alabama (figures 2 and 3). Water use estimates for Alabama have been part of the USGS effort to document similar water-use estimates every five years since 1950 (MacKichan, 1951, 1957; MacKichan and Kammerer, 1961; Murray, 1968; Murray and Reeves, 1972, 1977; Solley and others, 1983, 1988, 1993, 1998; and Hutson and others, 2004). The eight water use sectors are public supply, residential, irrigation, livestock, aquaculture, industrial, mining, and thermoelectric power. This report contains sections on total water withdrawals, total water returns, and net consumptive use, with more detailed information for each water-use sector. It also contains a comparison of water-use estimates for all sectors from 2010 to 2015. Net demands were estimated for three broad sectors: public water supply, agriculture, and the combination of industrial, thermoelectric and mining water use and include a comparison of the changes in the net demands from 2010 to 2015.

Finally, the report presents an analysis of water availability for both 2010 and 2015 by comparing net water demands and streamflows to calculate relative net demand (RND) ratios that are used to characterize the amount of surface water available in each subbasin of the state.

Appendix A lists the hydrologic region, subregion, and subbasin names and corresponding 8-digit subbasin numbers. Appendices B and C summarize average water withdrawals by county and subbasin, respectively, according to source of water, water-use sector, public supplier, and North American Industry Classification System (NAICS) code. Appendices D and E summarize water withdrawals, returns, and net consumption monthly by county and subbasin, respectively, according to source of water and water-use sector. Appendix F presents the Public-Supplier survey form. Appendix G presents the Irrigation User survey form. Appendix H lists the hydroelectric dams and maps their location. Appendix I presents the comparison between the flows that occurred in 2010 and 2015 to the statistical record for each subbasin. Appendix J provides the tabular summary of the RND ratios for both 2010 and 2015 for each subbasin while Appendix K provides the spatial display of the same information.

Hydrologic Setting

The rainfall that replenishes the rivers (figure 4) and aquifers (figure 5) in Alabama varies annually, seasonally, and geographically. Local geology, geomorphology, and topography determine the short-term and long-term groundwater and surface-water availability within a subbasin. The mean annual rainfall for Alabama is 55.66 inches (1980 to 2010 period of record) ranging from lows of 35.39 inches in 1954 and 37.87 inches in 2007 to highs of 75.08 inches in 1929 and 74.77 inches in 1975 (National Oceanic and Atmospheric Administration, 2017).

The Tennessee and Mobile Rivers, along with numerous minor streams, provide water to Alabama residents for a variety of offstream and instream uses (Lineback, 1973). The Tennessee River flows in a westerly direction through the Cumberland Plateau, the Highland Rim, and a small part of the East Gulf Coastal Plain (figures 4 and 6). Total drainage area of the Tennessee River in Alabama is roughly 7,500 square miles (mi^2) (Alabama Department of Economic and Community Affairs, Office of Water Resources, 2002). The Tennessee River is the only source of water used to supply communities such as Decatur and Sheffield and supports robust thermoelectric power and industrial uses. Wells and springs within the Cumberland Plateau and Highland Rim physiographic provinces (figures 5 and 6) provide some limited groundwater for aquaculture, industrial, irrigation, mining, livestock, and self-supplied residential uses (Baker, 1989; Baker and Moser, 1989; Hunter, 1991; Mooty and Richardson, 1998). Most of the groundwater within the Cumberland Plateau and Highland Rim physiographic provinces is withdrawn for public supply.

The Lower Tombigbee River and its tributaries, the Upper Tombigbee and Black Warrior River, flow southward and join with the Alabama River and its tributaries, the Cahaba, Coosa, and Tallapoosa Rivers, to form the Mobile River (figure 4). The rivers traverse the East Gulf Coastal Plain, Cumberland Plateau, Alabama Valley and Ridge, and Piedmont Upland and drain 32,207 mi^2 in Alabama. Supplemented by groundwater, the rivers provide water to communities such as Birmingham, Mobile, Montgomery, and Tuscaloosa. Groundwater use is greatest in the East Gulf Coastal Plain with some locally productive aquifers in the Piedmont Upland, Alabama Valley and Ridge, and Cumberland Plateau areas that are used for various purposes (Journey and Atkins, 1997; Kidd and others, 1997; Mooty and Kidd, 1997; Robinson and others, 1997).

The Conecuh, Yellow, Pea, and Choctawhatchee Rivers, which originate in Alabama, and the Chattahoochee River, which originates in Georgia, traverse southeastern Alabama. Groundwater from the relatively unconsolidated Mesozoic and Cenozoic sediments underlying the Coastal Plain (Chapman and Peck, 1997; Mayer, 1997; DeJarnette, 1989) is the source of public supply for most southeastern Alabama communities, including Andalusia and Dothan; however, some surface water is used for aquaculture, industry (Conecuh River), irrigation, livestock, and mining. The cities of Opelika, Phenix City, Smiths Station, and the East Alabama Water, Sewer and Fire Protection District, which serves Chambers County, withdraw water from the Chattahoochee River.

Figure 2. Map of counties and subregions in Alabama.

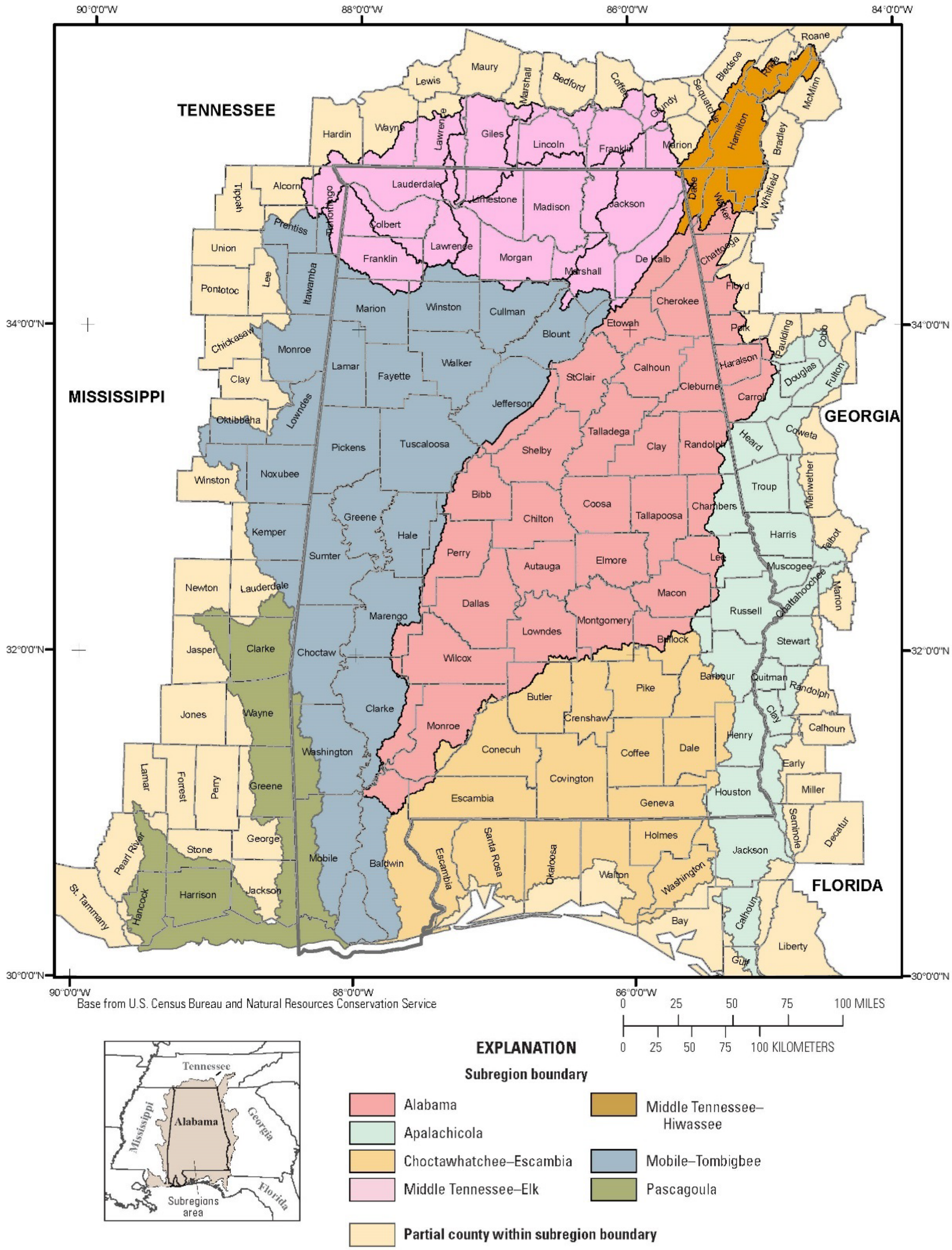


Figure 3. Map of subregions and subbasins in Alabama.

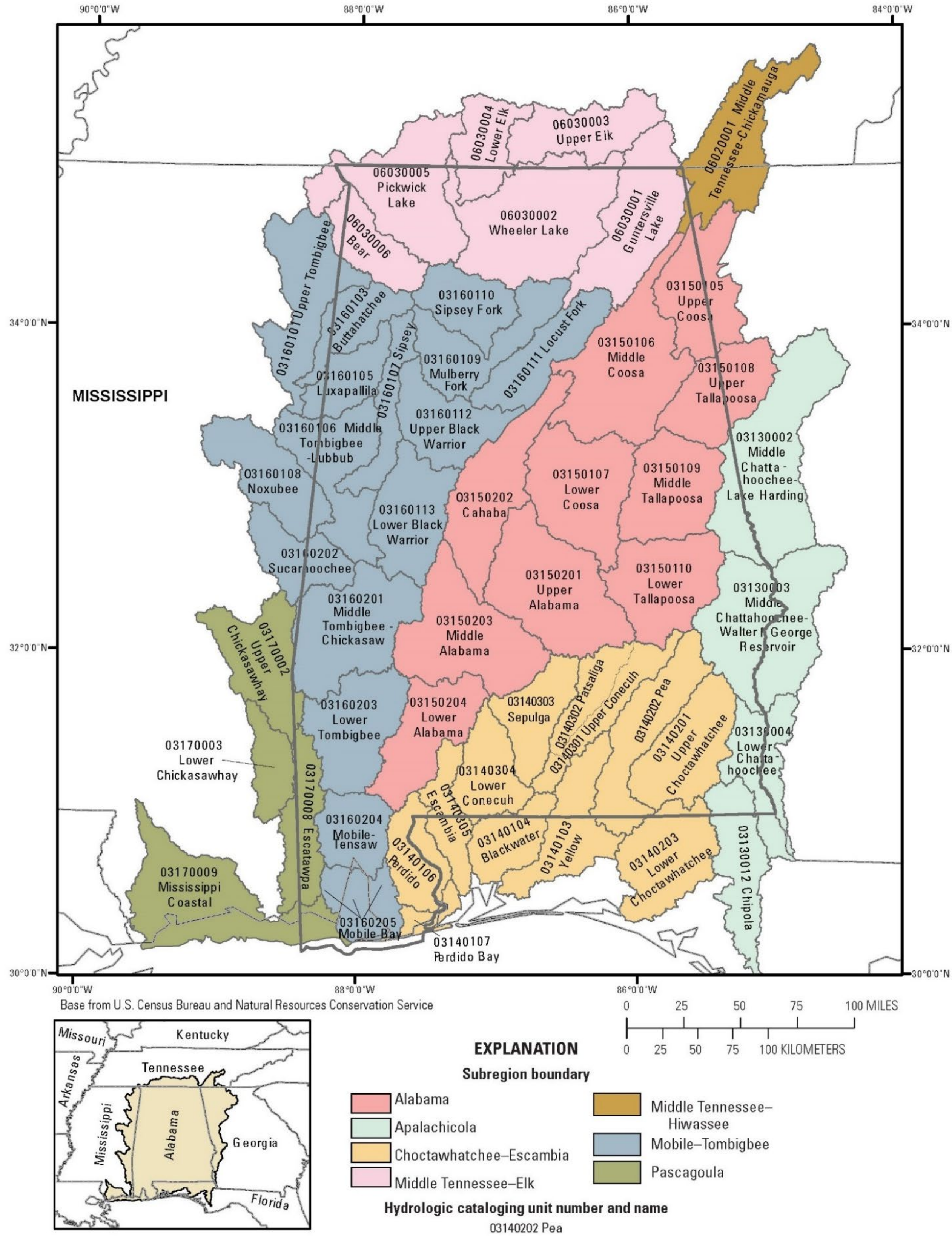


Figure 4. Map of major rivers and tributaries in Alabama.

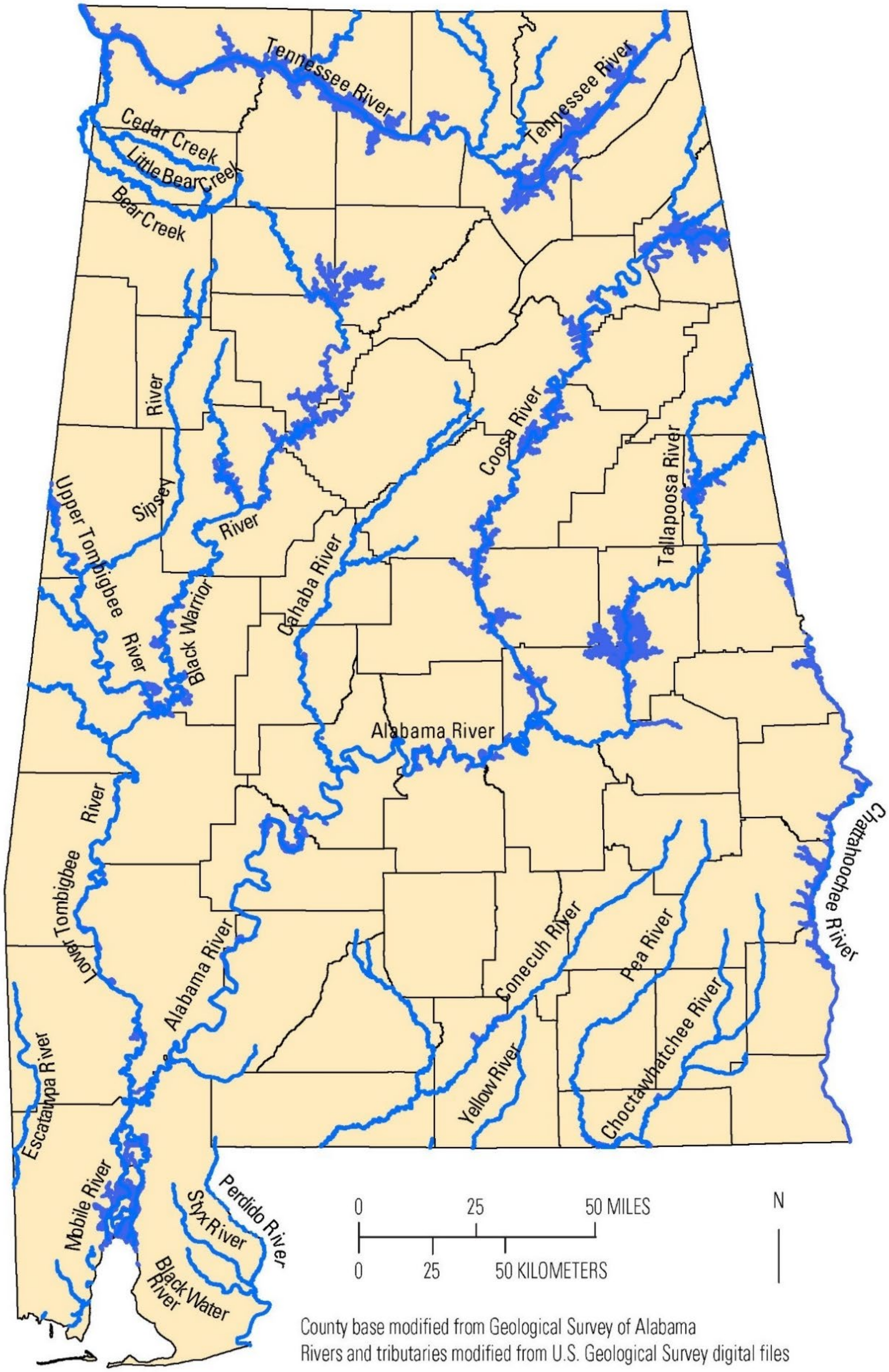


Figure 5. Map of principal aquifers in Alabama.

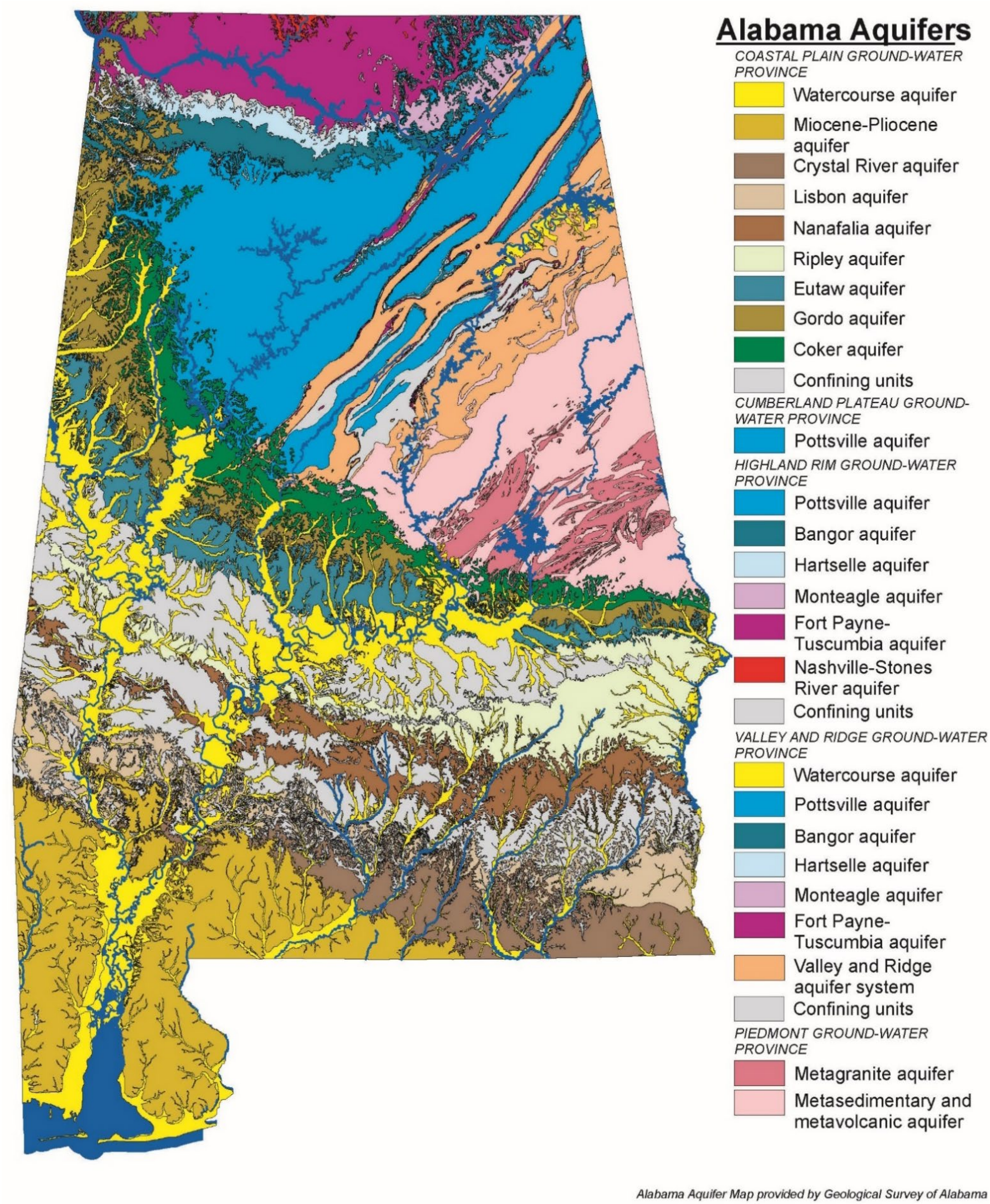
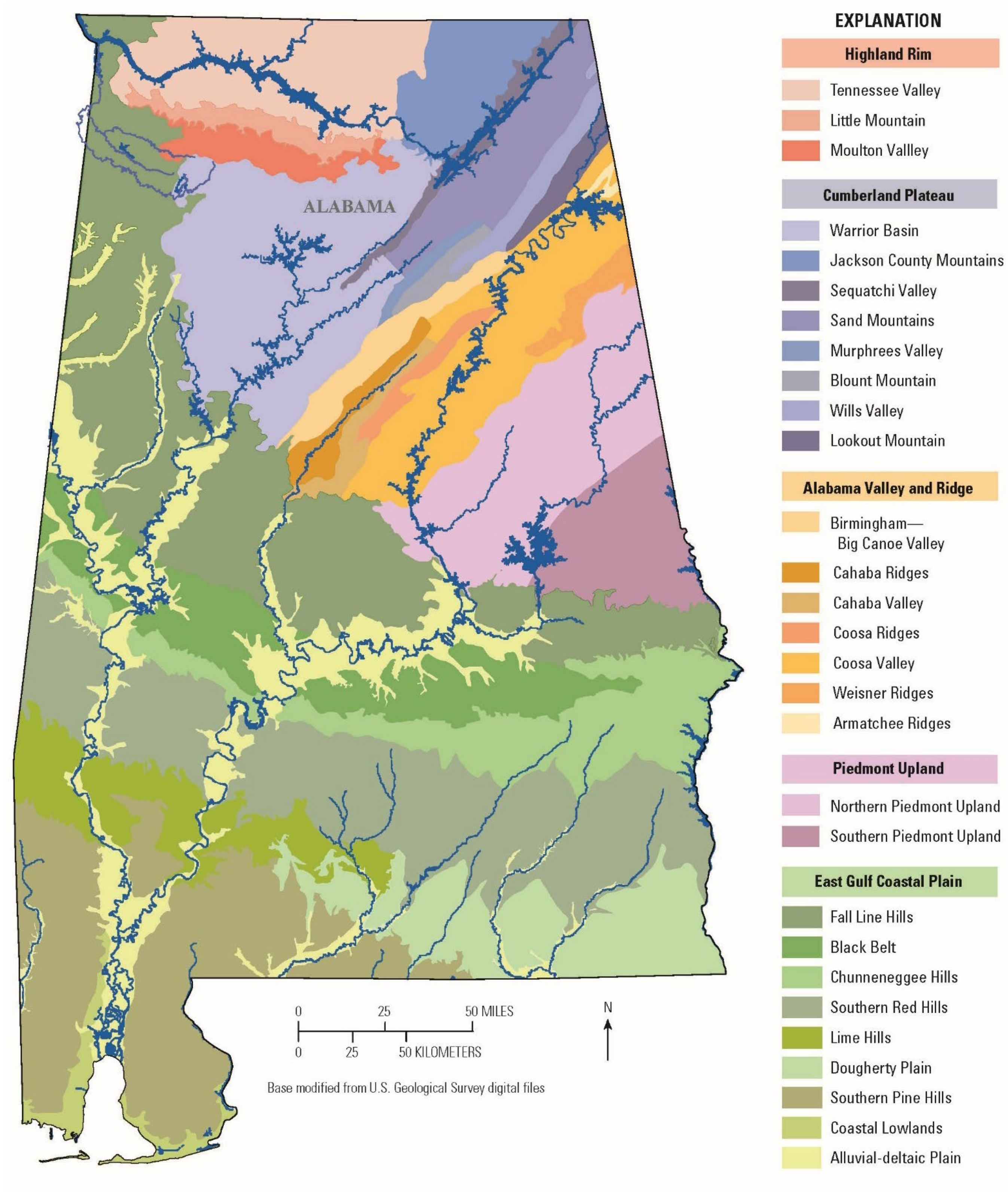


Figure 6. Map of Alabama physiography (provided by Geological Survey of Alabama, 2014).



The geographic distribution of observed precipitation, normal precipitation, and 2015 departures from normal precipitation are listed by county and hydrologic subbasin in table 1 and table 2[1]. The counties with the highest normal precipitation values are Baldwin (65.35 inches), Mobile (64.96 inches), Escambia (64.19 inches), Conecuh (60.76 inches), and Washington (60.16 inches) Counties. The counties with the lowest normal precipitation values are Russell (48.78 inches), Lee (51.28 inches), Macon (51.98 inches), Barbour (52.12 inches), Chambers (52.19 inches) and Montgomery (52.37 inches) Counties (figure 7).

The subbasins with the highest precipitation values for normal precipitation are the Mobile Bay (03160205; 66.50 inches), Middle Tennessee-Chickamauga (03170009; 66.39 inches), the Perdido (03140106; 66.10 inches), and the Perdido Bay (03140107; 65.60 inches) subbasins. The subbasins with the lowest normal precipitation values are the Middle Chattahoochee-Walter F. George Reservoir (03130003; 50.05 inches), the Middle Chattahoochee-Lake Harding (03130002; 51.33 inches), and the Lower Tallapoosa (03150110; 52.42 inches) subbasins (figure 8).

The counties with the highest departures from normal (more than normal rainfall) for 2015 are Lee (13.93 inches), Coffee (12.12 inches), Russell (11.65 inches), and Barbour (10.84 inches) Counties. The counties with the lowest departures from normal (less than normal rainfall) for 2015 are Pickens (-5.11 inches), Escambia (-4.58 inches), and Baldwin (-3.90 inches) Counties (figure 9).

The subbasins with the highest departures from normal (more than normal rainfall) for 2015 are the Mississippi Coastal (03170009; 12.32 inches), the Middle Chattahoochee-Walter F. George Reservoir (03130003; 11.29 inches), and the Chipola (03130012; 11.18 inches) subbasins. The subbasins with the lowest departures from normal (less than normal rainfall) are the Perdido (03140106; -4.62 inches), the Perdido Bay (03140107; -3.30 inches), and the Blackwater (03140104; -3.09 inches) subbasins (figure 10).

[1] Due to estimating methodologies and rounding techniques, there are slight differences in statewide precipitation totals between county and subbasin delineations.

Figure 7. Map of normal precipitation in Alabama by county (1980-2010), in inches.

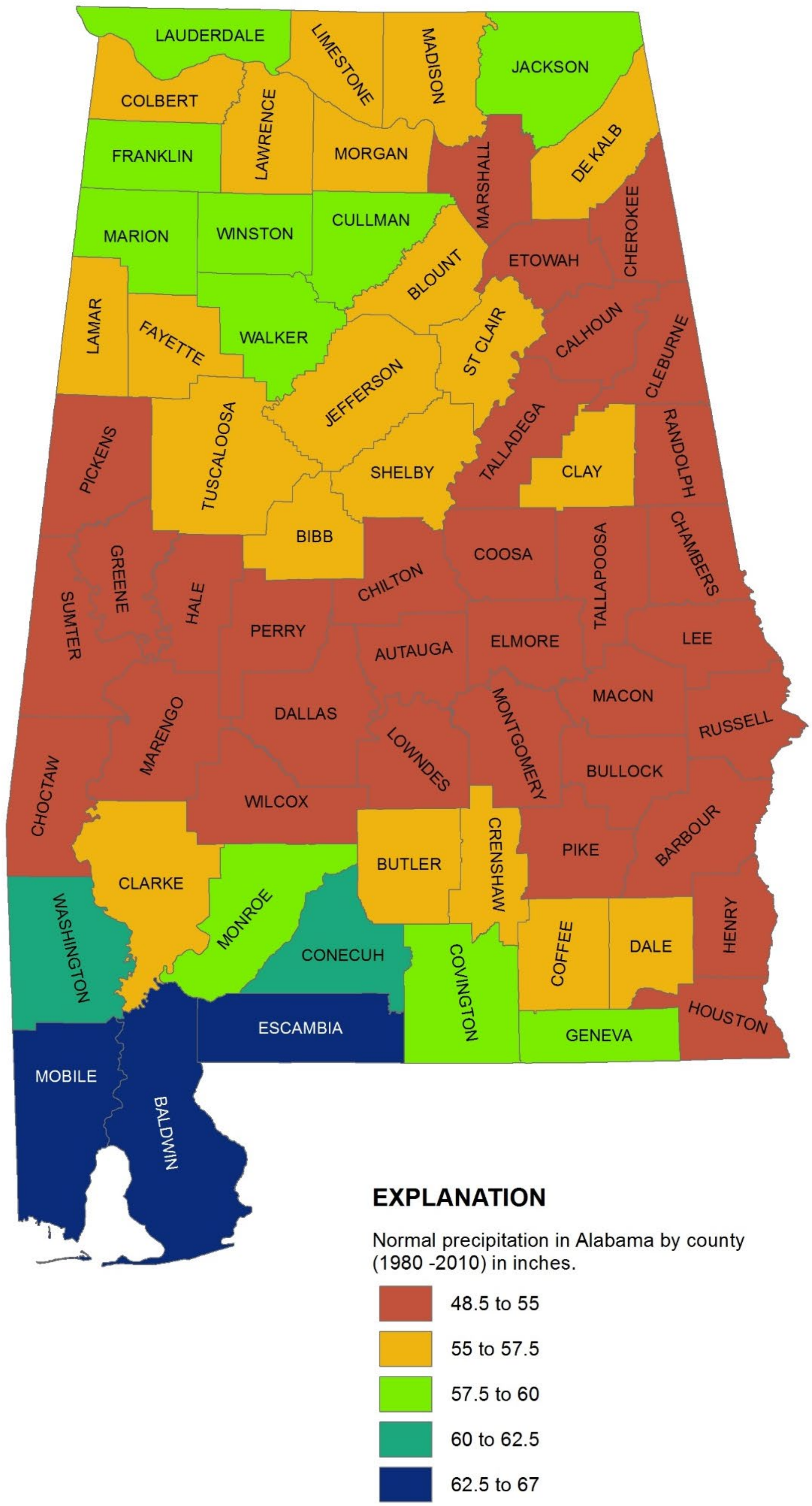


Figure 8. Map of normal precipitation in Alabama by subbasin (1980-2010), in inches.

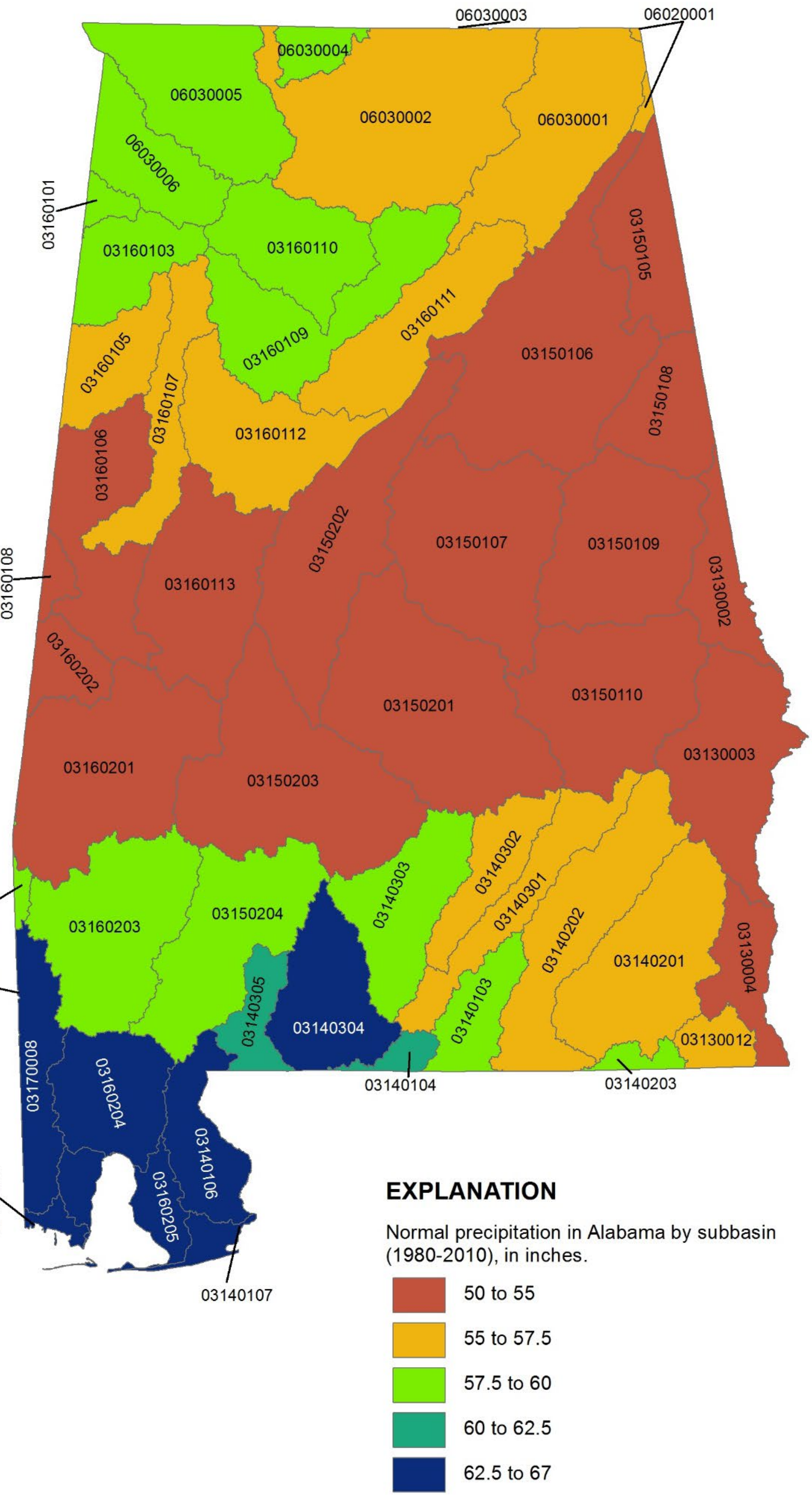


Figure 9. Map of 2015 precipitation departures from normal by county, in inches.

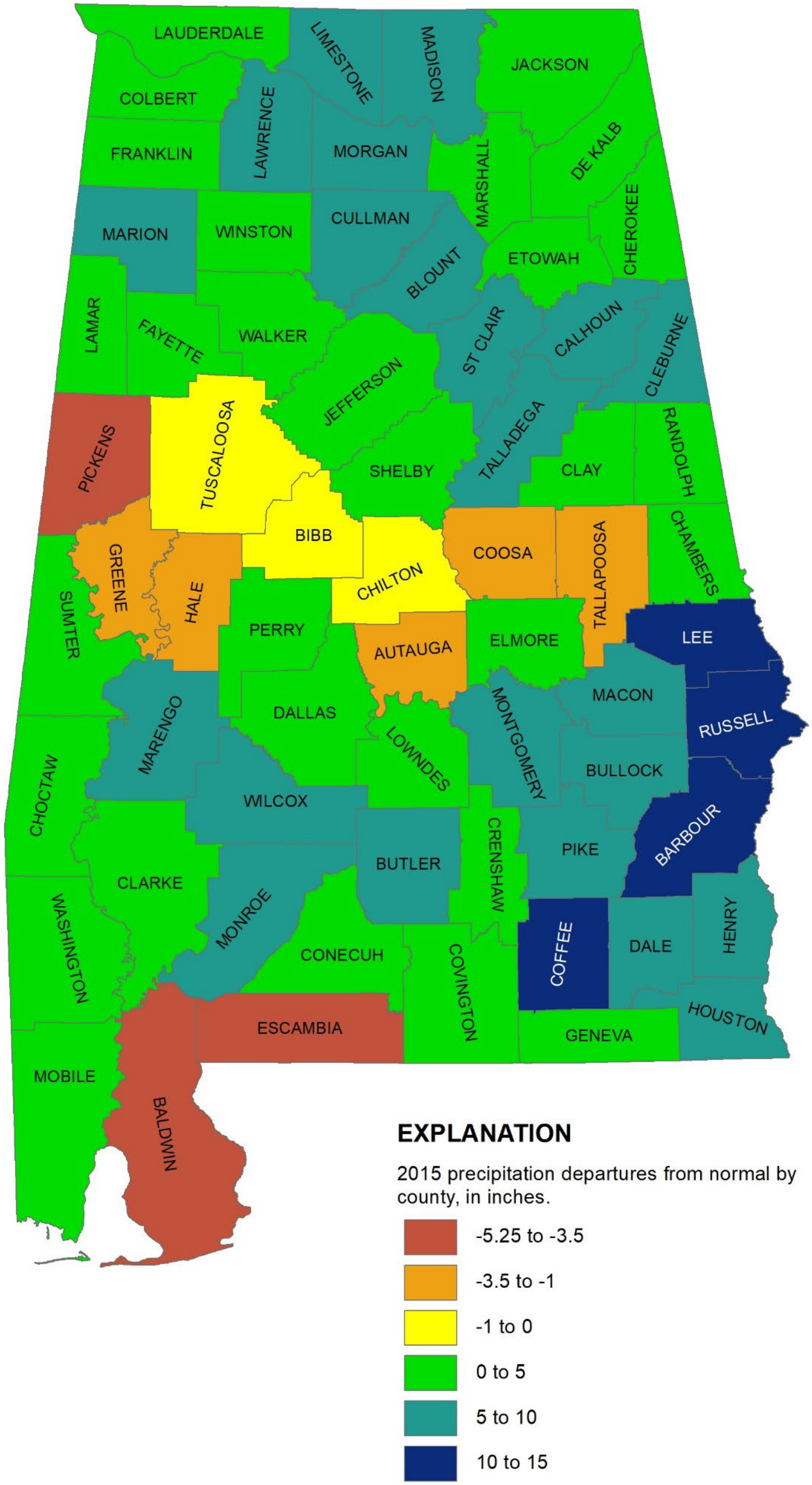


Figure 10. Map of 2015 precipitation departures from normal by subbasin, in inches.

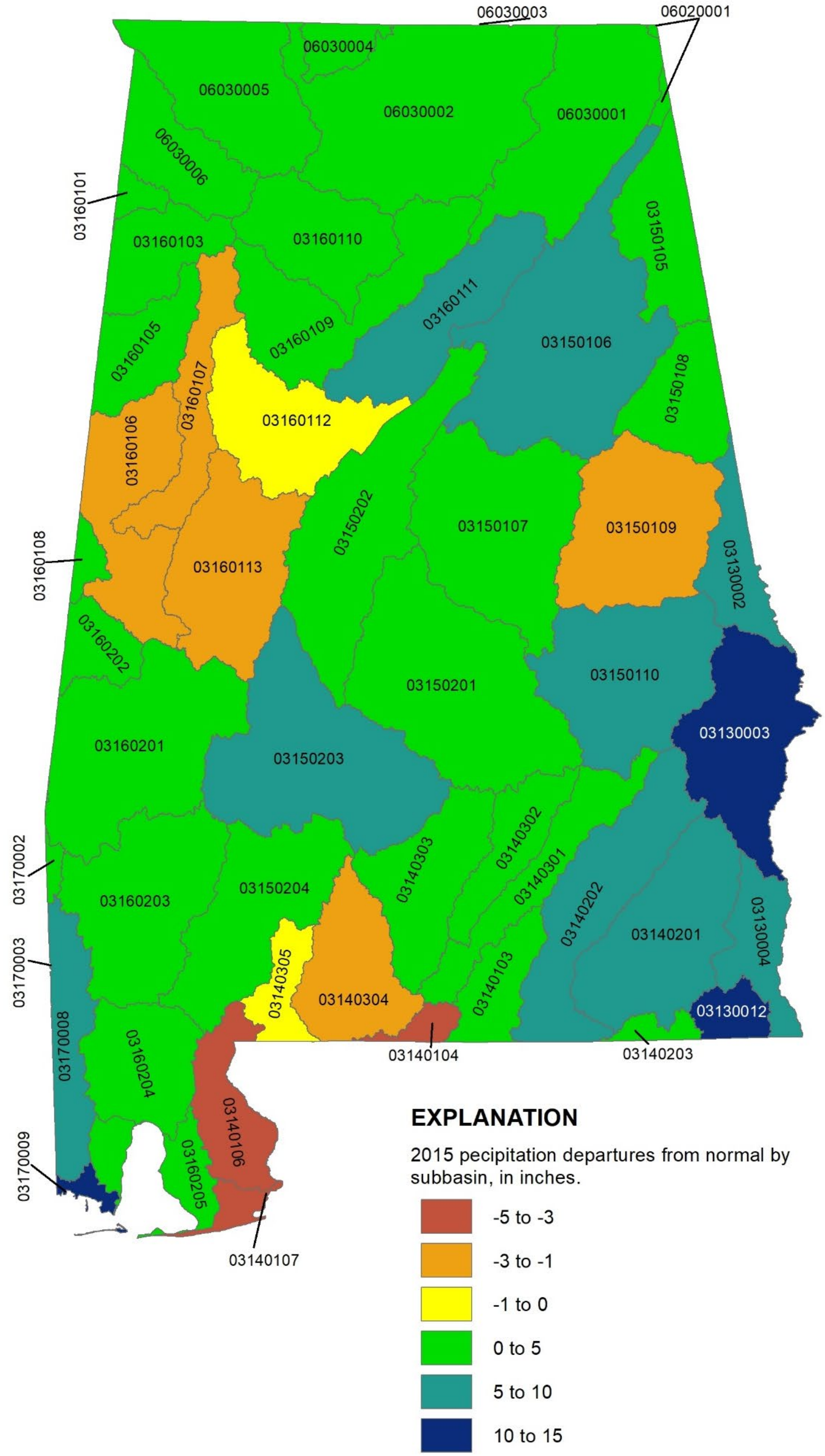


Table 1. Summary of 2015, normal, and departures from normal precipitation, by county, in inches.

County	2015 Observed Precipitation	Normal Precipitation (1980-2010)	2015 Departures from Normal	County	2015 Observed Precipitation	Normal Precipitation (1980-2010)	2015 Departures from Normal
AUTAUGA	52.34	54.01	-1.67	HOUSTON	64.73	54.99	9.74
BALDWIN	61.45	65.35	-3.90	JACKSON	59.59	57.53	2.07
BARBOUR	62.96	52.12	10.84	JEFFERSON	59.79	56.30	3.50
BIBB	55.23	55.25	-0.02	LAMAR	57.58	56.87	0.71
BLOUNT	61.61	55.69	5.92	LAUDERDALE	59.47	57.75	1.72
BULLOCK	59.64	52.77	6.87	LAWRENCE	62.05	56.96	5.09
BUTLER	62.08	56.29	5.78	LEE	65.21	51.28	13.93
CALHOUN	62.79	52.97	9.81	LIMESTONE	61.94	56.49	5.46
CHAMBERS	54.17	52.19	1.98	LOWNDES	56.77	52.91	3.85
CHEROKEE	57.81	54.34	3.47	MACON	61.03	51.98	9.05
CHILTON	54.50	54.55	-0.05	MADISON	61.00	55.82	5.18
CHOCTAW	58.56	54.93	3.63	MARENGO	58.87	53.76	5.11
CLARKE	60.04	56.93	3.11	MARION	64.30	58.92	5.38
CLAY	57.28	55.89	1.39	MARSHALL	58.90	54.53	4.37
CLEBURNE	60.24	54.07	6.18	MOBILE	69.79	64.96	4.83
COFFEE	68.47	56.35	12.12	MONROE	62.83	57.72	5.11
COLBERT	57.99	57.27	0.73	MONTGOMERY	59.38	52.37	7.01
CONECUH	60.88	60.76	0.12	MORGAN	61.46	56.19	5.27
COOSA	52.83	54.11	-1.27	PERRY	53.60	52.96	0.64
COVINGTON	60.40	59.71	0.69	PICKENS	49.45	54.57	-5.11
CRENSHAW	60.65	55.89	4.76	PIKE	60.77	54.16	6.61
CULLMAN	64.10	57.70	6.40	RANDOLPH	54.15	53.52	0.63
DALE	61.32	55.00	6.31	RUSSELL	60.43	48.78	11.65
DALLAS	54.04	52.70	1.34	SHELBY	57.89	55.18	2.70
DEKALB	58.84	55.28	3.56	ST. CLAIR	61.57	55.12	6.45
ELMORE	55.98	52.69	3.29	SUMTER	55.01	54.25	0.76
ESCAMBIA	59.61	64.19	-4.58	TALLADEGA	60.94	53.84	7.10
ETOWAH	57.54	54.74	2.80	TALLAPOOSA	51.11	53.62	-2.51
FAYETTE	57.28	57.14	0.13	TUSCALOOSA	54.11	55.09	-0.98
FRANKLIN	59.88	58.43	1.45	WALKER	61.21	58.02	3.19
GENEVA	61.80	57.73	4.07	WASHINGTON	60.17	60.16	0.00
GREENE	52.92	54.20	-1.28	WILCOX	63.49	54.56	8.93
HALE	51.66	53.94	-2.28	WINSTON	62.65	59.11	3.53
HENRY	59.53	53.68	5.85	**AVERAGE**	**59.22**	**55.66**	**3.56**

Table 2. Summary of 2015, normal, and departures from normal precipitation, by subbasin, in inches.

Hydrologic Subbasin	2015 Observed Precipitation	Normal Precipitation (1980-2010)	2015 Departures from Normal	Hydrologic Subbasin	2015 Observed Precipitation	Normal Precipitation (1980-2010)	2015 Departures from Normal
03130002	58.58	51.33	7.25	03160101	63.18	58.38	4.80
03130003	61.35	50.05	11.29	03160103	62.90	58.65	4.25
03130004	60.84	53.98	6.85	03160105	58.26	56.77	1.49
03130012	66.50	55.31	11.18	03160106	51.47	54.35	-2.89
03140103	61.99	59.69	2.29	03160107	54.48	56.05	-1.57
03140104	59.10	62.18	-3.09	03160108	54.35	54.30	0.05
03140106	61.48	66.10	-4.62	03160109	61.74	57.79	3.95
03140107	62.30	65.60	-3.30	03160110	63.16	58.48	4.68
03140201	62.94	55.06	7.88	03160111	61.06	55.51	5.54
03140202	64.49	55.79	8.70	03160112	55.72	56.18	-0.46
03140203	62.44	57.46	4.98	03160113	51.91	53.99	-2.07
03140301	59.49	56.16	3.32	03160201	58.39	54.37	4.01
03140302	58.36	55.58	2.78	03160202	55.38	54.44	0.94
03140303	60.05	57.59	2.46	03160203	58.78	58.52	0.26
03140304	60.32	63.09	-2.77	03160204	65.44	64.86	0.58
03140305	61.54	62.35	-0.80	03160205	66.63	66.50	0.13
03150105	58.44	54.67	3.78	03170002	62.77	57.82	4.95
03150106	61.43	54.27	7.16	03170008	70.44	63.70	6.74
03150107	55.04	54.14	0.90	03170009	78.71	66.39	12.32
03150108	58.35	54.18	4.18	06020001	58.23	55.77	2.47
03150109	51.52	53.91	-2.38	06030001	59.51	55.68	3.83
03150110	60.53	52.42	8.11	06030002	61.37	56.47	4.90
03150201	55.18	53.17	2.01	06030004	61.24	57.34	3.90
03150202	56.09	54.87	1.22	06030005	59.71	57.36	2.35
03150203	60.08	53.88	6.20	06030006	59.20	58.55	0.65
03150204	62.38	58.35	4.03	**Average**	**60.29**	**57.24**	**3.05**

Acknowledgements

The report would not have been possible without the numerous public water systems, businesses, organizations, and individual holders of Certificates of Use who provide information to OWR under the Alabama Water Use Reporting Program each year. The water-use information provided under this program allows OWR to maintain the most complete information in the state on where, how, when, and how much water is used monthly. We appreciate all the efforts COU holders expend to provide these annual reports to OWR.

The authors would also like to thank the personnel from the U.S. Geological Survey and the University of Alabama – Huntsville that contributed to this report. In addition, the authors also wish to express appreciation to ADECA's Communications and External Affairs Division for assistance with the report publication.

Data Compilation, Sources of Information, and Methodology for Withdrawals

Water-withdrawal data were compiled for eight sectors by county and by hydrologic subregion and subbasin (figures 2 and 3; Appendix A). Site-specific data were used as a basis for estimates for public supply, public-supplied deliveries, self-supplied industrial, mining, thermoelectric power, golf course, and nursery and sod irrigation. Aggregated county-level data were used as a basis for estimates for self-supplied residential, crop irrigation, livestock, and aquaculture. This section contains a detailed description of the methodology and sources of data used for determining total population, public-supply and residential water-use amounts, population served and self-supplied residential population, irrigation withdrawals and irrigated acreage, livestock, aquaculture, and mining withdrawals, and thermoelectric-power and industrial withdrawals.

Data sector by source and type of data are listed in table 3. Some sources, such as OWR, provided site-specific water withdrawal and source of water data for public suppliers, industries, and thermoelectric plants. Some sources, such as U.S. Department of Agriculture (USDA), provided county-level ancillary data, such as crop acreage, crop type, and crop application rate, which could be used to estimate an aggregated county irrigation water withdrawal. Some sectors, such as irrigation, depended on several sources of data to estimate total water withdrawals. Sources of information are more specifically discussed in the following sector sections.

This report uses similar terms and units from the 2005 and 2010 Reports. All water withdrawals in this report were compiled as freshwater, although some low-salinity and high-salinity withdrawals for aquaculture and low-salinity withdrawals for mining occurred in the State.

Water withdrawals are reported to the county, 4-digit hydrologic subregion, and 8-digit subbasin level (U.S. Geological Survey, 2007; U.S. Department of Agriculture, 2004; U.S. Department of Agriculture, Soil Conservation Service, 1993). Annual water use is expressed in terms of million gallons per day (MGD). Irrigation application rate is expressed as acre-feet per acre. Water use is normalized as a per capita use statistic (gallons per capita per day) in five different ways.

- Total water use is divided by the total population to yield gross per capita use, and includes water used to generate electricity, support industrial and agricultural activities, and provide drinking water.
- Public-supply water use is divided by the population served by public suppliers to yield gross public-supply per capita use and includes water delivered to the residential, industrial, commercial, and thermoelectric power sectors and public use and losses.
- Public-supply residential deliveries are divided by the population served to yield public-supplied residential per capita use.
- Self-supplied residential water withdrawals are divided by self-supplied population to yield self-supplied residential per capita use.

- Public-supplied residential deliveries plus self-supplied residential withdrawals are divided by the total population to yield residential per capita use.

In the tables, State, county, subregion, subbasin, and facility data are presented to two decimal places. In the text water withdrawal, return, and net demand totals are reported as whole numbers unless the use of decimals is needed to improve clarity. Percentages are based on the two-digit values in the tables and are expressed as whole numbers. All values are rounded independently; therefore, the sums of individually rounded numbers may not equal the totals given in this report.

Monthly Data

One of the more significant changes in this report over the previous reports published in the Water Use in Alabama series is the addition of monthly estimates for withdrawals, returns, and net consumption. The development of monthly data was accomplished from both the data reported to eWater and the use of analytical techniques to determine inter-annual fluctuations.

For the water withdrawal sectors, monthly data is provided for total withdrawals, public supply, irrigation, thermoelectric power, and industrial uses. The remaining categories (residential, livestock, aquaculture, and mining) lacked information for monthly estimates and average monthly calculations of annual estimates were used.

For the calculation of relative net demand ratios for each subbasin, monthly returns were developed and then subtracted from the monthly surface-water withdrawals to provide for monthly net consumption estimates. These monthly net consumption estimates were then divided by the monthly surface water availability to calculate the RND ratios for each subbasin.

Table 3. Summary of data sources of withdrawals by sector and type of data.

Water-use category	Data sources	Type of data
Public supply	OWR	Active public suppliers
		Monthly average-daily water withdrawals
		Source of water
		Public-supplier water deliveries by sector
	ADEM	Active public suppliers
		Monthly average-daily water withdrawals
		Source of water
	USEPA–SDWIS	Active and inactive public suppliers
	U.S. Census Bureau	Total population, total number of housing units, 2015
		Persons per household, 2015
		County population estimates, 2015
Residential	OWR	Public-supplier water deliveries by sector
	U.S. Census Bureau	Persons per household by county, 2015
		County population estimates, 2015
Irrigation	OWR	Source of water for crops, nurseries, and sod farms, application rates
	UAH	Land under center pivot irrigation, selected counties
	USDA–NASS	Irrigated acreage and crop types by county, 2012; application rates
	ADAI	Nursery and sod farm listing
	http://www.golflink.com/golf-courses/state.aspx?state=AL	Golf course listings and ancillary information
Livestock	USGS–NWUIP	County estimates of water withdrawals by source and quality of water
Aquaculture	USGS–NWUIP	County estimates of water withdrawals by source and quality of water
Mining	USGS–NWUIP	County estimates of water withdrawals by source and quality of water
	OWR	Some mine sites, monthly average-daily water withdrawals
Industry	OWR	Water withdrawals by source of water
Thermoelectric power	DOE–EIA	Water withdrawals by source and quality of water; power generation
	OWR	Water withdrawals
	Thermoelectric-power plants	Power generation

Total Population

The 2015 estimate of population by subbasin was derived from the 2015 census tract population estimates (U.S. Census Bureau, 2016). The 2015 census tract population estimates were aggregated and summarized for each of the 53 subbasins by approximating the subbasin delineations of census tracts that were separated by subbasin boundaries and summarizing the partial tract elements for each of the 53 individual subbasins.

Public Supply and Residential Water Withdrawals

For public supply, monthly estimates were made for groundwater and surface-water withdrawals at the county and subbasin levels, for residential deliveries and population served at the county level, and for industrial and commercial deliveries and public use and losses at the State level. Public-supply withdrawal estimates mostly were based on site-specific data (table 3). Raw water pumpage, or the finished water production upon which water withdrawals were estimated, is metered and reported as monthly average daily rates of withdrawal to OWR through mandatory annual AWURP reports, and to the Drinking Water Branch-Alabama Department of Environmental Management (DWB-ADEM) through mandatory monthly operational reports (MORs). Water sold to or purchased from other public suppliers was not included in this study. To ensure that the water withdrawals were compiled for the geographical area in which the withdrawals occurred, the county and subbasin locations of the water plants, surface-water intakes, wells, or well fields were verified. A comprehensive list of public suppliers was compiled from records from Alabama OWR, DWB-ADEM, Alabama Rural Water Association (ARWA), and the web-based Safe Drinking Water Information System (SDWIS) maintained by U.S. Environmental Protection Agency (USEPA) (U.S. Environmental Protection Agency, 2016)

Residential, industrial, and commercial deliveries and public use and loss estimates were based on a survey of the public suppliers conducted by OWR (Appendix F, figure F-1). Responses from public suppliers were used to estimate statewide residential deliveries for public suppliers with similar demographic and geographic characteristics. Water withdrawals and residential deliveries were counted in the county or subbasin in which they occurred. Public use and losses were estimated at the county level but reported only at the state level. Industrial and commercial deliveries were calculated by subtracting total residential deliveries and public use and losses from total public-supply water withdrawals.

Residential water use is the sum of residential deliveries plus self-supplied residential withdrawals. Self-supplied residential withdrawals were not reported as part of the AWURP and were not collected as part of this study. Instead, self-supplied residential withdrawals were estimated from a self-supplied population and a per household use coefficient for each county. The self-supplied population was divided by the number of persons per household in 2015 to yield the number of self-supplied housing units in 2015. The per household use coefficients were derived from a subset of the OWR Alabama Public Water System Survey consisting of the small public suppliers with primarily rural residential deliveries. Self-supplied households were assumed to use the same amount of water as public-supplied rural households. For 2015, the average monthly rural household use by county ranged from 2,390 to 8,771 gallons per month.

Population Served and Self-Supplied Residential Population

County populations and numbers of households (2011-2015) were taken from Census Quickfacts at https://www.census.gov/quickfacts/AL. The population served by public suppliers and self-supplied population were estimated for each county by assuming all change in population was to public supply, thus leaving the estimated self-supplied population the same as the 2010 Report.

Irrigation

The irrigation sector consists of surface-water and groundwater withdrawals and the number of acres by irrigation-system type for crops, nurseries, sod farms, and golf courses. Estimates of water withdrawals by county for crops were derived from the estimated number of acres in 2012 in the Census of Agriculture (U.S. Department of Agriculture, 2014) and a study conducted by the University of Alabama Huntsville (UAH). The two data sources were studied and the source with the highest irrigated acreage for a given county was taken. Application rates were obtained through a survey of registered irrigation COU holders (Appendix G) and by using known coefficients published in earlier reports. Certain irrigated crop types in various counties were not available due to disclosure limitations. In the counties where this occurred, the average application rate for all crops grown that were not disclosed was used in place of the particular crop application rate. Crop application rates ranged from 0.40 to 0.70 acre-feet per acre. Sprinkler systems typically were used to irrigate corn, cotton, soybeans, and vegetables; microirrigation systems typically were used to irrigate fruits, nuts, and vegetables; and surface systems typically were used to irrigate vegetables. In the short-term, application rates are likely to vary annually according to the amount and timing of precipitation, antecedent soil conditions, and crop type. Due to the nondisclosure of some of the irrigated crop types, determining the percent of acreage irrigated by sprinkler, microirrigation, and surface systems was not completed. Over the long-term, application rates are influenced by changes in technology, farming practices, and climate.

Water withdrawals for nursery and sod farm operations were estimated from the number of acres per operation (Alabama Department of Agriculture and Industries, Division of Plant Protection, 2016) and by using an application rate of 5.29 acre-feet per acre. The application rate was developed from surveys of registered nursery COUs. The percentage of surface-water and groundwater withdrawals by county was determined independently for crops, nurseries, and sod farms from site-specific data in eWater, local water-supply characteristics, and historical water-use patterns. Crop (food and feed crops), nursery, and sod farm water withdrawals and acreage by irrigation-system type were combined in the crop irrigation subsector.

Water withdrawals for golf courses were estimated from site-specific data in eWater, a web search (TheGolfCourses.net, 2016), and reported golf course withdrawals as part of the AWURP. All water withdrawals were assumed to be from surface water and applied with sprinkler systems because reliable source-of-supply data were limited; however, some golf courses were known to use groundwater in 2015. The 275 golf courses, covering approximately 22,700 acres, were classified into three tiers: Tier 1, extensive watering; Tier 2, frequent watering; and Tier 3, essential watering (table 4). A water withdrawal was estimated for each golf course based on a number of holes and a tier classification coefficient. For example, an 18-hole golf course in Tier 1 would have withdrawn 0.21 MGD in 2015. Although the dataset from which the application rates were derived indicated individual differences in withdrawal amounts across the State according to geographic location, soil types, and management practices, the tier classification represents typical golf course usage based on watering practices.

In Alabama, some golf courses are able to water greens, tees, fairways, and, often, driving ranges, and ornamental plants and shrubs because of the installation of an extensive irrigation system and plentiful water (Tier 1). Other golf courses water less extensively, often only tees and greens (Tier 2). The remaining golf courses, because of cost or a limited water supply, confine watering to greens and sometimes tees and fairways if the viability of the turf is threatened and water is available (Tier 3). Generally, watering for all tiers occurs every 3 days; however, weather conditions can affect the watering schedule. Warmer and drier weather necessitates more watering and cooler or wetter weather necessitates less watering. Most of the watering occurs May through October; any additional watering from November through April is generally to aid in application of fertilizer or herbicides.

Table 4. Golf course classification and tier classification coefficients.

(Classification coefficient is amount applied, in million gallons per day)

Golf Course Classification	Tier Classification Coefficients	Acres Irrigated
Tier 1 – Extensive Watering	0.207	110
Tier 2 – Frequent Watering	0.157	100
Tier 3 – Essential Watering	0.098	55

Water withdrawals by subbasin were determined for the subsector crop, which includes crops, nurseries, and sod farms, using ratios developed by county/subbasin relationships. The subbasin boundaries were superimposed on the county boundaries to create a subbasin/county areal unit. Each subbasin/county unit represents a percent of the subbasin area within a county. Surface-water and groundwater withdrawals were distributed among the subbasin/county units based on the assigned areal percentage. Water withdrawals for each subbasin/county unit were summarized by subbasin. Addresses obtained from the master lists for golf courses were used to assign the estimated withdrawals for the specific sites to the correct subbasin.

Livestock, Aquaculture, and Mining

County-level water withdrawals by source for livestock, aquaculture, and mining were from estimates determined by the USGS National Water Use Information Program (NWUIP) as part of the Federal effort to estimate water use for the United States for 2015. Water withdrawals for livestock, aquaculture, and mining by subbasin were determined by using the same methodology as discussed in the previous section for the subsector crop. Livestock withdrawals are not reported as a specific sector within the AWURP and were not collected as part of this study.

Estimates of livestock withdrawals by county were calculated from the 2012 Census of Agriculture and state-level per animal water use coefficients. Methods used to estimate withdrawals for livestock are documented in *"Method for Estimating Water Withdrawals for Livestock in the United States, 2005"* (Lovelace, 2009).

In 2015, aquaculture estimates were made the same way as in 2005, which were based on counts of aquaculture production units (such as farm acreage, water replacement rates, stocking rates of various fish, etc.) from The Census of Aquaculture and were detailed in *"Methods for Estimating Withdrawals for Aquaculture in the United States, 2005"* (Lovelace, 2009).

Mining water use was estimated from per ton water-use coefficients and crude ore production in tons for 2015 from the USGS Minerals Information Team, from coal production in tons from the Department of Energy, Energy Information Administration (DOE-EIA), and from site-specific mining withdrawal data reported to the AWURP. Methods used to estimate withdrawals for mining are documented *in "Method for Estimating Water Withdrawals for Mining in the United States, 2005"* (Lovelace, 2009).

Thermoelectric Power and Industrial

Thermoelectric-power and industrial water use were estimated from site-specific data. The primary sources of data for thermoelectric-power water withdrawals and power produced were the AWURP database—eWater, DOE-EIA, and the individual thermoelectric-power facilities (table 3). Water withdrawals were reported in the county or subbasin in which the withdrawals occurred. It was not possible to separate the power for a nuclear plant that used both once-through cooling and closed-cycle cooling. All power, therefore, was reported with the larger withdrawals associated with once-through cooling instead of the smaller withdrawals associated with closed-cycle cooling.

The AWURP application, eWater, stores monthly average daily water withdrawal information as well as location and source type information. For 2015, steam-electric plants with a nameplate rating of 10 megawatts or more provided information about cooling type, water withdrawal, return flow, and consumptive use by generating unit (except for nuclear power plants) to DOE-EIA, and all power plants provided power generation by generating unit (Energy Information Administration, 2017).

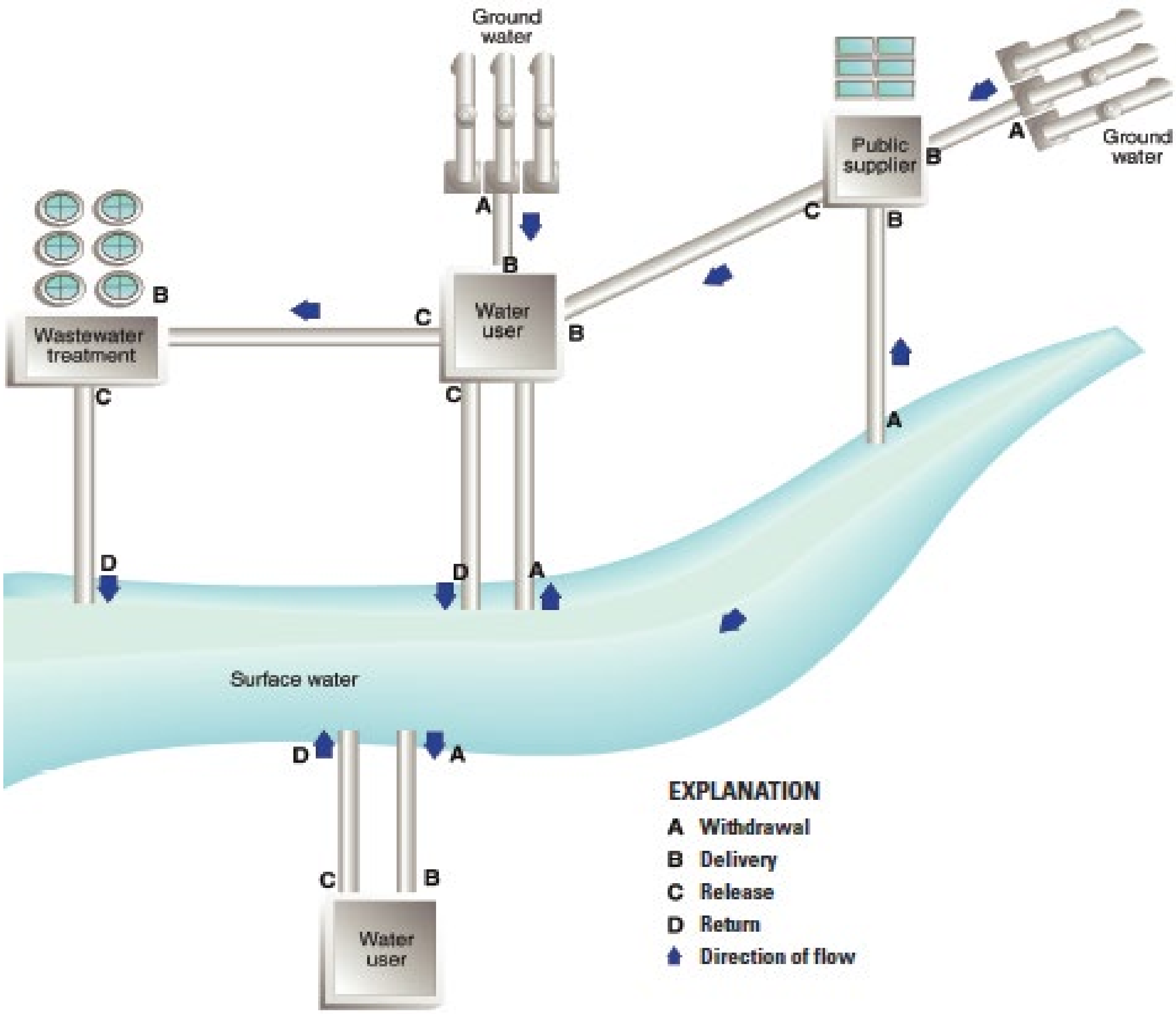
Total industrial water use is the sum of self-supplied industrial and commercial withdrawals and public-supplied industrial and commercial deliveries. Monthly self-supplied industrial withdrawals by source were reported by individual industries to the AWURP for 2010. NAICS codes for those industries were obtained from the Alabama Directory of Manufacturers (Alabama Department of Commerce, 2014). Public-supply deliveries to industrial and commercial users were determined at the State level from the OWR Alabama Public Water System Survey for 2015 (Appendix F, figure F-1).

Water Withdrawals

Water Infrastructure

Water can be withdrawn from rivers, reservoirs, and aquifers to meet offstream needs for public supply, self-supplied residential, irrigation, livestock, aquaculture, self-supplied industrial, mining, and thermoelectric-power generation. A conceptual diagram of how water is withdrawn and returned is shown in figure 11.

Figure 11. Schematic showing the interrelation of water using sites (modified from Hutson and others, 2004a).



Instream Water Uses

Water in river and reservoir systems is used instream for hydroelectric power generation, navigation, recreation, maintaining minimum streamflows to support fish and wildlife habitat, and for wastewater assimilation. Groundwater contributes to baseflow in streams and rivers. Instream use occurs without diverting or withdrawing water from surface-water sources. Although assessing instream water use in the Alabama subbasins was beyond the scope of this report, some hydroelectric power and navigation instream-use statistics were included because instream uses compete with offstream uses and can affect the quality and quantity of available water. Hydroelectric power is generated in Alabama by the PowerSouth Energy Cooperative (PSEC), Alabama Power Company (APC), Tennessee Valley Authority (TVA), and U.S. Army Corps of Engineers (USACE)–Mobile District at 21 mainstem and tributary locations (Appendix H). Georgia Power Company (GPC) and the USACE generate power from six facilities located on the Chattahoochee River bordering Alabama. Total generating capacity for the 27 plants is 3.58 gigawatts (Harper and Turner, 2014).

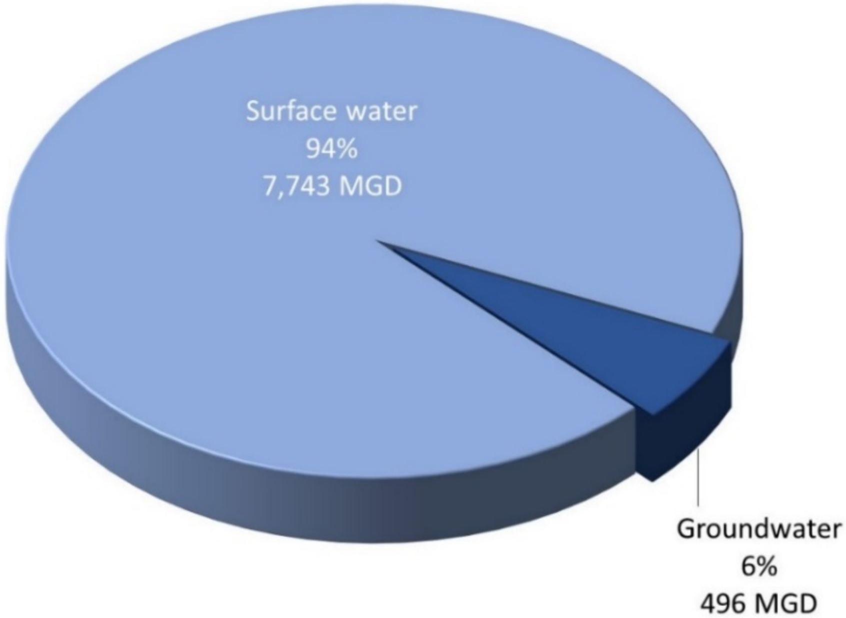
Navigation maintenance within Alabama is important for commercial shipping and recreational boating. USACE tries to maintain a 9-foot (ft.) channel on the navigable stretches of the Alabama-Coosa-Tallapoosa and the Apalachicola-Chattahoochee-Flint river systems. TVA maintains an 11-ft. channel on the mainstem of the Tennessee River, and the U.S. Coast Guard maintains a 12-ft. channel in the Intracoastal Waterway. Passage also is maintained on many miles of secondary channels for recreational use. The instream use of hydroelectric power and navigation does not affect consumptive use because the water remains in the river systems.

Total Water Withdrawals

Total water withdrawals in Alabama for 2015 were determined from estimates of water withdrawals for eight sectors—public supply, self-supplied residential, irrigation, livestock, aquaculture, self-supplied industrial, mining, and thermoelectric power. Total withdrawals were estimated to be 8,239 MGD. Estimates of withdrawals by source indicate that total surface-water withdrawals were 94 percent of the total (7,743 MGD), and the remaining 6 percent was from groundwater (496 MGD; figure 12). Gross per capita use averaged 1,696 gal/d for the 4,858,979 residents in Alabama (U.S. Census Bureau, 2016). Gross per capita use is the total water withdrawn divided by the total population. The large per capita use is a result of the large thermoelectric-power withdrawals in relation to the population size. Values may not sum to total estimated use(s) because of rounding. For a detailed summary of average water withdrawals by county and subbasin, respectively, according to source of water, water-use sector, public supplier, and North American Industry Classification System (NAICS) code, see Appendices B and C.

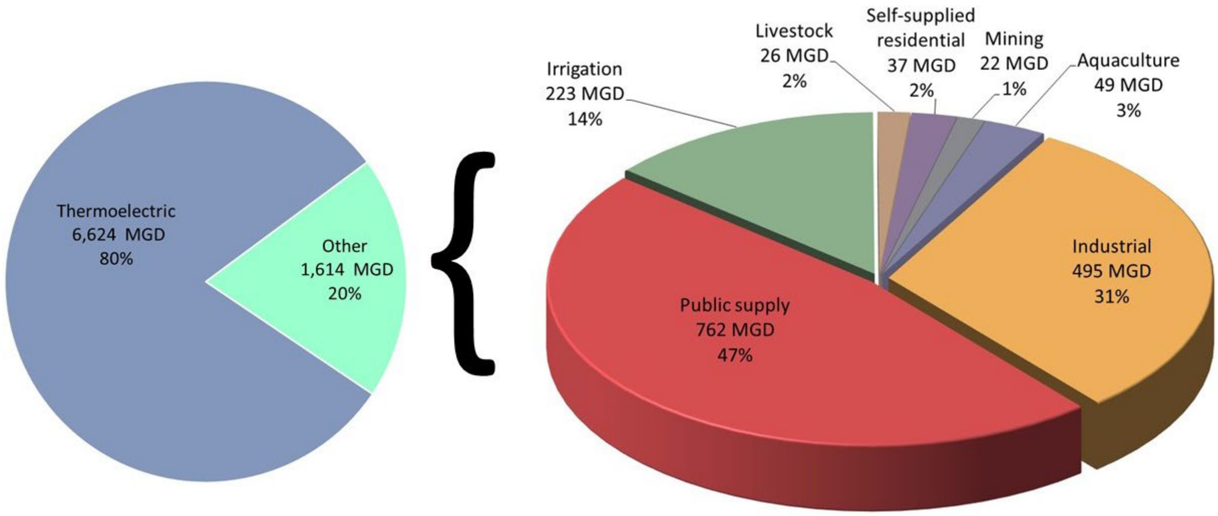
Total residential water use, which is a combination of public-supplied residential deliveries and self-supplied residential withdrawals, was 358 MGD (See the “Residential Withdrawals” section in this report). Total industrial water use, which is a combination of self-supplied industrial and commercial withdrawals (495 MGD) and public-supplied industrial and commercial deliveries (288 MGD), was 783 MGD (See the “Industrial Withdrawals” section in this report.)

Figure 12. Withdrawals by source in Alabama for 2015, in MGD.



Total withdrawals by source and sector for counties and hydrologic subbasins are listed in tables 5 through 18 with tables 6 through 8 and 10 through 12 showing monthly total withdrawals by source and sector. For 2015, thermoelectric power accounted for 80 percent of the total water withdrawals or 6,624 MGD (figure 13). Combined, the public supply and self-supplied industrial sectors accounted for 15 percent of the total withdrawals (762 MGD and 495 MGD, respectively) and irrigation, aquaculture, self-supplied residential, livestock, and mining made up the remaining 5 percent. More than half of the groundwater withdrawals, 55 percent, were for public supply (table 16). Fifteen percent or 74 MGD of the statewide groundwater use was in Baldwin County. Sixty four percent (64%) of Baldwin County's groundwater use was for irrigation, and 32 percent was for public supply. The 12 counties withdrawing 10 MGD or more of groundwater, primarily for public supply and irrigation, accounted for 58 percent of the total groundwater withdrawals in the State (table 16). Surface water is the primary source for all sectors except aquaculture, mining, and self-supplied residential (tables 15-17). Eighty-six percent (86%) of the surface-water withdrawals were for thermoelectric power, and the largest surface-water withdrawals were in Limestone County (table 15). Sixty-seven percent (67 %) of the surface-water withdrawals—primarily for thermoelectric power—occurred in Limestone, Colbert, (Middle Tennessee–Elk subregion), Walker (Mobile-Tombigbee subregion) and Mobile (Mobile–Tombigbee subregion) Counties.

Figure 13. Comparison of withdrawals by sector of use in Alabama in 2015 [values may not sum to total estimated because of rounding.]



The geographic distribution of total, groundwater, and surface-water withdrawals by county and by hydrologic subbasin is shown in figures 14 and 15. The largest total water withdrawals occurred in Limestone and Colbert Counties (47 percent of the total), primarily to meet the cooling needs at thermoelectric-power plants. Excluding thermoelectric power, the largest withdrawals occurred in Morgan, Mobile, Baldwin, and Madison Counties (table 13).

Estimates of public-supply, self-supplied residential, irrigation, livestock, aquaculture, industrial, mining, and thermoelectric-power withdrawals by source of water for hydrologic subregion and subbasin and are shown in tables 14, 16, and 18. The Middle Tennessee–Elk subregion accounted for 55 percent (4,520 MGD) of the 8,239 MGD total estimated withdrawals. Ninety two percent of that water was for thermoelectric power, and nearly all the withdrawals were from surface water. Excluding thermoelectric power, the Alabama subregion accounted for 33 percent of the water withdrawals statewide. The second largest use sector in the Alabama subregion was public supply, approximately 45 percent (245 MGD) of the total withdrawals excluding thermoelectric power in the subregion.

Figure 14. Map of total withdrawals by source and county in Alabama in 2015, in MGD.

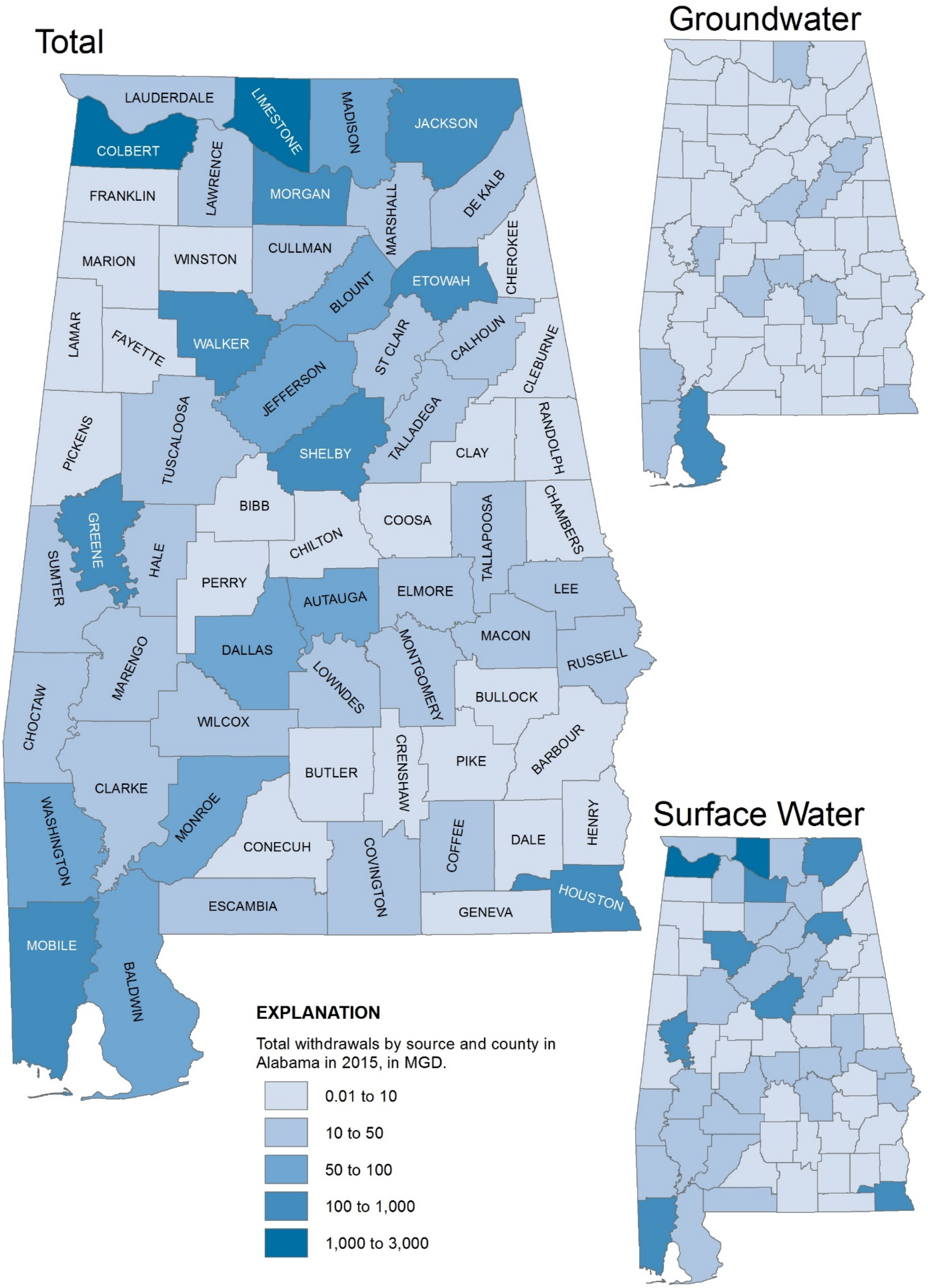


Figure 15. Map of total withdrawals by source and hydrologic subbasin in Alabama in 2015, in MGD.

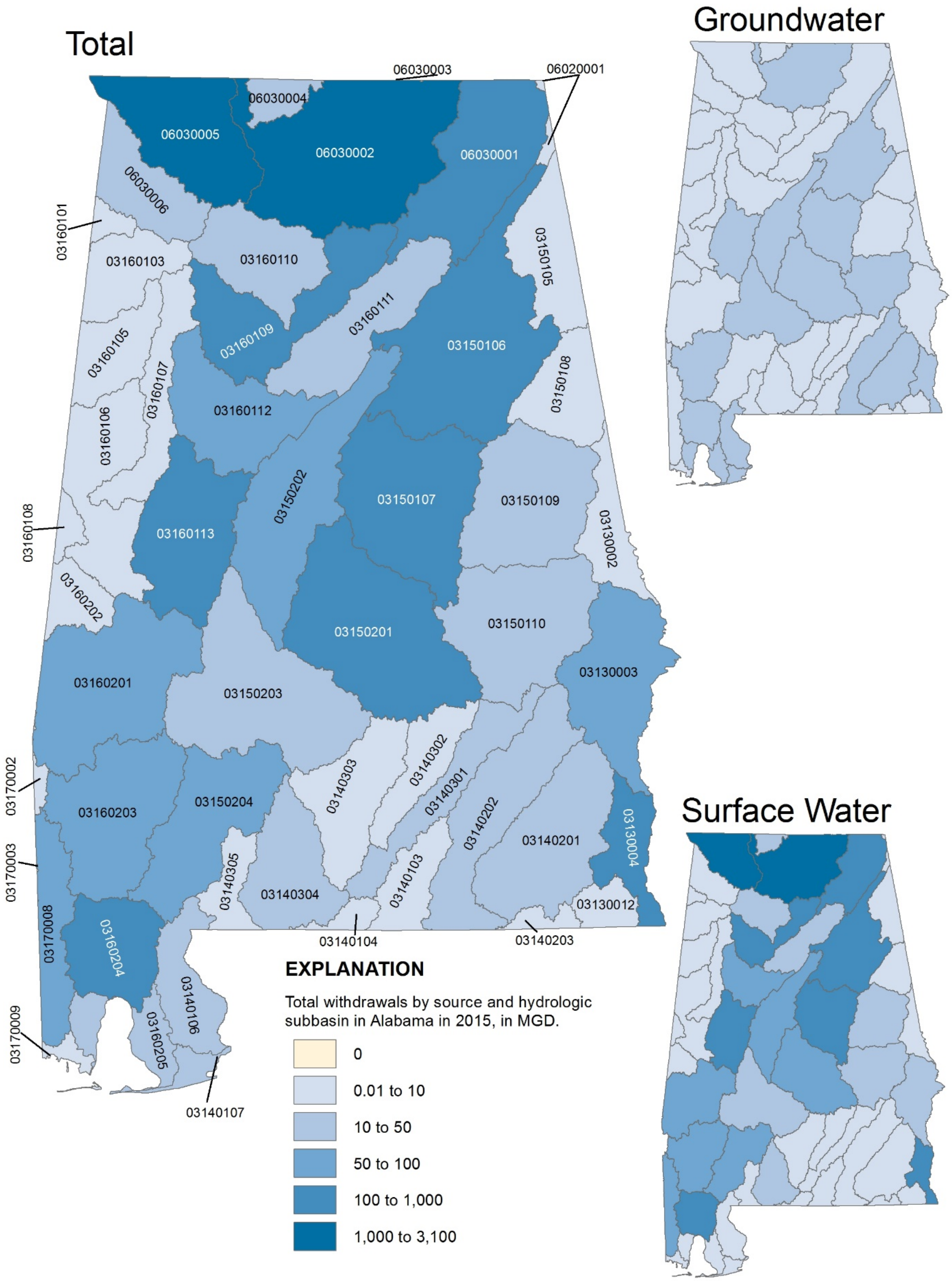


Figure 16 provides an overview of the sources and use of water in Alabama. In this figure, the eight water-use sectors previously mentioned have been grouped into four categories of similar water uses: thermoelectric power, industrial (combined self-supplied industrial, commercial, and mining withdrawals and industrial, commercial, and thermoelectric-power deliveries), residential (combined self-supplied residential withdrawals, public-supplied residential deliveries, and public use and losses), and agriculture (aquaculture, irrigation, and livestock). Figure 16 shows that surface water was the source for 7,743 MGD (table 17). Of this total, 6,624 MGD was used for thermoelectric power. The 762 MGD (table 13) withdrawn by public suppliers was distributed to commercial and industrial (288 MGD) with the remaining 474 MGD split between residential (321 MGD) and public use and losses (153 MGD).

Figure 16. Sources and withdrawal of water in Alabama in 2015, in MGD.

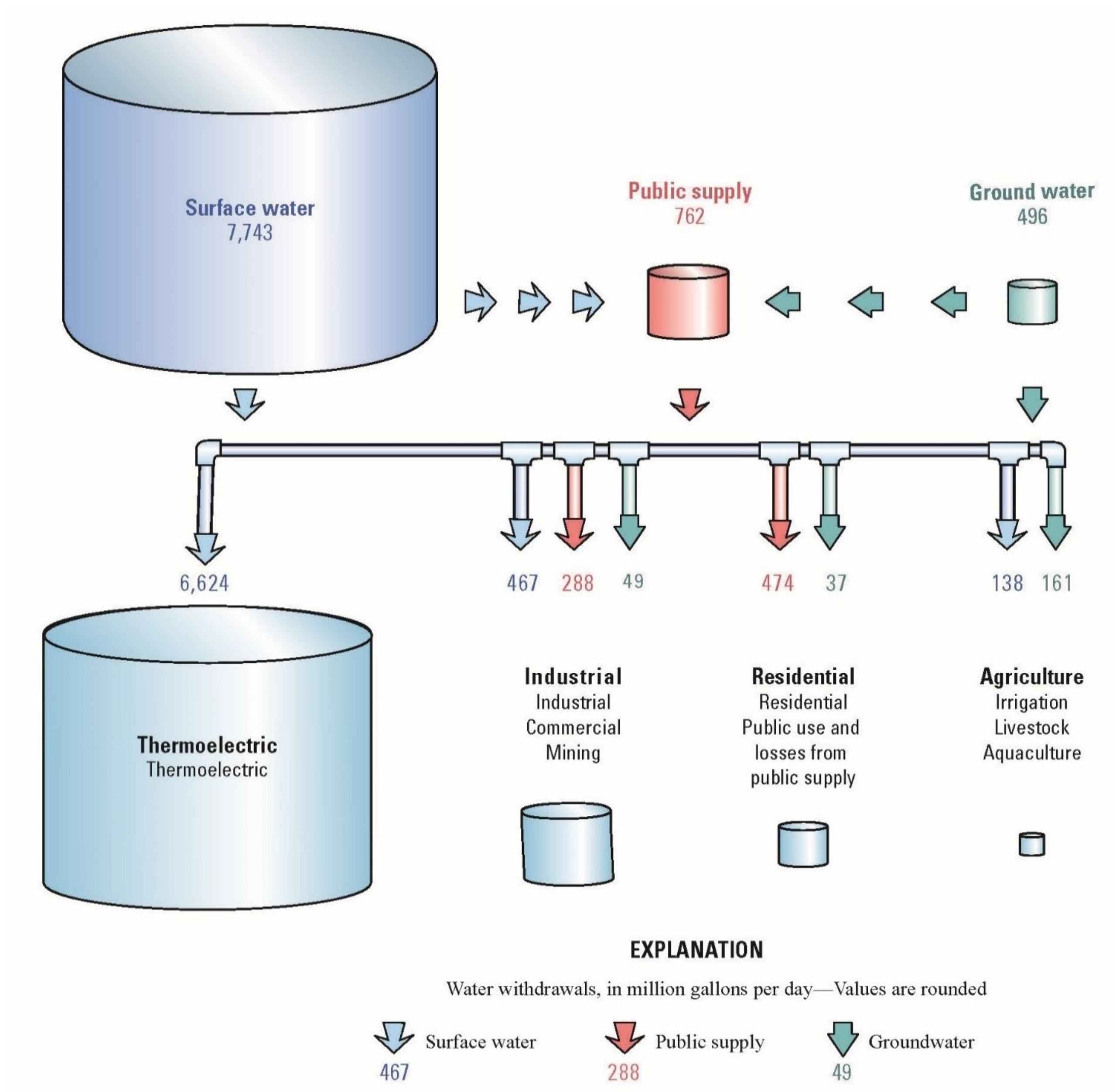


Table 5. Total withdrawals by source and county in Alabama in 2015, in MGD.

County	Population	Withdrawals by source, in million gallons per day			Gross per capita use, in million gallons per person per day
		Groundwater	Surface water	Total	
AUTAUGA	55,347	10.70	45.72	56.43	1,019
BALDWIN	203,709	73.52	11.36	84.88	417
BARBOUR	26,489	6.07	2.98	9.04	341
BIBB	22,583	5.42	0.20	5.61	249
BLOUNT	57,673	4.46	55.44	59.90	1,039
BULLOCK	10,696	3.16	1.23	4.39	410
BUTLER	20,154	2.89	1.18	4.07	202
CALHOUN	115,620	24.33	6.27	30.60	265
CHAMBERS	34,123	0.63	4.49	5.12	150
CHEROKEE	25,859	3.60	3.84	7.43	287
CHILTON	43,943	3.96	2.14	6.09	139
CHOCTAW	13,170	1.65	46.80	48.45	3,679
CLARKE	24,675	3.85	22.62	26.47	1,073
CLAY	13,555	0.49	2.11	2.60	192
CLEBURNE	15,018	1.09	0.81	1.90	127
COFFEE	51,211	9.91	3.65	13.56	265
COLBERT	54,354	1.90	1,003.23	1,005.13	18,492
CONECUH	12,672	1.64	0.25	1.89	149
COOSA	10,724	0.62	0.12	0.74	69
COVINGTON	37,835	6.60	3.67	10.26	271
CRENSHAW	13,963	2.39	1.00	3.39	242
CULLMAN	82,005	2.33	26.83	29.16	356
DALE	49,565	7.13	2.02	9.14	184
DALLAS	41,131	15.89	37.47	53.36	1,297
DEKALB	71,130	3.73	8.85	12.58	177
ELMORE	81,468	5.67	12.99	18.66	229
ESCAMBIA	37,789	9.20	33.39	42.59	1,127
ETOWAH	103,057	4.81	127.91	132.73	1,288
FAYETTE	16,759	0.62	2.42	3.05	182
FRANKLIN	31,696	2.05	6.25	8.29	262
GENEVA	26,777	5.47	3.41	8.89	332
GREENE	8,479	6.16	382.71	388.87	45,863
HALE	15,068	13.43	7.66	21.09	1,400
HENRY	17,221	3.70	4.62	8.32	483

Table 5. Total withdrawals by source and county in Alabama in 2015, in MGD – Continued.

County	Population	Withdrawals by source, in million gallons per day			Gross per capita use, in million gallons per person per day
		Groundwater	Surface water	Total	
HOUSTON	104,173	25.64	101.65	127.29	1,222
JACKSON	52,419	1.93	374.01	375.94	7,172
JEFFERSON	660,367	9.87	47.43	57.30	87
LAMAR	13,886	1.86	0.30	2.16	156
LAUDERDALE	92,596	3.77	12.05	15.82	171
LAWRENCE	33,115	0.76	10.76	11.52	348
LEE	156,993	3.91	15.97	19.88	127
LIMESTONE	91,663	7.54	2,865.39	2,872.94	31,342
LOWNDES	10,458	6.31	6.89	13.21	1,263
MACON	19,105	5.01	6.07	11.08	580
MADISON	353,089	34.86	43.08	77.95	221
MARENGO	20,028	4.29	19.79	24.08	1,202
MARION	30,168	1.60	5.71	7.32	243
MARSHALL	94,725	5.17	22.31	27.48	290
MOBILE	415,395	31.68	752.37	784.05	1,887
MONROE	21,673	3.50	49.63	53.13	2,452
MONTGOMERY	226,519	20.90	18.02	38.93	172
MORGAN	119,565	0.81	117.91	118.72	993
PERRY	9,652	5.37	2.05	7.42	769
PICKENS	20,864	4.20	2.93	7.13	342
PIKE	33,046	5.56	1.39	6.94	210
RANDOLPH	22,696	0.88	1.64	2.53	111
RUSSELL	59,660	3.93	40.58	44.51	746
SHELBY	208,713	13.14	466.22	479.36	2,297
ST CLAIR	87,074	7.41	13.92	21.33	245
SUMTER	13,103	4.26	6.09	10.35	790
TALLADEGA	80,862	11.84	37.51	49.35	610
TALLAPOOSA	40,844	0.49	12.83	13.32	326
TUSCALOOSA	203,976	4.59	37.04	41.63	204
WALKER	65,294	1.16	708.96	710.12	10,876
WASHINGTON	16,804	12.50	43.61	56.11	3,339
WILCOX	11,059	1.18	22.11	23.30	2,106
WINSTON	23,877	0.61	1.14	1.74	73
Total	**4,858,979**	**495.64**	**7,743.00**	**8,238.64**	**1,696**

Table 6. Monthly total groundwater withdrawals by county in Alabama in 2015, in MGD.

County Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	AVG
AUTAUGA	8.50	8.50	8.73	9.42	11.55	13.16	13.44	13.31	12.09	11.15	9.36	9.04	10.70
BALDWIN	43.32	50.24	54.56	62.49	80.84	96.06	99.55	99.45	93.22	85.83	62.55	52.59	73.52
BARBOUR	5.55	5.31	5.47	5.81	6.47	7.35	7.49	6.79	5.92	5.83	5.45	5.27	6.07
BIBB	5.10	5.22	5.03	5.19	5.49	5.81	5.79	5.67	5.60	5.57	5.34	5.17	5.42
BLOUNT	4.53	4.37	4.63	4.57	4.38	4.88	5.00	4.38	4.24	4.28	4.15	4.16	4.46
BULLOCK	2.62	2.59	2.68	2.85	3.32	4.03	4.29	3.92	3.22	3.06	2.73	2.58	3.16
BUTLER	2.98	2.70	2.92	2.73	3.21	2.99	3.07	3.05	2.91	2.80	2.72	2.60	2.89
CALHOUN	23.77	24.41	23.35	22.58	24.87	26.13	26.75	26.92	24.63	23.55	22.93	22.04	24.33
CHAMBERS	0.58	0.59	0.60	0.61	0.65	0.71	0.71	0.68	0.63	0.62	0.59	0.59	0.63
CHEROKEE	3.55	3.29	3.31	3.34	3.53	3.86	4.08	3.85	3.68	3.52	3.53	3.59	3.60
CHILTON	3.77	3.66	3.69	3.37	3.97	4.58	4.48	4.21	4.27	4.19	3.78	3.51	3.96
CHOCTAW	1.88	1.66	1.61	1.59	1.73	1.62	1.66	1.68	1.57	1.57	1.63	1.62	1.65
CLARKE	3.93	3.81	3.79	4.08	3.81	3.95	4.02	3.80	3.88	3.82	3.72	3.63	3.85
CLAY	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49
CLEBURNE	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
COFFEE	7.87	7.71	8.19	9.20	11.02	12.67	12.51	11.93	10.92	9.78	8.67	8.27	9.91
COLBERT	1.30	1.20	1.42	1.61	2.36	3.33	3.44	2.69	1.66	1.45	1.13	1.13	1.90
CONECUH	1.39	1.36	1.37	2.44	2.60	1.70	1.68	1.60	1.50	1.31	1.36	1.39	1.64
COOSA	0.64	0.62	0.58	0.67	0.62	0.63	0.61	0.65	0.61	0.63	0.63	0.59	0.62
COVINGTON	5.11	5.80	5.81	6.14	7.18	7.92	8.06	7.77	7.11	6.68	5.84	5.70	6.60
CRENSHAW	2.39	2.14	2.12	2.10	2.41	2.49	2.53	2.70	2.56	2.49	2.33	2.38	2.39
CULLMAN	1.91	1.88	1.95	2.86	3.04	2.85	2.36	1.80	1.76	2.78	2.62	2.16	2.33
DALE	6.42	6.39	6.08	6.98	8.32	8.46	8.94	8.37	7.54	5.84	5.21	6.90	7.13
DALLAS	15.32	15.31	15.63	15.64	15.72	16.35	16.60	16.62	16.46	16.29	15.00	15.69	15.89
DEKALB	3.54	3.51	3.55	3.60	3.77	3.96	3.88	3.86	3.89	3.89	3.69	3.55	3.73
ELMORE	4.93	4.62	5.56	5.59	6.73	6.63	6.66	6.37	5.73	5.22	4.94	4.97	5.67
ESCAMBIA	8.50	8.29	8.26	8.84	9.49	10.77	10.27	10.31	9.66	9.01	8.55	8.40	9.20
ETOWAH	4.62	4.73	4.69	4.68	4.98	5.27	5.35	5.14	4.89	4.71	4.40	4.28	4.81
FAYETTE	0.63	0.63	0.63	0.63	0.63	0.63	0.62	0.62	0.61	0.62	0.62	0.62	0.62
FRANKLIN	2.04	2.04	2.01	2.05	2.09	2.11	2.15	2.12	2.04	1.99	1.93	1.99	2.05
GENEVA	3.56	3.87	4.14	4.78	6.30	8.32	8.47	7.54	5.77	5.17	4.00	3.66	5.47
GREENE	5.93	5.88	5.86	6.11	6.23	6.40	6.61	6.47	6.28	6.15	6.02	6.02	6.16
HALE	12.57	12.63	12.89	12.96	13.81	15.06	15.19	14.58	13.25	12.92	12.66	12.60	13.43
HENRY	2.27	2.50	2.86	3.27	4.58	5.80	5.97	5.12	3.63	3.24	2.59	2.43	3.70

Table 6. Monthly total groundwater withdrawals by county in Alabama in 2015, in MGD – Continued.

County Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	AVG
HOUSTON	18.50	19.17	23.28	24.47	28.32	34.37	36.25	31.68	26.50	22.73	19.60	22.27	25.64
JACKSON	1.84	1.83	1.78	1.82	1.94	2.01	2.02	2.04	2.04	2.02	1.88	1.89	1.93
JEFFERSON	10.26	9.06	8.93	9.28	11.48	10.01	10.42	10.72	9.11	9.48	8.30	11.23	9.87
LAMAR	1.95	1.86	1.80	1.71	1.80	1.86	1.87	1.84	1.75	1.74	1.86	2.29	1.86
LAUDERDALE	3.36	3.52	3.56	3.60	3.84	4.17	4.21	4.16	3.96	3.76	3.57	3.50	3.77
LAWRENCE	0.74	0.74	0.75	0.75	0.77	0.78	0.78	0.78	0.78	0.78	0.76	0.75	0.76
LEE	3.72	3.73	3.71	3.71	4.10	4.26	4.41	4.33	4.15	3.98	3.60	3.21	3.91
LIMESTONE	6.69	5.85	6.38	7.34	8.66	9.51	9.58	9.18	7.76	7.22	6.51	5.70	7.54
LOWNDES	6.20	5.91	6.06	6.24	6.37	6.53	6.54	6.54	6.46	6.27	6.44	6.17	6.31
MACON	4.99	3.07	3.37	3.77	4.28	5.19	6.30	6.49	6.67	6.40	4.31	5.11	5.01
MADISON	29.02	30.51	30.30	30.79	37.96	44.50	48.58	41.60	35.95	32.03	28.26	28.45	34.86
MARENGO	4.11	4.06	4.14	4.16	4.34	4.54	4.64	4.62	4.37	4.35	4.07	4.05	4.29
MARION	1.48	1.50	1.65	1.56	1.62	1.82	1.83	1.74	1.57	1.53	1.48	1.47	1.60
MARSHALL	4.67	4.75	4.64	4.87	5.48	5.60	5.85	5.68	5.51	4.92	5.12	4.86	5.17
MOBILE	26.37	26.63	28.37	29.48	33.17	37.10	36.90	37.12	35.31	33.42	28.76	27.15	31.68
MONROE	3.14	3.52	3.24	3.22	3.61	4.30	4.41	3.94	3.37	3.28	2.93	3.04	3.50
MONTGOMERY	23.28	13.81	19.64	20.78	21.25	22.84	22.84	24.66	24.13	21.80	17.94	17.24	20.90
MORGAN	0.73	0.75	0.77	0.78	0.82	0.86	0.86	0.88	0.87	0.85	0.78	0.75	0.81
PERRY	5.63	4.52	4.65	4.61	5.34	5.88	6.46	6.39	5.67	5.72	4.89	4.57	5.37
PICKENS	3.78	3.59	4.28	3.73	3.91	4.10	5.01	4.62	4.61	4.48	4.17	4.04	4.20
PIKE	4.87	4.59	4.64	4.89	6.03	6.91	7.22	7.11	5.92	5.32	4.68	4.39	5.56
RANDOLPH	0.87	0.87	0.87	0.88	0.89	0.91	0.91	0.90	0.89	0.88	0.87	0.87	0.88
RUSSELL	4.79	3.88	3.78	3.77	3.88	4.02	4.01	3.90	3.93	3.73	3.71	3.74	3.93
SHELBY	12.04	11.84	11.48	12.10	13.51	14.52	14.64	14.82	14.54	14.06	12.29	11.79	13.14
ST CLAIR	7.34	7.66	7.16	6.80	7.48	8.08	8.06	8.05	7.27	6.96	6.97	7.10	7.41
SUMTER	3.72	3.73	3.82	4.02	4.39	5.09	5.22	4.95	4.30	4.05	3.98	3.84	4.26
TALLADEGA	10.98	10.76	11.17	12.13	11.87	12.54	12.85	12.82	11.98	11.89	11.84	11.21	11.84
TALLAPOOSA	0.48	0.48	0.48	0.48	0.49	0.50	0.50	0.50	0.50	0.50	0.49	0.48	0.49
TUSCALOOSA	3.74	3.95	4.03	4.22	4.86	5.52	5.64	5.43	4.92	4.72	4.12	3.91	4.59
WALKER	0.91	0.90	0.89	0.90	0.92	0.97	0.94	0.97	1.78	1.73	1.63	1.42	1.16
WASHINGTON	13.33	12.92	12.20	12.68	12.28	11.68	11.53	12.32	13.33	12.97	12.21	12.57	12.50
WILCOX	1.24	1.21	1.17	1.19	1.23	1.28	1.34	1.23	1.17	1.10	1.01	1.04	1.18
WINSTON	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61
TOTAL	**427.94**	**420.83**	**439.14**	**461.70**	**524.80**	**580.86**	**597.08**	**578.18**	**535.03**	**502.77**	**441.87**	**431.41**	**495.64**

Table 7. Monthly total surface-water withdrawals by county in Alabama in 2015, in MGD.

County Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	AVG
AUTAUGA	44.65	41.96	41.25	39.48	42.67	48.12	53.22	52.31	50.95	46.12	42.94	44.58	45.72
BALDWIN	1.58	4.20	5.73	9.08	14.46	18.19	18.82	20.03	17.55	14.35	7.38	4.43	11.36
BARBOUR	0.84	1.12	1.62	2.30	3.87	5.60	5.81	5.25	3.63	2.96	1.48	1.11	2.98
BIBB	0.07	0.06	0.08	0.16	0.25	0.29	0.30	0.36	0.35	0.29	0.09	0.06	0.20
BLOUNT	53.17	53.39	52.17	52.86	58.52	57.01	54.56	56.33	55.39	57.36	56.32	57.94	55.44
BULLOCK	0.25	0.46	0.65	0.94	1.58	2.26	2.33	2.21	1.59	1.30	0.66	0.46	1.23
BUTLER	0.42	0.39	0.62	0.90	1.60	1.96	2.12	1.94	1.75	1.33	0.70	0.40	1.18
CALHOUN	4.02	4.28	4.41	5.59	7.52	8.77	9.22	9.55	8.49	6.16	3.86	3.22	6.27
CHAMBERS	3.65	3.80	3.94	3.95	4.23	4.82	5.11	5.32	5.38	4.83	4.39	4.43	4.49
CHEROKEE	1.12	2.07	2.42	3.14	4.53	5.86	5.94	6.23	5.23	4.52	2.81	2.09	3.84
CHILTON	1.95	1.87	1.78	1.89	2.11	2.27	2.34	2.51	2.46	2.34	2.06	2.02	2.14
CHOCTAW	43.96	45.45	44.07	43.65	47.04	38.68	51.19	53.95	52.24	48.48	45.68	46.85	46.80
CLARKE	24.58	22.72	22.84	23.13	23.31	23.69	22.74	23.40	22.68	18.40	21.06	22.87	22.62
CLAY	2.02	2.15	2.25	2.25	2.14	2.31	2.21	1.94	1.96	2.03	2.00	2.08	2.11
CLEBURNE	0.65	0.68	0.71	0.73	0.87	1.01	1.04	1.00	0.86	0.78	0.69	0.65	0.81
COFFEE	0.81	1.16	1.86	2.74	4.89	7.40	7.70	6.71	4.27	3.40	1.59	1.13	3.65
COLBERT	1,098.11	1,082.41	911.73	947.95	1,118.10	997.69	1,125.61	1,128.04	1,023.73	987.56	769.97	846.70	1,003.23
CONECUH	0.12	0.11	0.13	0.21	0.30	0.34	0.35	0.41	0.40	0.34	0.14	0.11	0.25
COOSA	0.07	0.07	0.07	0.17	0.17	0.17	0.17	0.14	0.10	0.10	0.10	0.10	0.12
COVINGTON	1.55	1.84	2.44	2.75	4.12	5.27	5.42	5.67	4.66	4.33	3.42	2.38	3.67
CRENSHAW	0.53	0.52	0.67	0.89	1.30	1.88	1.95	1.51	0.86	0.73	0.56	0.53	1.00
CULLMAN	38.73	20.61	15.96	23.03	31.39	31.97	29.38	25.53	25.86	30.01	26.53	22.35	26.83
DALE	0.54	0.46	0.90	1.48	2.82	4.32	4.52	3.82	2.37	1.82	0.59	0.43	2.02
DALLAS	35.97	34.89	35.05	36.30	36.99	39.75	44.44	40.55	38.57	37.22	33.22	36.40	37.47
DEKALB	6.36	6.77	6.88	7.54	9.05	10.98	11.07	12.15	11.10	10.12	7.52	6.55	8.85
ELMORE	10.05	10.32	10.85	12.06	14.57	16.21	16.33	16.01	14.46	12.91	11.13	10.79	12.99
ESCAMBIA	29.24	30.20	31.10	25.13	35.11	36.01	36.15	36.28	36.42	34.71	34.64	35.32	33.39
ETOWAH	117.96	157.03	147.83	116.60	134.06	133.56	116.18	121.43	132.56	124.77	115.29	120.07	127.91
FAYETTE	2.16	2.15	2.10	2.22	2.67	3.04	3.05	2.88	2.47	2.38	2.06	1.91	2.42
FRANKLIN	5.30	6.02	6.23	6.04	6.48	7.45	7.53	7.03	6.35	5.77	5.21	5.52	6.25
GENEVA	0.73	1.26	1.87	2.65	4.52	6.82	7.08	6.07	3.76	3.04	1.73	1.27	3.41
GREENE	367.06	392.63	162.41	397.55	419.15	419.04	420.41	412.13	424.67	424.79	329.82	425.13	382.71
HALE	7.53	7.52	7.54	7.62	7.71	7.75	7.76	7.82	7.81	7.75	7.55	7.52	7.66
HENRY	0.61	1.15	2.19	3.30	6.43	10.38	10.85	8.87	4.89	3.74	1.69	1.09	4.62

Table 7. Monthly total surface-water withdrawals by county in Alabama in 2015, in MGD – Continued.

County Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	AVG
HOUSTON	102.14	95.15	87.84	66.48	98.50	123.93	120.17	116.42	110.02	112.72	100.66	84.99	101.65
JACKSON	468.41	466.07	467.50	502.83	529.63	506.80	507.85	507.48	478.53	21.09	20.41	20.86	374.01
JEFFERSON	27.75	43.14	44.31	43.80	52.39	58.73	59.84	58.69	54.79	46.89	41.48	37.22	47.43
LAMAR	0.11	0.09	0.14	0.23	0.40	0.54	0.56	0.55	0.44	0.35	0.12	0.09	0.30
LAUDERDALE	10.44	10.72	10.71	11.18	12.86	13.89	14.04	13.73	13.53	12.46	10.94	10.01	12.05
LAWRENCE	8.58	8.67	9.06	9.71	12.16	15.55	15.69	13.48	10.51	9.56	8.03	7.96	10.76
LEE	11.54	12.16	12.16	14.11	17.69	19.63	20.74	21.42	19.57	17.17	13.51	11.73	15.97
LIMESTONE	2,903.84	2,904.21	2,439.09	2,630.82	2,814.85	2,953.85	2,962.41	2,956.43	2,911.09	2,859.28	2,999.90	3,053.80	2,865.39
LOWNDES	1.49	3.22	4.12	5.45	8.49	11.80	12.12	11.79	8.81	7.43	4.52	3.23	6.89
MACON	2.74	3.96	4.44	5.13	6.79	8.60	8.90	9.04	7.58	6.72	4.98	3.85	6.07
MADISON	32.03	31.47	30.96	32.21	47.02	58.13	60.51	57.20	53.44	46.42	36.32	30.43	43.08
MARENGO	19.88	19.66	14.08	21.16	20.55	20.19	19.50	20.52	20.48	20.62	20.81	20.09	19.79
MARION	5.87	5.69	5.81	5.47	5.76	6.03	6.10	5.89	5.85	5.56	5.24	5.28	5.71
MARSHALL	20.52	20.77	20.19	20.63	23.09	24.94	25.09	25.50	24.81	22.15	19.74	20.16	22.31
MOBILE	384.14	606.63	831.87	823.69	701.79	811.76	803.65	862.83	976.09	770.74	719.13	732.31	752.37
MONROE	49.61	47.49	48.22	39.28	47.68	51.32	55.53	54.20	49.69	51.73	50.91	49.49	49.63
MONTGOMERY	15.54	15.32	15.82	16.65	20.00	22.52	23.12	21.28	21.85	16.90	14.32	12.83	18.02
MORGAN	99.32	105.24	109.48	113.27	86.32	110.25	150.40	148.24	142.39	126.35	111.51	111.14	117.91
PERRY	2.00	2.00	2.00	2.10	2.10	2.10	2.10	2.07	2.03	2.03	2.03	2.03	2.05
PICKENS	1.27	1.22	1.77	2.37	3.92	5.99	6.26	4.87	2.66	2.15	1.32	1.20	2.93
PIKE	0.49	0.46	0.73	1.06	1.87	2.80	2.92	2.47	1.55	1.23	0.55	0.45	1.39
RANDOLPH	1.43	1.50	1.47	1.61	1.77	1.81	1.84	1.75	1.67	1.63	1.68	1.53	1.64
RUSSELL	31.57	28.34	35.02	36.87	42.55	48.13	49.17	49.59	46.98	44.63	37.58	35.58	40.58
SHELBY	548.88	601.33	503.09	318.08	538.22	646.23	677.54	594.95	494.27	171.47	233.73	274.33	466.22
ST CLAIR	9.88	16.37	11.25	12.73	14.77	16.11	15.84	17.23	15.81	14.60	11.20	11.54	13.92
SUMTER	5.88	5.87	5.89	6.07	6.23	6.27	6.28	6.30	6.26	6.20	5.92	5.89	6.09
TALLADEGA	32.12	29.34	31.26	29.05	42.27	44.73	45.92	45.99	41.49	35.84	35.05	36.26	37.51
TALLAPOOSA	11.76	10.60	11.60	10.75	13.49	14.47	15.08	14.95	13.11	14.33	12.06	11.49	12.83
TUSCALOOSA	31.00	31.88	31.21	33.72	38.93	44.27	44.01	44.81	42.94	39.98	32.10	29.30	37.04
WALKER	533.00	752.48	656.29	625.43	818.91	841.50	845.62	841.86	823.08	653.25	363.39	750.97	708.96
WASHINGTON	48.97	48.88	16.93	47.67	48.93	50.66	52.15	51.62	49.69	28.19	48.98	31.85	43.61
WILCOX	22.32	22.50	20.13	22.28	22.54	21.84	21.53	22.13	21.43	22.85	23.13	22.71	22.11
WINSTON	1.09	1.03	0.99	1.03	1.18	1.30	1.34	1.42	1.28	1.24	0.96	0.77	1.14
TOTAL	**7,351.99**	**7,895.18**	**7,017.80**	**7,299.25**	**8,158.17**	**8,527.49**	**8,746.74**	**8,692.05**	**8,449.53**	**7,100.52**	**6,537.06**	**7,149.83**	**7,743.00**

Table 8. Monthly total water withdrawals by county in Alabama in 2015, in MGD.

County Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	AVG
AUTAUGA	53.14	50.46	49.98	48.91	54.22	61.27	66.67	65.62	63.04	57.27	52.30	53.62	56.43
BALDWIN	44.90	54.44	60.29	71.57	95.30	114.25	118.38	119.47	110.76	100.18	69.92	57.02	84.88
BARBOUR	6.40	6.43	7.09	8.12	10.34	12.95	13.30	12.04	9.54	8.79	6.93	6.38	9.04
BIBB	5.18	5.28	5.12	5.35	5.74	6.10	6.09	6.03	5.95	5.86	5.43	5.23	5.61
BLOUNT	57.70	57.77	56.80	57.43	62.90	61.89	59.56	60.71	59.63	61.64	60.47	62.10	59.90
BULLOCK	2.87	3.05	3.33	3.80	4.90	6.29	6.62	6.12	4.81	4.36	3.39	3.03	4.39
BUTLER	3.39	3.09	3.55	3.63	4.81	4.95	5.19	4.99	4.66	4.13	3.42	3.00	4.07
CALHOUN	27.80	28.69	27.76	28.18	32.39	34.90	35.96	36.47	33.12	29.71	26.79	25.26	30.60
CHAMBERS	4.23	4.38	4.54	4.57	4.88	5.52	5.83	6.01	6.01	5.45	4.98	5.02	5.12
CHEROKEE	4.67	5.36	5.72	6.48	8.06	9.72	10.01	10.07	8.91	8.04	6.34	5.68	7.43
CHILTON	5.72	5.52	5.47	5.26	6.08	6.85	6.83	6.73	6.74	6.52	5.84	5.53	6.09
CHOCTAW	45.85	47.11	45.68	45.24	48.77	40.30	52.85	55.63	53.81	50.05	47.30	48.47	48.45
CLARKE	28.52	26.53	26.63	27.21	27.13	27.64	26.76	27.20	26.55	22.23	24.77	26.50	26.47
CLAY	2.51	2.64	2.74	2.74	2.63	2.79	2.69	2.42	2.44	2.52	2.49	2.57	2.60
CLEBURNE	1.74	1.77	1.80	1.83	1.96	2.10	2.14	2.10	1.96	1.88	1.78	1.74	1.90
COFFEE	8.67	8.87	10.04	11.94	15.92	20.07	20.22	18.63	15.20	13.18	10.27	9.40	13.56
COLBERT	1,099.41	1,083.61	913.15	949.56	1,120.46	1,001.02	1,129.06	1,130.72	1,025.40	989.01	771.11	847.83	1,005.13
CONECUH	1.51	1.47	1.50	2.64	2.90	2.04	2.03	2.01	1.91	1.65	1.49	1.50	1.89
COOSA	0.71	0.69	0.65	0.85	0.79	0.80	0.79	0.78	0.71	0.72	0.72	0.69	0.74
COVINGTON	6.67	7.64	8.26	8.89	11.30	13.18	13.48	13.44	11.78	11.01	9.26	8.08	10.26
CRENSHAW	2.92	2.66	2.79	2.98	3.71	4.37	4.47	4.22	3.42	3.22	2.88	2.91	3.39
CULLMAN	40.64	22.49	17.91	25.89	34.43	34.81	31.74	27.33	27.63	32.80	29.16	24.51	29.16
DALE	6.96	6.85	6.98	8.46	11.14	12.78	13.47	12.19	9.91	7.66	5.80	7.33	9.14
DALLAS	51.29	50.19	50.68	51.94	52.72	56.10	61.04	57.17	55.03	53.51	48.22	52.09	53.36
DEKALB	9.90	10.29	10.43	11.14	12.82	14.93	14.95	16.01	14.99	14.01	11.21	10.10	12.58
ELMORE	14.98	14.95	16.41	17.65	21.30	22.84	22.99	22.38	20.19	18.13	16.07	15.76	18.66
ESCAMBIA	37.74	38.48	39.36	33.98	44.60	46.78	46.42	46.59	46.08	43.72	43.18	43.73	42.59
ETOWAH	122.59	161.76	152.53	121.28	139.04	138.83	121.53	126.57	137.44	129.48	119.69	124.35	132.73
FAYETTE	2.79	2.77	2.73	2.85	3.30	3.67	3.67	3.50	3.08	3.00	2.68	2.53	3.05
FRANKLIN	7.34	8.06	8.24	8.10	8.57	9.56	9.68	9.15	8.39	7.75	7.14	7.52	8.29
GENEVA	4.29	5.13	6.01	7.43	10.82	15.14	15.55	13.62	9.53	8.20	5.74	4.92	8.89
GREENE	372.99	398.51	168.27	403.66	425.38	425.43	427.02	418.59	430.95	430.94	335.84	431.15	388.87
HALE	20.10	20.15	20.43	20.58	21.52	22.81	22.95	22.40	21.07	20.67	20.21	20.12	21.09
HENRY	2.87	3.65	5.05	6.56	11.01	16.17	16.82	13.99	8.52	6.98	4.28	3.52	8.32

Table 8. Monthly total water withdrawals by county in Alabama in 2015, in MGD – Continued.

County Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	AVG
HOUSTON	120.64	114.32	111.12	90.95	126.82	158.29	156.42	148.10	136.52	135.45	120.26	107.26	127.29
JACKSON	470.25	467.90	469.28	504.65	531.57	508.81	509.87	509.52	480.57	23.11	22.29	22.75	375.94
JEFFERSON	38.01	52.20	53.24	53.08	63.87	68.74	70.26	69.41	63.91	56.37	49.78	48.45	57.30
LAMAR	2.06	1.95	1.94	1.94	2.20	2.40	2.43	2.39	2.19	2.09	1.98	2.38	2.16
LAUDERDALE	13.80	14.24	14.27	14.78	16.69	18.06	18.24	17.89	17.49	16.22	14.51	13.51	15.82
LAWRENCE	9.32	9.41	9.81	10.46	12.92	16.33	16.47	14.26	11.29	10.34	8.79	8.70	11.52
LEE	15.26	15.89	15.87	17.82	21.78	23.88	25.16	25.75	23.71	21.15	17.11	14.93	19.88
LIMESTONE	2,910.53	2,910.06	2,445.47	2,638.15	2,823.51	2,963.36	2,972.00	2,965.61	2,918.86	2,866.50	3,006.41	3,059.50	2,872.94
LOWNDES	7.69	9.13	10.18	11.69	14.86	18.32	18.65	18.34	15.27	13.70	10.96	9.40	13.21
MACON	7.73	7.03	7.81	8.90	11.07	13.79	15.20	15.53	14.25	13.11	9.29	8.96	11.08
MADISON	61.05	61.98	61.26	63.00	84.99	102.62	109.10	98.80	89.39	78.45	64.58	58.87	77.95
MARENGO	23.98	23.72	18.22	25.32	24.89	24.73	24.14	25.14	24.85	24.97	24.88	24.14	24.08
MARION	7.35	7.19	7.46	7.03	7.39	7.85	7.93	7.63	7.41	7.09	6.73	6.75	7.32
MARSHALL	25.19	25.52	24.83	25.50	28.57	30.53	30.95	31.18	30.33	27.07	24.86	25.03	27.48
MOBILE	410.51	633.26	860.24	853.18	734.96	848.87	840.55	899.96	1011.40	804.15	747.89	759.47	784.05
MONROE	52.75	51.01	51.46	42.50	51.30	55.62	59.94	58.14	53.06	55.00	53.84	52.53	53.13
MONTGOMERY	38.82	29.13	35.47	37.44	41.25	45.36	45.96	45.93	45.98	38.70	32.25	30.08	38.93
MORGAN	100.04	105.99	110.24	114.05	87.13	111.11	151.26	149.12	143.26	127.20	112.30	111.89	118.72
PERRY	7.63	6.53	6.66	6.72	7.44	7.98	8.56	8.46	7.70	7.74	6.92	6.59	7.42
PICKENS	5.05	4.81	6.05	6.10	7.82	10.09	11.27	9.49	7.27	6.62	5.49	5.24	7.13
PIKE	5.36	5.06	5.37	5.95	7.90	9.71	10.14	9.58	7.47	6.56	5.23	4.84	6.94
RANDOLPH	2.30	2.37	2.34	2.49	2.66	2.72	2.76	2.65	2.56	2.51	2.55	2.40	2.53
RUSSELL	36.36	32.22	38.81	40.65	46.43	52.15	53.18	53.49	50.91	48.36	41.29	39.32	44.51
SHELBY	560.92	613.18	514.57	330.18	551.74	660.75	692.18	609.77	508.82	185.53	246.01	286.12	479.36
ST CLAIR	17.21	24.03	18.40	19.53	22.25	24.19	23.90	25.27	23.08	21.56	18.16	18.64	21.33
SUMTER	9.60	9.60	9.71	10.09	10.62	11.36	11.49	11.25	10.56	10.24	9.90	9.73	10.35
TALLADEGA	43.10	40.10	42.43	41.18	54.13	57.26	58.77	58.82	53.47	47.73	46.89	47.47	49.35
TALLAPOOSA	12.24	11.08	12.09	11.23	13.97	14.96	15.58	15.45	13.60	14.83	12.55	11.97	13.32
TUSCALOOSA	34.73	35.83	35.24	37.94	43.79	49.79	49.64	50.24	47.85	44.70	36.22	33.22	41.63
WALKER	533.91	753.38	657.18	626.33	819.83	842.47	846.56	842.83	824.86	654.98	365.02	752.39	710.12
WASHINGTON	62.30	61.80	29.13	60.35	61.21	62.35	63.67	63.94	63.03	41.17	61.19	44.42	56.11
WILCOX	23.55	23.71	21.30	23.47	23.78	23.11	22.87	23.36	22.60	23.95	24.14	23.75	23.30
WINSTON	1.70	1.63	1.60	1.64	1.78	1.90	1.95	2.03	1.89	1.84	1.57	1.37	1.74
TOTAL	**7,779.93**	**8,316.01**	**7,456.94**	**7,760.95**	**8,682.97**	**9,108.34**	**9,343.81**	**9,270.23**	**8,984.56**	**7,603.29**	**6,978.93**	**7,581.24**	**8,238.64**

Table 9. Total withdrawals by source and hydrologic subregion and subbasin in Alabama in 2015, in MGD.

Hydrologic subregion and subbasin	Population	Withdrawals by source, in million gallons per day		
		Groundwater	Surface water	Total
Apalachicola				
03130002	57,592	0.74	8.64	9.38
03130003	116,236	8.70	43.38	52.08
03130004	34,501	14.49	102.64	117.13
03130012	33,345	4.78	0.92	5.70
Subtotal	*241,674*	*28.71*	*155.58*	*184.29*
Chocawhatchee-Escambia				
03140103	20,986	2.47	1.27	3.74
03140104	1,735	0.46	0.17	0.63
03140106	37,994	20.42	2.58	23.00
03140107	30,552	12.32	1.92	14.24
03140201	155,888	26.96	7.99	34.95
03140202	51,124	10.66	5.03	15.69
03140203	7,260	1.35	0.76	2.11
03140301	28,478	7.51	3.09	10.60
03140302	12,834	2.76	1.03	3.79
03140303	25,424	3.37	1.56	4.93
03140304	25,098	6.44	33.24	39.68
03140305	18,377	2.94	0.28	3.22
Subtotal	*415,751*	*97.68*	*58.91*	*156.59*
Alabama				0.00
03150105	43,046	4.28	5.60	9.88
03150106	355,811	42.73	186.13	228.86
03150107	146,896	10.48	477.00	487.48
03150108	21,258	1.23	1.28	2.51
03150109	60,010	1.58	19.08	20.65
03150110	188,636	11.69	36.09	47.78
03150201	322,720	49.48	86.85	136.33
03150202	442,529	28.98	58.54	87.52
03150203	27,162	10.17	28.43	38.60
03150204	25,459	8.83	50.42	59.25
Subtotal	*1,633,526*	*169.43*	*949.43*	*1,118.86*
Mobile-Tombigbee				
03160101	2,698	0.17	0.13	0.29

Table 9. Total withdrawals by source and hydrologic subregion and subbasin in Alabama in 2015, in MGD – Continued.

Hydrologic subregion and subbasin	Population	Withdrawals by source, in million gallons per day		
		Groundwater	Surface water	Total
03160103	23,219	1.24	2.40	3.63
03160105	20,222	2.10	2.24	4.34
03160106	23,447	5.72	3.23	8.95
03160107	22,212	2.53	2.25	4.78
03160108	1,217	3.16	3.03	6.19
03160109	124,602	2.94	717.74	720.68
03160110	53,091	1.20	13.61	14.81
03160111	309,650	6.01	38.04	44.05
03160112	268,796	2.69	51.01	53.70
03160113	120,588	20.09	389.46	409.55
03160201	33,975	5.72	69.80	75.52
03160202	6,329	1.59	1.90	3.49
03160203	31,676	13.82	66.01	79.83
03160204	180,518	26.73	699.97	726.69
03160205	260,675	31.05	4.77	35.82
Subtotal	*1,482,915*	*126.76*	*2,065.58*	*2,192.34*
Pascagoula				
03170002	1,014	0.15	0.00	0.16
03170003	6	0.00	0.00	0.00
03170008	73,337	8.90	53.53	62.43
03170009	12,711	3.45	0.26	3.71
Subtotal	*87,068*	*12.51*	*53.79*	*66.30*
Middle Tennessee-Hiwassee				
06020001	2,747	0.48	0.15	0.63
Subtotal	*2,747*	*0.48*	*0.15*	*0.63*
Middle Tennessee-Elk				
06030001	148,391	7.58	397.76	405.34
06030002	591,583	44.12	3,024.39	3,068.51
06030003	4	0.00	0.00	0.00
06030004	17,171	1.31	10.02	11.33
06030005	157,076	4.71	1,018.26	1,022.97
06030006	31,851	2.35	9.13	11.48
Subtotal	*946,075*	*60.07*	*4,459.56*	*4,519.63*
Total	**4,809,757**	**495.64**	**7,743.00**	**8,238.64**

Table 10. Monthly total groundwater withdrawals by subbasin in Alabama in 2015, in MGD.

Hydrologic subregion and subbasin	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	AVG
Apalachicola													
03130002	0.67	0.68	0.69	0.71	0.76	0.83	0.84	0.82	0.76	0.74	0.70	0.68	0.74
03130003	8.99	7.99	8.06	8.32	9.15	9.92	10.03	9.32	8.70	8.32	7.76	7.76	8.70
03130004	9.85	10.45	13.07	13.07	15.17	19.10	20.33	18.44	15.30	13.54	11.33	13.85	14.49
03130012	2.89	2.98	3.76	4.10	6.10	8.68	8.83	7.21	4.75	3.65	2.25	2.02	4.78
Subtotal	*22.40*	*22.09*	*25.58*	*26.21*	*31.18*	*38.54*	*40.04*	*35.79*	*29.51*	*26.26*	*22.04*	*24.31*	*28.71*
Chocawhatchee-Escambia													
03140103	1.90	1.98	2.07	2.21	2.58	2.97	3.14	3.01	2.73	2.56	2.28	2.19	2.47
03140104	0.36	0.37	0.39	0.40	0.49	0.61	0.60	0.56	0.51	0.47	0.41	0.40	0.46
03140106	12.56	13.79	15.44	17.26	21.57	25.91	26.87	28.01	26.18	24.49	17.63	14.89	20.42
03140107	7.09	8.39	9.64	10.19	13.85	16.89	17.93	16.69	14.85	13.68	9.98	8.39	12.32
03140201	21.84	21.96	22.80	26.51	31.10	34.03	35.23	31.86	28.38	24.05	22.13	23.30	26.96
03140202	8.76	8.68	9.27	9.50	11.64	13.81	13.47	13.00	11.14	10.56	9.05	8.91	10.66
03140203	0.86	0.89	1.05	1.20	1.54	2.06	2.09	1.88	1.48	1.23	0.98	0.93	1.35
03140301	6.42	6.98	6.77	7.01	7.83	8.58	9.37	9.06	7.78	7.36	6.65	6.30	7.51
03140302	2.57	2.31	2.35	2.47	2.80	3.17	3.26	3.15	3.07	2.86	2.58	2.50	2.76
03140303	3.37	3.12	3.36	3.19	3.74	3.57	3.65	3.60	3.40	3.27	3.13	2.99	3.37
03140304	5.77	5.71	5.65	7.25	7.66	7.31	7.15	6.96	6.49	6.01	5.62	5.63	6.44
03140305	2.64	2.96	2.66	2.63	2.85	3.46	3.10	3.22	3.17	2.84	3.00	2.78	2.94
Subtotal	*74.14*	*77.13*	*81.45*	*89.81*	*107.65*	*122.36*	*125.85*	*120.99*	*109.17*	*99.37*	*83.44*	*79.22*	*97.68*
Alabama													
03150105	4.18	3.94	3.96	4.01	4.22	4.57	4.79	4.57	4.39	4.22	4.20	4.24	4.28
03150106	41.35	42.10	40.99	39.89	43.42	45.88	46.90	46.92	43.27	41.80	40.77	39.35	42.73
03150107	9.46	9.61	9.78	10.96	10.78	11.56	11.72	11.43	10.60	10.43	9.91	9.53	10.48
03150108	1.22	1.22	1.22	1.22	1.23	1.24	1.24	1.24	1.23	1.23	1.22	1.22	1.23
03150109	1.50	1.50	1.52	1.55	1.61	1.70	1.71	1.66	1.58	1.56	1.52	1.50	1.58
03150110	10.77	8.89	9.39	9.99	11.36	13.07	14.43	14.33	13.83	13.20	10.26	10.50	11.69
03150201	49.40	39.08	46.34	48.06	51.40	54.38	54.69	56.26	54.50	50.63	44.32	43.77	49.48
03150202	29.04	26.41	25.76	26.38	30.64	31.37	32.02	31.67	29.74	29.78	26.62	27.97	28.98
03150203	10.03	9.92	9.95	9.91	10.31	10.58	10.67	10.72	10.41	10.18	9.69	9.59	10.17
03150204	5.85	6.51	7.01	7.61	9.30	11.46	11.81	11.65	10.59	9.93	7.46	6.60	8.83
Subtotal	*162.80*	*149.17*	*155.94*	*159.57*	*174.28*	*185.80*	*189.98*	*190.44*	*180.15*	*172.97*	*155.96*	*154.28*	*169.43*
Mobile-Tombigbee													
03160101	0.16	0.16	0.16	0.16	0.17	0.18	0.18	0.18	0.16	0.16	0.16	0.16	0.17

Table 10. Monthly total groundwater withdrawals by subbasin in Alabama in 2015, in MGD – Continued.

Hydrologic subregion and subbasin	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	AVG
03160103	1.17	1.15	1.33	1.20	1.30	1.39	1.44	1.32	1.21	1.15	1.11	1.07	1.24
03160105	2.17	2.11	2.01	1.93	1.97	2.07	2.06	2.09	1.99	1.99	2.14	2.59	2.10
03160106	5.02	4.88	5.59	5.18	5.45	5.83	6.83	6.41	6.15	5.95	5.74	5.51	5.72
03160107	2.11	2.19	2.16	2.20	2.36	2.55	2.54	2.52	3.19	3.09	2.88	2.61	2.53
03160108	3.00	2.98	3.03	3.06	3.22	3.41	3.43	3.37	3.19	3.13	3.16	2.93	3.16
03160109	2.75	2.72	2.78	3.66	3.55	3.34	2.84	2.29	2.27	3.29	3.15	2.69	2.94
03160110	1.12	1.13	1.15	1.17	1.23	1.31	1.32	1.29	1.22	1.20	1.15	1.13	1.20
03160111	5.70	5.59	5.71	5.72	6.02	6.27	6.60	6.33	5.87	6.02	5.80	6.43	6.01
03160112	2.04	2.28	2.31	2.53	2.86	3.31	3.34	3.32	2.99	2.80	2.19	2.22	2.69
03160113	18.77	18.95	19.11	19.38	20.61	22.15	22.53	21.88	20.18	19.74	18.88	18.79	20.09
03160201	5.75	5.33	5.47	5.48	5.91	6.19	6.26	6.05	5.63	5.50	5.45	5.59	5.72
03160202	1.47	1.40	1.45	1.59	1.65	1.91	2.01	1.85	1.55	1.43	1.34	1.41	1.59
03160203	14.73	14.37	13.51	14.22	13.45	13.03	12.95	13.56	14.66	14.26	13.48	13.71	13.82
03160204	19.58	21.65	22.41	24.12	28.19	32.12	32.47	33.07	31.59	29.37	23.84	21.95	26.73
03160205	20.93	22.60	23.83	27.61	34.69	39.60	39.95	39.50	37.62	34.82	27.19	23.75	31.05
Subtotal	*106.46*	*109.50*	*112.00*	*119.23*	*132.65*	*144.67*	*146.75*	*145.03*	*139.48*	*133.92*	*117.65*	*112.56*	*126.76*
Pascagoula													
03170002	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
03170003	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03170008	7.57	7.34	7.93	8.32	9.52	10.17	10.35	10.38	10.07	9.49	8.04	7.54	8.90
03170009	2.40	2.55	2.78	3.07	3.64	4.43	4.61	4.41	4.08	3.80	2.93	2.66	3.45
Subtotal	*10.12*	*10.05*	*10.87*	*11.55*	*13.32*	*14.76*	*15.11*	*14.94*	*14.31*	*13.45*	*11.13*	*10.36*	*12.51*
Middle Tennessee-Hiwassee													
06020001	0.45	0.47	0.47	0.47	0.49	0.50	0.51	0.52	0.53	0.47	0.45	0.44	0.48
Subtotal	*0.45*	*0.47*	*0.47*	*0.47*	*0.49*	*0.50*	*0.51*	*0.52*	*0.53*	*0.47*	*0.45*	*0.44*	*0.48*
Middle Tennessee-Elk													
06030001	7.07	7.13	6.96	7.20	7.92	8.08	8.30	8.13	7.95	7.40	7.52	7.29	7.58
06030002	37.61	38.29	38.53	39.89	48.21	55.35	59.49	52.27	45.51	41.05	36.64	36.05	44.12
06030003	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06030004	0.80	0.88	0.99	1.12	1.48	1.93	2.00	1.83	1.47	1.34	1.01	0.89	1.31
06030005	3.99	4.03	4.21	4.39	5.10	6.01	6.10	5.54	4.68	4.39	4.03	3.96	4.71
06030006	2.11	2.10	2.16	2.26	2.53	2.86	2.95	2.69	2.27	2.15	2.00	2.05	2.35
Subtotal	*51.58*	*52.42*	*52.84*	*54.86*	*65.24*	*74.24*	*78.84*	*70.47*	*61.88*	*56.34*	*51.20*	*50.25*	*60.07*
Total	**427.94**	**420.83**	**439.14**	**461.70**	**524.80**	**580.86**	**597.08**	**578.18**	**535.03**	**502.77**	**441.87**	**431.41**	**495.64**

Table 11. Monthly surface-water total withdrawals by subbasin in Alabama in 2015, in MGD.

Hydrologic subregion and subbasin	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	AVG
Apalachicola													
03130002	7.34	7.35	7.58	8.25	8.64	8.84	10.01	9.69	10.50	9.44	8.59	7.37	8.64
03130003	32.22	29.28	36.43	39.01	46.20	53.34	54.58	54.68	50.65	47.61	38.92	36.51	43.38
03130004	102.09	95.49	88.36	67.19	99.80	126.46	122.73	118.47	110.68	113.31	100.98	85.30	102.64
03130012	0.21	0.17	0.38	0.66	1.30	2.00	2.09	1.79	1.11	0.85	0.24	0.16	0.92
Subtotal	*141.86*	*132.29*	*132.75*	*115.12*	*155.94*	*190.64*	*189.40*	*184.63*	*172.94*	*171.21*	*148.74*	*129.34*	*155.58*
Chocawhatchee-Escambia													
03140103	0.30	0.58	0.71	1.08	1.57	2.02	2.06	2.13	1.76	1.49	0.84	0.61	1.27
03140104	0.04	0.09	0.10	0.14	0.20	0.27	0.28	0.28	0.23	0.19	0.12	0.09	0.17
03140106	0.27	1.10	1.37	2.09	3.14	3.98	4.04	4.56	3.97	3.36	1.79	1.15	2.58
03140107	0.34	0.69	0.97	1.60	2.52	3.13	3.27	3.27	2.82	2.28	1.25	0.76	1.92
03140201	1.80	2.29	3.94	5.97	10.94	16.46	17.25	14.64	9.30	7.23	3.35	2.26	7.99
03140202	1.22	1.81	2.73	3.81	6.64	10.04	10.44	9.00	5.65	4.54	2.40	1.77	5.03
03140203	0.16	0.28	0.42	0.57	1.00	1.53	1.59	1.36	0.84	0.67	0.38	0.27	0.76
03140301	1.60	1.42	2.05	2.19	3.54	4.80	4.99	4.79	3.60	3.35	2.69	1.91	3.09
03140302	0.53	0.56	0.70	0.92	1.32	1.85	1.91	1.55	0.97	0.83	0.63	0.58	1.03
03140303	0.50	0.57	0.85	1.20	2.07	2.61	2.79	2.59	2.23	1.74	0.95	0.58	1.56
03140304	29.24	30.15	31.03	25.03	34.92	35.72	35.84	36.00	36.23	34.57	34.57	35.28	33.24
03140305	0.08	0.09	0.13	0.22	0.36	0.45	0.46	0.51	0.45	0.37	0.13	0.09	0.28
Subtotal	*36.06*	*39.63*	*45.00*	*44.83*	*68.22*	*82.86*	*84.93*	*80.70*	*68.06*	*60.64*	*49.10*	*45.34*	*58.91*
Alabama													
03150105	2.34	3.36	3.79	4.84	6.50	7.98	8.11	8.57	7.42	6.54	4.22	3.43	5.60
03150106	166.93	209.95	197.16	165.12	198.16	201.01	185.11	192.57	197.26	181.43	167.20	173.55	186.13
03150107	557.49	609.75	511.69	327.83	550.10	660.08	691.63	608.69	506.32	182.13	242.76	282.86	477.00
03150108	1.12	1.19	1.16	1.19	1.41	1.49	1.51	1.48	1.34	1.26	1.15	1.08	1.28
03150109	16.94	15.98	17.46	17.00	20.24	21.40	22.01	21.53	19.71	20.42	18.10	17.80	19.08
03150110	26.76	28.60	29.18	31.70	40.01	46.63	47.61	47.11	43.59	36.24	29.22	25.90	36.09
03150201	80.05	77.18	77.46	78.33	84.89	95.53	105.70	100.54	95.09	87.51	77.64	81.37	86.85
03150202	52.79	52.88	53.03	55.49	63.32	62.85	61.23	63.51	62.27	62.66	57.37	54.71	58.54
03150203	26.06	26.96	25.08	27.88	29.71	30.81	30.69	30.86	28.47	29.21	28.15	27.17	28.43
03150204	49.67	47.87	48.68	39.91	48.62	52.53	56.76	55.58	50.88	52.74	51.50	49.87	50.42
Subtotal	*980.16*	*1,073.70*	*964.69*	*749.28*	*1,042.96*	*1,180.32*	*1,210.37*	*1,130.43*	*1,012.34*	*660.15*	*677.32*	*717.74*	*949.43*
Mobile-Tombigbee													
03160101	0.08	0.08	0.10	0.11	0.15	0.20	0.21	0.18	0.13	0.11	0.09	0.08	0.13

Table 11. Monthly surface-water total withdrawals by subbasin in Alabama in 2015, in MGD – Continued.

Hydrologic subregion and subbasin	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	AVG
03160103	2.42	2.31	2.66	2.33	2.43	2.45	2.57	2.45	2.47	2.37	2.18	2.11	2.40
03160105	2.01	1.97	1.94	2.08	2.49	2.79	2.82	2.69	2.31	2.18	1.89	1.72	2.24
03160106	1.87	1.83	2.27	2.78	4.04	5.70	5.91	4.81	3.04	2.62	1.92	1.82	3.23
03160107	1.40	1.57	1.74	2.00	2.56	3.14	3.21	3.11	2.58	2.33	1.75	1.57	2.25
03160108	2.99	2.99	3.00	3.01	3.05	3.10	3.11	3.07	3.02	3.01	2.99	2.99	3.03
03160109	515.15	750.91	655.07	633.83	834.26	855.04	856.47	853.76	839.96	667.97	380.12	768.27	717.74
03160110	24.73	7.66	3.98	10.84	18.57	18.10	15.40	11.65	12.19	16.23	13.21	10.19	13.61
03160111	46.81	45.62	44.38	35.14	34.04	43.78	47.22	44.44	36.31	30.65	24.96	23.53	38.04
03160112	46.53	46.43	45.75	46.29	53.53	58.17	57.40	57.99	55.69	53.94	46.72	43.38	51.01
03160113	372.70	398.63	168.44	404.19	426.53	426.81	428.49	420.48	431.76	431.53	335.56	430.57	389.46
03160201	66.93	68.19	61.26	67.98	70.86	62.18	74.00	77.85	76.09	72.41	69.59	70.01	69.80
03160202	1.69	1.68	1.70	1.88	2.04	2.08	2.09	2.11	2.07	2.01	1.73	1.70	1.90
03160203	73.45	71.51	39.66	70.62	71.98	74.06	74.59	74.66	72.01	46.29	69.93	54.63	66.01
03160204	332.86	559.10	782.51	771.86	646.29	753.83	754.52	806.27	921.93	717.75	666.87	682.32	699.97
03160205	0.85	1.48	2.26	3.74	6.29	7.89	8.29	8.44	7.44	5.91	2.81	1.58	4.77
Subtotal	*1,492.45*	*1,961.97*	*1,816.71*	*2,058.67*	*2,179.12*	*2,319.34*	*2,336.31*	*2,373.97*	*2,468.99*	*2,057.30*	*1,622.30*	*2,096.48*	*2,065.58*
Pascagoula													
03170002	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03170003	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03170008	51.32	48.08	50.00	52.73	56.81	59.56	50.77	58.54	55.97	54.54	53.16	50.55	53.53
03170009	0.07	0.06	0.10	0.19	0.34	0.45	0.46	0.48	0.41	0.33	0.09	0.06	0.26
Subtotal	*51.39*	*48.14*	*50.11*	*52.93*	*57.15*	*60.01*	*51.23*	*59.03*	*56.38*	*54.87*	*53.26*	*50.62*	*53.79*
Middle Tennessee-Hiwassee													
06020001	0.07	0.11	0.12	0.14	0.17	0.20	0.20	0.22	0.20	0.18	0.14	0.11	0.15
Subtotal	*0.07*	*0.11*	*0.12*	*0.14*	*0.17*	*0.20*	*0.20*	*0.22*	*0.20*	*0.18*	*0.14*	*0.11*	*0.15*
Middle Tennessee-Elk													
06030001	489.19	487.50	488.34	524.14	553.75	534.29	535.14	535.57	505.85	45.31	41.45	41.72	397.76
06030002	3,034.40	3,039.95	2,578.41	2,775.19	2,946.09	3,118.55	3,169.34	3,158.86	3,104.96	3,030.31	3,145.90	3,193.73	3,024.39
06030003	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06030004	7.34	7.60	7.91	8.49	10.85	14.13	14.62	12.83	10.34	9.61	8.33	7.99	10.02
06030005	1,110.86	1,095.44	924.85	961.82	1,134.53	1,016.30	1,144.29	1,145.61	1,040.21	1,002.49	782.81	858.62	1,018.26
06030006	8.20	8.84	8.91	8.65	9.40	10.84	10.91	10.21	9.24	8.44	7.72	8.16	9.13
Subtotal	*4,649.99*	*4,639.32*	*4,008.43*	*4,278.29*	*4,654.62*	*4,694.12*	*4,874.30*	*4,863.08*	*4,670.61*	*4,096.17*	*3,986.21*	*4,110.21*	*4,459.56*
Total	**7,351.99**	**7,895.18**	**7,017.80**	**7,299.25**	**8,158.17**	**8,527.49**	**8,746.74**	**8,692.05**	**8,449.53**	**7,100.52**	**6,537.06**	**7,149.83**	**7,743.00**

Table 12. Monthly total withdrawals by subbasin in Alabama in 2015, in MGD.

Hydrologic subregion and subbasin	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	AVG
Apalachicola													
03130002	8.01	8.02	8.27	8.97	9.40	9.67	10.85	10.51	11.27	10.18	9.29	8.05	9.38
03130003	41.21	37.27	44.49	47.33	55.35	63.27	64.61	64.00	59.35	55.93	46.68	44.27	52.08
03130004	111.94	105.94	101.43	80.27	114.97	145.56	143.06	136.92	125.97	126.85	112.31	99.15	117.13
03130012	3.10	3.15	4.14	4.76	7.39	10.68	10.91	8.99	5.87	4.50	2.50	2.18	5.70
Subtotal	*164.25*	*154.38*	*158.32*	*141.33*	*187.12*	*229.18*	*229.44*	*220.42*	*202.45*	*197.47*	*170.77*	*153.65*	*184.29*
Chocawhatchee-Escambia													
03140103	2.20	2.56	2.78	3.30	4.15	4.98	5.20	5.14	4.49	4.05	3.12	2.80	3.74
03140104	0.39	0.45	0.49	0.53	0.69	0.88	0.87	0.85	0.73	0.67	0.53	0.49	0.63
03140106	12.83	14.89	16.81	19.35	24.72	29.90	30.91	32.57	30.15	27.85	19.42	16.04	23.00
03140107	7.44	9.08	10.61	11.79	16.37	20.02	21.20	19.96	17.67	15.96	11.23	9.15	14.24
03140201	23.64	24.25	26.74	32.48	42.04	50.50	52.48	46.50	37.68	31.28	25.48	25.56	34.95
03140202	9.98	10.49	12.00	13.31	18.27	23.85	23.91	22.00	16.79	15.10	11.46	10.68	15.69
03140203	1.02	1.16	1.46	1.77	2.53	3.58	3.67	3.24	2.32	1.91	1.35	1.20	2.11
03140301	8.02	8.41	8.82	9.20	11.36	13.38	14.36	13.85	11.38	10.71	9.35	8.22	10.60
03140302	3.10	2.87	3.05	3.39	4.12	5.01	5.17	4.71	4.04	3.69	3.21	3.08	3.79
03140303	3.87	3.69	4.22	4.39	5.81	6.18	6.45	6.19	5.64	5.01	4.08	3.57	4.93
03140304	35.01	35.87	36.69	32.28	42.58	43.03	42.99	42.96	42.72	40.57	40.19	40.91	39.68
03140305	2.72	3.05	2.79	2.85	3.21	3.91	3.57	3.73	3.62	3.22	3.13	2.86	3.22
Subtotal	*110.21*	*116.76*	*126.45*	*134.64*	*175.86*	*205.22*	*210.78*	*201.69*	*177.23*	*160.01*	*132.54*	*124.56*	*156.59*
Alabama													
03150105	6.52	7.29	7.75	8.85	10.72	12.55	12.90	13.14	11.81	10.76	8.42	7.67	9.88
03150106	208.28	252.05	238.15	205.01	241.57	246.90	232.02	239.48	240.53	223.23	207.98	212.90	228.86
03150107	566.95	619.36	521.48	338.78	560.88	671.63	703.35	620.11	516.92	192.55	252.68	292.39	487.48
03150108	2.34	2.40	2.38	2.41	2.64	2.73	2.75	2.71	2.57	2.49	2.37	2.30	2.51
03150109	18.44	17.48	18.98	18.55	21.85	23.10	23.72	23.19	21.29	21.98	19.62	19.31	20.65
03150110	37.53	37.49	38.58	41.69	51.38	59.70	62.04	61.44	57.43	49.44	39.48	36.40	47.78
03150201	129.45	116.26	123.80	126.39	136.29	149.91	160.39	156.80	149.59	138.15	121.96	125.14	136.33
03150202	81.84	79.28	78.79	81.87	93.97	94.21	93.26	95.18	92.01	92.44	83.99	82.67	87.52
03150203	36.10	36.88	35.03	37.78	40.03	41.39	41.36	41.59	38.88	39.40	37.84	36.77	38.60
03150204	55.52	54.37	55.69	47.52	57.92	64.00	68.57	67.23	61.46	62.67	58.96	56.47	59.25
Subtotal	*1,142.96*	*1,222.88*	*1,120.62*	*908.85*	*1,217.23*	*1,366.12*	*1,400.35*	*1,320.87*	*1,192.49*	*833.12*	*833.28*	*872.02*	*1,118.86*
Mobile-Tombigbee													
03160101	0.24	0.24	0.26	0.27	0.32	0.39	0.39	0.36	0.29	0.28	0.25	0.24	0.29

Table 12. Monthly total withdrawals by subbasin in Alabama in 2015, in MGD – Continued.

Hydrologic subregion and subbasin	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	AVG
03160103	3.58	3.47	3.98	3.53	3.73	3.84	4.01	3.77	3.68	3.52	3.29	3.18	3.63
03160105	4.18	4.08	3.95	4.01	4.46	4.87	4.89	4.78	4.30	4.17	4.02	4.32	4.34
03160106	6.89	6.71	7.85	7.96	9.49	11.53	12.74	11.22	9.19	8.57	7.66	7.33	8.95
03160107	3.51	3.77	3.90	4.20	4.91	5.69	5.74	5.63	5.77	5.42	4.63	4.19	4.78
03160108	5.99	5.97	6.04	6.08	6.27	6.52	6.54	6.44	6.21	6.14	6.15	5.92	6.19
03160109	517.90	753.62	657.85	637.49	837.81	858.38	859.32	856.05	842.23	671.27	383.27	770.96	720.68
03160110	25.85	8.79	5.13	12.01	19.80	19.42	16.73	12.94	13.41	17.44	14.36	11.32	14.81
03160111	52.51	51.21	50.09	40.86	40.07	50.05	53.82	50.77	42.17	36.66	30.75	29.96	44.05
03160112	48.57	48.71	48.06	48.82	56.39	61.48	60.74	61.31	58.68	56.75	48.91	45.60	53.70
03160113	391.47	417.58	187.55	423.58	447.14	448.96	451.02	442.36	451.95	451.27	354.44	449.36	409.55
03160201	72.68	73.52	66.73	73.47	76.77	68.37	80.25	83.89	81.72	77.91	75.03	75.60	75.52
03160202	3.16	3.08	3.15	3.47	3.69	3.99	4.10	3.97	3.62	3.44	3.07	3.11	3.49
03160203	88.17	85.88	53.17	84.84	85.44	87.09	87.54	88.22	86.67	60.55	83.41	68.34	79.83
03160204	352.44	580.74	804.92	795.98	674.48	785.95	786.99	839.34	953.52	747.12	690.71	704.27	726.69
03160205	21.77	24.09	26.08	31.34	40.99	47.49	48.23	47.94	45.05	40.72	30.00	25.33	35.82
Subtotal	*1,598.91*	*2,071.48*	*1,928.71*	*2,177.90*	*2,311.76*	*2,464.00*	*2,483.06*	*2,519.00*	*2,608.47*	*2,191.22*	*1,739.95*	*2,209.04*	*2,192.34*
Pascagoula													
03170002	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
03170003	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03170008	58.88	55.42	57.93	61.05	66.33	69.73	61.12	68.92	66.04	64.03	61.21	58.10	62.43
03170009	2.47	2.61	2.89	3.26	3.98	4.88	5.07	4.89	4.49	4.13	3.03	2.72	3.71
Subtotal	*61.51*	*58.19*	*60.98*	*64.48*	*70.48*	*74.77*	*66.34*	*73.97*	*70.69*	*68.32*	*64.40*	*60.97*	*66.30*
Middle Tennessee-Hiwassee													
06020001	0.52	0.57	0.58	0.60	0.66	0.70	0.71	0.74	0.73	0.65	0.58	0.55	0.63
Subtotal	*0.52*	*0.57*	*0.58*	*0.60*	*0.66*	*0.70*	*0.71*	*0.74*	*0.73*	*0.65*	*0.58*	*0.55*	*0.63*
Middle Tennessee-Elk													
06030001	496.26	494.63	495.29	531.35	561.67	542.37	543.45	543.70	513.80	52.71	48.97	49.01	405.34
06030002	3,072.01	3,078.24	2,616.94	2,815.07	2,994.30	3,173.90	3,228.82	3,211.13	3,150.47	3,071.37	3,182.54	3,229.78	3,068.51
06030003	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06030004	8.14	8.48	8.90	9.61	12.33	16.07	16.62	14.66	11.81	10.95	9.33	8.87	11.33
06030005	1,114.86	1,099.47	929.06	966.21	1,139.63	1,022.31	1,150.39	1,151.15	1,044.89	1,006.88	786.84	862.59	1,022.97
06030006	10.31	10.94	11.07	10.91	11.93	13.71	13.85	12.90	11.51	10.60	9.72	10.21	11.48
Subtotal	*4,701.57*	*4,691.75*	*4,061.27*	*4,333.15*	*4,719.86*	*4,768.35*	*4,953.13*	*4,933.55*	*4,732.49*	*4,152.51*	*4,037.40*	*4,160.46*	*4,519.63*
Total	**7,779.93**	**8,316.01**	**7,456.94**	**7,760.95**	**8,682.97**	**9,108.34**	**9,343.81**	**9,270.23**	**8,984.56**	**7,603.29**	**6,978.93**	**7,581.24**	**8,238.64**

Table 13. Total withdrawals by sector of use and county in Alabama in 2015, in MGD.

	Withdrawals by sector, in million gallons per day								
County	Public supply	Residential	Irrigation	Livestock	Aquaculture	Industrial	Mining	Thermoelectric	Total
AUTAUGA	3.65	0.38	3.52	0.19	0.00	34.80	2.02	11.86	56.43
BALDWIN	23.70	2.15	58.42	0.29	0.10	0.00	0.22	0.00	84.88
BARBOUR	3.23	0.12	2.98	0.41	0.36	1.50	0.44	0.00	9.04
BIBB	5.18	0.16	0.19	0.07	0.00	0.00	0.01	0.00	5.61
BLOUNT	56.87	0.86	1.08	0.90	0.00	0.00	0.19	0.00	59.90
BULLOCK	2.11	0.07	2.00	0.16	0.05	0.00	0.00	0.00	4.39
BUTLER	2.28	0.27	1.01	0.32	0.00	0.19	0.00	0.00	4.07
CALHOUN	25.25	0.44	3.16	0.36	0.24	1.15	0.00	0.00	30.60
CHAMBERS	4.20	0.48	0.22	0.22	0.00	0.00	0.00	0.00	5.12
CHEROKEE	3.21	0.49	2.83	0.40	0.51	0.00	0.00	0.00	7.43
CHILTON	4.40	0.60	0.48	0.16	0.00	0.39	0.06	0.00	6.09
CHOCTAW	1.21	0.41	0.16	0.06	0.00	46.61	0.00	0.00	48.45
CLARKE	2.58	0.45	0.28	0.06	0.10	22.14	0.86	0.00	26.47
CLAY	1.78	0.32	0.12	0.38	0.00	0.00	0.00	0.00	2.60
CLEBURNE	0.49	0.94	0.14	0.33	0.00	0.00	0.00	0.00	1.90
COFFEE	6.35	0.80	3.89	0.79	0.00	1.74	0.00	0.00	13.56
COLBERT	8.27	0.35	2.46	0.37	0.00	29.70	0.00	963.99	1,005.13
CONECUH	1.32	0.18	0.21	0.12	0.00	0.00	0.06	0.00	1.89
COOSA	0.27	0.33	0.10	0.04	0.00	0.00	0.00	0.00	0.74
COVINGTON	4.09	1.01	3.47	0.55	0.00	0.00	0.00	1.15	10.26
CRENSHAW	1.94	0.15	0.58	0.72	0.00	0.00	0.00	0.00	3.39
CULLMAN	23.29	0.19	0.91	1.61	0.00	3.17	0.00	0.00	29.16
DALE	5.90	0.68	2.09	0.40	0.00	0.00	0.08	0.00	9.14
DALLAS	5.91	0.66	3.22	0.26	11.69	30.90	0.72	0.00	53.36
DEKALB	5.92	1.34	2.65	2.10	0.00	0.57	0.00	0.00	12.58
ELMORE	12.20	0.36	3.09	0.15	0.00	0.00	2.87	0.00	18.66
ESCAMBIA	5.01	0.51	1.75	0.17	0.00	34.01	1.15	0.00	42.59
ETOWAH	16.85	0.26	1.01	0.47	0.01	8.30	0.32	105.52	132.73
FAYETTE	1.70	0.49	0.37	0.18	0.00	0.00	0.31	0.00	3.05
FRANKLIN	5.94	0.37	0.84	0.65	0.00	0.00	0.49	0.00	8.29
GENEVA	1.77	0.68	5.50	0.74	0.13	0.00	0.07	0.00	8.89
GREENE	1.39	0.16	0.45	0.12	9.30	0.02	0.00	377.42	388.87
HALE	3.10	0.33	1.08	0.30	16.15	0.02	0.12	0.00	21.09
HENRY	1.66	0.24	5.89	0.26	0.00	0.26	0.00	0.00	8.32

Table 13. Total withdrawals by sector of use and county in Alabama in 2015, in MGD – Continued.

	Withdrawals by sector, in million gallons per day								
County	Public supply	Residential	Irrigation	Livestock	Aquaculture	Industrial	Mining	Thermoelectric	Total
HOUSTON	18.96	1.11	7.59	0.25	0.00	0.30	0.00	99.08	127.29
JACKSON	11.81	0.86	1.29	0.66	0.00	9.10	0.00	352.22	375.94
JEFFERSON	48.97	0.39	5.90	0.08	0.00	0.87	1.09	0.00	57.30
LAMAR	1.42	0.29	0.24	0.11	0.00	0.10	0.00	0.00	2.16
LAUDERDALE	12.39	1.17	1.81	0.45	0.00	0.00	0.00	0.00	15.82
LAWRENCE	7.73	0.35	2.59	0.84	0.01	0.00	0.00	0.00	11.52
LEE	15.84	0.72	3.18	0.07	0.07	0.00	0.00	0.00	19.88
LIMESTONE	11.53	0.99	9.80	0.48	0.01	0.00	0.00	2,850.13	2,872.94
LOWNDES	0.95	0.05	5.75	0.68	1.30	4.24	0.24	0.00	13.21
MACON	3.32	0.15	5.94	0.10	0.00	0.00	1.57	0.00	11.08
MADISON	67.20	0.72	9.19	0.28	0.00	0.55	0.00	0.00	77.95
MARENGO	2.77	0.53	0.43	0.27	1.61	18.44	0.03	0.00	24.08
MARION	6.06	0.54	0.27	0.45	0.00	0.00	0.00	0.00	7.32
MARSHALL	23.76	0.43	2.08	1.12	0.00	0.08	0.00	0.00	27.48
MOBILE	66.13	2.72	10.94	0.23	0.01	10.10	0.22	693.70	784.05
MONROE	2.30	0.38	0.57	0.15	0.14	49.44	0.15	0.00	53.13
MONTGOMERY	28.04	0.30	6.29	0.91	0.40	1.81	1.18	0.00	38.93
MORGAN	25.61	0.32	1.04	0.73	0.00	88.34	0.00	2.68	118.72
PERRY	2.02	0.33	0.63	0.33	4.10	0.00	0.00	0.00	7.42
PICKENS	3.01	0.37	1.96	0.40	1.38	0.01	0.00	0.00	7.13
PIKE	4.58	0.33	1.47	0.56	0.00	0.00	0.00	0.00	6.94
RANDOLPH	1.22	0.58	0.14	0.59	0.00	0.00	0.00	0.00	2.53
RUSSELL	8.46	0.30	7.47	0.12	0.21	27.44	0.51	0.00	44.51
SHELBY	14.22	0.44	1.72	0.29	0.00	0.00	0.48	462.22	479.36
ST CLAIR	8.93	0.51	5.18	0.10	0.00	6.10	0.51	0.00	21.33
SUMTER	2.06	0.07	0.75	0.45	0.90	4.57	1.55	0.00	10.35
TALLADEGA	16.00	1.75	4.80	0.22	0.00	26.59	0.00	0.00	49.35
TALLAPOOSA	11.88	0.43	0.92	0.09	0.00	0.00	0.00	0.00	13.32
TUSCALOOSA	31.45	0.75	5.68	0.14	0.57	2.20	0.85	0.00	41.63
WALKER	43.84	0.45	0.72	0.19	0.05	0.00	0.54	664.34	710.12
WASHINGTON	2.80	0.52	0.23	0.13	0.02	9.25	3.22	39.94	56.11
WILCOX	2.80	0.23	0.45	0.15	0.00	19.67	0.00	0.00	23.30
WINSTON	0.81	0.43	0.18	0.28	0.00	0.00	0.05	0.00	1.74
TOTAL	**761.87**	**36.69**	**223.35**	**26.21**	**49.42**	**494.67**	**22.18**	**6,624.25**	**8,238.64**

Table 14. Total withdrawals by sector of use and hydrologic subregion and subbasin in Alabama in 2015, in MGD.

	Withdrawals by sector, in million gallons per day								
Hydrologic subregion and subbasin	**Public supply**	**Residential**	**Irrigation**	**Livestock**	**Aquaculture**	**Industrial**	**Mining**	**Thermoelectric**	**Total**
Apalachicola									
03130002	7.98	0.52	0.65	0.21	0.02	0.00	0.00	0.00	9.38
03130003	10.33	0.58	10.63	0.40	0.42	28.95	0.78	0.00	52.08
03130004	10.35	0.58	6.30	0.26	0.00	0.56	0.00	99.08	117.13
03130012	1.91	0.50	3.17	0.12	0.00	0.00	0.00	0.00	5.70
Subtotal	*30.57*	*2.18*	*20.74*	*0.99*	*0.44*	*29.51*	*0.79*	*99.08*	*184.29*
Chocawhatchee-Escambia									
03140103	1.27	0.48	1.69	0.29	0.00	0.00	0.00	0.00	3.74
03140104	0.08	0.11	0.30	0.05	0.00	0.00	0.09	0.00	0.63
03140106	5.06	0.69	16.98	0.10	0.03	0.00	0.14	0.00	23.00
03140107	5.62	0.29	8.24	0.04	0.01	0.00	0.03	0.00	14.24
03140201	20.98	1.51	10.27	1.21	0.16	0.60	0.23	0.00	34.95
03140202	5.83	1.08	6.17	1.23	0.13	1.14	0.12	0.00	15.69
03140203	0.47	0.16	1.26	0.17	0.03	0.00	0.02	0.00	2.11
03140301	6.12	0.43	2.26	0.60	0.01	0.00	0.03	1.15	10.60
03140302	1.60	0.22	1.19	0.61	0.04	0.00	0.13	0.00	3.79
03140303	2.46	0.36	1.44	0.39	0.04	0.19	0.05	0.00	4.93
03140304	3.30	0.38	1.17	0.16	0.00	34.01	0.66	0.00	39.68
03140305	2.19	0.16	0.51	0.06	0.01	0.00	0.29	0.00	3.22
Subtotal	*54.97*	*5.87*	*51.50*	*4.92*	*0.47*	*35.94*	*1.78*	*1.15*	*156.59*
Alabama									
03150105	4.08	0.90	3.56	0.84	0.50	0.00	0.00	0.00	9.88
03150106	63.88	2.75	11.38	1.57	0.26	42.71	0.79	105.52	228.86
03150107	17.39	1.64	4.53	0.47	0.00	0.00	1.23	462.22	487.48
03150108	0.88	0.95	0.12	0.56	0.00	0.00	0.00	0.00	2.51
03150109	17.51	1.03	1.27	0.62	0.00	0.00	0.23	0.00	20.65
03150110	32.09	0.79	11.40	0.43	0.13	0.00	2.94	0.00	47.78
03150201	26.97	1.12	14.23	1.51	4.76	72.14	3.74	11.86	136.33
03150202	75.77	0.80	6.23	0.43	3.55	0.16	0.59	0.00	87.52
03150203	4.44	0.87	3.81	0.68	8.59	19.67	0.53	0.00	38.60
03150204	2.06	0.69	6.34	0.19	0.15	49.44	0.39	0.00	59.25
Subtotal	*245.08*	*11.54*	*62.87*	*7.30*	*17.94*	*184.11*	*10.43*	*579.60*	*1,118.86*
Mobile-Tombigbee									
03160101	0.00	0.08	0.07	0.10	0.00	0.00	0.05	0.00	0.29

Table 14. Total withdrawals by sector of use and hydrologic subregion and subbasin in Alabama in 2015, in MGD – Continued.

Hydrologic subregion and subbasin	Public supply	Residential	Irrigation	Livestock	Aquaculture	Industrial	Mining	Thermoelectric	Total
03160103	2.62	0.44	0.26	0.32	0.00	0.00	0.00	0.00	3.63
03160105	3.16	0.38	0.37	0.17	0.08	0.10	0.08	0.00	4.34
03160106	4.30	0.32	1.72	0.42	1.28	0.58	0.32	0.00	8.95
03160107	0.95	0.46	1.20	0.23	1.69	0.00	0.25	0.00	4.78
03160108	0.26	0.10	0.29	0.13	5.19	0.00	0.21	0.00	6.19
03160109	49.50	0.77	1.06	1.27	0.05	3.17	0.54	664.34	720.68
03160110	12.09	0.51	1.08	1.06	0.00	0.00	0.07	0.00	14.81
03160111	37.97	0.93	2.76	0.95	0.00	0.71	0.72	0.00	44.05
03160112	47.13	0.67	4.37	0.16	0.31	0.20	0.86	0.00	53.70
03160113	5.71	0.68	3.11	0.45	19.77	2.04	0.37	377.42	409.55
03160201	3.28	0.89	0.84	0.39	1.67	67.93	0.51	0.00	75.52
03160202	0.67	0.03	0.46	0.19	0.38	1.12	0.65	0.00	3.49
03160203	4.23	0.70	0.51	0.14	0.08	31.39	2.84	39.94	79.83
03160204	8.22	1.28	14.18	0.13	0.02	9.04	0.12	693.70	726.69
03160205	14.35	1.12	19.03	0.12	0.03	1.06	0.10	0.00	35.82
Subtotal	*194.43*	*9.37*	*51.30*	*6.23*	*30.54*	*117.35*	*7.71*	*1,775.40*	*2,192.34*
Pascagoula									
03170002	0.00	0.03	0.00	0.01	0.00	0.00	0.12	0.00	0.16
03170003	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03170008	57.47	0.85	3.16	0.09	0.01	0.00	0.84	0.00	62.43
03170009	1.16	0.53	1.93	0.04	0.00	0.00	0.04	0.00	3.71
Subtotal	*58.63*	*1.41*	*5.09*	*0.14*	*0.01*	*0.00*	*1.00*	*0.00*	*66.30*
Middle Tennessee-Hiwassee									
06020001	0.30	0.08	0.12	0.13	0.00	0.00	0.00	0.00	0.63
Subtotal	*0.30*	*0.08*	*0.12*	*0.13*	*0.00*	*0.00*	*0.00*	*0.00*	*0.63*
Middle Tennessee-Elk									
06030001	36.37	1.65	3.60	2.30	0.00	9.18	0.02	352.22	405.34
06030002	103.13	2.32	19.09	2.26	0.01	88.89	0.00	2,852.82	3068.51
06030003	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06030004	7.67	0.41	3.07	0.19	0.00	0.00	0.00	0.00	11.33
06030005	21.92	1.39	4.83	1.08	0.00	29.70	0.06	963.99	1022.97
06030006	8.79	0.47	1.16	0.68	0.00	0.00	0.38	0.00	11.48
Subtotal	*177.88*	*6.22*	*31.73*	*6.51*	*0.02*	*127.76*	*0.47*	*4,169.03*	*4,519.63*
Total	**761.87**	**36.69**	**223.35**	**26.21**	**49.42**	**494.67**	**22.18**	**6,624.25**	**8,238.64**

Table 15. Total groundwater withdrawals by sector of use and county in Alabama in 2015, in MGD.

Withdrawals by sector, in million gallons per day									
County	Public supply	Residential	Irrigation	Livestock	Aquaculture	Industrial	Mining	Thermoelectric	Total
AUTAUGA	3.65	0.38	3.36	0.08	0.00	1.83	1.40	0.00	10.70
BALDWIN	23.70	2.15	47.28	0.13	0.05	0.00	0.22	0.00	73.52
BARBOUR	3.23	0.12	0.58	0.16	0.18	1.50	0.30	0.00	6.07
BIBB	5.18	0.16	0.03	0.03	0.00	0.00	0.01	0.00	5.42
BLOUNT	2.78	0.86	0.20	0.43	0.00	0.00	0.19	0.00	4.46
BULLOCK	2.11	0.07	0.92	0.06	0.00	0.00	0.00	0.00	3.16
BUTLER	2.28	0.27	0.01	0.13	0.00	0.19	0.00	0.00	2.89
CALHOUN	22.47	0.44	0.00	0.15	0.12	1.15	0.00	0.00	24.33
CHAMBERS	0.00	0.48	0.07	0.09	0.00	0.00	0.00	0.00	0.63
CHEROKEE	2.43	0.49	0.00	0.16	0.51	0.00	0.00	0.00	3.60
CHILTON	2.51	0.60	0.33	0.07	0.00	0.39	0.06	0.00	3.96
CHOCTAW	1.21	0.41	0.00	0.03	0.00	0.00	0.00	0.00	1.65
CLARKE	2.50	0.45	0.02	0.02	0.00	0.00	0.86	0.00	3.85
CLAY	0.00	0.32	0.00	0.17	0.00	0.00	0.00	0.00	0.49
CLEBURNE	0.00	0.94	0.00	0.15	0.00	0.00	0.00	0.00	1.09
COFFEE	6.35	0.80	0.68	0.34	0.00	1.74	0.00	0.00	9.91
COLBERT	0.60	0.35	0.79	0.16	0.00	0.00	0.00	0.00	1.90
CONECUH	1.32	0.18	0.05	0.05	0.00	0.00	0.04	0.00	1.64
COOSA	0.27	0.33	0.00	0.02	0.00	0.00	0.00	0.00	0.62
COVINGTON	4.09	1.01	1.27	0.23	0.00	0.00	0.00	0.00	6.60
CRENSHAW	1.94	0.15	0.00	0.30	0.00	0.00	0.00	0.00	2.39
CULLMAN	0.31	0.19	0.28	0.82	0.00	0.73	0.00	0.00	2.33
DALE	5.90	0.68	0.33	0.17	0.00	0.00	0.05	0.00	7.13
DALLAS	5.91	0.66	0.69	0.10	7.79	0.24	0.50	0.00	15.89
DEKALB	0.33	1.34	0.49	0.99	0.00	0.57	0.00	0.00	3.73
ELMORE	2.68	0.36	0.61	0.07	0.00	0.00	1.95	0.00	5.67
ESCAMBIA	5.01	0.51	1.00	0.07	0.00	1.46	1.15	0.00	9.20
ETOWAH	4.12	0.26	0.00	0.21	0.00	0.00	0.22	0.00	4.81
FAYETTE	0.05	0.49	0.00	0.08	0.00	0.00	0.00	0.00	0.62
FRANKLIN	1.05	0.37	0.00	0.28	0.00	0.00	0.34	0.00	2.05
GENEVA	1.77	0.68	2.52	0.32	0.13	0.00	0.05	0.00	5.47
GREENE	1.39	0.16	0.33	0.05	4.21	0.02	0.00	0.00	6.16
HALE	3.10	0.33	0.92	0.14	8.81	0.02	0.12	0.00	13.43
HENRY	1.66	0.24	1.43	0.10	0.00	0.26	0.00	0.00	3.70

Table 15. Total groundwater withdrawals by sector of use and county in Alabama in 2015, in MGD – Continued.

	Withdrawals by sector, in million gallons per day								
County	Public supply	Residential	Irrigation	Livestock	Aquaculture	Industrial	Mining	Thermoelectric	Total
HOUSTON	18.96	1.11	5.17	0.10	0.00	0.30	0.00	0.00	25.64
JACKSON	0.51	0.86	0.27	0.29	0.00	0.00	0.00	0.00	1.93
JEFFERSON	7.88	0.39	0.08	0.03	0.00	0.87	0.62	0.00	9.87
LAMAR	1.42	0.29	0.00	0.05	0.00	0.10	0.00	0.00	1.86
LAUDERDALE	1.85	1.17	0.56	0.19	0.00	0.00	0.00	0.00	3.77
LAWRENCE	0.00	0.35	0.05	0.36	0.00	0.00	0.00	0.00	0.76
LEE	2.84	0.72	0.29	0.03	0.03	0.00	0.00	0.00	3.91
LIMESTONE	3.86	0.99	2.48	0.21	0.01	0.00	0.00	0.00	7.54
LOWNDES	0.95	0.05	0.00	0.27	0.65	4.24	0.16	0.00	6.31
MACON	1.37	0.15	2.40	0.04	0.00	0.00	1.05	0.00	5.01
MADISON	29.01	0.72	5.02	0.12	0.00	0.00	0.00	0.00	34.86
MARENGO	2.77	0.53	0.17	0.11	0.69	0.00	0.02	0.00	4.29
MARION	0.76	0.54	0.11	0.19	0.00	0.00	0.00	0.00	1.60
MARSHALL	3.31	0.43	0.79	0.56	0.00	0.08	0.00	0.00	5.17
MOBILE	13.49	2.72	8.67	0.10	0.00	6.49	0.22	0.00	31.68
MONROE	2.30	0.38	0.41	0.06	0.07	0.12	0.15	0.00	3.50
MONTGOMERY	13.19	0.30	4.26	0.37	0.20	1.78	0.80	0.00	20.90
MORGAN	0.00	0.32	0.16	0.33	0.00	0.01	0.00	0.00	0.81
PERRY	2.02	0.33	0.54	0.14	2.34	0.00	0.00	0.00	5.37
PICKENS	3.01	0.37	0.00	0.20	0.61	0.01	0.00	0.00	4.20
PIKE	4.58	0.33	0.41	0.23	0.00	0.00	0.00	0.00	5.56
RANDOLPH	0.00	0.58	0.03	0.28	0.00	0.00	0.00	0.00	0.88
RUSSELL	1.59	0.30	0.00	0.05	0.21	1.44	0.34	0.00	3.93
SHELBY	11.92	0.44	0.34	0.12	0.00	0.00	0.32	0.00	13.14
ST CLAIR	6.35	0.51	0.00	0.04	0.00	0.00	0.51	0.00	7.41
SUMTER	2.06	0.07	0.50	0.18	0.40	0.00	1.06	0.00	4.26
TALLADEGA	9.39	1.75	0.61	0.10	0.00	0.00	0.00	0.00	11.84
TALLAPOOSA	0.00	0.43	0.02	0.04	0.00	0.00	0.00	0.00	0.49
TUSCALOOSA	0.69	0.75	1.33	0.06	0.24	1.53	0.00	0.00	4.59
WALKER	0.46	0.45	0.05	0.08	0.00	0.00	0.13	0.00	1.16
WASHINGTON	2.80	0.52	0.07	0.06	0.00	5.83	3.22	0.00	12.50
WILCOX	0.84	0.23	0.06	0.06	0.00	0.00	0.00	0.00	1.18
WINSTON	0.00	0.43	0.00	0.13	0.00	0.00	0.05	0.00	0.61
TOTAL	**272.07**	**36.69**	**99.07**	**11.54**	**27.25**	**32.91**	**16.11**	**0.00**	**495.64**

Table 16. Total groundwater withdrawals by sector of use and hydrologic subregion and subbasin in Alabama in 2015, in MGD.

Hydrologic subregion and subbasin	Withdrawals by sector, in million gallons per day								
	Public supply	Residential	Irrigation	Livestock	Aquaculture	Industrial	Mining	Thermoelectric	Total
Apalachicola									
03130002	0.00	0.52	0.12	0.09	0.01	0.00	0.00	0.00	0.74
03130003	3.46	0.58	0.73	0.16	0.30	2.94	0.53	0.00	8.70
03130004	10.35	0.58	2.89	0.10	0.00	0.56	0.00	0.00	14.49
03130012	1.91	0.50	2.32	0.05	0.00	0.00	0.00	0.00	4.78
Subtotal	*15.72*	*2.18*	*6.06*	*0.40*	*0.32*	*3.51*	*0.53*	*0.00*	*28.71*
Chocawhatchee-Escambia									
03140103	1.27	0.48	0.60	0.12	0.00	0.00	0.00	0.00	2.47
03140104	0.08	0.11	0.16	0.02	0.00	0.00	0.09	0.00	0.46
03140106	5.06	0.69	14.47	0.04	0.02	0.00	0.14	0.00	20.42
03140107	5.62	0.29	6.35	0.02	0.01	0.00	0.03	0.00	12.32
03140201	20.98	1.51	3.10	0.51	0.11	0.60	0.15	0.00	26.96
03140202	5.83	1.08	1.95	0.52	0.08	1.14	0.08	0.00	10.66
03140203	0.47	0.16	0.60	0.07	0.03	0.00	0.01	0.00	1.35
03140301	6.12	0.43	0.69	0.25	0.00	0.00	0.02	0.00	7.51
03140302	1.60	0.22	0.58	0.25	0.02	0.00	0.09	0.00	2.76
03140303	2.46	0.36	0.14	0.16	0.02	0.19	0.04	0.00	3.37
03140304	3.30	0.38	0.58	0.07	0.00	1.46	0.65	0.00	6.44
03140305	2.19	0.16	0.27	0.02	0.00	0.00	0.29	0.00	2.94
Subtotal	*54.97*	*5.87*	*29.50*	*2.06*	*0.29*	*3.40*	*1.59*	*0.00*	*97.68*
Alabama									
03150105	2.43	0.90	0.09	0.37	0.48	0.00	0.00	0.00	4.28
03150106	36.18	2.75	0.54	0.70	0.15	1.72	0.69	0.00	42.73
03150107	6.97	1.64	0.83	0.21	0.00	0.00	0.84	0.00	10.48
03150108	0.00	0.95	0.01	0.26	0.00	0.00	0.00	0.00	1.23
03150109	0.00	1.03	0.11	0.28	0.00	0.00	0.15	0.00	1.58
03150110	4.87	0.79	3.82	0.18	0.05	0.00	1.98	0.00	11.69
03150201	26.97	1.12	6.75	0.61	2.97	8.47	2.57	0.00	49.48
03150202	24.71	0.80	0.62	0.18	2.14	0.16	0.38	0.00	28.98
03150203	2.48	0.87	0.67	0.27	5.50	0.00	0.37	0.00	10.17
03150204	2.06	0.69	5.43	0.08	0.06	0.12	0.39	0.00	8.83
Subtotal	*106.66*	*11.54*	*18.86*	*3.13*	*11.37*	*10.48*	*7.38*	*0.00*	*169.43*
Mobile-Tombigbee									
03160101	0.00	0.08	0.01	0.04	0.00	0.00	0.03	0.00	0.17

Table 16. Total groundwater withdrawals by sector of use and hydrologic subregion and subbasin in Alabama in 2015, in MGD – Continued.

Withdrawals by sector, in million gallons per day									
Hydrologic subregion and subbasin	**Public supply**	**Residential**	**Irrigation**	**Livestock**	**Aquaculture**	**Industrial**	**Mining**	**Thermoelectric**	**Total**
03160103	0.59	0.44	0.07	0.14	0.00	0.00	0.00	0.00	1.24
03160105	1.50	0.38	0.01	0.08	0.04	0.10	0.00	0.00	2.10
03160106	4.30	0.32	0.10	0.20	0.57	0.01	0.22	0.00	5.72
03160107	0.95	0.46	0.25	0.10	0.76	0.00	0.00	0.00	2.53
03160108	0.26	0.10	0.24	0.05	2.35	0.00	0.14	0.00	3.16
03160109	0.41	0.77	0.24	0.62	0.00	0.73	0.16	0.00	2.94
03160110	0.00	0.51	0.13	0.52	0.00	0.00	0.05	0.00	1.20
03160111	3.13	0.93	0.31	0.45	0.00	0.71	0.48	0.00	6.01
03160112	0.70	0.67	0.74	0.07	0.13	0.20	0.17	0.00	2.69
03160113	5.71	0.68	1.50	0.20	10.51	1.37	0.12	0.00	20.09
03160201	3.28	0.89	0.27	0.16	0.73	0.00	0.38	0.00	5.72
03160202	0.67	0.03	0.21	0.08	0.17	0.00	0.44	0.00	1.59
03160203	4.15	0.70	0.24	0.06	0.00	5.83	2.84	0.00	13.82
03160204	8.22	1.28	11.61	0.06	0.01	5.43	0.12	0.00	26.73
03160205	14.35	1.12	14.35	0.05	0.01	1.06	0.10	0.00	31.05
Subtotal	*48.23*	*9.37*	*30.29*	*2.88*	*15.27*	*15.44*	*5.27*	*0.00*	*126.76*
Pascagoula									
03170002	0.00	0.03	0.00	0.00	0.00	0.00	0.12	0.00	0.15
03170003	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03170008	4.83	0.85	2.34	0.04	0.00	0.00	0.84	0.00	8.90
03170009	1.16	0.53	1.70	0.02	0.00	0.00	0.04	0.00	3.45
Subtotal	*5.99*	*1.41*	*4.04*	*0.06*	*0.00*	*0.00*	*1.00*	*0.00*	*12.51*
Middle Tennessee-Hiwassee									
06020001	0.30	0.08	0.03	0.06	0.00	0.00	0.00	0.00	0.48
Subtotal	*0.30*	*0.08*	*0.03*	*0.06*	*0.00*	*0.00*	*0.00*	*0.00*	*0.48*
Middle Tennessee-Elk									
06030001	3.84	1.65	0.91	1.09	0.00	0.08	0.02	0.00	7.58
06030002	33.50	2.32	7.27	1.02	0.01	0.01	0.00	0.00	44.12
06030003	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06030004	0.00	0.41	0.82	0.08	0.00	0.00	0.00	0.00	1.31
06030005	1.81	1.39	1.01	0.46	0.00	0.00	0.04	0.00	4.71
06030006	1.05	0.47	0.27	0.29	0.00	0.00	0.27	0.00	2.35
Subtotal	*40.20*	*6.22*	*10.28*	*2.94*	*0.01*	*0.09*	*0.33*	*0.00*	*60.07*
Total	**272.07**	**36.69**	**99.07**	**11.54**	**27.25**	**32.91**	**16.11**	**0.00**	**495.64**

Table 17. Total surface-water withdrawals by sector of use and county in Alabama in 2015, in MGD.

	Withdrawals by sector, in million gallons per day								
County	Public supply	Residential	Irrigation	Livestock	Aquaculture	Industrial	Mining	Thermoelectric	Total
AUTAUGA	0.00	0.00	0.16	0.11	0.00	32.97	0.62	11.86	45.72
BALDWIN	0.00	0.00	11.15	0.16	0.05	0.00	0.00	0.00	11.36
BARBOUR	0.00	0.00	2.41	0.25	0.18	0.00	0.14	0.00	2.98
BIBB	0.00	0.00	0.16	0.04	0.00	0.00	0.00	0.00	0.20
BLOUNT	54.09	0.00	0.88	0.47	0.00	0.00	0.00	0.00	55.44
BULLOCK	0.00	0.00	1.08	0.10	0.05	0.00	0.00	0.00	1.23
BUTLER	0.00	0.00	0.99	0.19	0.00	0.00	0.00	0.00	1.18
CALHOUN	2.78	0.00	3.16	0.21	0.12	0.00	0.00	0.00	6.27
CHAMBERS	4.20	0.00	0.16	0.13	0.00	0.00	0.00	0.00	4.49
CHEROKEE	0.77	0.00	2.83	0.24	0.00	0.00	0.00	0.00	3.84
CHILTON	1.89	0.00	0.16	0.09	0.00	0.00	0.00	0.00	2.14
CHOCTAW	0.00	0.00	0.16	0.03	0.00	46.61	0.00	0.00	46.80
CLARKE	0.08	0.00	0.26	0.04	0.10	22.14	0.00	0.00	22.62
CLAY	1.78	0.00	0.12	0.21	0.00	0.00	0.00	0.00	2.11
CLEBURNE	0.49	0.00	0.14	0.18	0.00	0.00	0.00	0.00	0.81
COFFEE	0.00	0.00	3.20	0.45	0.00	0.00	0.00	0.00	3.65
COLBERT	7.67	0.00	1.67	0.21	0.00	29.70	0.00	963.99	1,003.23
CONECUH	0.00	0.00	0.16	0.07	0.00	0.00	0.02	0.00	0.25
COOSA	0.00	0.00	0.10	0.02	0.00	0.00	0.00	0.00	0.12
COVINGTON	0.00	0.00	2.20	0.32	0.00	0.00	0.00	1.15	3.67
CRENSHAW	0.00	0.00	0.58	0.42	0.00	0.00	0.00	0.00	1.00
CULLMAN	22.98	0.00	0.63	0.79	0.00	2.43	0.00	0.00	26.83
DALE	0.00	0.00	1.76	0.23	0.00	0.00	0.03	0.00	2.02
DALLAS	0.00	0.00	2.53	0.16	3.90	30.66	0.22	0.00	37.47
DEKALB	5.59	0.00	2.15	1.11	0.00	0.00	0.00	0.00	8.85
ELMORE	9.51	0.00	2.48	0.08	0.00	0.00	0.92	0.00	12.99
ESCAMBIA	0.00	0.00	0.75	0.10	0.00	32.54	0.00	0.00	33.39
ETOWAH	12.73	0.00	1.00	0.26	0.01	8.30	0.10	105.52	127.91
FAYETTE	1.65	0.00	0.37	0.10	0.00	0.00	0.31	0.00	2.42
FRANKLIN	4.89	0.00	0.84	0.37	0.00	0.00	0.15	0.00	6.25
GENEVA	0.00	0.00	2.97	0.42	0.00	0.00	0.02	0.00	3.41
GREENE	0.00	0.00	0.13	0.07	5.09	0.00	0.00	377.42	382.71
HALE	0.00	0.00	0.16	0.16	7.34	0.00	0.00	0.00	7.66
HENRY	0.00	0.00	4.46	0.16	0.00	0.00	0.00	0.00	4.62

Table 17. Total surface-water withdrawals by sector of use and county in Alabama in 2015, in MGD – Continued.

	Withdrawals by sector, in million gallons per day								
County	Public supply	Residential	Irrigation	Livestock	Aquaculture	Industrial	Mining	Thermoelectric	Total
HOUSTON	0.00	0.00	2.42	0.15	0.00	0.00	0.00	99.08	101.65
JACKSON	11.31	0.00	1.02	0.37	0.00	9.10	0.00	352.22	374.01
JEFFERSON	41.09	0.00	5.82	0.05	0.00	0.00	0.47	0.00	47.43
LAMAR	0.00	0.00	0.24	0.06	0.00	0.00	0.00	0.00	0.30
LAUDERDALE	10.54	0.00	1.25	0.26	0.00	0.00	0.00	0.00	12.05
LAWRENCE	7.73	0.00	2.54	0.48	0.01	0.00	0.00	0.00	10.76
LEE	13.00	0.00	2.89	0.04	0.04	0.00	0.00	0.00	15.97
LIMESTONE	7.67	0.00	7.32	0.27	0.00	0.00	0.00	2,850.13	2,865.39
LOWNDES	0.00	0.00	5.75	0.41	0.65	0.00	0.08	0.00	6.89
MACON	1.95	0.00	3.55	0.06	0.00	0.00	0.52	0.00	6.07
MADISON	38.20	0.00	4.17	0.16	0.00	0.55	0.00	0.00	43.08
MARENGO	0.00	0.00	0.26	0.16	0.92	18.44	0.01	0.00	19.79
MARION	5.30	0.00	0.16	0.26	0.00	0.00	0.00	0.00	5.71
MARSHALL	20.45	0.00	1.30	0.56	0.00	0.00	0.00	0.00	22.31
MOBILE	52.64	0.00	2.27	0.13	0.01	3.61	0.00	693.70	752.37
MONROE	0.00	0.00	0.16	0.09	0.07	49.31	0.00	0.00	49.63
MONTGOMERY	14.85	0.00	2.03	0.54	0.20	0.03	0.38	0.00	18.02
MORGAN	25.61	0.00	0.89	0.40	0.00	88.33	0.00	2.68	117.91
PERRY	0.00	0.00	0.10	0.19	1.76	0.00	0.00	0.00	2.05
PICKENS	0.00	0.00	1.96	0.20	0.77	0.00	0.00	0.00	2.93
PIKE	0.00	0.00	1.06	0.33	0.00	0.00	0.00	0.00	1.39
RANDOLPH	1.22	0.00	0.11	0.31	0.00	0.00	0.00	0.00	1.64
RUSSELL	6.87	0.00	7.47	0.07	0.00	26.00	0.17	0.00	40.58
SHELBY	2.30	0.00	1.38	0.17	0.00	0.00	0.16	462.22	466.22
ST CLAIR	2.58	0.00	5.18	0.06	0.00	6.10	0.00	0.00	13.92
SUMTER	0.00	0.00	0.26	0.27	0.50	4.57	0.49	0.00	6.09
TALLADEGA	6.61	0.00	4.19	0.12	0.00	26.59	0.00	0.00	37.51
TALLAPOOSA	11.88	0.00	0.89	0.05	0.00	0.00	0.00	0.00	12.83
TUSCALOOSA	30.75	0.00	4.35	0.08	0.33	0.67	0.85	0.00	37.04
WALKER	43.38	0.00	0.67	0.11	0.05	0.00	0.41	664.34	708.96
WASHINGTON	0.00	0.00	0.16	0.07	0.02	3.42	0.00	39.94	43.61
WILCOX	1.96	0.00	0.39	0.09	0.00	19.67	0.00	0.00	22.11
WINSTON	0.81	0.00	0.18	0.15	0.00	0.00	0.00	0.00	1.14
TOTAL	**489.80**	**0.00**	**124.28**	**14.67**	**22.17**	**461.76**	**6.07**	**6,624.25**	**7,743.00**

Table 18. Total surface-water withdrawals by sector of use and hydrologic subregion and subbasin in Alabama in 2015, in MGD.

	Withdrawals by sector, in million gallons per day								
Hydrologic subregion and subbasin	Public supply	Residential	Irrigation	Livestock	Aquaculture	Industrial	Mining	Thermoelectric	Total
Apalachicola									
03130002	7.98	0.00	0.53	0.12	0.01	0.00	0.00	0.00	8.64
03130003	6.87	0.00	9.90	0.24	0.11	26.00	0.26	0.00	43.38
03130004	0.00	0.00	3.40	0.16	0.00	0.00	0.00	99.08	102.64
03130012	0.00	0.00	0.85	0.07	0.00	0.00	0.00	0.00	0.92
Subtotal	*14.85*	*0.00*	*14.67*	*0.59*	*0.12*	*26.00*	*0.26*	*99.08*	*155.58*
Chocawhatchee-Escambia									
03140103	0.00	0.00	1.10	0.17	0.00	0.00	0.00	0.00	1.27
03140104	0.00	0.00	0.14	0.03	0.00	0.00	0.00	0.00	0.17
03140106	0.00	0.00	2.51	0.06	0.02	0.00	0.00	0.00	2.58
03140107	0.00	0.00	1.89	0.02	0.01	0.00	0.00	0.00	1.92
03140201	0.00	0.00	7.16	0.70	0.05	0.00	0.08	0.00	7.99
03140202	0.00	0.00	4.23	0.71	0.05	0.00	0.04	0.00	5.03
03140203	0.00	0.00	0.66	0.10	0.00	0.00	0.00	0.00	0.76
03140301	0.00	0.00	1.57	0.35	0.01	0.00	0.01	1.15	3.09
03140302	0.00	0.00	0.61	0.36	0.02	0.00	0.04	0.00	1.03
03140303	0.00	0.00	1.31	0.23	0.02	0.00	0.01	0.00	1.56
03140304	0.00	0.00	0.59	0.09	0.00	32.54	0.01	0.00	33.24
03140305	0.00	0.00	0.24	0.04	0.00	0.00	0.00	0.00	0.28
Subtotal	*0.00*	*0.00*	*22.00*	*2.86*	*0.18*	*32.54*	*0.19*	*1.15*	*58.91*
Alabama									
03150105	1.65	0.00	3.47	0.47	0.01	0.00	0.00	0.00	5.60
03150106	27.70	0.00	10.84	0.87	0.12	40.98	0.10	105.52	186.13
03150107	10.43	0.00	3.71	0.26	0.00	0.00	0.39	462.22	477.00
03150108	0.88	0.00	0.10	0.30	0.00	0.00	0.00	0.00	1.28
03150109	17.51	0.00	1.16	0.34	0.00	0.00	0.07	0.00	19.08
03150110	27.22	0.00	7.58	0.26	0.07	0.00	0.96	0.00	36.09
03150201	0.00	0.00	7.48	0.89	1.79	63.66	1.16	11.86	86.85
03150202	51.07	0.00	5.61	0.25	1.41	0.00	0.21	0.00	58.54
03150203	1.96	0.00	3.15	0.41	3.09	19.67	0.15	0.00	28.43
03150204	0.00	0.00	0.91	0.11	0.09	49.31	0.00	0.00	50.42
Subtotal	*138.42*	*0.00*	*44.00*	*4.17*	*6.57*	*173.63*	*3.05*	*579.60*	*949.43*
Mobile-Tombigbee									
03160101	0.00	0.00	0.06	0.06	0.00	0.00	0.01	0.00	0.13

Table 18. Total surface-water withdrawals by sector of use and hydrologic subregion and subbasin in Alabama in 2015, in MGD – Continued.

	Withdrawals by sector, in million gallons per day								
Hydrologic subregion and subbasin	**Public supply**	**Residential**	**Irrigation**	**Livestock**	**Aquaculture**	**Industrial**	**Mining**	**Thermoelectric**	**Total**
03160103	2.03	0.00	0.19	0.18	0.00	0.00	0.00	0.00	2.40
03160105	1.66	0.00	0.36	0.09	0.04	0.00	0.08	0.00	2.24
03160106	0.00	0.00	1.61	0.22	0.71	0.58	0.11	0.00	3.23
03160107	0.00	0.00	0.94	0.13	0.93	0.00	0.25	0.00	2.25
03160108	0.00	0.00	0.04	0.08	2.84	0.00	0.07	0.00	3.03
03160109	49.09	0.00	0.82	0.64	0.04	2.43	0.38	664.34	717.74
03160110	12.09	0.00	0.95	0.54	0.00	0.00	0.03	0.00	13.61
03160111	34.84	0.00	2.46	0.50	0.00	0.00	0.25	0.00	38.04
03160112	46.42	0.00	3.63	0.09	0.18	0.00	0.69	0.00	51.01
03160113	0.00	0.00	1.61	0.24	9.26	0.67	0.25	377.42	389.46
03160201	0.00	0.00	0.57	0.23	0.94	67.93	0.13	0.00	69.80
03160202	0.00	0.00	0.26	0.11	0.21	1.12	0.21	0.00	1.90
03160203	0.08	0.00	0.28	0.08	0.08	25.56	0.00	39.94	66.01
03160204	0.00	0.00	2.57	0.07	0.01	3.61	0.00	693.70	699.97
03160205	0.00	0.00	4.68	0.07	0.02	0.00	0.00	0.00	4.77
Subtotal	*146.20*	*0.00*	*21.02*	*3.34*	*15.28*	*101.90*	*2.44*	*1,775.40*	*2,065.58*
Pascagoula									
03170002	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03170003	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03170008	52.64	0.00	0.82	0.05	0.01	0.00	0.00	0.00	53.53
03170009	0.00	0.00	0.23	0.03	0.00	0.00	0.00	0.00	0.26
Subtotal	*52.64*	*0.00*	*1.05*	*0.08*	*0.01*	*0.00*	*0.00*	*0.00*	*53.79*
Middle Tennessee-Hiwassee									
06020001	0.00	0.00	0.09	0.07	0.00	0.00	0.00	0.00	0.15
Subtotal	*0.00*	*0.00*	*0.09*	*0.07*	*0.00*	*0.00*	*0.00*	*0.00*	*0.15*
Middle Tennessee-Elk									
06030001	32.53	0.00	2.68	1.22	0.00	9.10	0.00	352.22	397.76
06030002	69.63	0.00	11.82	1.24	0.00	88.88	0.00	2,852.82	3024.39
06030003	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06030004	7.67	0.00	2.24	0.11	0.00	0.00	0.00	0.00	10.02
06030005	20.11	0.00	3.82	0.62	0.00	29.70	0.02	963.99	1018.26
06030006	7.74	0.00	0.89	0.39	0.00	0.00	0.12	0.00	9.13
Subtotal	*137.68*	*0.00*	*21.45*	*3.57*	*0.01*	*127.68*	*0.14*	*4,169.03*	*4,459.56*
Total	**489.80**	**0.00**	**124.28**	**14.67**	**22.17**	**461.76**	**6.07**	**6,624.25**	**7,743.00**

Public Supply

Public supply refers to water that is withdrawn, treated, and distributed by public suppliers. Public suppliers provide water for a variety of uses such as residential, commercial, industrial, thermoelectric power, and public-water use. Thermoelectric-power delivery amounts have not been estimated separately for this report but are included in the industrial/commercial deliveries.

Public-supply withdrawals, residential deliveries, and population served are listed by county and subbasin in tables 19 through 26 with tables 20 through 22 and tables 24 through 26 showing monthly withdrawals. For 2015, public-supply withdrawals were 762 MGD. Public-supply withdrawals were 9 percent of total withdrawals and 47 percent of total withdrawals for all sectors excluding thermoelectric power (figure 13). The majority of the public-supply water (490 MGD, or 64 percent) was withdrawn from surface-water sources (figure 17). The remaining 272 MGD, or 36 percent, was withdrawn from groundwater. In 2015, about 4.32 million people, or 89 percent of the population, depended on water from public suppliers. The percentage of population served by public supply by county is shown in figure 18. The total delivery to residential customers was 321 MGD, or about 42 percent of the total withdrawals by public suppliers; combined industrial and commercial deliveries were 288 MGD, or 38 percent; and public use and losses accounted for the remaining 153 MGD, or 20 percent (figure 17). See the "Residential Withdrawals" and "Industrial Withdrawals" sections for additional details.

The geographic distribution of the total, groundwater, and surface-water withdrawals for public supply by county is shown in figure 19. Counties whose water withdrawals serve cities with large populations had the largest amounts of withdrawal. Madison (Huntsville), Mobile (City of Mobile), Jefferson (Birmingham), Blount, and Walker (sources of water for metropolitan Birmingham) Counties accounted for 37 percent of the water withdrawn and 34 percent of the population served by public suppliers (figures 19 and 20, table 19). Jefferson County had the highest percentage of population served by a public supply (99 percent) and was 1 of 21 counties whose public suppliers collectively served more than 90 percent of their respective county populations (figure 18). The largest surface-water withdrawals occurred in Blount and Mobile Counties (combined 107 MGD), and the largest groundwater withdrawals were in Madison and Baldwin Counties (combined 53 MGD).

The rank and associated cumulative percentile of total public-supply withdrawals by county are shown in figure 21. Madison, Mobile, Blount, and Jefferson Counties accounted for 31 percent of the public-supply withdrawals (table 19; figures 19 and 21). The remaining 63 counties accounted for the remaining 69 percent of the public-supply withdrawals. For comparison purposes, shading in the choropleth map ranges in figure 19 corresponds to shading in the cumulative percentile ranges in figure 21.

The geographic distribution of the total, groundwater, and surface-water withdrawals for public supply by hydrologic subbasin is shown in figure 22. The rank and associated cumulative percentile of total public-supply withdrawals by county are shown in figure 23. The Wheeler Lake (06030002, in the Middle Tennessee–Elk subregion, City of Huntsville), the Cahaba (03150202, in the Alabama subregion, metropolitan Birmingham), the Middle Coosa (03150106, in the

Alabama subregion, Cities of Talladega and Anniston), the Escatawpa (03170008, in the Pascagoula subregion, source of water for City of Mobile), the Mulberry Fork (03160109, in the Mobile–Tombigbee subregion, Cities of Jasper and Cullman), and the Upper Black Warrior (03160112, in the Mobile–Tombigbee subregion, City of Birmingham) subbasins accounted for 52 percent of the public-supply withdrawals, and the remaining 47 subbasins accounted for the other 48 percent (table 12; figures 18 and 19). Similar to figures 19 and 21, the choropleth map shading in figure 22 corresponds to the percentile shading in figure 23.

Several sources of data were used to estimate public-supply withdrawals, deliveries, and population served. A comprehensive list of public-suppliers was compiled from records from Alabama OWR, DWB-ADEM, ARWA, and USEPA-SDWIS. The primary sources for water withdrawals and public-supply deliveries were Alabama OWR and DWB-ADEM. Population served was estimated from the methods developed for the 2005 water use report. Details are in the "Public-Supply and Residential Water Use" and "Population Served and Self-Supplied Residential Population" sections in the "Data Compilation, Sources of Information, and Methodology for Withdrawals" section in this report.

Figure 17. Source and distribution of public-supply water in Alabama in 2015, in MGD.

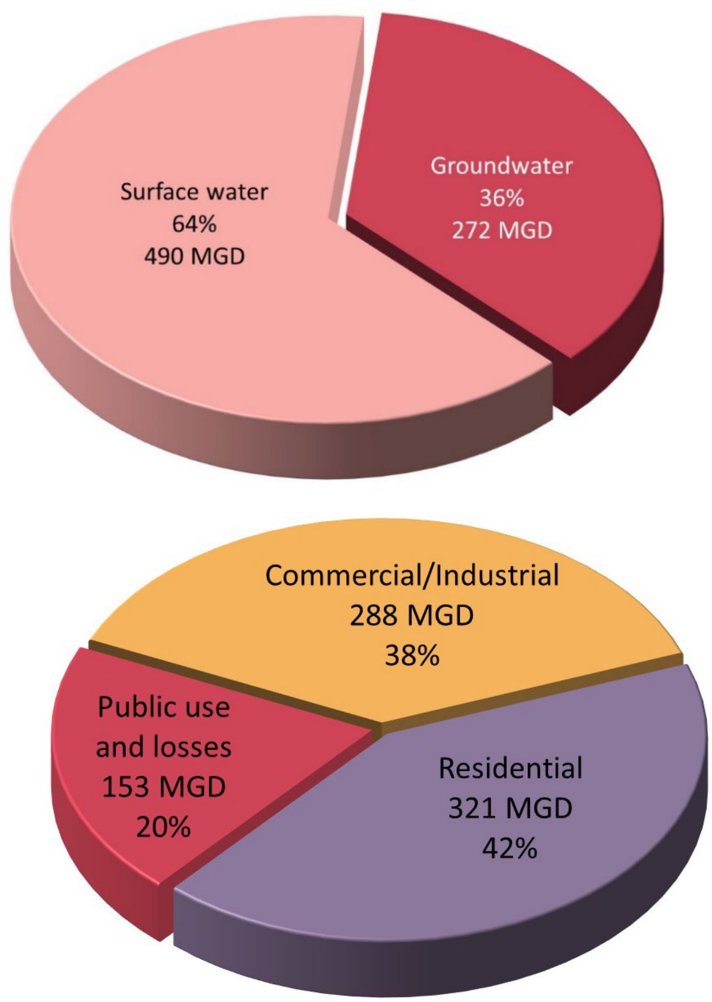


Figure 18. Map of percentage of population served by public suppliers by county in Alabama in 2015.

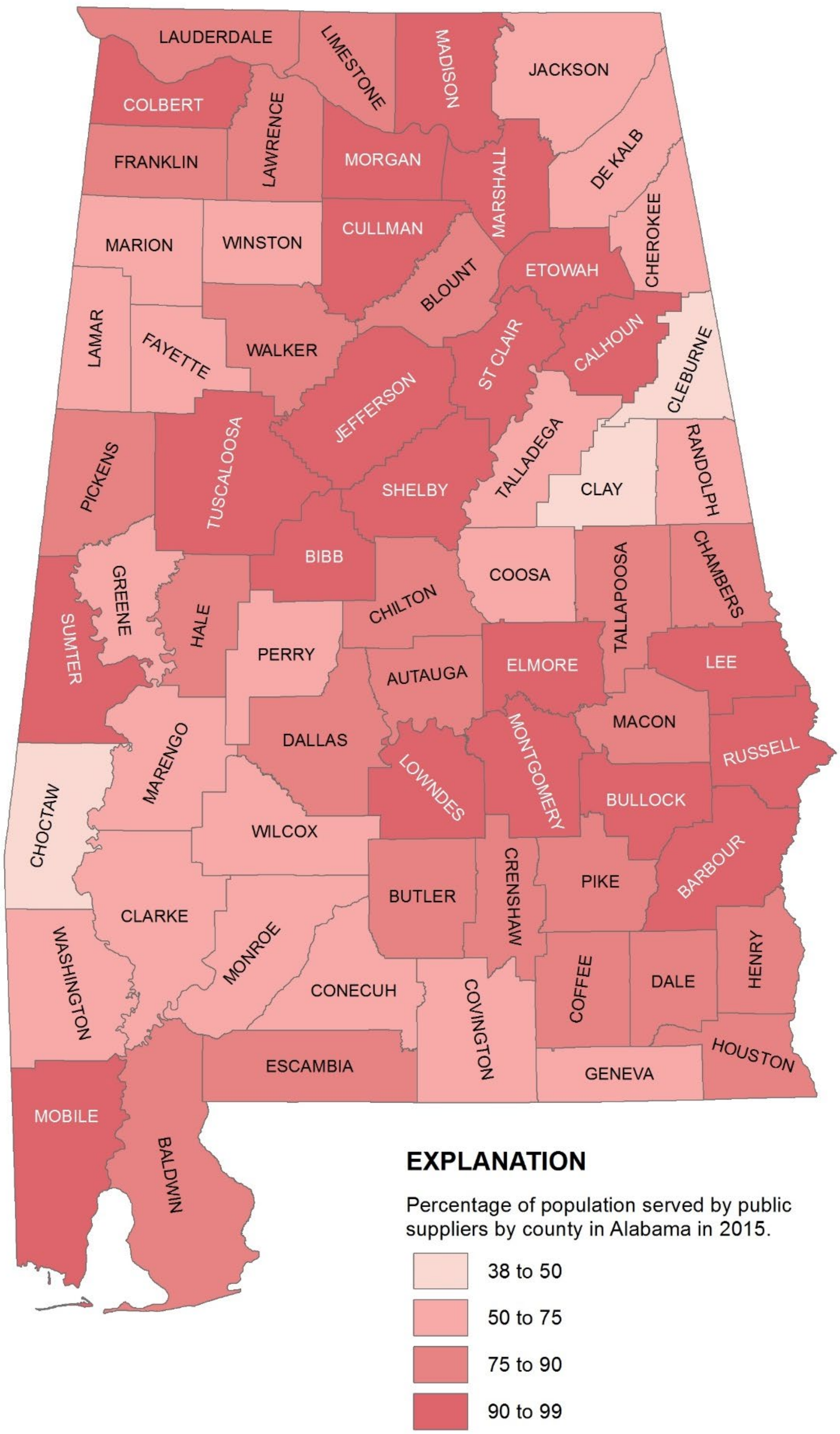


Figure 19. Map of public-supply withdrawals by source and county in Alabama in 2015, in MGD.

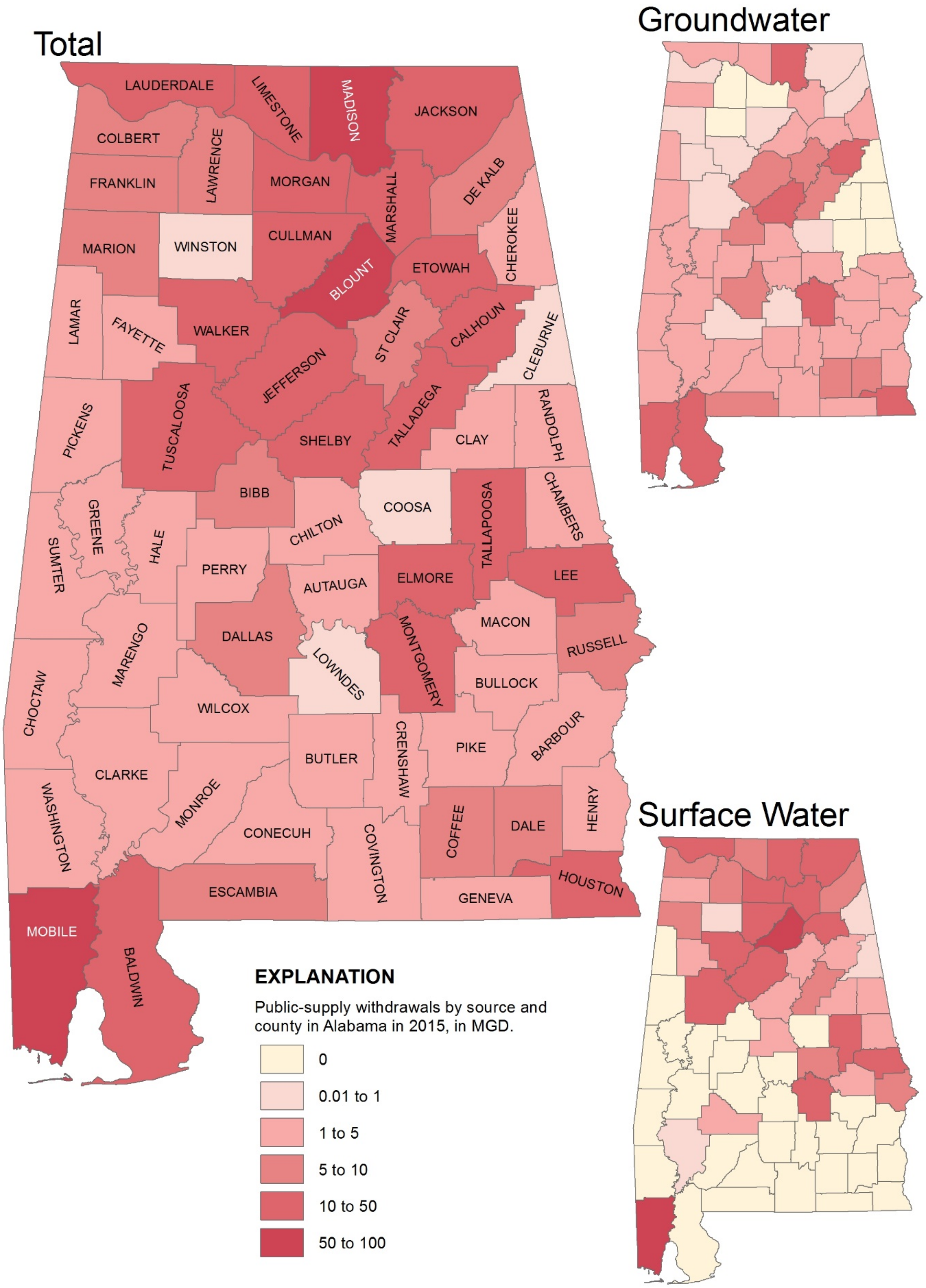


Figure 20. Map of Alabama cities with population of 10,000 and greater, 2018.

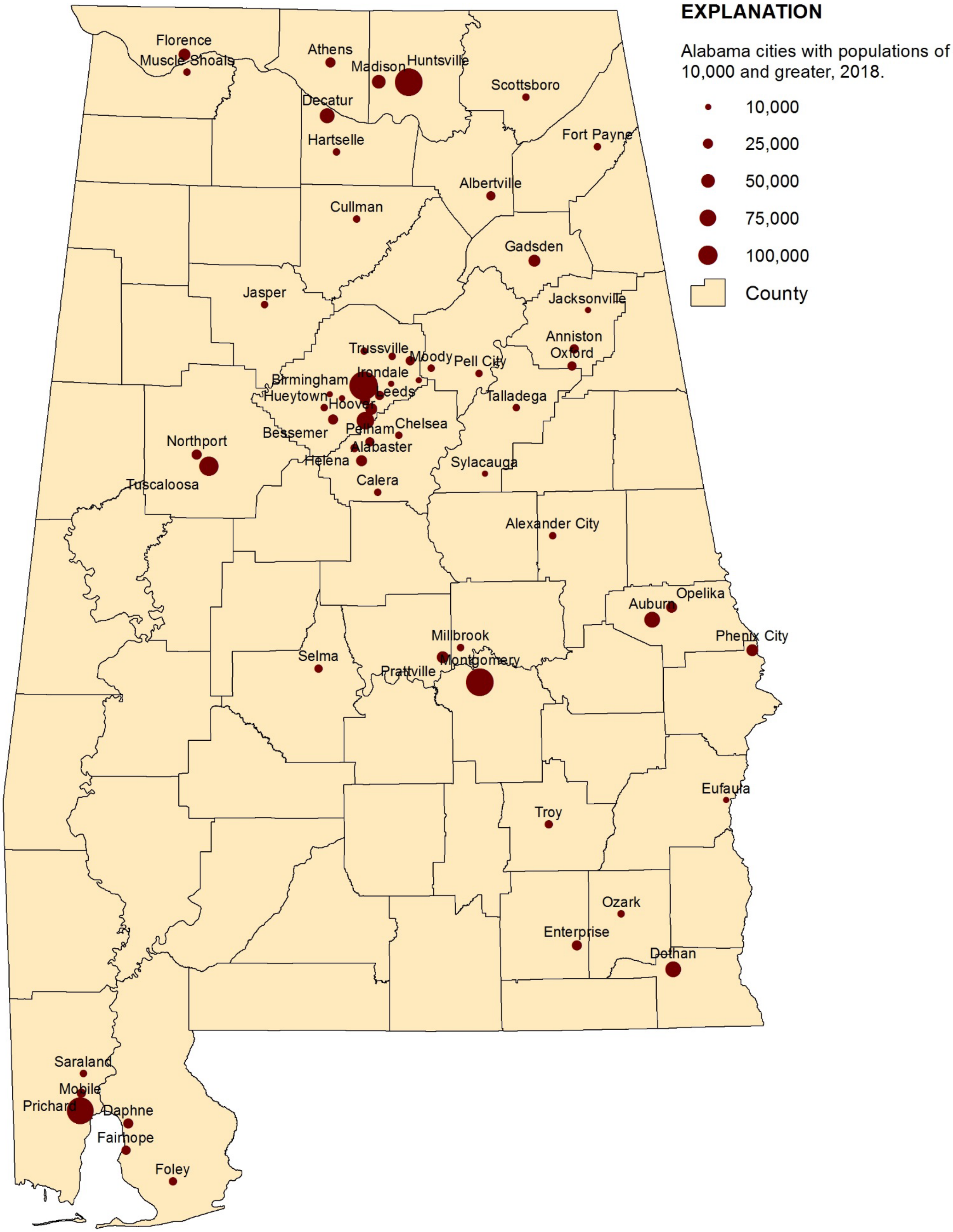


Figure 21. Public-supply water withdrawals by rank and percentile for counties in Alabama in 2015, in MGD.

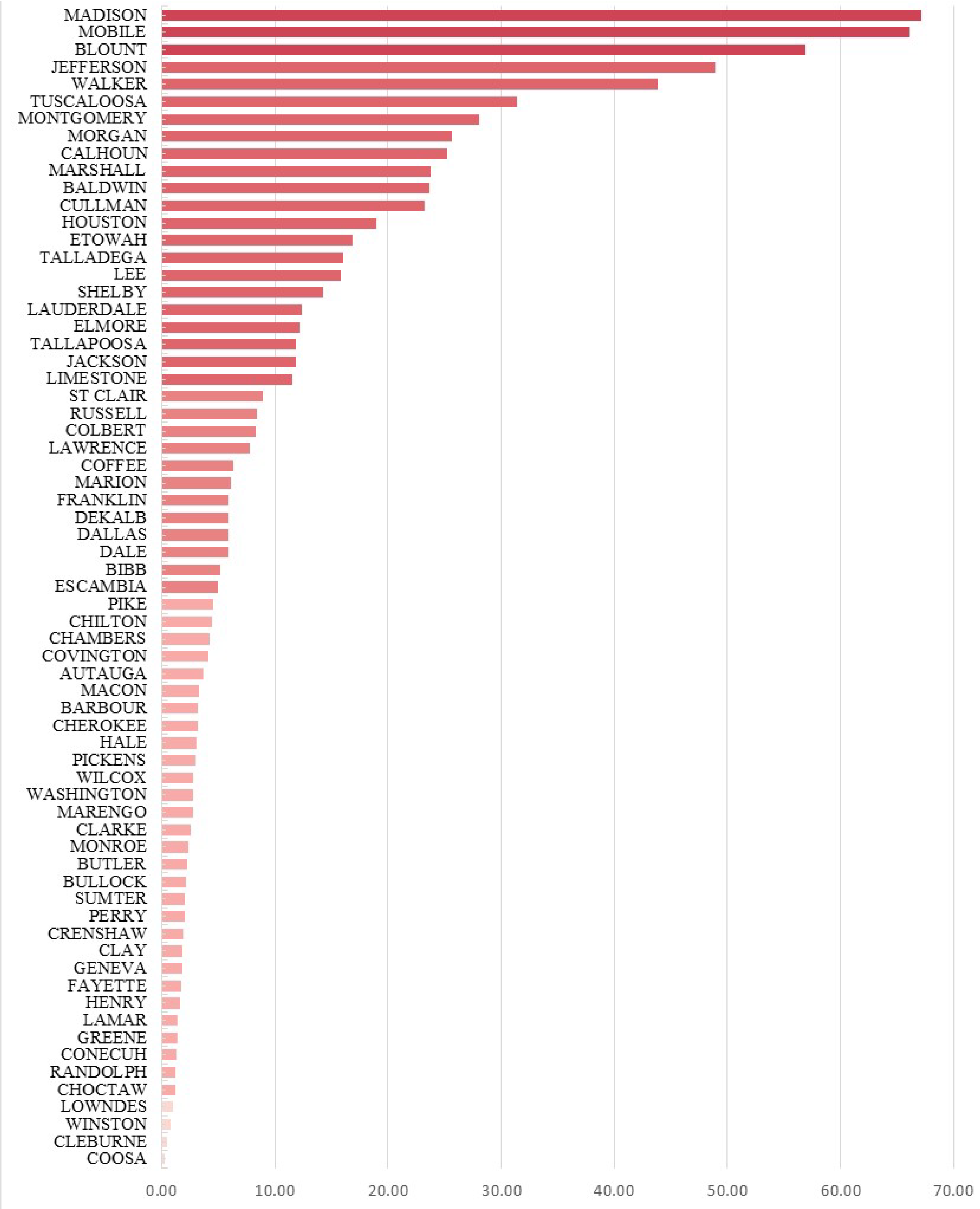


Figure 22. Map of public-supply withdrawals by source and hydrologic subbasin in Alabama in 2015, in MGD.

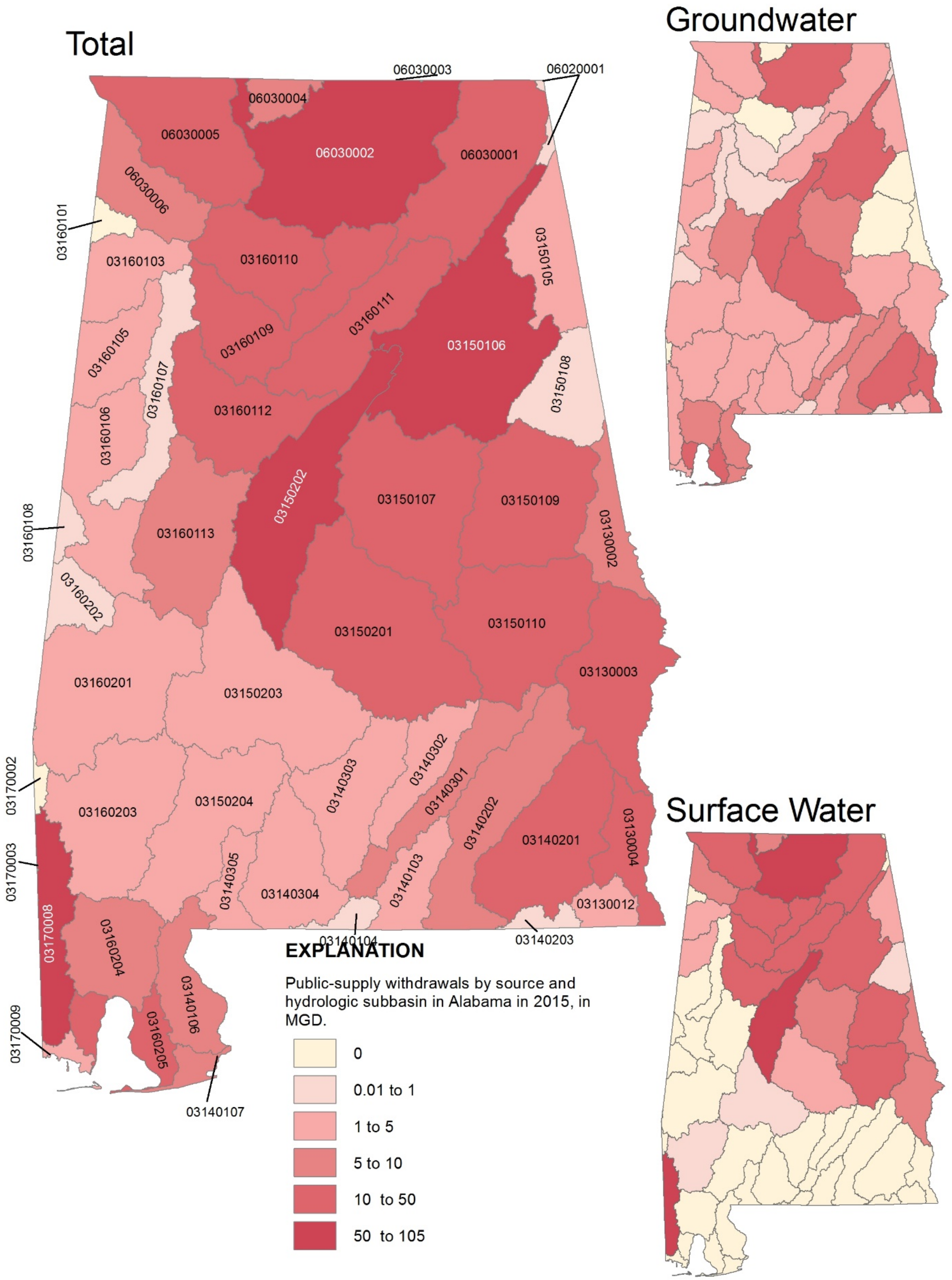


Figure 23. Public-supply water withdrawals by rank and percentile for subbasins in Alabama in 2015, in MGD.

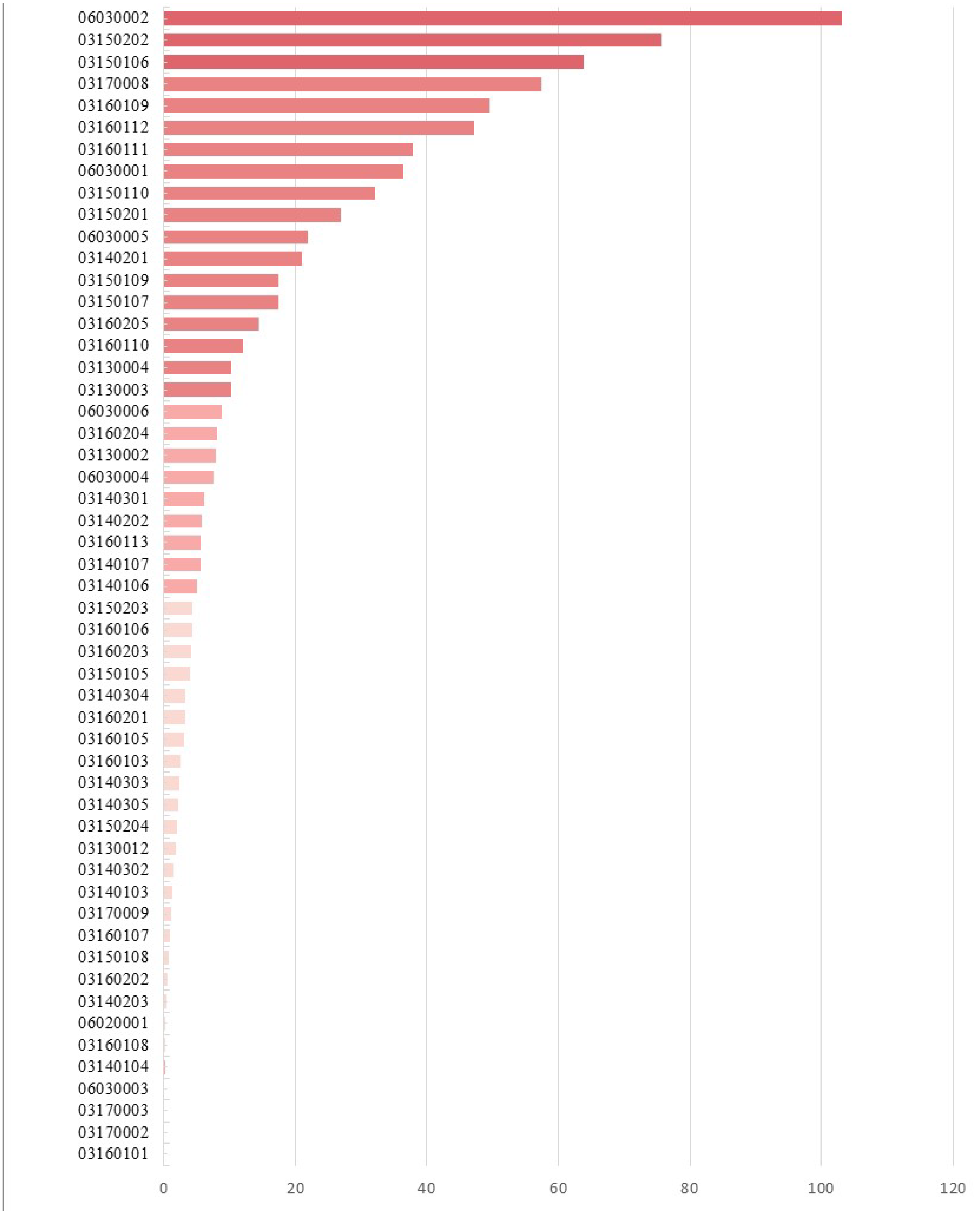


Table 19. Public-supply withdrawals by source and county in Alabama in 2015, in MGD.

		Population served by public supply		Withdrawals by source in million gallons per day			Gross public supply per capita use, in gallons per day	Residential Deliveries, in million gallons per day
County	Population	Total	Percentage	Groundwater	Surface water	Total		
AUTAUGA	55,347	48,998	89%	3.65	0.00	3.65	75	2.71
BALDWIN	203,709	174,907	86%	23.70	0.00	23.70	136	12.78
BARBOUR	26,489	24,587	93%	3.23	0.00	3.23	131	1.42
BIBB	22,583	20,947	93%	5.18	0.00	5.18	247	1.81
BLOUNT	57,673	44,815	78%	2.78	54.09	56.87	1,269	2.79
BULLOCK	10,696	9,958	93%	2.11	0.00	2.11	212	0.89
BUTLER	20,154	16,806	83%	2.28	0.00	2.28	136	1.35
CALHOUN	115,620	109,438	95%	22.47	2.78	25.25	231	7.52
CHAMBERS	34,123	25,783	76%	0.00	4.20	4.20	163	1.74
CHEROKEE	25,859	17,746	69%	2.43	0.77	3.21	181	1.08
CHILTON	43,943	34,630	79%	2.51	1.89	4.40	127	2.23
CHOCTAW	13,170	4,998	38%	1.21	0.00	1.21	242	0.25
CLARKE	24,675	17,759	72%	2.50	0.08	2.58	145	1.19
CLAY	13,555	5,970	44%	0.00	1.78	1.78	298	0.28
CLEBURNE	15,018	6,613	44%	0.00	0.49	0.49	73	0.61
COFFEE	51,211	42,461	83%	6.35	0.00	6.35	149	3.53
COLBERT	54,354	50,414	93%	0.60	7.67	8.27	164	4.27
CONECUH	12,672	6,988	55%	1.32	0.00	1.32	189	0.41
COOSA	10,724	5,839	54%	0.27	0.00	0.27	46	0.39
COVINGTON	37,835	24,183	64%	4.09	0.00	4.09	169	1.81
CRENSHAW	13,963	10,616	76%	1.94	0.00	1.94	182	0.83
CULLMAN	82,005	79,424	97%	0.31	22.98	23.29	293	5.73
DALE	49,565	40,468	82%	5.90	0.00	5.90	146	3.05
DALLAS	41,131	31,711	77%	5.91	0.00	5.91	186	2.23
DEKALB	71,130	51,765	73%	0.33	5.59	5.92	114	3.39
ELMORE	81,468	75,870	93%	2.68	9.51	12.20	161	5.02
ESCAMBIA	37,789	30,839	82%	5.01	0.00	5.01	162	2.22
ETOWAH	103,057	99,052	96%	4.12	12.73	16.85	170	6.60
FAYETTE	16,759	9,743	58%	0.05	1.65	1.70	174	0.68
FRANKLIN	31,696	25,004	79%	1.05	4.89	5.94	238	1.40
GENEVA	26,777	15,541	58%	1.77	0.00	1.77	114	0.94
GREENE	8,479	5,778	68%	1.39	0.00	1.39	241	0.35
HALE	15,068	12,160	81%	3.10	0.00	3.10	255	1.38
HENRY	17,221	13,297	77%	1.66	0.00	1.66	125	0.81

Table 19. Public-supply withdrawals by source and county in Alabama in 2015, in MGD – Continued.

		Population served by public supply		Withdrawals by source in million gallons per day			Gross public supply per capita use, in gallons per day	Residential Deliveries, in million gallons per day
County	Population	Total	Percentage	Groundwater	Surface water	Total		
HOUSTON	104,173	84,623	81%	18.96	0.00	18.96	224	4.98
JACKSON	52,419	38,802	74%	0.51	11.31	11.81	304	2.61
JEFFERSON	660,367	654,319	99%	7.88	41.09	48.97	75	48.85
LAMAR	13,886	8,668	62%	1.42	0.00	1.42	164	0.49
LAUDERDALE	92,596	77,817	84%	1.85	10.54	12.39	159	6.17
LAWRENCE	33,115	27,629	83%	0.00	7.73	7.73	280	1.78
LEE	156,993	147,603	94%	2.84	13.00	15.84	107	9.81
LIMESTONE	91,663	78,965	86%	3.86	7.67	11.53	146	5.42
LOWNDES	10,458	9,713	93%	0.95	0.00	0.95	97	0.76
MACON	19,105	16,294	85%	1.37	1.95	3.32	204	1.16
MADISON	353,089	342,658	97%	29.01	38.20	67.20	196	30.95
MARENGO	20,028	11,563	58%	2.77	0.00	2.77	239	0.72
MARION	30,168	20,279	67%	0.76	5.30	6.06	299	1.10
MARSHALL	94,725	88,680	94%	3.31	20.45	23.76	268	9.05
MOBILE	415,395	377,074	91%	13.49	52.64	66.13	175	35.57
MONROE	21,673	15,775	73%	2.30	0.00	2.30	146	1.03
MONTGOMERY	226,519	221,784	98%	13.19	14.85	28.04	126	14.30
MORGAN	119,565	115,544	97%	0.00	25.61	25.61	222	8.81
PERRY	9,652	5,432	56%	2.02	0.00	2.02	372	0.43
PICKENS	20,864	16,578	79%	3.01	0.00	3.01	181	1.33
PIKE	33,046	29,067	88%	4.58	0.00	4.58	158	2.33
RANDOLPH	22,696	11,912	52%	0.00	1.22	1.22	103	0.64
RUSSELL	59,660	55,434	93%	1.59	6.87	8.46	153	4.90
SHELBY	208,713	199,698	96%	11.92	2.30	14.22	71	12.85
ST CLAIR	87,074	80,226	92%	6.35	2.58	8.93	111	4.63
SUMTER	13,103	11,919	91%	2.06	0.00	2.06	173	0.71
TALLADEGA	80,862	60,455	75%	9.39	6.61	16.00	265	5.53
TALLAPOOSA	40,844	34,761	85%	0.00	11.88	11.88	342	2.32
TUSCALOOSA	203,976	192,500	94%	0.69	30.75	31.45	163	12.29
WALKER	65,294	57,701	88%	0.46	43.38	43.84	760	3.52
WASHINGTON	16,804	9,159	55%	2.80	0.00	2.80	306	0.60
WILCOX	11,059	6,592	60%	0.84	1.96	2.80	425	0.35
WINSTON	23,877	15,253	64%	0.00	0.81	0.81	53	1.33
TOTAL	4,858,979	4,319,584		272.07	489.80	761.87		320.96
AVERAGE			89%				176	

Table 20. Monthly public-supply groundwater withdrawals by county in Alabama in 2015, in MGD.

County Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	AVG
AUTAUGA	3.14	2.79	2.73	2.98	4.03	4.27	4.39	4.66	4.34	3.74	3.34	3.31	3.65
BALDWIN	18.47	18.82	19.68	21.71	27.73	28.82	29.95	27.45	26.36	24.19	20.95	19.91	23.70
BARBOUR	3.19	3.06	2.92	3.17	3.32	3.47	3.55	3.43	3.23	3.20	3.15	3.04	3.23
BIBB	4.90	5.01	4.82	4.97	5.24	5.53	5.51	5.40	5.37	5.35	5.13	4.96	5.18
BLOUNT	3.00	2.84	3.05	2.94	2.62	2.93	3.02	2.52	2.57	2.65	2.60	2.63	2.78
BULLOCK	2.19	2.10	2.03	2.04	2.03	2.11	2.28	2.21	2.08	2.07	2.11	2.08	2.11
BUTLER	2.38	2.10	2.35	2.17	2.61	2.38	2.42	2.40	2.26	2.19	2.11	2.02	2.28
CALHOUN	22.04	22.62	21.48	20.84	23.01	24.19	24.84	24.92	22.75	21.71	21.02	20.18	22.47
CHAMBERS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CHEROKEE	2.39	2.13	2.14	2.18	2.37	2.70	2.91	2.68	2.52	2.35	2.37	2.43	2.43
CHILTON	2.68	2.54	2.49	2.12	2.58	2.86	2.48	2.37	2.63	2.63	2.35	2.40	2.51
CHOCTAW	1.44	1.22	1.17	1.15	1.29	1.17	1.21	1.24	1.13	1.13	1.19	1.17	1.21
CLARKE	2.60	2.48	2.46	2.73	2.45	2.56	2.62	2.43	2.53	2.48	2.38	2.30	2.50
CLAY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CLEBURNE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
COFFEE	4.95	4.70	4.81	5.84	7.29	8.29	8.11	7.87	7.28	6.27	5.50	5.13	6.35
COLBERT	0.69	0.61	0.58	0.58	0.65	0.68	0.67	0.57	0.55	0.55	0.52	0.56	0.60
CONECUH	1.11	1.08	1.07	2.13	2.25	1.29	1.27	1.23	1.19	1.01	1.08	1.11	1.32
COOSA	0.29	0.26	0.23	0.32	0.26	0.27	0.26	0.29	0.25	0.27	0.28	0.24	0.27
COVINGTON	3.34	3.87	3.76	3.90	4.51	4.70	4.77	4.57	4.25	3.99	3.68	3.75	4.09
CRENSHAW	1.94	1.69	1.67	1.65	1.95	2.04	2.07	2.25	2.11	2.04	1.87	1.93	1.94
CULLMAN	0.39	0.44	0.36	0.25	0.25	0.30	0.33	0.33	0.31	0.28	0.28	0.25	0.31
DALE	5.46	5.43	5.03	5.86	6.95	6.73	7.17	6.83	6.36	4.74	4.23	5.95	5.90
DALLAS	5.69	5.65	5.84	5.75	5.69	6.16	6.39	6.35	6.21	6.08	5.10	6.03	5.91
DEKALB	0.32	0.33	0.33	0.32	0.35	0.35	0.33	0.33	0.34	0.32	0.32	0.31	0.33
ELMORE	2.43	2.11	2.90	2.79	3.49	2.78	2.73	2.83	2.81	2.44	2.38	2.47	2.68
ESCAMBIA	4.95	4.61	4.39	4.80	4.92	5.57	5.01	5.51	5.46	4.98	4.93	4.92	5.01
ETOWAH	3.93	4.04	4.00	3.99	4.29	4.57	4.65	4.45	4.19	4.01	3.70	3.59	4.12
FAYETTE	0.06	0.06	0.06	0.06	0.06	0.06	0.05	0.05	0.04	0.05	0.05	0.05	0.05
FRANKLIN	1.04	1.05	1.02	1.06	1.10	1.12	1.16	1.12	1.04	0.99	0.93	1.00	1.05
GENEVA	1.62	1.77	1.57	1.74	1.88	2.03	1.93	1.96	1.90	1.76	1.59	1.56	1.77
GREENE	1.38	1.29	1.22	1.40	1.38	1.37	1.56	1.48	1.45	1.37	1.38	1.43	1.39
HALE	3.04	3.12	3.10	2.95	3.03	3.15	3.14	3.28	3.09	3.04	3.12	3.11	3.10
HENRY	1.54	1.52	1.51	1.61	2.01	1.89	1.91	1.86	1.65	1.55	1.45	1.42	1.66

Table 20 Monthly public-supply groundwater withdrawals by county in Alabama in 2015, in MGD – Continued.

County Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	AVG
HOUSTON	16.08	16.74	19.43	19.44	19.28	19.79	20.95	20.05	20.62	18.10	16.89	19.93	18.96
JACKSON	0.56	0.51	0.44	0.45	0.51	0.51	0.50	0.50	0.51	0.52	0.50	0.56	0.51
JEFFERSON	8.53	7.24	7.17	7.46	9.46	8.30	8.52	8.43	7.19	7.39	6.28	8.53	7.88
LAMAR	1.42	1.38	1.39	1.37	1.46	1.51	1.53	1.50	1.41	1.39	1.32	1.32	1.42
LAUDERDALE	1.76	1.85	1.83	1.80	1.85	1.95	1.96	1.94	1.88	1.75	1.79	1.82	1.85
LAWRENCE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LEE	2.82	2.81	2.75	2.71	2.98	3.01	3.14	3.09	3.00	2.88	2.62	2.27	2.84
LIMESTONE	4.57	3.50	3.67	4.23	4.47	3.92	3.80	3.91	3.62	3.46	3.76	3.32	3.86
LOWNDES	0.97	0.86	0.89	0.90	0.95	0.95	0.98	1.01	0.94	0.97	0.97	0.94	0.95
MACON	2.67	0.45	0.53	0.62	0.39	0.45	1.42	1.64	2.27	2.28	1.20	2.43	1.37
MADISON	26.94	28.26	26.92	26.38	30.29	32.39	35.89	31.53	30.24	27.37	25.53	26.23	29.01
MARENGO	2.74	2.69	2.72	2.70	2.73	2.72	2.80	2.92	2.89	2.92	2.70	2.69	2.77
MARION	0.74	0.76	0.87	0.75	0.72	0.78	0.78	0.78	0.75	0.74	0.74	0.73	0.76
MARSHALL	3.21	3.17	3.02	3.15	3.58	3.50	3.71	3.53	3.36	2.83	3.36	3.26	3.31
MOBILE	13.01	12.20	12.83	13.01	14.44	14.93	14.57	14.44	14.34	13.55	12.22	12.17	13.49
MONROE	2.28	2.66	2.26	2.19	2.21	2.41	2.46	2.33	2.28	2.29	2.09	2.22	2.30
MONTGOMERY	17.67	7.94	13.46	13.91	13.24	13.85	13.46	14.59	14.46	12.75	11.33	11.15	13.19
MORGAN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PERRY	2.75	1.66	1.62	1.45	1.71	1.61	2.11	2.49	2.46	2.64	2.01	1.72	2.02
PICKENS	2.59	2.40	3.09	2.54	2.72	2.91	3.82	3.43	3.42	3.29	2.98	2.85	3.01
PIKE	4.26	3.99	3.91	4.06	4.85	5.23	5.47	5.71	5.05	4.56	4.07	3.80	4.58
RANDOLPH	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RUSSELL	2.45	1.54	1.44	1.43	1.53	1.68	1.67	1.55	1.59	1.39	1.37	1.40	1.59
SHELBY	11.03	10.80	10.39	10.95	12.24	13.07	13.16	13.40	13.25	12.81	11.19	10.74	11.92
ST CLAIR	6.28	6.60	6.10	5.74	6.42	7.03	7.00	6.99	6.21	5.90	5.91	6.04	6.35
SUMTER	1.95	1.97	1.91	1.99	1.93	2.03	2.08	2.23	2.22	2.09	2.21	2.10	2.06
TALLADEGA	9.05	8.85	9.07	9.88	9.09	9.04	9.26	9.74	9.67	9.74	9.91	9.32	9.39
TALLAPOOSA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TUSCALOOSA	0.63	0.70	0.62	0.61	0.75	0.78	0.81	0.77	0.70	0.68	0.63	0.64	0.69
WALKER	0.23	0.21	0.20	0.21	0.20	0.24	0.21	0.24	1.06	1.02	0.94	0.74	0.46
WASHINGTON	2.67	4.29	2.62	3.22	3.03	2.63	2.73	2.82	2.59	2.53	2.32	2.27	2.80
WILCOX	0.95	0.92	0.86	0.86	0.85	0.82	0.88	0.82	0.83	0.79	0.72	0.75	0.84
WINSTON	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	**263.35**	**248.27**	**252.77**	**259.97**	**285.45**	**294.34**	**304.37**	**297.23**	**287.02**	**268.06**	**248.63**	**253.14**	**272.07**

Table 21. Monthly public-supply surface-water withdrawals by county in Alabama in 2015, in MGD.

County Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	AVG
AUTAUGA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BALDWIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BARBOUR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BIBB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BLOUNT	52.49	52.78	51.42	51.67	56.84	54.99	52.49	54.17	53.48	55.74	55.57	57.30	54.09
BULLOCK	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BUTLER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CALHOUN	3.19	3.05	2.63	2.85	2.97	2.97	3.13	3.51	3.33	2.03	1.80	1.95	2.78
CHAMBERS	3.48	3.65	3.77	3.70	3.89	4.44	4.73	4.87	4.93	4.45	4.21	4.28	4.20
CHEROKEE	0.72	0.71	0.70	0.73	0.81	0.90	0.88	0.83	0.81	0.79	0.71	0.71	0.77
CHILTON	1.83	1.76	1.65	1.68	1.81	1.93	2.00	2.11	2.06	2.00	1.93	1.91	1.89
CHOCTAW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CLARKE	0.10	0.12	0.01	0.03	0.12	0.06	0.03	0.16	0.11	0.13	0.04	0.05	0.08
CLAY	1.76	1.88	1.98	1.87	1.75	1.90	1.80	1.57	1.64	1.72	1.70	1.79	1.78
CLEBURNE	0.46	0.46	0.46	0.45	0.50	0.52	0.54	0.55	0.52	0.48	0.45	0.43	0.49
COFFEE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
COLBERT	7.81	7.71	7.34	7.01	7.75	7.48	8.10	7.82	7.89	7.85	7.57	7.63	7.67
CONECUH	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
COOSA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
COVINGTON	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CRENSHAW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CULLMAN	35.01	17.21	12.99	19.56	27.55	27.66	24.86	20.98	21.38	25.85	22.88	19.21	22.98
DALE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DALLAS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DEKALB	5.00	4.80	4.70	4.60	5.27	6.64	6.70	7.23	6.54	6.09	4.95	4.50	5.59
ELMORE	8.68	8.67	8.72	9.19	10.17	10.43	10.30	10.44	10.11	9.32	8.94	9.11	9.51
ESCAMBIA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ETOWAH	12.42	12.68	12.32	12.07	12.95	13.86	13.66	13.65	12.83	12.31	12.21	11.84	12.73
FAYETTE	1.69	1.69	1.56	1.55	1.73	1.81	1.77	1.72	1.58	1.62	1.57	1.46	1.65
FRANKLIN	4.64	5.31	5.35	4.85	4.77	5.16	5.16	4.94	4.86	4.48	4.39	4.79	4.89
GENEVA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GREENE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HALE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HENRY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table 21. Monthly public-supply surface-water withdrawals by county in Alabama in 2015, in MGD – Continued.

County Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	AVG
HOUSTON	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
JACKSON	11.24	9.47	11.10	10.85	11.87	12.66	12.53	12.22	11.65	10.59	10.58	10.76	11.31
JEFFERSON	25.77	41.46	41.59	38.55	43.73	48.35	48.89	47.62	44.68	38.91	38.39	35.36	41.09
LAMAR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LAUDERDALE	9.91	10.10	9.92	9.83	10.91	11.59	11.67	11.26	11.31	10.61	10.01	9.33	10.54
LAWRENCE	7.72	7.85	7.53	7.43	7.85	8.51	8.30	7.92	7.85	7.57	7.09	7.17	7.73
LEE	11.04	11.30	10.83	11.87	13.81	14.63	15.54	15.95	14.80	13.35	11.93	10.85	13.00
LIMESTONE	6.94	7.11	6.83	6.78	7.43	8.40	8.60	8.31	8.29	8.11	7.67	7.51	7.67
LOWNDES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MACON	1.99	1.93	1.95	1.83	1.84	2.02	2.19	2.01	1.90	1.88	2.02	1.80	1.95
MADISON	30.55	29.91	28.60	28.43	40.59	49.45	51.19	48.29	46.45	40.88	34.26	29.18	38.20
MARENGO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MARION	5.57	5.41	5.51	5.10	5.29	5.52	5.58	5.31	5.27	5.05	4.94	5.00	5.30
MARSHALL	19.68	20.05	19.27	19.10	20.79	22.29	22.38	22.33	21.72	19.56	18.80	19.44	20.45
MOBILE	51.06	47.87	49.68	51.98	55.62	58.12	49.29	56.91	54.49	53.33	52.82	50.32	52.64
MONROE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MONTGOMERY	14.00	13.90	14.00	14.00	16.00	17.40	17.80	16.10	17.60	13.40	12.60	11.40	14.85
MORGAN	24.61	24.64	23.29	23.25	26.62	28.69	29.32	28.16	26.40	25.17	24.09	22.98	25.61
PERRY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PICKENS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PIKE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RANDOLPH	1.07	1.14	1.11	1.14	1.29	1.32	1.35	1.30	1.28	1.24	1.29	1.14	1.22
RUSSELL	6.32	6.11	6.13	6.24	7.47	7.60	8.21	7.85	7.49	6.84	6.09	6.03	6.87
SHELBY	1.79	1.47	1.87	1.84	3.38	3.42	2.57	2.87	3.16	2.03	1.59	1.52	2.30
ST CLAIR	2.68	2.63	2.58	2.43	2.59	2.53	2.50	2.67	2.78	2.73	2.43	2.44	2.58
SUMTER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TALLADEGA	6.12	5.75	5.30	5.72	6.48	8.01	8.19	7.80	6.91	6.68	6.34	6.01	6.61
TALLAPOOSA	11.56	10.44	11.25	10.07	12.16	12.52	13.05	13.09	11.80	13.32	11.82	11.34	11.88
TUSCALOOSA	28.52	28.09	27.00	28.28	31.37	35.23	34.52	34.58	34.66	32.86	27.71	26.06	30.75
WALKER	54.03	53.23	51.39	40.32	37.96	47.51	51.12	47.90	40.43	35.18	31.43	30.56	43.38
WASHINGTON	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WILCOX	2.13	1.98	1.98	2.00	1.94	2.02	2.23	1.99	1.90	1.72	1.67	2.00	1.96
WINSTON	0.91	0.86	0.79	0.75	0.79	0.85	0.88	0.92	0.81	0.83	0.77	0.59	0.81
TOTAL	**474.48**	**465.15**	**455.06**	**449.57**	**506.64**	**549.35**	**544.05**	**537.91**	**515.68**	**486.68**	**455.23**	**435.74**	**489.80**

Table 22. Monthly public-supply total water withdrawals by county in Alabama in 2015, in MGD.

County Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	AVG
AUTAUGA	3.14	2.79	2.73	2.98	4.03	4.27	4.39	4.66	4.34	3.74	3.34	3.31	3.65
BALDWIN	18.47	18.82	19.68	21.71	27.73	28.82	29.95	27.45	26.36	24.19	20.95	19.91	23.70
BARBOUR	3.19	3.06	2.92	3.17	3.32	3.47	3.55	3.43	3.23	3.20	3.15	3.04	3.23
BIBB	4.90	5.01	4.82	4.97	5.24	5.53	5.51	5.40	5.37	5.35	5.13	4.96	5.18
BLOUNT	55.50	55.62	54.46	54.62	59.45	57.92	55.52	56.70	56.05	58.39	58.17	59.93	56.87
BULLOCK	2.19	2.10	2.03	2.04	2.03	2.11	2.28	2.21	2.08	2.07	2.11	2.08	2.11
BUTLER	2.38	2.10	2.35	2.17	2.61	2.38	2.42	2.40	2.26	2.19	2.11	2.02	2.28
CALHOUN	25.23	25.68	24.11	23.69	25.99	27.15	27.97	28.43	26.08	23.74	22.82	22.13	25.25
CHAMBERS	3.48	3.65	3.77	3.70	3.89	4.44	4.73	4.87	4.93	4.45	4.21	4.28	4.20
CHEROKEE	3.11	2.84	2.84	2.91	3.17	3.60	3.79	3.51	3.32	3.14	3.08	3.14	3.21
CHILTON	4.51	4.29	4.14	3.80	4.39	4.79	4.48	4.48	4.69	4.62	4.28	4.31	4.40
CHOCTAW	1.44	1.22	1.17	1.15	1.29	1.17	1.21	1.24	1.13	1.13	1.19	1.17	1.21
CLARKE	2.70	2.60	2.47	2.77	2.57	2.62	2.65	2.58	2.64	2.62	2.42	2.34	2.58
CLAY	1.76	1.88	1.98	1.87	1.75	1.90	1.80	1.57	1.64	1.72	1.70	1.79	1.78
CLEBURNE	0.46	0.46	0.46	0.45	0.50	0.52	0.54	0.55	0.52	0.48	0.45	0.43	0.49
COFFEE	4.95	4.70	4.81	5.84	7.29	8.29	8.11	7.87	7.28	6.27	5.50	5.13	6.35
COLBERT	8.49	8.32	7.92	7.59	8.40	8.16	8.77	8.39	8.45	8.40	8.09	8.19	8.27
CONECUH	1.11	1.08	1.07	2.13	2.25	1.29	1.27	1.23	1.19	1.01	1.08	1.11	1.32
COOSA	0.29	0.26	0.23	0.32	0.26	0.27	0.26	0.29	0.25	0.27	0.28	0.24	0.27
COVINGTON	3.34	3.87	3.76	3.90	4.51	4.70	4.77	4.57	4.25	3.99	3.68	3.75	4.09
CRENSHAW	1.94	1.69	1.67	1.65	1.95	2.04	2.07	2.25	2.11	2.04	1.87	1.93	1.94
CULLMAN	35.41	17.65	13.35	19.81	27.80	27.96	25.19	21.30	21.69	26.12	23.16	19.47	23.29
DALE	5.46	5.43	5.03	5.86	6.95	6.73	7.17	6.83	6.36	4.74	4.23	5.95	5.90
DALLAS	5.69	5.65	5.84	5.75	5.69	6.16	6.39	6.35	6.21	6.08	5.10	6.03	5.91
DEKALB	5.32	5.13	5.03	4.92	5.62	6.99	7.02	7.56	6.88	6.42	5.27	4.81	5.92
ELMORE	11.11	10.79	11.61	11.98	13.66	13.21	13.04	13.28	12.92	11.75	11.32	11.58	12.20
ESCAMBIA	4.95	4.61	4.39	4.80	4.92	5.57	5.01	5.51	5.46	4.98	4.93	4.92	5.01
ETOWAH	16.35	16.72	16.32	16.06	17.24	18.43	18.31	18.10	17.02	16.32	15.91	15.42	16.85
FAYETTE	1.74	1.75	1.62	1.61	1.78	1.87	1.83	1.77	1.63	1.66	1.62	1.51	1.70
FRANKLIN	5.68	6.35	6.36	5.91	5.87	6.27	6.32	6.06	5.90	5.48	5.32	5.79	5.94
GENEVA	1.62	1.77	1.57	1.74	1.88	2.03	1.93	1.96	1.90	1.76	1.59	1.56	1.77
GREENE	1.38	1.29	1.22	1.40	1.38	1.37	1.56	1.48	1.45	1.37	1.38	1.43	1.39
HALE	3.04	3.12	3.10	2.95	3.03	3.15	3.14	3.28	3.09	3.04	3.12	3.11	3.10
HENRY	1.54	1.52	1.51	1.61	2.01	1.89	1.91	1.86	1.65	1.55	1.45	1.42	1.66

Table 22. Monthly public-supply total water withdrawals by county in Alabama in 2015, in MGD – Continued.

County Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	AVG
HOUSTON	16.08	16.74	19.43	19.44	19.28	19.79	20.95	20.05	20.62	18.10	16.89	19.93	18.96
JACKSON	11.79	9.98	11.55	11.30	12.38	13.16	13.03	12.72	12.17	11.12	11.08	11.32	11.81
JEFFERSON	34.30	48.70	48.76	46.01	53.19	56.65	57.41	56.05	51.86	46.29	44.67	43.89	48.97
LAMAR	1.42	1.38	1.39	1.37	1.46	1.51	1.53	1.50	1.41	1.39	1.32	1.32	1.42
LAUDERDALE	11.67	11.95	11.75	11.63	12.76	13.54	13.63	13.20	13.19	12.36	11.80	11.15	12.39
LAWRENCE	7.72	7.85	7.53	7.43	7.85	8.51	8.30	7.92	7.85	7.57	7.09	7.17	7.73
LEE	13.86	14.10	13.57	14.57	16.79	17.64	18.68	19.05	17.80	16.23	14.55	13.12	15.84
LIMESTONE	11.51	10.61	10.50	11.01	11.91	12.33	12.40	12.23	11.91	11.58	11.42	10.83	11.53
LOWNDES	0.97	0.86	0.89	0.90	0.95	0.95	0.98	1.01	0.94	0.97	0.97	0.94	0.95
MACON	4.66	2.38	2.48	2.45	2.24	2.46	3.60	3.65	4.17	4.16	3.22	4.23	3.32
MADISON	57.49	58.16	55.52	54.81	70.88	81.83	87.08	79.82	76.69	68.25	59.78	55.40	67.20
MARENGO	2.74	2.69	2.72	2.70	2.73	2.72	2.80	2.92	2.89	2.92	2.70	2.69	2.77
MARION	6.31	6.17	6.38	5.85	6.02	6.30	6.37	6.09	6.02	5.79	5.68	5.73	6.06
MARSHALL	22.89	23.22	22.29	22.24	24.37	25.78	26.09	25.87	25.08	22.39	22.17	22.70	23.76
MOBILE	64.07	60.07	62.51	64.99	70.06	73.05	63.86	71.35	68.83	66.88	65.04	62.49	66.13
MONROE	2.28	2.66	2.26	2.19	2.21	2.41	2.46	2.33	2.28	2.29	2.09	2.22	2.30
MONTGOMERY	31.67	21.84	27.46	27.91	29.24	31.25	31.26	30.69	32.06	26.15	23.93	22.55	28.04
MORGAN	24.61	24.64	23.29	23.25	26.62	28.69	29.32	28.16	26.40	25.17	24.09	22.98	25.61
PERRY	2.75	1.66	1.62	1.45	1.71	1.61	2.11	2.49	2.46	2.64	2.01	1.72	2.02
PICKENS	2.59	2.40	3.09	2.54	2.72	2.91	3.82	3.43	3.42	3.29	2.98	2.85	3.01
PIKE	4.26	3.99	3.91	4.06	4.85	5.23	5.47	5.71	5.05	4.56	4.07	3.80	4.58
RANDOLPH	1.07	1.14	1.11	1.14	1.29	1.32	1.35	1.30	1.28	1.24	1.29	1.14	1.22
RUSSELL	8.77	7.64	7.58	7.67	9.00	9.27	9.88	9.41	9.08	8.22	7.45	7.43	8.46
SHELBY	12.82	12.27	12.26	12.79	15.61	16.48	15.73	16.26	16.41	14.84	12.77	12.26	14.22
ST CLAIR	8.96	9.22	8.67	8.17	9.01	9.56	9.50	9.66	8.99	8.63	8.34	8.48	8.93
SUMTER	1.95	1.97	1.91	1.99	1.93	2.03	2.08	2.23	2.22	2.09	2.21	2.10	2.06
TALLADEGA	15.17	14.60	14.37	15.60	15.57	17.05	17.45	17.54	16.57	16.42	16.25	15.33	16.00
TALLAPOOSA	11.56	10.44	11.25	10.07	12.16	12.52	13.05	13.09	11.80	13.32	11.82	11.34	11.88
TUSCALOOSA	29.15	28.79	27.62	28.89	32.12	36.01	35.32	35.34	35.35	33.54	28.34	26.70	31.45
WALKER	54.26	53.45	51.59	40.53	38.16	47.75	51.33	48.13	41.49	36.20	32.37	31.30	43.84
WASHINGTON	2.67	4.29	2.62	3.22	3.03	2.63	2.73	2.82	2.59	2.53	2.32	2.27	2.80
WILCOX	3.08	2.90	2.84	2.86	2.79	2.84	3.11	2.81	2.74	2.50	2.39	2.75	2.80
WINSTON	0.91	0.86	0.79	0.75	0.79	0.85	0.88	0.92	0.81	0.83	0.77	0.59	0.81
TOTAL	**737.83**	**713.42**	**707.83**	**709.54**	**792.09**	**843.69**	**848.41**	**835.13**	**802.71**	**754.74**	**703.86**	**688.89**	**761.87**

Table 23. Public-supply withdrawals by source and hydrologic subregion and subbasin in Alabama in 2015, in MGD.

Hydrologic subregion and subbasin	Population	Withdrawals by source, in million gallons per day		
		Ground water	Surface water	Total
Apalachicola				
03130002	57,592	0.00	7.98	7.98
03130003	116,236	3.46	6.87	10.33
03130004	34,501	10.35	0.00	10.35
03130012	33,345	1.91	0.00	1.91
Subtotal	*241,674*	*15.72*	*14.85*	*30.57*
Chocawhatchee-Escambia				
03140103	20,986	1.27	0.00	1.27
03140104	1,735	0.08	0.00	0.08
03140106	37,994	5.06	0.00	5.06
03140107	30,552	5.62	0.00	5.62
03140201	155,888	20.98	0.00	20.98
03140202	51,124	5.83	0.00	5.83
03140203	7,260	0.47	0.00	0.47
03140301	28,478	6.12	0.00	6.12
03140302	12,834	1.60	0.00	1.60
03140303	25,424	2.46	0.00	2.46
03140304	25,098	3.30	0.00	3.30
03140305	18,377	2.19	0.00	2.19
Subtotal	*415,751*	*54.97*	*0.00*	*54.97*
Alabama				
03150105	43,046	2.43	1.65	4.08
03150106	355,811	36.18	27.70	63.88
03150107	146,896	6.97	10.43	17.39
03150108	21,258	0.00	0.88	0.88
03150109	60,010	0.00	17.51	17.51
03150110	188,636	4.87	27.22	32.09
03150201	322,720	26.97	0.00	26.97
03150202	442,529	24.71	51.07	75.77
03150203	27,162	2.48	1.96	4.44
03150204	25,459	2.06	0.00	2.06
Subtotal	*1,633,526*	*106.66*	*138.42*	*245.08*
Mobile-Tombigbee				
03160101	2,698	0.00	0.00	0.00

Table 23. Public-supply withdrawals by source and hydrologic subregion and subbasin in Alabama in 2015, in MGD – Continued.

Hydrologic subregion and subbasin	Population	Withdrawals by source, in million gallons per day		
		Ground water	Surface water	Total
03160103	23,219	0.59	2.03	2.62
03160105	20,222	1.50	1.66	3.16
03160106	23,447	4.30	0.00	4.30
03160107	22,212	0.95	0.00	0.95
03160108	1,217	0.26	0.00	0.26
03160109	124,602	0.41	49.09	49.50
03160110	53,091	0.00	12.09	12.09
03160111	309,650	3.13	34.84	37.97
03160112	268,796	0.70	46.42	47.13
03160113	120,588	5.71	0.00	5.71
03160201	33,975	3.28	0.00	3.28
03160202	6,329	0.67	0.00	0.67
03160203	31,676	4.15	0.08	4.23
03160204	180,518	8.22	0.00	8.22
03160205	260,675	14.35	0.00	14.35
Subtotal	*1,482,915*	*48.23*	*146.20*	*194.43*
Pascagoula				
03170002	1,014	0.00	0.00	0.00
03170003	6	0.00	0.00	0.00
03170008	73,337	4.83	52.64	57.47
03170009	12,711	1.16	0.00	1.16
Subtotal	*87,068*	*5.99*	*52.64*	*58.63*
Middle Tennessee-Hiwassee				
06020001	2,747	0.30	0.00	0.30
Subtotal	*2,747*	*0.30*	*0.00*	*0.30*
Middle Tennessee-Elk				
06030001	148,391	3.84	32.53	36.37
06030002	591,583	33.50	69.63	103.13
06030003	4	0.00	0.00	0.00
06030004	17,171	0.00	7.67	7.67
06030005	157,076	1.81	20.11	21.92
06030006	31,851	1.05	7.74	8.79
Subtotal	*946,075*	*40.20*	*137.68*	*177.88*
Total	**4,809,757**	**272.07**	**489.80**	**761.87**

Table 24. Monthly public-supply groundwater withdrawals by subbasin in Alabama in 2015, in MGD.

Hydrologic subregion and subbasin	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	AVG
Apalachicola													
03130002	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03130003	4.26	3.33	3.12	3.29	3.63	3.74	3.79	3.55	3.48	3.16	2.99	3.11	3.46
03130004	8.26	8.61	10.44	9.80	9.78	10.72	11.59	11.63	11.50	10.40	9.29	12.03	10.35
03130012	1.93	2.01	2.16	1.97	2.17	2.28	2.10	2.12	2.24	1.69	1.16	1.09	1.91
Subtotal	*14.45*	*13.95*	*15.72*	*15.05*	*15.58*	*16.74*	*17.48*	*17.30*	*17.22*	*15.25*	*13.43*	*16.23*	*15.72*
Chocawhatchee-Escambia													
03140103	1.05	1.05	1.08	1.14	1.30	1.43	1.56	1.47	1.37	1.27	1.24	1.26	1.27
03140104	0.07	0.07	0.06	0.05	0.07	0.10	0.08	0.08	0.09	0.08	0.08	0.10	0.08
03140106	4.86	4.07	4.66	4.67	5.19	5.18	5.41	5.84	5.62	5.53	4.81	4.79	5.06
03140107	3.75	4.16	4.95	4.70	6.70	7.85	8.57	7.01	5.86	5.39	4.39	4.00	5.62
03140201	18.22	18.26	18.38	21.44	23.94	24.02	24.84	23.21	22.55	18.89	18.16	19.63	20.98
03140202	5.48	5.24	5.21	5.21	6.24	6.76	6.27	6.69	6.18	5.98	5.31	5.35	5.83
03140203	0.41	0.40	0.44	0.48	0.48	0.54	0.51	0.54	0.57	0.43	0.42	0.45	0.47
03140301	5.49	6.00	5.67	5.79	6.26	6.54	7.27	7.17	6.31	6.00	5.57	5.32	6.12
03140302	1.72	1.38	1.37	1.42	1.59	1.77	1.83	1.71	1.71	1.57	1.53	1.56	1.60
03140303	2.55	2.29	2.53	2.36	2.81	2.55	2.60	2.57	2.43	2.36	2.27	2.17	2.46
03140304	3.00	2.85	2.67	4.16	4.24	3.52	3.34	3.51	3.41	3.02	2.89	2.96	3.30
03140305	2.07	2.38	2.03	1.95	2.03	2.44	2.05	2.27	2.40	2.12	2.38	2.20	2.19
Subtotal	*48.67*	*48.15*	*49.06*	*53.36*	*60.85*	*62.71*	*64.33*	*62.06*	*58.49*	*52.65*	*49.04*	*49.77*	*54.97*
Alabama													
03150105	2.39	2.13	2.14	2.18	2.37	2.70	2.91	2.68	2.52	2.35	2.37	2.43	2.43
03150106	35.27	36.06	34.72	33.64	36.66	38.48	39.55	39.84	36.76	35.40	34.48	33.20	36.18
03150107	6.55	6.68	6.67	7.67	6.97	7.04	7.11	7.23	7.10	7.09	6.90	6.60	6.97
03150108	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03150109	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03150110	6.14	3.82	3.92	3.98	4.04	4.14	5.26	5.42	5.95	5.81	4.46	5.35	4.87
03150201	30.55	20.02	26.49	26.96	28.19	28.70	28.27	29.82	29.40	26.67	23.65	24.33	26.97
03150202	25.23	22.57	21.79	22.28	26.16	26.36	26.95	26.90	25.48	25.64	22.72	24.13	24.71
03150203	2.78	2.61	2.54	2.38	2.47	2.32	2.35	2.58	2.63	2.51	2.28	2.28	2.48
03150204	2.06	2.01	2.04	1.96	1.99	2.20	2.24	2.12	2.09	2.09	1.88	2.01	2.06
Subtotal	*110.97*	*95.88*	*100.30*	*101.06*	*108.86*	*111.94*	*114.64*	*116.61*	*111.91*	*107.56*	*98.74*	*100.33*	*106.66*
Mobile-Tombigbee													
03160101	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table 24. Monthly public-supply groundwater withdrawals by subbasin in Alabama in 2015, in MGD – Continued.

Hydrologic subregion and subbasin	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	AVG
03160103	0.58	0.57	0.72	0.58	0.62	0.63	0.66	0.60	0.58	0.54	0.53	0.50	0.59
03160105	1.49	1.48	1.46	1.44	1.47	1.56	1.55	1.59	1.49	1.49	1.45	1.48	1.50
03160106	3.69	3.56	4.23	3.80	3.98	4.23	5.22	4.89	4.76	4.59	4.41	4.19	4.30
03160107	0.68	0.74	0.67	0.67	0.73	0.78	0.75	0.78	1.55	1.49	1.39	1.16	0.95
03160108	0.27	0.24	0.25	0.23	0.25	0.26	0.26	0.29	0.28	0.26	0.39	0.19	0.26
03160109	0.70	0.75	0.67	0.53	0.25	0.30	0.33	0.33	0.31	0.28	0.28	0.25	0.41
03160110	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03160111	3.23	3.01	3.15	3.07	3.05	3.45	3.57	2.98	3.03	3.05	2.99	2.98	3.13
03160112	0.50	0.66	0.60	0.71	0.77	0.87	0.84	0.91	0.82	0.74	0.44	0.59	0.70
03160113	5.58	5.72	5.52	5.46	5.64	5.71	5.91	6.14	5.88	5.83	5.53	5.58	5.71
03160201	3.55	3.14	3.19	3.14	3.33	3.29	3.31	3.33	3.26	3.20	3.24	3.40	3.28
03160202	0.73	0.67	0.64	0.74	0.61	0.62	0.70	0.71	0.68	0.61	0.60	0.68	0.67
03160203	4.19	5.85	4.01	4.82	4.21	3.93	4.10	4.00	3.90	3.82	3.66	3.51	4.15
03160204	7.35	7.90	7.39	7.85	9.07	8.95	9.01	8.86	9.08	8.24	7.33	7.60	8.22
03160205	11.84	11.54	11.69	13.66	16.96	17.50	17.12	16.01	15.79	14.59	13.01	12.26	14.35
Subtotal	*44.39*	*45.82*	*44.20*	*46.71*	*50.95*	*52.08*	*53.32*	*51.42*	*51.41*	*48.73*	*45.26*	*44.36*	*48.23*
Pascagoula													
03170002	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03170003	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03170008	4.77	4.24	4.63	4.71	5.23	5.07	5.12	5.14	5.23	4.92	4.46	4.38	4.83
03170009	1.03	0.96	1.05	1.11	1.19	1.39	1.47	1.26	1.22	1.15	0.99	1.03	1.16
Subtotal	*5.80*	*5.20*	*5.68*	*5.83*	*6.42*	*6.46*	*6.59*	*6.40*	*6.45*	*6.07*	*5.45*	*5.41*	*5.99*
Middle Tennessee-Hiwassee													
06020001	0.29	0.30	0.30	0.30	0.31	0.32	0.33	0.33	0.34	0.28	0.28	0.28	0.30
Subtotal	*0.29*	*0.30*	*0.30*	*0.30*	*0.31*	*0.32*	*0.33*	*0.33*	*0.34*	*0.28*	*0.28*	*0.28*	*0.30*
Middle Tennessee-Elk													
06030001	3.79	3.71	3.49	3.62	4.12	4.03	4.21	4.03	3.87	3.39	3.90	3.85	3.84
06030002	32.12	32.39	31.22	31.21	35.40	36.99	40.38	36.11	34.53	31.45	29.89	30.17	33.50
06030003	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06030004	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06030005	1.83	1.82	1.79	1.77	1.87	1.96	1.94	1.84	1.77	1.68	1.71	1.75	1.81
06030006	1.04	1.05	1.02	1.06	1.10	1.12	1.16	1.12	1.04	0.99	0.93	1.00	1.05
Subtotal	*38.79*	*38.97*	*37.51*	*37.66*	*42.48*	*44.09*	*47.68*	*43.11*	*41.21*	*37.51*	*36.43*	*36.77*	*40.20*
Total	**263.35**	**248.27**	**252.77**	**259.97**	**285.45**	**294.34**	**304.37**	**297.23**	**287.02**	**268.06**	**248.63**	**253.14**	**272.07**

Table 25. Monthly public-supply surface-water withdrawals by subbasin in Alabama in 2015, in MGD.

Hydrologic subregion and subbasin	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	AVG
Apalachicola													
03130002	7.16	7.05	7.20	7.72	7.84	7.82	8.97	8.57	9.54	8.62	8.17	7.07	7.98
03130003	6.32	6.11	6.13	6.24	7.47	7.60	8.21	7.85	7.49	6.84	6.09	6.03	6.87
03130004	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03130012	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal	*13.48*	*13.15*	*13.34*	*13.96*	*15.31*	*15.42*	*17.17*	*16.42*	*17.03*	*15.45*	*14.26*	*13.11*	*14.85*
Chocawhatchee-Escambia													
03140103	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03140104	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03140106	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03140107	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03140201	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03140202	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03140203	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03140301	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03140302	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03140303	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03140304	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03140305	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*
Alabama													
03150105	1.56	1.55	1.56	1.62	1.69	1.77	1.78	1.76	1.69	1.68	1.54	1.57	1.65
03150106	27.65	27.36	26.03	26.11	28.04	30.08	30.51	30.92	28.55	26.76	25.34	25.04	27.70
03150107	9.64	9.12	9.24	9.44	11.63	12.19	11.38	11.85	11.80	9.98	9.51	9.25	10.43
03150108	0.82	0.86	0.81	0.81	0.96	0.97	0.97	0.98	0.92	0.87	0.81	0.75	0.88
03150109	16.27	15.33	16.61	15.61	18.18	18.71	19.23	18.97	17.78	18.81	17.29	17.12	17.51
03150110	24.69	24.95	24.35	24.72	28.94	32.05	32.58	31.68	30.87	25.69	23.81	22.22	27.22
03150201	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03150202	49.81	49.77	48.97	49.30	53.87	51.61	49.54	51.22	50.88	53.29	52.91	51.52	51.07
03150203	2.13	1.98	1.98	2.00	1.94	2.02	2.23	1.99	1.90	1.72	1.67	2.00	1.96
03150204	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal	*132.57*	*130.92*	*129.54*	*129.60*	*145.25*	*149.40*	*148.21*	*149.36*	*144.39*	*138.80*	*132.87*	*129.46*	*138.42*
Mobile-Tombigbee													
03160101	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table 25. Monthly public-supply surface-water withdrawals by subbasin in Alabama in 2015, in MGD – Continued.

Hydrologic subregion and subbasin	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	AVG
03160103	2.20	2.11	2.42	2.01	1.99	1.94	2.05	1.89	1.96	1.92	1.94	1.90	2.03
03160105	1.73	1.72	1.60	1.61	1.75	1.77	1.76	1.73	1.62	1.61	1.60	1.47	1.66
03160106	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03160107	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03160108	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03160109	32.88	48.67	47.67	45.98	50.42	57.81	58.53	56.42	53.93	46.70	45.02	45.16	49.09
03160110	23.97	6.91	3.03	9.51	16.64	15.53	12.75	9.26	10.44	14.75	12.34	9.42	12.09
03160111	45.42	44.41	42.84	32.25	29.90	38.96	42.29	39.07	31.36	26.49	23.33	22.23	34.84
03160112	45.04	44.25	43.02	42.44	47.82	51.18	50.14	50.61	49.21	48.55	43.51	41.12	46.42
03160113	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03160201	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03160202	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03160203	0.10	0.12	0.01	0.03	0.12	0.06	0.03	0.16	0.11	0.13	0.04	0.05	0.08
03160204	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03160205	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal	*151.34*	*148.19*	*140.59*	*133.82*	*148.65*	*167.24*	*167.54*	*159.14*	*148.62*	*140.15*	*127.78*	*121.35*	*146.20*
Pascagoula													
03170002	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03170003	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03170008	51.06	47.87	49.68	51.98	55.62	58.12	49.29	56.91	54.49	53.33	52.82	50.32	52.64
03170009	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal	*51.06*	*47.87*	*49.68*	*51.98*	*55.62*	*58.12*	*49.29*	*56.91*	*54.49*	*53.33*	*52.82*	*50.32*	*52.64*
Middle Tennessee-Hiwassee													
06020001	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*
Middle Tennessee-Elk													
06030001	30.92	29.52	30.38	29.95	33.04	36.78	36.41	36.38	35.21	31.55	29.83	30.20	32.53
06030002	60.89	60.39	57.55	57.28	73.04	84.45	86.83	82.45	78.59	71.77	63.87	57.72	69.63
06030003	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06030004	6.94	7.11	6.83	6.78	7.43	8.40	8.60	8.31	8.29	8.11	7.67	7.51	7.67
06030005	19.70	19.82	19.12	18.67	20.69	21.27	21.76	21.00	21.32	20.31	19.14	18.57	20.11
06030006	7.58	8.19	8.04	7.53	7.62	8.27	8.23	7.93	7.76	7.21	6.98	7.52	7.74
Subtotal	*126.04*	*125.02*	*121.92*	*120.21*	*141.82*	*159.17*	*161.83*	*156.07*	*151.16*	*138.95*	*127.50*	*121.52*	*137.68*
Total	**474.48**	**465.15**	**455.06**	**449.57**	**506.64**	**549.35**	**544.05**	**537.91**	**515.68**	**486.68**	**455.23**	**435.74**	**489.80**

Table 26. Monthly public-supply total withdrawals by subbasin in Alabama in 2015, in MGD.

Hydrologic subregion and subbasin	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	AVG
Apalachicola													
03130002	7.16	7.05	7.20	7.72	7.84	7.82	8.97	8.57	9.54	8.62	8.17	7.07	7.98
03130003	10.58	9.44	9.25	9.52	11.10	11.33	12.00	11.40	10.97	9.99	9.08	9.15	10.33
03130004	8.26	8.61	10.44	9.80	9.78	10.72	11.59	11.63	11.50	10.40	9.29	12.03	10.35
03130012	1.93	2.01	2.16	1.97	2.17	2.28	2.10	2.12	2.24	1.69	1.16	1.09	1.91
Subtotal	*27.93*	*27.10*	*29.06*	*29.01*	*30.88*	*32.16*	*34.66*	*33.72*	*34.24*	*30.71*	*27.69*	*29.34*	*30.57*
Chocawhatchee-Escambia													
03140103	1.05	1.05	1.08	1.14	1.30	1.43	1.56	1.47	1.37	1.27	1.24	1.26	1.27
03140104	0.07	0.07	0.06	0.05	0.07	0.10	0.08	0.08	0.09	0.08	0.08	0.10	0.08
03140106	4.86	4.07	4.66	4.67	5.19	5.18	5.41	5.84	5.62	5.53	4.81	4.79	5.06
03140107	3.75	4.16	4.95	4.70	6.70	7.85	8.57	7.01	5.86	5.39	4.39	4.00	5.62
03140201	18.22	18.26	18.38	21.44	23.94	24.02	24.84	23.21	22.55	18.89	18.16	19.63	20.98
03140202	5.48	5.24	5.21	5.21	6.24	6.76	6.27	6.69	6.18	5.98	5.31	5.35	5.83
03140203	0.41	0.40	0.44	0.48	0.48	0.54	0.51	0.54	0.57	0.43	0.42	0.45	0.47
03140301	5.49	6.00	5.67	5.79	6.26	6.54	7.27	7.17	6.31	6.00	5.57	5.32	6.12
03140302	1.72	1.38	1.37	1.42	1.59	1.77	1.83	1.71	1.71	1.57	1.53	1.56	1.60
03140303	2.55	2.29	2.53	2.36	2.81	2.55	2.60	2.57	2.43	2.36	2.27	2.17	2.46
03140304	3.00	2.85	2.67	4.16	4.24	3.52	3.34	3.51	3.41	3.02	2.89	2.96	3.30
03140305	2.07	2.38	2.03	1.95	2.03	2.44	2.05	2.27	2.40	2.12	2.38	2.20	2.19
Subtotal	*48.67*	*48.15*	*49.06*	*53.36*	*60.85*	*62.71*	*64.33*	*62.06*	*58.49*	*52.65*	*49.04*	*49.77*	*54.97*
Alabama													
03150105	3.95	3.68	3.70	3.80	4.05	4.47	4.69	4.45	4.20	4.03	3.90	4.00	4.08
03150106	62.92	63.41	60.75	59.75	64.70	68.56	70.06	70.77	65.30	62.16	59.82	58.24	63.88
03150107	16.19	15.80	15.91	17.11	18.61	19.23	18.48	19.08	18.90	17.07	16.41	15.85	17.39
03150108	0.82	0.86	0.81	0.81	0.96	0.97	0.97	0.98	0.92	0.87	0.81	0.75	0.88
03150109	16.27	15.33	16.61	15.61	18.18	18.71	19.23	18.97	17.78	18.81	17.29	17.12	17.51
03150110	30.83	28.77	28.26	28.69	32.98	36.19	37.84	37.10	36.81	31.50	28.26	27.56	32.09
03150201	30.55	20.02	26.49	26.96	28.19	28.70	28.27	29.82	29.40	26.67	23.65	24.33	26.97
03150202	75.04	72.34	70.76	71.59	80.03	77.97	76.48	78.12	76.36	78.94	75.63	75.65	75.77
03150203	4.91	4.59	4.52	4.38	4.41	4.34	4.59	4.57	4.53	4.23	3.95	4.28	4.44
03150204	2.06	2.01	2.04	1.96	1.99	2.20	2.24	2.12	2.09	2.09	1.88	2.01	2.06
Subtotal	*243.53*	*226.80*	*229.84*	*230.66*	*254.11*	*261.34*	*262.85*	*265.97*	*256.29*	*246.36*	*231.61*	*229.78*	*245.08*
Mobile-Tombigbee													
03160101	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table 26. Monthly public-supply total withdrawals by subbasin in Alabama in 2015, in MGD – Continued.

Hydrologic subregion and subbasin	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	AVG
03160103	2.78	2.68	3.14	2.59	2.61	2.57	2.72	2.49	2.53	2.46	2.47	2.40	2.62
03160105	3.22	3.20	3.06	3.05	3.22	3.33	3.31	3.32	3.11	3.10	3.05	2.95	3.16
03160106	3.69	3.56	4.23	3.80	3.98	4.23	5.22	4.89	4.76	4.59	4.41	4.19	4.30
03160107	0.68	0.74	0.67	0.67	0.73	0.78	0.75	0.78	1.55	1.49	1.39	1.16	0.95
03160108	0.27	0.24	0.25	0.23	0.25	0.26	0.26	0.29	0.28	0.26	0.39	0.19	0.26
03160109	33.58	49.42	48.34	46.51	50.68	58.12	58.85	56.75	54.24	46.98	45.31	45.42	49.50
03160110	23.97	6.91	3.03	9.51	16.64	15.53	12.75	9.26	10.44	14.75	12.34	9.42	12.09
03160111	48.65	47.43	45.99	35.32	32.96	42.41	45.86	42.05	34.39	29.54	26.33	25.21	37.97
03160112	45.54	44.91	43.62	43.16	48.58	52.04	50.98	51.52	50.03	49.29	43.94	41.70	47.13
03160113	5.58	5.72	5.52	5.46	5.64	5.71	5.91	6.14	5.88	5.83	5.53	5.58	5.71
03160201	3.55	3.14	3.19	3.14	3.33	3.29	3.31	3.33	3.26	3.20	3.24	3.40	3.28
03160202	0.73	0.67	0.64	0.74	0.61	0.62	0.70	0.71	0.68	0.61	0.60	0.68	0.67
03160203	4.29	5.97	4.03	4.85	4.34	3.99	4.12	4.16	4.00	3.95	3.70	3.56	4.23
03160204	7.35	7.90	7.39	7.85	9.07	8.95	9.01	8.86	9.08	8.24	7.33	7.60	8.22
03160205	11.84	11.54	11.69	13.66	16.96	17.50	17.12	16.01	15.79	14.59	13.01	12.26	14.35
Subtotal	*195.72*	*194.01*	*184.78*	*180.53*	*199.60*	*219.32*	*220.86*	*210.56*	*200.03*	*188.87*	*173.04*	*165.70*	*194.43*
Pascagoula													
03170002	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03170003	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03170008	55.83	52.11	54.31	56.69	60.85	63.19	54.41	62.05	59.72	58.25	57.28	54.70	57.47
03170009	1.03	0.96	1.05	1.11	1.19	1.39	1.47	1.26	1.22	1.15	0.99	1.03	1.16
Subtotal	*56.86*	*53.07*	*55.36*	*57.81*	*62.04*	*64.58*	*55.88*	*63.31*	*60.94*	*59.40*	*58.27*	*55.73*	*58.63*
Middle Tennessee-Hiwassee													
06020001	0.29	0.30	0.30	0.30	0.31	0.32	0.33	0.33	0.34	0.28	0.28	0.28	0.30
Subtotal	*0.29*	*0.30*	*0.30*	*0.30*	*0.31*	*0.32*	*0.33*	*0.33*	*0.34*	*0.28*	*0.28*	*0.28*	*0.30*
Middle Tennessee-Elk													
06030001	34.71	33.23	33.86	33.57	37.16	40.81	40.61	40.42	39.09	34.94	33.73	34.05	36.37
06030002	93.02	92.79	88.78	88.50	108.43	121.44	127.21	118.56	113.11	103.22	93.76	87.88	103.13
06030003	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06030004	6.94	7.11	6.83	6.78	7.43	8.40	8.60	8.31	8.29	8.11	7.67	7.51	7.67
06030005	21.53	21.63	20.91	20.44	22.56	23.22	23.69	22.84	23.08	21.99	20.85	20.32	21.92
06030006	8.63	9.24	9.06	8.59	8.72	9.38	9.39	9.05	8.80	8.20	7.92	8.52	8.79
Subtotal	*164.83*	*163.99*	*159.43*	*157.87*	*184.30*	*203.26*	*209.51*	*199.18*	*192.37*	*176.47*	*163.93*	*158.29*	*177.88*
Total	**737.83**	**713.42**	**707.83**	**709.54**	**792.09**	**843.69**	**848.41**	**835.13**	**802.71**	**754.74**	**703.86**	**688.89**	**761.87**

Residential

Residential water refers to the water that is used for all indoor household purposes, such as drinking, preparing food, bathing, washing clothes and dishes, flushing toilets, and outdoor purposes, such as watering lawns and gardens. Residential water use is defined in this report as public-supplied residential deliveries plus self-supplied residential withdrawals.

Self-supplied residential withdrawals by county and subbasin are shown in tables 27 and 28. Self-supplied residential withdrawals were assumed to be constant year-round; therefore, no monthly tables were produced. Public-supplied residential deliveries and self-supplied residential water withdrawals were 358 MGD in 2015. Public suppliers delivered 321 MGD (90%), of residential water. The remaining 37 MGD of residential water was self-supplied from groundwater. Self-supplied residential withdrawals were less than 1 percent of the total water withdrawals and 2 percent of the withdrawals for all sectors except thermoelectric power (table 5). Eleven percent (11%) of the population relied on private wells for their drinking water.

The geographic distribution of groundwater withdrawals for self-supplied residential use by county and subbasin are shown in figures 24 and 25. The counties with the largest self-supplied residential withdrawals were Mobile (3 MGD), Baldwin (2 MGD), and Talladega (2 MGD) Counties. The counties with the smallest self-supplied residential withdrawals were Lowndes (0.05 MGD), Sumter (0.7 MGD), and Bullock (0.07 MGD) Counties. The subbasins with the largest self-supplied residential withdrawals were the Middle Coosa (03150106; 3 MGD), the Wheeler Lake (06030002; 2 MGD), the Guntersville Lake (06030001; 2 MGD), the Lower Coosa (03150107; 2 MGD), and the Pickwick Lake (06030005; 2 MGD) subbasins. The subbasins with the smallest self-supplied residential withdrawals were the Elk (06030006; 0 MGD), the Lower Chickasawhay (03170003; 0 MGD), the Upper Chickasawhay (03170002; 0.03 MGD) and the Sucarnoochee (03160202, 0.03 MGD) subbasins.

The self-supplied residential population, as a percentage of the total state population by county, is shown in figure 26. The largest self-supplied residential populations were in Mobile and Baldwin Counties. Although Mobile County had the largest number of people (38,323) with private wells, this number represents only 9 percent of the population of that county. Conversely, a much smaller population in Choctaw County relied on private wells (8,172 people), this number represents 62 percent of the county population—a much higher percentage than Mobile County.

Residential per capita use (public-supplied residential deliveries plus self-supplied residential withdrawals divided by the total population) was 74 gal/d. Public-supplied residential per capita use (public-supplied residential deliveries divided by population served) was 74 gal/d and ranged from 46 gal/d for Clay County to 114 gal/d for Hale County. Self-supplied residential per capita use was 68 gal/d.

The sources of information and methodology for estimating public-supply residential deliveries, population served by public suppliers, self-supplied residential withdrawals, and self-supplied population are detailed in the "Public Supply and Residential Water Use" and "Population Served and Self-Supplied Residential Population" sections in the "Data Compilation, Sources of Information, and Methodology for Withdrawals" section of this report.

Figure 24. Map of self-supplied residential groundwater withdrawals by county in Alabama in 2015, in MGD.

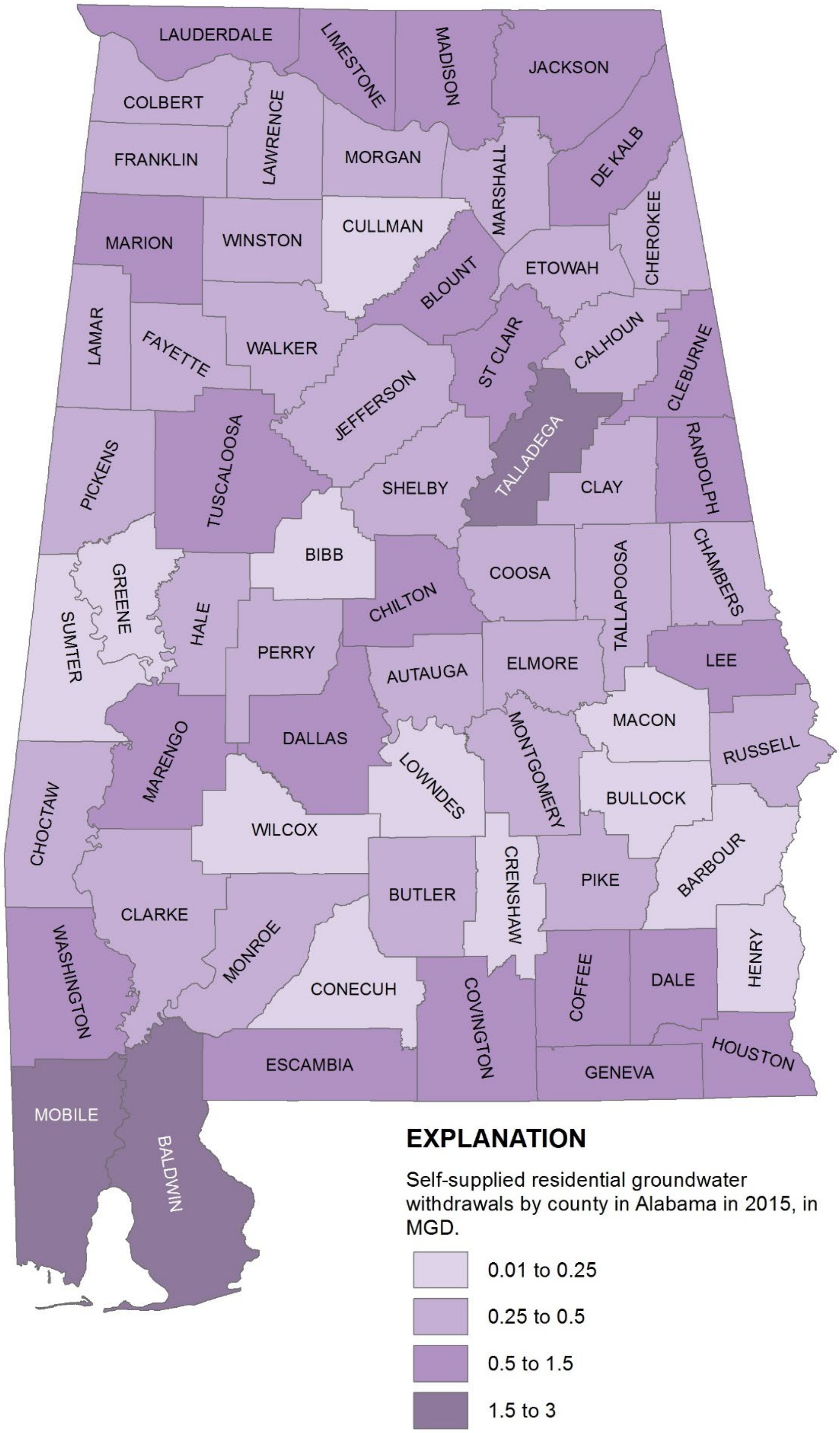


Figure 25. Map of self-supplied residential groundwater withdrawals by subbasin in Alabama in 2015, in MGD.

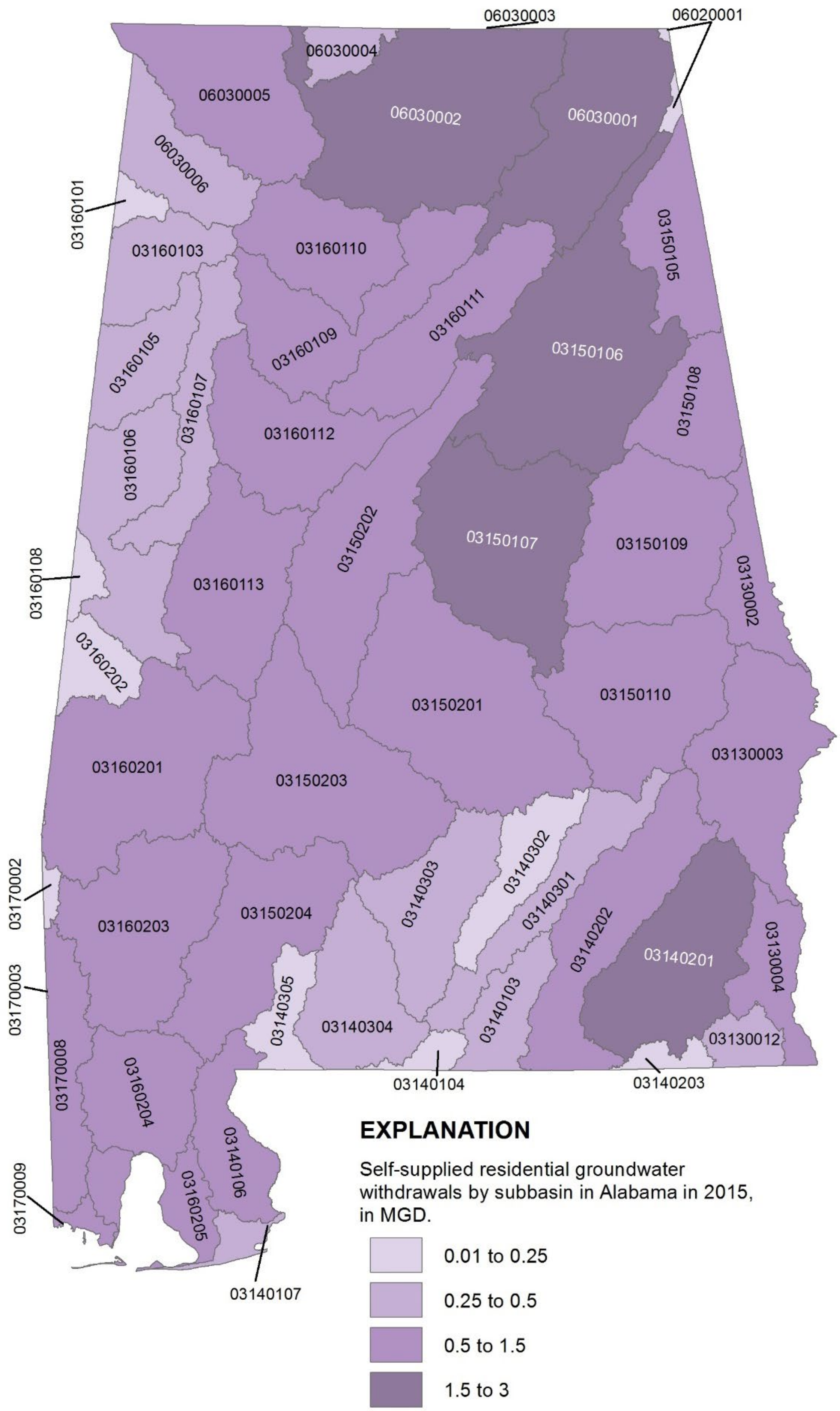


Table 27. Self-supplied residential withdrawals by county in Alabama in 2015, in MGD.

		Population		
County Name	Total	Served by public supply	Self supplied	Self supplied in Percent
AUTAUGA	55,347	48,998	6,349	11%
BALDWIN	203,709	174,907	28,802	14%
BARBOUR	26,489	24,587	1,902	7%
BIBB	22,583	20,947	1,636	7%
BLOUNT	57,673	44,815	12,858	22%
BULLOCK	10,696	9,958	738	7%
BUTLER	20,154	16,806	3,348	17%
CALHOUN	115,620	109,438	6,182	5%
CHAMBERS	34,123	25,783	8,340	24%
CHEROKEE	25,859	17,746	8,113	31%
CHILTON	43,943	34,630	9,313	21%
CHOCTAW	13,170	4,998	8,172	62%
CLARKE	24,675	17,759	6,916	28%
CLAY	13,555	5,970	7,585	56%
CLEBURNE	15,018	6,613	8,405	56%
COFFEE	51,211	42,461	8,750	17%
COLBERT	54,354	50,414	3,940	7%
CONECUH	12,672	6,988	5,684	45%
COOSA	10,724	5,839	4,885	46%
COVINGTON	37,835	24,183	13,652	36%
CRENSHAW	13,963	10,616	3,347	24%
CULLMAN	82,005	79,424	2,581	3%
DALE	49,565	40,468	9,097	18%
DALLAS	41,131	31,711	9,420	23%
DEKALB	71,130	51,765	19,365	27%
ELMORE	81,468	75,870	5,598	7%
ESCAMBIA	37,789	30,839	6,950	18%
ETOWAH	103,057	99,052	4,005	4%
FAYETTE	16,759	9,743	7,016	42%
FRANKLIN	31,696	25,004	6,692	21%
GENEVA	26,777	15,541	11,236	42%
GREENE	8,479	5,778	2,701	32%
HALE	15,068	12,160	2,908	19%
HENRY	17,221	13,297	3,924	23%

Table 27. Self-supplied residential withdrawals by county in Alabama in 2015, in MGD – Continued.

		Population		
County Name	Total	Served by public supply	Self supplied	Self supplied in Percent
HOUSTON	104,173	84,623	19,550	19%
JACKSON	52,419	38,802	13,617	26%
JEFFERSON	660,367	654,319	6,048	1%
LAMAR	13,886	8,668	5,218	38%
LAUDERDALE	92,596	77,817	14,779	16%
LAWRENCE	33,115	27,629	5,486	17%
LEE	156,993	147,603	9,390	6%
LIMESTONE	91,663	78,965	12,698	14%
LOWNDES	10,458	9,713	745	7%
MACON	19,105	16,294	2,811	15%
MADISON	353,089	342,658	10,431	3%
MARENGO	20,028	11,563	8,465	42%
MARION	30,168	20,279	9,889	33%
MARSHALL	94,725	88,680	6,045	6%
MOBILE	415,395	377,074	38,321	9%
MONROE	21,673	15,775	5,898	27%
MONTGOMERY	226,519	221,784	4,735	2%
MORGAN	119,565	115,544	4,021	3%
PERRY	9,652	5,432	4,220	44%
PICKENS	20,864	16,578	4,286	21%
PIKE	33,046	29,067	3,979	12%
RANDOLPH	22,696	11,912	10,784	48%
RUSSELL	59,660	55,434	4,226	7%
SHELBY	208,713	199,698	9,015	4%
ST CLAIR	87,074	80,226	6,848	8%
SUMTER	13,103	11,919	1,184	9%
TALLADEGA	80,862	60,455	20,407	25%
TALLAPOOSA	40,844	34,761	6,083	15%
TUSCALOOSA	203,976	192,500	11,476	6%
WALKER	65,294	57,701	7,593	12%
WASHINGTON	16,804	9,159	7,645	45%
WILCOX	11,059	6,592	4,467	40%
WINSTON	23,877	15,253	8,624	36%
TOTAL	4,858,979	4,319,584	539,395	
AVERAGE		89%	11%	

Table 27. Self-supplied residential withdrawals by county in Alabama in 2015, in MGD – Continued.

	Residential water use, in million gallons per day			Residential per capita use, in gallons per day		
County Name	Groundwater withdrawals	Residential Deliveries	Combined	Self-supplied	Public-supplied	Combined
AUTAUGA	0.38	2.71	3.09	60	55	56
BALDWIN	2.15	12.78	14.93	74	73	73
BARBOUR	0.12	1.42	1.54	62	58	58
BIBB	0.16	1.81	1.97	98	86	87
BLOUNT	0.86	2.79	3.65	67	62	63
BULLOCK	0.07	0.89	0.96	95	89	89
BUTLER	0.27	1.35	1.62	80	80	80
CALHOUN	0.44	7.52	7.96	71	69	69
CHAMBERS	0.48	1.74	2.21	57	67	65
CHEROKEE	0.49	1.08	1.57	61	61	61
CHILTON	0.60	2.23	2.82	64	64	64
CHOCTAW	0.41	0.25	0.67	51	51	51
CLARKE	0.45	1.19	1.64	65	67	66
CLAY	0.32	0.28	0.59	42	46	44
CLEBURNE	0.94	0.61	1.56	112	93	104
COFFEE	0.80	3.53	4.34	92	83	85
COLBERT	0.35	4.27	4.62	89	85	85
CONECUH	0.18	0.41	0.59	32	58	46
COOSA	0.33	0.39	0.72	67	67	67
COVINGTON	1.01	1.81	2.82	74	75	74
CRENSHAW	0.15	0.83	0.98	44	78	70
CULLMAN	0.19	5.73	5.92	72	72	72
DALE	0.68	3.05	3.73	75	75	75
DALLAS	0.66	2.23	2.89	70	70	70
DEKALB	1.34	3.39	4.73	69	65	67
ELMORE	0.36	5.02	5.38	64	66	66
ESCAMBIA	0.51	2.22	2.73	73	72	72
ETOWAH	0.26	6.60	6.85	64	67	66
FAYETTE	0.49	0.68	1.17	70	70	70
FRANKLIN	0.37	1.40	1.77	56	56	56
GENEVA	0.68	0.94	1.62	60	60	60
GREENE	0.16	0.35	0.52	61	61	61
HALE	0.33	1.38	1.71	113	114	114
HENRY	0.24	0.81	1.05	61	61	61

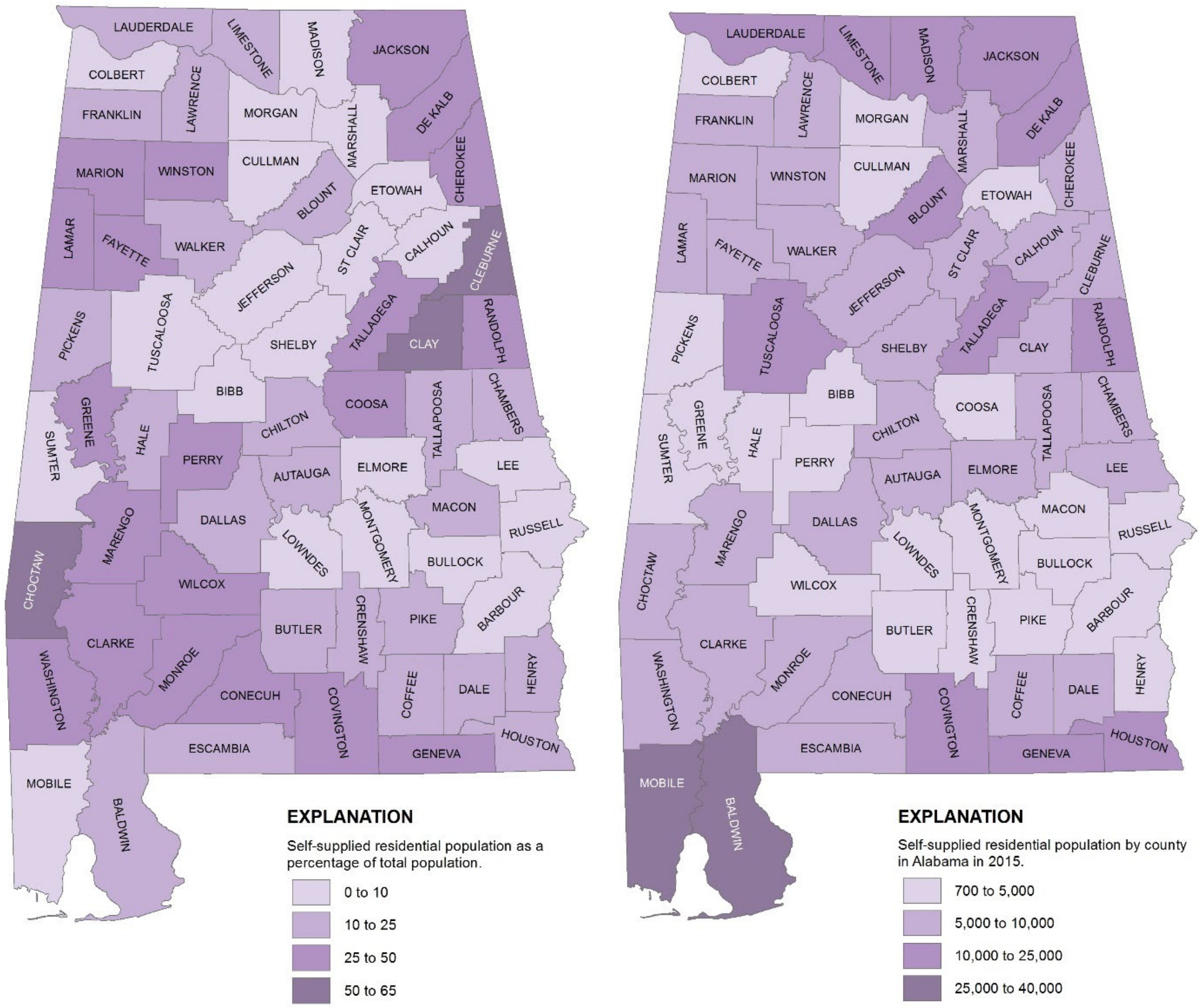
Table 27. Self-supplied residential withdrawals by county in Alabama in 2015, in MGD – Continued.

	Residential water use, in million gallons per day			Residential per capita use, in gallons per day		
County Name	Groundwater withdrawals	Residential Deliveries	Combined	Self-supplied	Public-supplied	Combined
HOUSTON	1.11	4.98	6.09	57	59	58
JACKSON	0.86	2.61	3.46	63	67	66
JEFFERSON	0.39	48.85	49.23	64	75	75
LAMAR	0.29	0.49	0.78	56	56	56
LAUDERDALE	1.17	6.17	7.34	79	79	79
LAWRENCE	0.35	1.78	2.13	64	64	64
LEE	0.72	9.81	10.53	77	66	67
LIMESTONE	0.99	5.42	6.40	78	69	70
LOWNDES	0.05	0.76	0.81	67	78	77
MACON	0.15	1.16	1.31	54	71	69
MADISON	0.72	30.95	31.67	69	90	90
MARENGO	0.53	0.72	1.25	62	62	62
MARION	0.54	1.10	1.64	54	54	54
MARSHALL	0.43	9.05	9.49	72	102	100
MOBILE	2.72	35.57	38.29	71	94	92
MONROE	0.38	1.03	1.41	65	65	65
MONTGOMERY	0.30	14.30	14.60	63	64	64
MORGAN	0.32	8.81	9.13	79	76	76
PERRY	0.33	0.43	0.76	78	78	78
PICKENS	0.37	1.33	1.70	87	80	81
PIKE	0.33	2.33	2.66	82	80	80
RANDOLPH	0.58	0.64	1.22	54	53	54
RUSSELL	0.30	4.90	5.20	71	88	87
SHELBY	0.44	12.85	13.29	48	64	64
ST CLAIR	0.51	4.63	5.14	74	58	59
SUMTER	0.07	0.71	0.78	57	59	59
TALLADEGA	1.75	5.53	7.27	86	91	90
TALLAPOOSA	0.43	2.32	2.74	70	67	67
TUSCALOOSA	0.75	12.29	13.04	65	64	64
WALKER	0.45	3.52	3.97	59	61	61
WASHINGTON	0.52	0.60	1.12	69	65	67
WILCOX	0.23	0.35	0.57	50	52	52
WINSTON	0.43	1.33	1.76	50	87	74
TOTAL	**36.69**	**320.96**	**357.64**			
				68	**74**	**74**

Table 28. Self-supplied residential withdrawals by hydrologic subregion and subbasin in Alabama in 2015, in MGD.

Hydrologic subregion and subbasin	Withdrawals by source, in million gallons per day
	Groundwater
Apalachicola	
03130002	0.52
03130003	0.58
03130004	0.58
03130012	0.50
Subtotal	*2.18*
Chocawhatchee-Escambia	
03140103	0.48
03140104	0.11
03140106	0.69
03140107	0.29
03140201	1.51
03140202	1.08
03140203	0.16
03140301	0.43
03140302	0.22
03140303	0.36
03140304	0.38
03140305	0.16
Subtotal	*5.87*
Alabama	
03150105	0.90
03150106	2.75
03150107	1.64
03150108	0.95
03150109	1.03
03150110	0.79
03150201	1.12
03150202	0.80
03150203	0.87
03150204	0.69
Subtotal	*11.54*
Mobile-Tombigbee	
03160101	0.08
03160103	0.44
03160105	0.38
03160106	0.32
03160107	0.46
03160108	0.10
03160109	0.77
03160110	0.51
03160111	0.93
03160112	0.67
03160113	0.68
03160201	0.89
03160202	0.03
03160203	0.70
03160204	1.28
03160205	1.12
Subtotal	*9.37*
Pascagoula	
03170002	0.03
03170003	0.00
03170008	0.85
03170009	0.53
Subtotal	*1.41*
Middle Tennessee-Hiwassee	
06020001	0.08
Subtotal	*0.08*
Middle Tennessee-Elk	
06030001	1.65
06030002	2.32
06030003	0.00
06030004	0.41
06030005	1.39
06030006	0.47
Subtotal	*6.22*
Total	**36.69**

Figure 26. Map of self-supplied residential population as a percentage of total population and self-supplied residential population by county in Alabama in 2015.



Irrigation

Irrigation water refers to water that is applied by an irrigation system to assist in the growing of crops and pastures or to maintain vegetative growth in recreational lands such as parks and golf courses. Irrigation includes water that is applied for pre-irrigation, frost protection, chemical application, weed control, field preparation, crop cooling, harvesting, dust suppression, the leaching of salts from the root zone, and water lost in conveyance. Conveyance loss was not reported for 2015. Although annual water-use data are expressed in terms of million gallons per day, irrigation water is applied, generally, only during part of each year and at variable rates; therefore, the actual rate of application during the growing season would be more than the daily rate expressed as million gallons per day.

Irrigation withdrawals and irrigated acres by irrigation system, county and subbasin are shown in tables 29 through 37 with tables 30 through 32 and 34 through 36 showing monthly withdrawals. For 2015, total irrigation withdrawals were 223 MGD. Irrigation withdrawals were 3 percent of total withdrawals and 14 percent of total withdrawals for all sectors excluding thermoelectric power (table 13). Of the total irrigation withdrawals, 56 percent, or 124 MGD, was from surface water. The remaining 44 percent, or 99 MGD, was from groundwater (figure 27). Approximately 188,970 acres were irrigated in 2015. Average application rates were calculated by dividing total irrigation withdrawals – determined separately for crops (row crops, nursery stock, and sod) and golf courses – for each county by the number of acres. The statewide average application rate was 1.32 acre-feet per acre per year. The highest application rate was for nursery stock, 5.29 acre-feet per acre per year.

The geographic distribution of total, groundwater, and surface-water withdrawals for irrigation by county and hydrologic subregion and subbasin are shown in figures 28 and 29. Thirty nine percent of the counties (26 counties) withdrew less than 1 MGD for irrigation. Baldwin County withdrew 26 percent (58 MGD) of total irrigation water with 81 percent of that water (47 MGD) withdrawn from groundwater sources (table 29). The top 14 counties (totaling 150 MGD) each withdrew more than 5 MGD, and as a group withdrew 67 percent of the irrigation total for the State. The Guntersville Lake subbasin (06030002, in the Middle Tennessee Elk subregion) withdrew the most water for irrigation in 2015 (19 MGD) – 9 percent of the total. The top 9 subbasins, each withdrew 10 MGD or more, accounted for roughly 57 percent of the estimated withdrawals (table 33)

Approximately 27 percent (61,340 acres) of the total irrigated acreage (188,970 acres) and about 26 percent of the total crop irrigated acreage (57,120 acres of the 166,640 acres) were in Baldwin County (primarily nursery and sod), Limestone (primarily corn and cotton), Houston (primarily nursery and sod) and Madison Counties (primarily corn and cotton). (U.S. Department of Agriculture, National Agricultural Statistics Service, 2014, table 37).

Nursery stock and sod are important to the agricultural economy of the state. Nursery stock and sod accounted for approximately 15 percent (25,409 acres) of the 166,640 irrigated crop acreage statewide. Approximately 43 percent of the total nursery stock and sod acreage was in Baldwin County. In comparisons to most crops in the state, all of the commercial nursery, sod, and golf course acreages were irrigated. These businesses were located in nearly every county in Alabama.

Golf courses applied an estimated 43 MGD to 22,300 acres in 2015 (table 37). For this report, it was assumed that all golf course irrigation was from surface water and the water applied was from sprinkler systems. Golf courses were classified as Tier 1, 2, or 3 (table 4) depending on several factors including turf and landscape watering practices, which, are in turn, guided by the season of the year, antecedent soil moisture, weather conditions, and operational costs. Tier 1 golf courses water more extensively than Tier 2 and Tier 3 courses. The effect of precipitation on watering practices in 2015 is shown in figure 30. A composite of average monthly watering by tier is compared to statewide monthly average rainfall amounts expressed as departure from normal in inches for 2015 (National Oceanic and Atmospheric Administration, 2016). Statewide average rainfall for 2015 was about 59 inches— about 3 inches above the normal rainfall of 56 inches per year.

While a significant amount of irrigation withdrawal data is reported to the OWR AWURP, there are some limitations in the annually reported data such as irrigated acreage, crop type, irrigation system type, application rates, etc. Therefore, irrigation withdrawal information was supplemented from ancillary data, such as crop type, application coefficients, and irrigated acreage. The sources of these ancillary data were an OWR irrigation survey, Alabama Department of Agriculture and Industries (AGI) listing of 2010 certified nursery growers and nursery dealers, and the U.S. Department of Agriculture, National Agricultural Statistics Service Census of Agriculture (2012).

Figure 27. Source and distribution of water for irrigation use in Alabama in 2015, in MGD.

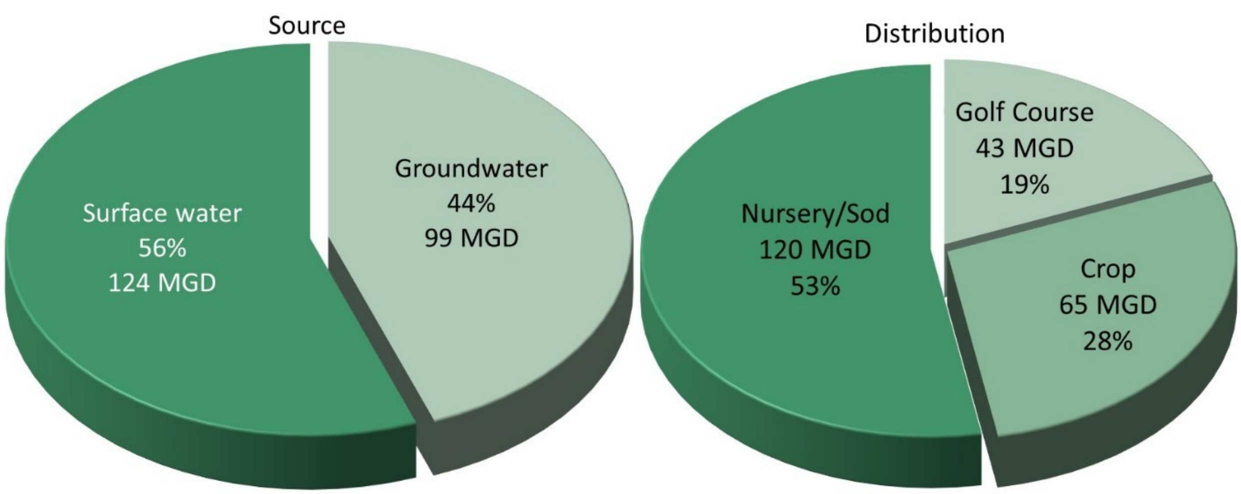


Figure 28. Map of irrigation withdrawals by source and county in Alabama in 2015, in MGD.

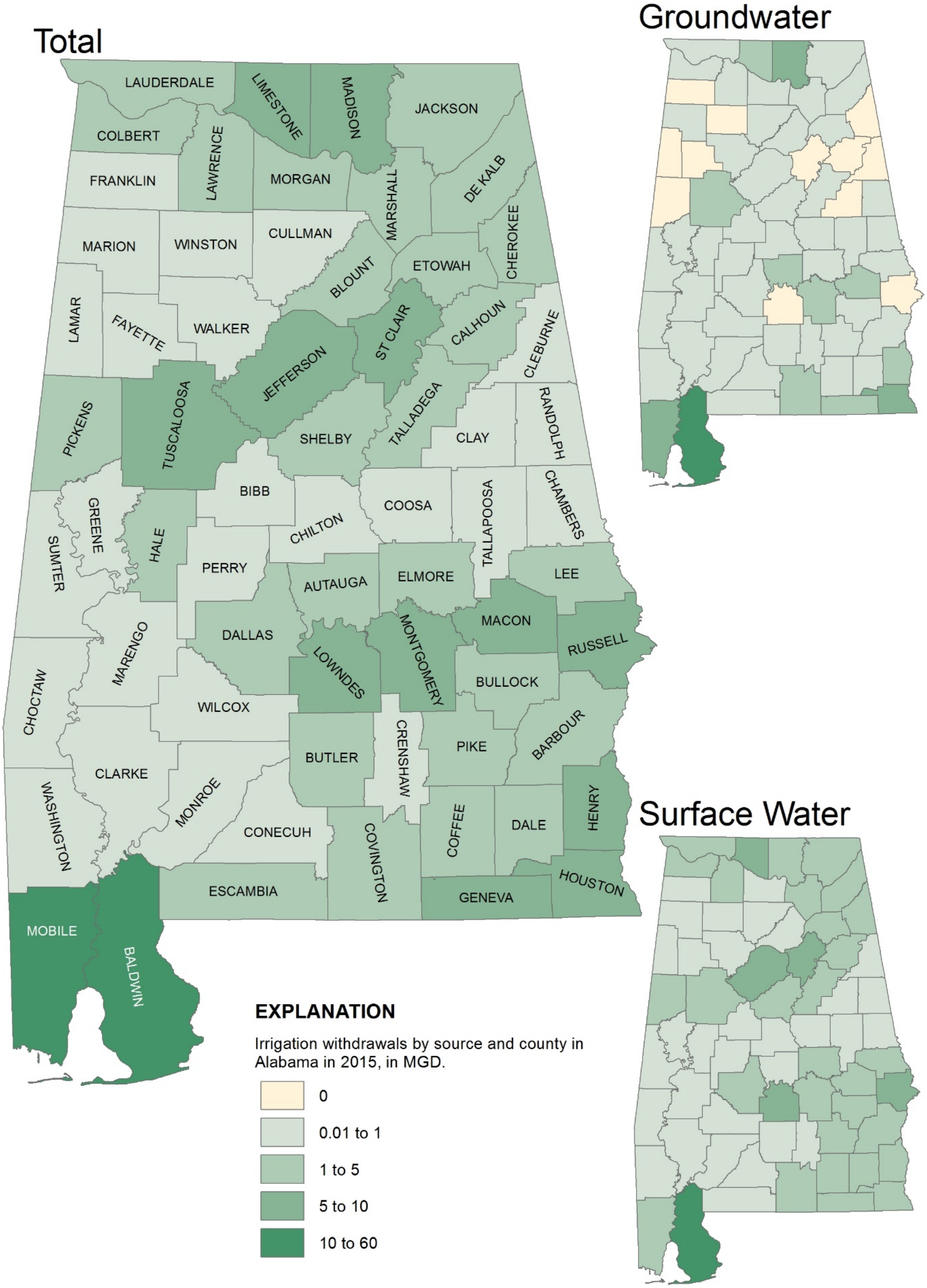


Figure 29. Map of irrigation withdrawals by source and subbasin in Alabama in 2015, in MGD.

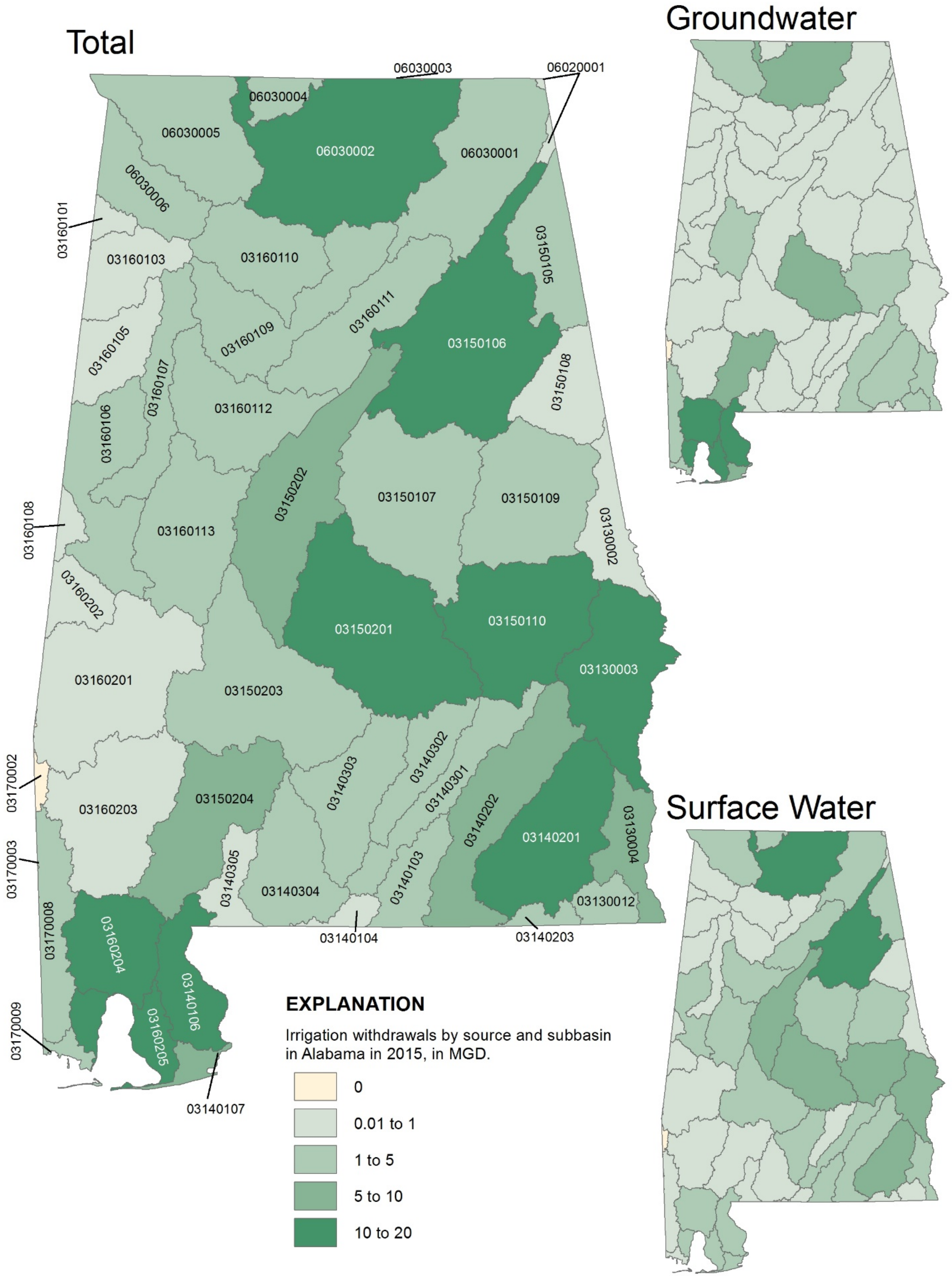


Figure 30. Comparison of seasonal water use by golf course type in Alabama in 2015.

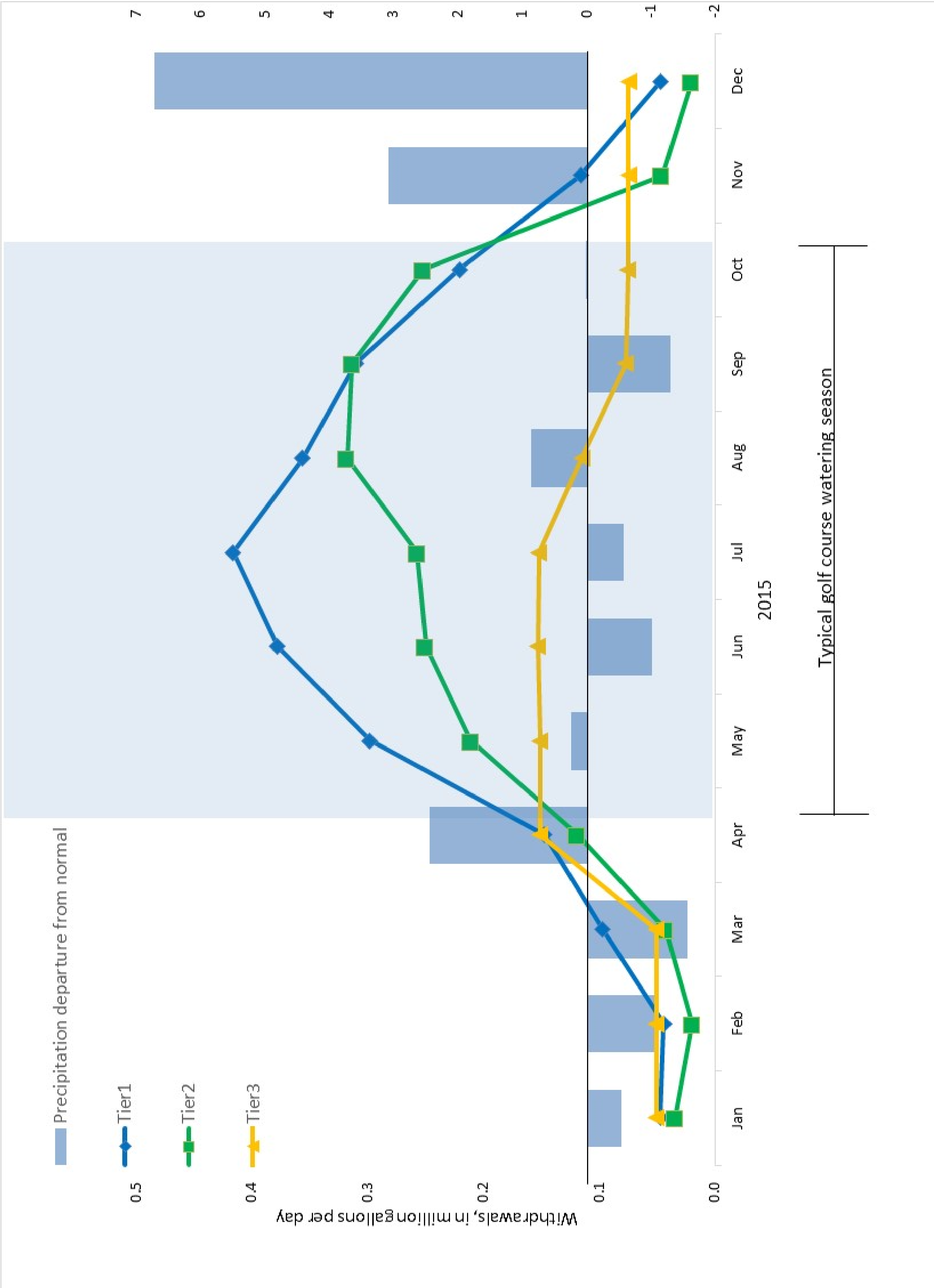


Table 29. Irrigation withdrawals by county in Alabama in 2015, in MGD.

	IRRIGATED LAND in thousand acres		WITHDRAWALS by source in million gallons per day			Application rate (in acre-feet per acre)
County Name	Total		Groundwater	Surface water	Total	
AUTAUGA	2.26		3.36	0.16	3.52	1.75
BALDWIN	20.66		47.28	11.15	58.42	3.17
BARBOUR	4.53		0.58	2.41	2.98	0.74
BIBB	0.16		0.03	0.16	0.19	1.37
BLOUNT	0.94		0.20	0.88	1.08	1.29
BULLOCK	1.67		0.92	1.08	2.00	1.34
BUTLER	0.30		0.01	0.99	1.01	3.82
CALHOUN	1.93		0.00	3.16	3.16	1.83
CHAMBERS	0.17		0.07	0.16	0.22	1.47
CHEROKEE	1.87		0.00	2.83	2.83	1.69
CHILTON	0.57		0.33	0.16	0.48	0.95
CHOCTAW	0.06		0.00	0.16	0.16	2.84
CLARKE	0.16		0.02	0.26	0.28	1.90
CLAY	0.08		0.00	0.12	0.12	1.80
CLEBURNE	0.31		0.00	0.14	0.14	0.50
COFFEE	5.06		0.68	3.20	3.89	0.86
COLBERT	4.17		0.79	1.67	2.46	0.66
CONECUH	0.16		0.05	0.16	0.21	1.50
COOSA	0.06		0.00	0.10	0.10	2.06
COVINGTON	2.22		1.27	2.20	3.47	1.76
CRENSHAW	0.96		0.00	0.58	0.58	0.68
CULLMAN	0.73		0.28	0.63	0.91	1.39
DALE	2.84		0.33	1.76	2.09	0.82
DALLAS	3.16		0.69	2.53	3.22	1.14
DEKALB	0.67		0.49	2.15	2.65	4.40
ELMORE	3.83		0.61	2.48	3.09	0.90
ESCAMBIA	1.96		1.00	0.75	1.75	1.00
ETOWAH	0.65		0.00	1.00	1.01	1.75
FAYETTE	0.45		0.00	0.37	0.37	0.92
FRANKLIN	1.23		0.00	0.84	0.84	0.77
GENEVA	8.86		2.52	2.97	5.50	0.70
GREENE	0.44		0.33	0.13	0.45	1.17
HALE	1.96		0.92	0.16	1.08	0.61
HENRY	8.58		1.43	4.46	5.89	0.77

Table 29. Irrigation withdrawals by county in Alabama in 2015, in MGD – Continued.

	IRRIGATED LAND in thousand acres		WITHDRAWALS by source in million gallons per day			Application rate (in acre-feet per acre)
County Name	Total		Groundwater	Surface water	Total	
HOUSTON	13.19		5.17	2.42	7.59	0.64
JACKSON	0.96		0.27	1.02	1.29	1.50
JEFFERSON	3.15		0.08	5.82	5.90	2.10
LAMAR	0.80		0.00	0.24	0.24	0.34
LAUDERDALE	1.04		0.56	1.25	1.81	1.95
LAWRENCE	4.88		0.05	2.54	2.59	0.59
LEE	2.09		0.29	2.89	3.18	1.71
LIMESTONE	15.87		2.48	7.32	9.80	0.69
LOWNDES	5.10		0.00	5.75	5.75	1.26
MACON	3.66		2.40	3.55	5.94	1.82
MADISON	11.61		5.02	4.17	9.19	0.89
MARENGO	0.56		0.17	0.26	0.43	0.86
MARION	0.39		0.11	0.16	0.27	0.78
MARSHALL	1.13		0.79	1.30	2.08	2.06
MOBILE	5.52		8.67	2.27	10.94	2.22
MONROE	1.05		0.41	0.16	0.57	0.60
MONTGOMERY	3.47		4.26	2.03	6.29	2.03
MORGAN	0.86		0.16	0.89	1.04	1.36
PERRY	1.23		0.54	0.10	0.63	0.58
PICKENS	4.24		0.00	1.96	1.96	0.52
PIKE	3.36		0.41	1.06	1.47	0.49
RANDOLPH	0.13		0.03	0.11	0.14	1.16
RUSSELL	4.78		0.00	7.47	7.47	1.75
SHELBY	1.27		0.34	1.38	1.72	1.51
ST CLAIR	1.93		0.00	5.18	5.18	3.01
SUMTER	1.59		0.50	0.26	0.75	0.53
TALLADEGA	6.09		0.61	4.19	4.80	0.88
TALLAPOOSA	1.44		0.02	0.89	0.92	0.71
TUSCALOOSA	2.92		1.33	4.35	5.68	2.18
WALKER	0.44		0.05	0.67	0.72	1.82
WASHINGTON	0.15		0.07	0.16	0.23	1.73
WILCOX	0.28		0.06	0.39	0.45	1.77
WINSTON	0.14		0.00	0.18	0.18	1.40
TOTAL	**188.97**		**99.07**	**124.28**	**223.35**	
AVERAGE						**1.32**

Table 30. Monthly irrigation groundwater withdrawals by county in Alabama in 2015, in MGD.

County Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg
AUTAUGA	1.46	1.87	2.20	2.67	3.76	5.10	5.30	5.15	4.36	3.93	2.53	1.94	3.36
BALDWIN	22.30	28.87	32.33	38.23	50.56	64.70	67.06	69.45	64.31	59.09	39.05	30.13	47.28
BARBOUR	0.07	0.06	0.24	0.38	0.88	1.57	1.66	1.18	0.44	0.29	0.08	0.05	0.58
BIBB	0.01	0.01	0.02	0.02	0.05	0.08	0.09	0.06	0.03	0.02	0.01	0.01	0.03
BLOUNT	0.05	0.05	0.10	0.14	0.28	0.47	0.50	0.38	0.19	0.15	0.07	0.05	0.20
BULLOCK	0.30	0.36	0.52	0.69	1.16	1.79	1.88	1.58	1.02	0.85	0.49	0.37	0.92
BUTLER	0.00	0.01	0.01	0.01	0.02	0.03	0.03	0.02	0.02	0.01	0.01	0.01	0.01
CALHOUN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CHAMBERS	0.02	0.02	0.04	0.05	0.09	0.14	0.15	0.12	0.07	0.06	0.03	0.02	0.07
CHEROKEE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CHILTON	0.09	0.11	0.18	0.24	0.43	0.69	0.72	0.58	0.34	0.27	0.15	0.11	0.33
CHOCTAW	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00
CLARKE	0.00	0.00	0.01	0.01	0.03	0.06	0.06	0.05	0.02	0.01	0.00	0.00	0.02
CLAY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CLEBURNE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
COFFEE	0.17	0.20	0.35	0.49	0.93	1.52	1.60	1.25	0.67	0.53	0.26	0.19	0.68
COLBERT	0.10	0.08	0.33	0.52	1.20	2.14	2.26	1.61	0.60	0.39	0.11	0.06	0.79
CONECUH	0.01	0.01	0.02	0.04	0.08	0.14	0.15	0.11	0.04	0.03	0.01	0.01	0.05
COOSA	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00
COVINGTON	0.54	0.69	0.82	1.00	1.44	1.98	2.06	1.97	1.63	1.46	0.93	0.71	1.27
CRENSHAW	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00
CULLMAN	0.10	0.12	0.16	0.21	0.35	0.52	0.55	0.47	0.32	0.27	0.16	0.12	0.28
DALE	0.06	0.06	0.15	0.22	0.48	0.83	0.87	0.64	0.28	0.20	0.08	0.05	0.33
DALLAS	0.34	0.44	0.48	0.56	0.72	0.90	0.93	0.99	0.96	0.89	0.59	0.46	0.69
DEKALB	0.24	0.31	0.34	0.40	0.52	0.66	0.68	0.72	0.68	0.62	0.41	0.32	0.49
ELMORE	0.12	0.13	0.29	0.42	0.86	1.47	1.55	1.16	0.54	0.40	0.17	0.12	0.61
ESCAMBIA	0.33	0.41	0.57	0.75	1.25	1.91	2.00	1.70	1.12	0.95	0.55	0.41	1.00
ETOWAH	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00
FAYETTE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FRANKLIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GENEVA	0.77	0.92	1.39	1.86	3.25	5.11	5.36	4.41	2.69	2.23	1.23	0.92	2.52
GREENE	0.12	0.15	0.20	0.25	0.39	0.58	0.60	0.53	0.38	0.33	0.20	0.15	0.33
HALE	0.13	0.11	0.39	0.61	1.38	2.46	2.60	1.86	0.72	0.48	0.14	0.09	0.92
HENRY	0.34	0.39	0.72	1.02	1.97	3.26	3.43	2.65	1.37	1.07	0.52	0.38	1.43

Table 30. Monthly irrigation groundwater withdrawals by county in Alabama in 2015, in MGD – Continued.

County Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg
HOUSTON	0.91	0.92	2.33	3.52	7.53	13.07	13.78	10.12	4.36	3.12	1.20	0.82	5.17
JACKSON	0.13	0.17	0.19	0.22	0.29	0.36	0.37	0.40	0.38	0.35	0.24	0.18	0.27
JEFFERSON	0.04	0.05	0.06	0.07	0.09	0.11	0.11	0.12	0.11	0.11	0.07	0.05	0.08
LAMAR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LAUDERDALE	0.24	0.31	0.37	0.44	0.63	0.85	0.89	0.86	0.72	0.65	0.42	0.32	0.56
LAWRENCE	0.02	0.03	0.03	0.04	0.05	0.06	0.07	0.07	0.07	0.06	0.04	0.03	0.05
LEE	0.12	0.15	0.18	0.23	0.33	0.47	0.49	0.46	0.36	0.32	0.20	0.15	0.29
LIMESTONE	0.92	1.15	1.50	1.90	2.98	4.38	4.58	4.06	2.94	2.55	1.54	1.17	2.48
LOWNDES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MACON	1.07	1.38	1.60	1.92	2.64	3.51	3.64	3.62	3.16	2.87	1.87	1.44	2.40
MADISON	1.25	1.42	2.55	3.58	6.84	11.27	11.86	9.23	4.87	3.82	1.89	1.39	5.02
MARENGO	0.02	0.02	0.07	0.11	0.26	0.47	0.49	0.35	0.13	0.09	0.02	0.01	0.17
MARION	0.02	0.01	0.05	0.08	0.17	0.30	0.32	0.23	0.09	0.06	0.02	0.01	0.11
MARSHALL	0.38	0.50	0.55	0.64	0.82	1.03	1.06	1.13	1.09	1.01	0.67	0.52	0.79
MOBILE	3.94	5.07	5.81	6.94	9.47	12.45	12.93	12.98	11.53	10.50	6.86	5.28	8.67
MONROE	0.05	0.05	0.17	0.27	0.62	1.11	1.17	0.83	0.31	0.21	0.06	0.04	0.41
MONTGOMERY	2.08	2.70	2.97	3.48	4.47	5.56	5.76	6.15	5.92	5.48	3.66	2.83	4.26
MORGAN	0.08	0.10	0.11	0.13	0.16	0.20	0.21	0.23	0.22	0.20	0.13	0.10	0.16
PERRY	0.07	0.06	0.22	0.35	0.82	1.46	1.54	1.09	0.41	0.27	0.07	0.04	0.54
PICKENS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PIKE	0.05	0.04	0.17	0.27	0.63	1.13	1.19	0.84	0.31	0.20	0.05	0.03	0.41
RANDOLPH	0.01	0.01	0.01	0.02	0.03	0.05	0.05	0.05	0.03	0.02	0.01	0.01	0.03
RUSSELL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SHELBY	0.13	0.17	0.21	0.27	0.40	0.58	0.61	0.55	0.42	0.37	0.23	0.17	0.34
ST CLAIR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUMTER	0.06	0.05	0.21	0.33	0.76	1.36	1.43	1.02	0.38	0.25	0.07	0.04	0.50
TALLADEGA	0.08	0.06	0.25	0.40	0.93	1.66	1.75	1.24	0.46	0.30	0.08	0.05	0.61
TALLAPOOSA	0.01	0.02	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.03	0.02	0.02	0.02
TUSCALOOSA	0.54	0.68	0.84	1.03	1.53	2.16	2.26	2.09	1.65	1.46	0.92	0.70	1.33
WALKER	0.02	0.02	0.03	0.03	0.05	0.08	0.08	0.07	0.06	0.05	0.03	0.02	0.05
WASHINGTON	0.03	0.03	0.04	0.05	0.08	0.11	0.12	0.11	0.08	0.07	0.05	0.04	0.07
WILCOX	0.01	0.01	0.03	0.04	0.09	0.17	0.18	0.13	0.05	0.03	0.01	0.00	0.06
WINSTON	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	39.96	50.58	62.42	77.20	114.82	162.11	169.09	156.70	122.94	109.00	68.22	52.19	99.07

Table 31. Monthly irrigation surface-water withdrawals by county in Alabama in 2015, in MGD.

County Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg
AUTAUGA	0.03	0.02	0.04	0.12	0.21	0.25	0.26	0.32	0.31	0.25	0.05	0.02	0.16
BALDWIN	1.37	3.99	5.52	8.87	14.25	17.98	18.61	19.82	17.34	14.14	7.17	4.22	11.15
BARBOUR	0.27	0.55	1.05	1.73	3.30	5.03	5.24	4.68	3.06	2.39	0.91	0.54	2.41
BIBB	0.03	0.02	0.04	0.12	0.21	0.25	0.26	0.32	0.31	0.25	0.05	0.02	0.16
BLOUNT	0.21	0.15	0.28	0.72	1.22	1.55	1.60	1.68	1.44	1.15	0.28	0.17	0.88
BULLOCK	0.10	0.31	0.50	0.79	1.43	2.11	2.18	2.06	1.44	1.15	0.51	0.31	1.08
BUTLER	0.23	0.20	0.43	0.71	1.41	1.77	1.93	1.75	1.56	1.14	0.51	0.21	0.99
CALHOUN	0.50	0.89	1.45	2.42	4.22	5.48	5.76	5.71	4.83	3.80	1.73	0.94	3.16
CHAMBERS	0.03	0.02	0.04	0.12	0.21	0.25	0.26	0.32	0.31	0.25	0.05	0.02	0.16
CHEROKEE	0.16	1.12	1.48	2.17	3.48	4.72	4.82	5.16	4.18	3.49	1.86	1.14	2.83
CHILTON	0.03	0.02	0.04	0.12	0.21	0.25	0.26	0.32	0.31	0.25	0.05	0.02	0.16
CHOCTAW	0.03	0.02	0.04	0.12	0.21	0.25	0.26	0.32	0.31	0.25	0.05	0.02	0.16
CLARKE	0.09	0.07	0.09	0.27	0.36	0.40	0.41	0.43	0.39	0.33	0.12	0.10	0.26
CLAY	0.05	0.06	0.06	0.17	0.18	0.20	0.20	0.16	0.11	0.10	0.09	0.08	0.12
CLEBURNE	0.01	0.04	0.07	0.10	0.19	0.30	0.32	0.27	0.16	0.12	0.06	0.04	0.14
COFFEE	0.36	0.71	1.41	2.29	4.44	6.95	7.25	6.26	3.82	2.95	1.14	0.68	3.20
COLBERT	0.33	0.29	0.71	1.23	2.46	3.68	3.92	3.11	1.92	1.38	0.58	0.30	1.67
CONECUH	0.03	0.02	0.04	0.12	0.21	0.25	0.26	0.32	0.31	0.25	0.05	0.02	0.16
COOSA	0.05	0.05	0.05	0.15	0.15	0.15	0.15	0.12	0.08	0.08	0.08	0.08	0.10
COVINGTON	0.25	0.85	1.10	1.84	2.79	3.61	3.68	3.92	3.25	2.72	1.40	0.91	2.20
CRENSHAW	0.11	0.10	0.25	0.47	0.88	1.46	1.53	1.09	0.44	0.31	0.14	0.11	0.58
CULLMAN	0.15	0.21	0.29	0.63	0.88	1.10	1.12	1.07	0.82	0.69	0.34	0.26	0.63
DALE	0.28	0.20	0.64	1.22	2.56	4.06	4.26	3.56	2.11	1.56	0.33	0.17	1.76
DALLAS	0.29	0.71	1.17	1.92	3.41	5.07	5.26	4.77	3.19	2.54	1.14	0.72	2.53
DEKALB	0.25	0.86	1.07	1.83	2.67	3.23	3.27	3.81	3.45	2.92	1.46	0.94	2.15
ELMORE	0.37	0.65	1.14	1.88	3.40	4.78	5.03	4.56	3.35	2.60	1.20	0.68	2.48
ESCAMBIA	0.14	0.20	0.30	0.63	1.01	1.31	1.35	1.38	1.12	0.91	0.34	0.22	0.75
ETOWAH	0.31	0.26	0.39	0.97	1.42	1.66	1.72	1.71	1.50	1.22	0.48	0.33	1.00
FAYETTE	0.06	0.04	0.13	0.26	0.53	0.82	0.86	0.75	0.47	0.36	0.07	0.04	0.37
FRANKLIN	0.14	0.19	0.36	0.68	1.19	1.77	1.85	1.57	0.97	0.76	0.31	0.21	0.84
GENEVA	0.29	0.82	1.43	2.21	4.08	6.38	6.64	5.63	3.32	2.60	1.29	0.83	2.97
GREENE	0.05	0.05	0.06	0.17	0.20	0.24	0.24	0.18	0.10	0.09	0.08	0.08	0.13
HALE	0.03	0.02	0.04	0.12	0.21	0.25	0.26	0.32	0.31	0.25	0.05	0.02	0.16
HENRY	0.45	0.99	2.03	3.14	6.27	10.22	10.69	8.71	4.73	3.58	1.53	0.93	4.46

Table 31. Monthly irrigation surface-water withdrawals by county in Alabama in 2015, in MGD – Continued.

County Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg
HOUSTON	0.44	0.35	0.98	1.68	3.52	5.30	5.64	4.65	3.03	2.19	0.75	0.34	2.42
JACKSON	0.26	0.20	0.35	0.90	1.43	1.81	1.87	1.88	1.55	1.25	0.36	0.25	1.02
JEFFERSON	1.46	1.16	2.19	4.73	8.14	9.86	10.42	10.55	9.60	7.46	2.57	1.34	5.82
LAMAR	0.05	0.03	0.08	0.17	0.34	0.48	0.50	0.49	0.38	0.29	0.06	0.03	0.24
LAUDERDALE	0.27	0.36	0.53	1.09	1.69	2.04	2.11	2.21	1.96	1.59	0.67	0.42	1.25
LAWRENCE	0.37	0.33	1.04	1.78	3.82	6.55	6.90	5.07	2.16	1.50	0.46	0.30	2.54
LEE	0.42	0.78	1.26	2.16	3.80	4.91	5.12	5.39	4.69	3.74	1.49	0.80	2.89
LIMESTONE	0.93	1.13	3.09	5.07	10.75	18.20	19.13	14.59	6.84	4.90	1.66	1.02	7.32
LOWNDES	0.35	2.08	2.98	4.31	7.35	10.66	10.98	10.65	7.67	6.29	3.38	2.09	5.75
MACON	0.17	1.45	1.91	2.72	4.37	6.00	6.14	6.45	5.10	4.26	2.38	1.47	3.55
MADISON	0.73	0.71	1.56	3.01	5.79	8.09	8.48	8.14	6.30	4.87	1.41	0.69	4.17
MARENGO	0.09	0.07	0.09	0.27	0.36	0.40	0.41	0.43	0.39	0.33	0.12	0.10	0.26
MARION	0.03	0.02	0.04	0.12	0.21	0.25	0.26	0.32	0.31	0.25	0.05	0.02	0.16
MARSHALL	0.28	0.16	0.36	0.97	1.74	2.09	2.15	2.61	2.53	2.03	0.37	0.17	1.30
MOBILE	0.52	0.44	0.85	1.81	3.17	4.03	4.24	4.21	3.61	2.82	0.92	0.49	2.27
MONROE	0.03	0.02	0.04	0.12	0.21	0.25	0.26	0.32	0.31	0.25	0.05	0.02	0.16
MONTGOMERY	0.42	0.30	0.70	1.53	2.86	3.96	4.14	3.95	3.05	2.36	0.60	0.31	2.03
MORGAN	0.19	0.11	0.26	0.66	1.21	1.52	1.57	1.79	1.64	1.31	0.24	0.11	0.89
PERRY	0.05	0.05	0.05	0.15	0.15	0.15	0.15	0.12	0.08	0.08	0.08	0.08	0.10
PICKENS	0.30	0.25	0.80	1.40	2.95	5.02	5.29	3.90	1.69	1.18	0.35	0.23	1.96
PIKE	0.16	0.13	0.40	0.73	1.54	2.47	2.59	2.14	1.22	0.90	0.22	0.12	1.06
RANDOLPH	0.05	0.05	0.06	0.16	0.17	0.19	0.19	0.14	0.09	0.08	0.08	0.08	0.11
RUSSELL	0.37	3.07	4.00	5.74	9.16	12.42	12.67	13.56	10.98	9.19	5.06	3.12	7.47
SHELBY	0.07	0.61	0.74	1.09	1.62	2.00	2.01	2.46	2.28	1.93	1.03	0.63	1.38
ST CLAIR	0.46	1.90	2.53	4.06	6.45	8.34	8.50	9.51	8.20	6.83	3.22	1.97	5.18
SUMTER	0.09	0.07	0.09	0.27	0.36	0.40	0.41	0.43	0.39	0.33	0.12	0.10	0.26
TALLADEGA	0.46	1.05	1.89	3.04	5.69	8.53	8.89	8.04	5.40	4.24	1.77	1.04	4.19
TALLAPOOSA	0.16	0.10	0.30	0.63	1.27	1.89	1.98	1.81	1.26	0.96	0.19	0.09	0.89
TUSCALOOSA	0.37	1.71	2.24	3.43	5.39	6.88	7.05	7.80	6.80	5.65	2.95	1.78	4.35
WALKER	0.20	0.16	0.23	0.66	0.94	1.06	1.08	1.18	1.09	0.91	0.29	0.21	0.67
WASHINGTON	0.03	0.02	0.04	0.12	0.21	0.25	0.26	0.32	0.31	0.25	0.05	0.02	0.16
WILCOX	0.06	0.19	0.22	0.38	0.49	0.57	0.57	0.62	0.54	0.47	0.31	0.22	0.39
WINSTON	0.04	0.02	0.05	0.13	0.24	0.30	0.31	0.35	0.33	0.26	0.05	0.02	0.18
TOTAL	16.98	33.81	55.73	95.41	167.24	234.67	243.96	232.26	173.10	137.80	58.76	35.02	124.28

Table 32. Monthly irrigation total water withdrawals by county in Alabama in 2015, in MGD.

County Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg
AUTAUGA	1.50	1.89	2.24	2.79	3.97	5.35	5.56	5.47	4.67	4.18	2.57	1.96	3.52
BALDWIN	23.67	32.86	37.86	47.10	64.81	82.67	85.67	89.27	81.65	73.23	46.22	34.36	58.42
BARBOUR	0.35	0.61	1.28	2.11	4.18	6.60	6.89	5.86	3.49	2.67	0.98	0.58	2.98
BIBB	0.04	0.03	0.06	0.14	0.26	0.33	0.34	0.38	0.35	0.28	0.06	0.03	0.19
BLOUNT	0.25	0.20	0.38	0.86	1.50	2.02	2.10	2.06	1.63	1.30	0.35	0.22	1.08
BULLOCK	0.40	0.67	1.02	1.48	2.59	3.90	4.06	3.63	2.46	2.01	1.00	0.67	2.00
BUTLER	0.23	0.20	0.44	0.72	1.43	1.80	1.96	1.77	1.57	1.15	0.52	0.21	1.01
CALHOUN	0.50	0.89	1.45	2.42	4.22	5.48	5.76	5.71	4.83	3.80	1.73	0.94	3.16
CHAMBERS	0.05	0.04	0.08	0.17	0.30	0.39	0.41	0.44	0.38	0.31	0.08	0.04	0.22
CHEROKEE	0.16	1.12	1.48	2.17	3.48	4.72	4.82	5.16	4.18	3.49	1.86	1.14	2.83
CHILTON	0.13	0.13	0.22	0.36	0.64	0.94	0.98	0.90	0.65	0.53	0.19	0.13	0.48
CHOCTAW	0.03	0.02	0.04	0.12	0.21	0.26	0.26	0.32	0.31	0.25	0.05	0.02	0.16
CLARKE	0.09	0.07	0.10	0.28	0.40	0.46	0.47	0.48	0.41	0.34	0.12	0.10	0.28
CLAY	0.05	0.06	0.06	0.17	0.18	0.20	0.20	0.16	0.11	0.10	0.09	0.08	0.12
CLEBURNE	0.01	0.04	0.07	0.10	0.19	0.30	0.32	0.27	0.16	0.12	0.06	0.04	0.14
COFFEE	0.53	0.91	1.75	2.77	5.37	8.47	8.85	7.50	4.49	3.48	1.41	0.87	3.89
COLBERT	0.43	0.37	1.04	1.75	3.66	5.83	6.19	4.72	2.52	1.78	0.68	0.36	2.46
CONECUH	0.04	0.03	0.07	0.15	0.29	0.39	0.41	0.43	0.36	0.28	0.06	0.03	0.21
COOSA	0.05	0.05	0.05	0.16	0.16	0.16	0.16	0.12	0.08	0.08	0.08	0.08	0.10
COVINGTON	0.79	1.53	1.92	2.84	4.23	5.59	5.74	5.89	4.87	4.18	2.33	1.62	3.47
CRENSHAW	0.11	0.10	0.25	0.47	0.89	1.46	1.54	1.10	0.45	0.32	0.14	0.12	0.58
CULLMAN	0.25	0.33	0.45	0.84	1.22	1.62	1.67	1.54	1.14	0.96	0.50	0.38	0.91
DALE	0.34	0.26	0.79	1.44	3.03	4.89	5.14	4.21	2.39	1.76	0.41	0.22	2.09
DALLAS	0.62	1.14	1.65	2.48	4.14	5.97	6.19	5.77	4.14	3.43	1.74	1.18	3.22
DEKALB	0.49	1.17	1.41	2.23	3.19	3.89	3.95	4.53	4.13	3.54	1.87	1.26	2.65
ELMORE	0.50	0.78	1.42	2.30	4.26	6.25	6.58	5.72	3.89	3.00	1.37	0.80	3.09
ESCAMBIA	0.48	0.61	0.88	1.38	2.26	3.22	3.35	3.07	2.24	1.86	0.89	0.64	1.75
ETOWAH	0.31	0.26	0.39	0.98	1.43	1.66	1.73	1.72	1.51	1.22	0.49	0.34	1.01
FAYETTE	0.06	0.04	0.13	0.26	0.53	0.82	0.86	0.75	0.47	0.36	0.07	0.04	0.37
FRANKLIN	0.14	0.19	0.36	0.68	1.19	1.77	1.85	1.57	0.97	0.76	0.31	0.21	0.84
GENEVA	1.06	1.75	2.82	4.07	7.33	11.49	12.01	10.04	6.01	4.83	2.53	1.75	5.50
GREENE	0.17	0.20	0.26	0.42	0.59	0.81	0.84	0.71	0.48	0.42	0.28	0.23	0.45
HALE	0.16	0.13	0.43	0.73	1.59	2.71	2.85	2.17	1.03	0.73	0.19	0.11	1.08
HENRY	0.79	1.38	2.75	4.15	8.23	13.48	14.12	11.37	6.10	4.65	2.05	1.31	5.89

Table 32. Monthly irrigation total water withdrawals by county in Alabama in 2015, in MGD – Continued.

County Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg
HOUSTON	1.35	1.27	3.31	5.20	11.05	18.36	19.42	14.77	7.39	5.31	1.95	1.16	7.59
JACKSON	0.40	0.37	0.54	1.12	1.72	2.17	2.24	2.28	1.93	1.60	0.59	0.43	1.29
JEFFERSON	1.50	1.21	2.25	4.80	8.23	9.97	10.54	10.67	9.71	7.57	2.64	1.39	5.90
LAMAR	0.05	0.03	0.08	0.17	0.34	0.48	0.50	0.49	0.38	0.29	0.06	0.03	0.24
LAUDERDALE	0.51	0.67	0.90	1.54	2.31	2.89	3.00	3.07	2.68	2.24	1.09	0.74	1.81
LAWRENCE	0.39	0.36	1.08	1.82	3.87	6.62	6.97	5.15	2.23	1.57	0.50	0.33	2.59
LEE	0.53	0.93	1.44	2.39	4.14	5.38	5.61	5.85	5.05	4.06	1.70	0.95	3.18
LIMESTONE	1.85	2.28	4.59	6.97	13.73	22.58	23.71	18.65	9.77	7.45	3.21	2.19	9.80
LOWNDES	0.35	2.08	2.98	4.31	7.35	10.66	10.98	10.65	7.67	6.29	3.38	2.09	5.75
MACON	1.24	2.83	3.50	4.63	7.01	9.51	9.78	10.06	8.27	7.14	4.24	2.91	5.94
MADISON	1.97	2.13	4.11	6.59	12.63	19.36	20.34	17.37	11.18	8.69	3.30	2.08	9.19
MARENGO	0.11	0.09	0.16	0.38	0.62	0.87	0.90	0.78	0.52	0.41	0.14	0.11	0.43
MARION	0.05	0.03	0.09	0.19	0.38	0.55	0.58	0.55	0.40	0.31	0.06	0.03	0.27
MARSHALL	0.66	0.66	0.91	1.61	2.56	3.11	3.21	3.74	3.62	3.04	1.05	0.69	2.08
MOBILE	4.46	5.51	6.66	8.76	12.64	16.49	17.17	17.19	15.14	13.32	7.78	5.77	10.94
MONROE	0.09	0.07	0.21	0.39	0.83	1.36	1.43	1.15	0.63	0.46	0.10	0.06	0.57
MONTGOMERY	2.50	3.00	3.67	5.01	7.33	9.52	9.89	10.10	8.97	7.84	4.26	3.14	6.29
MORGAN	0.26	0.21	0.37	0.79	1.37	1.72	1.78	2.02	1.86	1.51	0.38	0.21	1.04
PERRY	0.12	0.11	0.27	0.51	0.97	1.61	1.69	1.21	0.48	0.34	0.15	0.12	0.63
PICKENS	0.30	0.25	0.80	1.40	2.95	5.02	5.29	3.90	1.69	1.18	0.35	0.23	1.96
PIKE	0.21	0.18	0.57	1.00	2.16	3.59	3.78	2.98	1.53	1.11	0.27	0.15	1.47
RANDOLPH	0.06	0.06	0.07	0.18	0.20	0.24	0.24	0.18	0.12	0.11	0.09	0.09	0.14
RUSSELL	0.37	3.07	4.00	5.74	9.16	12.42	12.67	13.56	10.98	9.19	5.06	3.12	7.47
SHELBY	0.20	0.78	0.95	1.35	2.03	2.58	2.62	3.02	2.69	2.30	1.25	0.80	1.72
ST CLAIR	0.46	1.90	2.53	4.06	6.45	8.34	8.50	9.51	8.20	6.83	3.22	1.97	5.18
SUMTER	0.15	0.12	0.30	0.60	1.12	1.76	1.84	1.45	0.77	0.57	0.19	0.13	0.75
TALLADEGA	0.54	1.12	2.14	3.44	6.61	10.19	10.64	9.28	5.86	4.54	1.85	1.08	4.80
TALLAPOOSA	0.17	0.12	0.32	0.65	1.30	1.92	2.01	1.84	1.29	0.99	0.21	0.11	0.92
TUSCALOOSA	0.91	2.39	3.08	4.47	6.93	9.04	9.31	9.89	8.45	7.11	3.87	2.48	5.68
WALKER	0.22	0.18	0.26	0.69	0.99	1.13	1.16	1.26	1.15	0.95	0.32	0.23	0.72
WASHINGTON	0.06	0.05	0.09	0.17	0.29	0.36	0.37	0.43	0.40	0.33	0.09	0.06	0.23
WILCOX	0.07	0.20	0.24	0.42	0.58	0.74	0.75	0.75	0.59	0.51	0.32	0.22	0.45
WINSTON	0.04	0.02	0.05	0.13	0.24	0.30	0.31	0.35	0.33	0.26	0.05	0.02	0.18
TOTAL	56.94	84.39	118.15	172.61	282.06	396.78	413.05	388.97	296.04	246.80	126.97	87.22	223.35

Table 33. Irrigation freshwater withdrawals by hydrologic subregion and subbasin in Alabama in 2015, in MGD.

Hydrologic subregion and subbasin	Withdrawals by source, in million gallons per day		
	Groundwater	Surface water	Total
Apalachicola			
03130002	0.12	0.53	0.65
03130003	0.73	9.90	10.63
03130004	2.89	3.40	6.30
03130012	2.32	0.85	3.17
Subtotal	*6.06*	*14.67*	*20.74*
Chocawhatchee-Escambia			
03140103	0.60	1.10	1.69
03140104	0.16	0.14	0.30
03140106	14.47	2.51	16.98
03140107	6.35	1.89	8.24
03140201	3.10	7.16	10.27
03140202	1.95	4.23	6.17
03140203	0.60	0.66	1.26
03140301	0.69	1.57	2.26
03140302	0.58	0.61	1.19
03140303	0.14	1.31	1.44
03140304	0.58	0.59	1.17
03140305	0.27	0.24	0.51
Subtotal	*29.50*	*22.00*	*51.50*
Alabama			
03150105	0.09	3.47	3.56
03150106	0.54	10.84	11.38
03150107	0.83	3.71	4.53
03150108	0.01	0.10	0.12
03150109	0.11	1.16	1.27
03150110	3.82	7.58	11.40
03150201	6.75	7.48	14.23
03150202	0.62	5.61	6.23
03150203	0.67	3.15	3.81
03150204	5.43	0.91	6.34
Subtotal	*18.86*	*44.00*	*62.87*
Mobile-Tombigbee			
03160101	0.01	0.06	0.07
03160103	0.07	0.19	0.26
03160105	0.01	0.36	0.37
03160106	0.10	1.61	1.72
03160107	0.25	0.94	1.20
03160108	0.24	0.04	0.29
03160109	0.24	0.82	1.06
03160110	0.13	0.95	1.08
03160111	0.31	2.46	2.76
03160112	0.74	3.63	4.37
03160113	1.50	1.61	3.11
03160201	0.27	0.57	0.84
03160202	0.21	0.26	0.46
03160203	0.24	0.28	0.51
03160204	11.61	2.57	14.18
03160205	14.35	4.68	19.03
Subtotal	*30.29*	*21.02*	*51.30*
Pascagoula			
03170002	0.00	0.00	0.00
03170003	0.00	0.00	0.00
03170008	2.34	0.82	3.16
03170009	1.70	0.23	1.93
Subtotal	*4.04*	*1.05*	*5.09*
Middle Tennessee-Hiwassee			
06020001	0.03	0.09	0.12
Subtotal	*0.03*	*0.09*	*0.12*
Middle Tennessee-Elk			
06030001	0.91	2.68	3.60
06030002	7.27	11.82	19.09
06030003	0.00	0.00	0.00
06030004	0.82	2.24	3.07
06030005	1.01	3.82	4.83
06030006	0.27	0.89	1.16
Subtotal	*10.28*	*21.45*	*31.73*
Total	**99.07**	**124.28**	**223.35**

Table 34. Monthly irrigation groundwater withdrawals by subbasin in Alabama in 2015, in MGD.

Hydrologic subregion and subbasin	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	AVG
Apalachicola													
03130002	0.04	0.05	0.07	0.09	0.14	0.21	0.22	0.19	0.14	0.12	0.07	0.06	0.12
03130003	0.19	0.21	0.38	0.52	0.99	1.62	1.71	1.34	0.72	0.57	0.28	0.21	0.73
03130004	0.57	0.60	1.35	1.99	4.14	7.09	7.47	5.57	2.54	1.87	0.78	0.55	2.89
03130012	0.41	0.42	1.05	1.58	3.38	5.85	6.17	4.54	1.97	1.41	0.55	0.38	2.32
Subtotal	*1.21*	*1.28*	*2.85*	*4.19*	*8.65*	*14.78*	*15.57*	*11.63*	*5.36*	*3.96*	*1.69*	*1.19*	*6.06*
Chocawhatchee-Escambia													
03140103	0.25	0.32	0.38	0.47	0.68	0.94	0.97	0.93	0.76	0.68	0.43	0.33	0.60
03140104	0.06	0.08	0.10	0.13	0.20	0.28	0.30	0.27	0.20	0.17	0.11	0.08	0.16
03140106	6.82	8.82	9.89	11.70	15.49	19.84	20.57	21.28	19.67	18.07	11.94	9.21	14.47
03140107	3.00	3.88	4.34	5.14	6.80	8.70	9.01	9.33	8.64	7.94	5.25	4.05	6.35
03140201	0.73	0.82	1.55	2.19	4.28	7.13	7.50	5.77	2.94	2.27	1.09	0.79	3.10
03140202	0.53	0.62	1.03	1.41	2.59	4.17	4.39	3.49	1.97	1.59	0.83	0.62	1.95
03140203	0.18	0.21	0.33	0.44	0.79	1.24	1.30	1.06	0.64	0.52	0.29	0.21	0.60
03140301	0.23	0.28	0.40	0.52	0.87	1.33	1.40	1.18	0.77	0.65	0.37	0.28	0.69
03140302	0.27	0.34	0.39	0.46	0.63	0.82	0.85	0.86	0.77	0.71	0.46	0.36	0.58
03140303	0.05	0.06	0.08	0.10	0.17	0.25	0.26	0.23	0.16	0.14	0.08	0.06	0.14
03140304	0.19	0.23	0.33	0.43	0.73	1.13	1.18	0.99	0.63	0.53	0.30	0.23	0.58
03140305	0.08	0.10	0.15	0.20	0.35	0.54	0.57	0.47	0.29	0.24	0.14	0.10	0.27
Subtotal	*12.38*	*15.77*	*18.97*	*23.19*	*33.55*	*46.37*	*48.30*	*45.86*	*37.45*	*33.52*	*21.29*	*16.32*	*29.50*
Alabama													
03150105	0.04	0.06	0.06	0.07	0.09	0.12	0.12	0.13	0.12	0.11	0.08	0.06	0.09
03150106	0.12	0.13	0.27	0.38	0.76	1.27	1.34	1.02	0.50	0.38	0.18	0.13	0.54
03150107	0.21	0.25	0.43	0.59	1.12	1.83	1.92	1.51	0.82	0.65	0.33	0.24	0.83
03150108	0.00	0.00	0.01	0.01	0.02	0.02	0.03	0.02	0.01	0.01	0.01	0.01	0.01
03150109	0.03	0.04	0.06	0.08	0.15	0.23	0.24	0.20	0.12	0.09	0.05	0.04	0.11
03150110	1.62	2.07	2.47	3.01	4.32	5.92	6.17	5.90	4.88	4.38	2.80	2.15	3.82
03150201	3.06	3.94	4.52	5.41	7.38	9.72	10.10	10.12	8.97	8.17	5.33	4.10	6.75
03150202	0.16	0.18	0.32	0.44	0.83	1.35	1.42	1.12	0.61	0.48	0.25	0.18	0.62
03150203	0.23	0.29	0.39	0.50	0.82	1.24	1.30	1.12	0.76	0.65	0.38	0.29	0.67
03150204	2.43	3.13	3.61	4.34	5.97	7.92	8.23	8.18	7.16	6.51	4.23	3.26	5.43
Subtotal	*7.92*	*10.09*	*12.13*	*14.84*	*21.45*	*29.64*	*30.87*	*29.32*	*23.96*	*21.44*	*13.62*	*10.45*	*18.86*
Mobile-Tombigbee													
03160101	0.00	0.00	0.00	0.01	0.01	0.03	0.03	0.02	0.01	0.01	0.00	0.00	0.01

Table 34. Monthly irrigation groundwater withdrawals by subbasin in Alabama in 2015, in MGD – Continued.

Hydrologic subregion and subbasin	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	AVG
03160103	0.01	0.01	0.03	0.05	0.11	0.19	0.20	0.14	0.06	0.04	0.01	0.01	0.07
03160105	0.00	0.00	0.00	0.01	0.01	0.02	0.02	0.02	0.01	0.00	0.00	0.00	0.01
03160106	0.01	0.01	0.04	0.07	0.16	0.28	0.29	0.21	0.08	0.05	0.01	0.01	0.10
03160107	0.10	0.12	0.16	0.19	0.30	0.44	0.46	0.41	0.30	0.27	0.16	0.12	0.25
03160108	0.07	0.09	0.13	0.18	0.32	0.50	0.52	0.43	0.26	0.21	0.12	0.09	0.24
03160109	0.08	0.10	0.14	0.18	0.30	0.46	0.49	0.41	0.28	0.23	0.14	0.10	0.24
03160110	0.05	0.06	0.08	0.10	0.16	0.24	0.25	0.22	0.15	0.13	0.08	0.06	0.13
03160111	0.11	0.14	0.18	0.23	0.37	0.55	0.58	0.51	0.36	0.31	0.18	0.14	0.31
03160112	0.30	0.38	0.47	0.58	0.86	1.21	1.26	1.17	0.93	0.82	0.52	0.40	0.74
03160113	0.33	0.37	0.73	1.05	2.09	3.52	3.70	2.82	1.39	1.06	0.49	0.35	1.50
03160201	0.03	0.03	0.11	0.18	0.41	0.74	0.78	0.55	0.21	0.13	0.04	0.02	0.27
03160202	0.03	0.02	0.09	0.14	0.32	0.57	0.60	0.43	0.16	0.10	0.03	0.02	0.21
03160203	0.10	0.13	0.16	0.19	0.27	0.36	0.38	0.37	0.31	0.28	0.18	0.14	0.24
03160204	5.43	7.02	7.90	9.37	12.48	16.08	16.67	17.13	15.70	14.40	9.49	7.32	11.61
03160205	6.74	8.72	9.79	11.59	15.38	19.75	20.48	21.13	19.46	17.86	11.79	9.09	14.35
Subtotal	*13.40*	*17.19*	*20.01*	*24.11*	*33.55*	*44.93*	*46.71*	*45.96*	*39.65*	*35.91*	*23.23*	*17.87*	*30.29*
Pascagoula													
03170002	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03170003	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03170008	1.06	1.37	1.57	1.87	2.55	3.36	3.49	3.50	3.11	2.83	1.85	1.42	2.34
03170009	0.77	1.00	1.14	1.37	1.86	2.45	2.54	2.55	2.27	2.07	1.35	1.04	1.70
Subtotal	*1.84*	*2.36*	*2.71*	*3.24*	*4.42*	*5.81*	*6.03*	*6.06*	*5.38*	*4.90*	*3.20*	*2.46*	*4.04*
Middle Tennessee-Hiwassee													
06020001	0.01	0.02	0.02	0.02	0.03	0.04	0.04	0.04	0.04	0.04	0.03	0.02	0.03
Subtotal	*0.01*	*0.02*	*0.02*	*0.02*	*0.03*	*0.04*	*0.04*	*0.04*	*0.04*	*0.04*	*0.03*	*0.02*	*0.03*
Middle Tennessee-Elk													
06030001	0.44	0.57	0.63	0.74	0.97	1.21	1.25	1.33	1.26	1.17	0.78	0.60	0.91
06030002	2.14	2.55	3.95	5.32	9.47	15.01	15.76	12.81	7.63	6.26	3.41	2.54	7.27
06030003	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06030004	0.31	0.39	0.50	0.63	0.99	1.44	1.51	1.34	0.98	0.85	0.52	0.39	0.82
06030005	0.27	0.32	0.53	0.73	1.34	2.16	2.27	1.81	1.02	0.82	0.43	0.32	1.01
06030006	0.03	0.03	0.11	0.18	0.40	0.72	0.76	0.54	0.20	0.13	0.04	0.02	0.27
Subtotal	*3.20*	*3.86*	*5.73*	*7.60*	*13.16*	*20.55*	*21.56*	*17.83*	*11.10*	*9.23*	*5.17*	*3.88*	*10.28*
Total	**39.96**	**50.58**	**62.42**	**77.20**	**114.82**	**162.11**	**169.09**	**156.70**	**122.94**	**109.00**	**68.22**	**52.19**	**99.07**

Table 35. Monthly irrigation surface-water withdrawals by subbasin in Alabama in 2015, in MGD.

Hydrologic subregion and subbasin	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	AVG
Apalachicola													
03130002	0.05	0.17	0.24	0.40	0.67	0.89	0.91	0.99	0.84	0.69	0.29	0.17	0.53
03130003	0.65	3.64	5.04	7.51	12.45	17.27	17.71	18.28	14.28	11.80	6.03	3.69	9.90
03130004	0.38	0.68	1.49	2.39	4.81	7.82	8.19	6.70	3.68	2.77	1.06	0.64	3.40
03130012	0.13	0.10	0.31	0.59	1.22	1.92	2.02	1.71	1.04	0.78	0.17	0.09	0.85
Subtotal	*1.22*	*4.59*	*7.08*	*10.89*	*19.16*	*27.90*	*28.83*	*27.68*	*19.84*	*16.04*	*7.55*	*4.59*	*14.67*
Chocawhatchee-Escambia													
03140103	0.13	0.41	0.54	0.91	1.40	1.84	1.88	1.96	1.59	1.32	0.67	0.44	1.10
03140104	0.01	0.06	0.07	0.11	0.17	0.24	0.25	0.25	0.20	0.17	0.09	0.06	0.14
03140106	0.20	1.03	1.30	2.02	3.07	3.91	3.97	4.49	3.90	3.29	1.72	1.08	2.51
03140107	0.31	0.66	0.94	1.57	2.49	3.11	3.25	3.25	2.79	2.25	1.22	0.73	1.89
03140201	0.97	1.47	3.11	5.14	10.11	15.64	16.43	13.81	8.47	6.40	2.52	1.43	7.16
03140202	0.42	1.01	1.93	3.02	5.84	9.24	9.64	8.20	4.85	3.75	1.60	0.97	4.23
03140203	0.06	0.18	0.31	0.47	0.90	1.43	1.49	1.26	0.74	0.57	0.28	0.17	0.66
03140301	0.24	0.37	0.66	1.22	2.16	3.09	3.20	2.99	2.13	1.70	0.63	0.39	1.57
03140302	0.11	0.14	0.28	0.50	0.90	1.42	1.49	1.13	0.55	0.41	0.21	0.16	0.61
03140303	0.24	0.31	0.60	0.95	1.81	2.35	2.53	2.33	1.98	1.48	0.70	0.32	1.31
03140304	0.13	0.15	0.23	0.52	0.81	1.01	1.04	1.09	0.93	0.76	0.26	0.17	0.59
03140305	0.04	0.05	0.08	0.18	0.32	0.41	0.42	0.47	0.41	0.33	0.09	0.05	0.24
Subtotal	*2.85*	*5.83*	*10.06*	*16.61*	*29.98*	*43.70*	*45.59*	*41.25*	*28.54*	*22.42*	*9.98*	*5.96*	*22.00*
Alabama													
03150105	0.29	1.32	1.75	2.74	4.33	5.72	5.84	6.32	5.25	4.38	2.20	1.37	3.47
03150106	1.20	3.58	5.24	8.38	14.04	18.93	19.59	19.83	15.92	12.91	6.23	3.71	10.84
03150107	0.51	1.06	1.65	2.91	4.93	6.74	6.98	6.90	5.35	4.32	1.82	1.11	3.71
03150108	0.01	0.03	0.05	0.07	0.14	0.22	0.23	0.20	0.11	0.09	0.04	0.03	0.10
03150109	0.26	0.24	0.44	0.99	1.65	2.29	2.37	2.15	1.52	1.21	0.40	0.28	1.16
03150110	0.79	2.36	3.55	5.69	9.79	13.29	13.74	14.14	11.44	9.26	4.13	2.40	7.58
03150201	0.92	2.22	3.53	5.75	9.99	14.10	14.66	13.83	10.16	8.11	3.82	2.30	7.48
03150202	1.12	1.24	2.19	4.32	7.58	9.37	9.83	10.43	9.52	7.50	2.59	1.32	5.61
03150203	0.25	1.10	1.61	2.42	4.10	5.98	6.17	5.80	4.02	3.28	1.77	1.12	3.15
03150204	0.06	0.36	0.46	0.71	1.11	1.43	1.45	1.67	1.47	1.23	0.60	0.37	0.91
Subtotal	*5.41*	*13.50*	*20.47*	*33.97*	*57.66*	*78.08*	*80.87*	*81.27*	*64.76*	*52.29*	*23.61*	*14.00*	*44.00*
Mobile-Tombigbee													
03160101	0.01	0.01	0.03	0.04	0.08	0.13	0.14	0.11	0.06	0.04	0.02	0.01	0.06

Table 35. Monthly irrigation surface-water withdrawals by subbasin in Alabama in 2015, in MGD – Continued.

Hydrologic subregion and subbasin	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	AVG
03160103	0.04	0.02	0.05	0.14	0.25	0.32	0.34	0.37	0.33	0.27	0.05	0.02	0.19
03160105	0.06	0.04	0.13	0.26	0.53	0.81	0.85	0.74	0.47	0.35	0.07	0.04	0.36
03160106	0.26	0.22	0.65	1.17	2.42	4.09	4.30	3.20	1.43	1.01	0.31	0.21	1.61
03160107	0.09	0.27	0.44	0.70	1.25	1.83	1.90	1.80	1.28	1.02	0.44	0.26	0.94
03160108	0.01	0.00	0.02	0.03	0.07	0.12	0.12	0.09	0.03	0.02	0.01	0.00	0.04
03160109	0.24	0.25	0.34	0.84	1.15	1.39	1.42	1.37	1.10	0.92	0.41	0.32	0.82
03160110	0.18	0.18	0.37	0.75	1.35	2.00	2.08	1.81	1.17	0.91	0.29	0.19	0.95
03160111	0.64	0.46	0.79	2.14	3.39	4.07	4.18	4.62	4.20	3.41	0.87	0.56	2.46
03160112	0.52	1.21	1.77	2.88	4.74	6.03	6.29	6.42	5.52	4.43	2.24	1.30	3.63
03160113	0.26	0.64	0.79	1.47	2.07	2.52	2.55	2.77	2.38	2.02	1.05	0.72	1.61
03160201	0.15	0.11	0.18	0.51	0.78	0.90	0.92	1.07	1.02	0.83	0.21	0.14	0.57
03160202	0.09	0.07	0.09	0.27	0.36	0.40	0.41	0.43	0.39	0.33	0.12	0.10	0.26
03160203	0.09	0.08	0.10	0.28	0.39	0.44	0.44	0.47	0.42	0.35	0.13	0.10	0.28
03160204	0.36	0.83	1.22	2.01	3.35	4.27	4.45	4.62	3.99	3.21	1.53	0.88	2.57
03160205	0.76	1.40	2.17	3.65	6.21	7.81	8.20	8.36	7.35	5.82	2.72	1.49	4.68
Subtotal	*3.74*	*5.79*	*9.15*	*17.13*	*28.40*	*37.13*	*38.60*	*38.25*	*31.14*	*24.95*	*10.50*	*6.34*	*21.02*
Pascagoula													
03170002	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03170003	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03170008	0.20	0.15	0.27	0.69	1.13	1.38	1.42	1.57	1.42	1.15	0.29	0.17	0.82
03170009	0.04	0.03	0.07	0.17	0.31	0.42	0.43	0.46	0.38	0.30	0.07	0.03	0.23
Subtotal	*0.24*	*0.18*	*0.34*	*0.86*	*1.44*	*1.80*	*1.85*	*2.03*	*1.80*	*1.45*	*0.35*	*0.21*	*1.05*
Middle Tennessee-Hiwassee													
06020001	0.00	0.04	0.05	0.07	0.10	0.13	0.13	0.15	0.14	0.12	0.07	0.04	0.09
Subtotal	*0.00*	*0.04*	*0.05*	*0.07*	*0.10*	*0.13*	*0.13*	*0.15*	*0.14*	*0.12*	*0.07*	*0.04*	*0.09*
Middle Tennessee-Elk													
06030001	0.51	0.73	1.06	2.26	3.54	4.33	4.43	4.96	4.45	3.66	1.30	0.81	2.68
06030002	1.85	1.83	4.55	8.40	16.84	25.82	27.07	23.42	14.96	11.32	3.20	1.73	11.82
06030003	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06030004	0.29	0.38	0.98	1.60	3.31	5.62	5.91	4.41	1.95	1.39	0.55	0.37	2.24
06030005	0.75	0.78	1.62	3.00	5.52	8.08	8.52	7.08	4.55	3.43	1.41	0.85	3.82
06030006	0.11	0.15	0.37	0.62	1.28	2.07	2.17	1.77	0.98	0.73	0.23	0.13	0.89
Subtotal	*3.51*	*3.87*	*8.58*	*15.89*	*30.49*	*45.92*	*48.09*	*41.64*	*26.89*	*20.54*	*6.69*	*3.89*	*21.45*
Total	**16.98**	**33.81**	**55.73**	**95.41**	**167.24**	**234.67**	**243.96**	**232.26**	**173.10**	**137.80**	**58.76**	**35.02**	**124.28**

Table 36. Monthly irrigation total water withdrawals by subbasin in Alabama in 2015, in MGD.

Hydrologic subregion and subbasin	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	AVG
Apalachicola													
03130002	0.10	0.22	0.31	0.49	0.81	1.10	1.13	1.19	0.98	0.81	0.36	0.23	0.65
03130003	0.84	3.86	5.42	8.04	13.44	18.90	19.42	19.62	15.00	12.37	6.31	3.90	10.63
03130004	0.94	1.28	2.84	4.38	8.95	14.91	15.66	12.26	6.22	4.64	1.85	1.19	6.30
03130012	0.55	0.52	1.36	2.17	4.60	7.77	8.19	6.25	3.01	2.19	0.72	0.47	3.17
Subtotal	*2.43*	*5.88*	*9.93*	*15.08*	*27.80*	*42.68*	*44.40*	*39.31*	*25.20*	*20.00*	*9.24*	*5.78*	*20.74*
Chocawhatchee-Escambia													
03140103	0.38	0.73	0.93	1.38	2.08	2.78	2.86	2.89	2.35	2.00	1.11	0.77	1.69
03140104	0.07	0.13	0.18	0.23	0.37	0.53	0.54	0.52	0.40	0.34	0.20	0.14	0.30
03140106	7.02	9.85	11.19	13.72	18.56	23.75	24.54	25.77	23.57	21.36	13.65	10.29	16.98
03140107	3.31	4.54	5.29	6.71	9.29	11.80	12.26	12.58	11.44	10.19	6.47	4.78	8.24
03140201	1.70	2.29	4.66	7.33	14.40	22.76	23.93	19.59	11.41	8.68	3.61	2.22	10.27
03140202	0.95	1.64	2.96	4.42	8.42	13.42	14.03	11.69	6.82	5.33	2.44	1.59	6.17
03140203	0.24	0.39	0.64	0.91	1.68	2.67	2.79	2.32	1.37	1.10	0.56	0.38	1.26
03140301	0.47	0.65	1.05	1.74	3.02	4.42	4.60	4.17	2.90	2.35	1.00	0.67	2.26
03140302	0.37	0.48	0.67	0.97	1.52	2.24	2.34	1.99	1.32	1.12	0.67	0.51	1.19
03140303	0.29	0.37	0.68	1.05	1.98	2.60	2.79	2.56	2.13	1.62	0.78	0.38	1.44
03140304	0.32	0.37	0.55	0.95	1.54	2.14	2.22	2.08	1.56	1.29	0.56	0.40	1.17
03140305	0.12	0.15	0.23	0.38	0.66	0.95	0.99	0.94	0.70	0.57	0.22	0.15	0.51
Subtotal	*15.24*	*21.60*	*29.02*	*39.80*	*63.53*	*90.07*	*93.89*	*87.11*	*65.99*	*55.94*	*31.27*	*22.28*	*51.50*
Alabama													
03150105	0.33	1.37	1.81	2.81	4.43	5.84	5.97	6.45	5.37	4.49	2.28	1.43	3.56
03150106	1.32	3.72	5.51	8.76	14.80	20.20	20.93	20.85	16.42	13.30	6.41	3.84	11.38
03150107	0.73	1.30	2.08	3.50	6.05	8.57	8.90	8.41	6.17	4.97	2.15	1.35	4.53
03150108	0.01	0.03	0.06	0.08	0.16	0.25	0.26	0.22	0.13	0.10	0.05	0.03	0.12
03150109	0.29	0.28	0.50	1.07	1.79	2.52	2.61	2.35	1.64	1.30	0.45	0.32	1.27
03150110	2.41	4.43	6.02	8.70	14.10	19.22	19.91	20.05	16.32	13.65	6.92	4.54	11.40
03150201	3.98	6.16	8.05	11.15	17.37	23.82	24.76	23.95	19.13	16.28	9.15	6.40	14.23
03150202	1.28	1.42	2.51	4.76	8.41	10.72	11.25	11.55	10.13	7.98	2.84	1.50	6.23
03150203	0.48	1.38	2.00	2.92	4.92	7.22	7.47	6.92	4.78	3.93	2.15	1.41	3.81
03150204	2.50	3.49	4.07	5.04	7.08	9.35	9.68	9.85	8.63	7.74	4.83	3.62	6.34
Subtotal	*13.33*	*23.59*	*32.61*	*48.80*	*79.12*	*107.71*	*111.74*	*110.59*	*88.72*	*73.73*	*37.24*	*24.45*	*62.87*
Mobile-Tombigbee													
03160101	0.01	0.01	0.03	0.05	0.09	0.16	0.17	0.13	0.06	0.05	0.02	0.01	0.07

Table 36. Monthly irrigation total water withdrawals by subbasin in Alabama in 2015, in MGD – Continued.

Hydrologic subregion and subbasin	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	AVG
03160103	0.05	0.03	0.08	0.18	0.36	0.52	0.54	0.52	0.39	0.30	0.06	0.03	0.26
03160105	0.06	0.04	0.13	0.26	0.54	0.83	0.87	0.76	0.48	0.36	0.08	0.04	0.37
03160106	0.27	0.23	0.70	1.23	2.58	4.36	4.59	3.41	1.50	1.06	0.32	0.21	1.72
03160107	0.19	0.39	0.59	0.89	1.55	2.27	2.35	2.21	1.58	1.29	0.60	0.39	1.20
03160108	0.08	0.09	0.15	0.21	0.38	0.62	0.65	0.52	0.29	0.24	0.12	0.09	0.29
03160109	0.32	0.35	0.48	1.02	1.46	1.86	1.91	1.79	1.38	1.15	0.55	0.43	1.06
03160110	0.23	0.23	0.45	0.85	1.51	2.24	2.33	2.03	1.32	1.04	0.37	0.25	1.08
03160111	0.75	0.60	0.97	2.37	3.77	4.62	4.76	5.13	4.55	3.71	1.06	0.70	2.76
03160112	0.82	1.60	2.24	3.46	5.60	7.23	7.55	7.59	6.45	5.26	2.76	1.69	4.37
03160113	0.59	1.01	1.52	2.52	4.16	6.03	6.25	5.59	3.77	3.08	1.54	1.07	3.11
03160201	0.19	0.14	0.29	0.69	1.20	1.64	1.70	1.62	1.22	0.97	0.25	0.16	0.84
03160202	0.11	0.09	0.18	0.41	0.68	0.97	1.01	0.86	0.55	0.43	0.15	0.11	0.46
03160203	0.19	0.21	0.26	0.47	0.65	0.80	0.82	0.83	0.73	0.63	0.31	0.24	0.51
03160204	5.78	7.85	9.12	11.38	15.83	20.35	21.12	21.75	19.69	17.61	11.02	8.20	14.18
03160205	7.50	10.12	11.96	15.24	21.59	27.56	28.68	29.48	26.81	23.69	14.51	10.59	19.03
Subtotal	*17.13*	*22.99*	*29.16*	*41.24*	*61.96*	*82.06*	*85.31*	*84.21*	*70.79*	*60.86*	*33.73*	*24.21*	*51.30*
Pascagoula													
03170002	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03170003	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03170008	1.26	1.51	1.83	2.56	3.68	4.74	4.91	5.07	4.53	3.98	2.13	1.59	3.16
03170009	0.82	1.03	1.22	1.53	2.17	2.86	2.97	3.01	2.65	2.37	1.42	1.07	1.93
Subtotal	*2.08*	*2.55*	*3.05*	*4.10*	*5.86*	*7.61*	*7.89*	*8.08*	*7.18*	*6.35*	*3.55*	*2.67*	*5.09*
Middle Tennessee-Hiwassee													
06020001	0.02	0.06	0.07	0.09	0.14	0.17	0.17	0.20	0.18	0.16	0.09	0.06	0.12
Subtotal	*0.02*	*0.06*	*0.07*	*0.09*	*0.14*	*0.17*	*0.17*	*0.20*	*0.18*	*0.16*	*0.09*	*0.06*	*0.12*
Middle Tennessee-Elk													
06030001	0.95	1.30	1.70	3.01	4.51	5.54	5.68	6.29	5.72	4.83	2.07	1.41	3.60
06030002	3.99	4.38	8.51	13.72	26.31	40.83	42.83	36.23	22.59	17.58	6.61	4.27	19.09
06030003	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06030004	0.60	0.77	1.48	2.24	4.30	7.07	7.42	5.75	2.93	2.24	1.07	0.76	3.07
06030005	1.03	1.10	2.15	3.73	6.86	10.24	10.79	8.89	5.57	4.25	1.84	1.17	4.83
06030006	0.15	0.18	0.48	0.79	1.68	2.79	2.93	2.31	1.18	0.86	0.27	0.16	1.16
Subtotal	*6.71*	*7.73*	*14.31*	*23.49*	*43.65*	*66.47*	*69.65*	*59.47*	*37.98*	*29.77*	*11.86*	*7.77*	*31.73*
Total	**56.94**	**84.39**	**118.15**	**172.61**	**282.06**	**396.78**	**413.05**	**388.97**	**296.04**	**246.80**	**126.97**	**87.22**	**223.35**

Table 37. Crop and golf course irrigated land and withdrawals by county in Alabama in 2015, in MGD.

	CROP				GOLF COURSE	
	Irrigated land in thousand acres	Withdrawals by source, in million gallons per day			Irrigated Land, in thousand acres Applied by sprinkler irrigation system	Withdrawals, (in million gallons per day) Surface water
County Name	Total	Groundwater	Surface water	Total		
AUTAUGA	2.16	3.36	0.00	3.36	0.10	0.16
BALDWIN	18.52	47.28	6.79	54.07	2.14	4.33
BARBOUR	4.23	0.58	1.93	2.51	0.30	0.47
BIBB	0.06	0.03	0.00	0.03	0.10	0.16
BLOUNT	0.53	0.20	0.15	0.35	0.41	0.73
BULLOCK	1.61	0.92	0.92	1.84	0.06	0.16
BUTLER	0.02	0.01	0.00	0.02	0.28	0.98
CALHOUN	1.14	0.00	1.39	1.39	0.79	1.76
CHAMBERS	0.12	0.07	0.00	0.07	0.06	0.16
CHEROKEE	1.77	0.00	2.67	2.67	0.10	0.16
CHILTON	0.51	0.33	0.00	0.33	0.06	0.16
CHOCTAW	0.01	0.00	0.00	0.00	0.06	0.16
CLARKE	0.05	0.02	0.00	0.02	0.11	0.26
CLAY	0.02	0.00	0.02	0.02	0.06	0.10
CLEBURNE	0.31	0.00	0.14	0.14	0.00	0.00
COFFEE	4.81	0.68	2.73	3.41	0.26	0.47
COLBERT	3.69	0.79	0.79	1.58	0.49	0.87
CONECUH	0.10	0.05	0.00	0.05	0.06	0.16
COOSA	0.00	0.00	0.00	0.00	0.06	0.10
COVINGTON	1.95	1.27	1.69	2.96	0.27	0.51
CRENSHAW	0.90	0.00	0.48	0.48	0.06	0.10
CULLMAN	0.52	0.28	0.28	0.56	0.21	0.35
DALE	2.58	0.33	1.13	1.45	0.27	0.63
DALLAS	2.91	0.69	2.11	2.80	0.26	0.41
DEKALB	0.67	0.49	1.48	1.98	0.00	0.67
ELMORE	3.25	0.61	1.44	2.05	0.59	1.03
ESCAMBIA	1.75	1.00	0.33	1.33	0.21	0.41
ETOWAH	0.07	0.00	0.03	0.03	0.58	0.97
FAYETTE	0.39	0.00	0.21	0.21	0.06	0.16
FRANKLIN	1.07	0.00	0.58	0.58	0.16	0.26
GENEVA	8.80	2.52	2.88	5.40	0.06	0.10
GREENE	0.38	0.33	0.03	0.36	0.06	0.10
HALE	1.86	0.92	0.00	0.92	0.10	0.16
HENRY	8.52	1.43	4.30	5.74	0.06	0.16

Table 37. Crop and golf course irrigated land and withdrawals by county in Alabama in 2015, in MGD – Continued.

	CROP					GOLF COURSE	
	Irrigated land in thousand acres	Withdrawals by source, in million gallons per day				Irrigated Land, in thousand acres Applied by sprinker irrigation system	Withdrawals, (in million gallons per day) Surface water
County Name	Total	Groundwater	Surface water	Total			
HOUSTON	12.67	5.17	1.12	6.29		0.52	1.30
JACKSON	0.50	0.27	0.19	0.46		0.47	0.82
JEFFERSON	0.22	0.08	0.11	0.19		2.93	5.69
LAMAR	0.70	0.00	0.08	0.08		0.10	0.16
LAUDERDALE	0.52	0.56	0.37	0.93		0.52	0.87
LAWRENCE	4.72	0.05	2.28	2.33		0.16	0.26
LEE	1.26	0.29	1.32	1.61		0.83	1.56
LIMESTONE	15.52	2.48	6.75	9.23		0.36	0.57
LOWNDES	5.10	0.00	5.75	5.75		0.00	0.00
MACON	3.66	2.40	3.55	5.94		0.00	0.00
MADISON	10.41	5.02	1.66	6.68		1.21	2.50
MARENGO	0.40	0.17	0.00	0.17		0.16	0.26
MARION	0.29	0.11	0.00	0.11		0.10	0.16
MARSHALL	0.33	0.79	0.03	0.82		0.80	1.26
MOBILE	4.43	8.67	0.35	9.02		1.09	1.91
MONROE	0.95	0.41	0.00	0.41		0.10	0.16
MONTGOMERY	2.61	4.26	0.62	4.88		0.87	1.40
MORGAN	0.36	0.16	0.10	0.26		0.50	0.78
PERRY	1.17	0.54	0.00	0.54		0.06	0.10
PICKENS	4.13	0.00	1.70	1.70		0.11	0.26
PIKE	3.20	0.41	0.74	1.16		0.16	0.31
RANDOLPH	0.08	0.03	0.01	0.04		0.06	0.10
RUSSELL	4.68	0.00	7.31	7.31		0.10	0.16
SHELBY	0.65	0.34	1.22	1.56		0.62	0.16
ST CLAIR	1.83	0.00	3.98	3.98		0.10	1.20
SUMTER	1.48	0.50	0.00	0.50		0.11	0.26
TALLADEGA	5.63	0.61	3.35	3.96		0.47	0.83
TALLAPOOSA	1.14	0.02	0.42	0.44		0.30	0.47
TUSCALOOSA	2.35	1.33	3.37	4.69		0.58	0.98
WALKER	0.03	0.05	0.00	0.05		0.41	0.67
WASHINGTON	0.05	0.07	0.00	0.07		0.10	0.16
WILCOX	0.23	0.06	0.29	0.35		0.06	0.10
WINSTON	0.04	0.00	0.02	0.02		0.10	0.16
TOTAL	**166.64**	**99.07**	**81.20**	**180.27**		**22.335**	**42.88**

Livestock

Livestock water is water associated with livestock watering, feedlots, dairy operations, and other on-farm needs. The associated activities include cooling of the facilities for animals and products, dairy sanitation and cleaning of facilities, animal waste-disposal systems, and incidental water loss. The primary livestock types in Alabama include poultry, beef cattle and calves, dairy cows and heifers, hogs and pigs, and horses and ponies. The livestock sector excludes on-farm residential use (residential sector) and irrigation water use.

During 2015, livestock withdrawals were 26 MGD (tables 38 and 39). Surface water was the source for 56 percent (15 MGD) of the livestock withdrawals, and groundwater was the source for the remaining 44 percent (12 MGD; figure 31). Livestock withdrawals were less than 1 percent of total withdrawals and were 2 percent of total withdrawals excluding thermoelectric power (table 13).

The geographic distribution of total, groundwater and surface-water withdrawals by county and hydrologic subregion and subbasin is shown in figures 32 and 33. The counties with large water withdrawals for livestock mostly corresponded to areas of Alabama with major production of broilers, cattle and calves, and hogs and pigs (U.S. Department of Agriculture, National Agricultural Statistics Service, 2009). Dekalb, Cullman, and Marshall Counties accounted for approximately 18 percent of the total livestock water withdrawals (table 38).

Nine hydrologic subbasins withdrew 1 MGD or more and collectively accounted for 51 percent (13 MGD) of the total livestock withdrawals. The largest withdrawals by subregion occurred in the Alabama (28 percent, or 7.3 MGD), the Middle Tennessee-Elk (25 percent, or 6.5 MGD), and the Mobile-Tombigbee subregions (24 percent, or 6.2 MGD; table 39).

Estimates of livestock withdrawals by county were determined by the USGS-NWUIP as part of the national effort to estimate water use for the United States for 2015. Water withdrawals were calculated from the 2012 livestock census by USDA-NASS and statewide drinking water requirement coefficients as described in the "Livestock, Aquaculture, and Mining section in the "Data Compilation, Sources of Information, and Methodology for Withdrawals" section of this report. The livestock data was only derived as an annual daily average; therefore, no monthly tables were produced.

Figure 31. Source of water for livestock use in Alabama in 2015, in MGD.

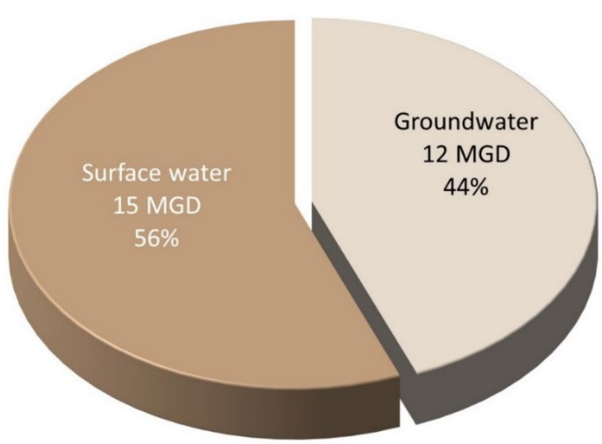


Figure 32. Map of livestock withdrawals by source and county in Alabama in 2015, in MGD.

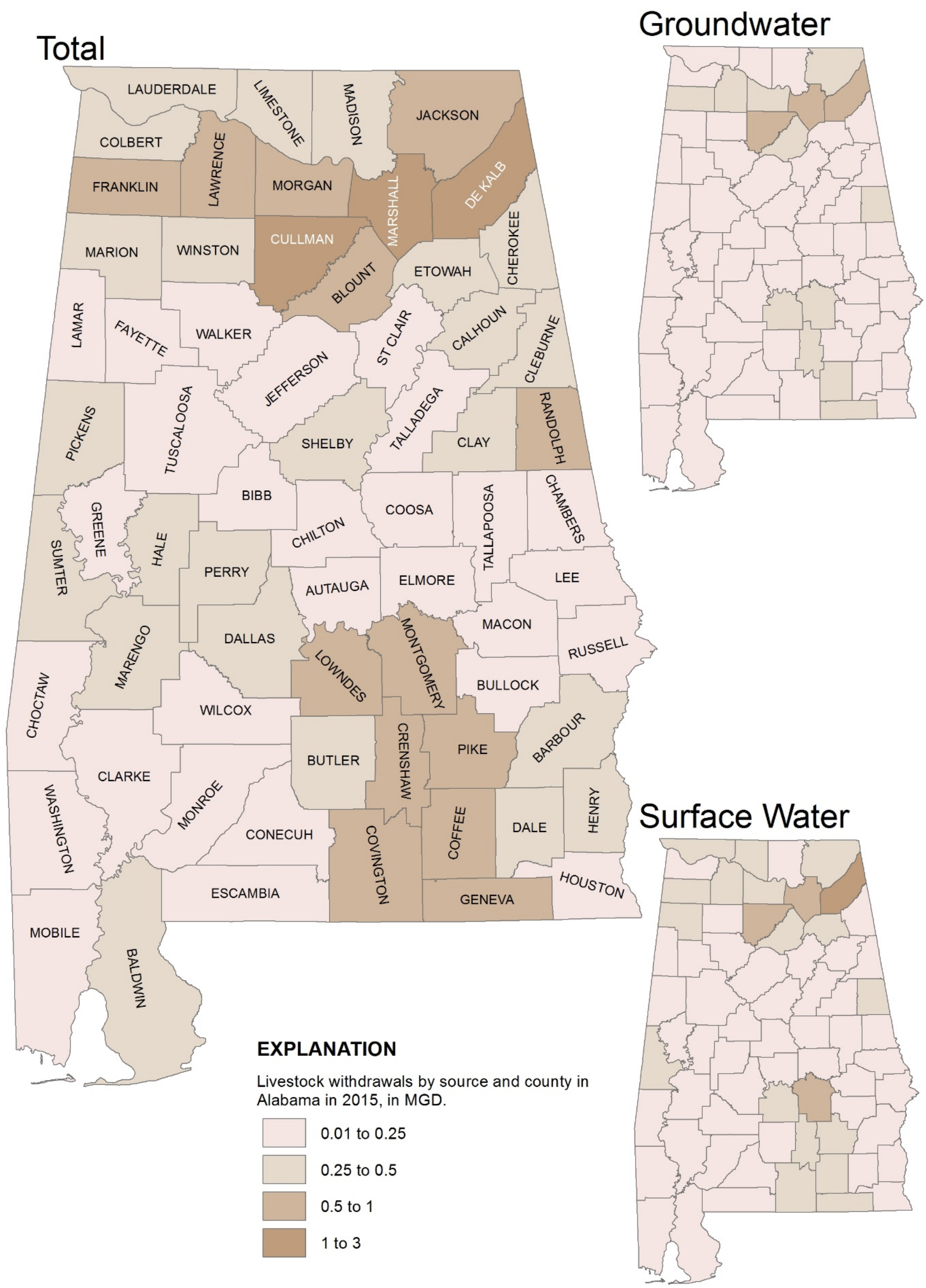


Figure 33. Map of livestock withdrawals by source and subbasin in Alabama in 2015, in MGD.

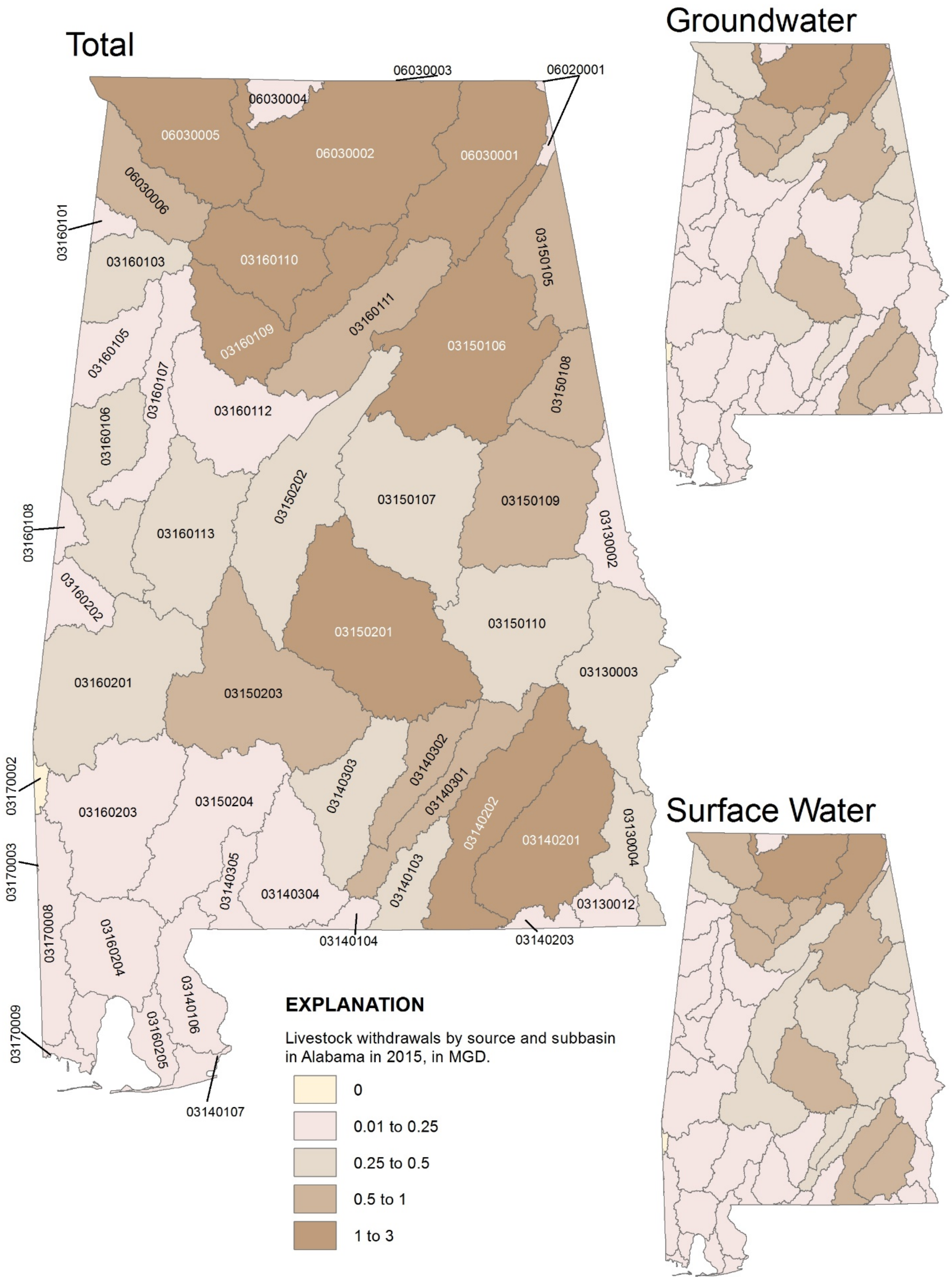


Table 38. Livestock freshwater withdrawals by county in Alabama in 2015, in MGD.

	Withdrawals by source in million gallons per day				Withdrawals by source in million gallons per day		
County Name	Groundwater	Surface water	Total	County Name	Groundwater	Surface water	Total
AUTAUGA	0.08	0.11	0.19	HOUSTON	0.1	0.15	0.25
BALDWIN	0.13	0.16	0.29	JACKSON	0.29	0.37	0.66
BARBOUR	0.16	0.25	0.41	JEFFERSON	0.03	0.05	0.08
BIBB	0.03	0.04	0.07	LAMAR	0.05	0.06	0.11
BLOUNT	0.43	0.47	0.9	LAUDERDALE	0.19	0.26	0.45
BULLOCK	0.06	0.1	0.16	LAWRENCE	0.36	0.48	0.84
BUTLER	0.13	0.19	0.32	LEE	0.03	0.04	0.07
CALHOUN	0.15	0.21	0.36	LIMESTONE	0.21	0.27	0.48
CHAMBERS	0.09	0.13	0.22	LOWNDES	0.27	0.41	0.68
CHEROKEE	0.16	0.24	0.4	MACON	0.04	0.06	0.1
CHILTON	0.07	0.09	0.16	MADISON	0.12	0.16	0.28
CHOCTAW	0.03	0.03	0.06	MARENGO	0.11	0.16	0.27
CLARKE	0.02	0.04	0.06	MARION	0.19	0.26	0.45
CLAY	0.17	0.21	0.38	MARSHALL	0.56	0.56	1.12
CLEBURNE	0.15	0.18	0.33	MOBILE	0.1	0.13	0.23
COFFEE	0.34	0.45	0.79	MONROE	0.06	0.09	0.15
COLBERT	0.16	0.21	0.37	MONTGOMERY	0.37	0.54	0.91
CONECUH	0.05	0.07	0.12	MORGAN	0.33	0.4	0.73
COOSA	0.02	0.02	0.04	PERRY	0.14	0.19	0.33
COVINGTON	0.23	0.32	0.55	PICKENS	0.2	0.2	0.4
CRENSHAW	0.3	0.42	0.72	PIKE	0.23	0.33	0.56
CULLMAN	0.82	0.79	1.61	RANDOLPH	0.28	0.31	0.59
DALE	0.17	0.23	0.4	RUSSELL	0.05	0.07	0.12
DALLAS	0.1	0.16	0.26	SHELBY	0.12	0.17	0.29
DEKALB	0.99	1.11	2.1	ST CLAIR	0.04	0.06	0.1
ELMORE	0.07	0.08	0.15	SUMTER	0.18	0.27	0.45
ESCAMBIA	0.07	0.1	0.17	TALLADEGA	0.1	0.12	0.22
ETOWAH	0.21	0.26	0.47	TALLAPOOSA	0.04	0.05	0.09
FAYETTE	0.08	0.1	0.18	TUSCALOOSA	0.06	0.08	0.14
FRANKLIN	0.28	0.37	0.65	WALKER	0.08	0.11	0.19
GENEVA	0.32	0.42	0.74	WASHINGTON	0.06	0.07	0.13
GREENE	0.05	0.07	0.12	WILCOX	0.06	0.09	0.15
HALE	0.14	0.16	0.3	WINSTON	0.13	0.15	0.28
HENRY	0.1	0.16	0.26	TOTAL	11.54	14.67	26.21

Table 39. Livestock withdrawals by hydrologic subregion and subbasin in Alabama in 2015, in MGD.

Hydrologic subregion and subbasin	Withdrawals by source, in million gallons per day		
	Groundwater	Surface water	Total
Apalachicola			
03130002	0.09	0.12	0.21
03130003	0.16	0.24	0.40
03130004	0.10	0.16	0.26
03130012	0.05	0.07	0.12
Subtotal	*0.40*	*0.59*	*0.99*
Chocawhatchee-Escambia			
03140103	0.12	0.17	0.29
03140104	0.02	0.03	0.05
03140106	0.04	0.06	0.10
03140107	0.02	0.02	0.04
03140201	0.51	0.70	1.21
03140202	0.52	0.71	1.23
03140203	0.07	0.10	0.17
03140301	0.25	0.35	0.60
03140302	0.25	0.36	0.61
03140303	0.16	0.23	0.39
03140304	0.07	0.09	0.16
03140305	0.02	0.04	0.06
Subtotal	*2.06*	*2.86*	*4.92*
Alabama			
03150105	0.37	0.47	0.84
03150106	0.70	0.87	1.57
03150107	0.21	0.26	0.47
03150108	0.26	0.30	0.56
03150109	0.28	0.34	0.62
03150110	0.18	0.26	0.43
03150201	0.61	0.89	1.51
03150202	0.18	0.25	0.43
03150203	0.27	0.41	0.68
03150204	0.08	0.11	0.19
Subtotal	*3.13*	*4.17*	*7.30*
Mobile-Tombigbee			
03160101	0.04	0.06	0.10
03160103	0.14	0.18	0.32
03160105	0.08	0.09	0.17
03160106	0.20	0.22	0.42
03160107	0.10	0.13	0.23
03160108	0.05	0.08	0.13
03160109	0.62	0.64	1.27
03160110	0.52	0.54	1.06
03160111	0.45	0.50	0.95
03160112	0.07	0.09	0.16
03160113	0.20	0.24	0.45
03160201	0.16	0.23	0.39
03160202	0.08	0.11	0.19
03160203	0.06	0.08	0.14
03160204	0.06	0.07	0.13
03160205	0.05	0.07	0.12
Subtotal	*2.88*	*3.34*	*6.23*
Pascagoula			
03170002	0.00	0.00	0.01
03170003	0.00	0.00	0.00
03170008	0.04	0.05	0.09
03170009	0.02	0.03	0.04
Subtotal	*0.06*	*0.08*	*0.14*
Middle Tennessee-Hiwassee			
06020001	0.06	0.07	0.13
Subtotal	*0.06*	*0.07*	*0.13*
Middle Tennessee-Elk			
06030001	1.09	1.22	2.30
06030002	1.02	1.24	2.26
06030003	0.00	0.00	0.00
06030004	0.08	0.11	0.19
06030005	0.46	0.62	1.08
06030006	0.29	0.39	0.68
Subtotal	*2.94*	*3.57*	*6.51*
Total	**11.54**	**14.67**	**26.21**

Aquaculture

Aquaculture water refers to water that is associated with the farming of organisms, such as finfish and shellfish, which live in water and offstream water withdrawals associated with fish hatcheries for food, restoration, conservation, or sport. Aquaculture occurs under controlled feeding, sanitation, and harvesting procedures primarily in ponds, flow-through raceways, and, to a lesser extent, cages, net pens, and closed-recirculation tanks. All withdrawals are assumed to be freshwater.

Water withdrawals for aquaculture are listed by county and hydrologic subregion and subbasin in tables 40 and 41. For 2015, water withdrawals for aquaculture were approximately 49 MGD. Groundwater was the source of 55 percent of the total, or 27 MGD, and surface water was the source for the remaining 45 percent, or 22 MGD (figure 34). Aquaculture withdrawals were 1 percent of the total withdrawals and 3 percent of total withdrawals for all sectors excluding thermoelectric power (table 13).

The geographic distribution of total, groundwater, and surface-water withdrawals by county is shown in figure 35. Green, Hale, and Perry Counties, which are located in the west-central part of the State in an area of moderate climate, abundant water, and heavy clay soils that are ideal for constructing earthen ponds (Alabama Education Aquaculture Recreational Fishing, ALEARN, 2008, Kidd and Lambeth, 1995; Boyd and others, 2005), accounted for 60 percent (30 MGD) of the aquaculture withdrawals.

The geographic distribution of total, groundwater and surface-water withdrawals by subbasin is shown in figure 36. Eight of the hydrologic subbasins withdrew 1 MGD or more and collectively accounted for 94 percent (47 MGD) of the total aquaculture withdrawals. The largest withdrawals by subregion occurred in the Mobile-Tombigbee subregion (62 percent, or 31 MGD, table 41).

Estimates of aquaculture water withdrawals by source of supply were determined by the USGS-NWIUP as part of the national effort to estimate water use for the United States for 2015. Water withdrawals were estimated from the methods described in the "Livestock, Aquaculture and Mining" section in the "Data Compilation, Sources of Information, and Methodology for Withdrawals" section of this report. The aquaculture data was only derived as an annual daily average; therefore, no monthly tables were produced.

Figure 34. Source of water for aquaculture use in Alabama in 2015, in MGD.

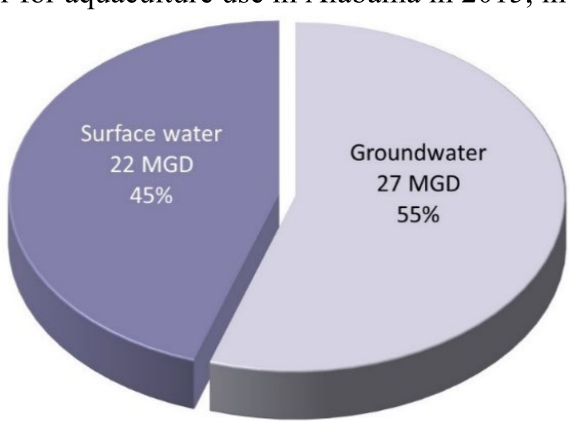


Figure 35. Map of aquaculture withdrawals by source and county in Alabama in 2015, in MGD.

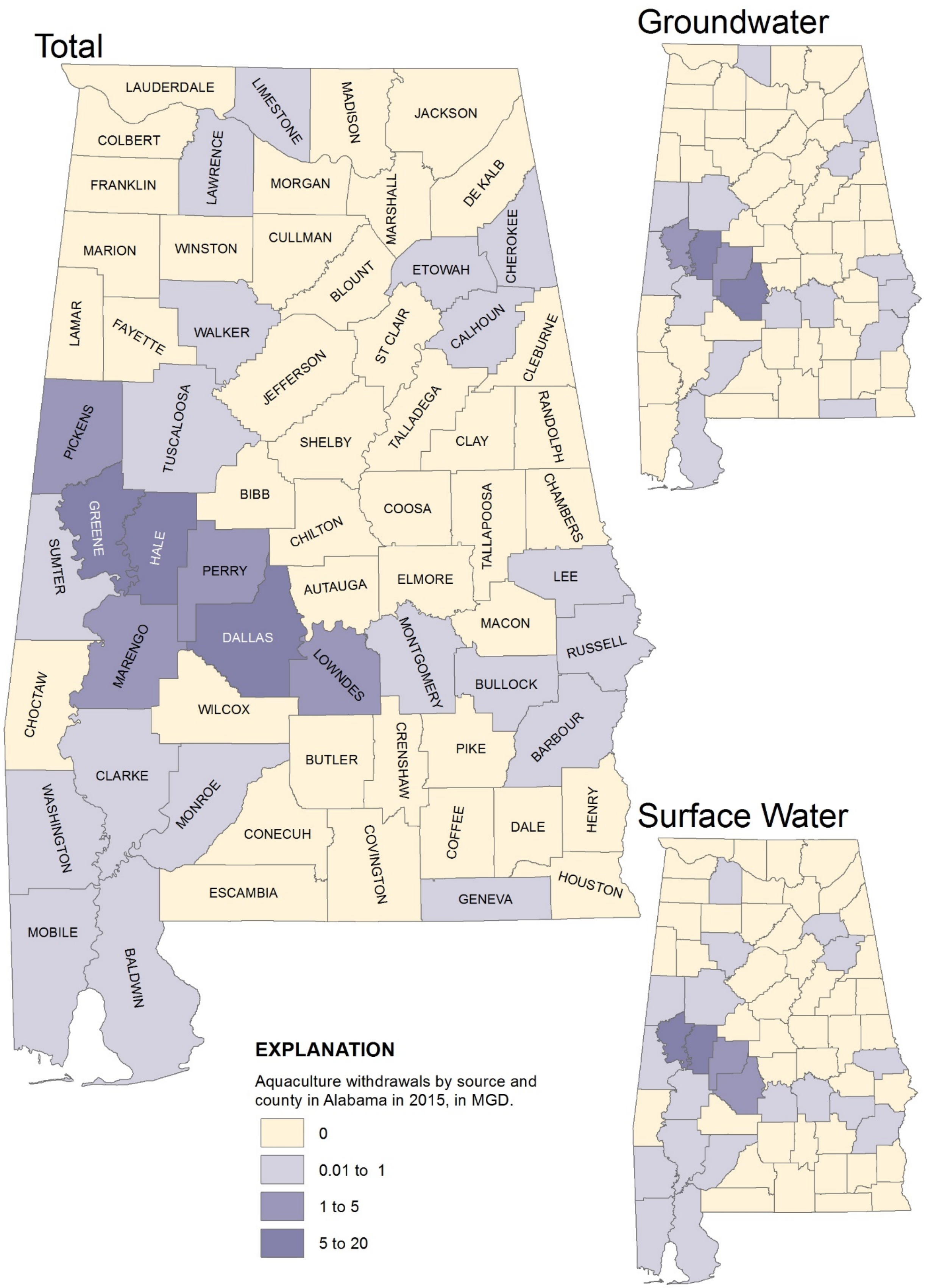


Figure 36. Map of aquaculture withdrawals by source and subbasin in Alabama in 2015, in MGD.

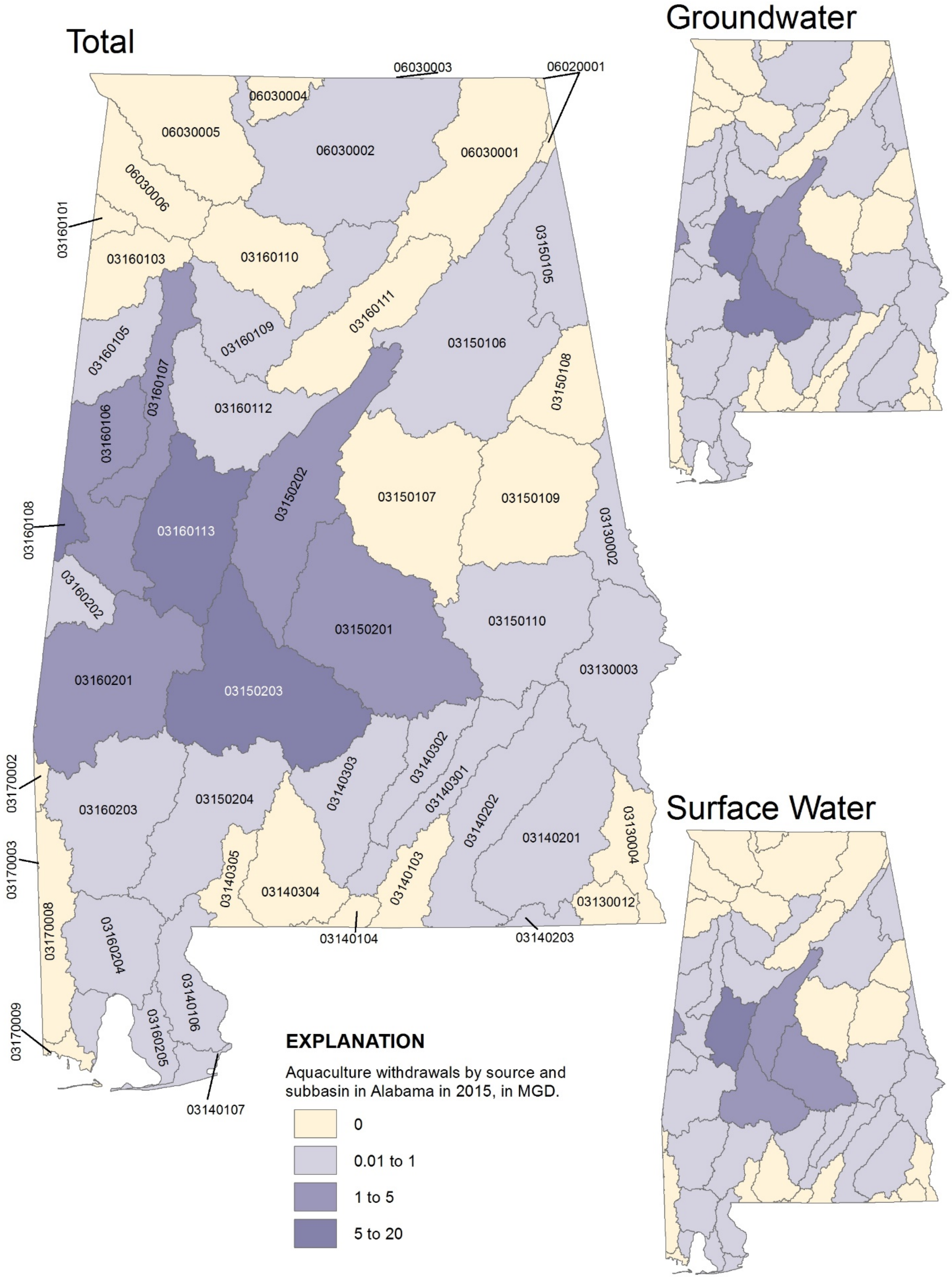


Table 40. Aquaculture withdrawals by source and county in Alabama in 2015, in MGD.

	Withdrawals by source in million gallons per day				Withdrawals by source in million gallons per day		
County Name	**Groundwater**	**Surface water**	**Total**	**County Name**	**Groundwater**	**Surface water**	**Total**
AUTAUGA	0.00	0.00	0.00	HOUSTON	0.00	0.00	0.00
BALDWIN	0.05	0.05	0.10	JACKSON	0.00	0.00	0.00
BARBOUR	0.18	0.18	0.36	JEFFERSON	0.00	0.00	0.00
BIBB	0.00	0.00	0.00	LAMAR	0.00	0.00	0.00
BLOUNT	0.00	0.00	0.00	LAUDERDALE	0.00	0.00	0.00
BULLOCK	0.00	0.05	0.05	LAWRENCE	0.00	0.01	0.01
BUTLER	0.00	0.00	0.00	LEE	0.03	0.04	0.07
CALHOUN	0.12	0.12	0.24	LIMESTONE	0.01	0.00	0.01
CHAMBERS	0.00	0.00	0.00	LOWNDES	0.65	0.65	1.30
CHEROKEE	0.51	0.00	0.51	MACON	0.00	0.00	0.00
CHILTON	0.00	0.00	0.00	MADISON	0.00	0.00	0.00
CHOCTAW	0.00	0.00	0.00	MARENGO	0.69	0.92	1.61
CLARKE	0.00	0.10	0.10	MARION	0.00	0.00	0.00
CLAY	0.00	0.00	0.00	MARSHALL	0.00	0.00	0.00
CLEBURNE	0.00	0.00	0.00	MOBILE	0.00	0.01	0.01
COFFEE	0.00	0.00	0.00	MONROE	0.07	0.07	0.14
COLBERT	0.00	0.00	0.00	MONTGOMERY	0.20	0.20	0.40
CONECUH	0.00	0.00	0.00	MORGAN	0.00	0.00	0.00
COOSA	0.00	0.00	0.00	PERRY	2.34	1.76	4.10
COVINGTON	0.00	0.00	0.00	PICKENS	0.61	0.77	1.38
CRENSHAW	0.00	0.00	0.00	PIKE	0.00	0.00	0.00
CULLMAN	0.00	0.00	0.00	RANDOLPH	0.00	0.00	0.00
DALE	0.00	0.00	0.00	RUSSELL	0.21	0.00	0.21
DALLAS	7.79	3.90	11.69	SHELBY	0.00	0.00	0.00
DEKALB	0.00	0.00	0.00	ST CLAIR	0.00	0.00	0.00
ELMORE	0.00	0.00	0.00	SUMTER	0.40	0.50	0.90
ESCAMBIA	0.00	0.00	0.00	TALLADEGA	0.00	0.00	0.00
ETOWAH	0.00	0.01	0.01	TALLAPOOSA	0.00	0.00	0.00
FAYETTE	0.00	0.00	0.00	TUSCALOOSA	0.24	0.33	0.57
FRANKLIN	0.00	0.00	0.00	WALKER	0.00	0.05	0.05
GENEVA	0.13	0.00	0.13	WASHINGTON	0.00	0.02	0.02
GREENE	4.21	5.09	9.30	WILCOX	0.00	0.00	0.00
HALE	8.81	7.34	16.15	WINSTON	0.00	0.00	0.00
HENRY	0.00	0.00	0.00	**TOTAL**	**27.25**	**22.17**	**49.42**

Table 41. Aquaculture withdrawals by source and hydrologic subregion and subbasin in Alabama in 2015, in MGD.

Hydrologic subregion and subbasin	Withdrawals by source, in million gallons per day		
	Groundwater	Surface water	Total
Apalachicola			
03130002	0.01	0.01	0.02
03130003	0.30	0.11	0.42
03130004	0.00	0.00	0.00
03130012	0.00	0.00	0.00
Subtotal	*0.32*	*0.12*	*0.44*
Chocawhatchee-Escambia			
03140103	0.00	0.00	0.00
03140104	0.00	0.00	0.00
03140106	0.02	0.02	0.03
03140107	0.01	0.01	0.01
03140201	0.11	0.05	0.16
03140202	0.08	0.05	0.13
03140203	0.03	0.00	0.03
03140301	0.00	0.01	0.01
03140302	0.02	0.02	0.04
03140303	0.02	0.02	0.04
03140304	0.00	0.00	0.00
03140305	0.00	0.00	0.01
Subtotal	*0.29*	*0.18*	*0.47*
Alabama			
03150105	0.48	0.01	0.50
03150106	0.15	0.12	0.26
03150107	0.00	0.00	0.00
03150108	0.00	0.00	0.00
03150109	0.00	0.00	0.00
03150110	0.05	0.07	0.13
03150201	2.97	1.79	4.76
03150202	2.14	1.41	3.55
03150203	5.50	3.09	8.59
03150204	0.06	0.09	0.15
Subtotal	*11.37*	*6.57*	*17.94*
Mobile-Tombigbee			
03160101	0.00	0.00	0.00
03160103	0.00	0.00	0.00
03160105	0.04	0.04	0.08
03160106	0.57	0.71	1.28
03160107	0.76	0.93	1.69
03160108	2.35	2.84	5.19
03160109	0.00	0.04	0.05
03160110	0.00	0.00	0.00
03160111	0.00	0.00	0.00
03160112	0.13	0.18	0.31
03160113	10.51	9.26	19.77
03160201	0.73	0.94	1.67
03160202	0.17	0.21	0.38
03160203	0.00	0.08	0.08
03160204	0.01	0.01	0.02
03160205	0.01	0.02	0.03
Subtotal	*15.27*	*15.28*	*30.54*
Pascagoula			
03170002	0.00	0.00	0.00
03170003	0.00	0.00	0.00
03170008	0.00	0.01	0.01
03170009	0.00	0.00	0.00
Subtotal	*0.00*	*0.01*	*0.01*
Middle Tennessee-Hiwassee			
06020001	0.00	0.00	0.00
Subtotal	*0.00*	*0.00*	*0.00*
Middle Tennessee-Elk			
06030001	0.00	0.00	0.00
06030002	0.01	0.00	0.01
06030003	0.00	0.00	0.00
06030004	0.00	0.00	0.00
06030005	0.00	0.00	0.00
06030006	0.00	0.00	0.00
Subtotal	*0.01*	*0.01*	*0.02*
Total	**27.25**	**22.17**	**49.42**

Industrial

Industrial water is water used for fabrication, processing, washing, and cooling and includes such industries as chemical and allied products, food, paper and allied products, petroleum refining, and steel. Total industrial water use is the sum of public-supplied industrial and commercial deliveries and self-supplied industrial and commercial withdrawals. For this study, total industrial use and public-supplied industrial/commercial deliveries were estimated at the state level only.

Self-supplied industrial withdrawals are listed by county and by hydrologic subregion and subbasin in tables 42 through 49 with tables 43 through 45 and 47 through 49 showing monthly withdrawals. For 2015, self-supplied industrial withdrawals were 495 MGD, which is 6 percent of total withdrawals and 31 percent of total withdrawals excluding thermoelectric power (table 13). Surface water was the source for 93 percent (462 MGD) of the withdrawals, and groundwater was the source for the remaining 7 percent (33 MGD, figure 37). Statewide, combined public-supplied industrial and commercial deliveries were 288 MGD. Total industrial water use was 783 MGD.

The geographic distribution of total, groundwater, and surface-water withdrawals for self-supplied industrial use by county and by hydrologic subbasin is shown, respectively in figures 38 and 39. Withdrawals for self-supplied industrial use occurred in 37 counties. 89 percent of the total self-supplied industrial withdrawals and 92 percent of the surface-water self-supplied industrial withdrawals occurred in the 13 counties that withdrew 10 MGD or more (figure 37). The largest withdrawals occurred in Morgan, Monroe, and Choctaw Counties with withdrawals that were more than 40 MGD each. Withdrawals in these counties accounted for approximately 37 percent (184 MGD) of the total self-supplied industrial withdrawals.

The Alabama subregion accounted for 37 percent (184 MGD) of the total self-supplied industrial withdrawals with 94 percent (174 MGD) being from surface water (table 46). Within the Alabama subregion the largest total withdrawals occurred in the Upper Alabama (03150201; 72 MGD), the Lower Alabama (03150204; 49 MGD), and the Middle Coosa (03150106; 43 MGD) subbasins. The largest groundwater withdrawals were in the Mobile-Tombigbee subregion (15 MGD) and accounted for 47 percent of the statewide self-supplied industrial groundwater withdrawals.

Figure 37. Source of water for self-supplied industrial use in Alabama in 2015, in MGD.

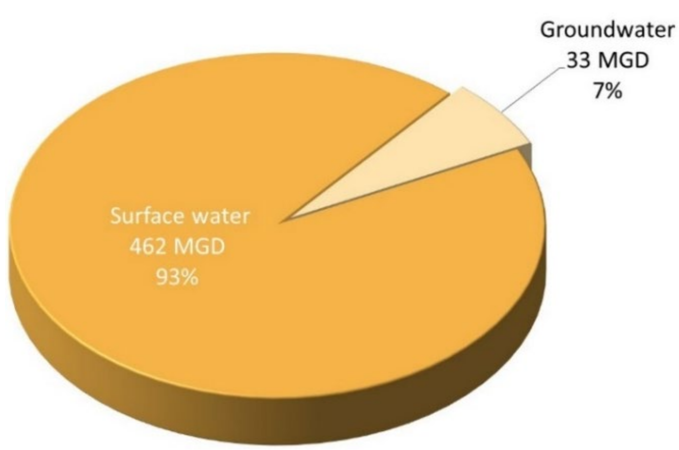


Figure 38. Map of self-supplied industrial withdrawals by source and county in Alabama in 2015, in MGD.

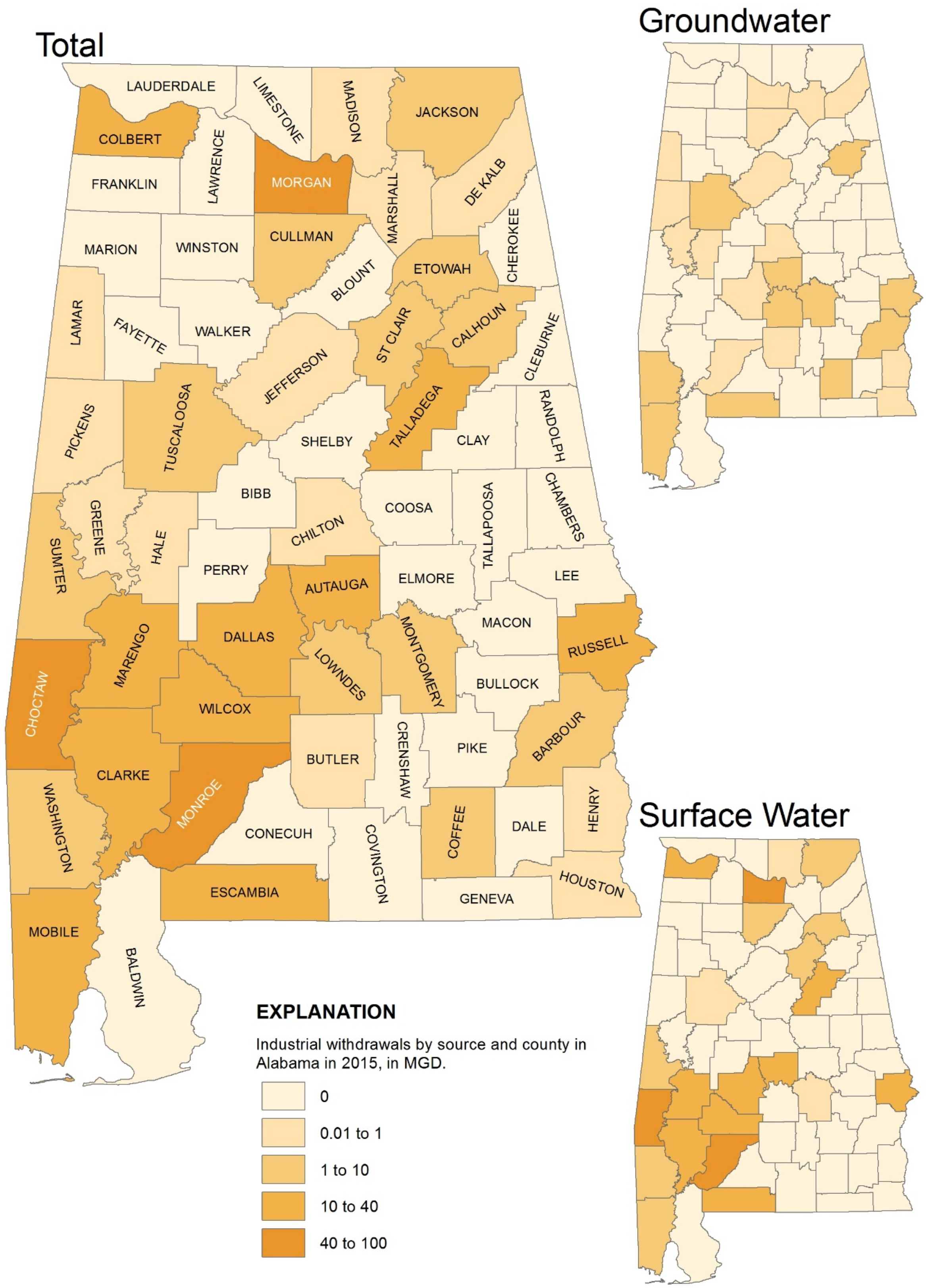
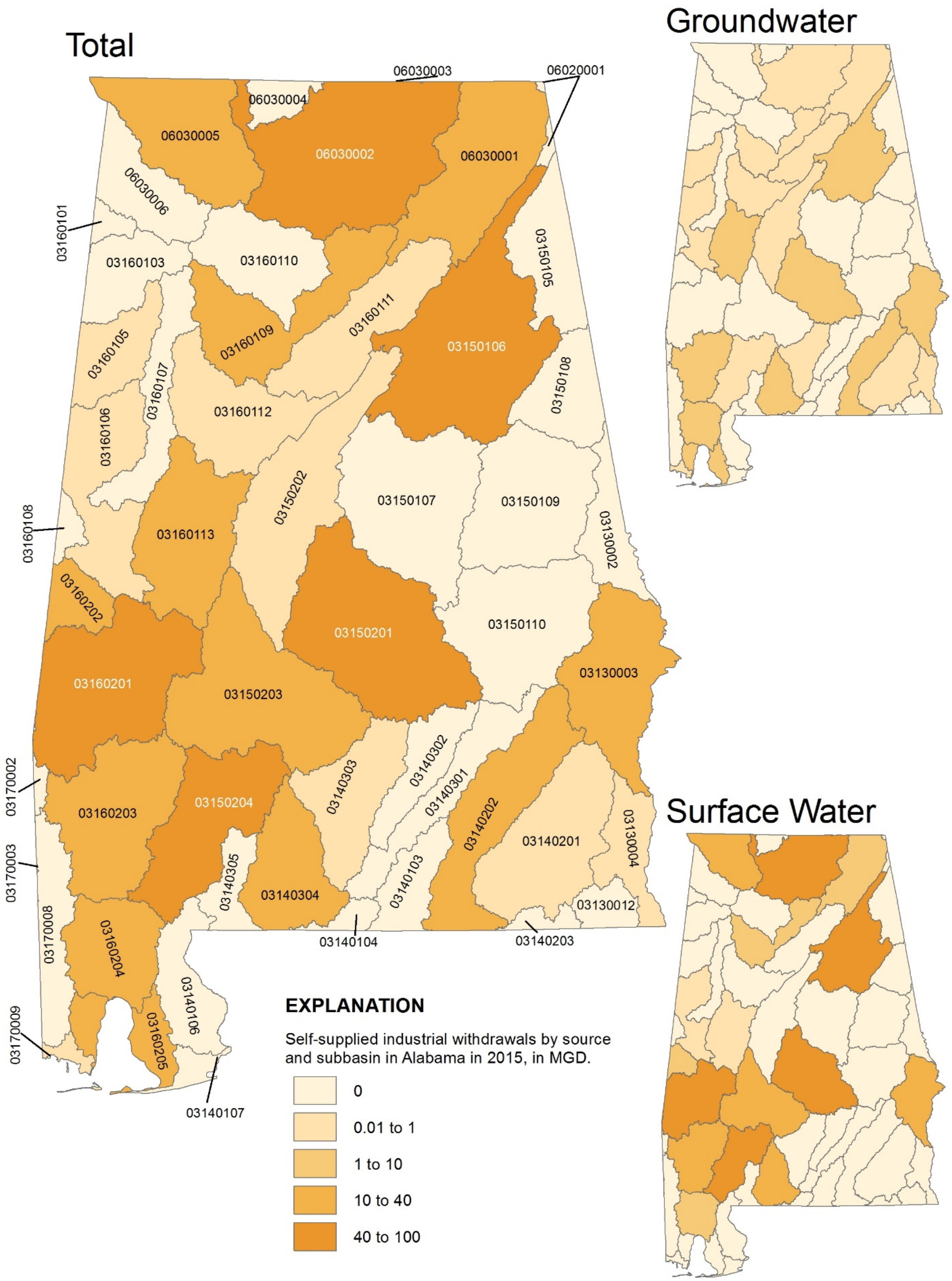


Figure 39. Map of self-supplied industrial withdrawals by subbasin in Alabama in 2015, in MGD.



Pulp, paper and paperboard mills (NAICS 3221, 295 MGD), basic chemical manufacturing (NAICS 3251, 97 MGD), and converted paper product manufacturing (NAICS 3222, 33 MGD) accounted for 86 percent of total self-supplied industrial withdrawals (figure 39). Pulp, paper and paperboard mills accounted for the largest self-supplied industrial surface water withdrawals (291 MGD). Basic chemical manufacturing accounted for the largest groundwater withdrawals (7 MGD). The largest withdrawals for pulp, paper and paperboard mills occurred in Monroe County. Detailed water use by NAICS for counties and hydrologic subbasins can be found in Appendices B and C, respectively.

OWR AWURP was the source for site-specific industrial water withdrawal and ancillary data. The Alabama Department for Commerce provided nearly all of the NAICS codes for specific industries. Public-supply deliveries to commercial and industrial users were determined at the state level from the Alabama Public Water System Survey for 2015 (Appendix F). Details are in the "Thermoelectric Power and Industrial" section in the "Data Compilation, Sources, of Information, and Methodology for Withdrawals" section in this report.

Figure 40. Distribution of total industrial withdrawals by North American Industrial Classification System grouping in Alabama in 2015, in MGD.

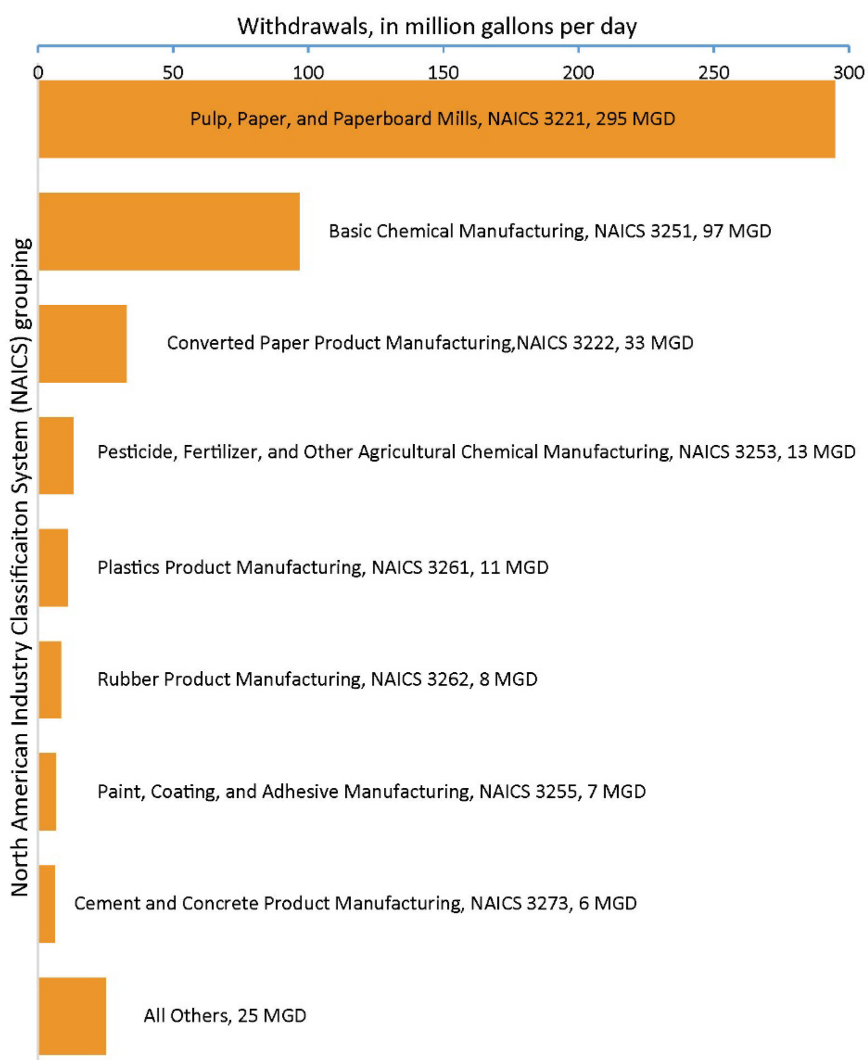


Table 42. Self-supplied industrial withdrawals by county in Alabama in 2015, in MGD.

	WITHDRAWALS by source in million gallons per day		
County Name	Groundwater	Surface water	Total
AUTAUGA	1.83	32.97	34.80
BALDWIN	0.00	0.00	0.00
BARBOUR	1.50	0.00	1.50
BIBB	0.00	0.00	0.00
BLOUNT	0.00	0.00	0.00
BULLOCK	0.00	0.00	0.00
BUTLER	0.19	0.00	0.19
CALHOUN	1.15	0.00	1.15
CHAMBERS	0.00	0.00	0.00
CHEROKEE	0.00	0.00	0.00
CHILTON	0.39	0.00	0.39
CHOCTAW	0.00	46.61	46.61
CLARKE	0.00	22.14	22.14
CLAY	0.00	0.00	0.00
CLEBURNE	0.00	0.00	0.00
COFFEE	1.74	0.00	1.74
COLBERT	0.00	29.70	29.70
CONECUH	0.00	0.00	0.00
COOSA	0.00	0.00	0.00
COVINGTON	0.00	0.00	0.00
CRENSHAW	0.00	0.00	0.00
CULLMAN	0.73	2.43	3.17
DALE	0.00	0.00	0.00
DALLAS	0.24	30.66	30.90
DEKALB	0.57	0.00	0.57
ELMORE	0.00	0.00	0.00
ESCAMBIA	1.46	32.54	34.01
ETOWAH	0.00	8.30	8.30
FAYETTE	0.00	0.00	0.00
FRANKLIN	0.00	0.00	0.00
GENEVA	0.00	0.00	0.00
GREENE	0.02	0.00	0.02
HALE	0.02	0.00	0.02
HENRY	0.26	0.00	0.26
HOUSTON	0.30	0.00	0.30
JACKSON	0.00	9.10	9.10
JEFFERSON	0.87	0.00	0.87
LAMAR	0.10	0.00	0.10
LAUDERDALE	0.00	0.00	0.00
LAWRENCE	0.00	0.00	0.00
LEE	0.00	0.00	0.00
LIMESTONE	0.00	0.00	0.00
LOWNDES	4.24	0.00	4.24
MACON	0.00	0.00	0.00
MADISON	0.00	0.55	0.55
MARENGO	0.00	18.44	18.44
MARION	0.00	0.00	0.00
MARSHALL	0.08	0.00	0.08
MOBILE	6.49	3.61	10.10
MONROE	0.12	49.31	49.44
MONTGOMERY	1.78	0.03	1.81
MORGAN	0.01	88.33	88.34
PERRY	0.00	0.00	0.00
PICKENS	0.01	0.00	0.01
PIKE	0.00	0.00	0.00
RANDOLPH	0.00	0.00	0.00
RUSSELL	1.44	26.00	27.44
SHELBY	0.00	0.00	0.00
ST CLAIR	0.00	6.10	6.10
SUMTER	0.00	4.57	4.57
TALLADEGA	0.00	26.59	26.59
TALLAPOOSA	0.00	0.00	0.00
TUSCALOOSA	1.53	0.67	2.20
WALKER	0.00	0.00	0.00
WASHINGTON	5.83	3.42	9.25
WILCOX	0.00	19.67	19.67
WINSTON	0.00	0.00	0.00
TOTAL	32.91	461.76	494.67

Table 43. Monthly self-supplied industrial groundwater withdrawals by county in Alabama in 2015, in MGD.

County Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg
AUTAUGA	2.03	1.98	1.93	1.91	1.89	1.93	1.89	1.64	1.54	1.62	1.63	1.93	1.83
BALDWIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BARBOUR	1.53	1.43	1.56	1.51	1.52	1.55	1.53	1.43	1.49	1.59	1.47	1.43	1.50
BIBB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BLOUNT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BULLOCK	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BUTLER	0.19	0.20	0.17	0.15	0.18	0.19	0.22	0.22	0.24	0.20	0.20	0.18	0.19
CALHOUN	1.03	1.07	1.16	1.03	1.14	1.23	1.19	1.29	1.18	1.13	1.20	1.15	1.15
CHAMBERS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CHEROKEE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CHILTON	0.27	0.28	0.29	0.29	0.23	0.30	0.55	0.53	0.58	0.56	0.56	0.28	0.39
CHOCTAW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CLARKE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CLAY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CLEBURNE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
COFFEE	1.60	1.67	1.89	1.73	1.66	1.72	1.67	1.67	1.83	1.84	1.76	1.80	1.74
COLBERT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CONECUH	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
COOSA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
COVINGTON	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CRENSHAW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CULLMAN	0.42	0.31	0.42	1.39	1.44	1.02	0.48	0.00	0.13	1.23	1.18	0.78	0.73
DALE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DALLAS	0.25	0.17	0.26	0.27	0.26	0.24	0.23	0.22	0.25	0.27	0.26	0.16	0.24
DEKALB	0.65	0.54	0.55	0.55	0.57	0.61	0.54	0.48	0.55	0.61	0.63	0.59	0.57
ELMORE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ESCAMBIA	1.48	1.54	1.56	1.56	1.59	1.56	1.53	1.37	1.35	1.36	1.34	1.34	1.46
ETOWAH	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FAYETTE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FRANKLIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GENEVA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GREENE	0.01	0.02	0.02	0.03	0.04	0.03	0.02	0.03	0.02	0.02	0.02	0.02	0.02
HALE	0.00	0.00	0.00	0.00	0.00	0.05	0.05	0.05	0.05	0.00	0.00	0.00	0.02
HENRY	0.04	0.26	0.29	0.30	0.27	0.30	0.29	0.27	0.28	0.29	0.28	0.29	0.26

Table 43. Monthly self-supplied industrial groundwater withdrawals by county in Alabama in 2015, in MGD – Continued.

County Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg
HOUSTON	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
JACKSON	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
JEFFERSON	0.66	0.74	0.68	0.72	0.90	0.57	0.76	1.14	0.78	0.96	0.92	1.61	0.87
LAMAR	0.20	0.14	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.20	0.62	0.10
LAUDERDALE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LAWRENCE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LEE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LIMESTONE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LOWNDES	4.10	3.92	4.03	4.21	4.29	4.45	4.42	4.40	4.39	4.17	4.34	4.10	4.24
MACON	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MADISON	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MARENGO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MARION	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MARSHALL	0.08	0.09	0.08	0.09	0.09	0.08	0.09	0.02	0.07	0.09	0.09	0.09	0.08
MOBILE	6.39	6.32	6.70	6.49	6.22	6.68	6.37	6.67	6.41	6.33	6.64	6.67	6.49
MONROE	0.14	0.15	0.14	0.10	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
MONTGOMERY	1.86	1.50	1.54	1.73	1.88	1.76	1.95	2.25	2.09	1.90	1.28	1.59	1.78
MORGAN	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.01
PERRY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PICKENS	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
PIKE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RANDOLPH	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RUSSELL	1.44	1.44	1.44	1.44	1.44	1.44	1.44	1.44	1.44	1.44	1.44	1.44	1.44
SHELBY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ST CLAIR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUMTER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TALLADEGA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TALLAPOOSA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TUSCALOOSA	1.53	1.53	1.53	1.53	1.53	1.53	1.53	1.53	1.53	1.53	1.53	1.53	1.53
WALKER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WASHINGTON	6.83	4.79	5.74	5.61	5.37	5.14	4.87	5.60	6.86	6.56	6.04	6.46	5.83
WILCOX	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WINSTON	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	33.04	30.40	32.37	32.95	32.94	32.81	32.04	32.66	33.48	34.12	33.43	34.49	32.91

Table 44. Monthly self-supplied industrial surface water withdrawals by county in Alabama in 2015, in MGD.

County Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg
AUTAUGA	33.73	31.59	32.66	30.97	28.31	32.71	35.75	35.04	34.42	34.53	32.33	33.42	32.97
BALDWIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BARBOUR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BIBB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BLOUNT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BULLOCK	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BUTLER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CALHOUN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CHAMBERS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CHEROKEE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CHILTON	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CHOCTAW	43.90	45.40	44.00	43.50	46.80	38.40	50.90	53.60	51.90	48.20	45.60	46.80	46.61
CLARKE	24.26	22.39	22.59	22.69	22.69	23.09	22.17	22.67	22.04	17.80	20.76	22.59	22.14
CLAY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CLEBURNE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
COFFEE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
COLBERT	29.71	28.88	30.60	31.20	25.68	28.31	27.38	30.89	30.21	31.34	31.38	30.79	29.70
CONECUH	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
COOSA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
COVINGTON	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CRENSHAW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CULLMAN	2.77	2.40	1.89	2.06	2.17	2.41	2.61	2.69	2.87	2.69	2.52	2.08	2.43
DALE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DALLAS	31.40	29.90	29.60	30.10	29.30	30.40	34.90	31.50	31.10	30.40	27.80	31.40	30.66
DEKALB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ELMORE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ESCAMBIA	29.00	29.90	30.70	24.40	34.00	34.60	34.70	34.80	35.20	33.70	34.20	35.00	32.54
ETOWAH	6.66	6.52	5.92	6.92	9.25	12.05	8.33	9.57	9.46	8.45	7.20	9.12	8.30
FAYETTE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FRANKLIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GENEVA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GREENE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HALE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HENRY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table 44. Monthly self-supplied industrial surface water withdrawals by county in Alabama in 2015, in MGD – Continued.

County Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg
HOUSTON	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
JACKSON	9.59	9.65	9.30	8.83	8.73	8.16	9.29	9.21	8.95	8.88	9.10	9.48	9.10
JEFFERSON	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LAMAR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LAUDERDALE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LAWRENCE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LEE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LIMESTONE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LOWNDES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MACON	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MADISON	0.60	0.70	0.63	0.61	0.48	0.43	0.68	0.61	0.53	0.51	0.50	0.40	0.55
MARENGO	18.70	18.50	12.90	19.80	19.10	18.70	18.00	19.00	19.00	19.20	19.60	18.90	18.44
MARION	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MARSHALL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MOBILE	3.22	3.05	2.99	3.09	3.52	3.73	4.11	4.60	4.50	3.93	2.99	3.55	3.61
MONROE	49.41	47.31	48.02	39.00	47.31	50.91	55.11	53.72	49.21	51.31	50.70	49.31	49.31
MONTGOMERY	0.00	0.00	0.00	0.00	0.01	0.04	0.06	0.11	0.08	0.01	0.00	0.00	0.03
MORGAN	72.17	76.03	83.07	87.19	54.31	76.15	114.96	115.50	110.88	98.35	84.49	85.84	88.33
PERRY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PICKENS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PIKE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RANDOLPH	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RUSSELL	24.64	18.93	24.65	24.65	25.68	27.87	28.05	27.94	28.27	28.37	26.20	26.18	26.00
SHELBY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ST CLAIR	6.68	11.78	6.08	6.18	5.68	5.18	4.78	4.98	4.78	4.98	5.48	7.08	6.10
SUMTER	4.54	4.54	4.54	4.54	4.61	4.61	4.61	4.61	4.61	4.61	4.54	4.54	4.57
TALLADEGA	25.43	22.42	23.96	20.18	29.98	28.06	28.72	30.03	29.06	24.80	26.83	29.10	26.59
TALLAPOOSA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TUSCALOOSA	0.84	0.82	0.70	0.75	0.91	0.90	1.18	1.17	0.22	0.21	0.17	0.20	0.67
WALKER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WASHINGTON	3.55	2.67	3.10	3.16	3.23	3.32	3.80	3.81	3.79	3.65	3.44	3.44	3.42
WILCOX	20.04	20.24	17.85	19.81	20.03	19.16	18.64	19.43	18.90	20.57	21.06	20.41	19.67
WINSTON	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	440.82	433.61	435.75	429.63	421.79	449.20	508.71	515.47	499.97	476.49	456.90	469.62	461.76

Table 45. Monthly total self-supplied industrial water withdrawals by county in Alabama in 2015, in MGD.

County Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg
AUTAUGA	35.76	33.57	34.59	32.88	30.20	34.64	37.64	36.68	35.96	36.15	33.96	35.35	34.80
BALDWIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BARBOUR	1.53	1.43	1.56	1.51	1.52	1.55	1.53	1.43	1.49	1.59	1.47	1.43	1.50
BIBB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BLOUNT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BULLOCK	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BUTLER	0.19	0.20	0.17	0.15	0.18	0.19	0.22	0.22	0.24	0.20	0.20	0.18	0.19
CALHOUN	1.03	1.07	1.16	1.03	1.14	1.23	1.19	1.29	1.18	1.13	1.20	1.15	1.15
CHAMBERS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CHEROKEE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CHILTON	0.27	0.28	0.29	0.29	0.23	0.30	0.55	0.53	0.58	0.56	0.56	0.28	0.39
CHOCTAW	43.90	45.40	44.00	43.50	46.80	38.40	50.90	53.60	51.90	48.20	45.60	46.80	46.61
CLARKE	24.26	22.39	22.59	22.69	22.69	23.09	22.17	22.67	22.04	17.80	20.76	22.59	22.14
CLAY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CLEBURNE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
COFFEE	1.60	1.67	1.89	1.73	1.66	1.72	1.67	1.67	1.83	1.84	1.76	1.80	1.74
COLBERT	29.71	28.88	30.60	31.20	25.68	28.31	27.38	30.89	30.21	31.34	31.38	30.79	29.70
CONECUH	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
COOSA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
COVINGTON	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CRENSHAW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CULLMAN	3.19	2.72	2.31	3.45	3.60	3.43	3.09	2.69	3.01	3.92	3.70	2.87	3.17
DALE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DALLAS	31.65	30.07	29.86	30.37	29.56	30.64	35.13	31.72	31.35	30.67	28.06	31.56	30.90
DEKALB	0.65	0.54	0.55	0.55	0.57	0.61	0.54	0.48	0.55	0.61	0.63	0.59	0.57
ELMORE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ESCAMBIA	30.48	31.44	32.26	25.96	35.59	36.16	36.23	36.17	36.55	35.06	35.54	36.34	34.01
ETOWAH	6.66	6.52	5.92	6.92	9.25	12.05	8.33	9.57	9.46	8.45	7.20	9.12	8.30
FAYETTE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FRANKLIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GENEVA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GREENE	0.01	0.02	0.02	0.03	0.04	0.03	0.02	0.03	0.02	0.02	0.02	0.02	0.02
HALE	0.00	0.00	0.00	0.00	0.00	0.05	0.05	0.05	0.05	0.00	0.00	0.00	0.02
HENRY	0.04	0.26	0.29	0.30	0.27	0.30	0.29	0.27	0.28	0.29	0.28	0.29	0.26

Table 45. Monthly total self-supplied industrial water withdrawals by county in Alabama in 2015, in MGD – Continued.

County Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg
HOUSTON	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
JACKSON	9.59	9.65	9.30	8.83	8.73	8.16	9.29	9.21	8.95	8.88	9.10	9.48	9.10
JEFFERSON	0.66	0.74	0.68	0.72	0.90	0.57	0.76	1.14	0.78	0.96	0.92	1.61	0.87
LAMAR	0.20	0.14	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.20	0.62	0.10
LAUDERDALE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LAWRENCE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LEE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LIMESTONE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LOWNDES	4.10	3.92	4.03	4.21	4.29	4.45	4.42	4.40	4.39	4.17	4.34	4.10	4.24
MACON	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MADISON	0.60	0.70	0.63	0.61	0.48	0.43	0.68	0.61	0.53	0.51	0.50	0.40	0.55
MARENGO	18.70	18.50	12.90	19.80	19.10	18.70	18.00	19.00	19.00	19.20	19.60	18.90	18.44
MARION	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MARSHALL	0.08	0.09	0.08	0.09	0.09	0.08	0.09	0.02	0.07	0.09	0.09	0.09	0.08
MOBILE	9.61	9.37	9.69	9.58	9.74	10.41	10.48	11.27	10.91	10.26	9.63	10.22	10.10
MONROE	49.55	47.46	48.16	39.10	47.43	51.03	55.23	53.84	49.33	51.43	50.82	49.43	49.44
MONTGOMERY	1.86	1.50	1.54	1.73	1.90	1.80	2.01	2.35	2.17	1.92	1.28	1.59	1.81
MORGAN	72.18	76.04	83.08	87.20	54.32	76.16	114.97	115.51	110.89	98.35	84.49	85.84	88.34
PERRY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PICKENS	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
PIKE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RANDOLPH	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RUSSELL	26.08	20.37	26.09	26.09	27.12	29.31	29.49	29.38	29.71	29.81	27.64	27.62	27.44
SHELBY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ST CLAIR	6.68	11.78	6.08	6.18	5.68	5.18	4.78	4.98	4.78	4.98	5.48	7.08	6.10
SUMTER	4.54	4.54	4.54	4.54	4.61	4.61	4.61	4.61	4.61	4.61	4.54	4.54	4.57
TALLADEGA	25.43	22.42	23.96	20.18	29.98	28.06	28.72	30.03	29.06	24.80	26.83	29.10	26.59
TALLAPOOSA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TUSCALOOSA	2.37	2.34	2.23	2.28	2.44	2.42	2.70	2.70	1.74	1.74	1.70	1.73	2.20
WALKER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WASHINGTON	10.38	7.46	8.84	8.77	8.60	8.46	8.67	9.41	10.64	10.22	9.48	9.90	9.25
WILCOX	20.04	20.24	17.85	19.81	20.03	19.16	18.64	19.43	18.90	20.57	21.06	20.41	19.67
WINSTON	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	473.85	464.01	468.12	462.58	454.74	482.01	540.75	548.13	533.46	510.62	490.34	504.11	494.67

Table 46. Self-supplied industrial withdrawals by hydrologic subregion and subbasin in Alabama in 2015, in MGD.

Hydrologic subregion and subbasin	Withdrawals by source, in million gallons per day		
	Groundwater	Surface water	Total
Apalachicola			
03130002	0.00	0.00	0.00
03130003	2.94	26.00	28.95
03130004	0.56	0.00	0.56
03130012	0.00	0.00	0.00
Subtotal	*3.51*	*26.00*	*29.51*
Chocawhatchee-Escambia			
03140103	0.00	0.00	0.00
03140104	0.00	0.00	0.00
03140106	0.00	0.00	0.00
03140107	0.00	0.00	0.00
03140201	0.60	0.00	0.60
03140202	1.14	0.00	1.14
03140203	0.00	0.00	0.00
03140301	0.00	0.00	0.00
03140302	0.00	0.00	0.00
03140303	0.19	0.00	0.19
03140304	1.46	32.54	34.01
03140305	0.00	0.00	0.00
Subtotal	*3.40*	*32.54*	*35.94*
Alabama			
03150105	0.00	0.00	0.00
03150106	1.72	40.98	42.71
03150107	0.00	0.00	0.00
03150108	0.00	0.00	0.00
03150109	0.00	0.00	0.00
03150110	0.00	0.00	0.00
03150201	8.47	63.66	72.14
03150202	0.16	0.00	0.16
03150203	0.00	19.67	19.67
03150204	0.12	49.31	49.44
Subtotal	*10.48*	*173.63*	*184.11*
Mobile-Tombigbee			
03160101	0.00	0.00	0.00
03160103	0.00	0.00	0.00
03160105	0.10	0.00	0.10
03160106	0.01	0.58	0.58
03160107	0.00	0.00	0.00
03160108	0.00	0.00	0.00
03160109	0.73	2.43	3.17
03160110	0.00	0.00	0.00
03160111	0.71	0.00	0.71
03160112	0.20	0.00	0.20
03160113	1.37	0.67	2.04
03160201	0.00	67.93	67.93
03160202	0.00	1.12	1.12
03160203	5.83	25.56	31.39
03160204	5.43	3.61	9.04
03160205	1.06	0.00	1.06
Subtotal	*15.44*	*101.90*	*117.35*
Pascagoula			
03170002	0.00	0.00	0.00
03170003	0.00	0.00	0.00
03170008	0.00	0.00	0.00
03170009	0.00	0.00	0.00
Subtotal	*0.00*	*0.00*	*0.00*
Middle Tennessee-Hiwassee			
06020001	0.00	0.00	0.00
Subtotal	*0.00*	*0.00*	*0.00*
Middle Tennessee-Elk			
06030001	0.08	9.10	9.18
06030002	0.01	88.88	88.89
06030003	0.00	0.00	0.00
06030004	0.00	0.00	0.00
06030005	0.00	29.70	29.70
06030006	0.00	0.00	0.00
Subtotal	*0.09*	*127.68*	*127.76*
Total	**32.91**	**461.76**	**494.67**

Table 47. Monthly self-supplied industrial groundwater withdrawals by subbasin in Alabama in 2015, in MGD.

Hydrologic subregion and subbasin	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	AVG
Apalachicola													
03130002	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03130003	2.98	2.87	3.00	2.95	2.96	3.00	2.97	2.87	2.93	3.03	2.91	2.87	2.94
03130004	0.34	0.56	0.59	0.60	0.57	0.61	0.59	0.57	0.58	0.59	0.58	0.59	0.56
03130012	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal	*3.32*	*3.44*	*3.59*	*3.55*	*3.53*	*3.60*	*3.56*	*3.44*	*3.51*	*3.62*	*3.49*	*3.46*	*3.51*
Chocawhatchee-Escambia													
03140103	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03140104	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03140106	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03140107	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03140201	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60
03140202	1.00	1.07	1.29	1.13	1.06	1.12	1.07	1.07	1.23	1.24	1.16	1.20	1.14
03140203	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03140301	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03140302	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03140303	0.19	0.20	0.17	0.15	0.18	0.19	0.22	0.22	0.24	0.20	0.20	0.18	0.19
03140304	1.48	1.54	1.56	1.56	1.59	1.56	1.53	1.37	1.35	1.36	1.34	1.34	1.46
03140305	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal	*3.28*	*3.40*	*3.62*	*3.44*	*3.44*	*3.47*	*3.41*	*3.26*	*3.42*	*3.39*	*3.30*	*3.32*	*3.40*
Alabama													
03150105	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03150106	1.68	1.62	1.71	1.58	1.72	1.84	1.73	1.77	1.72	1.74	1.83	1.74	1.72
03150107	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03150108	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03150109	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03150110	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03150201	8.51	7.85	8.06	8.41	8.55	8.68	9.05	9.03	8.85	8.52	8.07	8.06	8.47
03150202	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
03150203	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03150204	0.14	0.15	0.14	0.10	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
Subtotal	*10.48*	*9.77*	*10.07*	*10.25*	*10.54*	*10.80*	*11.05*	*11.08*	*10.85*	*10.54*	*10.17*	*10.08*	*10.48*
Mobile-Tombigbee													
03160101	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table 47. Monthly self-supplied industrial groundwater withdrawals by subbasin in Alabama in 2015, in MGD – Continued.

Hydrologic subregion and subbasin	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	AVG
03160103	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03160105	0.20	0.14	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.20	0.62	0.10
03160106	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
03160107	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03160108	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03160109	0.42	0.31	0.42	1.39	1.44	1.02	0.48	0.00	0.13	1.23	1.18	0.78	0.73
03160110	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03160111	0.50	0.58	0.52	0.56	0.74	0.41	0.60	0.98	0.62	0.80	0.76	1.45	0.71
03160112	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
03160113	1.33	1.34	1.34	1.35	1.36	1.41	1.40	1.41	1.40	1.34	1.34	1.34	1.37
03160201	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03160202	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03160203	6.83	4.79	5.74	5.61	5.37	5.14	4.87	5.60	6.86	6.56	6.04	6.46	5.83
03160204	5.33	5.26	5.65	5.43	5.17	5.63	5.32	5.60	5.34	5.26	5.55	5.56	5.43
03160205	1.05	1.06	1.05	1.06	1.05	1.05	1.05	1.06	1.07	1.07	1.09	1.10	1.06
Subtotal	*15.87*	*13.69*	*14.99*	*15.61*	*15.34*	*14.86*	*13.92*	*14.86*	*15.63*	*16.48*	*16.37*	*17.54*	*15.44*
Pascagoula													
03170002	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03170003	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03170008	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03170009	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*
Middle Tennessee-Hiwassee													
06020001	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*
Middle Tennessee-Elk													
06030001	0.08	0.09	0.08	0.09	0.09	0.08	0.09	0.02	0.07	0.09	0.09	0.09	0.08
06030002	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.01
06030003	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06030004	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06030005	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06030006	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal	*0.09*	*0.10*	*0.10*	*0.10*	*0.09*	*0.09*	*0.10*	*0.02*	*0.07*	*0.09*	*0.10*	*0.09*	*0.09*
Total	**33.04**	**30.40**	**32.37**	**32.95**	**32.94**	**32.81**	**32.04**	**32.66**	**33.48**	**34.12**	**33.43**	**34.49**	**32.91**

Table 48. Monthly self-supplied industrial surface water withdrawals by subbasin in Alabama in 2015, in MGD.

Hydrologic subregion and subbasin	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	AVG
Apalachicola													
03130002	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03130003	24.64	18.93	24.65	24.65	25.68	27.87	28.05	27.94	28.27	28.37	26.20	26.18	26.00
03130004	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03130012	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal	*24.64*	*18.93*	*24.65*	*24.65*	*25.68*	*27.87*	*28.05*	*27.94*	*28.27*	*28.37*	*26.20*	*26.18*	*26.00*
Chocawhatchee-Escambia													
03140103	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03140104	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03140106	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03140107	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03140201	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03140202	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03140203	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03140301	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03140302	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03140303	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03140304	29.00	29.90	30.70	24.40	34.00	34.60	34.70	34.80	35.20	33.70	34.20	35.00	32.54
03140305	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal	*29.00*	*29.90*	*30.70*	*24.40*	*34.00*	*34.60*	*34.70*	*34.80*	*35.20*	*33.70*	*34.20*	*35.00*	*32.54*
Alabama													
03150105	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03150106	38.77	40.72	35.96	33.28	44.91	45.29	41.83	44.58	43.30	38.23	39.51	45.30	40.98
03150107	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03150108	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03150109	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03150110	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03150201	65.13	61.49	62.26	61.07	57.62	63.15	70.71	66.65	65.60	64.94	60.13	64.82	63.66
03150202	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03150203	20.04	20.24	17.85	19.81	20.03	19.16	18.64	19.43	18.90	20.57	21.06	20.41	19.67
03150204	49.41	47.31	48.02	39.00	47.31	50.91	55.11	53.72	49.21	51.31	50.70	49.31	49.31
Subtotal	*173.34*	*169.76*	*164.08*	*153.17*	*169.88*	*178.51*	*186.28*	*184.37*	*177.01*	*175.06*	*171.40*	*179.83*	*173.63*
Mobile-Tombigbee													
03160101	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table 48. Monthly self-supplied industrial surface water withdrawals by subbasin in Alabama in 2015, in MGD – Continued.

Hydrologic subregion and subbasin	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	AVG
03160103	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03160105	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03160106	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58
03160107	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03160108	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03160109	2.77	2.40	1.89	2.06	2.17	2.41	2.61	2.69	2.87	2.69	2.52	2.08	2.43
03160110	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03160111	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03160112	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03160113	0.84	0.82	0.70	0.75	0.91	0.90	1.18	1.17	0.22	0.21	0.17	0.20	0.67
03160201	65.48	66.78	59.78	66.18	68.78	59.98	71.78	75.48	73.78	70.28	68.08	68.58	67.93
03160202	1.08	1.08	1.08	1.08	1.15	1.15	1.15	1.15	1.15	1.15	1.08	1.08	1.12
03160203	27.81	25.06	25.69	25.85	25.92	26.41	25.97	26.48	25.83	21.45	24.20	26.03	25.56
03160204	3.22	3.05	2.99	3.09	3.52	3.73	4.11	4.60	4.50	3.93	2.99	3.55	3.61
03160205	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal	*101.77*	*99.76*	*92.71*	*99.59*	*103.03*	*95.16*	*107.38*	*112.15*	*108.93*	*100.29*	*99.62*	*102.10*	*101.90*
Pascagoula													
03170002	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03170003	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03170008	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03170009	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*
Middle Tennessee-Hiwassee													
06020001	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*
Middle Tennessee-Elk													
06030001	9.59	9.65	9.30	8.83	8.73	8.16	9.29	9.21	8.95	8.88	9.10	9.48	9.10
06030002	72.77	76.73	83.70	87.80	54.79	76.58	115.63	116.11	111.41	98.86	84.99	86.24	88.88
06030003	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06030004	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06030005	29.71	28.88	30.60	31.20	25.68	28.31	27.38	30.89	30.21	31.34	31.38	30.79	29.70
06030006	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal	*112.06*	*115.26*	*123.60*	*127.82*	*89.20*	*113.05*	*152.30*	*156.21*	*150.56*	*139.07*	*125.48*	*126.51*	*127.68*
Total	**440.82**	**433.61**	**435.75**	**429.63**	**421.79**	**449.20**	**508.71**	**515.47**	**499.97**	**476.49**	**456.90**	**469.62**	**461.76**

Table 49. Monthly self-supplied industrial total water withdrawals by subbasin in Alabama in 2015, in MGD.

Hydrologic subregion and subbasin	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	AVG
Apalachicola													
03130002	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03130003	27.61	21.80	27.65	27.60	28.64	30.87	31.02	30.81	31.20	31.40	29.11	29.05	28.95
03130004	0.34	0.56	0.59	0.60	0.57	0.61	0.59	0.57	0.58	0.59	0.58	0.59	0.56
03130012	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal	*27.96*	*22.37*	*28.24*	*28.20*	*29.21*	*31.47*	*31.61*	*31.38*	*31.78*	*31.99*	*29.69*	*29.64*	*29.51*
Chocawhatchee-Escambia													
03140103	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03140104	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03140106	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03140107	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03140201	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60
03140202	1.00	1.07	1.29	1.13	1.06	1.12	1.07	1.07	1.23	1.24	1.16	1.20	1.14
03140203	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03140301	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03140302	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03140303	0.19	0.20	0.17	0.15	0.18	0.19	0.22	0.22	0.24	0.20	0.20	0.18	0.19
03140304	30.48	31.44	32.26	25.96	35.59	36.16	36.23	36.17	36.55	35.06	35.54	36.34	34.01
03140305	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal	*32.28*	*33.30*	*34.32*	*27.84*	*37.44*	*38.07*	*38.11*	*38.06*	*38.62*	*37.09*	*37.50*	*38.32*	*35.94*
Alabama													
03150105	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03150106	40.44	42.34	37.67	34.86	46.63	47.14	43.55	46.36	45.02	39.97	41.33	47.04	42.71
03150107	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03150108	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03150109	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03150110	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03150201	73.64	69.34	70.32	69.48	66.17	71.83	79.76	75.68	74.45	73.47	68.20	72.88	72.14
03150202	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
03150203	20.04	20.24	17.85	19.81	20.03	19.16	18.64	19.43	18.90	20.57	21.06	20.41	19.67
03150204	49.55	47.46	48.16	39.10	47.43	51.03	55.23	53.84	49.33	51.43	50.82	49.43	49.44
Subtotal	*183.82*	*179.53*	*174.15*	*163.41*	*180.42*	*189.31*	*197.33*	*195.46*	*187.86*	*185.60*	*181.57*	*189.91*	*184.11*
Mobile-Tombigbee													
03160101	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table 49. Monthly self-supplied industrial total water withdrawals by subbasin in Alabama in 2015, in MGD – Continued.

Hydrologic subregion and subbasin	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	AVG
03160103	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03160105	0.20	0.14	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.20	0.62	0.10
03160106	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58
03160107	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03160108	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03160109	3.19	2.72	2.31	3.45	3.60	3.43	3.09	2.69	3.01	3.92	3.70	2.87	3.17
03160110	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03160111	0.50	0.58	0.52	0.56	0.74	0.41	0.60	0.98	0.62	0.80	0.76	1.45	0.71
03160112	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
03160113	2.17	2.16	2.05	2.10	2.28	2.30	2.58	2.58	1.62	1.56	1.52	1.55	2.04
03160201	65.48	66.78	59.78	66.18	68.78	59.98	71.78	75.48	73.78	70.28	68.08	68.58	67.93
03160202	1.08	1.08	1.08	1.08	1.15	1.15	1.15	1.15	1.15	1.15	1.08	1.08	1.12
03160203	34.64	29.85	31.43	31.46	31.29	31.55	30.84	32.08	32.68	28.02	30.24	32.49	31.39
03160204	8.55	8.31	8.64	8.52	8.69	9.36	9.43	10.20	9.84	9.19	8.54	9.11	9.04
03160205	1.05	1.06	1.05	1.06	1.05	1.05	1.05	1.06	1.07	1.07	1.09	1.10	1.06
Subtotal	*117.65*	*113.45*	*107.71*	*115.20*	*118.37*	*110.02*	*121.30*	*127.01*	*124.55*	*116.77*	*115.99*	*119.64*	*117.35*
Pascagoula													
03170002	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03170003	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03170008	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03170009	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*
Middle Tennessee-Hiwassee													
06020001	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*
Middle Tennessee-Elk													
06030001	9.67	9.74	9.38	8.92	8.82	8.24	9.38	9.22	9.01	8.97	9.20	9.57	9.18
06030002	72.78	76.73	83.72	87.80	54.80	76.59	115.64	116.12	111.41	98.86	85.00	86.24	88.89
06030003	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06030004	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06030005	29.71	28.88	30.60	31.20	25.68	28.31	27.38	30.89	30.21	31.34	31.38	30.79	29.70
06030006	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal	*112.15*	*115.35*	*123.70*	*127.92*	*89.30*	*113.14*	*152.40*	*156.24*	*150.63*	*139.17*	*125.58*	*126.60*	*127.76*
Total	**473.85**	**464.01**	**468.12**	**462.58**	**454.74**	**482.01**	**540.75**	**548.13**	**533.46**	**510.62**	**490.34**	**504.11**	**494.67**

Mining

Mining water refers to water that is used for the extraction of naturally occurring minerals including solids, such as coal, sand, gravel, and other ores; liquids, such as crude petroleum; and gases, such as natural gas. Mining also includes uses associated with quarrying, milling, and other preparations customarily done at a mine site or as part of a mining activity. Mining water use does not include water associated with the dewatering of an aquifer that is not put to beneficial use and does not include water used in processing, such as smelting, refining petroleum, or slurry pipeline operations. These processing uses are included in the industrial sector.

Mining water withdrawals are listed by county and hydrologic subregion and subbasin in tables 50 and 51. For 2015, total mining withdrawals were 22 MGD, which is less than 1 percent of the total withdrawals and 1 percent of total withdrawals for all sectors except thermoelectric power (table 13). Groundwater was the source for approximately 73 percent (16 MGD) of mining withdrawals, and surface water was the source for the remaining 27 percent (6 MGD, figure 41). All mining withdrawals were assumed to be from freshwater, although some low-salinity groundwater has been tapped in parts of the state (Marlon Cook, Alabama Geological Survey, oral communication, January 2008).

The geographic distribution of total, groundwater and surface-water withdrawals for mining use by county and hydrologic subregion and subbasin are shown in figures 42 and 43. Washington, Elmore, Autauga, Macon, Sumter, Montgomery, Escambia, and Jefferson Counties all withdrew more than 1 MGD and accounted for 66 percent of the total mining water withdrawals. Thirty-five counties had no mining water withdrawals.

The Alabama hydrologic subregion accounted for 47 percent (10 MGD) of the total mining withdrawals with 71 percent of those withdrawals coming from groundwater (7 MGD). Within the Alabama hydrologic subregion, the largest subbasin withdrawals were the Upper Alabama (03150201; 4 MGD), the Lower Tallapoosa (03150110; 3 MGD) and the Lower Coosa (03150107; 1 MGD) subbasins. The largest groundwater withdrawals were in the Alabama hydrologic subregion (7 MGD) and accounted for 33 percent of the statewide mining groundwater withdrawals.

Estimates of mining water withdrawals by source of supply were determined by the USGS-NWIUP as part of the national effort to estimate water use for the United States for 2015. Water withdrawals were estimated from the methods described in the “Livestock, Aquaculture and Mining” section in the “Data Compilation, Sources of Information, and Methodology for Withdrawals” section of this report. The mining data was only derived as an annual daily average; therefore, no monthly tables were produced.

Figure 41. Source of water for mining use in Alabama in 2015, in MGD.

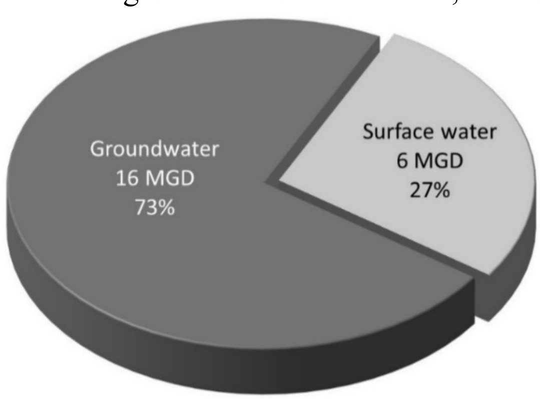


Figure 42. Map of mining withdrawals by source and county in Alabama in 2015, in MGD.

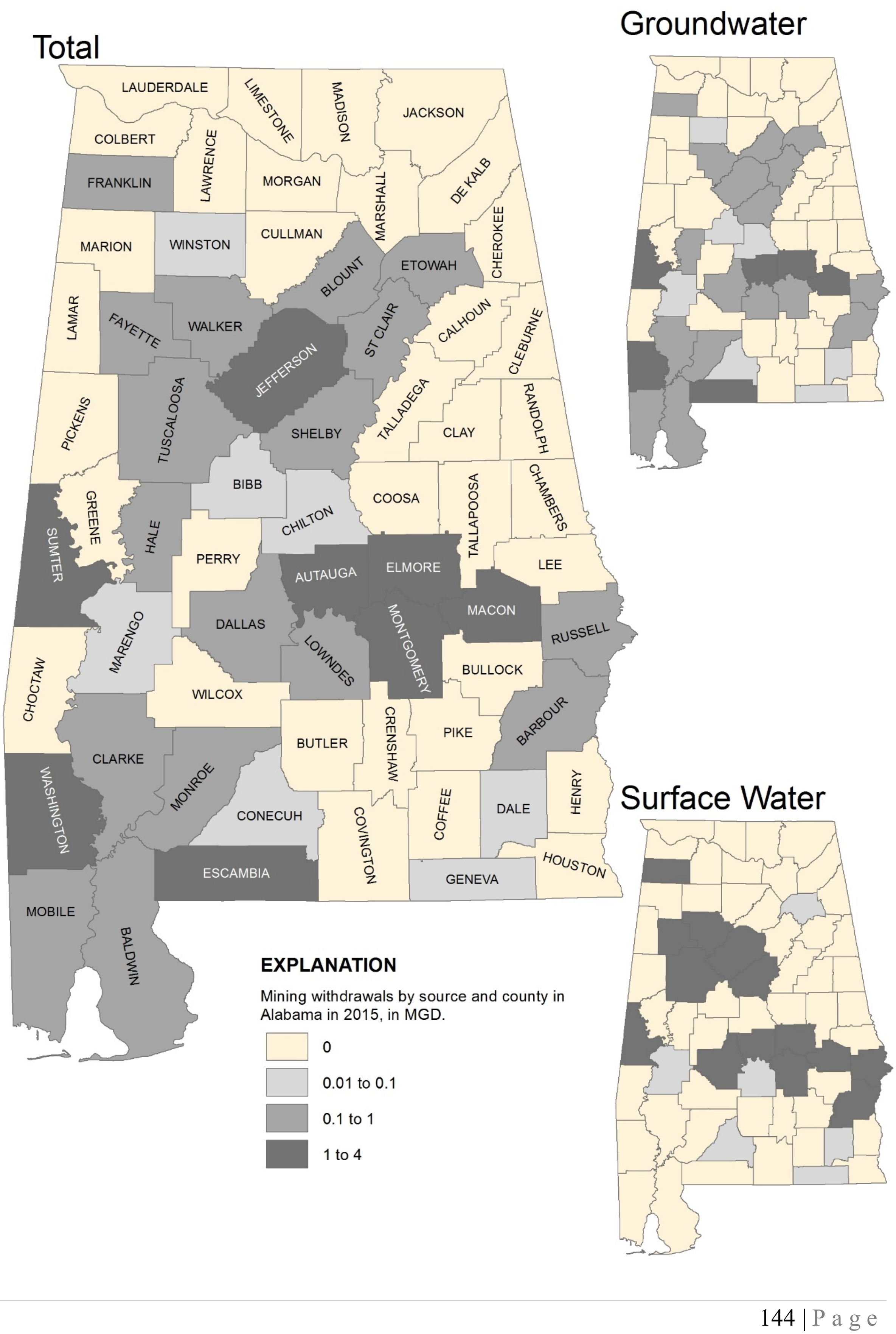


Figure 43. Map of mining withdrawals by hydrologic subregion and subbasin in Alabama in 2015, in MGD.

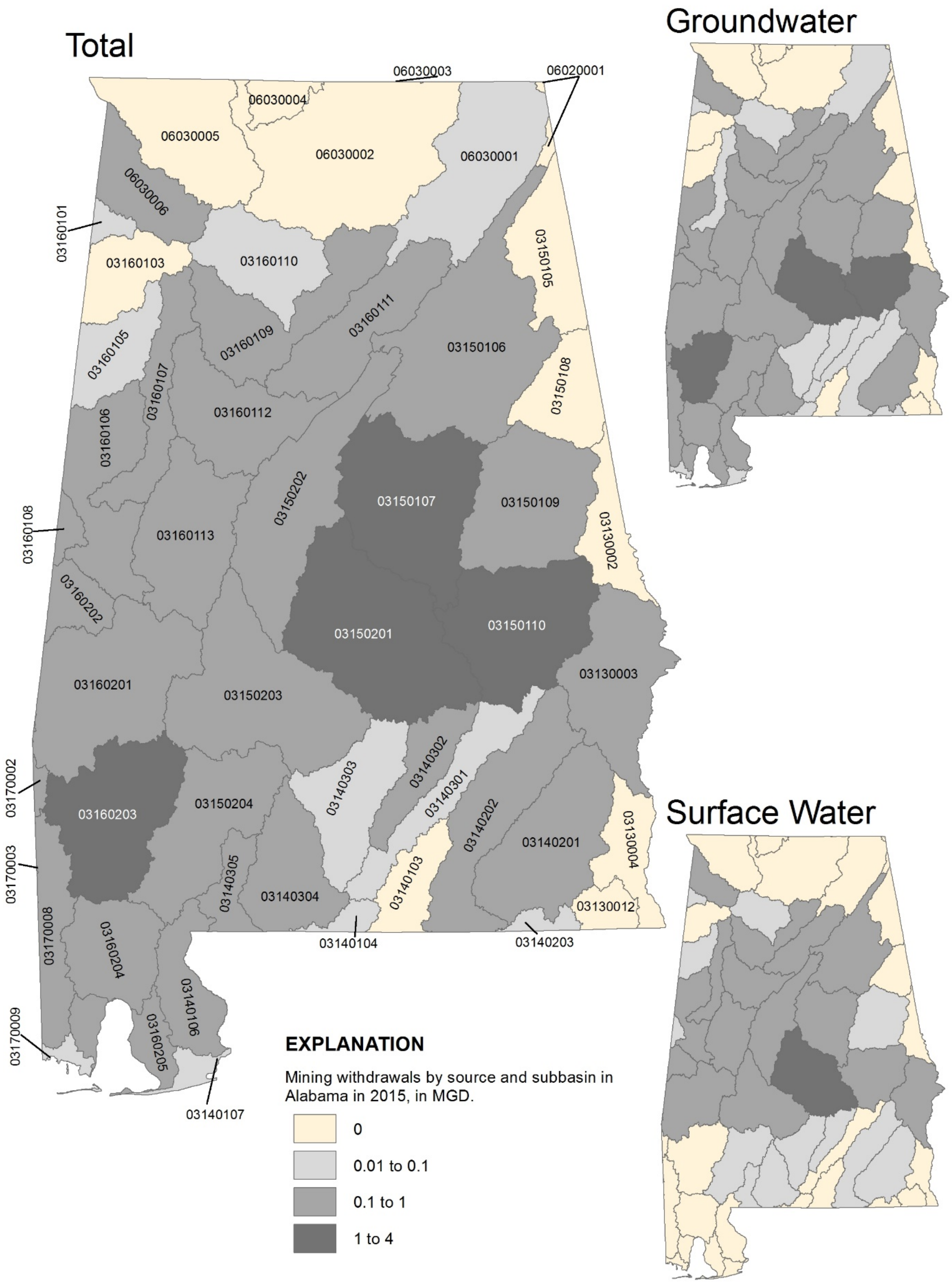


Table 50. Mining withdrawals by source and county in Alabama in 2015, in MGD.

	Withdrawals by source in million gallons per day		
County Name	Groundwater	Surface water	Total
AUTAUGA	1.40	0.62	2.02
BALDWIN	0.22	0.00	0.22
BARBOUR	0.30	0.14	0.44
BIBB	0.01	0.00	0.01
BLOUNT	0.19	0.00	0.19
BULLOCK	0.00	0.00	0.00
BUTLER	0.00	0.00	0.00
CALHOUN	0.00	0.00	0.00
CHAMBERS	0.00	0.00	0.00
CHEROKEE	0.00	0.00	0.00
CHILTON	0.06	0.00	0.06
CHOCTAW	0.00	0.00	0.00
CLARKE	0.86	0.00	0.86
CLAY	0.00	0.00	0.00
CLEBURNE	0.00	0.00	0.00
COFFEE	0.00	0.00	0.00
COLBERT	0.00	0.00	0.00
CONECUH	0.04	0.02	0.06
COOSA	0.00	0.00	0.00
COVINGTON	0.00	0.00	0.00
CRENSHAW	0.00	0.00	0.00
CULLMAN	0.00	0.00	0.00
DALE	0.05	0.03	0.08
DALLAS	0.50	0.22	0.72
DEKALB	0.00	0.00	0.00
ELMORE	1.95	0.92	2.87
ESCAMBIA	1.15	0.00	1.15
ETOWAH	0.22	0.10	0.32
FAYETTE	0.00	0.31	0.31
FRANKLIN	0.34	0.15	0.49
GENEVA	0.05	0.02	0.07
GREENE	0.00	0.00	0.00
HALE	0.12	0.00	0.12
HENRY	0.00	0.00	0.00

	Withdrawals by source in million gallons per day		
County Name	Groundwater	Surface water	Total
HOUSTON	0.00	0.00	0.00
JACKSON	0.00	0.00	0.00
JEFFERSON	0.62	0.47	1.09
LAMAR	0.00	0.00	0.00
LAUDERDALE	0.00	0.00	0.00
LAWRENCE	0.00	0.00	0.00
LEE	0.00	0.00	0.00
LIMESTONE	0.00	0.00	0.00
LOWNDES	0.16	0.08	0.24
MACON	1.05	0.52	1.57
MADISON	0.00	0.00	0.00
MARENGO	0.02	0.01	0.03
MARION	0.00	0.00	0.00
MARSHALL	0.00	0.00	0.00
MOBILE	0.22	0.00	0.22
MONROE	0.15	0.00	0.15
MONTGOMERY	0.80	0.38	1.18
MORGAN	0.00	0.00	0.00
PERRY	0.00	0.00	0.00
PICKENS	0.00	0.00	0.00
PIKE	0.00	0.00	0.00
RANDOLPH	0.00	0.00	0.00
RUSSELL	0.34	0.17	0.51
SHELBY	0.32	0.16	0.48
ST CLAIR	0.51	0.00	0.51
SUMTER	1.06	0.49	1.55
TALLADEGA	0.00	0.00	0.00
TALLAPOOSA	0.00	0.00	0.00
TUSCALOOSA	0.00	0.85	0.85
WALKER	0.13	0.41	0.54
WASHINGTON	3.22	0.00	3.22
WILCOX	0.00	0.00	0.00
WINSTON	0.05	0.00	0.05
TOTAL	16.11	6.07	22.18

Table 51. Mining withdrawals by source and subbasin in Alabama in 2015, in MGD.

Hydrologic subregion and subbasin	Withdrawals by source, in million gallons per day		
	Groundwater	Surface water	Total
Apalachicola			
03130002	0.00	0.00	0.00
03130003	0.53	0.26	0.78
03130004	0.00	0.00	0.00
03130012	0.00	0.00	0.00
Subtotal	*0.53*	*0.26*	*0.79*
Chocawhatchee-Escambia			
03140103	0.00	0.00	0.00
03140104	0.09	0.00	0.09
03140106	0.14	0.00	0.14
03140107	0.03	0.00	0.03
03140201	0.15	0.08	0.23
03140202	0.08	0.04	0.12
03140203	0.01	0.00	0.02
03140301	0.02	0.01	0.03
03140302	0.09	0.04	0.13
03140303	0.04	0.01	0.05
03140304	0.65	0.01	0.66
03140305	0.29	0.00	0.29
Subtotal	*1.59*	*0.19*	*1.78*
Alabama			
03150105	0.00	0.00	0.00
03150106	0.69	0.10	0.79
03150107	0.84	0.39	1.23
03150108	0.00	0.00	0.00
03150109	0.15	0.07	0.23
03150110	1.98	0.96	2.94
03150201	2.57	1.16	3.74
03150202	0.38	0.21	0.59
03150203	0.37	0.15	0.53
03150204	0.39	0.00	0.39
Subtotal	*7.38*	*3.05*	*10.43*
Mobile-Tombigbee			
03160101	0.03	0.01	0.05
03160103	0.00	0.00	0.00
03160105	0.00	0.08	0.08
03160106	0.22	0.11	0.32
03160107	0.00	0.25	0.25
03160108	0.14	0.07	0.21
03160109	0.16	0.38	0.54
03160110	0.05	0.03	0.07
03160111	0.48	0.25	0.72
03160112	0.17	0.69	0.86
03160113	0.12	0.25	0.37
03160201	0.38	0.13	0.51
03160202	0.44	0.21	0.65
03160203	2.84	0.00	2.84
03160204	0.12	0.00	0.12
03160205	0.10	0.00	0.10
Subtotal	*5.27*	*2.44*	*7.71*
Pascagoula			
03170002	0.12	0.00	0.12
03170003	0.00	0.00	0.00
03170008	0.84	0.00	0.84
03170009	0.04	0.00	0.04
Subtotal	*1.00*	*0.00*	*1.00*
Middle Tennessee-Hiwassee			
06020001	0.00	0.00	0.00
Subtotal	*0.00*	*0.00*	*0.00*
Middle Tennessee-Elk			
06030001	0.02	0.00	0.02
06030002	0.00	0.00	0.00
06030003	0.00	0.00	0.00
06030004	0.00	0.00	0.00
06030005	0.04	0.02	0.06
06030006	0.27	0.12	0.38
Subtotal	*0.33*	*0.14*	*0.47*
Total	**16.11**	**6.07**	**22.18**

Thermoelectric Power

Thermoelectric-power water is water used in the process of generating electricity with steam-driven turbine generators and for other onsite needs. For 2015, thermoelectric-power water withdrawals were compiled by cooling-system type because cooling system type is the primary determinant of consumptive use relative to withdrawals. Once-through cooling (also known as open-loop cooling) refers to cooling systems in which water is withdrawn from a source, circulated through heat exchangers, and then returned to a surface-water body. Recirculating cooling (also known as closed-cycle cooling) refers to cooling systems in which water is withdrawn from a source, circulated through heat exchanger where it is cooled and then recycled. Subsequent water withdrawals for a recirculating-cooling system are used to replace water lost to evaporation, blowdown, drift, and leakage. Thermoelectric-power withdrawals were reported by the USGS by condenser cooling water use from 1950 to 1980, by fuel-type from 1985 through 1995, and by cooling type for 2005 through 2015.

Total thermoelectric-power withdrawals are listed by county and hydrologic subregion and subbasin in tables 52 through 55 with tables 53 and 55 showing monthly withdrawals. Total thermoelectric-power water withdrawals by cooling type are listed by county and hydrologic subregion and subbasin in tables 56 and 57. The total quantity of water withdrawn for thermoelectric power in 2015 was 6,624 MGD. Surface water was the source for all thermoelectric-power withdrawals. Thermoelectric-power withdrawals accounted for 80 percent of total water withdrawals and 86 percent of total surface-water withdrawals. Thermoelectric-power plants that used self-supplied water produced 127,677 gigawatt-hours of energy in 2015.

The geographic distribution of withdrawals for thermoelectric power by county and hydrologic subbasin are shown in figures 44 and 45. Although some power generation occurs in every subregion with the exception of the Pascagoula and the Alabama portion of the Middle Tennessee-Hiwassee, water was used in power generation is only in 13 counties (figure 44). The largest withdrawals were in Limestone, Colbert (Middle Tennessee-Elk subregion), and Mobile (Mobile-Tombigbee subregion) Counties.

Sources of data for thermoelectric power were OWR AWURP, DOE-EIA, and individual facilities. The AWURP eWater application includes monthly average daily water withdrawals, source of water, and location information. Details are in the “Thermoelectric Power and Industrial” section in the “Data Compilation, Sources of Information, and Methodology for Withdrawals” section in this report.

Figure 44. Map of thermoelectric-power withdrawals by county in Alabama in 2015, in MGD.

Figure 45. Map of thermoelectric-power withdrawals by subbasin in Alabama in 2015, in MGD.

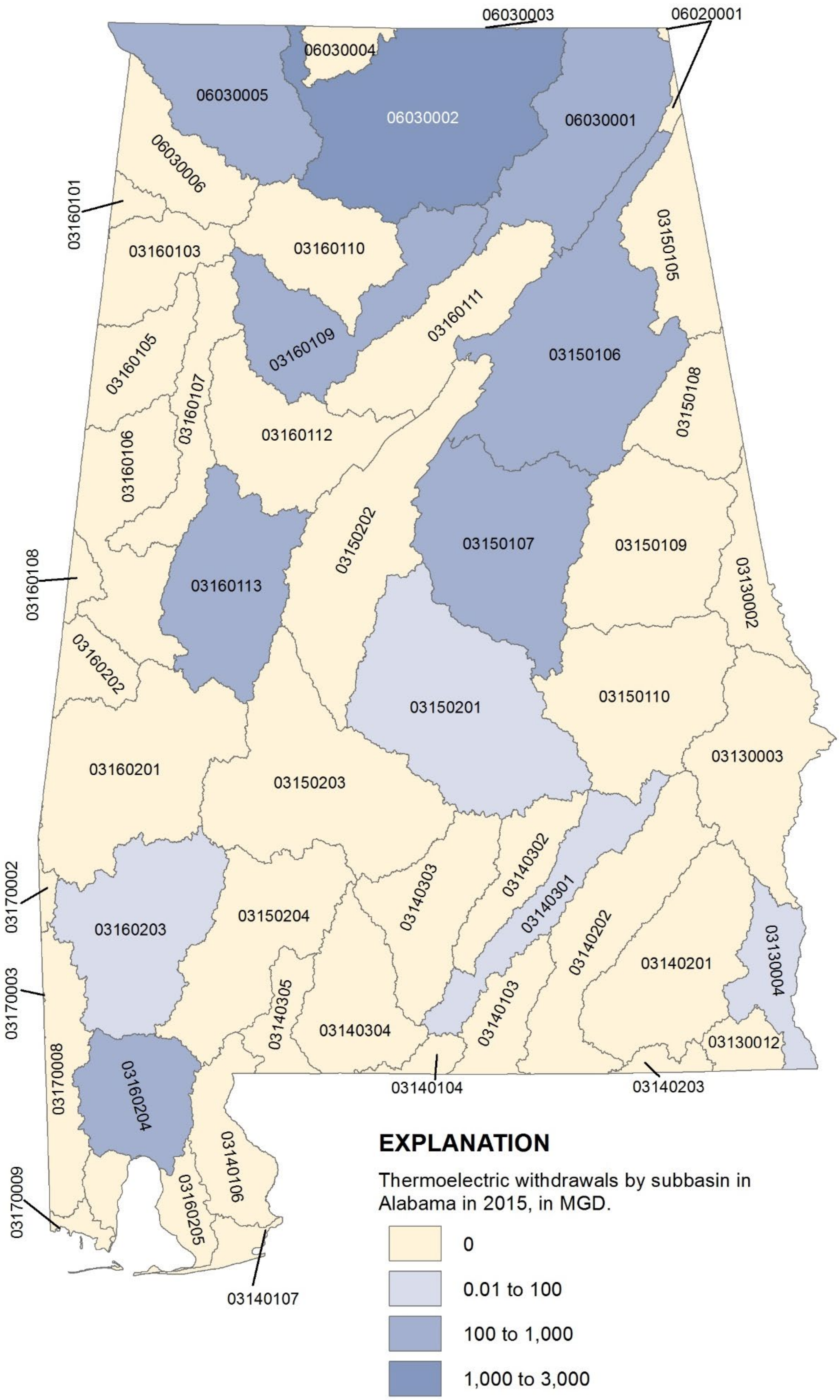


Table 52. Thermoelectric-power withdrawals by county in Alabama in 2015, in MGD.

	Withdrawals by source in million gallons per day		
County Name	Groundwater	Surface water	Total
AUTAUGA	0.00	11.86	11.86
BALDWIN	0.00	0.00	0.00
BARBOUR	0.00	0.00	0.00
BIBB	0.00	0.00	0.00
BLOUNT	0.00	0.00	0.00
BULLOCK	0.00	0.00	0.00
BUTLER	0.00	0.00	0.00
CALHOUN	0.00	0.00	0.00
CHAMBERS	0.00	0.00	0.00
CHEROKEE	0.00	0.00	0.00
CHILTON	0.00	0.00	0.00
CHOCTAW	0.00	0.00	0.00
CLARKE	0.00	0.00	0.00
CLAY	0.00	0.00	0.00
CLEBURNE	0.00	0.00	0.00
COFFEE	0.00	0.00	0.00
COLBERT	0.00	963.99	963.99
CONECUH	0.00	0.00	0.00
COOSA	0.00	0.00	0.00
COVINGTON	0.00	1.15	1.15
CRENSHAW	0.00	0.00	0.00
CULLMAN	0.00	0.00	0.00
DALE	0.00	0.00	0.00
DALLAS	0.00	0.00	0.00
DEKALB	0.00	0.00	0.00
ELMORE	0.00	0.00	0.00
ESCAMBIA	0.00	0.00	0.00
ETOWAH	0.00	105.52	105.52
FAYETTE	0.00	0.00	0.00
FRANKLIN	0.00	0.00	0.00
GENEVA	0.00	0.00	0.00
GREENE	0.00	377.42	377.42
HALE	0.00	0.00	0.00
HENRY	0.00	0.00	0.00
HOUSTON	0.00	99.08	99.08
JACKSON	0.00	352.22	352.22
JEFFERSON	0.00	0.00	0.00
LAMAR	0.00	0.00	0.00
LAUDERDALE	0.00	0.00	0.00
LAWRENCE	0.00	0.00	0.00
LEE	0.00	0.00	0.00
LIMESTONE	0.00	2,850.13	2,850.13
LOWNDES	0.00	0.00	0.00
MACON	0.00	0.00	0.00
MADISON	0.00	0.00	0.00
MARENGO	0.00	0.00	0.00
MARION	0.00	0.00	0.00
MARSHALL	0.00	0.00	0.00
MOBILE	0.00	693.70	693.70
MONROE	0.00	0.00	0.00
MONTGOMERY	0.00	0.00	0.00
MORGAN	0.00	2.68	2.68
PERRY	0.00	0.00	0.00
PICKENS	0.00	0.00	0.00
PIKE	0.00	0.00	0.00
RANDOLPH	0.00	0.00	0.00
RUSSELL	0.00	0.00	0.00
SHELBY	0.00	462.22	462.22
ST CLAIR	0.00	0.00	0.00
SUMTER	0.00	0.00	0.00
TALLADEGA	0.00	0.00	0.00
TALLAPOOSA	0.00	0.00	0.00
TUSCALOOSA	0.00	0.00	0.00
WALKER	0.00	664.34	664.34
WASHINGTON	0.00	39.94	39.94
WILCOX	0.00	0.00	0.00
WINSTON	0.00	0.00	0.00
TOTAL	**0.00**	**6,624.25**	**6,624.25**

Table 53. Monthly thermoelectric-power withdrawals by county in Alabama in 2015, in MGD.

County Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg
AUTAUGA	10.15	9.62	7.82	7.67	13.42	14.43	16.49	16.22	15.49	10.61	9.84	10.41	11.86
BALDWIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BARBOUR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BIBB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BLOUNT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BULLOCK	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BUTLER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CALHOUN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CHAMBERS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CHEROKEE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CHILTON	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CHOCTAW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CLARKE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CLAY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CLEBURNE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
COFFEE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
COLBERT	1,060.06	1,045.32	872.87	908.30	1,082.00	958.00	1,086.00	1,086.00	983.50	946.77	730.23	807.77	963.99
CONECUH	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
COOSA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
COVINGTON	0.99	0.68	1.02	0.59	1.01	1.34	1.42	1.43	1.10	1.29	1.70	1.15	1.15
CRENSHAW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CULLMAN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DALE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DALLAS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DEKALB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ELMORE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ESCAMBIA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ETOWAH	98.21	137.20	128.84	96.27	110.07	105.62	92.10	96.13	108.40	102.43	95.03	98.41	105.52
FAYETTE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FRANKLIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GENEVA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GREENE	361.85	387.42	157.19	392.22	413.79	413.64	415.01	406.79	419.41	419.54	324.58	419.89	377.42
HALE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HENRY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table 53. Monthly thermoelectric-power withdrawals by county in Alabama in 2015, in MGD – Continued.

County Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg
HOUSTON	101.55	94.65	86.71	64.65	94.83	118.48	114.38	111.62	106.84	110.38	99.76	84.50	99.08
JACKSON	446.95	446.38	446.38	481.88	507.22	483.80	483.80	483.80	456.01	0.00	0.00	0.00	352.22
JEFFERSON	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LAMAR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LAUDERDALE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LAWRENCE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LEE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LIMESTONE	2,895.70	2,895.70	2,428.90	2,618.70	2,796.40	2,926.98	2,934.41	2,933.25	2,895.70	2,846.00	2,990.30	3,045.00	2,850.13
LOWNDES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MACON	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MADISON	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MARENGO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MARION	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MARSHALL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MOBILE	329.20	555.13	778.21	766.67	639.34	745.74	745.87	796.97	913.35	710.52	662.26	677.81	693.70
MONROE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MONTGOMERY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORGAN	1.95	4.06	2.46	1.77	3.78	3.49	4.15	2.39	3.07	1.12	2.29	1.81	2.68
PERRY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PICKENS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PIKE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RANDOLPH	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RUSSELL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SHELBY	546.69	598.92	500.15	314.83	532.89	640.49	672.63	589.29	488.51	167.18	230.78	271.85	462.22
ST CLAIR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUMTER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TALLADEGA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TALLAPOOSA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TUSCALOOSA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WALKER	478.20	698.52	604.10	583.88	779.45	792.36	792.85	792.21	780.99	616.60	331.10	719.63	664.34
WASHINGTON	45.30	46.10	13.70	44.30	45.40	47.00	48.00	47.40	45.50	24.20	45.40	28.30	39.94
WILCOX	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WINSTON	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	6,376.81	6,919.70	6,028.35	6,281.73	7,019.59	7,251.37	7,407.10	7,363.50	7,217.86	5,956.64	5,523.27	6,166.53	6,624.25

Table 54. Thermoelectric-power withdrawals by hydrologic subregion and subbasin in Alabama in 2015, in MGD.

Hydrologic subregion and subbasin	Withdrawals by source, in million gallons per day		
	Groundwater	Surface water	Total
Apalachicola			
03130002	0.00	0.00	0.00
03130003	0.00	0.00	0.00
03130004	0.00	99.08	99.08
03130012	0.00	0.00	0.00
Subtotal	*0.00*	*99.08*	*99.08*
Chocawhatchee-Escambia			
03140103	0.00	0.00	0.00
03140104	0.00	0.00	0.00
03140106	0.00	0.00	0.00
03140107	0.00	0.00	0.00
03140201	0.00	0.00	0.00
03140202	0.00	0.00	0.00
03140203	0.00	0.00	0.00
03140301	0.00	1.15	1.15
03140302	0.00	0.00	0.00
03140303	0.00	0.00	0.00
03140304	0.00	0.00	0.00
03140305	0.00	0.00	0.00
Subtotal	*0.00*	*1.15*	*1.15*
Alabama			
03150105	0.00	0.00	0.00
03150106	0.00	105.52	105.52
03150107	0.00	462.22	462.22
03150108	0.00	0.00	0.00
03150109	0.00	0.00	0.00
03150110	0.00	0.00	0.00
03150201	0.00	11.86	11.86
03150202	0.00	0.00	0.00
03150203	0.00	0.00	0.00
03150204	0.00	0.00	0.00
Subtotal	*0.00*	*579.60*	*579.60*
Mobile-Tombigbee			
03160101	0.00	0.00	0.00
03160103	0.00	0.00	0.00
03160105	0.00	0.00	0.00
03160106	0.00	0.00	0.00
03160107	0.00	0.00	0.00
03160108	0.00	0.00	0.00
03160109	0.00	664.34	664.34
03160110	0.00	0.00	0.00
03160111	0.00	0.00	0.00
03160112	0.00	0.00	0.00
03160113	0.00	377.42	377.42
03160201	0.00	0.00	0.00
03160202	0.00	0.00	0.00
03160203	0.00	39.94	39.94
03160204	0.00	693.70	693.70
03160205	0.00	0.00	0.00
Subtotal	*0.00*	*1,775.40*	*1,775.40*
Pascagoula			
03170002	0.00	0.00	0.00
03170003	0.00	0.00	0.00
03170008	0.00	0.00	0.00
03170009	0.00	0.00	0.00
Subtotal	*0.00*	*0.00*	*0.00*
Middle Tennessee-Hiwassee			
06020001	0.00	0.00	0.00
Subtotal	*0.00*	*0.00*	*0.00*
Middle Tennessee-Elk			
06030001	0.00	352.22	352.22
06030002	0.00	2,852.82	2,852.82
06030003	0.00	0.00	0.00
06030004	0.00	0.00	0.00
06030005	0.00	963.99	963.99
06030006	0.00	0.00	0.00
Subtotal	*0.00*	*4,169.03*	*4,169.03*
Total	**0.00**	**6,624.25**	**6,624.25**

Table 55. Monthly thermoelectric-power withdrawals by subbasin in Alabama in 2015, in MGD.

Hydrologic subregion and subbasin	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	AVG
Apalachicola													
03130002	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03130003	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03130004	101.55	94.65	86.71	64.65	94.83	118.48	114.38	111.62	106.84	110.38	99.76	84.50	99.08
03130012	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal	*101.55*	*94.65*	*86.71*	*64.65*	*94.83*	*118.48*	*114.38*	*111.62*	*106.84*	*110.38*	*99.76*	*84.50*	*99.08*
Chocawhatchee-Escambia													
03140103	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03140104	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03140106	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03140107	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03140201	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03140202	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03140203	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03140301	0.99	0.68	1.02	0.59	1.01	1.34	1.42	1.43	1.10	1.29	1.70	1.15	1.15
03140302	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03140303	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03140304	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03140305	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal	*0.99*	*0.68*	*1.02*	*0.59*	*1.01*	*1.34*	*1.42*	*1.43*	*1.10*	*1.29*	*1.70*	*1.15*	*1.15*
Alabama													
03150105	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03150106	98.21	137.20	128.84	96.27	110.07	105.62	92.10	96.13	108.40	102.43	95.03	98.41	105.52
03150107	546.69	598.92	500.15	314.83	532.89	640.49	672.63	589.29	488.51	167.18	230.78	271.85	462.22
03150108	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03150109	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03150110	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03150201	10.15	9.62	7.82	7.67	13.42	14.43	16.49	16.22	15.49	10.61	9.84	10.41	11.86
03150202	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03150203	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03150204	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal	*655.06*	*745.74*	*636.81*	*418.76*	*656.38*	*760.54*	*781.22*	*701.65*	*612.40*	*280.22*	*335.65*	*380.67*	*579.60*
Mobile-Tombigbee													
03160101	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table 55. Monthly thermoelectric-power withdrawals by subbasin in Alabama in 2015, in MGD – Continued.

Hydrologic subregion and subbasin	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	AVG
03160103	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03160105	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03160106	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03160107	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03160108	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03160109	478.20	698.52	604.10	583.88	779.45	792.36	792.85	792.21	780.99	616.60	331.10	719.63	664.34
03160110	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03160111	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03160112	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03160113	361.85	387.42	157.19	392.22	413.79	413.64	415.01	406.79	419.41	419.54	324.58	419.89	377.42
03160201	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03160202	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03160203	45.30	46.10	13.70	44.30	45.40	47.00	48.00	47.40	45.50	24.20	45.40	28.30	39.94
03160204	329.20	555.13	778.21	766.67	639.34	745.74	745.87	796.97	913.35	710.52	662.26	677.81	693.70
03160205	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal	*1,214.55*	*1,687.17*	*1,553.20*	*1,787.07*	*1,877.98*	*1,998.74*	*2,001.73*	*2,043.37*	*2,159.25*	*1,770.86*	*1,363.34*	*1,845.63*	*1,775.40*
Pascagoula													
03170002	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03170003	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03170008	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03170009	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*
Middle Tennessee-Hiwassee													
06020001	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*
Middle Tennessee-Elk													
06030001	446.95	446.38	446.38	481.88	507.22	483.80	483.80	483.80	456.01	0.00	0.00	0.00	352.22
06030002	2,897.65	2,899.76	2,431.36	2,620.47	2,800.18	2,930.47	2,938.56	2,935.64	2,898.77	2,847.12	2,992.59	3,046.81	2,852.82
06030003	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06030004	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06030005	1,060.06	1,045.32	872.87	908.30	1,082.00	958.00	1,086.00	1,086.00	983.50	946.77	730.23	807.77	963.99
06030006	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal	*4,404.66*	*4,391.46*	*3,750.61*	*4,010.65*	*4,389.39*	*4,372.27*	*4,508.36*	*4,505.44*	*4,338.28*	*3,793.89*	*3,722.82*	*3,854.58*	*4,169.03*
Total	**6,376.81**	**6,919.70**	**6,028.35**	**6,281.73**	**7,019.59**	**7,251.37**	**7,407.10**	**7,363.50**	**7,217.86**	**5,956.64**	**5,523.27**	**6,166.53**	**6,624.25**

Table 56. Thermoelectric-power withdrawals by cooling type by county in Alabama in 2015, in MGD.

	ONCE THROUGH COOLING WITHDRAWALS by source, in million gallons per day				RECIRCULATING COOLING WITHDRAWALS by source, in million gallons per day		
County Name	Groundwater	Surface water	Total		Groundwater	Surface water	Total
AUTAUGA	0.00	0.00	0.00		0.00	11.86	11.86
BALDWIN	0.00	0.00	0.00		0.00	0.00	0.00
BARBOUR	0.00	0.00	0.00		0.00	0.00	0.00
BIBB	0.00	0.00	0.00		0.00	0.00	0.00
BLOUNT	0.00	0.00	0.00		0.00	0.00	0.00
BULLOCK	0.00	0.00	0.00		0.00	0.00	0.00
BUTLER	0.00	0.00	0.00		0.00	0.00	0.00
CALHOUN	0.00	0.00	0.00		0.00	0.00	0.00
CHAMBERS	0.00	0.00	0.00		0.00	0.00	0.00
CHEROKEE	0.00	0.00	0.00		0.00	0.00	0.00
CHILTON	0.00	0.00	0.00		0.00	0.00	0.00
CHOCTAW	0.00	0.00	0.00		0.00	0.00	0.00
CLARKE	0.00	0.00	0.00		0.00	0.00	0.00
CLAY	0.00	0.00	0.00		0.00	0.00	0.00
CLEBURNE	0.00	0.00	0.00		0.00	0.00	0.00
COFFEE	0.00	0.00	0.00		0.00	0.00	0.00
COLBERT	0.00	963.99	963.99		0.00	0.00	0.00
CONECUH	0.00	0.00	0.00		0.00	0.00	0.00
COOSA	0.00	0.00	0.00		0.00	0.00	0.00
COVINGTON	0.00	0.00	0.00		0.00	1.15	1.15
CRENSHAW	0.00	0.00	0.00		0.00	0.00	0.00
CULLMAN	0.00	0.00	0.00		0.00	0.00	0.00
DALE	0.00	0.00	0.00		0.00	0.00	0.00
DALLAS	0.00	0.00	0.00		0.00	0.00	0.00
DEKALB	0.00	0.00	0.00		0.00	0.00	0.00
ELMORE	0.00	0.00	0.00		0.00	0.00	0.00
ESCAMBIA	0.00	0.00	0.00		0.00	0.00	0.00
ETOWAH	0.00	105.52	105.52		0.00	0.00	0.00
FAYETTE	0.00	0.00	0.00		0.00	0.00	0.00
FRANKLIN	0.00	0.00	0.00		0.00	0.00	0.00
GENEVA	0.00	0.00	0.00		0.00	0.00	0.00
GREENE	0.00	377.42	377.42		0.00	0.00	0.00
HALE	0.00	0.00	0.00		0.00	0.00	0.00
HENRY	0.00	0.00	0.00		0.00	0.00	0.00

Table 56. Thermoelectric-power withdrawals by cooling type by county in Alabama in 2015, in MGD – Continued.

County Name	ONCE THROUGH COOLING WITHDRAWALS by source, in million gallons per day				RECIRCULATING COOLING WITHDRAWALS by source, in million gallons per day		
	Groundwater	Surface water	Total		Groundwater	Surface water	Total
HOUSTON	0.00	0.00	0.00		0.00	99.08	99.08
JACKSON	0.00	352.22	352.22		0.00	0.00	0.00
JEFFERSON	0.00	0.00	0.00		0.00	0.00	0.00
LAMAR	0.00	0.00	0.00		0.00	0.00	0.00
LAUDERDALE	0.00	0.00	0.00		0.00	0.00	0.00
LAWRENCE	0.00	0.00	0.00		0.00	0.00	0.00
LEE	0.00	0.00	0.00		0.00	0.00	0.00
LIMESTONE	0.00	2,850.13	2,850.13		0.00	0.00	0.00
LOWNDES	0.00	0.00	0.00		0.00	0.00	0.00
MACON	0.00	0.00	0.00		0.00	0.00	0.00
MADISON	0.00	0.00	0.00		0.00	0.00	0.00
MARENGO	0.00	0.00	0.00		0.00	0.00	0.00
MARION	0.00	0.00	0.00		0.00	0.00	0.00
MARSHALL	0.00	0.00	0.00		0.00	0.00	0.00
MOBILE	0.00	693.70	693.70		0.00	0.00	0.00
MONROE	0.00	0.00	0.00		0.00	0.00	0.00
MONTGOMERY	0.00	0.00	0.00		0.00	0.00	0.00
MORGAN	0.00	0.00	0.00		0.00	2.68	2.68
PERRY	0.00	0.00	0.00		0.00	0.00	0.00
PICKENS	0.00	0.00	0.00		0.00	0.00	0.00
PIKE	0.00	0.00	0.00		0.00	0.00	0.00
RANDOLPH	0.00	0.00	0.00		0.00	0.00	0.00
RUSSELL	0.00	0.00	0.00		0.00	0.00	0.00
SHELBY	0.00	446.50	446.50		0.00	15.72	15.72
ST CLAIR	0.00	0.00	0.00		0.00	0.00	0.00
SUMTER	0.00	0.00	0.00		0.00	0.00	0.00
TALLADEGA	0.00	0.00	0.00		0.00	0.00	0.00
TALLAPOOSA	0.00	0.00	0.00		0.00	0.00	0.00
TUSCALOOSA	0.00	0.00	0.00		0.00	0.00	0.00
WALKER	0.00	638.21	638.21		0.00	26.13	26.13
WASHINGTON	0.00	37.21	37.21		0.00	2.73	2.73
WILCOX	0.00	0.00	0.00		0.00	0.00	0.00
WINSTON	0.00	0.00	0.00		0.00	0.00	0.00
TOTAL	0.00	6,464.90	6,464.90		0.00	159.35	159.35

Table 57. Thermoelectric-power withdrawals by cooling type by hydrologic subregion and subbasin in Alabama in 2015, in MGD.

	ONCE THROUGH COOLING WITHDRAWALS by source, in million gallons per day				RECIRCULATING COOLING WITHDRAWALS by source, in million gallons per day		
Hydrologic subregion and subbasin	Groundwater	Surface water	Total		Groundwater	Surface water	Total
Apalachicola							
03130002	0.00	0.00	0.00		0.00	0.00	0.00
03130003	0.00	0.00	0.00		0.00	0.00	0.00
03130004	0.00	0.00	0.00		0.00	99.08	99.08
03130012	0.00	0.00	0.00		0.00	0.00	0.00
Subtotal	*0.00*	*0.00*	*0.00*		*0.00*	*99.08*	*99.08*
Chocawhatchee-Escambia							
03140103	0.00	0.00	0.00		0.00	0.00	0.00
03140104	0.00	0.00	0.00		0.00	0.00	0.00
03140106	0.00	0.00	0.00		0.00	0.00	0.00
03140107	0.00	0.00	0.00		0.00	0.00	0.00
03140201	0.00	0.00	0.00		0.00	0.00	0.00
03140202	0.00	0.00	0.00		0.00	0.00	0.00
03140203	0.00	0.00	0.00		0.00	0.00	0.00
03140301	0.00	0.00	0.00		0.00	1.15	1.15
03140302	0.00	0.00	0.00		0.00	0.00	0.00
03140303	0.00	0.00	0.00		0.00	0.00	0.00
03140304	0.00	0.00	0.00		0.00	0.00	0.00
03140305	0.00	0.00	0.00		0.00	0.00	0.00
Subtotal	*0.00*	*0.00*	*0.00*		*0.00*	*1.15*	*1.15*
Alabama							
03150105	0.00	0.00	0.00		0.00	0.00	0.00
03150106	0.00	105.52	105.52		0.00	0.00	0.00
03150107	0.00	446.50	446.50		0.00	15.72	15.72
03150108	0.00	0.00	0.00		0.00	0.00	0.00
03150109	0.00	0.00	0.00		0.00	0.00	0.00
03150110	0.00	0.00	0.00		0.00	0.00	0.00
03150201	0.00	0.00	0.00		0.00	11.86	11.86
03150202	0.00	0.00	0.00		0.00	0.00	0.00
03150203	0.00	0.00	0.00		0.00	0.00	0.00
03150204	0.00	0.00	0.00		0.00	0.00	0.00
Subtotal	*0.00*	*552.02*	*552.02*		*0.00*	*27.58*	*27.58*
Mobile-Tombigbee							
03160101	0.00	0.00	0.00		0.00	0.00	0.00

Table 57. Thermoelectric-power withdrawals by cooling type by hydrologic subregion and subbasin in Alabama in 2015, in MGD – Continued.

Hydrologic subregion and subbasin	ONCE THROUGH COOLING WITHDRAWALS by source, in million gallons per day				RECIRCULATING COOLING WITHDRAWALS by source, in million gallons per day		
	Groundwater	Surface water	Total		Groundwater	Surface water	Total
03160103	0.00	0.00	0.00		0.00	0.00	0.00
03160105	0.00	0.00	0.00		0.00	0.00	0.00
03160106	0.00	0.00	0.00		0.00	0.00	0.00
03160107	0.00	0.00	0.00		0.00	0.00	0.00
03160108	0.00	0.00	0.00		0.00	0.00	0.00
03160109	0.00	638.21	638.21		0.00	26.13	26.13
03160110	0.00	0.00	0.00		0.00	0.00	0.00
03160111	0.00	0.00	0.00		0.00	0.00	0.00
03160112	0.00	0.00	0.00		0.00	0.00	0.00
03160113	0.00	377.42	377.42		0.00	0.00	0.00
03160201	0.00	0.00	0.00		0.00	0.00	0.00
03160202	0.00	0.00	0.00		0.00	0.00	0.00
03160203	0.00	37.21	37.21		0.00	2.73	2.73
03160204	0.00	693.70	693.70		0.00	0.00	0.00
03160205	0.00	0.00	0.00		0.00	0.00	0.00
Subtotal	*0.00*	*1,746.54*	*1,746.54*		*0.00*	*28.86*	*28.86*
Pascagoula							
03170002	0.00	0.00	0.00		0.00	0.00	0.00
03170003	0.00	0.00	0.00		0.00	0.00	0.00
03170008	0.00	0.00	0.00		0.00	0.00	0.00
03170009	0.00	0.00	0.00		0.00	0.00	0.00
Subtotal	*0.00*	*0.00*	*0.00*		*0.00*	*0.00*	*0.00*
Middle Tennessee-Hiwassee							
06020001	0.00	0.00	0.00		0.00	0.00	0.00
Subtotal	*0.00*	*0.00*	*0.00*		*0.00*	*0.00*	*0.00*
Middle Tennessee-Elk							
06030001	0.00	352.22	352.22		0.00	0.00	0.00
06030002	0.00	2,850.13	2,850.13		0.00	2.68	2.68
06030003	0.00	0.00	0.00		0.00	0.00	0.00
06030004	0.00	0.00	0.00		0.00	0.00	0.00
06030005	0.00	963.99	963.99		0.00	0.00	0.00
06030006	0.00	0.00	0.00		0.00	0.00	0.00
Subtotal	*0.00*	*4,166.34*	*4,166.34*		*0.00*	*2.68*	*2.68*
Total	**0.00**	**6,464.90**	**6,464.90**		**0.00**	**159.35**	**159.35**

Comparison of 2010 and 2015 Water-Withdrawal Data

While some water use data was collected in earlier years (see figure 1), only after the establishment of OWR in 1993 did the Alabama water use program begin to gather detailed information on the county and subbasin level. Significant data was first collected and reported in 2000 but mining and livestock water use information was not obtained. Therefore, starting with the 2005 report and continuing with this report, OWR has analyzed detailed water use in each county and subbasin using similar methods to assess and describe water use around the state. Most of the data comes from the AWURP program which is collected annually by OWR. Additional data is developed from surveys and other outside sources.

2010 Errata

Since publication of the 2010 report, errors noted by OWR and other have been tracked and are included in the 2010 to 2015 comparison in this section. There were corrections made to some basin assignments in the public supply sector, and one small withdrawal deleted, but no additional withdrawals added. The public-supply withdrawal that was deleted was 0.1 MGD in Baldwin County and the Mobile Bay subbasin (03160205), so it had very little effect on the public supply total for 2010. It was deleted after discovering it was a non-community water system. There were no changes in the aquaculture, industrial, irrigation, livestock, mining, self-supplied residential, and thermoelectric sectors. There were also additional sections added to 2015 that were not included in 2010. Those sections were: self-supplied residential by subbasin, mining by subbasin and aquaculture by subbasin.

Total Water Withdrawals

The geographic distribution of the comparison of total withdrawals from 2010 to 2015 is shown in tables 58 and 59. Overall total water withdrawals decreased 18 percent from 2010 to 2015 from 9,998 MGD in 2010 to 8,239 MGD in 2015. Public-supply (-9%), self-supplied residential (-3%), livestock (-1%), aquaculture (-16%), industrial (-9%) and thermoelectric-power withdrawals (-20%) all decreased from 2010 to 2015, while irrigation (11%) and mining withdrawals (7%) increased. The counties with the largest increases in total withdrawals from 2010 to 2015 were Limestone (130 MGD), Greene (22 MGD), and Baldwin (12 MGD) Counties. The counties with the largest decreases in total withdrawals from 2010 to 2015 were Jackson (-691 MGD), Colbert (-339 MGD), Mobile (-313 MGD), Walker (-250 MGD), and Shelby (-206 MGD) Counties (figure 46). The subbasins with the largest increases in total water withdrawals from 2010 to 2015 were the Wheeler Lake (06030002; 69 MGD), the Lower Black Warrior (03160113; 46 MGD), and the Upper Alabama (03150201; 20 MGD) subbasins. The subbasins with the largest decreases in total withdrawals from 2010 to 2015 were the Guntersville Lake (06030002; -694 MGD), the Pickwick Lake (06020005; -339 MGD), the Mobile-Tensaw (03160204; -293 MGD), the Mulberry Fork (03160109; -258 MGD) and Lower Coosa (03150107; -200 MGD) subbasins (figure 47).

Total surface-water withdrawals decreased 19 percent from 9,511 MGD in 2010 to 7,743 MGD in 2015. The counties with the largest increases in total surface-water withdrawals from 2010 to 2015 were Limestone (127 MGD), Greene (2 MGD), and Houston (9 MGD) Counties. The subbasins with the largest increases in total surface-water withdrawals from 2010 to 2015 were the Wheeler Lake (06030002; 64 MGD), the Lower Black Warrior (03160113; 32 MGD), and the Upper Alabama (03150201; 10 MGD) subbasins. Some of these increases were due to the addition of the mining, aquaculture, and self-supplied residential sectors to the subbasin analysis for 2015. The counties with the largest decreases in total surface-water withdrawals from 2010 to 2015 were Jackson (-691 MGD), Colbert (-339 MGD), Mobile (-313 MGD), Walker (-250 MGD), and Shelby (-206 MGD) Counties, primarily due to decreased thermoelectric-power withdrawals. The subbasins with the largest decreases in total surface-water withdrawals from 2010 to 2015 were the Guntersville Lake (06030002; -693 MGD), the Pickwick Lake (06030005; -339 MGD), the Mobile-Tensaw (03160204; -293 MGD), the Mulberry Fork (03160109; -257 MGD) and the Lower Coosa (03150107; -203 MGD) subbasins, primarily due to decreased thermoelectric-power withdrawals.

Total groundwater withdrawals increased 2 percent from 487 MGD in 2010 to 496 MGD in 2015. The counties with the largest increases in total groundwater withdrawals from 2010 to 2015 were Baldwin (11 MGD), Lowndes (5 MGD), and Montgomery (4 MGD) Counties. The subbasins with the largest increase in total groundwater withdrawals from 2010 to 2015 were the Lower Black Warrior (03160113; 14 MGD), the Upper Alabama (03150201; 10 MGD), and the Middle Alabama (03150203; 6 MGD) subbasins. Some of these increases were due to the addition of the mining, aquaculture, and self-supplied residential sectors to the subbasin analysis for 2015. The counties with the largest decreases in total groundwater withdrawals from 2010 to 2015 were St. Clair (-6 MGD), Mobile (-3 MGD), and Coffee (-2 MGD) Counties. The subbasins with the largest decrease in total groundwater withdrawals were the Chipola (03130012; -1.4 MGD) and the Upper Conecuh (03140301; -1.1 MGD) subbasins.

Figure 46. Map of change in total withdrawals by source and county in Alabama from 2010 to 2015, in MGD.

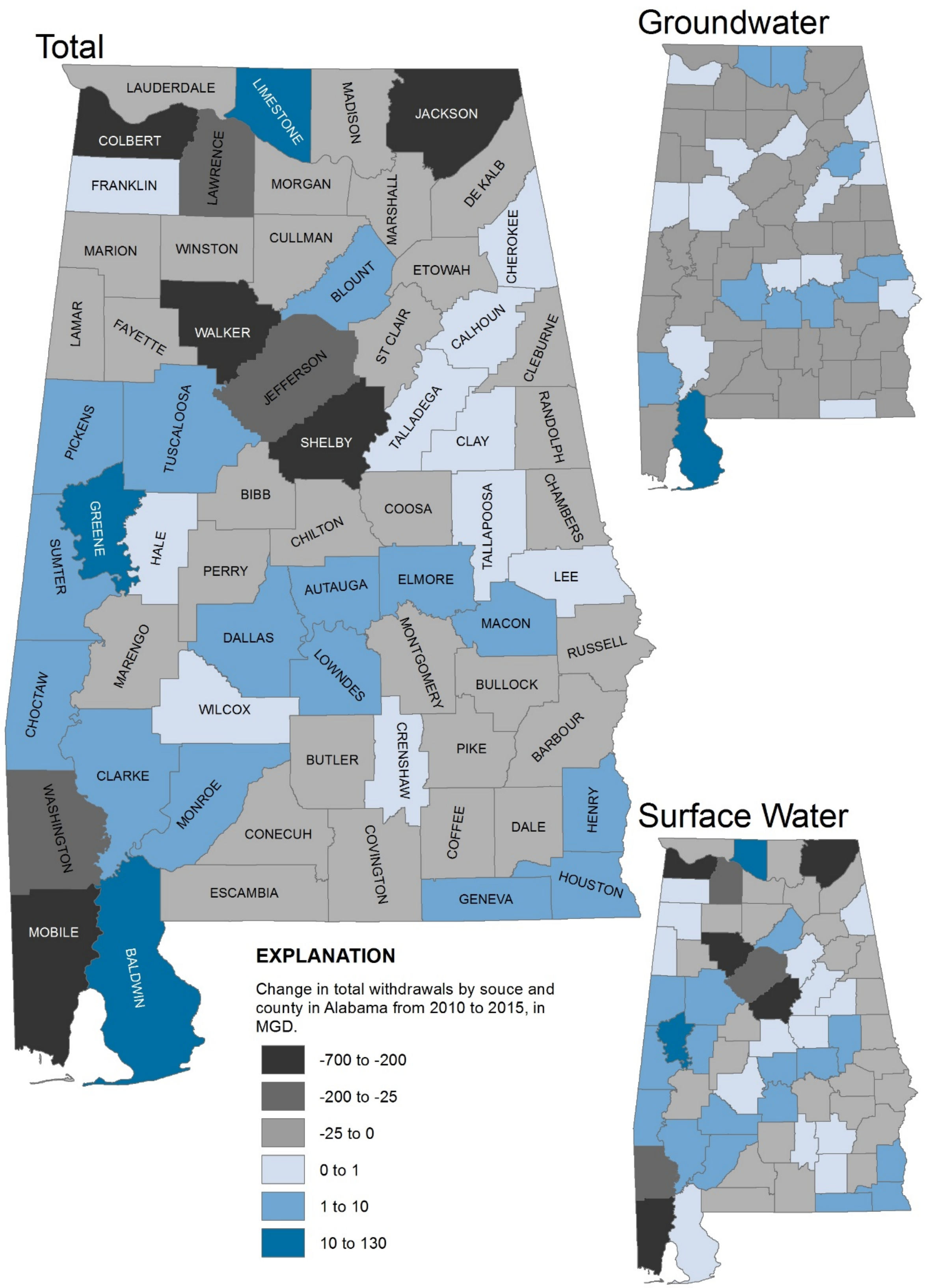


Figure 47. Map of change in total withdrawals by source and subbasin in Alabama from 2010 to 2015, in MGD.

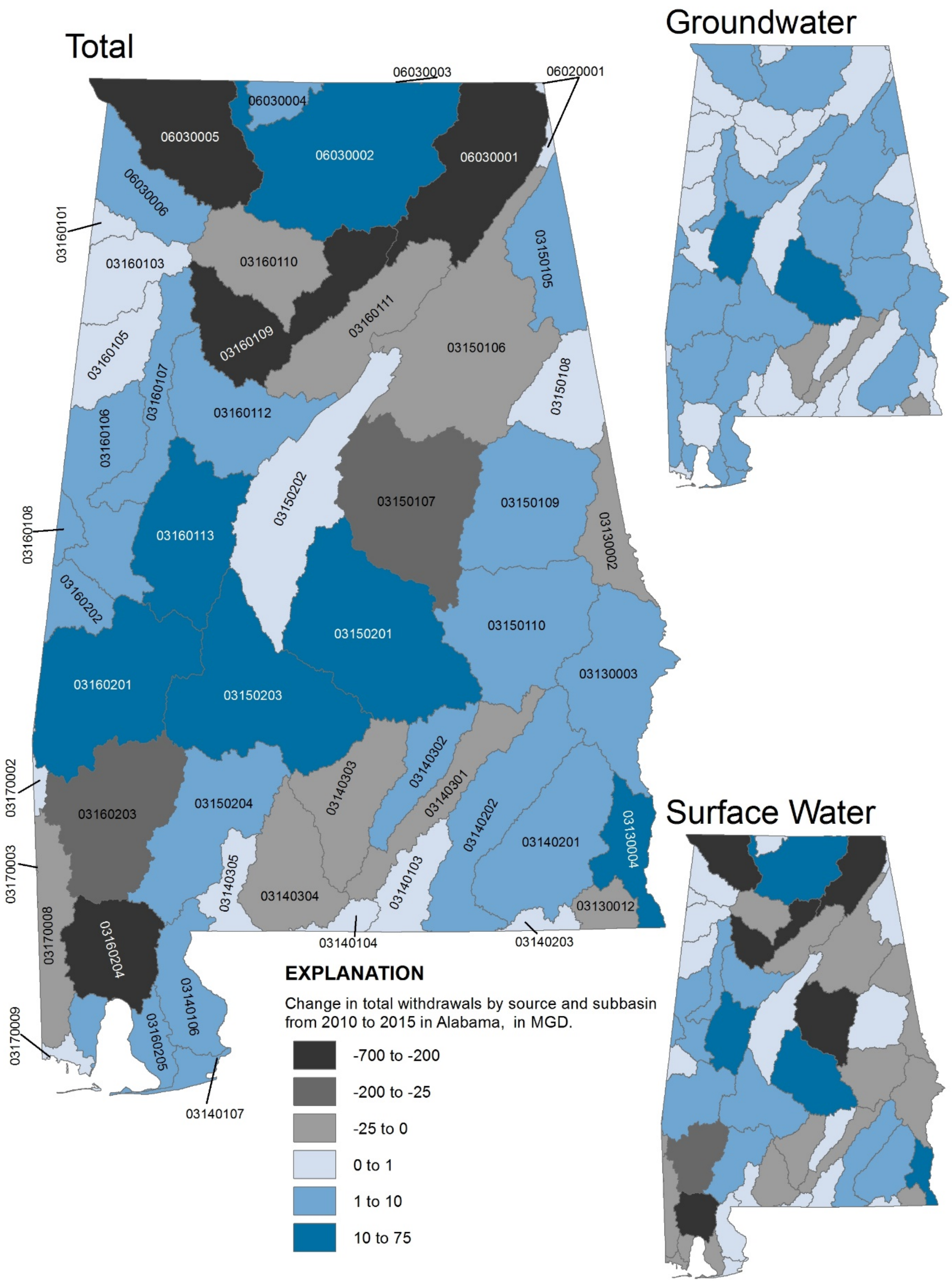


Table 58. Change in total withdrawals by source and county in Alabama from 2010 to 2015, in MGD.

County Name	2010 GW	2010 SW	2010 Total	2015 GW	2015 SW	2015 Total	GW Diff 2010 to 2015	SW Diff 2010 to 2015	Total Diff 2010 to 2015
AUTAUGA	10.21	38.09	48.30	10.70	45.72	56.43	0.49	7.63	8.12
BALDWIN	62.37	10.79	73.16	73.52	11.36	84.88	11.15	0.57	11.72
BARBOUR	6.81	4.72	11.53	6.07	2.98	9.04	-0.74	-1.74	-2.49
BIBB	5.54	1.62	7.16	5.42	0.20	5.61	-0.12	-1.43	-1.55
BLOUNT	4.17	53.29	57.46	4.46	55.44	59.90	0.29	2.14	2.44
BULLOCK	4.20	1.96	6.16	3.16	1.23	4.39	-1.04	-0.74	-1.77
BUTLER	3.77	1.78	5.55	2.89	1.18	4.07	-0.88	-0.60	-1.48
CALHOUN	22.51	7.71	30.22	24.33	6.27	30.60	1.82	-1.44	0.38
CHAMBERS	1.00	4.55	5.55	0.63	4.49	5.12	-0.37	-0.06	-0.43
CHEROKEE	3.18	3.52	6.70	3.60	3.84	7.43	0.42	0.31	0.73
CHILTON	4.75	2.09	6.84	3.96	2.14	6.09	-0.79	0.04	-0.75
CHOCTAW	2.14	40.97	43.11	1.65	46.80	48.45	-0.49	5.83	5.34
CLARKE	2.96	21.33	24.29	3.85	22.62	26.47	0.89	1.28	2.18
CLAY	0.61	1.92	2.53	0.49	2.11	2.60	-0.12	0.19	0.07
CLEBURNE	0.91	1.11	2.02	1.09	0.81	1.90	0.18	-0.30	-0.12
COFFEE	11.80	2.84	14.64	9.91	3.65	13.56	-1.89	0.81	-1.08
COLBERT	1.80	1,342.71	1,344.51	1.90	1,003.23	1,005.13	0.10	-339.48	-339.38
CONECUH	2.20	0.30	2.50	1.64	0.25	1.89	-0.56	-0.06	-0.61
COOSA	0.85	0.09	0.94	0.62	0.12	0.74	-0.23	0.03	-0.20
COVINGTON	7.19	3.67	10.86	6.60	3.67	10.26	-0.59	0.00	-0.59
CRENSHAW	2.53	0.68	3.21	2.39	1.00	3.39	-0.14	0.32	0.18
CULLMAN	2.77	34.18	36.95	2.33	26.83	29.16	-0.44	-7.35	-7.79
DALE	8.07	2.32	10.39	7.13	2.02	9.14	-0.94	-0.30	-1.24
DALLAS	12.55	37.08	49.63	15.89	37.47	53.36	3.34	0.40	3.74
DEKALB	4.40	9.11	13.51	3.73	8.85	12.58	-0.67	-0.26	-0.94
ELMORE	5.04	11.50	16.54	5.67	12.99	18.66	0.63	1.49	2.12
ESCAMBIA	9.33	34.41	43.74	9.20	33.39	42.59	-0.13	-1.02	-1.15
ETOWAH	5.54	142.33	147.87	4.81	127.91	132.73	-0.73	-14.42	-15.15
FAYETTE	0.66	3.52	4.18	0.62	2.42	3.05	-0.04	-1.10	-1.14
FRANKLIN	2.22	5.77	7.99	2.05	6.25	8.29	-0.17	0.47	0.30
GENEVA	4.68	2.14	6.82	5.47	3.41	8.89	0.79	1.28	2.07
GREENE	7.50	359.01	366.51	6.16	382.71	388.87	-1.34	23.70	22.36
HALE	13.99	6.35	20.34	13.43	7.66	21.09	-0.56	1.30	0.75
HENRY	3.72	3.34	7.06	3.70	4.62	8.32	-0.02	1.28	1.25

Table 58. Change in total withdrawals by source and county in Alabama from 2010 to 2015, in MGD – Continued.

County Name	2010 GW	2010 SW	2010 Total	2015 GW	2015 SW	2015 Total	GW Diff 2010 to 2015	SW Diff 2010 to 2015	Total Diff 2010 to 2015
HOUSTON	26.45	93.07	119.52	25.64	101.65	127.29	-0.81	8.59	7.78
JACKSON	2.04	1,065.38	1,067.42	1.93	374.01	375.94	-0.11	-691.37	-691.48
JEFFERSON	10.42	74.94	85.36	9.87	47.43	57.30	-0.55	-27.51	-28.06
LAMAR	2.04	0.22	2.26	1.86	0.30	2.16	-0.18	0.08	-0.10
LAUDERDALE	3.82	12.76	16.58	3.77	12.05	15.82	-0.05	-0.71	-0.76
LAWRENCE	0.93	70.64	71.57	0.76	10.76	11.52	-0.17	-59.88	-60.05
LEE	2.27	17.28	19.55	3.91	15.97	19.88	1.64	-1.31	0.33
LIMESTONE	5.01	2,738.34	2,743.35	7.54	2,865.39	2,872.94	2.53	127.06	129.59
LOWNDES	1.73	4.70	6.43	6.31	6.89	13.21	4.58	2.19	6.78
MACON	3.55	6.46	10.01	5.01	6.07	11.08	1.46	-0.39	1.07
MADISON	33.56	44.53	78.09	34.86	43.08	77.95	1.30	-1.45	-0.15
MARENGO	4.95	20.26	25.21	4.29	19.79	24.08	-0.66	-0.47	-1.13
MARION	1.83	5.70	7.53	1.60	5.71	7.32	-0.23	0.01	-0.22
MARSHALL	6.29	24.76	31.05	5.17	22.31	27.48	-1.12	-2.45	-3.57
MOBILE	34.46	1,062.98	1,097.44	31.68	752.37	784.05	-2.78	-310.62	-313.40
MONROE	4.14	46.69	50.83	3.50	49.63	53.13	-0.64	2.94	2.30
MONTGOMERY	17.37	22.18	39.55	20.90	18.02	38.93	3.53	-4.15	-0.62
MORGAN	1.00	119.34	120.34	0.81	117.91	118.72	-0.19	-1.43	-1.62
PERRY	6.72	4.13	10.85	5.37	2.05	7.42	-1.35	-2.08	-3.43
PICKENS	3.94	1.60	5.54	4.20	2.93	7.13	0.26	1.33	1.58
PIKE	6.01	1.38	7.39	5.56	1.39	6.94	-0.45	0.01	-0.44
RANDOLPH	1.06	1.85	2.91	0.88	1.64	2.53	-0.18	-0.21	-0.38
RUSSELL	3.06	41.69	44.75	3.93	40.58	44.51	0.87	-1.11	-0.24
SHELBY	15.10	670.26	685.36	13.14	466.22	479.36	-1.96	-204.04	-206.00
STCLAIR	13.07	13.63	26.70	7.41	13.92	21.33	-5.66	0.30	-5.36
SUMTER	4.57	4.27	8.84	4.26	6.09	10.35	-0.31	1.81	1.51
TALLADEGA	11.66	37.44	49.10	11.84	37.51	49.35	0.18	0.07	0.25
TALLAPOOSA	0.64	11.69	12.33	0.49	12.83	13.32	-0.15	1.14	0.99
TUSCALOOSA	4.26	34.68	38.94	4.59	37.04	41.63	0.33	2.36	2.70
WALKER	1.07	958.78	959.85	1.16	708.96	710.12	0.09	-249.83	-249.73
WASHINGTON	9.11	80.53	89.64	12.50	43.61	56.11	3.39	-36.92	-33.53
WILCOX	1.75	20.69	22.44	1.18	22.11	23.30	-0.57	1.42	0.86
WINSTON	0.94	1.31	2.25	0.61	1.14	1.74	-0.33	-0.18	-0.51
Total	**486.79**	**9,510.99**	**9,997.78**	**495.64**	**7,743.00**	**8,238.63**	**8.85**	**-1,767.99**	**-1,759.14**

Table 59. Change in total withdrawals by source and subbasin in Alabama from 2010 to 2015, in MGD.

Hydrologic subregion and subbasin	2010 GW	2010 SW	2010 Total	2015 GW	2015 SW	2015 Total	GW Diff 2010 to 2015	SW Diff 2010 to 2015	Total Diff 2010 to 2015
Apalachicola									
03130002	0.24	12.87	13.11	0.65	8.52	9.17	0.41	-4.35	-3.95
03130003	7.16	43.77	50.93	8.54	43.14	51.68	1.38	-0.63	0.75
03130004	14.27	92.29	106.56	14.39	102.49	116.87	0.12	10.19	10.31
03130012	6.14	1.39	7.53	4.73	0.85	5.58	-1.41	-0.54	-1.95
Subtotal	*27.81*	*150.33*	*178.14*	*28.31*	*154.99*	*183.30*	*0.50*	*4.66*	*5.16*
Chocawhatchee-Escambia									
03140103	2.05	0.92	2.97	2.35	1.10	3.44	0.30	0.17	0.47
03140104	0.24	0.14	0.38	0.44	0.14	0.58	0.20	0.00	0.20
03140106	16.12	2.23	18.35	20.38	2.52	22.90	4.26	0.30	4.55
03140107	9.31	1.50	10.81	12.30	1.89	14.20	2.99	0.39	3.39
03140201	25.66	6.86	32.52	26.45	7.29	33.74	0.79	0.43	1.22
03140202	9.93	3.98	13.91	10.15	4.31	14.46	0.22	0.34	0.55
03140203	1.02	0.47	1.49	1.28	0.66	1.94	0.26	0.19	0.45
03140301	8.36	3.53	11.89	7.26	2.74	10.00	-1.10	-0.79	-1.89
03140302	1.88	0.67	2.55	2.51	0.67	3.18	0.63	0.00	0.63
03140303	3.59	1.81	5.40	3.21	1.34	4.55	-0.38	-0.47	-0.85
03140304	5.92	34.24	40.16	6.37	33.15	39.52	0.45	-1.09	-0.64
03140305	2.59	0.25	2.84	2.92	0.24	3.16	0.33	-0.01	0.32
Subtotal	*86.67*	*56.60*	*143.27*	*95.62*	*56.05*	*151.67*	*8.95*	*-0.55*	*8.40*
Alabama									
03150105	2.93	5.56	8.49	3.91	5.13	9.04	0.98	-0.43	0.55
03150106	41.53	202.19	243.72	42.03	185.26	227.29	0.50	-16.93	-16.43
03150107	7.66	679.52	687.18	10.28	476.74	487.01	2.62	-202.78	-200.17
03150108	0.74	1.68	2.42	0.97	0.98	1.95	0.23	-0.70	-0.47
03150109	0.52	18.28	18.80	1.30	18.74	20.03	0.78	0.46	1.23
03150110	6.13	37.79	43.92	11.51	35.83	47.34	5.38	-1.96	3.42
03150201	38.57	76.09	114.66	48.86	85.96	134.82	10.29	9.87	20.16
03150202	28.48	58.56	87.04	28.80	58.29	87.09	0.32	-0.26	0.05
03150203	3.60	21.31	24.91	9.89	28.02	37.92	6.29	6.71	13.01
03150204	5.76	47.07	52.83	8.75	50.31	59.07	2.99	3.24	6.24
Subtotal	*135.92*	*1,148.05*	*1,283.97*	*166.30*	*945.27*	*1,111.57*	*30.38*	*-202.78*	*-172.40*
Mobile-Tombigbee									
03160101	0.06	0.10	0.16	0.12	0.07	0.19	0.06	-0.03	0.03

Table 59. Change in total withdrawals by source and subbasin in Alabama from 2010 to 2015, in MGD – Continued.

Hydrologic subregion and subbasin	2010 GW	2010 SW	2010 Total	2015 GW	2015 SW	2015 Total	GW Diff 2010 to 2015	SW Diff 2010 to 2015	Total Diff 2010 to 2015
03160103	0.82	2.27	3.09	1.10	2.21	3.31	0.28	-0.06	0.22
03160105	1.80	2.23	4.03	2.02	2.15	4.17	0.22	-0.08	0.13
03160106	5.05	1.03	6.08	5.52	3.01	8.53	0.47	1.98	2.45
03160107	1.01	0.83	1.84	2.43	2.12	4.55	1.42	1.29	2.71
03160108	0.05	0.04	0.09	3.11	2.95	6.06	3.06	2.91	5.97
03160109	2.53	974.48	977.01	2.32	717.09	719.41	-0.21	-257.39	-257.60
03160110	0.93	20.91	21.84	0.69	13.07	13.75	-0.24	-7.84	-8.09
03160111	3.81	65.71	69.52	5.56	37.55	43.10	1.75	-28.16	-26.42
03160112	1.53	35.88	37.41	2.62	50.92	53.54	1.09	15.05	16.14
03160113	5.42	357.23	362.65	19.89	389.21	409.10	14.47	31.98	46.45
03160201	4.27	60.99	65.26	5.56	69.57	75.13	1.29	8.58	9.86
03160202	0.19	1.34	1.53	1.52	1.79	3.30	1.33	0.45	1.77
03160203	11.56	103.50	115.06	13.76	65.93	79.70	2.20	-37.56	-35.36
03160204	26.29	992.87	1,019.16	26.67	699.89	726.56	0.38	-292.97	-292.60
03160205	26.78	5.24	32.02	31.00	4.70	35.70	4.22	-0.54	3.68
Subtotal	*92.10*	*2,624.66*	*2,716.76*	*123.87*	*2,062.24*	*2,186.12*	*31.77*	*-562.42*	*-530.65*
Pascagoula									
03170002	0.01	0.01	0.02	0.15	0.00	0.15	0.14	-0.01	0.13
03170003	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03170008	7.70	70.93	78.63	8.86	53.47	62.34	1.16	-17.45	-16.29
03170009	2.58	0.39	2.97	3.43	0.23	3.66	0.85	-0.16	0.70
Subtotal	*10.29*	*71.33*	*81.62*	*12.45*	*53.71*	*66.15*	*2.16*	*-17.62*	*-15.46*
Middle Tennessee-Hiwassee									
06020001	0.32	0.15	0.47	0.42	0.09	0.51	0.10	-0.06	0.04
Subtotal	*0.32*	*0.15*	*0.47*	*0.42*	*0.09*	*0.51*	*0.10*	*-0.06*	*0.04*
Middle Tennessee-Elk									
06030001	7.16	1,090.00	1,097.16	6.49	396.54	403.03	-0.67	-693.45	-694.13
06030002	38.02	2,959.08	2,997.10	43.10	3,023.15	3,066.25	5.08	64.07	69.15
06030003	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06030004	0.58	9.68	10.26	1.23	9.91	11.15	0.65	0.23	0.88
06030005	3.31	1,357.75	1,361.06	4.25	1,017.64	1,021.89	0.94	-340.10	-339.17
06030006	1.61	8.60	10.21	2.05	8.74	10.79	0.44	0.14	0.59
Subtotal	*50.68*	*5,425.11*	*5,475.79*	*57.13*	*4,455.99*	*4,513.12*	*6.44*	*-969.12*	*-962.67*
Total	**403.79**	**9,476.22**	**9,880.02**	**484.10**	**7,728.33**	**8,212.43**	**80.30**	**-1,747.89**	**-1,667.59**

Public Supply Water Withdrawals

The geographic distribution of the comparison of public-supply withdrawals from 2010 to 2015 is shown in tables 60 and 61. Public-supply withdrawals decreased 9 percent from 2010 to 2015 from 833 MGD in 2010 to 762 MGD in 2015. The counties with the largest increases in total public-supply withdrawals from 2010 to 2015 were Walker (8 MGD), Blount (2 MGD) and Houston (2 MGD) Counties. The counties with the largest decreases in total public-supply withdrawals from 2010 to 2015 were Jefferson (-27 MGD), Mobile (-20 MGD), Morgan (-8 MGD), and Cullman (-8 MGD) Counties (figure 48). The subbasins with the largest increases in total public-supply withdrawals from 2010 to 2015 were the Upper Black Warrior (03160112; 3 MGD), the Lower Black Warrior (03160113; 2 MGD), and the Lower Coosa (03150107; 1 MGD) subbasins. The subbasins with the largest decreases in total public-supply withdrawals from 2010 to 2015 were the Escatawpa (03170008; -18 MGD), the Locust Fork (03160111; -16 MGD), the Wheeler Lake (06030002; -7 MGD), and the Sipsey Fork (03160110; -7 MGD) subbasins (figure 49).

Public-supply surface-water withdrawals decreased 11 percent from 552 MGD in 2010 to 490 MGD in 2015. The counties with the largest increases in public-supply surface-water withdrawals from 2010 to 2015 were Walker (8 MGD), Tuscaloosa (2 MGD) and St. Clair (2 MGD) Counties. The counties with the largest decreases in public-supply surface-water withdrawals from 2010 to 2015 were Jefferson (-26 MGD), Mobile (-18 MGD), Morgan (-8 MGD), and Cullman (-8 MGD) Counties. The subbasins with the largest increases in public-supply surface-water withdrawals from 2010 to 2015 were the Locust Fork (03160111; 2 MGD) and the Lower Coosa (03150107; 1 MGD) subbasins. The subbasins with the largest decreases in public-supply surface-water withdrawals from 2010 to 2015 were the Escatawpa (03170008; -18 MGD) the Locust Fork (03160111; -16 MGD), the Guntersville Lake (06030002; -9 MGD) and the Sipsey Fork (03160110; -7 MGD) subbasins.

Public-supply groundwater withdrawals decreased 3 percent from 280 MGD in 2010 to 272 MGD in 2015. The counties with the largest increases in public-supply groundwater withdrawals from 2010 to 2015 were Houston (2 MGD), Lee (2 MGD), and Calhoun (2 MGD) Counties. The counties with the largest decrease in public-supply groundwater withdrawals from 2010 to 2015 were St. Clair (-3 MGD), Mobile (-2 MGD), and Autauga (-1 MGD) Counties. The subbasins with the largest increases in public-supply groundwater withdrawals from 2010 to 2015 were the Upper Tallapoosa (03150108; 2 MGD), the Wheeler Lake (06030002; 2 MGD) and the Lower Black Warrior (03160113; 2 MGD) subbasins. The subbasins with the largest decrease in public-supply groundwater withdrawals from 2010 to 2015 were the Upper Alabama (03150201; -4 MGD) and the Cahaba (03150202; -3 MGD) subbasins.

Figure 48. Map of change in public-supply withdrawals by source and county in Alabama from 2010 to 2015, in MGD.

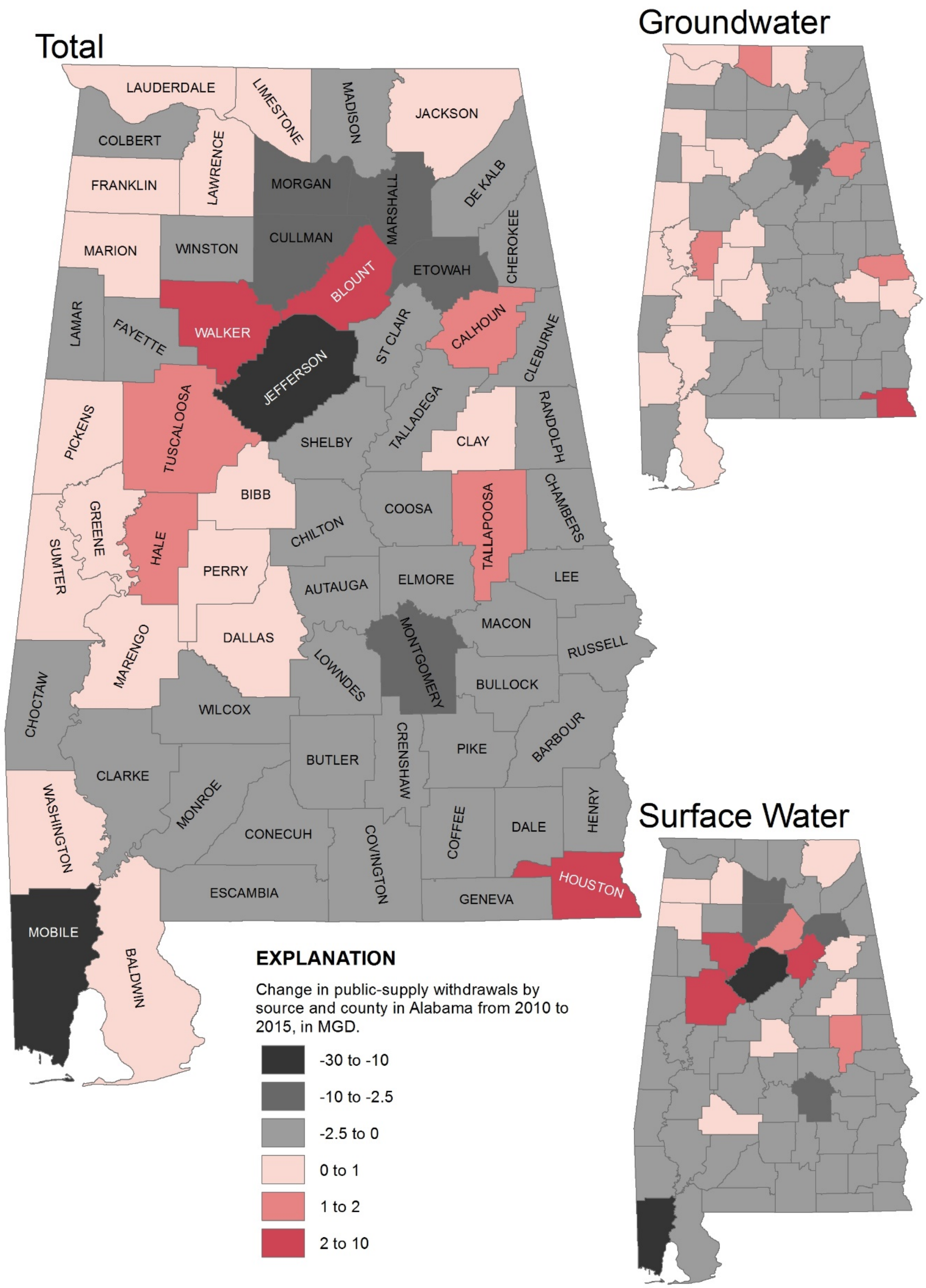


Figure 49. Map of change in public-supply withdrawals by source and subbasin in Alabama from 2010 to 2015, in MGD.

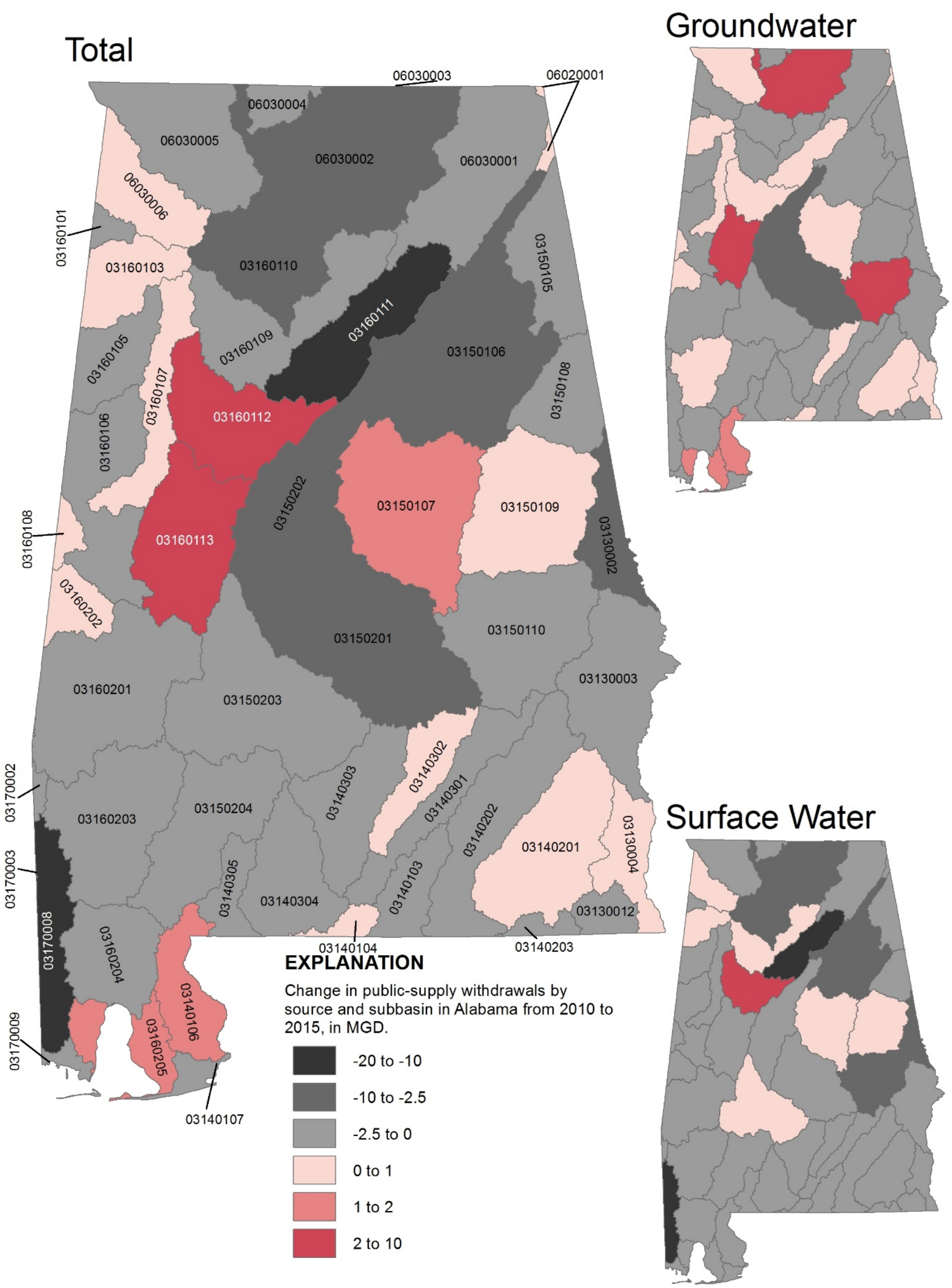


Table 60. Change in public-supply withdrawals by source and county in Alabama from 2010 to 2015, in MGD.

County Name	2010 GW	2010 SW	2010 Total	2015 GW	2015 SW	2015 Total	GW Diff 2010 to 2015	SW Diff 2010 to 2015	Total Diff 2010 to 2015
AUTAUGA	5.08	0.00	5.08	3.65	0.00	3.65	-1.43	0.00	-1.43
BALDWIN	22.97	0.00	22.97	23.70	0.00	23.70	0.73	0.00	0.73
BARBOUR	4.15	0.00	4.15	3.23	0.00	3.23	-0.92	0.00	-0.92
BIBB	4.90	0.00	4.90	5.18	0.00	5.18	0.28	0.00	0.28
BLOUNT	2.44	52.16	54.60	2.78	54.09	56.87	0.34	1.93	2.27
BULLOCK	2.31	0.00	2.31	2.11	0.00	2.11	-0.20	0.00	-0.20
BUTLER	2.70	0.00	2.70	2.28	0.00	2.28	-0.42	0.00	-0.42
CALHOUN	20.84	2.46	23.30	22.47	2.78	25.25	1.63	0.32	1.95
CHAMBERS	0.00	4.31	4.31	0.00	4.20	4.20	0.00	-0.11	-0.11
CHEROKEE	2.54	0.96	3.50	2.43	0.77	3.21	-0.11	-0.19	-0.29
CHILTON	3.05	1.83	4.88	2.51	1.89	4.40	-0.54	0.06	-0.48
CHOCTAW	1.36	0.00	1.36	1.21	0.00	1.21	-0.15	0.00	-0.15
CLARKE	2.14	0.90	3.04	2.50	0.08	2.58	0.36	-0.82	-0.46
CLAY	0.00	1.66	1.66	0.00	1.78	1.78	0.00	0.12	0.12
CLEBURNE	0.00	0.56	0.56	0.00	0.49	0.49	0.00	-0.07	-0.07
COFFEE	7.61	0.00	7.61	6.35	0.00	6.35	-1.26	0.00	-1.26
COLBERT	0.57	8.22	8.79	0.60	7.67	8.27	0.03	-0.55	-0.52
CONECUH	1.69	0.00	1.69	1.32	0.00	1.32	-0.37	0.00	-0.37
COOSA	0.30	0.00	0.30	0.27	0.00	0.27	-0.03	0.00	-0.03
COVINGTON	4.96	0.00	4.96	4.09	0.00	4.09	-0.87	0.00	-0.87
CRENSHAW	2.06	0.00	2.06	1.94	0.00	1.94	-0.12	0.00	-0.12
CULLMAN	0.48	30.57	31.05	0.31	22.98	23.29	-0.17	-7.60	-7.76
DALE	6.85	0.00	6.85	5.90	0.00	5.90	-0.95	0.00	-0.95
DALLAS	5.88	0.00	5.88	5.91	0.00	5.91	0.03	0.00	0.03
DEKALB	0.81	6.30	7.11	0.33	5.59	5.92	-0.48	-0.71	-1.19
ELMORE	3.72	9.65	13.37	2.68	9.51	12.20	-1.04	-0.14	-1.17
ESCAMBIA	5.65	0.00	5.65	5.01	0.00	5.01	-0.64	0.00	-0.64
ETOWAH	4.67	15.68	20.35	4.12	12.73	16.85	-0.55	-2.95	-3.50
FAYETTE	0.05	1.99	2.04	0.05	1.65	1.70	0.00	-0.34	-0.34
FRANKLIN	1.08	4.68	5.76	1.05	4.89	5.94	-0.03	0.21	0.18
GENEVA	1.98	0.00	1.98	1.77	0.00	1.77	-0.21	0.00	-0.21
GREENE	1.10	0.00	1.10	1.39	0.00	1.39	0.29	0.00	0.29
HALE	1.71	0.00	1.71	3.10	0.00	3.10	1.39	0.00	1.39
HENRY	1.80	0.00	1.80	1.66	0.00	1.66	-0.14	0.00	-0.14

Table 60. Change in public-supply withdrawals by source and county in Alabama from 2010 to 2015, in MGD – Continued.

County Name	2010 GW	2010 SW	2010 Total	2015 GW	2015 SW	2015 Total	GW Diff 2010 to 2015	SW Diff 2010 to 2015	Total Diff 2010 to 2015
HOUSTON	16.77	0.00	16.77	18.96	0.00	18.96	2.19	0.00	2.19
JACKSON	0.67	10.70	11.37	0.51	11.31	11.81	-0.16	0.61	0.44
JEFFERSON	8.44	67.42	75.86	7.88	41.09	48.97	-0.56	-26.33	-26.89
LAMAR	1.60	0.00	1.60	1.42	0.00	1.42	-0.18	0.00	-0.18
LAUDERDALE	1.15	10.91	12.06	1.85	10.54	12.39	0.70	-0.37	0.33
LAWRENCE	0.00	7.68	7.68	0.00	7.73	7.73	0.00	0.05	0.05
LEE	1.10	14.87	15.97	2.84	13.00	15.84	1.74	-1.87	-0.13
LIMESTONE	2.71	8.12	10.83	3.86	7.67	11.53	1.15	-0.45	0.70
LOWNDES	1.13	0.00	1.13	0.95	0.00	0.95	-0.18	0.00	-0.18
MACON	0.97	3.12	4.09	1.37	1.95	3.32	0.40	-1.17	-0.77
MADISON	28.64	39.77	68.41	29.01	38.20	67.20	0.37	-1.57	-1.21
MARENGO	2.50	0.00	2.50	2.77	0.00	2.77	0.27	0.00	0.27
MARION	0.70	5.26	5.96	0.76	5.30	6.06	0.06	0.04	0.10
MARSHALL	4.35	22.28	26.63	3.31	20.45	23.76	-1.04	-1.83	-2.87
MOBILE	15.72	70.25	85.97	13.49	52.64	66.13	-2.23	-17.61	-19.84
MONROE	2.65	0.00	2.65	2.30	0.00	2.30	-0.35	0.00	-0.35
MONTGOMERY	13.87	19.47	33.34	13.19	14.85	28.04	-0.68	-4.62	-5.30
MORGAN	0.00	33.38	33.38	0.00	25.61	25.61	0.00	-7.77	-7.77
PERRY	1.70	0.00	1.70	2.02	0.00	2.02	0.32	0.00	0.32
PICKENS	2.70	0.00	2.70	3.01	0.00	3.01	0.31	0.00	0.31
PIKE	5.01	0.00	5.01	4.58	0.00	4.58	-0.43	0.00	-0.43
RANDOLPH	0.00	1.51	1.51	0.00	1.22	1.22	0.00	-0.29	-0.29
RUSSELL	1.48	7.32	8.80	1.59	6.87	8.46	0.11	-0.45	-0.34
SHELBY	13.26	2.63	15.89	11.92	2.30	14.22	-1.34	-0.33	-1.67
STCLAIR	9.62	0.31	9.93	6.35	2.58	8.93	-3.27	2.27	-1.00
SUMTER	1.90	0.00	1.90	2.06	0.00	2.06	0.16	0.00	0.16
TALLADEGA	9.52	8.02	17.54	9.39	6.61	16.00	-0.13	-1.41	-1.54
TALLAPOOSA	0.00	10.38	10.38	0.00	11.88	11.88	0.00	1.50	1.50
TUSCALOOSA	1.47	28.45	29.92	0.69	30.75	31.45	-0.78	2.30	1.53
WALKER	0.16	35.59	35.75	0.46	43.38	43.84	0.30	7.79	8.09
WASHINGTON	2.07	0.00	2.07	2.80	0.00	2.80	0.73	0.00	0.73
WILCOX	1.12	1.82	2.94	0.84	1.96	2.80	-0.28	0.14	-0.14
WINSTON	0.00	0.97	0.97	0.00	0.81	0.81	0.00	-0.16	-0.16
Total	**280.43**	**552.16**	**832.59**	**272.07**	**489.80**	**761.87**	**-8.36**	**-62.36**	**-70.72**

Table 61. Change in public-supply withdrawals by source and subbasin in Alabama from 2010 to 2015, in MGD.

Hydrologic subregion and subbasin	2010 GW	2010 SW	2010 Total	2015 GW	2015 SW	2015 Total	GW Diff 2010 to 2015	SW Diff 2010 to 2015	Total Diff 2010 to 2015
Apalachicola									
03130002	0.00	12.39	12.39	0.00	7.98	7.98	0.00	-4.41	-4.41
03130003	3.76	7.32	11.08	3.46	6.87	10.33	-0.30	-0.45	-0.75
03130004	9.88	0.00	9.88	10.35	0.00	10.35	0.47	0.00	0.47
03130012	2.61	0.00	2.61	1.91	0.00	1.91	-0.70	0.00	-0.70
Subtotal	*16.25*	*19.71*	*35.96*	*15.72*	*14.85*	*30.57*	*-0.53*	*-4.86*	*-5.39*
Chocawhatchee-Escambia									
03140103	1.43	0.00	1.43	1.27	0.00	1.27	-0.16	0.00	-0.16
03140104	0.07	0.00	0.07	0.08	0.00	0.08	0.01	0.00	0.01
03140106	3.94	0.00	3.94	5.06	0.00	5.06	1.12	0.00	1.12
03140107	6.16	0.00	6.16	5.62	0.00	5.62	-0.54	0.00	-0.54
03140201	20.93	0.00	20.93	20.98	0.00	20.98	0.05	0.00	0.05
03140202	6.66	0.00	6.66	5.83	0.00	5.83	-0.83	0.00	-0.83
03140203	0.58	0.00	0.58	0.47	0.00	0.47	-0.11	0.00	-0.11
03140301	7.35	0.00	7.35	6.12	0.00	6.12	-1.23	0.00	-1.23
03140302	1.37	0.00	1.37	1.60	0.00	1.60	0.23	0.00	0.23
03140303	2.95	0.00	2.95	2.46	0.00	2.46	-0.49	0.00	-0.49
03140304	3.78	0.00	3.78	3.30	0.00	3.30	-0.48	0.00	-0.48
03140305	2.26	0.00	2.26	2.19	0.00	2.19	-0.07	0.00	-0.07
Subtotal	*57.48*	*0.00*	*57.48*	*54.97*	*0.00*	*54.97*	*-2.51*	*0.00*	*-2.51*
Alabama									
03150105	2.54	1.96	4.50	2.43	1.65	4.08	-0.11	-0.31	-0.42
03150106	38.56	30.89	69.45	36.18	27.70	63.88	-2.38	-3.19	-5.57
03150107	6.31	9.66	15.97	6.97	10.43	17.39	0.66	0.77	1.42
03150108	0.00	1.02	1.02	0.00	0.88	0.88	0.00	-0.14	-0.14
03150109	0.00	17.10	17.10	0.00	17.51	17.51	0.00	0.41	0.41
03150110	2.78	30.70	33.48	4.87	27.22	32.09	2.09	-3.48	-1.39
03150201	31.34	0.00	31.34	26.97	0.00	26.97	-4.37	0.00	-4.37
03150202	27.51	52.39	79.90	24.71	51.07	75.77	-2.80	-1.32	-4.13
03150203	2.89	0.00	2.89	2.48	1.96	4.44	-0.41	1.96	1.55
03150204	2.41	0.00	2.41	2.06	0.00	2.06	-0.35	0.00	-0.35
Subtotal	*114.34*	*143.72*	*258.06*	*106.66*	*138.42*	*245.08*	*-7.68*	*-5.30*	*-12.98*
Mobile-Tombigbee									
03160101	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table 61. Change in public-supply withdrawals by source and subbasin in Alabama from 2010 to 2015, in MGD – Continued.

Hydrologic subregion and subbasin	2010 GW	2010 SW	2010 Total	2015 GW	2015 SW	2015 Total	GW Diff 2010 to 2015	SW Diff 2010 to 2015	Total Diff 2010 to 2015
03160103	0.59	1.96	2.55	0.59	2.03	2.62	0.00	0.07	0.07
03160105	1.59	1.90	3.49	1.50	1.66	3.16	-0.09	-0.24	-0.33
03160106	4.56	0.00	4.56	4.30	0.00	4.30	-0.26	0.00	-0.26
03160107	0.67	0.00	0.67	0.95	0.00	0.95	0.28	0.00	0.28
03160108	0.00	0.00	0.00	0.26	0.00	0.26	0.26	0.00	0.26
03160109	0.77	48.91	49.68	0.41	49.09	49.50	-0.36	0.18	-0.18
03160110	0.00	19.33	19.33	0.00	12.09	12.09	0.00	-7.24	-7.24
03160111	2.67	62.88	65.55	3.13	34.84	37.97	0.46	-28.04	-27.58
03160112	0.61	32.18	32.79	0.70	46.42	47.13	0.09	14.24	14.34
03160113	4.17	0.00	4.17	5.71	0.00	5.71	1.54	0.00	1.54
03160201	3.74	0.00	3.74	3.28	0.00	3.28	-0.46	0.00	-0.46
03160202	0.06	0.00	0.06	0.67	0.00	0.67	0.61	0.00	0.61
03160203	4.11	2.72	6.83	4.15	0.08	4.23	0.04	-2.64	-2.60
03160204	9.78	0.00	9.78	8.22	0.00	8.22	-1.56	0.00	-1.56
03160205	13.31	0.00	13.31	14.35	0.00	14.35	1.04	0.00	1.04
Subtotal	*46.63*	*169.88*	*216.51*	*48.23*	*146.20*	*194.43*	*1.60*	*-23.68*	*-22.08*
Pascagoula									
03170002	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03170003	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03170008	5.11	70.25	75.36	4.83	52.64	57.47	-0.28	-17.61	-17.89
03170009	1.18	0.00	1.18	1.16	0.00	1.16	-0.02	0.00	-0.02
Subtotal	*6.29*	*70.25*	*76.54*	*5.99*	*52.64*	*58.63*	*-0.30*	*-17.61*	*-17.91*
Middle Tennessee-Hiwassee									
06020001	0.23	0.00	0.23	0.30	0.00	0.30	0.07	0.00	0.07
Subtotal	0.23	*0.00*	*0.23*	*0.30*	*0.00*	*0.30*	*0.07*	*0.00*	*0.07*
Middle Tennessee-Elk									
06030001	5.06	32.98	38.04	3.84	32.53	36.37	-1.22	-0.45	-1.67
06030002	31.93	78.62	110.55	33.50	69.63	103.13	1.57	-8.99	-7.42
06030003	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06030004	0.00	8.12	8.12	0.00	7.67	7.67	0.00	-0.45	-0.45
06030005	1.14	21.34	22.48	1.81	20.11	21.92	0.67	-1.23	-0.56
06030006	1.08	7.54	8.62	1.05	7.74	8.79	-0.03	0.20	0.17
Subtotal	*39.21*	*148.60*	*187.81*	*40.20*	*137.68*	*177.88*	*0.99*	*-10.92*	*-9.93*
Total	**280.43**	**552.16**	**832.59**	**272.07**	**489.80**	**761.87**	**-8.36**	**-62.36**	**-70.72**

Self-supplied Residential Water Withdrawals

The geographic distribution of the comparison of self-supplied residential withdrawals from 2010 to 2015 is shown in table 62. Self-supplied residential water withdrawals decreased 3 percent from 2010 to 2015 from 38 MGD in 2010 to 37 MGD in 2015. All self-supplied residential water withdrawals were assumed to be from groundwater. The counties with the largest increases in self-supplied residential withdrawals from 2010 to 2015 were Talladega (0.5 MGD), Baldwin, (0.4 MGD) and Limestone (0.3 MGD) Counties. The counties with the largest decreases in self-supplied water withdrawals from 2010 to 2015 were Houston (-0.3 MGD), Chambers (-0.2 MGD), and Greene (-0.2 MGD) Counties (figure 50). There was not a subbasin analysis done for the self-supplied residential sector for 2010, therefore there is no comparison of subbasins from 2010 to 2015.

Figure 50. Map of change in self-supplied residential withdrawals by county in Alabama from 2010 to 2015, in MGD.

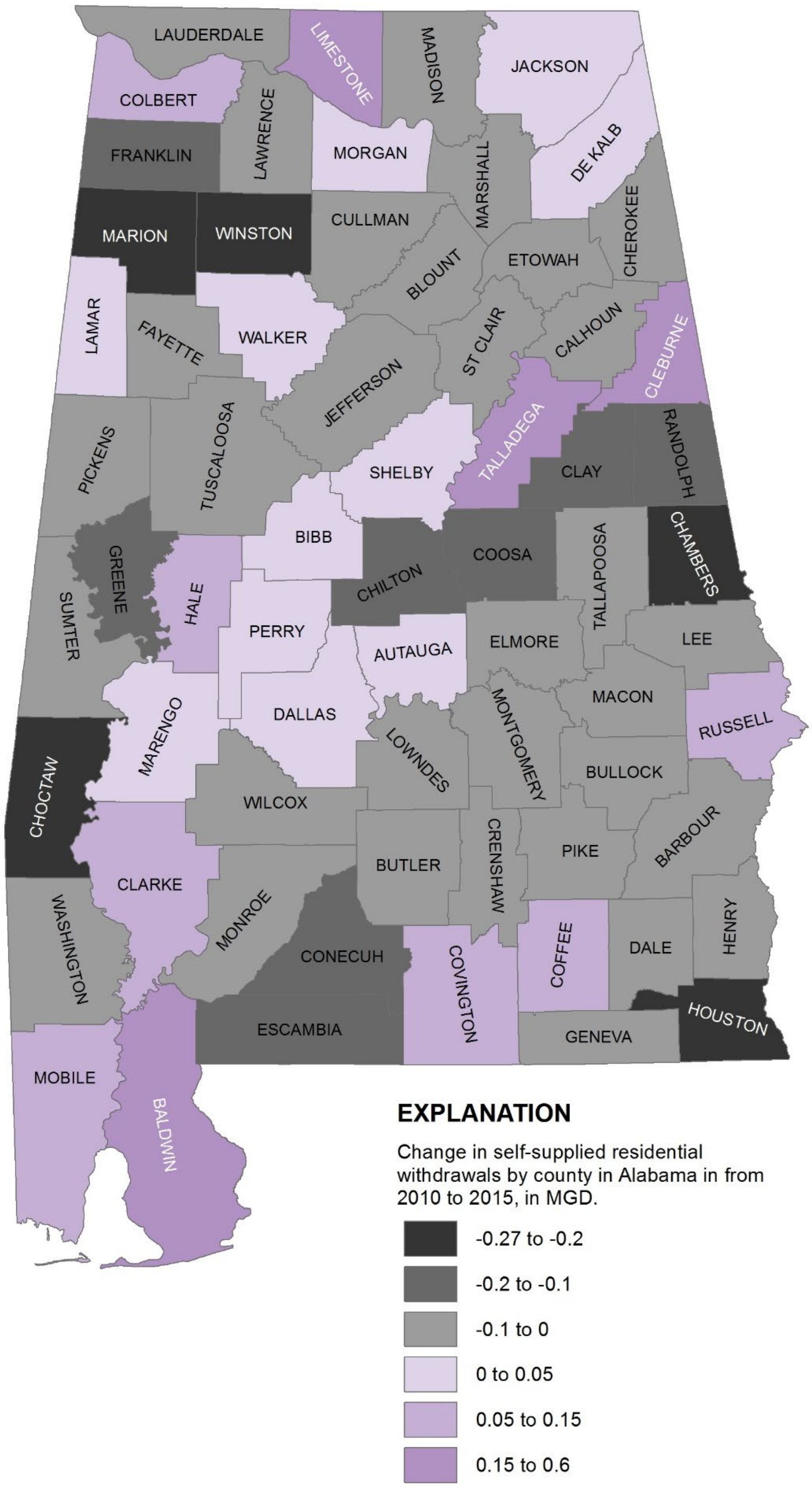


Table 62. Change in self-supplied residential withdrawals by source and county in Alabama from 2010 to 2015, in MGD.

County Name	2010 GW	2015 GW	Total Diff 2010 to 2015
AUTAUGA	0.37	0.38	0.01
BALDWIN	1.71	2.15	0.44
BARBOUR	0.15	0.12	-0.03
BIBB	0.15	0.16	0.01
BLOUNT	0.89	0.86	-0.03
BULLOCK	0.08	0.07	-0.01
BUTLER	0.28	0.27	-0.01
CALHOUN	0.51	0.44	-0.07
CHAMBERS	0.71	0.48	-0.24
CHEROKEE	0.52	0.49	-0.03
CHILTON	0.74	0.60	-0.14
CHOCTAW	0.62	0.41	-0.21
CLARKE	0.38	0.45	0.07
CLAY	0.48	0.32	-0.16
CLEBURNE	0.77	0.94	0.17
COFFEE	0.72	0.80	0.08
COLBERT	0.27	0.35	0.08
CONECUH	0.32	0.18	-0.14
COOSA	0.43	0.33	-0.10
COVINGTON	0.88	1.01	0.13
CRENSHAW	0.19	0.15	-0.04
CULLMAN	0.24	0.19	-0.05
DALE	0.69	0.68	-0.01
DALLAS	0.64	0.66	0.02
DEKALB	1.32	1.34	0.02
ELMORE	0.42	0.36	-0.06
ESCAMBIA	0.63	0.51	-0.12
ETOWAH	0.31	0.26	-0.05
FAYETTE	0.52	0.49	-0.03
FRANKLIN	0.51	0.37	-0.14
GENEVA	0.76	0.68	-0.08
GREENE	0.35	0.16	-0.19
HALE	0.2	0.33	0.13
HENRY	0.26	0.24	-0.02
HOUSTON	1.37	1.11	-0.26
JACKSON	0.82	0.86	0.04
JEFFERSON	0.46	0.39	-0.08
LAMAR	0.27	0.29	0.02
LAUDERDALE	1.19	1.17	-0.02
LAWRENCE	0.38	0.35	-0.03
LEE	0.77	0.72	-0.05
LIMESTONE	0.68	0.99	0.31
LOWNDES	0.06	0.05	-0.01
MACON	0.2	0.15	-0.05
MADISON	0.78	0.72	-0.06
MARENGO	0.52	0.53	0.01
MARION	0.76	0.54	-0.22
MARSHALL	0.48	0.43	-0.05
MOBILE	2.62	2.72	0.10
MONROE	0.47	0.38	-0.09
MONTGOMERY	0.34	0.30	-0.04
MORGAN	0.28	0.32	0.04
PERRY	0.3	0.33	0.03
PICKENS	0.42	0.37	-0.05
PIKE	0.33	0.33	0.00
RANDOLPH	0.72	0.58	-0.14
RUSSELL	0.23	0.30	0.07
SHELBY	0.41	0.44	0.03
STCLAIR	0.59	0.51	-0.08
SUMTER	0.09	0.07	-0.02
TALLADEGA	1.24	1.75	0.51
TALLAPOOSA	0.44	0.43	-0.02
TUSCALOOSA	0.82	0.75	-0.07
WALKER	0.44	0.45	0.01
WASHINGTON	0.56	0.52	-0.04
WILCOX	0.25	0.23	-0.03
WINSTON	0.66	0.43	-0.23
TOTAL	37.97	36.69	-1.28

Irrigation Water Withdrawals

The geographic distribution of the comparison of public-supply withdrawals from 2010 to 2015 is shown in tables 63 and 64. Irrigation withdrawals increased 11 percent from 2010 to 2015 from 202 MGD in 2010 to 223 MGD in 2015. The counties with the largest increases in total irrigation withdrawals from 2010 to 2015 are Baldwin (11 MGD), Limestone (4 MGD), Montgomery (3 MGD), and Geneva (2 MGD) Counties. The counties with the largest decreases in total irrigation withdrawals from 2010 to 2015 are Houston (-4 MGD), St. Clair (-3 MGD), Calhoun (-2 MGD) and Bullock (-2 MGD) Counties (figure 51). The subbasins with the largest increases in total irrigation withdrawals from 2010 to 2015 are the Wheeler Lake (06030002; 4 MGD), the Upper Alabama (03150201; 4 MGD) the Perdido Bay (03140107; 4 MGD) the Perdido (03140106; 3 MGD) and the Lower Alabama (03150204; 3 MGD) subbasins. The subbasins with the largest decreases in total irrigation withdrawals are the Middle Coosa (03150106; -7 MGD) and the Chipola (03130012; -2 MGD) subbasins (figure 52).

Surface-water irrigation withdrawals increased 6 percent from 117 MGD in 2010 to 124 MGD in 2015. The counties with the largest increases in surface-water irrigation withdrawals from 2010 to 2015 are Limestone (3 MGD) and Lowndes (2 MGD) counties. The counties with the largest decreases in surface-water irrigation withdrawals from 2010 to 2015 are St Clair (-3 MGD) and Calhoun (-2 MGD) Counties. The subbasins with the largest increases in surface-water irrigation withdrawals are the Wheeler Lake (06030002; 2 MGD) and the Middle Chattahoochee-W.F. George Reservoir (03130003; 1 MGD) subbasins. The subbasins with the largest decreases in surface-water irrigation withdrawals are the Middle Coosa (03150106; -7 MGD) and the Mobile Bay (03160205; -0.5 MGD) subbasins.

Groundwater irrigation withdrawals increased 17 percent from 84 MGD in 2010 to 99 MGD in 2015. The counties with the largest increases in groundwater irritation withdrawals from 2010 to 2015 are Baldwin (10 MGD) and Montgomery (3 MGD) Counties. The counties with the largest decreases in groundwater irrigation withdrawals from 2010 to 2015 are Houston (-3 MGD), Bullock (-1 MGD), and Lauderdale (-1 MGD) Counties. The subbasins with the largest increases in groundwater irrigation from 2010 to 2015 are the Perdido Bay (03140107; 3 MGD), the Upper Alabama (03150201; 3 MGD) the Perdido (03140106; 2 MGD), the Lower Alabama (03150204; 2 MGD) the Wheeler Lake (06030002; 2 MGD) and the Mobile Bay (03160205; 2 MGD) subbasins. The subbasins with the largest decreases in groundwater irrigation withdrawals are the Chipola (03130012; -1 MGD) the Lower Chattahoochee (03130004; -1 MGD), and the Pickwick Lake (06030005; -1 MGD) subbasins.

Total irrigated acreage from 2010 to 2015 increased about 12 percent from 169,240 acres in 2010 to 188,970 acres in 2015. Some of this increase may be attributed to limitations in the availability of the undisclosed NASS data and differences in methodology. The counties with the largest increases in total irrigation acreage from 2010 to 2015 are Limestone (7,710 acres), Geneva (5,420 acres), and Pickens (3,440 acres) Counties. The counties with the largest decreases in irrigated acreage are Baldwin (-3,350 acres), St. Clair (-2,660 acres) and Mobile (-1,500 acres) counties.

Figure 51. Map of change in irrigation withdrawals by source and county in Alabama from 2010 to 2015, in MGD.

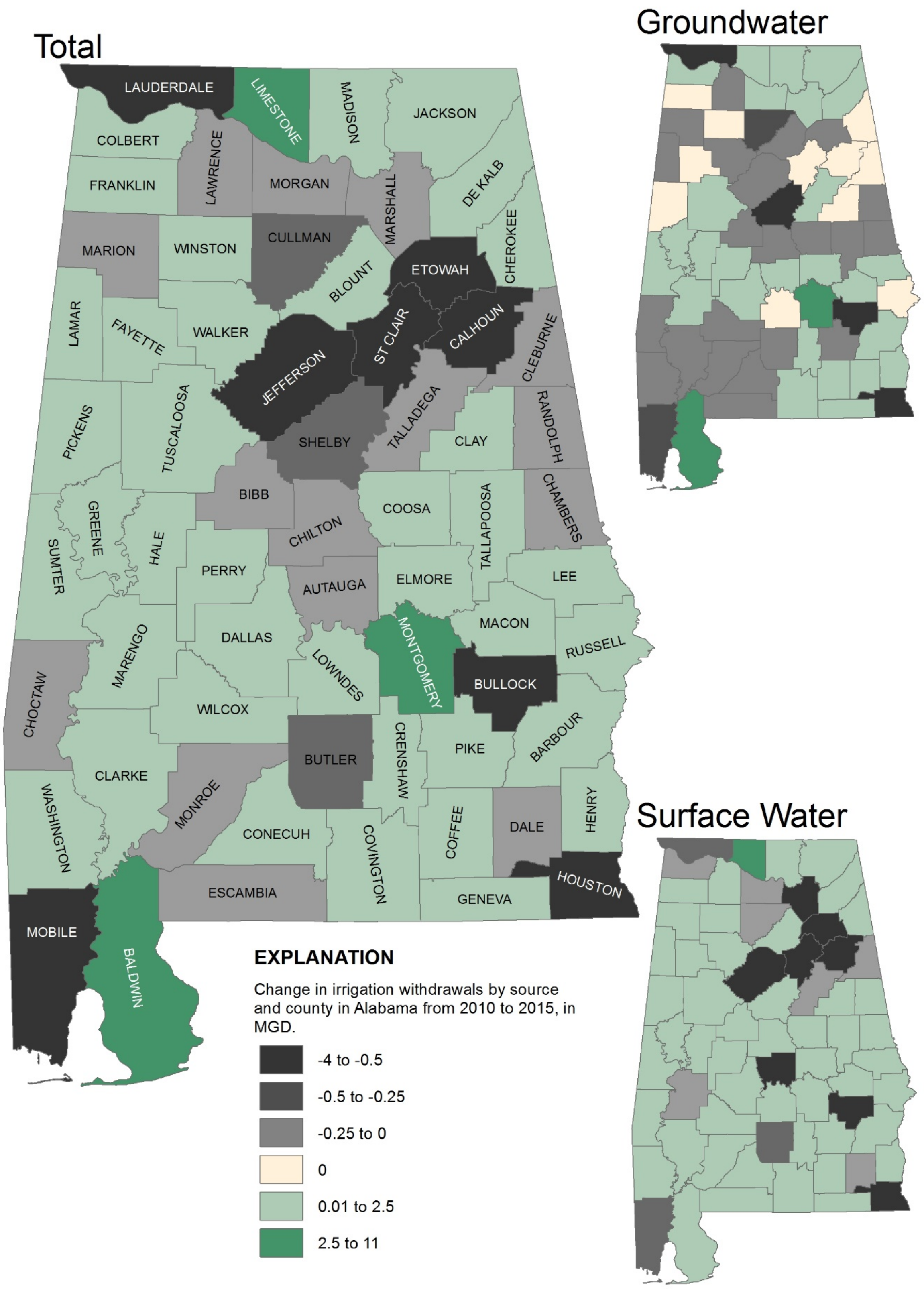


Figure 52. Map of change in irrigation withdrawals by source and subbasin in Alabama from 2010 to 2015, in MGD.

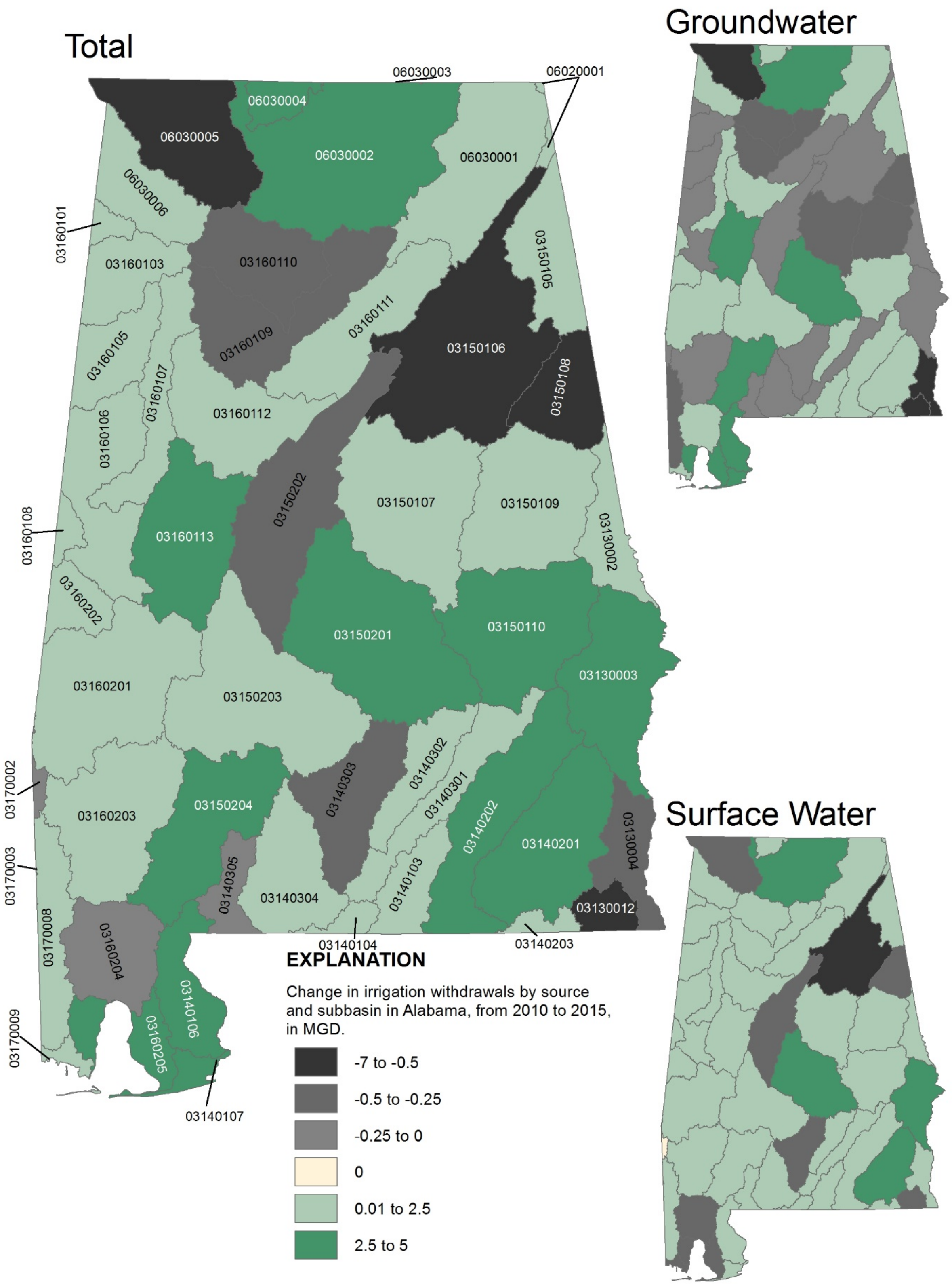


Table 63. Change in irrigation withdrawals by source and county in Alabama from 2010 to 2015, in MGD.

County Name	2010 GW	2010 SW	2010 Total	2015 GW	2015 SW	2015 Total	GW Diff 2010 to 2015	SW Diff 2010 to 2015	Total Diff 2010 to 2015
AUTAUGA	2.61	1.00	3.61	3.36	0.16	3.52	0.75	-0.84	-0.09
BALDWIN	37.32	10.44	47.76	47.28	11.15	58.42	9.96	0.71	10.67
BARBOUR	0.57	2.09	2.66	0.58	2.41	2.98	0.01	0.32	0.32
BIBB	0.10	0.13	0.23	0.03	0.16	0.19	-0.07	0.02	-0.04
BLOUNT	0.25	0.62	0.87	0.20	0.88	1.08	-0.05	0.25	0.21
BULLOCK	1.72	1.85	3.57	0.92	1.08	2.00	-0.80	-0.78	-1.57
BUTLER	0.06	1.31	1.37	0.01	0.99	1.01	-0.05	-0.32	-0.36
CALHOUN	0.00	5.01	5.01	0.00	3.16	3.16	0.00	-1.85	-1.85
CHAMBERS	0.22	0.13	0.35	0.07	0.16	0.22	-0.15	0.02	-0.13
CHEROKEE	0.00	2.39	2.39	0.00	2.83	2.83	0.00	0.43	0.43
CHILTON	0.53	0.15	0.68	0.33	0.16	0.48	-0.20	0.01	-0.20
CHOCTAW	0.12	0.13	0.25	0.00	0.16	0.16	-0.12	0.02	-0.09
CLARKE	0.03	0.13	0.16	0.02	0.26	0.28	-0.01	0.12	0.11
CLAY	0.00	0.08	0.08	0.00	0.12	0.12	0.00	0.04	0.04
CLEBURNE	0.00	0.39	0.39	0.00	0.14	0.14	0.00	-0.25	-0.25
COFFEE	0.43	2.12	2.55	0.68	3.20	3.89	0.25	1.08	1.33
COLBERT	0.61	1.76	2.37	0.79	1.67	2.46	0.18	-0.09	0.08
CONECUH	0.06	0.13	0.19	0.05	0.16	0.21	-0.01	0.02	0.02
COOSA	0.02	0.02	0.04	0.00	0.10	0.10	-0.02	0.08	0.07
COVINGTON	0.95	1.54	2.49	1.27	2.20	3.47	0.32	0.66	0.99
CRENSHAW	0.00	0.29	0.29	0.00	0.58	0.58	0.00	0.29	0.29
CULLMAN	0.57	0.74	1.31	0.28	0.63	0.91	-0.29	-0.11	-0.40
DALE	0.30	2.00	2.30	0.33	1.76	2.09	0.03	-0.24	-0.21
DALLAS	0.50	2.45	2.95	0.69	2.53	3.22	0.19	0.08	0.27
DEKALB	0.46	1.69	2.15	0.49	2.15	2.65	0.03	0.46	0.49
ELMORE	0.50	1.56	2.06	0.61	2.48	3.09	0.11	0.92	1.03
ESCAMBIA	1.16	0.66	1.82	1.00	0.75	1.75	-0.16	0.09	-0.07
ETOWAH	0.13	2.13	2.26	0.00	1.00	1.01	-0.13	-1.13	-1.26
FAYETTE	0.00	0.32	0.32	0.00	0.37	0.37	0.00	0.05	0.05
FRANKLIN	0.00	0.52	0.52	0.00	0.84	0.84	0.00	0.32	0.32
GENEVA	1.42	1.63	3.05	2.52	2.97	5.50	1.10	1.35	2.45
GREENE	0.23	0.04	0.27	0.33	0.13	0.45	0.10	0.09	0.18
HALE	0.05	0.13	0.18	0.92	0.16	1.08	0.87	0.02	0.89
HENRY	1.01	3.17	4.18	1.43	4.46	5.89	0.42	1.29	1.71

Table 63. Change in irrigation withdrawals by source and county in Alabama from 2010 to 2015, in MGD – Continued.

County Name	2010 GW	2010 SW	2010 Total	2015 GW	2015 SW	2015 Total	GW Diff 2010 to 2015	SW Diff 2010 to 2015	Total Diff 2010 to 2015
HOUSTON	8.00	3.57	11.57	5.17	2.42	7.59	-2.83	-1.15	-3.98
JACKSON	0.17	0.93	1.10	0.27	1.02	1.29	0.10	0.08	0.19
JEFFERSON	0.13	6.38	6.51	0.08	5.82	5.90	-0.05	-0.56	-0.60
LAMAR	0.01	0.17	0.18	0.00	0.24	0.24	-0.01	0.07	0.06
LAUDERDALE	1.27	1.58	2.85	0.56	1.25	1.81	-0.71	-0.33	-1.04
LAWRENCE	0.19	2.45	2.64	0.05	2.54	2.59	-0.14	0.09	-0.05
LEE	0.18	2.25	2.43	0.29	2.89	3.18	0.11	0.64	0.75
LIMESTONE	1.28	4.45	5.73	2.48	7.32	9.80	1.20	2.87	4.07
LOWNDES	0.00	4.18	4.18	0.00	5.75	5.75	0.00	1.57	1.57
MACON	1.94	3.07	5.01	2.40	3.55	5.94	0.46	0.48	0.93
MADISON	3.71	3.72	7.43	5.02	4.17	9.19	1.31	0.45	1.76
MARENGO	0.01	0.29	0.30	0.17	0.26	0.43	0.16	-0.03	0.13
MARION	0.16	0.13	0.29	0.11	0.16	0.27	-0.05	0.02	-0.02
MARSHALL	0.37	1.83	2.20	0.79	1.30	2.08	0.42	-0.53	-0.12
MOBILE	8.93	2.58	11.51	8.67	2.27	10.94	-0.26	-0.31	-0.57
MONROE	0.49	0.13	0.62	0.41	0.16	0.57	-0.08	0.02	-0.06
MONTGOMERY	1.74	1.72	3.46	4.26	2.03	6.29	2.52	0.31	2.83
MORGAN	0.14	1.00	1.14	0.16	0.89	1.04	0.02	-0.12	-0.10
PERRY	0.06	0.02	0.08	0.54	0.10	0.63	0.48	0.08	0.56
PICKENS	0.00	0.78	0.78	0.00	1.96	1.96	0.00	1.18	1.18
PIKE	0.43	1.04	1.47	0.41	1.06	1.47	-0.02	0.02	0.00
RANDOLPH	0.08	0.08	0.16	0.03	0.11	0.14	-0.05	0.03	-0.02
RUSSELL	0.00	6.49	6.49	0.00	7.47	7.47	0.00	0.98	0.98
SHELBY	0.98	1.12	2.10	0.34	1.38	1.72	-0.64	0.26	-0.38
STCLAIR	0.00	8.62	8.62	0.00	5.18	5.18	0.00	-3.43	-3.43
SUMTER	0.19	0.15	0.34	0.50	0.26	0.75	0.31	0.10	0.41
TALLADEGA	0.38	4.42	4.80	0.61	4.19	4.80	0.23	-0.23	0.00
TALLAPOOSA	0.14	0.47	0.61	0.02	0.89	0.92	-0.12	0.43	0.31
TUSCALOOSA	1.10	3.99	5.09	1.33	4.35	5.68	0.23	0.37	0.59
WALKER	0.22	0.49	0.71	0.05	0.67	0.72	-0.17	0.18	0.00
WASHINGTON	0.09	0.02	0.11	0.07	0.16	0.23	-0.02	0.14	0.12
WILCOX	0.08	0.22	0.30	0.06	0.39	0.45	-0.02	0.17	0.15
WINSTON	0.00	0.15	0.15	0.00	0.18	0.18	0.00	0.02	0.02
Total	**84.40**	**117.27**	**201.67**	**99.07**	**124.28**	**223.35**	**14.67**	**7.02**	**21.68**

Table 64. Change in irrigation withdrawals by source and subbasin in Alabama from 2010 to 2015, in MGD.

Hydrologic subregion and subbasin	2010 GW	2010 SW	2010 Total	2015 GW	2015 SW	2015 Total	GW Diff 2010 to 2015	SW Diff 2010 to 2015	Total Diff 2010 to 2015
Apalachicola									
03130002	0.17	0.37	0.54	0.12	0.53	0.65	-0.05	0.15	0.10
03130003	0.77	8.60	9.37	0.73	9.90	10.63	-0.04	1.30	1.26
03130004	3.83	2.80	6.63	2.89	3.40	6.30	-0.94	0.60	-0.34
03130012	3.47	1.30	4.77	2.32	0.85	3.17	-1.15	-0.45	-1.60
Subtotal	*8.24*	*13.08*	*21.32*	*6.06*	*14.67*	*20.74*	*-2.18*	*1.59*	*-0.58*
Chocawhatchee-Escambia									
03140103	0.44	0.74	1.18	0.60	1.10	1.69	0.16	0.35	0.51
03140104	0.15	0.11	0.26	0.16	0.14	0.30	0.01	0.03	0.04
03140106	12.12	2.16	14.28	14.47	2.51	16.98	2.35	0.35	2.70
03140107	3.14	1.48	4.62	6.35	1.89	8.24	3.21	0.41	3.62
03140201	2.84	6.13	8.97	3.10	7.16	10.27	0.26	1.03	1.30
03140202	1.60	3.25	4.85	1.95	4.23	6.17	0.35	0.98	1.33
03140203	0.36	0.37	0.73	0.60	0.66	1.26	0.24	0.29	0.53
03140301	0.76	1.44	2.20	0.69	1.57	2.26	-0.07	0.13	0.06
03140302	0.28	0.34	0.62	0.58	0.61	1.19	0.30	0.27	0.57
03140303	0.16	1.53	1.69	0.14	1.31	1.44	-0.02	-0.22	-0.25
03140304	0.67	0.48	1.15	0.58	0.59	1.17	-0.09	0.12	0.02
03140305	0.31	0.22	0.53	0.27	0.24	0.51	-0.04	0.01	-0.03
Subtotal	*22.83*	*18.25*	*41.08*	*29.50*	*22.00*	*51.50*	*6.67*	*3.75*	*10.42*
Alabama									
03150105	0.08	3.20	3.28	0.09	3.47	3.56	0.01	0.27	0.28
03150106	0.59	17.48	18.07	0.54	10.84	11.38	-0.05	-6.64	-6.69
03150107	1.13	3.31	4.44	0.83	3.71	4.53	-0.30	0.39	0.09
03150108	0.46	0.31	0.77	0.01	0.10	0.12	-0.45	-0.21	-0.65
03150109	0.30	0.89	1.19	0.11	1.16	1.27	-0.19	0.26	0.07
03150110	3.19	6.85	10.04	3.82	7.58	11.40	0.63	0.73	1.36
03150201	4.22	6.22	10.44	6.75	7.48	14.23	2.53	1.26	3.79
03150202	0.65	5.95	6.60	0.62	5.61	6.23	-0.03	-0.34	-0.37
03150203	0.44	2.59	3.03	0.67	3.15	3.81	0.23	0.56	0.79
03150204	3.20	0.63	3.83	5.43	0.91	6.34	2.23	0.28	2.51
Subtotal	*14.26*	*47.44*	*61.70*	*18.86*	*44.00*	*62.87*	*4.60*	*-3.43*	*1.17*
Mobile-Tombigbee									
03160101	0.01	0.04	0.05	0.01	0.06	0.07	0.00	0.02	0.02

Table 64. Change in irrigation withdrawals by source and subbasin in Alabama from 2010 to 2015, in MGD – Continued.

Hydrologic subregion and subbasin	2010 GW	2010 SW	2010 Total	2015 GW	2015 SW	2015 Total	GW Diff 2010 to 2015	SW Diff 2010 to 2015	Total Diff 2010 to 2015
03160103	0.10	0.14	0.24	0.07	0.19	0.26	-0.03	0.04	0.01
03160105	0.02	0.24	0.26	0.01	0.36	0.37	-0.01	0.12	0.11
03160106	0.16	0.67	0.83	0.10	1.61	1.72	-0.06	0.94	0.88
03160107	0.22	0.68	0.90	0.25	0.94	1.20	0.03	0.26	0.29
03160108	0.03	0.01	0.04	0.24	0.04	0.29	0.21	0.03	0.25
03160109	0.55	0.77	1.32	0.24	0.82	1.06	-0.31	0.04	-0.26
03160110	0.29	0.92	1.21	0.13	0.95	1.08	-0.16	0.03	-0.13
03160111	0.32	2.31	2.63	0.31	2.46	2.76	-0.01	0.15	0.13
03160112	0.64	3.60	4.24	0.74	3.63	4.37	0.10	0.03	0.13
03160113	0.46	1.22	1.68	1.50	1.61	3.11	1.04	0.39	1.43
03160201	0.17	0.55	0.72	0.27	0.57	0.84	0.10	0.02	0.12
03160202	0.08	0.15	0.23	0.21	0.26	0.46	0.13	0.10	0.23
03160203	0.28	0.04	0.32	0.24	0.28	0.51	-0.04	0.24	0.20
03160204	11.47	2.78	14.25	11.61	2.57	14.18	0.14	-0.21	-0.07
03160205	12.38	5.15	17.53	14.35	4.68	19.03	1.97	-0.47	1.50
Subtotal	*27.18*	*19.29*	*46.47*	*30.29*	*21.02*	*51.30*	*3.11*	*1.73*	*4.84*
Pascagoula									
03170002	0.01	0.00	0.01	0.00	0.00	0.00	-0.01	0.00	-0.01
03170003	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03170008	2.53	0.61	3.14	2.34	0.82	3.16	-0.19	0.21	0.02
03170009	1.38	0.36	1.74	1.70	0.23	1.93	0.32	-0.13	0.19
Subtotal	*3.92*	*0.97*	*4.89*	*4.04*	*1.05*	*5.09*	*0.12*	*0.08*	*0.21*
Middle Tennessee-Hiwassee									
06020001	0.03	0.08	0.11	0.03	0.09	0.12	0.00	0.01	0.01
Subtotal	*0.03*	*0.08*	*0.11*	*0.03*	*0.09*	*0.12*	*0.00*	*0.01*	*0.01*
Middle Tennessee-Elk									
06030001	0.60	2.45	3.05	0.91	2.68	3.60	0.31	0.24	0.55
06030002	5.12	9.62	14.74	7.27	11.82	19.09	2.15	2.20	4.35
06030003	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06030004	0.51	1.47	1.98	0.82	2.24	3.07	0.31	0.77	1.08
06030005	1.53	4.00	5.53	1.01	3.82	4.83	-0.52	-0.18	-0.71
06030006	0.21	0.64	0.85	0.27	0.89	1.16	0.06	0.24	0.30
Subtotal	*7.97*	*18.19*	*26.16*	*10.28*	*21.45*	*31.73*	*2.31*	*3.26*	*5.57*
Total	**84.43**	**117.29**	**201.72**	**99.07**	**124.28**	**223.35**	**14.64**	**7.00**	**21.63**

Table 65. Change in irrigated acreage from 2010 to 2015, in Alabama, in thousand acres.

County	irrgated Acreage 2010	irrigated Acreage 2015	Acreage Diff 2010 to 2015	County	irrgated Acreage 2010	irrigated Acreage 2015	Acreage Diff 2010 to 2015
AUTAUGA	2.16	2.26	0.10	HOUSTON	14.13	13.19	-0.94
BALDWIN	24.02	20.66	-3.35	JACKSON	1.27	0.96	-0.31
BARBOUR	3.25	4.53	1.28	JEFFERSON	3.91	3.15	-0.76
BIBB	0.27	0.16	-0.11	LAMAR	0.20	0.80	0.60
BLOUNT	0.88	0.94	0.06	LAUDERDALE	2.08	1.04	-1.04
BULLOCK	1.88	1.67	-0.21	LAWRENCE	4.34	4.88	0.54
BUTLER	0.57	0.30	-0.27	LEE	1.67	2.09	0.42
CALHOUN	3.32	1.93	-1.39	LIMESTONE	8.16	15.87	7.71
CHAMBERS	0.47	0.17	-0.30	LOWNDES	3.95	5.10	1.15
CHEROKEE	1.78	1.87	0.09	MACON	3.66	3.66	0.00
CHILTON	0.86	0.57	-0.29	MADISON	8.47	11.61	3.14
CHOCTAW	0.44	0.06	-0.38	MARENGO	0.27	0.56	0.29
CLARKE	0.16	0.16	0.00	MARION	0.42	0.39	-0.03
CLAY	0.11	0.08	-0.03	MARSHALL	2.35	1.13	-1.22
CLEBURNE	0.51	0.31	-0.20	MOBILE	7.02	5.52	-1.50
COFFEE	4.50	5.06	0.56	MONROE	0.91	1.05	0.14
COLBERT	3.01	4.17	1.17	MONTGOMERY	2.23	3.47	1.25
CONECUH	0.23	0.16	-0.07	MORGAN	1.01	0.86	-0.15
COOSA	0.08	0.06	-0.02	PERRY	0.20	1.23	1.03
COVINGTON	2.02	2.22	0.20	PICKENS	0.80	4.24	3.44
CRENSHAW	0.67	0.96	0.29	PIKE	2.68	3.36	0.68
CULLMAN	1.21	0.73	-0.48	RANDOLPH	0.28	0.13	-0.14
DALE	3.31	2.84	-0.47	RUSSELL	4.23	4.78	0.55
DALLAS	3.58	3.16	-0.41	SHELBY	2.35	1.27	-1.08
DEKALB	1.70	0.67	-1.03	STCLAIR	4.59	1.93	-2.66
ELMORE	2.56	3.83	1.28	SUMTER	0.63	1.59	0.96
ESCAMBIA	2.31	1.96	-0.35	TALLADEGA	4.58	6.09	1.51
ETOWAH	1.54	0.65	-0.89	TALLAPOOSA	0.62	1.44	0.82
FAYETTE	0.49	0.45	-0.04	TUSCALOOSA	2.95	2.92	-0.02
FRANKLIN	0.44	1.23	0.79	WALKER	1.04	0.44	-0.59
GENEVA	3.44	8.86	5.42	WASHINGTON	0.17	0.15	-0.02
GREENE	0.32	0.44	0.12	WILCOX	0.29	0.28	0.00
HALE	0.19	1.96	1.77	WINSTON	0.14	0.14	0.00
HENRY	5.48	8.58	3.10	**Total**	**169.24**	**188.97**	**19.73**

Livestock Water Withdrawals

The geographic distribution of the comparison of livestock withdrawals from 2010 to 2015 is shown in tables 66 and 67. Livestock withdrawals decreased 1 percent from 26.48 MGD in 2010 to 26.21 MGD in 2015. The counties with the largest increases in total livestock withdrawals from 2010 to 2015 were Montgomery (0.32 MGD), Shelby (0.19 MGD) and Randolph (0.16 MGD) Counties. The counties with the largest decreases in livestock withdrawals from 2010 to 2015 were St. Clair (-0.26 MGD) and Pickens (-0.23 MGD) Counties (figure 53). The subbasins with the largest increases in livestock withdrawals from 2010 to 2015 were the Upper Alabama (03150201; 0.32 MGD), the Lower Alabama (03150204; 0.15 MGD) and the Upper Coosa (03150105; 0.13 MGD) subbasins. The subbasins with the largest decreases in livestock withdrawals from 2010 to 2015 were the Mulberry Fork (03160109; -0.32 MGD), the Middle Tombigbee-Lubbub (03160106; -0.26 MGD), and the Sipsey Fork (03160110; -0.24 MGD) subbasins (figure 54).

Livestock surface-water withdrawals decreased 1 percent from 14.80 MGD in 2010 to 14.67 MGD in 2015. The counties with the largest increases in livestock surface-water withdrawals from 2010 to 2015 were Montgomery (0.19 MGD) and Shelby (0.11 MGD) Counties. The counties with the largest decreases in livestock surface-water withdrawals from 2010 to 2015 were Cullman (-0.22 MGD), St. Clair (-0.15 MGD), and Pickens (-0.12 MGD) Counties. The subbasins with the largest increases in livestock surface-water withdrawals from 2010 to 2015 are the Upper Alabama (03150201; 0.18 MGD), the Lower Alabama (03150204; 0.09 MGD) and the Upper Coosa (03150105; 0.07 MGD). The subbasins with the largest decreases in livestock surface-water withdrawals from 2010 to 2015 are the Mulberry Fork (03160109; -0.17 MGD), the Middle Tombigbee-Lubbub (03160106; -0.14 MGD), and the Sipsey Fork (03160110; -0.12 MGD) subbasins.

Livestock groundwater withdrawals decreased 1 percent from 11.68 MGD in 2010 to 11.54 MGD in 2015. The counties with the largest increases in livestock groundwater withdrawals from 2010 to 2015 are Montgomery (0.13 MGD), Randolph (0.08 MGD), and Shelby (0.08 MGD). The counties with the largest decreases in livestock groundwater withdrawals from 2010 to 2015 are Cullman (-0.22 MGD), St. Clair (-0.11 MGD), and Pickens (-0.11 MGD) Counties. The subbasins with the largest increases in livestock groundwater withdrawals from 2010 to 2015 were the Upper Alabama (03150201; 0.13 MGD), the Upper Coosa (03150105; 0.06 MGD), and the Middle Tallapoosa (03150109; 0.063 MGD) subbasins. The subbasins with the largest decreases in livestock groundwater withdrawals from 2010 to 2015 are the Mulberry Fork (03160109; -0.16 MGD), the Middle Tombigbee-Lubbub (03160106; -0.12 MGD), and the Sipsey Fork (03160110; -0.12 MGD) subbasins.

Figure 53. Map of change in livestock withdrawals by source and county in Alabama from 2010 to 2015, in MGD.

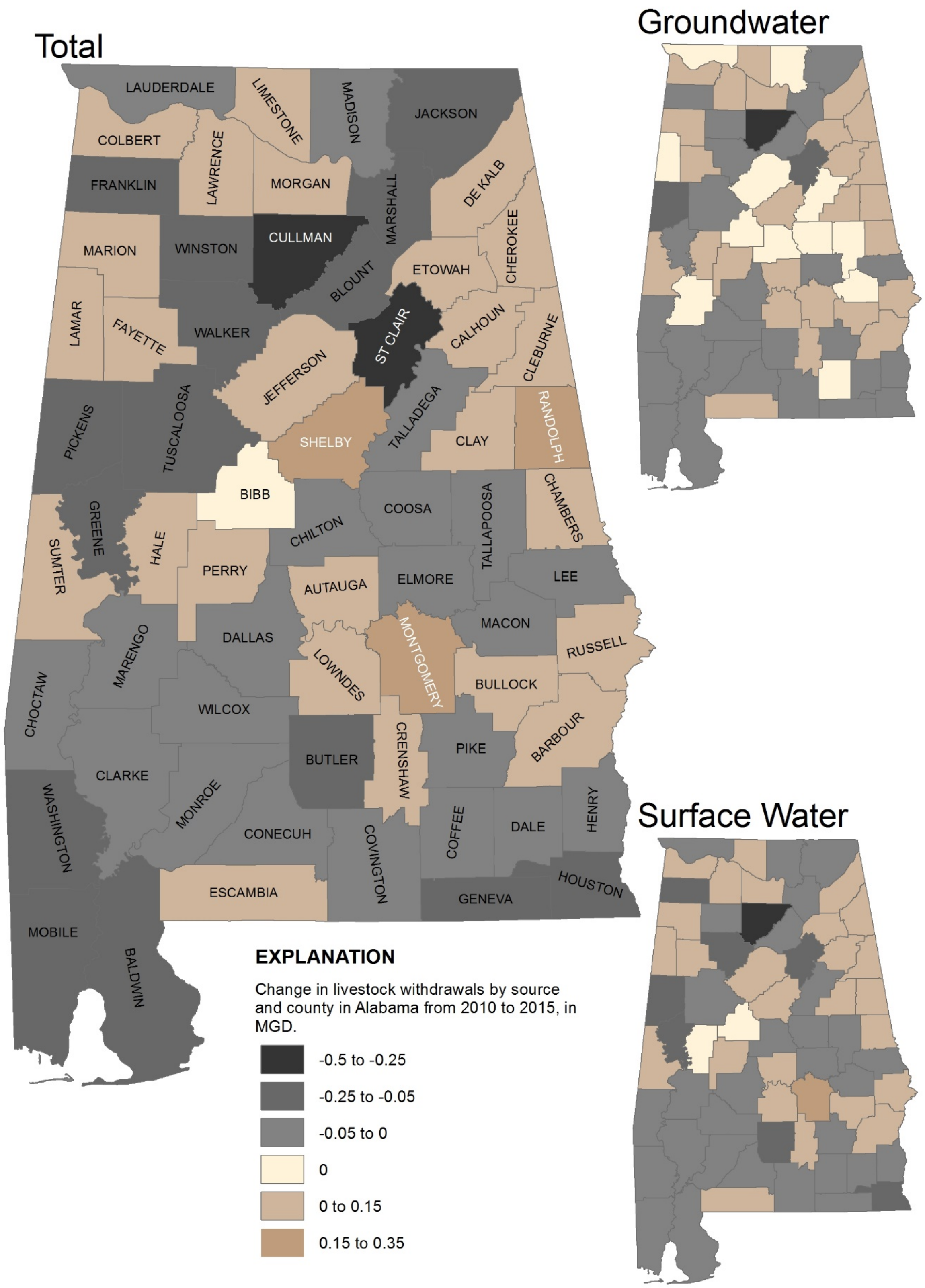


Figure 54. Map of the change in livestock withdrawals by source and subbasin in Alabama from 2010 to 2015, in MGD.

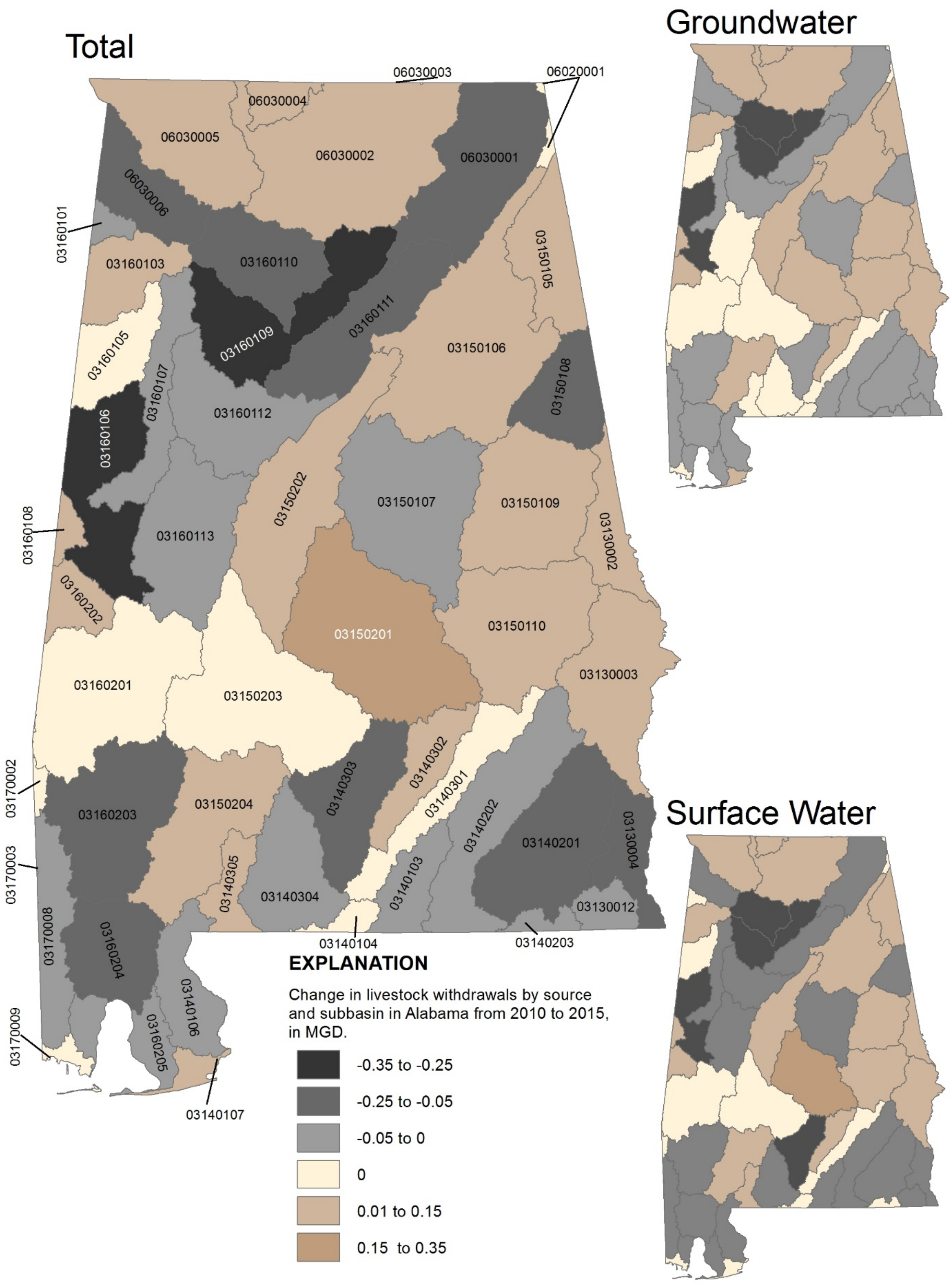


Table 66. Change in livestock withdrawals by source and county in Alabama from 2010 to 2015, in MGD.

County Name	2010 GW	2010 SW	2010 Total	2015 GW	2015 SW	2015 Total	GW Diff 2010 to 2015	SW Diff 2010 to 2015	Total Diff 2010 to 2015
AUTAUGA	0.06	0.09	0.15	0.08	0.11	0.19	0.02	0.02	0.04
BALDWIN	0.16	0.19	0.35	0.13	0.16	0.29	-0.03	-0.03	-0.06
BARBOUR	0.15	0.23	0.38	0.16	0.25	0.41	0.01	0.02	0.03
BIBB	0.03	0.04	0.07	0.03	0.04	0.07	0.00	0.00	0.00
BLOUNT	0.47	0.51	0.98	0.43	0.47	0.90	-0.04	-0.04	-0.08
BULLOCK	0.05	0.09	0.14	0.06	0.10	0.16	0.01	0.01	0.02
BUTLER	0.16	0.24	0.40	0.13	0.19	0.32	-0.03	-0.05	-0.08
CALHOUN	0.13	0.19	0.32	0.15	0.21	0.36	0.02	0.02	0.04
CHAMBERS	0.07	0.11	0.18	0.09	0.13	0.22	0.02	0.02	0.04
CHEROKEE	0.11	0.17	0.28	0.16	0.24	0.40	0.05	0.07	0.12
CHILTON	0.07	0.11	0.18	0.07	0.09	0.16	0.00	-0.02	-0.02
CHOCTAW	0.04	0.05	0.09	0.03	0.03	0.06	-0.01	-0.02	-0.03
CLARKE	0.03	0.05	0.08	0.02	0.04	0.06	-0.01	-0.01	-0.02
CLAY	0.13	0.17	0.30	0.17	0.21	0.38	0.04	0.04	0.08
CLEBURNE	0.14	0.16	0.30	0.15	0.18	0.33	0.01	0.02	0.03
COFFEE	0.34	0.46	0.80	0.34	0.45	0.79	0.00	-0.01	-0.01
COLBERT	0.13	0.16	0.29	0.16	0.21	0.37	0.03	0.05	0.08
CONECUH	0.06	0.10	0.16	0.05	0.07	0.12	-0.01	-0.03	-0.04
COOSA	0.02	0.03	0.05	0.02	0.02	0.04	0.00	-0.01	-0.01
COVINGTON	0.25	0.34	0.59	0.23	0.32	0.55	-0.02	-0.02	-0.04
CRENSHAW	0.28	0.39	0.67	0.30	0.42	0.72	0.02	0.03	0.05
CULLMAN	1.04	1.01	2.05	0.82	0.79	1.61	-0.22	-0.22	-0.44
DALE	0.18	0.24	0.42	0.17	0.23	0.40	-0.01	-0.01	-0.02
DALLAS	0.12	0.18	0.30	0.10	0.16	0.26	-0.02	-0.02	-0.04
DEKALB	0.97	1.09	2.06	0.99	1.11	2.10	0.02	0.02	0.04
ELMORE	0.08	0.09	0.17	0.07	0.08	0.15	-0.01	-0.01	-0.02
ESCAMBIA	0.06	0.08	0.14	0.07	0.10	0.17	0.01	0.02	0.03
ETOWAH	0.19	0.23	0.42	0.21	0.26	0.47	0.02	0.03	0.05
FAYETTE	0.07	0.09	0.16	0.08	0.10	0.18	0.01	0.01	0.02
FRANKLIN	0.32	0.43	0.75	0.28	0.37	0.65	-0.04	-0.06	-0.10
GENEVA	0.35	0.45	0.80	0.32	0.42	0.74	-0.03	-0.03	-0.06
GREENE	0.08	0.13	0.21	0.05	0.07	0.12	-0.03	-0.06	-0.09
HALE	0.13	0.16	0.29	0.14	0.16	0.30	0.01	0.00	0.01
HENRY	0.11	0.17	0.28	0.10	0.16	0.26	-0.01	-0.01	-0.02

Table 66. Change in livestock withdrawals by source and county in Alabama from 2010 to 2015, in MGD – Continued.

County Name	2010 GW	2010 SW	2010 Total	2015 GW	2015 SW	2015 Total	GW Diff 2010 to 2015	SW Diff 2010 to 2015	Total Diff 2010 to 2015
HOUSTON	0.14	0.20	0.34	0.10	0.15	0.25	-0.04	-0.05	-0.09
JACKSON	0.32	0.39	0.71	0.29	0.37	0.66	-0.03	-0.02	-0.05
JEFFERSON	0.03	0.04	0.07	0.03	0.05	0.08	0.00	0.01	0.01
LAMAR	0.05	0.05	0.10	0.05	0.06	0.11	0.00	0.01	0.01
LAUDERDALE	0.19	0.27	0.46	0.19	0.26	0.45	0.00	-0.01	-0.01
LAWRENCE	0.30	0.40	0.70	0.36	0.48	0.84	0.06	0.08	0.14
LEE	0.04	0.06	0.10	0.03	0.04	0.07	-0.01	-0.02	-0.03
LIMESTONE	0.16	0.21	0.37	0.21	0.27	0.48	0.05	0.06	0.11
LOWNDES	0.23	0.34	0.57	0.27	0.41	0.68	0.04	0.07	0.11
MACON	0.04	0.07	0.11	0.04	0.06	0.10	0.00	-0.01	-0.01
MADISON	0.12	0.17	0.29	0.12	0.16	0.28	0.00	-0.01	-0.01
MARENGO	0.11	0.18	0.29	0.11	0.16	0.27	0.00	-0.02	-0.02
MARION	0.18	0.25	0.43	0.19	0.26	0.45	0.01	0.01	0.02
MARSHALL	0.59	0.59	1.18	0.56	0.56	1.12	-0.03	-0.03	-0.06
MOBILE	0.13	0.16	0.29	0.10	0.13	0.23	-0.03	-0.03	-0.06
MONROE	0.07	0.11	0.18	0.06	0.09	0.15	-0.01	-0.02	-0.03
MONTGOMERY	0.24	0.35	0.59	0.37	0.54	0.91	0.13	0.19	0.32
MORGAN	0.30	0.37	0.67	0.33	0.40	0.73	0.03	0.03	0.06
PERRY	0.08	0.10	0.18	0.14	0.19	0.33	0.06	0.09	0.15
PICKENS	0.31	0.32	0.63	0.20	0.20	0.40	-0.11	-0.12	-0.23
PIKE	0.24	0.34	0.58	0.23	0.33	0.56	-0.01	-0.01	-0.02
RANDOLPH	0.20	0.23	0.43	0.28	0.31	0.59	0.08	0.08	0.16
RUSSELL	0.04	0.06	0.10	0.05	0.07	0.12	0.01	0.01	0.02
SHELBY	0.04	0.06	0.10	0.12	0.17	0.29	0.08	0.11	0.19
STCLAIR	0.15	0.21	0.36	0.04	0.06	0.10	-0.11	-0.15	-0.26
SUMTER	0.12	0.18	0.30	0.18	0.27	0.45	0.06	0.09	0.15
TALLADEGA	0.10	0.13	0.23	0.10	0.12	0.22	0.00	-0.01	-0.01
TALLAPOOSA	0.04	0.06	0.10	0.04	0.05	0.09	0.00	-0.01	-0.01
TUSCALOOSA	0.09	0.11	0.20	0.06	0.08	0.14	-0.03	-0.03	-0.06
WALKER	0.12	0.16	0.28	0.08	0.11	0.19	-0.04	-0.05	-0.09
WASHINGTON	0.09	0.10	0.19	0.06	0.07	0.13	-0.03	-0.03	-0.06
WILCOX	0.07	0.11	0.18	0.06	0.09	0.15	-0.01	-0.02	-0.03
WINSTON	0.17	0.19	0.36	0.13	0.15	0.28	-0.04	-0.04	-0.08
Total	11.68	14.80	26.48	11.54	14.67	26.21	-0.14	-0.13	-0.27

Table 67. Change in livestock withdrawals by source and subbasin in Alabama from 2010 to 2015, in MGD.

Hydrologic subregion and subbasin	2010 GW	2010 SW	2010 Total	2015 GW	2015 SW	2015 Total	GW Diff 2010 to 2015	SW Diff 2010 to 2015	Total Diff 2010 to 2015
Apalachicola									
03130002	0.07	0.11	0.18	0.09	0.12	0.21	0.02	0.01	0.03
03130003	0.14	0.22	0.36	0.16	0.24	0.40	0.02	0.02	0.04
03130004	0.12	0.19	0.31	0.10	0.16	0.26	-0.02	-0.03	-0.05
03130012	0.06	0.09	0.15	0.05	0.07	0.12	-0.01	-0.02	-0.03
Subtotal	*0.39*	*0.61*	*1.00*	*0.40*	*0.59*	*0.99*	*0.01*	*-0.02*	*-0.01*
Chocawhatchee-Escambia									
03140103	0.13	0.18	0.31	0.12	0.17	0.29	-0.01	-0.01	-0.02
03140104	0.02	0.03	0.05	0.02	0.03	0.05	0.00	0.00	0.00
03140106	0.06	0.07	0.13	0.04	0.06	0.10	-0.02	-0.01	-0.03
03140107	0.01	0.02	0.03	0.02	0.02	0.04	0.01	0.00	0.01
03140201	0.54	0.73	1.27	0.51	0.70	1.21	-0.03	-0.03	-0.06
03140202	0.53	0.73	1.26	0.52	0.71	1.23	-0.01	-0.02	-0.03
03140203	0.08	0.10	0.18	0.07	0.10	0.17	-0.01	0.00	-0.01
03140301	0.25	0.35	0.60	0.25	0.35	0.60	0.00	0.00	0.00
03140302	0.23	0.33	0.56	0.25	0.36	0.61	0.02	0.03	0.05
03140303	0.18	0.28	0.46	0.16	0.23	0.39	-0.02	-0.05	-0.07
03140304	0.07	0.10	0.17	0.07	0.09	0.16	0.00	-0.01	-0.01
03140305	0.02	0.03	0.05	0.02	0.04	0.06	0.00	0.01	0.01
Subtotal	*2.12*	*2.95*	*5.07*	*2.06*	*2.86*	*4.92*	*-0.06*	*-0.09*	*-0.15*
Alabama									
03150105	0.31	0.40	0.71	0.37	0.47	0.84	0.06	0.07	0.13
03150106	0.65	0.83	1.48	0.70	0.87	1.57	0.05	0.04	0.09
03150107	0.22	0.30	0.52	0.21	0.26	0.47	-0.01	-0.04	-0.05
03150108	0.28	0.35	0.63	0.26	0.30	0.56	-0.02	-0.05	-0.07
03150109	0.22	0.29	0.51	0.28	0.34	0.62	0.06	0.05	0.11
03150110	0.16	0.24	0.40	0.18	0.26	0.43	0.02	0.02	0.03
03150201	0.48	0.71	1.19	0.61	0.89	1.51	0.13	0.18	0.32
03150202	0.16	0.22	0.38	0.18	0.25	0.43	0.02	0.03	0.05
03150203	0.27	0.41	0.68	0.27	0.41	0.68	0.00	0.00	0.00
03150204	0.02	0.02	0.04	0.08	0.11	0.19	0.06	0.09	0.15
Subtotal	*2.77*	*3.77*	*6.54*	*3.13*	*4.17*	*7.30*	*0.36*	*0.40*	*0.76*
Mobile-Tombigbee									
03160101	0.05	0.06	0.11	0.04	0.06	0.10	-0.01	0.00	-0.01

Table 67. Change in livestock withdrawals by source and subbasin in Alabama from 2010 to 2015, in MGD – Continued.

Hydrologic subregion and subbasin	2010 GW	2010 SW	2010 Total	2015 GW	2015 SW	2015 Total	GW Diff 2010 to 2015	SW Diff 2010 to 2015	Total Diff 2010 to 2015
03160103	0.13	0.17	0.30	0.14	0.18	0.32	0.01	0.01	0.02
03160105	0.08	0.09	0.17	0.08	0.09	0.17	0.00	0.00	0.00
03160106	0.32	0.36	0.68	0.20	0.22	0.42	-0.12	-0.14	-0.26
03160107	0.12	0.15	0.27	0.10	0.13	0.23	-0.02	-0.02	-0.04
03160108	0.02	0.03	0.05	0.05	0.08	0.13	0.03	0.05	0.08
03160109	0.78	0.81	1.59	0.62	0.64	1.27	-0.16	-0.17	-0.32
03160110	0.64	0.66	1.30	0.52	0.54	1.06	-0.12	-0.12	-0.24
03160111	0.48	0.52	1.00	0.45	0.50	0.95	-0.03	-0.02	-0.05
03160112	0.08	0.10	0.18	0.07	0.09	0.16	-0.01	-0.01	-0.02
03160113	0.20	0.26	0.46	0.20	0.24	0.45	0.00	-0.02	-0.01
03160201	0.16	0.24	0.40	0.16	0.23	0.39	0.00	-0.01	-0.01
03160202	0.05	0.08	0.13	0.08	0.11	0.19	0.03	0.03	0.06
03160203	0.09	0.11	0.20	0.06	0.08	0.14	-0.03	-0.03	-0.06
03160204	0.08	0.10	0.18	0.06	0.07	0.13	-0.02	-0.03	-0.05
03160205	0.07	0.09	0.16	0.05	0.07	0.12	-0.02	-0.02	-0.04
Subtotal	*3.35*	*3.83*	*7.18*	*2.88*	*3.34*	*6.23*	*-0.47*	*-0.49*	*-0.95*
Pascagoula									
03170002	0.00	0.01	0.01	0.00	0.00	0.01	0.00	-0.01	0.00
03170003	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03170008	0.06	0.07	0.13	0.04	0.05	0.09	-0.02	-0.02	-0.04
03170009	0.02	0.03	0.05	0.02	0.03	0.04	0.00	0.00	-0.01
Subtotal	*0.08*	*0.11*	*0.19*	*0.06*	*0.08*	*0.14*	*-0.02*	*-0.03*	*-0.05*
Middle Tennessee-Hiwassee									
06020001	0.06	0.07	0.13	0.06	0.07	0.13	0.00	0.00	0.00
Subtotal	*0.06*	*0.07*	*0.13*	*0.06*	*0.07*	*0.13*	*0.00*	*0.00*	*0.00*
Middle Tennessee-Elk									
06030001	1.12	1.24	2.36	1.09	1.22	2.30	-0.03	-0.02	-0.06
06030002	0.97	1.18	2.15	1.02	1.24	2.26	0.05	0.06	0.11
06030003	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06030004	0.07	0.09	0.16	0.08	0.11	0.19	0.01	0.02	0.03
06030005	0.42	0.57	0.99	0.46	0.62	1.08	0.04	0.05	0.09
06030006	0.32	0.42	0.74	0.29	0.39	0.68	-0.03	-0.03	-0.06
Subtotal	*2.90*	*3.50*	*6.40*	*2.94*	*3.57*	*6.51*	*0.04*	*0.07*	*0.11*
Total	**11.67**	**14.84**	**26.51**	**11.54**	**14.67**	**26.21**	**-0.13**	**-0.17**	**-0.30**

Aquaculture Withdrawals

The geographic distribution of the comparison of aquaculture withdrawals from 2010 to 2015 is shown in table 68. Aquaculture water withdrawals decreased 17 percent; from 59 MGD in 2010 to 49 MGD in 2015. The counties with the largest increases in aquaculture withdrawals from 2010 to 2015 are Dallas (5 MGD) and Lowndes (1 MGD) Counties. The counties with the largest decreases in aquaculture water withdrawals from 2010 to 2015 are Perry (-4 MGD), Sumter (-2 MGD), Barbour (-2 MGD), and Hale (-2 MGD) Counties (figure 55). There was not a subbasin analysis done for the self-supplied residential sector for 2010, therefore there is no comparison of subbasins from 2010 to 2015.

Surface-water aquaculture withdrawals declined 17 percent from 27 MGD in 2010 to 22 MGD in 2015. The counties with the largest increases in surface-water aquaculture withdrawals are Dallas (2 MGD), Hale (1 MGD), Greene (1 MGD), and Lowndes (1 MGD) Counties. The counties with the largest decreases in surface-water aquaculture withdrawals from 2010 to 2015 are Perry (-2 MGD), Barbour (-2 MGD), Bibb (-1 MGD), and Sumter (-1 MGD) Counties.

Groundwater aquaculture withdrawals declined 16 percent from 32 MGD in 2010 to 27 MGD in 2015. The counties with the largest increases in groundwater aquaculture withdrawals from 2010 to 2015 are Dallas (3 MGD), Lowndes (1 MGD), and Cherokee (1 MGD) Counties. The counties with the largest decreases in groundwater withdrawals from 2010 to 2015 are Hale (-3 MGD), Perry (-2 MGD), and Greene (-2 MGD) Counties.

Figure 55. Map of the change in aquaculture withdrawals by source and county in Alabama from 2010 to 2015, in MGD.

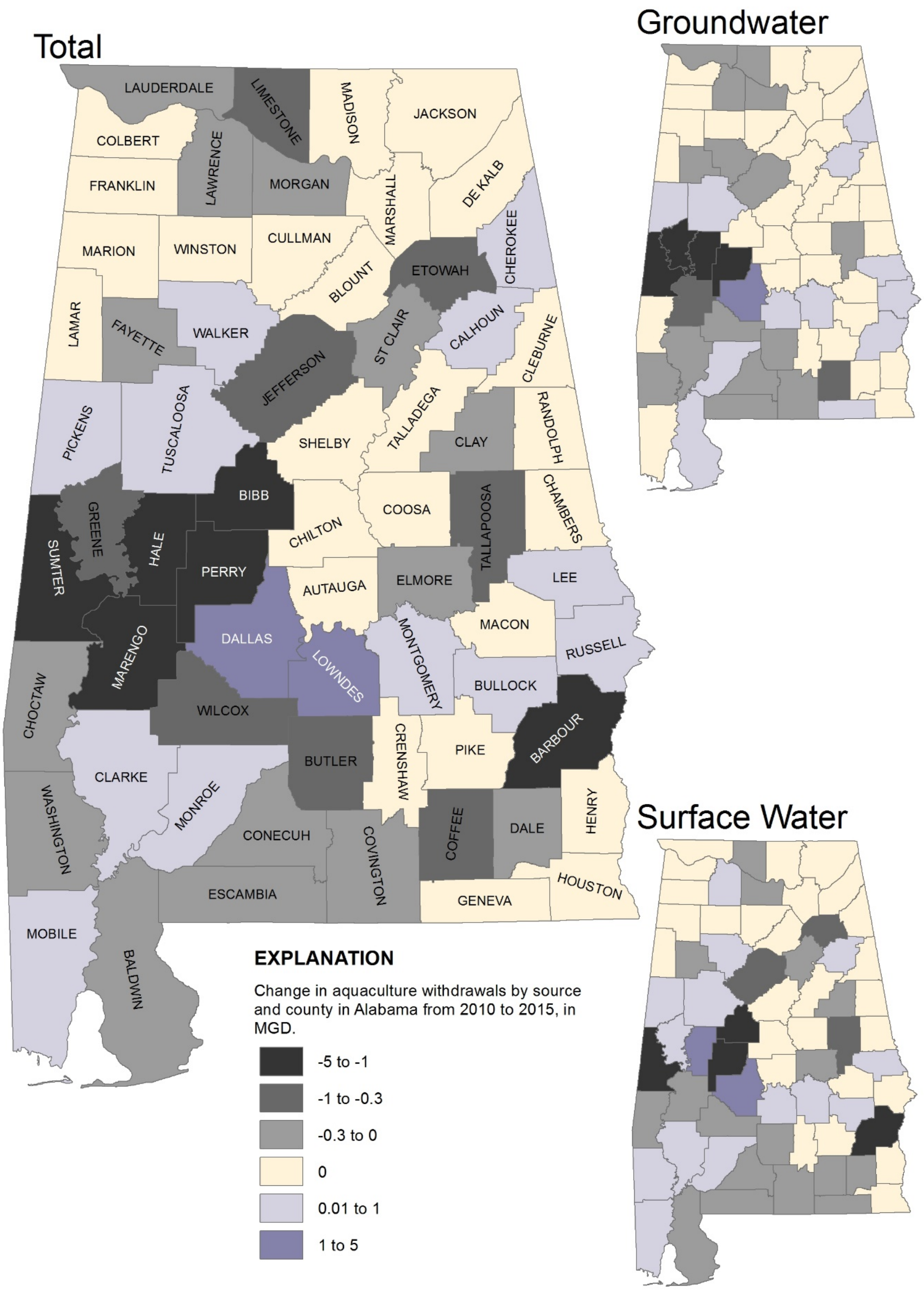


Table 68. Change in aquaculture withdrawals by source and county in Alabama from 2010 to 2015, in MGD.

County Name	2010 GW	2010 SW	2010 Total	2015 GW	2015 SW	2015 Total	GW Diff 2010 to 2015	SW Diff 2010 to 2015	Total Diff 2010 to 2015
AUTAUGA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BALDWIN	0.00	0.16	0.16	0.05	0.05	0.10	0.05	-0.11	-0.06
BARBOUR	0.09	2.34	2.43	0.18	0.18	0.36	0.09	-2.16	-2.07
BIBB	0.00	1.45	1.45	0.00	0.00	0.00	0.00	-1.45	-1.45
BLOUNT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BULLOCK	0.00	0.00	0.00	0.00	0.05	0.05	0.00	0.05	0.05
BUTLER	0.27	0.23	0.50	0.00	0.00	0.00	-0.27	-0.23	-0.50
CALHOUN	0.00	0.02	0.02	0.12	0.12	0.24	0.12	0.10	0.22
CHAMBERS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CHEROKEE	0.00	0.00	0.00	0.51	0.00	0.51	0.51	0.00	0.51
CHILTON	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CHOCTAW	0.00	0.03	0.03	0.00	0.00	0.00	0.00	-0.03	-0.03
CLARKE	0.03	0.03	0.06	0.00	0.10	0.10	-0.03	0.07	0.04
CLAY	0.00	0.01	0.01	0.00	0.00	0.00	0.00	-0.01	-0.01
CLEBURNE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
COFFEE	0.48	0.26	0.74	0.00	0.00	0.00	-0.48	-0.26	-0.74
COLBERT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CONECUH	0.07	0.07	0.14	0.00	0.00	0.00	-0.07	-0.07	-0.14
COOSA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
COVINGTON	0.05	0.05	0.10	0.00	0.00	0.00	-0.05	-0.05	-0.10
CRENSHAW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CULLMAN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DALE	0.00	0.05	0.05	0.00	0.00	0.00	0.00	-0.05	-0.05
DALLAS	5.00	2.14	7.14	7.79	3.90	11.69	2.79	1.76	4.55
DEKALB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ELMORE	0.00	0.05	0.05	0.00	0.00	0.00	0.00	-0.05	-0.05
ESCAMBIA	0.02	0.01	0.03	0.00	0.00	0.00	-0.02	-0.01	-0.03
ETOWAH	0.00	0.31	0.31	0.00	0.01	0.01	0.00	-0.30	-0.30
FAYETTE	0.02	0.02	0.04	0.00	0.00	0.00	-0.02	-0.02	-0.04
FRANKLIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GENEVA	0.10	0.03	0.13	0.13	0.00	0.13	0.03	-0.03	0.00
GREENE	5.71	4.13	9.84	4.21	5.09	9.30	-1.50	0.96	-0.54
HALE	11.77	6.06	17.83	8.81	7.34	16.15	-2.96	1.28	-1.68
HENRY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table 68. Comparison of aquaculture withdrawals by source and subbasin in Alabama from 2010 to 2015, in MGD – Continued.

County Name	2010 GW	2010 SW	2010 Total	2015 GW	2015 SW	2015 Total	GW Diff 2010 to 2015	SW Diff 2010 to 2015	Total Diff 2010 to 2015
HOUSTON	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
JACKSON	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
JEFFERSON	0.01	0.45	0.46	0.00	0.00	0.00	-0.01	-0.45	-0.46
LAMAR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LAUDERDALE	0.02	0.00	0.02	0.00	0.00	0.00	-0.02	0.00	-0.02
LAWRENCE	0.05	0.00	0.05	0.00	0.01	0.01	-0.05	0.01	-0.04
LEE	0.02	0.03	0.05	0.03	0.04	0.07	0.01	0.01	0.02
LIMESTONE	0.18	0.15	0.33	0.01	0.00	0.01	-0.17	-0.15	-0.32
LOWNDES	0.00	0.03	0.03	0.65	0.65	1.30	0.65	0.62	1.27
MACON	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MADISON	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MARENGO	1.45	1.19	2.64	0.69	0.92	1.61	-0.76	-0.27	-1.03
MARION	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MARSHALL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MOBILE	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.01	0.01
MONROE	0.03	0.03	0.06	0.07	0.07	0.14	0.04	0.04	0.08
MONTGOMERY	0.16	0.17	0.33	0.20	0.20	0.40	0.04	0.03	0.07
MORGAN	0.02	0.02	0.04	0.00	0.00	0.00	-0.02	-0.02	-0.04
PERRY	4.58	4.01	8.59	2.34	1.76	4.10	-2.24	-2.25	-4.49
PICKENS	0.50	0.50	1.00	0.61	0.77	1.38	0.11	0.27	0.38
PIKE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RANDOLPH	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RUSSELL	0.00	0.00	0.00	0.21	0.00	0.21	0.21	0.00	0.21
SHELBY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
STCLAIR	0.00	0.04	0.04	0.00	0.00	0.00	0.00	-0.04	-0.04
SUMTER	1.49	1.55	3.04	0.40	0.50	0.90	-1.09	-1.05	-2.14
TALLADEGA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TALLAPOOSA	0.02	0.78	0.80	0.00	0.00	0.00	-0.02	-0.78	-0.80
TUSCALOOSA	0.04	0.00	0.04	0.24	0.33	0.57	0.20	0.33	0.53
WALKER	0.01	0.02	0.03	0.00	0.05	0.05	-0.01	0.03	0.02
WASHINGTON	0.03	0.00	0.03	0.00	0.02	0.02	-0.03	0.02	-0.01
WILCOX	0.23	0.23	0.46	0.00	0.00	0.00	-0.23	-0.23	-0.46
WINSTON	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**32.45**	**26.65**	**59.10**	**27.25**	**22.17**	**49.42**	**-5.20**	**-4.48**	**-9.68**

Industrial Water Withdrawals

The geographic distribution of the comparison of industrial withdrawals from 2010 to 2015 is shown in tables 69 and 70. Industrial withdrawals decreased 12 percent from 562 MGD in 2010 to 495 MGD in 2015, primarily due to the closure of the International Paper Courtland facility in Lawrence County in 2014. The counties with the largest increases in total industrial withdrawals from 2010 to 2015 were Morgan (10 MGD), Choctaw (6 MGD), and Lowndes (4 MGD) Counties. The counties with the largest decreases in industrial withdrawals from 2010 to 2015 were Lawrence (-60 MGD) and Colbert (-40 MGD) Counties (figure 56). The subbasins with the largest increases in industrial withdrawals from 2010 to 2015 were the Middle Tombigbee-Chickasaw (03160201; 8 MGD), the Upper Alabama (03150201; 6 MGD) and the Mobile-Tensaw (03160204; 3 MGD) subbasins. The subbasins with the largest decreases in industrial withdrawals from 2010 to 2015 were the Wheeler Lake (06030002; -50 MGD) and the Pickwick Lake (06030005; -40 MGD) subbasins (figure 57).

Industrial surface-water withdrawals decreased 13 percent from 535 MGD in 2010 to 462 MGD in 2015. The counties with the largest increases in industrial surface-water withdrawals from 2010 to 2015 were Morgan (10 MGD), Choctaw (6 MGD), Mobile (3 MGD), Monroe (3 MGD) and Sumter (3 MGD) Counties. The counties with the largest decreases in industrial surface-water withdrawals from 2010 to 2015 were Lawrence (-60 MGD) and Colbert (-40 MGD) Counties. The subbasins with the largest increases in industrial surface-water withdrawals from 2010 to 2015 are the Middle Tombigbee-Chickasaw (03160201; 8 MGD), the Mobile-Tensaw (03160204; 3 MGD) the Lower Alabama (03150204; 3 MGD) and the Middle Coosa (03150106; 3 MGD) subbasins. The subbasins with the largest decreases in industrial surface-water withdrawals from 2010 to 2015 are the Wheeler Lake (06030002; -50 MGD) and the Pickwick Lake (06030005; -40 MGD) subbasins.

Industrial groundwater withdrawals increased 20 percent from 27 MGD in 2010 to 33 MGD in 2015. The counties with the largest increases in industrial groundwater withdrawals from 2010 to 2015 are Lowndes (4 MGD) and Montgomery (2 MGD) Counties. The counties with the largest decreases in industrial groundwater withdrawals from 2010 to 2015 are Coffee (-0.5 MGD) and Mobile (-0.4 MGD) Counties. The subbasins with the largest increases in industrial groundwater withdrawals from 2010 to 2015 were the Upper Alabama (03150201; 6 MGD) and the lower Black Warrior (03160113; 1 MGD) subbasins. The subbasins with the largest decreases in industrial groundwater withdrawals from 2010 to 2015 are the Lower Tombigbee (03160203; -1 MGD) and the Upper Choctawhatchee (03140201; -1 MGD) subbasins.

Figure 56. Map of the change in industrial withdrawals by source and county in Alabama from 2010 to 2015, in MGD.

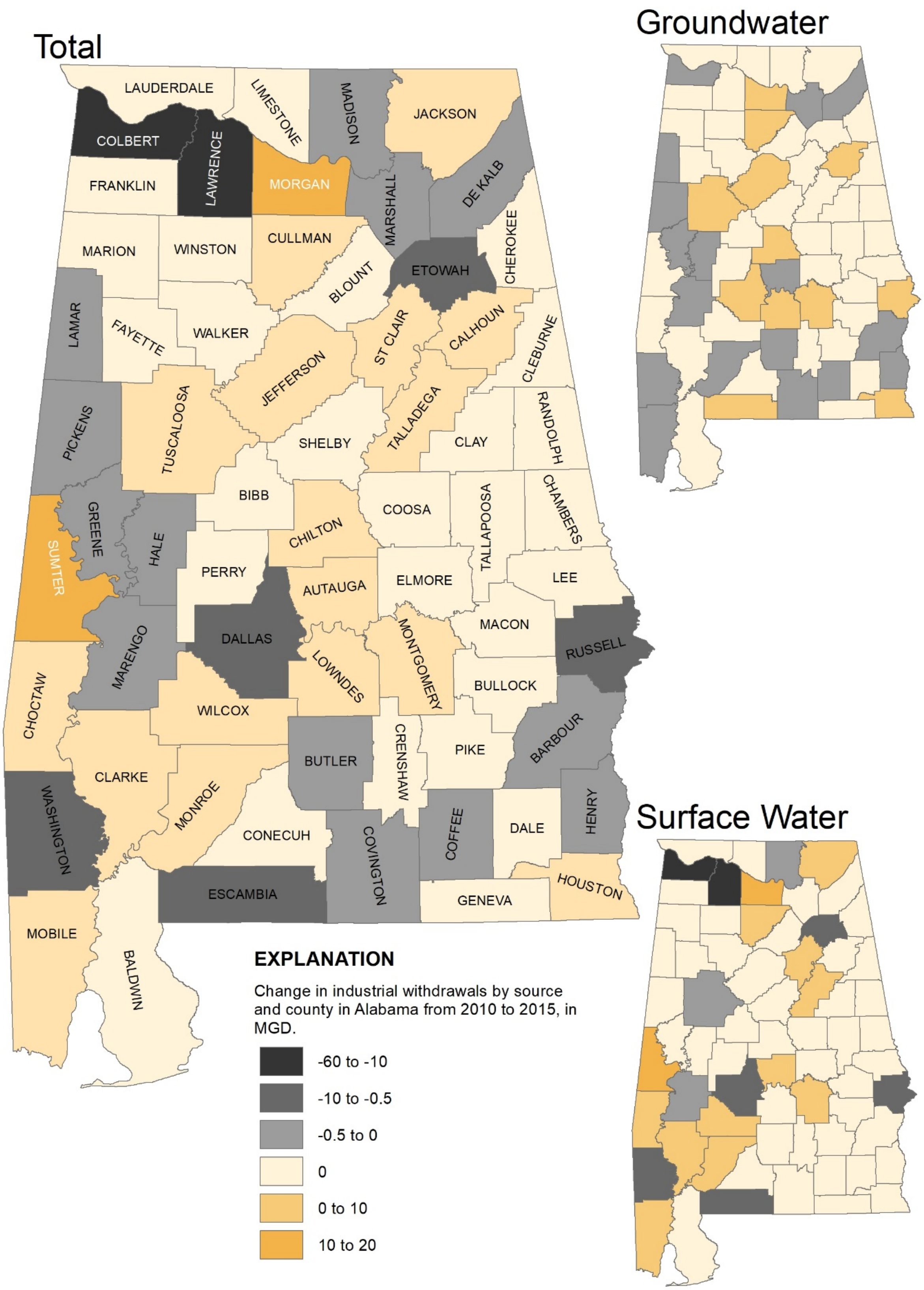


Figure 57. Map of the change in industrial withdrawals by source and subbasin in Alabama from 2010 to 2015, in MGD.

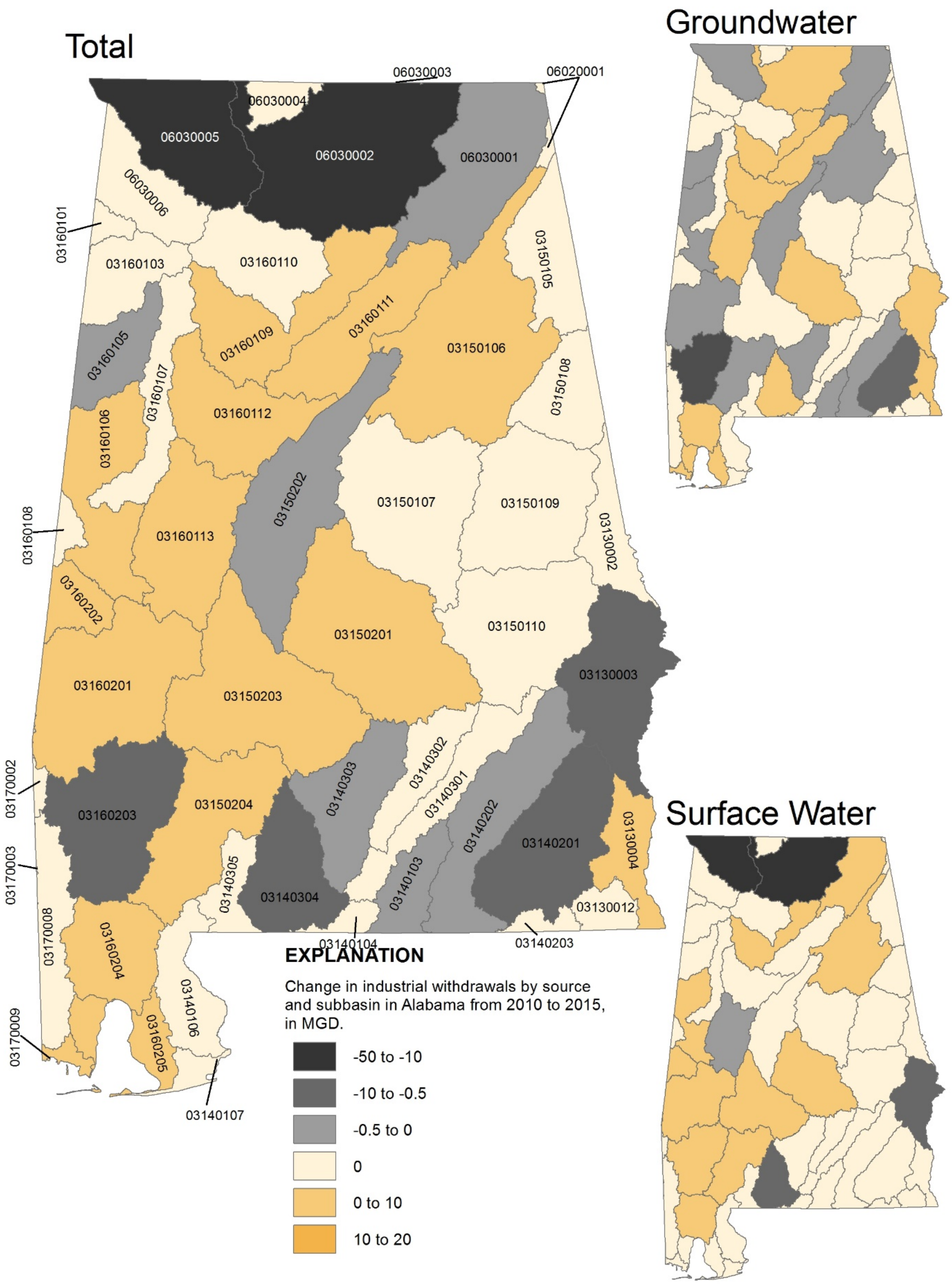


Table 69. Change in industrial withdrawals by source and county in Alabama from 2010 to 2015, in MGD.

County Name	2010 GW	2010 SW	2010 Total	2015 GW	2015 SW	2015 Total	GW Diff 2010 to 2015	SW Diff 2010 to 2015	Total Diff 2010 to 2015
AUTAUGA	2.00	31.13	33.13	1.83	32.97	34.80	-0.17	1.84	1.67
BALDWIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BARBOUR	1.57	0.00	1.57	1.50	0.00	1.50	-0.07	0.00	-0.07
BIBB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BLOUNT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BULLOCK	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BUTLER	0.30	0.00	0.30	0.19	0.00	0.19	-0.11	0.00	-0.11
CALHOUN	0.96	0.00	0.96	1.15	0.00	1.15	0.19	0.00	0.19
CHAMBERS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CHEROKEE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CHILTON	0.35	0.00	0.35	0.39	0.00	0.39	0.04	0.00	0.04
CHOCTAW	0.00	40.76	40.76	0.00	46.61	46.61	0.00	5.85	5.85
CLARKE	0.00	20.22	20.22	0.00	22.14	22.14	0.00	1.92	1.92
CLAY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CLEBURNE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
COFFEE	2.22	0.00	2.22	1.74	0.00	1.74	-0.48	0.00	-0.48
COLBERT	0.22	69.54	69.76	0.00	29.70	29.70	-0.22	-39.84	-40.06
CONECUH	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
COOSA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
COVINGTON	0.05	0.00	0.05	0.00	0.00	0.00	-0.05	0.00	-0.05
CRENSHAW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CULLMAN	0.43	1.84	2.27	0.73	2.43	3.17	0.30	0.59	0.90
DALE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DALLAS	0.14	32.19	32.33	0.24	30.66	30.90	0.10	-1.53	-1.43
DEKALB	0.77	0.00	0.77	0.57	0.00	0.57	-0.20	0.00	-0.20
ELMORE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ESCAMBIA	1.40	33.66	35.06	1.46	32.54	34.01	0.06	-1.12	-1.05
ETOWAH	0.00	9.21	9.21	0.00	8.30	8.30	0.00	-0.91	-0.91
FAYETTE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FRANKLIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GENEVA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GREENE	0.03	0.00	0.03	0.02	0.00	0.02	-0.01	0.00	-0.01
HALE	0.02	0.00	0.02	0.02	0.00	0.02	0.00	0.00	0.00
HENRY	0.54	0.00	0.54	0.26	0.00	0.26	-0.28	0.00	-0.28

Table 69. Change in industrial withdrawals by source and county in Alabama from 2010 to 2015, in MGD – Continued.

County Name	2010 GW	2010 SW	2010 Total	2015 GW	2015 SW	2015 Total	GW Diff 2010 to 2015	SW Diff 2010 to 2015	Total Diff 2010 to 2015
HOUSTON	0.17	0.00	0.17	0.30	0.00	0.30	0.13	0.00	0.13
JACKSON	0.00	8.91	8.91	0.00	9.10	9.10	0.00	0.19	0.19
JEFFERSON	0.50	0.00	0.50	0.87	0.00	0.87	0.37	0.00	0.37
LAMAR	0.11	0.00	0.11	0.10	0.00	0.10	-0.01	0.00	-0.01
LAUDERDALE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LAWRENCE	0.00	60.11	60.11	0.00	0.00	0.00	0.00	-60.11	-60.11
LEE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LIMESTONE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LOWNDES	0.00	0.00	0.00	4.24	0.00	4.24	4.24	0.00	4.24
MACON	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MADISON	0.00	0.73	0.73	0.00	0.55	0.55	0.00	-0.18	-0.18
MARENGO	0.20	18.52	18.72	0.00	18.44	18.44	-0.20	-0.08	-0.28
MARION	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MARSHALL	0.38	0.00	0.38	0.08	0.00	0.08	-0.30	0.00	-0.30
MOBILE	6.90	0.70	7.60	6.49	3.61	10.10	-0.41	2.91	2.50
MONROE	0.13	46.42	46.55	0.12	49.31	49.44	-0.01	2.89	2.89
MONTGOMERY	0.04	0.01	0.05	1.78	0.03	1.81	1.74	0.02	1.76
MORGAN	0.00	78.02	78.02	0.01	88.33	88.34	0.01	10.31	10.32
PERRY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PICKENS	0.01	0.00	0.01	0.01	0.00	0.01	0.00	0.00	0.00
PIKE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RANDOLPH	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RUSSELL	0.92	27.63	28.55	1.44	26.00	27.44	0.52	-1.63	-1.11
SHELBY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
STCLAIR	0.00	4.45	4.45	0.00	6.10	6.10	0.00	1.65	1.65
SUMTER	0.00	2.03	2.03	0.00	4.57	4.57	0.00	2.54	2.54
TALLADEGA	0.00	24.67	24.67	0.00	26.59	26.59	0.00	1.92	1.92
TALLAPOOSA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TUSCALOOSA	0.74	1.04	1.78	1.53	0.67	2.20	0.79	-0.37	0.42
WALKER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WASHINGTON	6.16	4.87	11.03	5.83	3.42	9.25	-0.33	-1.45	-1.78
WILCOX	0.00	18.31	18.31	0.00	19.67	19.67	0.00	1.36	1.36
WINSTON	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**27.26**	**534.97**	**562.23**	**32.91**	**461.75**	**494.67**	**5.65**	**-73.22**	**-67.56**

Table 70. Change in industrial withdrawals by source and subbasin in Alabama from 2010 to 2015, in MGD.

Hydrologic subregion and subbasin	2010 GW	2010 SW	2010 Total	2015 GW	2015 SW	2015 Total	GW Diff 2010 to 2015	SW Diff 2010 to 2015	Total Diff 2010 to 2015
Apalachicola									
03130002	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03130003	2.49	27.63	30.12	2.94	26.00	28.95	0.45	-1.63	-1.17
03130004	0.44	0.00	0.44	0.56	0.00	0.56	0.12	0.00	0.12
03130012	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal	*2.93*	*27.63*	*30.56*	*3.51*	*26.00*	*29.51*	*0.58*	*-1.63*	*-1.05*
Chocawhatchee-Escambia									
03140103	0.05	0.00	0.05	0.00	0.00	0.00	-0.05	0.00	-0.05
03140104	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03140106	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03140107	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03140201	1.35	0.00	1.35	0.60	0.00	0.60	-0.75	0.00	-0.75
03140202	1.14	0.00	1.14	1.14	0.00	1.14	0.00	0.00	0.00
03140203	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03140301	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03140302	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03140303	0.30	0.00	0.30	0.19	0.00	0.19	-0.11	0.00	-0.11
03140304	1.40	33.66	35.06	1.46	32.54	34.01	0.06	-1.12	-1.05
03140305	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal	*4.24*	*33.66*	*37.90*	*3.40*	*32.54*	*35.94*	*-0.84*	*-1.12*	*-1.96*
Alabama									
03150105	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03150106	1.73	38.33	40.06	1.72	40.98	42.71	-0.01	2.65	2.65
03150107	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03150108	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03150109	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03150110	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03150201	2.53	63.33	65.86	8.47	63.66	72.14	5.94	0.33	6.28
03150202	0.16	0.00	0.16	0.16	0.00	0.16	0.00	0.00	0.00
03150203	0.00	18.31	18.31	0.00	19.67	19.67	0.00	1.36	1.36
03150204	0.13	46.42	46.55	0.12	49.31	49.44	-0.01	2.90	2.89
Subtotal	*4.55*	*166.39*	*170.94*	*10.48*	*173.63*	*184.11*	*5.93*	*7.24*	*13.17*
Mobile-Tombigbee									
03160101	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table 70. Change in industrial withdrawals by source and subbasin in Alabama from 2010 to 2015, in MGD – Continued.

Hydrologic subregion and subbasin	2010 GW	2010 SW	2010 Total	2015 GW	2015 SW	2015 Total	GW Diff 2010 to 2015	SW Diff 2010 to 2015	Total Diff 2010 to 2015
03160103	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03160105	0.11	0.00	0.11	0.10	0.00	0.10	-0.01	0.00	-0.01
03160106	0.01	0.00	0.01	0.01	0.58	0.59	0.00	0.58	0.58
03160107	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03160108	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03160109	0.43	1.84	2.27	0.73	2.43	3.17	0.30	0.59	0.90
03160110	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03160111	0.34	0.00	0.34	0.71	0.00	0.71	0.37	0.00	0.37
03160112	0.20	0.00	0.20	0.20	0.00	0.20	0.00	0.00	0.00
03160113	0.59	1.04	1.63	1.37	0.67	2.04	0.78	-0.37	0.41
03160201	0.20	60.20	60.40	0.00	67.93	67.93	-0.20	7.73	7.53
03160202	0.00	1.11	1.11	0.00	1.12	1.12	0.00	0.01	0.01
03160203	7.08	25.09	32.17	5.83	25.56	31.39	-1.25	0.47	-0.78
03160204	4.96	0.70	5.66	5.43	3.61	9.04	0.47	2.91	3.38
03160205	1.02	0.00	1.02	1.06	0.00	1.06	0.04	0.00	0.04
Subtotal	*14.94*	*89.98*	*104.92*	*15.44*	*101.91*	*117.35*	*0.50*	*11.93*	*12.43*
Pascagoula									
03170002	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03170003	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03170008	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03170009	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*
Middle Tennessee-Hiwassee									
06020001	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*
Middle Tennessee-Elk									
06030001	0.38	8.91	9.29	0.08	9.10	9.18	-0.31	0.19	-0.12
06030002	0.00	138.86	138.86	0.01	88.88	88.89	0.01	-49.98	-49.97
06030003	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06030004	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06030005	0.22	69.54	69.76	0.00	29.70	29.70	-0.22	-39.84	-40.06
06030006	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal	*0.60*	*217.31*	*217.91*	*0.09*	*127.68*	*127.76*	*-0.52*	*-89.63*	*-90.15*
Total	**27.26**	**534.97**	**562.23**	**32.91**	**461.76**	**494.67**	**5.65**	**-73.21**	**-67.56**

Mining Withdrawals

The geographic distribution of the comparison of mining withdrawals from 2010 to 2015 is shown in table 71. Total mining withdrawals increased 5 percent from 21 MGD in 2010 to 22 MGD in 2015. The counties with the largest increases in mining withdrawals from 2010 to 2015 are Washington (3 MGD), Elmore (2 MGD) and Autauga (2 MGD) Counties. The counties with the largest decreases in mining water withdrawals from 2010 to 2015 are St. Clair (-2 MGD) and Limestone Counties (-1 MGD; figure 58). There was not a subbasin analysis done for the self-supplied residential sector for 2010, therefore there is no comparison of subbasins from 2010 to 2015.

Surface-water mining withdrawals declined 25 percent from 8 MGD in 2010 to 6 MGD in 2015. The counties with the largest increases in surface-water aquaculture withdrawals are Elmore (0.77 MGD), and Autauga (0.58 MGD) Counties. The counties with the largest decreases in surface-water aquaculture withdrawals from 2010 to 2015 are Limestone (-1 MGD) Fayette (-0.79 MGD) and Colbert (-0.73 MGD) Counties.

Groundwater aquaculture withdrawals increased 23 percent from 13 MGD in 2010 to 16 MGD in 2015. The counties with the largest increases in groundwater aquaculture withdrawals from 2010 to 2015 are Washington (3 MGD) Elmore (1.63 MGD) and Autauga (1.31 MGD) Counties. The counties with the largest decreases in groundwater mining withdrawals are St. Clair (-2 MGD), Talladega (-0.42 MGD), and Bibb (-0.35 MGD) Counties.

Figure 58. Map of the change in mining by source and county in Alabama from 2010 to 2015, in MGD.

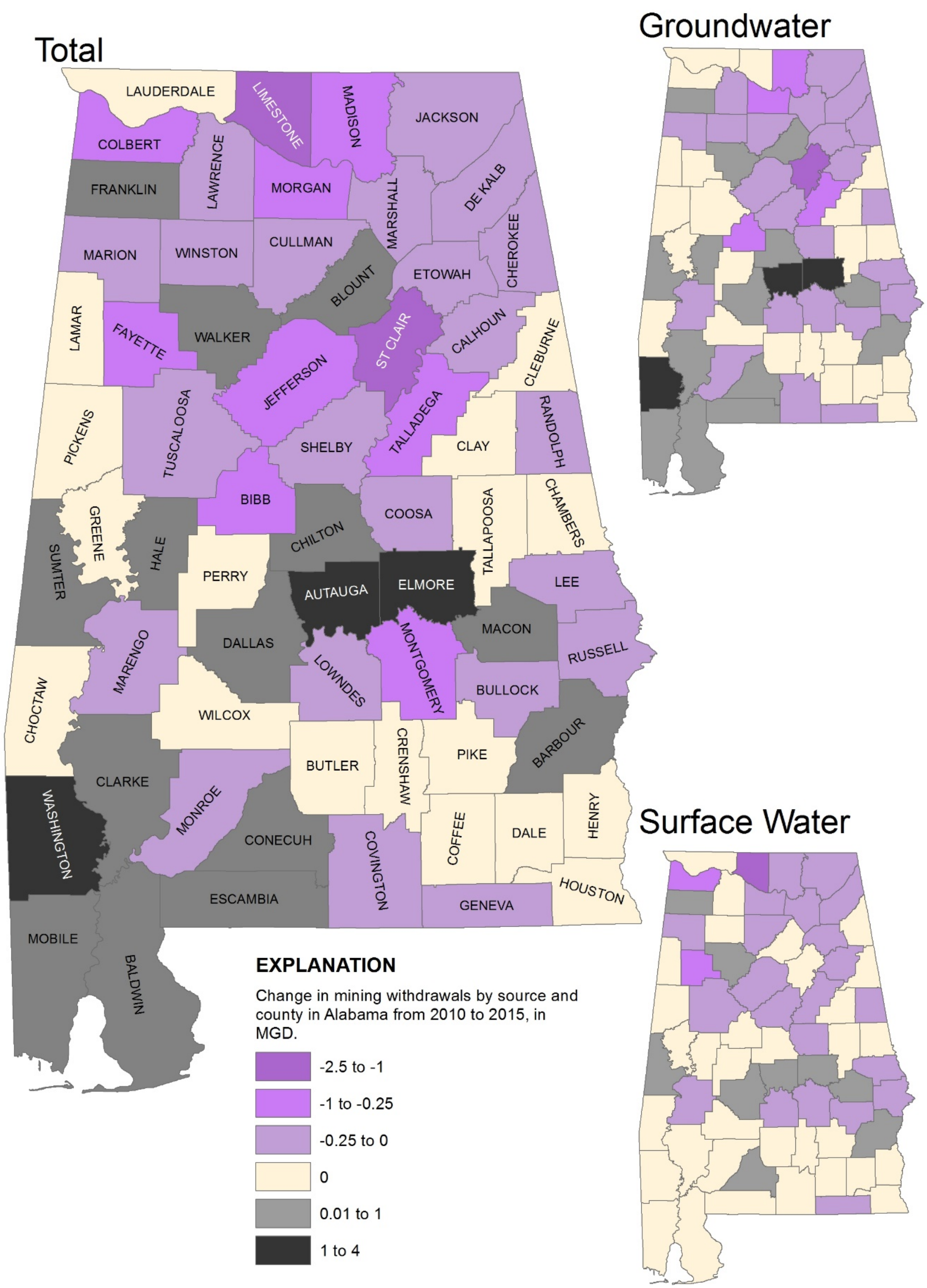


Table 71. Change in mining withdrawals by source and county in Alabama from 2010 to 2015, in MGD.

County Name	2010 GW	2010 SW	2010 Total	2015 GW	2015 SW	2015 Total	GW Diff 2010 to 2015	SW Diff 2010 to 2015	Total Diff 2010 to 2015
AUTAUGA	0.09	0.04	0.13	1.40	0.62	2.02	1.31	0.58	1.89
BALDWIN	0.21	0.00	0.21	0.22	0.00	0.22	0.01	0.00	0.01
BARBOUR	0.13	0.06	0.19	0.30	0.14	0.44	0.17	0.08	0.25
BIBB	0.36	0.00	0.36	0.01	0.00	0.01	-0.35	0.00	-0.35
BLOUNT	0.12	0.00	0.12	0.19	0.00	0.19	0.07	0.00	0.07
BULLOCK	0.04	0.02	0.06	0.00	0.00	0.00	-0.04	-0.02	-0.06
BUTLER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CALHOUN	0.07	0.03	0.10	0.00	0.00	0.00	-0.07	-0.03	-0.10
CHAMBERS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CHEROKEE	0.01	0.00	0.01	0.00	0.00	0.00	-0.01	0.00	-0.01
CHILTON	0.01	0.00	0.01	0.06	0.00	0.06	0.05	0.00	0.05
CHOCTAW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CLARKE	0.35	0.00	0.35	0.86	0.00	0.86	0.51	0.00	0.51
CLAY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CLEBURNE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
COFFEE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
COLBERT	0.00	0.73	0.73	0.00	0.00	0.00	0.00	-0.73	-0.73
CONECUH	0.00	0.00	0.00	0.04	0.02	0.06	0.04	0.02	0.06
COOSA	0.08	0.04	0.12	0.00	0.00	0.00	-0.08	-0.04	-0.12
COVINGTON	0.05	0.00	0.05	0.00	0.00	0.00	-0.05	0.00	-0.05
CRENSHAW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CULLMAN	0.01	0.02	0.03	0.00	0.00	0.00	-0.01	-0.02	-0.03
DALE	0.05	0.03	0.08	0.05	0.03	0.08	0.00	0.00	0.00
DALLAS	0.27	0.12	0.39	0.50	0.22	0.72	0.23	0.10	0.33
DEKALB	0.07	0.03	0.10	0.00	0.00	0.00	-0.07	-0.03	-0.10
ELMORE	0.32	0.15	0.47	1.95	0.92	2.87	1.63	0.77	2.40
ESCAMBIA	0.41	0.00	0.41	1.15	0.00	1.15	0.74	0.00	0.74
ETOWAH	0.24	0.11	0.35	0.22	0.10	0.32	-0.02	-0.01	-0.03
FAYETTE	0.00	1.10	1.10	0.00	0.31	0.31	0.00	-0.79	-0.79
FRANKLIN	0.31	0.14	0.45	0.34	0.15	0.49	0.03	0.01	0.04
GENEVA	0.07	0.03	0.10	0.05	0.02	0.07	-0.02	-0.01	-0.03
GREENE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HALE	0.11	0.00	0.11	0.12	0.00	0.12	0.01	0.00	0.01
HENRY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table 71. Change in mining withdrawals by source and county in Alabama from 2010 to 2015, in MGD – Continued.

County Name	2010 GW	2010 SW	2010 Total	2015 GW	2015 SW	2015 Total	GW Diff 2010 to 2015	SW Diff 2010 to 2015	Total Diff 2010 to 2015
HOUSTON	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
JACKSON	0.06	0.03	0.09	0.00	0.00	0.00	-0.06	-0.03	-0.09
JEFFERSON	0.85	0.65	1.50	0.62	0.47	1.09	-0.23	-0.18	-0.41
LAMAR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LAUDERDALE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LAWRENCE	0.01	0.00	0.01	0.00	0.00	0.00	-0.01	0.00	-0.01
LEE	0.16	0.07	0.23	0.00	0.00	0.00	-0.16	-0.07	-0.23
LIMESTONE	0.00	1.04	1.04	0.00	0.00	0.00	0.00	-1.04	-1.04
LOWNDES	0.31	0.15	0.46	0.16	0.08	0.24	-0.15	-0.07	-0.22
MACON	0.40	0.20	0.60	1.05	0.52	1.57	0.65	0.32	0.97
MADISON	0.31	0.14	0.45	0.00	0.00	0.00	-0.31	-0.14	-0.45
MARENGO	0.16	0.08	0.24	0.02	0.01	0.03	-0.14	-0.07	-0.21
MARION	0.03	0.06	0.09	0.00	0.00	0.00	-0.03	-0.06	-0.09
MARSHALL	0.12	0.06	0.18	0.00	0.00	0.00	-0.12	-0.06	-0.18
MOBILE	0.16	0.00	0.16	0.22	0.00	0.22	0.06	0.00	0.06
MONROE	0.30	0.00	0.30	0.15	0.00	0.15	-0.15	0.00	-0.15
MONTGOMERY	0.98	0.46	1.44	0.80	0.38	1.18	-0.18	-0.08	-0.26
MORGAN	0.26	0.12	0.38	0.00	0.00	0.00	-0.26	-0.12	-0.38
PERRY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PICKENS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PIKE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RANDOLPH	0.06	0.03	0.09	0.00	0.00	0.00	-0.06	-0.03	-0.09
RUSSELL	0.39	0.19	0.58	0.34	0.17	0.51	-0.05	-0.02	-0.07
SHELBY	0.41	0.20	0.61	0.32	0.16	0.48	-0.09	-0.04	-0.13
STCLAIR	2.71	0.00	2.71	0.51	0.00	0.51	-2.20	0.00	-2.20
SUMTER	0.78	0.36	1.14	1.06	0.49	1.55	0.28	0.13	0.41
TALLADEGA	0.42	0.20	0.62	0.00	0.00	0.00	-0.42	-0.20	-0.62
TALLAPOOSA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TUSCALOOSA	0.00	1.09	1.09	0.00	0.85	0.85	0.00	-0.24	-0.24
WALKER	0.12	0.37	0.49	0.13	0.41	0.54	0.01	0.04	0.05
WASHINGTON	0.11	0.00	0.11	3.22	0.00	3.22	3.11	0.00	3.11
WILCOX	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WINSTON	0.11	0.00	0.11	0.05	0.00	0.05	-0.06	0.00	-0.06
Total	**12.60**	**8.15**	**20.75**	**16.11**	**6.07**	**22.18**	**3.51**	**-2.08**	**1.43**

Thermoelectric-Power Water Withdrawals

The geographic distribution of the comparison of thermoelectric-power withdrawals from 2010 to 2015 is shown in tables 72 and 73. Thermoelectric-power withdrawals decreased 20 percent from 8,257 MGD in 2010 to 6,624 MGD in 2015. This was driven primarily by the closure of two major TVA coal-fired generating plants, the Widows Creek facility in Jackson County and the Colbert Fossil Plant in Colbert County. These two facility closures account for the majority of the almost 2 billion gallons per day reduction in water withdrawals.

The counties with the largest increases in thermoelectric-power withdrawals are Limestone (126 MGD) and Greene (23 MGD) Counties. The counties with the largest decreases in thermoelectric-power withdrawals are Jackson (-692 MGD), Colbert (-298 MGD), Mobile (-296 MGD), and Walker (-258 MGD) Counties (figure 59). The subbasins with the largest increases in thermoelectric-power withdrawals are the Wheeler (06030002; 122 MGD) and the Lower Black Warrior (03160113; 23 MGD) subbasins. The subbasins with the largest decreases in thermoelectric-power withdrawals are the Guntersville Lake (06030001; -692 MGD), the Pickwick (06030005; -298 MGD), the Mobile-Tensaw (03160204; -296 MGD), the Mulberry Fork (03160109; -258 MGD), and the Lower Coosa (03150107; -204 MGD) subbasins (figure 60). All thermoelectric withdrawals were from surface water.

Figure 59. Map of the change in thermoelectric-power withdrawals by source and county in Alabama from 2010 to 2015, in MGD.

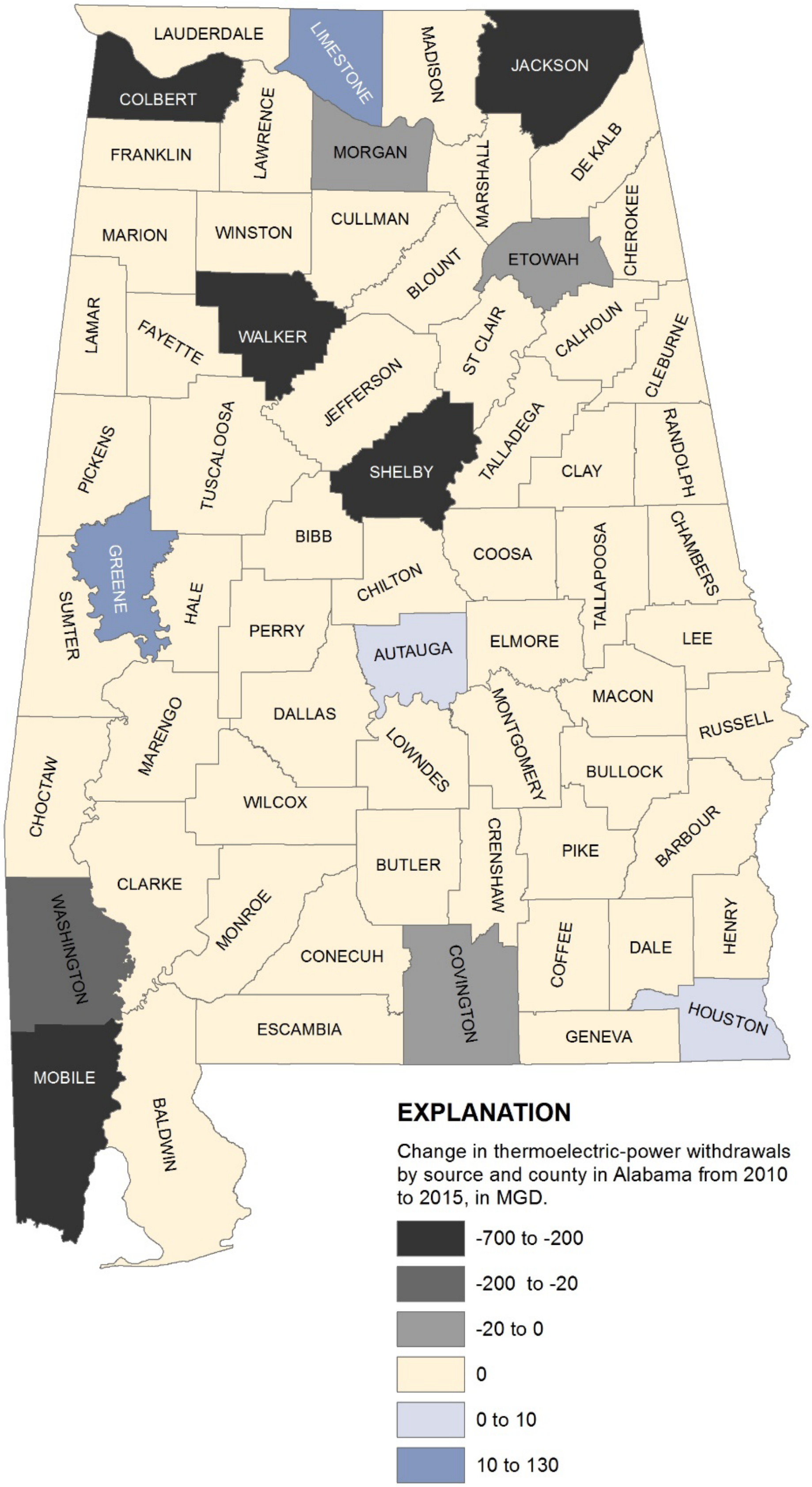


Figure 60. Map of the change in thermoelectric-power withdrawals by source and subbasin in Alabama from 2010 to 2015, in MGD.

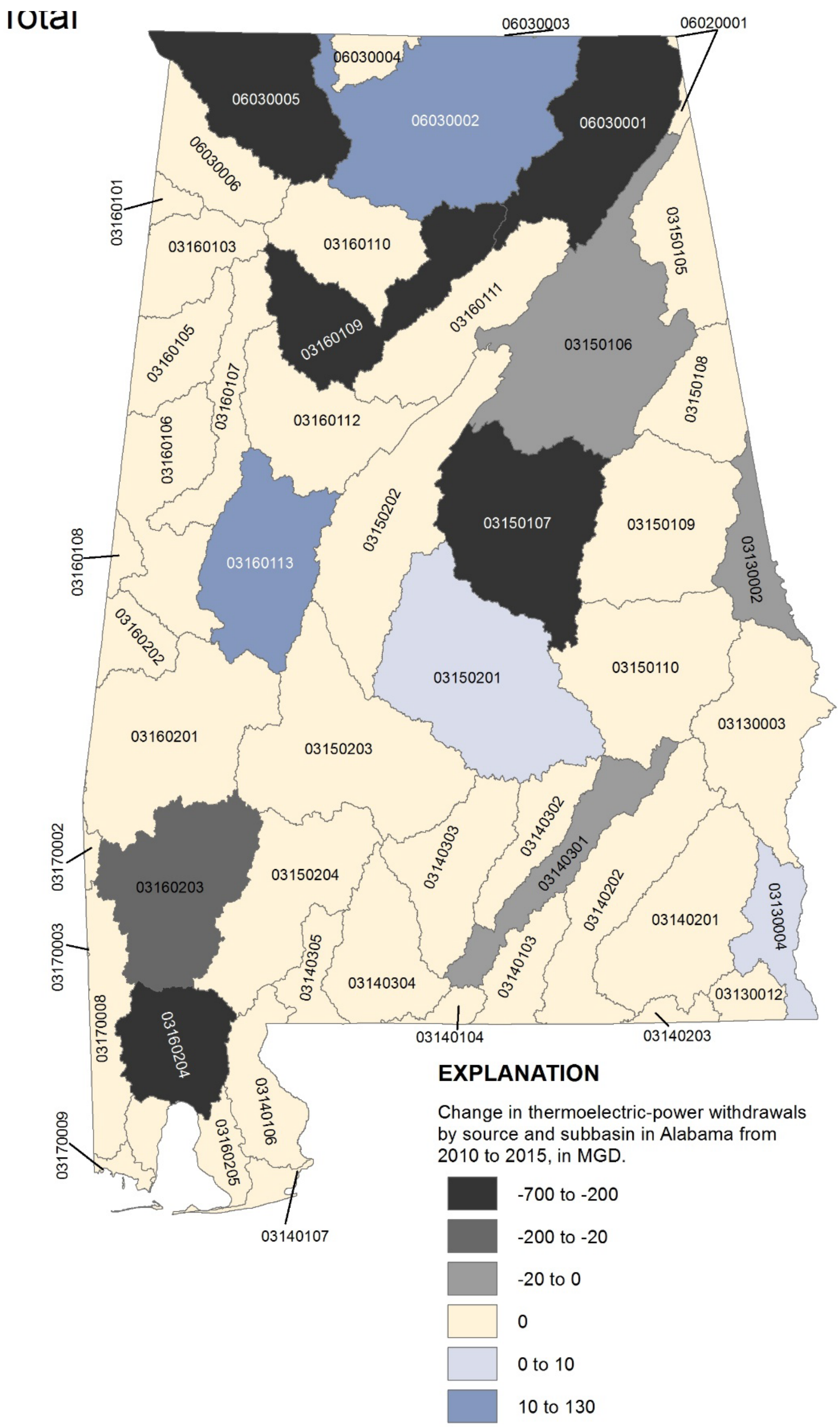


Table 72. Change in thermoelectric-power withdrawals by source and county in Alabama from 2010 to 2015, in MGD.

County Name	2010 SW	2015 SW	SW Diff	County Name	2010 SW	2015 SW	SW Diff
AUTAUGA	5.83	11.86	6.03	HOUSTON	89.30	99.08	9.78
BALDWIN	0.00	0.00	0.00	JACKSON	1,044.42	352.22	-692.20
BARBOUR	0.00	0.00	0.00	JEFFERSON	0.00	0.00	0.00
BIBB	0.00	0.00	0.00	LAMAR	0.00	0.00	0.00
BLOUNT	0.00	0.00	0.00	LAUDERDALE	0.00	0.00	0.00
BULLOCK	0.00	0.00	0.00	LAWRENCE	0.00	0.00	0.00
BUTLER	0.00	0.00	0.00	LEE	0.00	0.00	0.00
CALHOUN	0.00	0.00	0.00	LIMESTONE	2,724.37	2,850.13	125.76
CHAMBERS	0.00	0.00	0.00	LOWNDES	0.00	0.00	0.00
CHEROKEE	0.00	0.00	0.00	MACON	0.00	0.00	0.00
CHILTON	0.00	0.00	0.00	MADISON	0.00	0.00	0.00
CHOCTAW	0.00	0.00	0.00	MARENGO	0.00	0.00	0.00
CLARKE	0.00	0.00	0.00	MARION	0.00	0.00	0.00
CLAY	0.00	0.00	0.00	MARSHALL	0.00	0.00	0.00
CLEBURNE	0.00	0.00	0.00	MOBILE	989.29	693.70	-295.59
COFFEE	0.00	0.00	0.00	MONROE	0.00	0.00	0.00
COLBERT	1,262.30	963.99	-298.31	MONTGOMERY	0.00	0.00	0.00
CONECUH	0.00	0.00	0.00	MORGAN	6.43	2.68	-3.75
COOSA	0.00	0.00	0.00	PERRY	0.00	0.00	0.00
COVINGTON	1.74	1.15	-0.59	PICKENS	0.00	0.00	0.00
CRENSHAW	0.00	0.00	0.00	PIKE	0.00	0.00	0.00
CULLMAN	0.00	0.00	0.00	RANDOLPH	0.00	0.00	0.00
DALE	0.00	0.00	0.00	RUSSELL	0.00	0.00	0.00
DALLAS	0.00	0.00	0.00	SHELBY	666.25	462.22	-204.03
DEKALB	0.00	0.00	0.00	STCLAIR	0.00	0.00	0.00
ELMORE	0.00	0.00	0.00	SUMTER	0.00	0.00	0.00
ESCAMBIA	0.00	0.00	0.00	TALLADEGA	0.00	0.00	0.00
ETOWAH	114.66	105.52	-9.14	TALLAPOOSA	0.00	0.00	0.00
FAYETTE	0.00	0.00	0.00	TUSCALOOSA	0.00	0.00	0.00
FRANKLIN	0.00	0.00	0.00	WALKER	922.15	664.34	-257.81
GENEVA	0.00	0.00	0.00	WASHINGTON	75.54	39.94	-35.60
GREENE	354.71	377.42	22.71	WILCOX	0.00	0.00	0.00
HALE	0.00	0.00	0.00	WINSTON	0.00	0.00	0.00
HENRY	0.00	0.00	0.00	**TOTAL**	**8,256.99**	**6,624.25**	**-1,632.74**

Table 73. Change in thermoelectric-power withdrawals by source and subbasin in Alabama from 2010 to 2015, in MGD.

Hydrologic subregion and subbasin	2010 SW	2015 SW	SW Diff 2010 to 2015
Apalachicola			
03130002	0.17	0.00	-0.17
03130003	0.00	0.00	0.00
03130004	89.30	99.08	9.78
03130012	0.00	0.00	0.00
Subtotal	*89.47*	*99.08*	*9.61*
Chocawhatchee-Escambia			
03140103	0.00	0.00	0.00
03140104	0.00	0.00	0.00
03140106	0.00	0.00	0.00
03140107	0.00	0.00	0.00
03140201	0.00	0.00	0.00
03140202	0.00	0.00	0.00
03140203	0.00	0.00	0.00
03140301	1.74	1.15	-0.59
03140302	0.00	0.00	0.00
03140303	0.00	0.00	0.00
03140304	0.00	0.00	0.00
03140305	0.00	0.24	0.24
Subtotal	*1.74*	*1.39*	*-0.35*
Alabama			
03150105	0.00	0.00	0.00
03150106	114.66	105.52	-9.14
03150107	666.25	462.22	-204.03
03150108	0.00	0.00	0.00
03150109	0.00	0.00	0.00
03150110	0.00	0.00	0.00
03150201	5.83	11.86	6.03
03150202	0.00	0.00	0.00
03150203	0.00	0.00	0.00
03150204	0.00	0.00	0.00
Subtotal	*786.74*	*579.60*	*-207.14*
Mobile-Tombigbee			
03160101	0.04	0.07	0.03
03160103	0.00	0.00	0.00
03160105	0.00	0.00	0.00
03160106	0.00	0.00	0.00
03160107	0.00	0.00	0.00
03160108	0.00	0.00	0.00
03160109	922.15	664.34	-257.81
03160110	0.00	0.00	0.00
03160111	0.00	0.00	0.00
03160112	0.00	0.00	0.00
03160113	354.71	377.42	22.71
03160201	0.00	0.00	0.00
03160202	0.00	0.00	0.00
03160203	75.54	39.94	-35.60
03160204	989.29	693.70	-295.59
03160205	0.00	0.00	0.00
Subtotal	*2,341.73*	*1,775.47*	*-566.26*
Pascagoula			
03170002	0.00	0.00	0.00
03170003	0.00	0.00	0.00
03170008	0.00	0.00	0.00
03170009	0.00	0.00	0.00
Subtotal	*0.00*	*0.00*	*0.00*
Middle Tennessee-Hiwassee			
06020001	0.00	0.00	0.00
Subtotal	*0.00*	*0.00*	*0.00*
Middle Tennessee-Elk			
06030001	1,044.42	352.22	-692.20
06030002	2,730.80	2,852.82	122.02
06030003	0.00	0.00	0.00
06030004	0.00	0.00	0.00
06030005	1,262.30	963.99	-298.31
06030006	0.00	0.00	0.00
Subtotal	*5,037.52*	*4,169.03*	*-868.49*
Total	**8,257.20**	**6,624.57**	**-1,632.63**

Summary of Withdrawals

Water withdrawals by source of supply and eight sectors of use— public supply, self-supplied residential, irrigation, livestock, aquaculture, self-supplied industrial, mining, and thermoelectric power— were estimated for the State of Alabama for 2015. Site-specific data were used as a basis for estimates for public supply, public-supplied deliveries, self-supplied industrial, mining, thermoelectric power, and golf course, nursery, and sod irrigation. Aggregated county-level data were used as a basis for estimates for self-supplied residential, crop irrigation, livestock, and aquaculture.

Total water withdrawals were approximately 8,239 MGD during 2015. Surface water was the source for approximately 94 percent of the total withdrawals (7,743 MGD) and the remaining 6 percent (496 MGD) was from groundwater. More surface water than groundwater was used in all sectors except aquaculture, mining, and self-supplied residential. Estimated water withdrawals by sector and in descending order are thermoelectric power, 6,624 MGD; public supply, 762 MGD; self-supplied industrial, 495 MGD; irrigation, 223 MGD; aquaculture, 49 MGD; self-supplied residential, 37 MGD; livestock, 26 MGD; and mining, 22 MGD.

A per capita comparison of the total water withdrawals shows that for water used to generate electricity, support industrial and agricultural activities, and provide drinking water (8,239 MGD), per capita use was 1,696 gal/day for the estimated 4.86 million residents of Alabama. For the public-supplied water delivered to residential, industrial and commercial sectors, and public uses and losses (762 MGD), per capita use was 176 gal/day for the 4.32 million residents served by public supply. for the public-supplied residential deliveries (321 MGD), per capita use was 74 gal/day; and for self-supplied residential (37 MGD), per capita use was 68 gal/day for the 0.54 million residents with private wells.

Thermoelectric-power plants located in all but two of the seven hydrologic subregions in Alabama—the Pascagoula and the Tennessee-Hiwassee—withdrew 80 percent (6,624 MGD) of the total water withdrawn to generate 128,000 net gigawatt-hours of energy. Surface water provided all of the water. Approximately 98 percent of the thermoelectric-power withdrawals were used for once-through cooling.

Public-supply withdrawals were 9 percent of total freshwater withdrawals and 47 percent of total withdrawals for all sectors excluding thermoelectric power. Surface-water sources provided 64 percent of the water, and groundwater provided the remaining 36 percent. Public supply accounted for 55 percent of the total groundwater withdrawals in the State. Public-supply deliveries to residential customers were 42 percent of total public-supply withdrawals, or about 321 MGD; combined industrial and commercial deliveries were 38 percent, or about 288 MGD; and public use and losses accounted for the remaining 20 percent, or about 153 MGD. Madison, Mobile, Jefferson, Blount, and Walker Counties accounted for about 37 percent of public-supply withdrawals and 34 percent of the population served.

Total industrial water use was 783 MGD in 2015. Self-supplied industrial withdrawals were 6 percent of total withdrawals (562 MGD) and 31 percent of total withdrawals excluding thermoelectric power. Surface water was the source for 93 percent of the self-supplied industrial water withdrawals. Statewide, combined public-supplied industrial and commercial deliveries were 288 MGD. Pulp, paper and paperboard mills accounted for the largest self-supplied industrial water withdrawals (295 MGD). The largest withdrawals occurred in Morgan, Monroe, and Choctaw Counties with withdrawals that were more than 40 MGD for each county. Withdrawals in these counties were 37 percent of the total self-supplied industrial withdrawals.

Irrigation withdrawals were about 3 percent of total withdrawals and about 14 percent of total withdrawals for all sectors excluding thermoelectric power. More than half of the water, 56 percent, was from surface water. Baldwin County withdrew 26 percent (58 MGD) of the irrigation water, primarily for nursery stock and sod. Most of that water (47 MGD) was from groundwater. About 188,970 acres of crops (food and feed crops, nursery stock and sod) and golf courses were irrigated in 2015. Nursery stock and sod accounted for 15 percent of the irrigated crop acreage (25,409 of the 166,638 acres) statewide. Golf courses applied about 43 MGD to 22,300 acres in 2015. The statewide average application rate was 1.32 acre-feet per acre per year. The highest application rate, 5.29 acre-feet per acre per year, was for nursery stock.

Aquaculture withdrawals were less than 1 percent (49 MGD) of the total freshwater withdrawals and were about 3 percent of the total freshwater withdrawals excluding thermoelectric power. Groundwater provided more than half (55 percent) of the water used. All aquaculture withdrawals were considered fresh in 2015, although some ponds were filled with low-to-high salinity groundwater.

Self-supplied residential withdrawals also were less than 1 percent (37 MGD) of total water withdrawals, but about 2 percent of total water withdrawals for all sectors excluding thermoelectric power. All of the water withdrawn for self-supplied residential purposes was from groundwater. The largest self-supplied residential withdrawals were in Baldwin and Mobile Counties. These two counties represented about 13 percent of the total self-supplied residential withdrawals in Alabama and 12 percent of the self-supplied residential population.

Livestock withdrawals were less than 1 percent (26 MGD) of the total freshwater withdrawals and were approximately 2 percent of the total freshwater withdrawals excluding thermoelectric power. Surface water was the source for more than half (56 percent) of the water used.

Similarly, mining withdrawals were less than 1 percent of total water withdrawals (22 MGD) and about 1 percent of total water withdrawals for all sectors excluding thermoelectric power. Groundwater was the source of about 73 percent of mining withdrawals. All mining withdrawals were considered freshwater in 2010, although some low-salinity groundwater has been tapped in parts of the State.

Water withdrawals were compiled by hydrologic subbasin for all sectors. The Middle Tennessee–Elk subregion accounted for approximately 55 percent (4,520 MGD) of the estimated total withdrawals by subregion. About 92 percent of that water use was for thermoelectric power, all from surface water. Excluding thermoelectric power, the Middle Tennessee–Elk subregion accounted for 22 percent of the water withdrawals statewide. About 51 percent of the nonpower withdrawals in the Middle Tennessee–Elk subbasin were for public-supply withdrawals.

Total water withdrawals decreased 18 percent from 2010 to 2015 (from 9,998 MGD to 8,239 MGD, respectively). Surface-water withdrawals were about 19 percent less in 2015 than in 2010 (9,511 MGD to 7,743 MGD, respectively). Groundwater withdrawals increased about 2 percent from 2010 to 2015 (from 487 MGD to 496 MGD, respectively). By sector, withdrawals for:

- Public supply decreased 9 percent from 833 MGD in 2010 to 762 MGD in 2015;
- Self-supplied residential decreased about 1 percent from 38 MGD in 2015 to 37 MGD in 2015;
- Irrigation increased about 11 percent from 202 MGD in 2010 to 223 MGD in 2015. Over the same period, total irrigated acreage increased about 10 percent from 169,240 acres in 2010 to 188,970 acres in 2015;
- Aquaculture decreased 16 percent from 59 MGD in 2010 to 49 MGD in 2015;
- Livestock decreased 1 percent from 26.5 MGD in 2010 to 26.2 MGD in 2015;
- Self- supplied industrial decreased 12 percent from 562 MGD in 2010 to 495 MGD in 2015;
- Mining increased 7 percent from 21 MGD in 2010 to 22 MGD in 2015; and
- Thermoelectric power decreased 20 percent from 8,257 MGD in 2010 to 6,624 MGD in 2015.

Data Compilation, Sources of Information, and Methodology for Returns

Another part of the OWR's water assessment effort was to develop water return estimates for each county and subbasin. For the purposes of this report, it was assumed that all agriculture water withdrawals were completely consumptive and that no returns occurred. Several factors were considered in the assumption that this water use sector was 100 percent consumptive. These included: the cost and inefficiency of over irrigation, the variation of the return based on crop type and soil conditions, the inability to quantify the amount of returning water, and the fact there is a significant lag time from the application of water until the seepage of any water drains down to a groundwater source where it can be reused.

2015 Water Returns

For 2015, a total of 484 NPDES permitted discharge sites were compiled for the public supply sector, 211 NPDES permitted discharge sites were compiled for the industrial and mining sector, and 21 NPDES permitted discharge sites were compiled for the thermoelectric power sector. The NPDES data was compiled from EPA's DMR Pollutant Loading Tool website, OWR's eWater data management application, and ADEM's online eFile system. Monthly and annual water return estimates were summarized for each county and subbasin for the three subsectors for 2015.

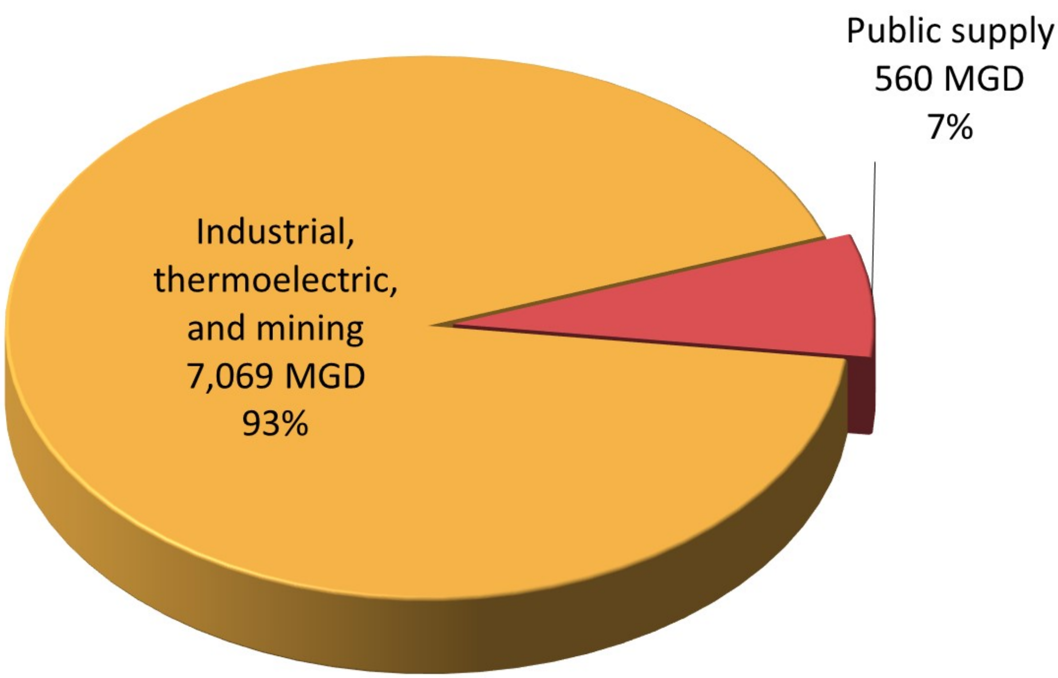
Some monthly return data values were not available and had to be estimated. The annual average was used as a replacement for any missing months for a given permit. Due to lack of the overall availability of mining water returns, only limited mining process return data was included in the industrial, thermoelectric, and mining return dataset.

Water Returns

2015 Total Returns

Total Alabama statewide returns for 2015 were determined from returns for two major sectors; the industrial, thermoelectric-power, and mining sector and the public supply sector. Total returns were estimated to be 7,629 MGD for 2015. Estimates of returns by sector indicate that the industrial, thermoelectric, and mining sector accounted for approximately 96 percent (7,069 MGD) of the total returns for 2015, with the public supply sector accounting for the remaining 7 percent (560 MGD; figure 61). Monthly total returns by county and hydrologic subbasin are listed in tables 74 and 75.

Figure 61. Total returns by sector in Alabama in 2015, in MGD.



The geographic distribution of total returns by county and hydrologic subbasin are shown monthly in tables 74 and 75. The counties with the largest total returns are Limestone (2,847 MGD), Colbert (1,001 MGD), Mobile (757 MGD), and Walker (630 MGD) Counties (figure 62). The subbasins with the largest total returns are the Wheeler Lake (06030002; 3,012 MGD), the Pickwick Lake (06030005; 1,015 MGD), the Mobile-Tensaw (03160204; 752 MGD), and the Mulberry Fork (03160109; 638 MGD) subbasins (figure 63).

Figure 62. Map of total returns by county in Alabama in 2015, in MGD.

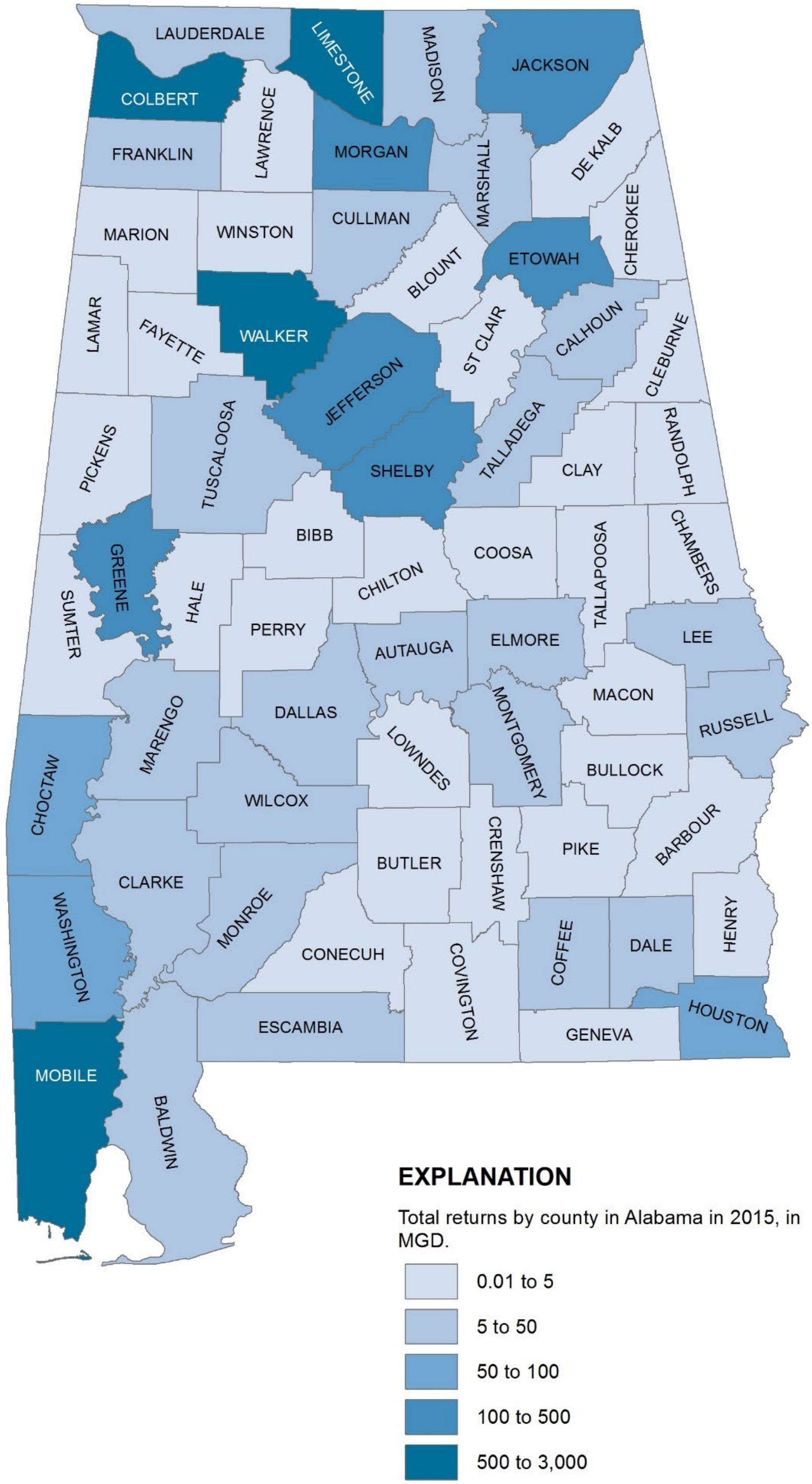


Figure 63. Map of total returns by subbasin in Alabama in 2015, in MGD.

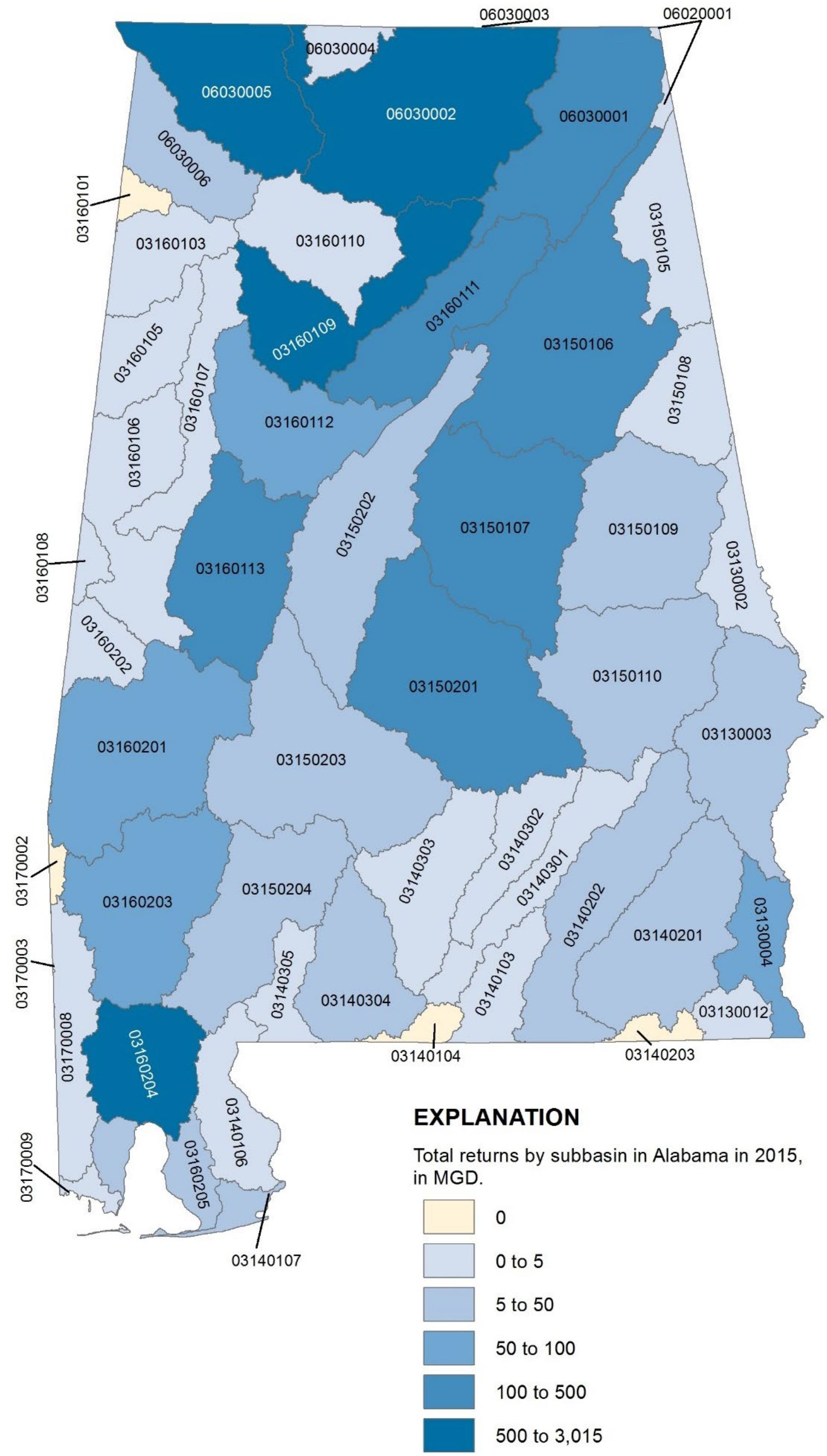


Table 74. Total returns by county in Alabama in 2015, in MGD.

County Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg
AUTAUGA	45.06	35.45	36.06	38.92	29.82	33.04	35.68	31.87	25.69	29.96	39.97	40.38	35.16
BALDWIN	12.59	11.34	13.88	16.18	13.16	13.92	14.01	12.45	12.27	12.23	13.13	13.39	13.21
BARBOUR	3.41	3.42	3.48	3.89	3.34	3.41	3.11	3.28	3.46	3.00	4.03	4.80	3.55
BIBB	1.35	0.90	1.26	1.33	0.87	0.84	0.84	0.69	0.60	0.55	0.94	0.99	0.93
BLOUNT	3.87	3.27	4.03	4.46	2.43	2.20	2.12	2.01	1.90	2.00	2.71	3.76	2.90
BULLOCK	1.08	1.10	1.19	1.49	1.24	1.28	1.29	1.25	1.15	1.28	1.37	1.64	1.28
BUTLER	1.89	1.62	1.83	2.05	1.65	1.46	1.39	1.34	1.34	1.35	1.56	2.24	1.64
CALHOUN	22.08	20.35	21.55	29.84	14.42	11.75	10.75	10.13	9.32	9.49	18.65	23.00	16.78
CHAMBERS	3.38	3.89	3.55	4.08	2.97	3.03	3.21	3.39	3.37	2.85	5.12	6.78	3.80
CHEROKEE	0.73	0.60	0.82	1.41	0.69	0.58	0.53	0.56	0.48	0.57	0.75	1.06	0.73
CHILTON	2.94	2.51	2.81	2.92	2.20	2.14	1.85	1.76	1.60	1.65	2.04	2.85	2.27
CHOCTAW	51.85	49.93	51.66	48.44	51.47	41.98	53.19	59.43	49.42	47.61	50.77	55.64	50.95
CLARKE	24.31	20.81	24.14	22.07	22.34	21.93	20.78	20.35	20.70	17.35	18.89	21.77	21.29
CLAY	1.02	1.03	0.98	1.14	0.98	0.95	0.93	0.88	0.88	0.92	1.02	1.22	1.00
CLEBURNE	0.39	0.36	0.37	0.51	0.31	0.26	0.25	0.29	0.25	0.26	0.42	0.50	0.35
COFFEE	4.39	5.09	4.78	6.23	6.06	5.90	5.23	5.06	5.23	4.78	5.83	5.97	5.38
COLBERT	1,101.41	1,082.83	912.32	949.89	1,117.48	992.68	1,117.89	1,120.32	1,017.04	981.28	765.76	847.96	1,000.57
CONECUH	0.87	0.71	0.62	1.27	0.59	0.58	0.36	0.38	0.54	0.41	0.75	0.98	0.67
COOSA	0.18	0.19	0.21	0.21	0.20	0.02	0.07	0.07	0.01	0.10	0.07	0.17	0.13
COVINGTON	3.26	3.13	3.24	3.96	2.66	2.23	2.14	2.25	2.00	2.60	5.23	4.30	3.08
CRENSHAW	0.53	0.76	0.50	0.65	0.40	0.32	0.31	0.30	0.31	0.29	0.46	0.52	0.45
CULLMAN	11.67	9.43	14.53	13.76	6.55	5.62	5.70	6.33	4.49	4.50	8.48	13.01	8.67
DALE	9.83	8.99	8.60	11.76	8.97	8.75	8.03	6.94	7.36	7.16	16.17	14.31	9.74
DALLAS	39.43	37.70	37.10	38.20	29.76	26.66	33.21	27.37	29.57	28.71	27.26	30.08	32.09
DEKALB	4.61	4.36	5.36	5.85	3.79	3.34	3.58	4.56	3.72	3.70	4.56	6.73	4.51
ELMORE	6.65	6.09	6.43	6.53	7.08	6.11	5.94	6.06	5.61	5.52	6.01	7.79	6.32
ESCAMBIA	46.94	35.52	41.63	39.49	37.13	37.11	37.57	36.47	37.43	36.18	30.96	44.46	38.41
ETOWAH	120.56	159.18	150.67	124.92	128.68	130.24	111.99	116.31	126.11	119.60	117.68	129.54	127.96
FAYETTE	1.90	1.96	3.00	3.12	1.73	1.10	1.10	1.01	0.91	1.00	1.91	2.55	1.77
FRANKLIN	7.18	5.97	8.07	7.51	5.66	5.33	4.16	3.40	3.18	3.34	4.46	8.15	5.53
GENEVA	1.45	1.18	1.06	1.43	1.81	1.81	1.71	1.08	1.79	1.47	2.52	2.12	1.62
GREENE	344.44	373.26	156.12	388.70	407.30	407.64	405.93	390.87	405.95	411.50	318.62	414.65	368.75
HALE	1.67	0.53	1.71	0.78	0.27	0.82	0.17	0.11	0.14	1.60	3.16	1.75	1.06
HENRY	1.04	1.10	1.07	1.26	0.97	0.95	0.93	0.94	0.96	0.89	1.33	1.36	1.07

Table 74. Total returns by county in Alabama in 2015, in MGD – Continued.

County Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg
HOUSTON	80.59	73.07	82.45	74.67	85.96	82.17	84.30	83.91	82.85	88.04	98.07	84.94	83.42
JACKSON	461.40	459.80	462.27	496.53	517.53	494.72	495.70	495.26	465.86	10.93	12.56	18.41	365.92
JEFFERSON	248.16	219.73	262.49	290.99	158.98	156.66	173.29	165.33	145.30	133.23	164.01	245.73	196.99
LAMAR	4.65	2.32	3.15	3.42	4.51	1.91	0.77	0.88	0.53	0.61	0.92	1.23	2.07
LAUDERDALE	9.80	10.17	21.85	21.57	8.60	16.61	8.24	8.16	6.85	7.19	14.64	22.97	13.06
LAWRENCE	2.78	2.20	3.41	2.77	1.81	1.01	1.00	1.21	0.92	0.91	3.28	3.16	2.04
LEE	9.68	10.29	11.00	11.63	8.99	8.69	8.48	8.60	8.72	8.50	10.45	13.87	9.91
LIMESTONE	2,903.57	2,902.39	2,439.31	2,626.42	2,801.06	2,899.18	2,899.04	2,899.03	2,897.78	2,848.01	2,994.35	3,055.28	2,847.12
LOWNDES	3.26	2.75	2.65	2.94	3.69	3.63	2.98	2.80	2.72	2.68	2.97	3.10	3.01
MACON	1.89	2.51	3.15	2.19	4.21	2.12	1.85	1.24	1.17	1.10	2.71	3.12	2.27
MADISON	52.15	48.21	77.22	64.24	44.79	39.39	41.76	42.04	34.81	31.48	43.13	71.53	49.23
MARENGO	22.86	22.18	17.82	25.19	19.92	19.02	26.79	19.55	19.97	20.83	22.58	28.90	22.13
MARION	2.41	2.03	2.84	2.74	1.86	1.64	1.89	1.73	1.30	1.28	1.79	2.61	2.01
MARSHALL	17.53	15.01	18.69	18.71	12.08	10.99	11.30	12.58	11.07	10.70	12.90	20.98	14.38
MOBILE	384.74	616.79	876.03	857.70	709.69	805.65	782.31	838.42	967.05	771.47	728.12	750.69	757.39
MONROE	47.63	44.42	48.48	33.86	44.58	48.93	47.81	50.80	42.59	48.00	50.27	50.94	46.53
MONTGOMERY	37.14	39.19	38.22	37.27	34.19	37.83	32.18	31.85	30.39	30.30	34.99	47.85	35.95
MORGAN	105.05	104.45	121.96	125.20	82.40	102.63	136.59	130.67	125.73	111.15	110.54	123.83	115.02
PERRY	0.99	0.90	0.93	0.84	0.76	0.73	0.50	0.57	0.49	0.62	0.75	1.02	0.76
PICKENS	1.25	1.18	1.60	1.81	0.98	0.67	0.83	0.59	0.82	0.63	1.66	1.91	1.16
PIKE	3.78	3.85	3.79	4.19	3.53	3.45	3.52	3.64	3.36	3.38	4.10	4.13	3.73
RANDOLPH	0.86	0.99	0.84	0.37	0.79	0.63	0.57	0.54	0.51	0.47	0.64	0.69	0.66
RUSSELL	20.76	26.19	17.23	33.51	19.01	18.61	26.27	18.84	21.29	23.00	25.41	32.93	23.59
SHELBY	562.29	611.90	514.56	335.71	542.14	647.68	680.81	597.94	494.95	174.68	245.45	291.99	475.01
ST CLAIR	4.35	4.12	4.98	5.91	3.01	2.49	2.60	3.04	2.94	2.79	4.43	5.01	3.81
SUMTER	3.60	4.70	4.80	4.81	1.40	1.34	0.84	0.54	0.71	1.03	4.24	5.34	2.78
TALLADEGA	53.05	46.87	44.62	43.38	40.93	35.94	45.08	41.26	55.74	45.55	51.98	53.52	46.49
TALLAPOOSA	3.56	3.71	4.04	4.19	3.23	2.86	2.47	2.36	2.53	1.93	2.54	4.48	3.16
TUSCALOOSA	30.84	29.16	27.94	32.01	23.14	22.92	22.80	23.91	23.03	20.83	23.04	26.09	25.48
WALKER	456.08	649.06	583.36	556.04	753.17	753.91	754.87	757.85	741.85	559.63	287.99	701.87	629.64
WASHINGTON	54.66	55.14	22.60	54.40	55.36	56.35	55.79	55.71	55.36	34.77	57.98	42.21	50.03
WILCOX	19.16	24.14	19.64	23.34	19.68	17.40	18.00	17.73	21.00	18.95	23.15	19.96	20.18
WINSTON	0.14	0.70	0.11	0.19	0.08	0.07	0.08	0.18	0.08	0.25	0.71	0.09	0.22
TOTAL	**7,494.62**	**7,934.69**	**7,268.65**	**7,582.95**	**7,926.98**	**8,073.79**	**8,267.21**	**8,198.25**	**8,055.04**	**6,760.62**	**6,524.88**	**7,456.80**	**7,628.71**

Table 75. Total returns by hydrologic subregion and subbasin in Alabama in 2015, in MGD.

Hydrologic subregion and subbasin	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	AVG
Apalachicola													
03130002	4.16	4.68	4.70	5.35	3.92	4.12	4.02	4.05	4.10	3.66	6.17	8.01	4.74
03130003	22.51	27.95	18.83	35.61	20.71	20.32	27.75	20.30	22.92	24.53	27.61	35.70	25.39
03130004	78.82	71.85	81.30	72.69	84.45	80.83	82.82	83.00	81.74	86.80	94.98	82.66	81.83
03130012	2.36	1.87	1.73	2.75	2.02	1.78	1.95	1.38	1.59	1.62	3.93	3.17	2.18
Subtotal	*107.84*	*106.35*	*106.56*	*116.39*	*111.10*	*107.05*	*116.53*	*108.73*	*110.35*	*116.61*	*132.69*	*129.55*	*114.15*
Chocawhatchee-Escambia													
03140103	1.51	1.41	1.51	1.74	0.90	0.71	0.82	1.03	0.83	1.24	2.69	1.76	1.35
03140104	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03140106	3.17	2.40	3.86	5.47	3.13	2.25	2.04	1.82	1.80	2.01	3.68	4.30	2.99
03140107	4.90	4.03	4.71	5.46	5.17	6.57	7.28	5.57	4.90	4.60	4.21	3.93	5.11
03140201	15.30	14.92	14.34	18.94	16.14	15.71	14.10	12.78	13.37	12.49	22.95	21.00	16.00
03140202	6.52	6.56	6.53	7.22	6.52	6.57	6.65	6.39	6.85	6.52	8.58	8.54	6.95
03140203	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03140301	1.74	1.92	1.61	2.25	1.66	1.38	1.21	1.13	1.01	1.12	1.98	2.10	1.59
03140302	0.30	0.29	0.34	0.33	0.30	0.30	0.26	0.24	0.27	0.29	0.41	0.45	0.31
03140303	1.99	1.68	1.95	2.14	1.71	1.53	1.43	1.34	1.34	1.42	1.62	2.29	1.70
03140304	45.23	34.23	39.60	37.35	35.44	35.91	36.24	35.44	36.57	34.94	28.85	42.36	36.85
03140305	1.10	0.90	0.95	1.09	0.72	0.81	0.92	0.76	0.74	0.85	1.25	1.27	0.95
Subtotal	*81.73*	*68.33*	*75.40*	*81.99*	*71.69*	*71.75*	*70.93*	*66.48*	*67.69*	*65.47*	*76.21*	*87.99*	*73.81*
Alabama													
03150105	2.11	1.69	2.71	3.77	1.64	1.23	1.02	1.28	0.87	1.15	2.35	2.32	1.84
03150106	183.45	213.43	208.37	191.00	175.40	169.45	160.61	161.52	186.70	168.38	179.96	199.31	183.13
03150107	569.28	621.18	519.46	336.01	548.24	654.40	686.02	602.99	499.41	180.16	251.42	296.15	480.39
03150108	0.51	0.48	0.49	0.66	0.59	0.30	0.32	0.35	0.30	0.30	0.56	0.63	0.46
03150109	6.04	6.31	6.37	6.25	5.43	5.10	4.60	4.42	4.56	4.00	4.88	7.21	5.43
03150110	12.99	13.92	15.03	14.82	14.46	12.36	11.57	11.01	10.66	10.40	14.08	18.54	13.32
03150201	127.60	117.74	116.86	120.23	100.98	103.50	106.71	96.85	91.17	94.54	107.85	124.59	109.05
03150202	31.98	29.19	33.91	43.60	24.26	21.33	22.46	22.54	21.18	18.78	26.90	34.21	27.53
03150203	19.16	24.14	19.64	23.36	19.69	17.40	18.00	17.73	21.00	18.95	23.15	20.07	20.19
03150204	47.63	44.42	48.48	33.86	44.58	48.93	47.81	50.80	42.59	48.00	50.27	50.94	46.53
Subtotal	*1,000.74*	*1,072.51*	*971.32*	*773.56*	*935.27*	*1,034.00*	*1,059.11*	*969.49*	*878.45*	*544.66*	*661.42*	*753.97*	*887.88*
Mobile-Tombigbee													
03160101	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table 75. Total returns by hydrologic subregion and subbasin in Alabama in 2015, in MGD – Continued.

Hydrologic subregion and subbasin	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	AVG
03160103	1.77	1.90	2.87	2.49	1.61	1.47	1.70	1.45	1.14	1.09	1.61	2.32	1.78
03160105	5.16	2.30	2.96	3.51	4.58	1.97	0.75	0.95	0.52	0.66	0.96	1.41	2.14
03160106	1.25	1.20	1.62	1.82	0.98	0.68	0.84	0.61	0.82	0.64	1.67	1.92	1.17
03160107	1.55	1.64	2.58	2.74	1.67	1.14	1.14	1.05	0.94	1.04	1.75	2.25	1.62
03160108	1.81	2.73	2.38	2.80	0.00	0.00	0.00	0.00	0.00	0.00	2.33	3.34	1.28
03160109	467.71	658.40	597.89	569.93	759.70	759.44	760.39	764.01	746.21	563.98	296.22	714.85	638.23
03160110	0.54	1.00	0.42	0.51	0.23	0.20	0.26	0.36	0.22	0.40	0.96	0.47	0.46
03160111	123.13	110.61	145.13	160.97	100.59	84.15	93.30	92.87	90.10	86.82	104.74	162.51	112.91
03160112	142.68	125.18	130.76	140.56	69.09	83.88	90.30	83.80	66.76	58.49	69.25	95.82	96.38
03160113	354.22	380.38	164.48	398.06	413.40	414.09	411.74	396.91	410.27	417.38	327.29	422.72	375.91
03160201	74.71	72.11	69.48	73.63	71.38	61.00	79.98	78.98	69.39	68.44	73.35	84.54	73.08
03160202	1.78	1.96	2.40	2.01	1.40	1.32	0.83	0.52	0.70	1.02	1.90	1.99	1.49
03160203	82.19	78.52	46.87	78.84	79.63	79.77	78.19	78.02	78.50	60.41	81.24	67.64	74.15
03160204	378.01	613.19	874.33	854.20	705.95	802.10	778.72	834.04	962.05	758.48	718.68	744.07	751.99
03160205	7.88	5.44	6.62	6.39	6.38	6.12	4.85	5.57	6.31	8.57	8.91	7.03	6.67
Subtotal	*1,644.39*	*2,056.56*	*2,050.77*	*2,298.45*	*2,216.59*	*2,297.32*	*2,302.98*	*2,339.12*	*2,433.94*	*2,027.44*	*1,690.86*	*2,312.88*	*2,139.27*
Pascagoula													
03170002	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03170003	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03170008	0.27	0.20	0.28	0.26	0.25	0.18	0.18	0.30	0.31	0.33	0.43	0.52	0.29
03170009	1.37	1.40	1.67	2.05	1.59	1.82	2.41	2.29	2.17	2.22	2.57	2.37	1.99
Subtotal	*1.63*	*1.60*	*1.95*	*2.31*	*1.84*	*2.00*	*2.59*	*2.58*	*2.48*	*2.55*	*3.01*	*2.89*	*2.29*
Middle Tennessee-Hiwassee													
06020001	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*
Middle Tennessee-Elk													
06030001	476.19	472.98	478.31	512.48	528.41	504.73	506.18	506.81	475.62	20.40	24.40	36.50	378.59
06030002	3,062.20	3,055.99	2,639.81	2,816.69	2,929.15	3,041.64	3,077.79	3,072.40	3,058.84	2,991.06	3,149.96	3,251.71	3,012.27
06030003	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06030004	0.09	0.09	0.21	0.10	0.08	0.08	0.07	0.07	0.05	0.06	0.09	0.15	0.09
06030005	1,112.53	1,094.22	936.14	973.36	1,127.05	1,009.82	1,126.70	1,128.99	1,024.29	988.93	781.69	872.95	1,014.72
06030006	7.27	6.06	8.18	7.61	5.80	5.40	4.33	3.57	3.31	3.44	4.54	8.21	5.64
Subtotal	*4,658.28*	*4,629.34*	*4,062.64*	*4,310.25*	*4,590.48*	*4,561.67*	*4,715.06*	*4,711.84*	*4,562.12*	*4,003.89*	*3,960.69*	*4,169.53*	*4,411.32*
Total	**7,494.62**	**7,934.69**	**7,268.65**	**7,582.95**	**7,926.98**	**8,073.79**	**8,267.21**	**8,198.25**	**8,055.04**	**6,760.62**	**6,524.88**	**7,456.80**	**7,628.71**

Public-Supply Returns

Public-supply returns for 2015 were estimated to be 560 MGD. Estimates of returns by sector indicate that public supply accounted for 7 percent of the total returns for 2015. Public - supply returns are shown monthly by county and hydrologic subbasin in tables 76 and 77. The geographic distribution of public-supply returns by county and hydrologic subbasin is shown in figures 64 and 65. The counties with the largest public supply returns are Jefferson (151 MGD), Madison (47 MGD), and Mobile (44 MGD) Counties (figure 64). The subbasins with the largest total returns are the Locust Fork (03160111; 96 MGD), the Wheeler Lake (06030002; 82 MGD), the Upper Black Warrior (03160112; 65 MGD), the Mobile-Tensaw (03160204; 44 MGD) and the Middle Coosa (03150106; 43 MGD) subbasins (figure 65).

Figure 64. Map of public-supply returns by county in Alabama in 2015, in MGD.

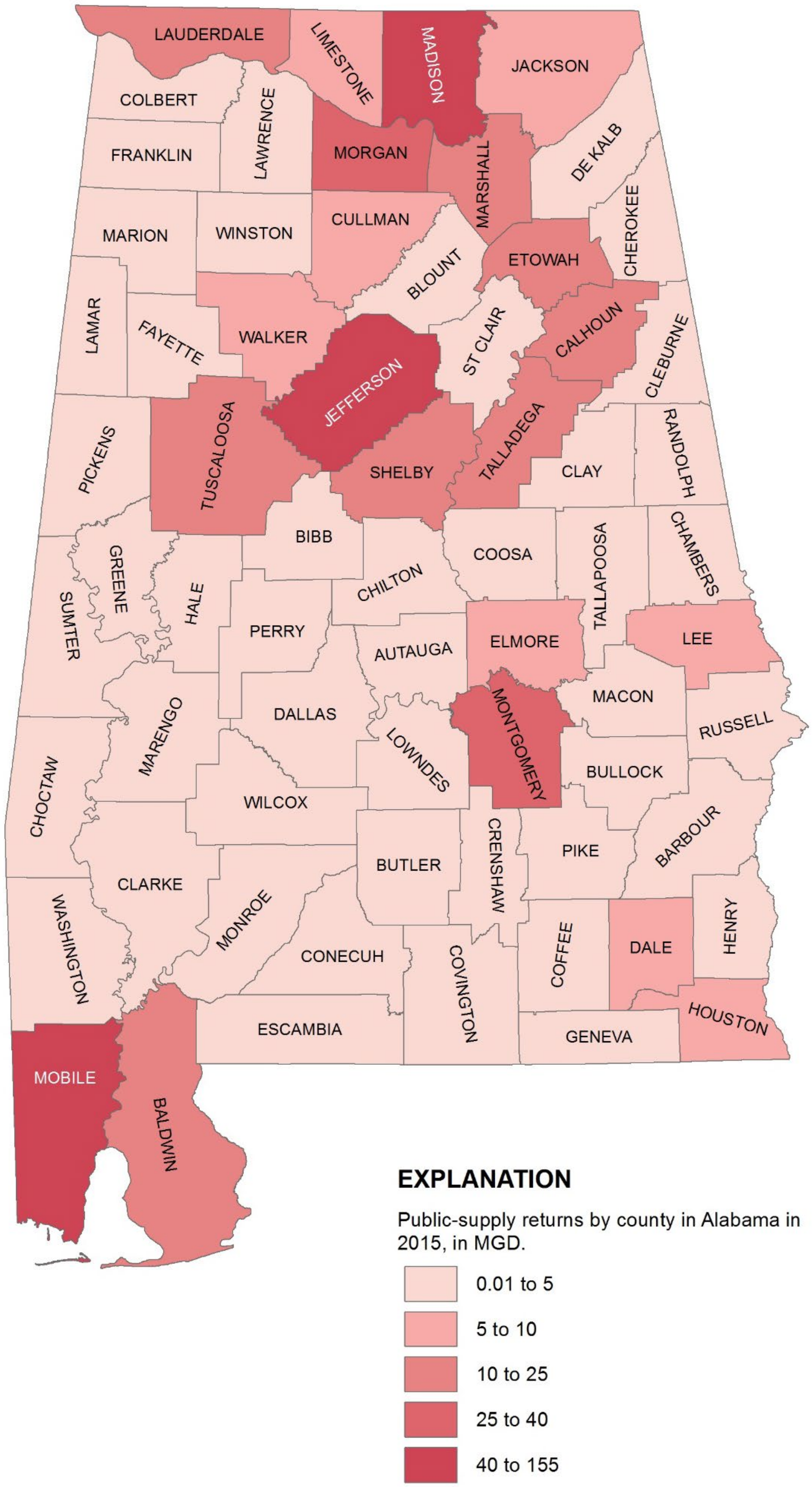


Figure 65. Map of public-supply returns by subbasin in Alabama in 2015, in MGD.

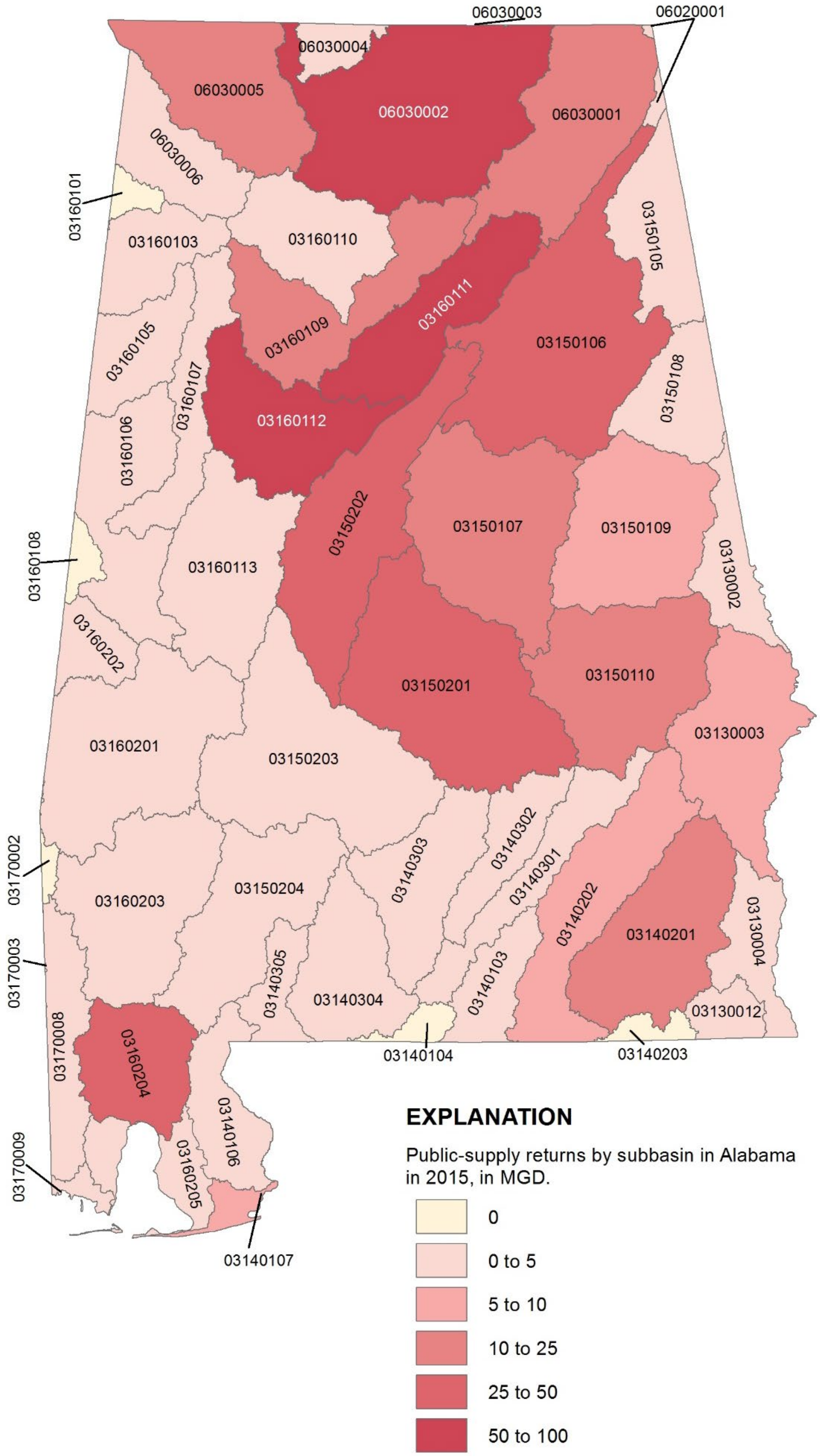


Table 76. Public-supply returns by county in Alabama in 2015, in MGD.

County Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg
AUTAUGA	1.62	1.61	1.65	1.67	1.53	1.83	1.62	1.29	1.16	1.08	1.54	1.83	1.53
BALDWIN	12.37	11.27	13.80	16.10	12.93	13.58	13.65	12.13	11.93	11.89	12.94	13.16	12.98
BARBOUR	2.12	2.11	2.00	2.57	2.16	2.22	2.04	2.04	2.12	1.98	2.74	3.43	2.29
BIBB	1.35	0.90	1.26	1.33	0.87	0.84	0.84	0.69	0.60	0.55	0.94	0.99	0.93
BLOUNT	2.54	1.86	2.56	2.94	1.23	0.87	0.83	1.09	0.90	0.81	1.18	2.17	1.58
BULLOCK	1.08	1.10	1.19	1.49	1.24	1.28	1.29	1.25	1.15	1.28	1.37	1.64	1.28
BUTLER	1.87	1.59	1.81	2.02	1.63	1.43	1.37	1.31	1.32	1.33	1.53	2.21	1.62
CALHOUN	20.55	18.93	20.03	28.11	13.09	10.33	9.30	8.71	7.92	8.27	17.12	21.44	15.32
CHAMBERS	3.38	3.89	3.55	4.08	2.97	3.03	3.21	3.39	3.37	2.85	5.12	6.78	3.80
CHEROKEE	0.73	0.60	0.82	1.41	0.69	0.58	0.53	0.56	0.48	0.57	0.75	1.06	0.73
CHILTON	2.77	2.32	2.74	2.76	2.05	1.97	1.74	1.56	1.51	1.59	1.93	2.70	2.14
CHOCTAW	0.25	0.23	0.36	0.34	0.07	0.18	0.19	0.03	0.02	0.11	0.27	0.34	0.20
CLARKE	1.51	1.41	2.04	0.67	0.74	1.63	1.58	1.15	0.50	0.65	1.79	1.97	1.30
CLAY	1.02	1.03	0.98	1.14	0.98	0.95	0.93	0.88	0.88	0.92	1.02	1.22	1.00
CLEBURNE	0.39	0.36	0.37	0.51	0.31	0.26	0.25	0.29	0.25	0.26	0.42	0.50	0.35
COFFEE	2.77	2.83	3.11	4.38	3.62	3.49	2.86	2.60	2.66	2.45	3.88	4.16	3.23
COLBERT	5.31	4.46	5.39	5.44	4.65	4.24	4.30	4.61	3.68	3.71	3.67	6.76	4.68
CONECUH	0.87	0.71	0.62	1.27	0.59	0.54	0.36	0.38	0.54	0.41	0.73	0.98	0.67
COOSA	0.18	0.19	0.21	0.21	0.20	0.02	0.07	0.07	0.01	0.10	0.07	0.17	0.13
COVINGTON	3.12	3.02	3.15	3.88	2.56	2.08	1.97	2.09	1.86	2.47	5.12	4.19	2.96
CRENSHAW	0.53	0.76	0.50	0.65	0.40	0.32	0.31	0.30	0.31	0.29	0.46	0.52	0.45
CULLMAN	10.79	8.63	12.72	12.71	5.85	4.93	5.00	5.58	3.82	3.77	7.72	12.20	7.81
DALE	9.83	8.99	8.60	11.76	8.97	8.75	8.03	6.94	7.36	7.16	16.17	14.31	9.74
DALLAS	4.40	3.66	4.25	5.25	4.42	4.18	3.16	2.85	2.49	2.37	3.02	4.35	3.70
DEKALB	3.52	3.41	4.42	4.78	2.71	2.37	2.42	3.17	2.48	2.73	3.53	5.62	3.43
ELMORE	6.62	6.07	6.36	6.50	7.04	6.08	5.94	6.06	5.61	5.52	6.01	7.79	6.30
ESCAMBIA	4.20	3.80	3.90	4.65	3.51	3.09	3.34	2.53	2.30	2.76	4.18	4.42	3.56
ETOWAH	15.95	15.67	21.89	21.94	10.95	13.42	9.79	10.65	8.55	9.04	15.26	22.47	14.63
FAYETTE	1.90	1.96	3.00	3.12	1.73	1.10	1.10	1.01	0.91	1.00	1.91	2.55	1.77
FRANKLIN	5.83	4.88	6.23	5.60	4.42	3.52	2.93	2.36	1.98	2.13	3.37	6.96	4.18
GENEVA	1.45	1.18	1.06	1.43	1.81	1.81	1.71	1.08	1.79	1.47	2.52	2.12	1.62
GREENE	0.24	0.19	0.20	0.15	0.11	0.23	0.11	0.03	0.08	0.13	0.90	1.66	0.34
HALE	1.66	0.30	1.71	0.77	0.27	0.78	0.13	0.08	0.06	1.59	3.15	1.72	1.02
HENRY	0.66	0.73	0.65	0.84	0.60	0.52	0.54	0.55	0.57	0.47	0.92	0.97	0.67

Table 76. Public-supply returns by county in Alabama in 2015, in MGD – Continued.

County Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg
HOUSTON	5.94	4.89	4.85	7.24	5.58	5.28	5.24	4.12	4.52	4.54	10.58	8.69	5.96
JACKSON	8.60	7.62	9.84	8.86	5.62	5.45	5.33	5.29	4.05	4.18	5.64	10.70	6.76
JEFFERSON	194.75	160.11	197.82	243.46	123.79	105.83	120.60	114.85	103.81	99.34	134.76	210.74	150.82
LAMAR	4.19	1.84	2.28	3.08	4.30	1.88	0.61	0.70	0.50	0.42	0.65	0.84	1.77
LAUDERDALE	9.80	10.17	21.85	21.57	8.60	16.61	8.24	8.16	6.85	7.19	14.64	22.97	13.06
LAWRENCE	2.78	2.20	3.41	2.77	1.81	1.01	1.00	1.21	0.92	0.91	3.28	3.16	2.04
LEE	9.68	10.29	11.00	11.63	8.99	8.69	8.48	8.60	8.72	8.50	10.45	13.87	9.91
LIMESTONE	9.26	8.09	11.81	9.12	6.05	4.87	4.73	4.72	3.47	3.40	5.44	11.68	6.89
LOWNDES	0.13	0.06	0.16	0.11	1.06	0.48	0.04	0.02	0.03	0.08	0.07	0.07	0.19
MACON	1.89	2.51	3.15	2.19	4.21	2.12	1.85	1.24	1.17	1.10	2.71	3.12	2.27
MADISON	50.56	46.96	62.56	63.03	43.81	38.27	40.36	41.10	33.46	30.37	41.92	68.72	46.76
MARENGO	3.36	3.58	3.52	4.39	1.42	1.32	7.39	1.15	1.17	1.13	2.58	9.70	3.39
MARION	2.41	2.03	2.84	2.74	1.86	1.64	1.89	1.73	1.30	1.28	1.79	2.61	2.01
MARSHALL	17.29	14.77	18.45	18.47	11.83	10.75	11.06	12.34	10.82	10.46	12.66	20.74	14.14
MOBILE	43.39	38.12	49.91	59.86	55.19	47.72	30.70	35.49	33.48	39.53	38.15	52.91	43.70
MONROE	0.67	0.63	0.76	0.90	0.85	1.01	0.77	0.78	0.75	0.70	0.66	1.11	0.80
MONTGOMERY	28.07	31.58	28.46	32.36	27.23	27.92	27.88	27.15	26.19	25.52	30.94	42.97	29.69
MORGAN	33.55	26.80	38.08	37.43	26.70	25.90	22.02	20.80	17.97	16.78	25.36	36.54	27.33
PERRY	0.99	0.90	0.93	0.84	0.76	0.73	0.50	0.57	0.49	0.62	0.75	1.02	0.76
PICKENS	0.95	1.07	1.29	1.61	0.86	0.64	0.74	0.55	0.72	0.54	1.42	1.54	0.99
PIKE	3.78	3.85	3.79	4.19	3.53	3.45	3.52	3.64	3.36	3.38	4.10	4.13	3.73
RANDOLPH	0.86	0.99	0.84	0.37	0.79	0.63	0.57	0.54	0.51	0.47	0.64	0.69	0.66
RUSSELL	3.64	3.82	3.85	5.11	3.38	3.21	3.00	3.67	2.79	2.37	4.55	6.16	3.79
SHELBY	18.82	16.56	18.01	21.96	13.49	11.60	12.13	12.09	10.47	10.36	14.63	19.23	14.95
ST CLAIR	4.24	4.00	4.85	5.78	2.88	2.38	2.47	2.93	2.82	2.69	4.29	4.86	3.68
SUMTER	1.70	1.85	2.39	1.89	1.28	1.22	0.73	0.43	0.60	0.93	1.78	1.86	1.39
TALLADEGA	18.20	13.35	16.18	18.49	11.39	10.53	9.04	8.35	7.58	7.31	13.92	16.25	12.55
TALLAPOOSA	3.42	3.60	3.87	4.05	3.01	2.65	2.25	2.14	2.39	1.84	2.38	4.36	3.00
TUSCALOOSA	27.00	25.30	24.76	28.00	20.57	19.42	19.31	20.53	20.86	18.68	18.89	22.87	22.18
WALKER	7.71	7.05	9.43	8.31	5.34	3.14	4.10	4.01	3.59	3.01	5.67	6.84	5.68
WASHINGTON	0.22	0.21	0.21	0.18	0.15	0.17	0.20	0.10	0.17	0.18	0.25	0.25	0.19
WILCOX	0.36	0.14	0.54	0.64	0.38	0.30	0.30	0.33	0.30	0.25	0.55	0.76	0.40
WINSTON	0.14	0.70	0.11	0.19	0.08	0.07	0.08	0.18	0.08	0.25	0.71	0.09	0.22
TOTAL	**651.74**	**576.27**	**704.89**	**793.31**	**513.65**	**469.34**	**450.51**	**438.83**	**397.09**	**391.99**	**550.01**	**777.38**	**559.58**

Table 77. Public-supply returns by subbasin in Alabama in 2015, in MGD.

Hydrologic subregion and subbasin	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	AVG
Apalachicola													
03130002	4.16	4.68	4.70	5.35	3.92	4.12	4.02	4.05	4.10	3.66	6.17	8.01	4.74
03130003	5.39	5.58	5.45	7.21	5.08	4.92	4.48	5.13	4.42	3.90	6.73	8.92	5.60
03130004	4.25	3.75	3.78	5.34	4.15	4.02	3.84	3.29	3.50	3.39	7.57	6.49	4.45
03130012	2.36	1.87	1.73	2.75	2.02	1.78	1.95	1.38	1.59	1.62	3.93	3.17	2.18
Subtotal	*16.15*	*15.88*	*15.65*	*20.64*	*15.17*	*14.84*	*14.28*	*13.85*	*13.61*	*12.57*	*24.40*	*26.59*	*16.97*
Chocawhatchee-Escambia													
03140103	1.51	1.41	1.51	1.74	0.90	0.71	0.82	1.03	0.83	1.24	2.69	1.76	1.35
03140104	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03140106	3.17	2.40	3.86	5.47	3.13	2.25	2.04	1.82	1.80	2.01	3.68	4.30	2.99
03140107	4.90	4.03	4.71	5.46	5.17	6.57	7.28	5.57	4.90	4.60	4.21	3.93	5.11
03140201	12.83	11.85	11.75	16.33	12.94	12.46	10.99	9.47	9.85	9.57	20.53	18.61	13.10
03140202	5.62	5.61	5.49	6.18	5.66	5.71	5.84	5.54	6.00	5.58	7.30	7.30	5.99
03140203	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03140301	1.60	1.81	1.52	2.18	1.56	1.23	1.05	0.97	0.87	0.99	1.86	1.98	1.47
03140302	0.30	0.29	0.34	0.33	0.30	0.30	0.26	0.24	0.27	0.29	0.41	0.45	0.31
03140303	1.96	1.65	1.92	2.11	1.68	1.50	1.41	1.31	1.32	1.40	1.59	2.27	1.68
03140304	2.52	2.52	1.90	2.54	1.83	1.87	2.04	1.52	1.46	1.53	2.10	2.35	2.02
03140305	1.06	0.89	0.93	1.05	0.70	0.79	0.89	0.73	0.72	0.83	1.20	1.25	0.92
Subtotal	*35.46*	*32.46*	*33.94*	*43.40*	*33.89*	*33.40*	*32.60*	*28.18*	*28.02*	*28.04*	*45.57*	*44.18*	*34.93*
Alabama													
03150105	2.11	1.69	2.71	3.77	1.64	1.23	1.02	1.28	0.87	1.15	2.35	2.32	1.84
03150106	52.32	47.58	57.87	69.23	35.42	34.21	28.84	29.06	25.55	25.78	46.07	60.47	42.70
03150107	14.79	12.22	13.63	13.30	9.81	8.85	8.13	8.16	7.61	7.35	11.34	15.11	10.86
03150108	0.51	0.48	0.49	0.66	0.59	0.30	0.32	0.35	0.30	0.30	0.56	0.63	0.46
03150109	5.90	6.20	6.20	6.11	5.21	4.89	4.38	4.20	4.42	3.92	4.72	7.09	5.27
03150110	12.99	13.92	15.03	14.82	14.46	12.36	11.57	11.01	10.66	10.40	14.08	18.54	13.32
03150201	36.72	39.35	37.20	42.13	37.59	36.54	35.24	34.07	32.58	31.86	38.12	52.24	37.80
03150202	31.84	29.10	33.82	43.52	24.21	21.30	22.42	22.50	21.16	18.74	26.83	34.17	27.47
03150203	0.36	0.14	0.54	0.64	0.38	0.30	0.30	0.33	0.30	0.25	0.55	0.87	0.41
03150204	0.67	0.63	0.76	0.90	0.85	1.01	0.77	0.78	0.75	0.70	0.66	1.11	0.80
Subtotal	*158.21*	*151.31*	*168.25*	*195.08*	*130.14*	*121.01*	*113.00*	*111.74*	*104.21*	*100.44*	*145.28*	*192.53*	*140.93*
Mobile-Tombigbee													
03160101	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table 77. Public-supply returns by subbasin in Alabama in 2015, in MGD. – Continued.

Hydrologic subregion and subbasin	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	AVG
03160103	1.77	1.90	2.87	2.49	1.61	1.47	1.70	1.45	1.14	1.09	1.61	2.32	1.78
03160105	4.70	1.83	2.08	3.17	4.38	1.94	0.59	0.77	0.48	0.47	0.69	1.01	1.84
03160106	0.95	1.08	1.30	1.62	0.86	0.65	0.75	0.57	0.72	0.55	1.42	1.55	1.00
03160107	1.55	1.64	2.58	2.74	1.67	1.14	1.14	1.05	0.94	1.04	1.75	2.25	1.62
03160108	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03160109	18.46	15.59	22.15	21.14	11.17	7.97	8.92	9.42	7.28	6.63	13.14	19.01	13.41
03160110	0.54	1.00	0.42	0.51	0.23	0.20	0.26	0.36	0.22	0.40	0.96	0.47	0.46
03160111	110.21	92.15	118.28	145.91	83.14	71.78	79.88	79.59	71.91	70.00	90.74	143.71	96.44
03160112	100.80	81.56	90.84	106.44	50.03	43.23	49.30	45.58	42.02	39.81	50.76	77.17	64.79
03160113	6.34	4.32	6.07	5.68	3.78	4.01	2.84	2.77	2.62	4.31	7.15	7.37	4.77
03160201	3.61	3.81	3.88	4.73	1.48	1.50	7.58	1.18	1.19	1.24	2.85	10.04	3.59
03160202	1.69	1.84	2.37	1.88	1.28	1.21	0.71	0.41	0.60	0.92	1.77	1.85	1.38
03160203	3.33	2.66	2.25	1.95	1.29	1.80	1.78	1.26	1.06	7.33	4.92	4.06	2.81
03160204	43.04	38.62	51.53	60.56	56.46	48.95	31.38	36.05	34.35	34.22	36.33	51.82	43.61
03160205	3.09	3.03	3.65	3.64	2.88	2.69	2.57	3.00	2.88	3.01	3.33	3.69	3.12
Subtotal	*300.08*	*251.02*	*310.27*	*362.45*	*220.25*	*188.53*	*189.41*	*183.45*	*167.41*	*171.02*	*217.43*	*326.33*	*240.64*
Pascagoula													
03170002	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03170003	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03170008	0.27	0.20	0.28	0.26	0.25	0.18	0.18	0.30	0.31	0.33	0.43	0.52	0.29
03170009	1.18	1.17	1.37	1.79	1.38	1.62	1.69	1.55	1.43	1.56	1.84	1.77	1.53
Subtotal	*1.45*	*1.37*	*1.65*	*2.05*	*1.63*	*1.81*	*1.86*	*1.85*	*1.75*	*1.89*	*2.27*	*2.29*	*1.82*
Middle Tennessee-Hiwassee													
06020001	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*
Middle Tennessee-Elk													
06030001	23.15	20.55	25.64	24.56	16.25	15.22	15.57	16.60	13.56	13.41	17.24	28.54	19.19
06030002	94.82	82.79	113.76	110.42	77.47	69.49	67.51	67.29	55.43	50.99	74.67	118.00	81.89
06030003	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06030004	0.08	0.08	0.20	0.09	0.07	0.07	0.06	0.06	0.05	0.05	0.08	0.15	0.09
06030005	16.42	15.84	29.20	28.91	14.22	21.38	13.11	13.29	10.93	11.36	19.61	31.74	18.84
06030006	5.92	4.97	6.34	5.70	4.56	3.59	3.10	2.53	2.11	2.22	3.46	7.03	4.29
Subtotal	*140.39*	*124.23*	*175.14*	*169.69*	*112.57*	*109.75*	*99.36*	*99.76*	*82.09*	*78.03*	*115.06*	*185.46*	*124.29*
Total	**651.74**	**576.27**	**704.89**	**793.31**	**513.65**	**469.34**	**450.51**	**438.83**	**397.09**	**391.99**	**550.01**	**777.38**	**559.58**

Industrial, Thermoelectric, and Mining Returns

Industrial, thermoelectric, and mining returns for 2015 were estimated to be 7,069 MGD. Estimates of returns by sector indicate that the industrial, thermoelectric, and mining sector accounted for 93 percent of the total returns for 2015. Industrial, thermoelectric and mining returns are shown monthly by county and hydrologic subbasin in tables 78 and 79. The geographic distribution of industrial, thermoelectric, and mining returns by county and hydrologic subbasin is shown in figures 66 and 67. The counties with the largest industrial, thermoelectric, and mining returns are Limestone (2,840 MGD), Colbert (996 MGD), Mobile (714 MGD), Walker (624 MGD) and Shelby (460 MGD) Counties (figure 66). The subbasins with the largest total returns are the Wheeler Lake (06030002; 2,930 MGD), the Pickwick (06030005; 996 MGD), the Mobile-Tensaw (03160204; 708 MGD), the Mulberry Fork (03160109; 625 MGD), and the Lower Coosa (03150107; 470 MGD) subbasins (figure 67).

Figure 66. Map of industrial, thermoelectric-power and mining returns by county in Alabama in 2015, in MGD.

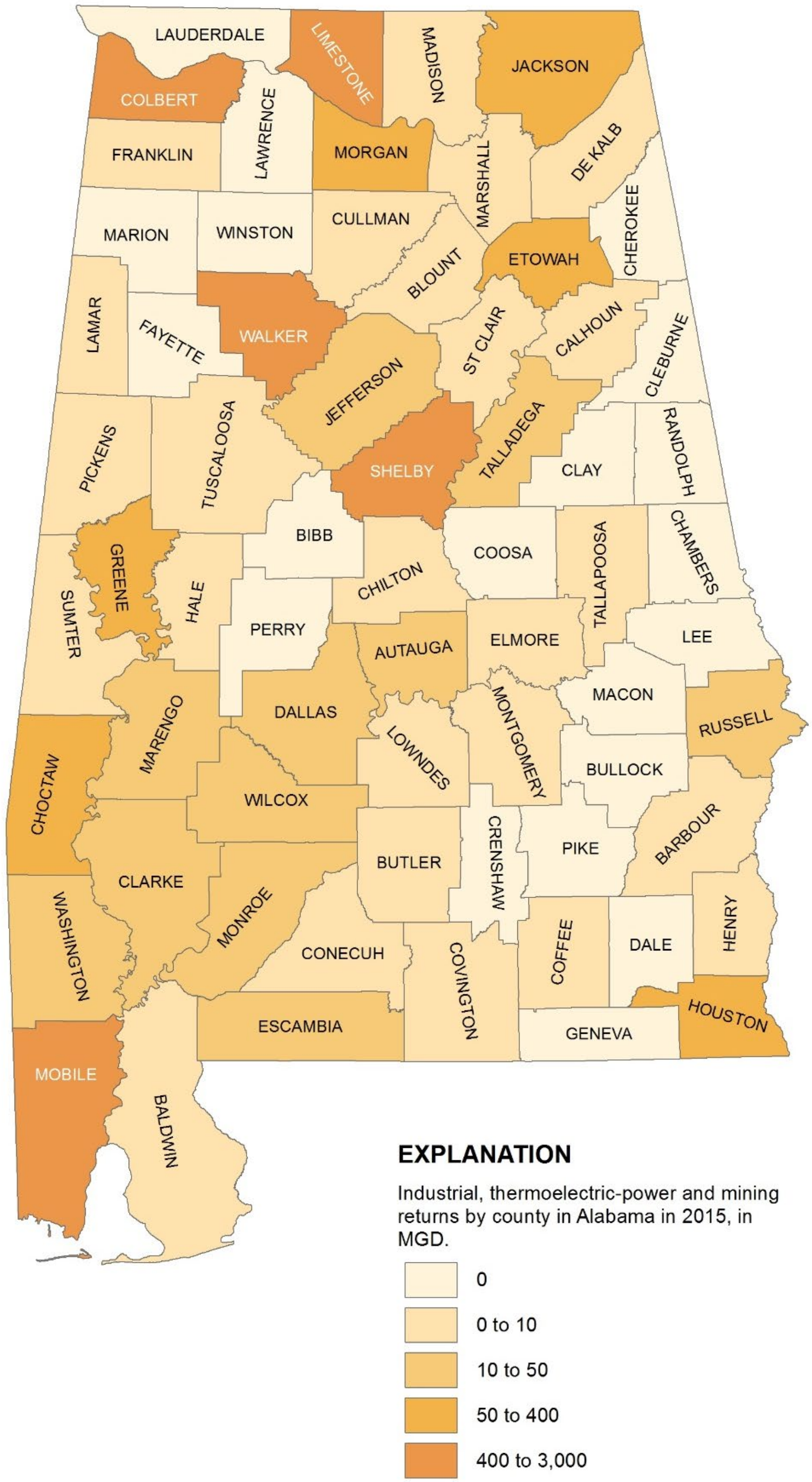


Figure 67. Map of industrial, thermoelectric-power and mining returns by subbasin in Alabama in 2015, in MGD.

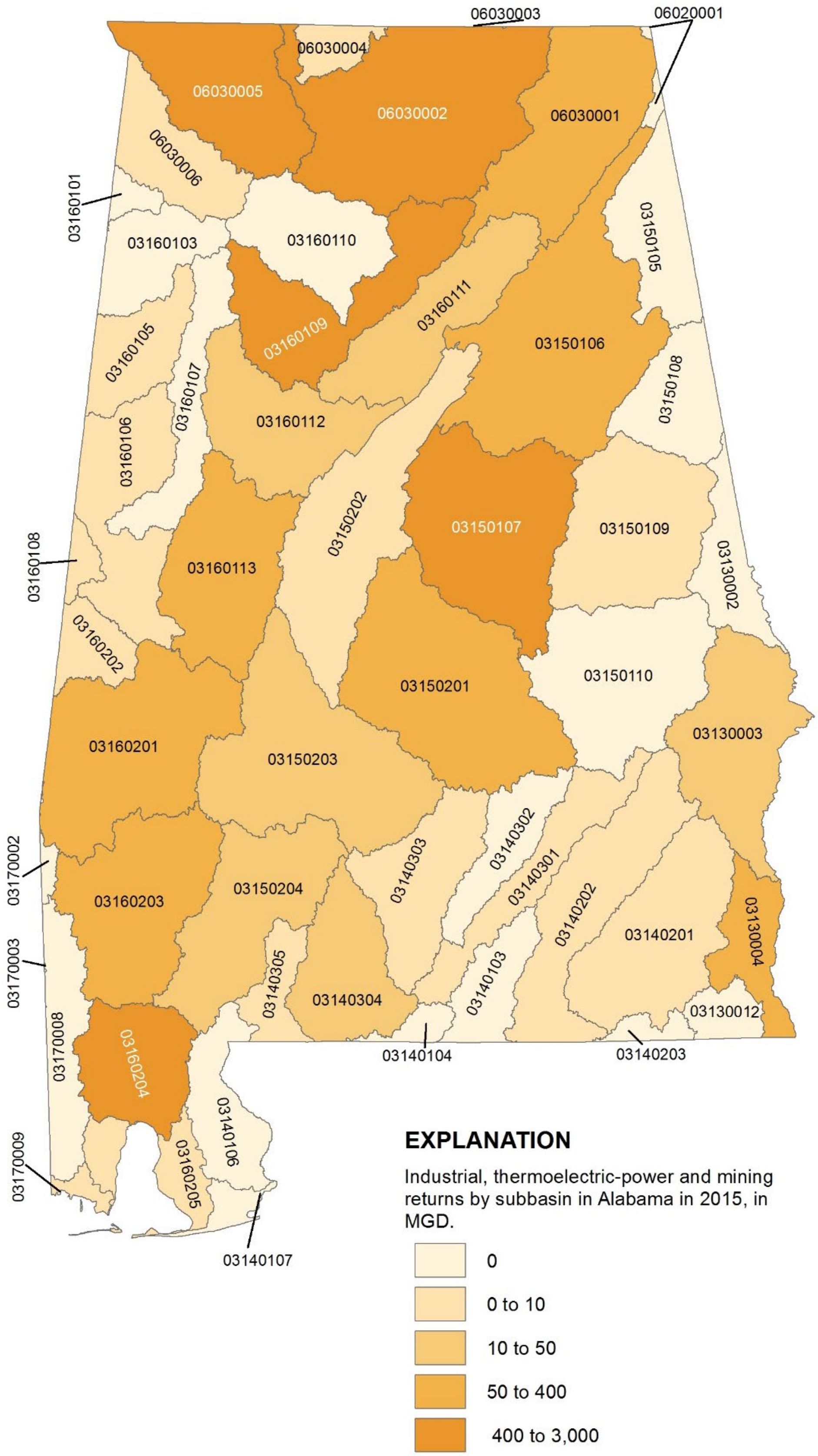


Table 78. Industrial, thermoelectric-power and mining returns by county in Alabama in 2015, in MGD.

County Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg
AUTAUGA	43.44	33.84	34.41	37.25	28.29	31.21	34.06	30.58	24.53	28.88	38.43	38.55	33.62
BALDWIN	0.22	0.07	0.08	0.08	0.23	0.34	0.36	0.32	0.34	0.34	0.20	0.23	0.23
BARBOUR	1.29	1.31	1.48	1.31	1.18	1.19	1.07	1.24	1.34	1.02	1.29	1.37	1.26
BIBB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BLOUNT	1.33	1.41	1.47	1.52	1.19	1.33	1.30	0.92	1.00	1.19	1.53	1.59	1.32
BULLOCK	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BUTLER	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
CALHOUN	1.54	1.42	1.52	1.73	1.33	1.43	1.45	1.42	1.40	1.22	1.52	1.55	1.46
CHAMBERS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CHEROKEE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CHILTON	0.17	0.19	0.08	0.15	0.16	0.18	0.12	0.19	0.09	0.07	0.11	0.15	0.14
CHOCTAW	51.60	49.70	51.30	48.10	51.40	41.80	53.00	59.40	49.40	47.50	50.50	55.30	50.75
CLARKE	22.80	19.40	22.10	21.40	21.60	20.30	19.20	19.20	20.20	16.70	17.10	19.80	19.98
CLAY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CLEBURNE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
COFFEE	1.63	2.26	1.66	1.85	2.44	2.41	2.38	2.46	2.57	2.34	1.94	1.81	2.14
COLBERT	1,096.10	1,078.38	906.93	944.45	1,112.83	988.44	1,113.59	1,115.70	1,013.36	977.57	762.08	841.21	995.89
CONECUH	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.02	0.00	0.00
COOSA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
COVINGTON	0.14	0.11	0.08	0.07	0.10	0.15	0.16	0.17	0.14	0.13	0.12	0.12	0.12
CRENSHAW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CULLMAN	0.88	0.80	1.81	1.06	0.70	0.69	0.70	0.75	0.67	0.74	0.76	0.81	0.86
DALE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DALLAS	35.03	34.04	32.85	32.95	25.34	22.48	30.05	24.53	27.09	26.35	24.24	25.72	28.39
DEKALB	1.09	0.95	0.95	1.06	1.08	0.97	1.16	1.39	1.24	0.98	1.03	1.11	1.08
ELMORE	0.03	0.02	0.07	0.03	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.02
ESCAMBIA	42.74	31.71	37.73	34.85	33.62	34.03	34.23	33.93	35.14	33.42	26.78	40.03	34.85
ETOWAH	104.61	143.51	128.78	102.98	117.72	116.82	102.20	105.66	117.56	110.56	102.42	107.07	113.32
FAYETTE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FRANKLIN	1.35	1.10	1.84	1.91	1.24	1.80	1.22	1.05	1.20	1.21	1.08	1.19	1.35
GENEVA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GREENE	344.19	373.07	155.92	388.55	407.19	407.41	405.82	390.84	405.86	411.37	317.73	412.99	368.41
HALE	0.01	0.23	0.00	0.00	0.01	0.04	0.03	0.03	0.08	0.00	0.00	0.03	0.04
HENRY	0.37	0.37	0.41	0.42	0.37	0.43	0.39	0.39	0.39	0.42	0.41	0.39	0.40

Table 78. Industrial, thermoelectric-power and mining returns by county in Alabama in 2015, in MGD – Continued.

County Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg
HOUSTON	74.65	68.18	77.60	67.43	80.38	76.89	79.06	79.78	78.32	83.49	87.49	76.25	77.46
JACKSON	452.80	452.18	452.43	487.67	511.91	489.27	490.37	489.97	461.82	6.75	6.92	7.72	359.15
JEFFERSON	53.41	59.62	64.66	47.52	35.18	50.83	52.69	50.48	41.50	33.89	29.25	34.99	46.17
LAMAR	0.46	0.48	0.87	0.33	0.21	0.03	0.16	0.18	0.03	0.19	0.27	0.40	0.30
LAUDERDALE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LAWRENCE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LEE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LIMESTONE	2,894.31	2,894.31	2,427.51	2,617.31	2,795.01	2,894.31	2,894.31	2,894.31	2,894.31	2,844.61	2,988.91	3,043.61	2,840.23
LOWNDES	3.13	2.69	2.49	2.83	2.63	3.15	2.94	2.78	2.69	2.59	2.89	3.04	2.82
MACON	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MADISON	1.59	1.25	14.66	1.21	0.98	1.12	1.40	0.94	1.35	1.10	1.21	2.81	2.47
MARENGO	19.50	18.60	14.30	20.80	18.50	17.70	19.40	18.40	18.80	19.70	20.00	19.20	18.74
MARION	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MARSHALL	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24
MOBILE	341.35	578.67	826.13	797.84	654.50	757.92	751.60	802.93	933.58	731.94	689.97	697.79	713.68
MONROE	46.96	43.79	47.72	32.96	43.73	47.91	47.04	50.02	41.84	47.31	49.61	49.83	45.73
MONTGOMERY	9.07	7.61	9.76	4.91	6.96	9.91	4.31	4.70	4.21	4.79	4.05	4.88	6.26
MORGAN	71.50	77.65	83.88	87.76	55.70	76.73	114.57	109.87	107.76	94.37	85.18	87.29	87.69
PERRY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PICKENS	0.30	0.12	0.32	0.20	0.12	0.03	0.09	0.04	0.10	0.09	0.25	0.37	0.17
PIKE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RANDOLPH	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RUSSELL	17.12	22.37	13.38	28.40	15.63	15.40	23.27	15.17	18.50	20.63	20.86	26.77	19.79
SHELBY	543.46	595.34	496.55	313.74	528.65	636.08	668.68	585.84	484.48	164.32	230.82	272.76	460.06
ST CLAIR	0.11	0.12	0.13	0.13	0.13	0.11	0.13	0.11	0.12	0.10	0.15	0.15	0.12
SUMTER	1.90	2.85	2.41	2.92	0.11	0.11	0.11	0.11	0.11	0.10	2.46	3.48	1.39
TALLADEGA	34.84	33.52	28.44	24.90	29.54	25.41	36.04	32.91	48.16	38.24	38.07	37.27	33.94
TALLAPOOSA	0.14	0.11	0.17	0.14	0.22	0.21	0.22	0.22	0.14	0.08	0.16	0.13	0.16
TUSCALOOSA	3.84	3.86	3.18	4.00	2.57	3.50	3.49	3.38	2.17	2.16	4.14	3.22	3.29
WALKER	448.37	642.01	573.93	547.73	747.83	750.77	750.77	753.84	738.26	556.62	282.32	695.03	623.96
WASHINGTON	54.44	54.93	22.38	54.22	55.22	56.18	55.59	55.61	55.19	34.59	57.72	41.96	49.84
WILCOX	18.80	24.00	19.10	22.70	19.30	17.10	17.70	17.40	20.70	18.70	22.60	19.20	19.78
WINSTON	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	6,842.87	7,358.41	6,563.75	6,789.64	7,413.32	7,604.45	7,816.70	7,759.42	7,657.95	6,368.63	5,974.88	6,679.42	7,069.12

Table 79. Industrial, thermoelectric-power and mining returns by subbasin in Alabama in 2015, in MGD.

Hydrologic subregion and subbasin	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	AVG
Apalachicola													
03130002	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03130003	17.12	22.37	13.38	28.40	15.63	15.40	23.27	15.17	18.50	20.63	20.88	26.79	19.79
03130004	74.57	68.10	77.52	67.35	80.30	76.81	78.98	79.70	78.24	83.41	87.41	76.17	77.38
03130012	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal	*91.69*	*90.47*	*90.90*	*95.75*	*95.93*	*92.21*	*102.25*	*94.87*	*96.74*	*104.04*	*108.29*	*102.96*	*97.18*
Chocawhatchee-Escambia													
03140103	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03140104	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03140106	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03140107	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03140201	2.47	3.07	2.59	2.61	3.20	3.25	3.11	3.32	3.52	2.92	2.42	2.39	2.90
03140202	0.90	0.95	1.04	1.04	0.86	0.86	0.81	0.85	0.85	0.94	1.28	1.24	0.97
03140203	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03140301	0.14	0.11	0.08	0.07	0.10	0.15	0.16	0.17	0.14	0.13	0.12	0.12	0.12
03140302	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03140303	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
03140304	42.70	31.70	37.70	34.81	33.61	34.04	34.20	33.91	35.11	33.40	26.75	40.01	34.83
03140305	0.04	0.01	0.02	0.04	0.01	0.02	0.03	0.02	0.02	0.02	0.05	0.03	0.03
Subtotal	*46.27*	*35.86*	*41.47*	*38.60*	*37.80*	*38.35*	*38.33*	*38.29*	*39.67*	*37.44*	*30.64*	*43.81*	*38.88*
Alabama													
03150105	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03150106	131.12	165.85	150.50	121.78	139.98	135.24	131.76	132.46	161.15	142.60	133.89	138.84	140.43
03150107	554.49	608.97	505.82	322.71	538.43	645.55	677.89	594.83	491.80	172.81	240.08	281.04	469.53
03150108	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03150109	0.14	0.11	0.17	0.14	0.22	0.21	0.22	0.22	0.14	0.08	0.16	0.13	0.16
03150110	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03150201	90.88	78.40	79.66	78.10	63.40	66.95	71.47	62.78	58.60	62.68	69.73	72.34	71.25
03150202	0.14	0.09	0.09	0.08	0.06	0.03	0.03	0.05	0.02	0.04	0.07	0.05	0.06
03150203	18.80	24.00	19.11	22.71	19.31	17.10	17.70	17.40	20.70	18.70	22.60	19.20	19.78
03150204	46.96	43.79	47.72	32.96	43.73	47.91	47.04	50.02	41.84	47.31	49.61	49.83	45.73
Subtotal	*842.53*	*921.20*	*803.08*	*578.48*	*805.13*	*912.99*	*946.12*	*857.76*	*774.25*	*444.22*	*516.15*	*561.43*	*746.94*
Mobile-Tombigbee													
03160101	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table 79. Industrial, thermoelectric-power and mining returns by subbasin in Alabama in 2015, in MGD – Continued.

Hydrologic subregion and subbasin	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	AVG
03160103	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03160105	0.46	0.48	0.87	0.33	0.21	0.03	0.16	0.18	0.03	0.19	0.27	0.40	0.30
03160106	0.30	0.12	0.32	0.20	0.12	0.03	0.09	0.04	0.10	0.09	0.25	0.37	0.17
03160107	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03160108	1.81	2.73	2.38	2.80	0.00	0.00	0.00	0.00	0.00	0.00	2.33	3.34	1.28
03160109	449.25	642.81	575.74	548.79	748.53	751.46	751.47	754.59	738.93	557.36	283.08	695.84	624.82
03160110	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03160111	12.92	18.46	26.85	15.06	17.45	12.37	13.42	13.28	18.20	16.82	14.00	18.80	16.47
03160112	41.88	43.63	39.92	34.13	19.06	40.65	41.00	38.22	24.74	18.68	18.48	18.65	31.59
03160113	347.88	376.06	158.42	392.38	409.62	410.08	408.89	394.14	407.65	413.07	320.13	415.35	371.14
03160201	71.10	68.30	65.60	68.90	69.90	59.50	72.40	77.80	68.20	67.20	70.50	74.50	69.49
03160202	0.09	0.12	0.03	0.13	0.11	0.11	0.11	0.11	0.11	0.10	0.13	0.14	0.11
03160203	78.86	75.86	44.62	76.89	78.35	77.97	76.41	76.77	77.44	53.08	76.32	63.58	71.35
03160204	334.97	574.56	822.80	793.64	649.49	753.15	747.34	797.99	927.70	724.26	682.35	692.26	708.38
03160205	4.79	2.41	2.97	2.75	3.51	3.42	2.28	2.57	3.43	5.56	5.58	3.34	3.55
Subtotal	*1,344.31*	*1,805.54*	*1,740.50*	*1,936.00*	*1,996.34*	*2,108.79*	*2,113.58*	*2,155.68*	*2,266.53*	*1,856.42*	*1,473.43*	*1,986.55*	*1,898.64*
Pascagoula													
03170002	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03170003	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03170008	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03170009	0.19	0.24	0.30	0.26	0.21	0.20	0.72	0.74	0.74	0.66	0.74	0.60	0.47
Subtotal	*0.19*	*0.24*	*0.30*	*0.26*	*0.21*	*0.20*	*0.72*	*0.74*	*0.74*	*0.66*	*0.74*	*0.60*	*0.47*
Middle Tennessee-Hiwassee													
06020001	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*
Middle Tennessee-Elk													
06030001	453.04	452.43	452.68	487.92	512.16	489.51	490.61	490.21	462.06	6.99	7.16	7.96	359.39
06030002	2,967.38	2,973.20	2,526.05	2,706.27	2,851.69	2,972.15	3,010.27	3,005.11	3,003.40	2,940.08	3,075.29	3,133.70	2,930.38
06030003	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06030004	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
06030005	1,096.10	1,078.38	906.93	944.45	1,112.83	988.44	1,113.59	1,115.70	1,013.36	977.57	762.08	841.21	995.89
06030006	1.35	1.10	1.84	1.91	1.24	1.80	1.22	1.05	1.20	1.21	1.08	1.19	1.35
Subtotal	*4,517.88*	*4,505.11*	*3,887.50*	*4,140.56*	*4,477.92*	*4,451.92*	*4,615.70*	*4,612.08*	*4,480.03*	*3,925.86*	*3,845.63*	*3,984.07*	*4,287.02*
Total	**6,842.87**	**7,358.41**	**6,563.75**	**6,789.64**	**7,413.32**	**7,604.45**	**7,816.70**	**7,759.42**	**7,657.95**	**6,368.63**	**5,974.88**	**6,679.42**	**7,069.12**

Comparison of 2010 and 2015 Return Data

Total Returns 2010 to 2015

The geographic distribution of the comparison of total returns from 2010 to 2015 is shown in table 80. Overall total returns decreased 19 percent from 2010 to 2015 from 9,461 MGD in 2010 to 7,629 MGD in 2015. The subbasins with the largest increases in total returns from 2010 to 2015 are the Wheeler Lake (06030002; 70 MGD), the Middle Tombigbee-Chickasaw (03160201; 23 MGD) and the Lower Black Warrior (03160113; 14 MGD) subbasins. The subbasins with the largest decreases in total returns from 2010 to 2015 are the Guntersville Lake (06030001; -725 MGD), the Pickwick (06030005; -335 MGD), the Mobile-Tensaw (03160204; -297 MGD), the Mulberry Fork (03160109; -241 MGD), and the Lower Coosa (03150107; -204 MGD) subbasins (figure 68).

Public Supply Returns 2010 to 2015

The geographic distribution of the comparison of public-supply returns from 2010 to 2015 is shown in table 81. Overall, public-supply returns increased 7 percent from 2010 to 2015 from 524 MGD in 2010 to 560 MGD in 2015. The subbasins with the largest increases in public-supply returns from 2010 to 2015 are the Wheeler Lake (06030002; 13 MGD) and the Guntersville Lake (06030001; 6 MGD) subbasins. The subbasins with the largest decreases in public-supply returns from 2010 to 2015 are the Upper Alabama (03150201; -2 MGD), the Escambia (03140305; -2 MGD), the Mobile-Tensaw (03160204; -2 MGD) and the Perdido Bay (03140107; -1 MGD) subbasins (figure 69).

Industrial, Thermoelectric, and Mining Returns 2010 to 2015

The geographic distribution of the comparison of industrial, thermoelectric, and mining returns from 2010 to 2015 is shown in table 82. Overall industrial, thermoelectric and mining returns decreased 21 percent from 2010 to 2015 from 8,937 MGD in 2010 to 7,069 MGD in 2015. The subbasins with the largest increases in total returns from 2010 to 2015 are the Wheeler Lake (06030002; 56 MGD), the Upper Tombigbee (03160201; 22 MGD) and the Lower Black Warrior (03160113; 14 MGD) subbasins. The subbasins with the largest decreases in total returns from 2010 to 2015 are the Guntersville Lake (06030001; -731 MGD), the Pickwick (06030005; -337 MGD), the Mobile-Tensaw (03160204; -295 MGD), the Mulberry Fork (03160109; -244 MGD), and the Lower Coosa (03150107; -205 MGD) subbasins (figure 70).

Figure 68. Map of change in total returns by subbasin from 2010 to 2015 in Alabama, in MGD.

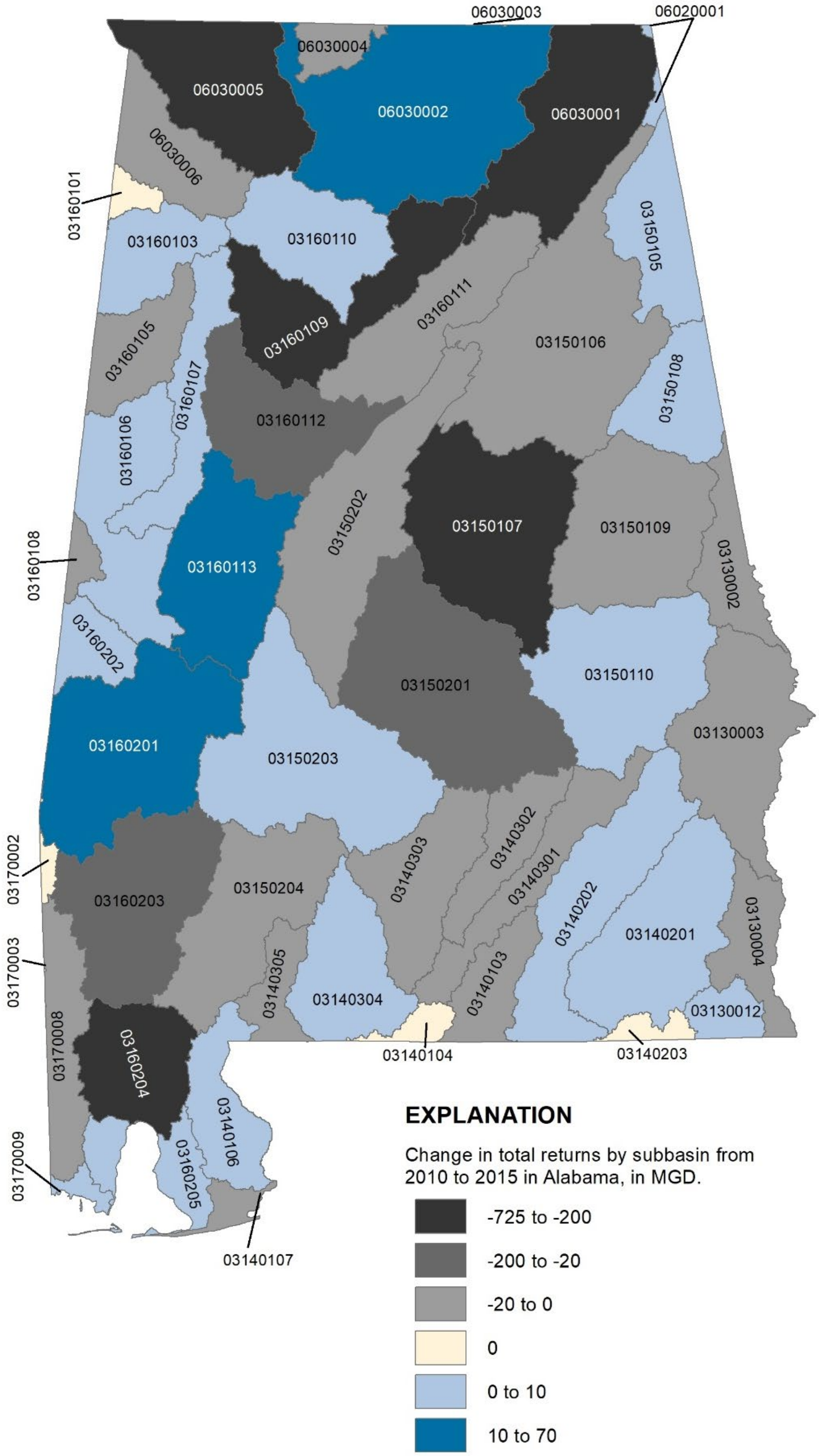


Table 80. Change in total returns by subbasin from 2010 to 2015 in Alabama, in MGD.

Hydrologic subregion and subbasin	2010 Total Returns	2015 Total Returns	Total Diff 2010 to 2015
Apalachicola			
03130002	6.17	4.74	-1.43
03130003	26.75	25.39	-1.36
03130004	85.72	81.83	-3.89
03130012	1.62	2.18	-0.56
Subtotal	*120.26*	*114.15*	*-7.23*
Chocawhatchee-Escambia			
03140103	1.53	1.35	-0.18
03140104	0.00	0.00	0.00
03140106	2.70	2.99	0.29
03140107	6.44	5.11	-1.33
03140201	15.96	16.00	0.05
03140202	6.80	6.95	0.16
03140203	0.00	0.00	0.00
03140301	2.12	1.59	-0.53
03140302	0.41	0.31	-0.10
03140303	1.96	1.70	-0.26
03140304	34.84	36.85	2.01
03140305	3.02	0.95	-2.08
Subtotal	*75.78*	*73.81*	*-1.98*
Alabama			
03150105	1.83	1.84	0.02
03150106	198.72	183.13	-15.59
03150107	684.43	480.39	-204.03
03150108	0.43	0.46	0.03
03150109	6.25	5.43	-0.81
03150110	12.93	13.32	0.39
03150201	133.13	109.05	-24.08
03150202	29.13	27.53	-1.60
03150203	19.38	20.19	0.81
03150204	50.92	46.53	-4.40
Subtotal	*1,137.14*	*887.88*	*-249.27*
Mobile-Tombigbee			
03160101	0.00	0.00	0.00
03160103	1.49	1.78	0.29
03160105	2.65	2.14	-0.51
03160106	1.14	1.17	0.03
03160107	1.43	1.62	0.19
03160108	3.10	1.28	-1.82
03160109	879.57	638.23	-241.35
03160110	0.38	0.46	0.08
03160111	113.35	112.91	-0.44
03160112	133.91	96.38	-37.53
03160113	361.98	375.91	13.93
03160201	49.81	73.08	23.27
03160202	1.31	1.49	0.18
03160203	118.24	74.15	-44.09
03160204	1,048.92	751.99	-296.94
03160205	5.76	6.67	0.91
Subtotal	*2,723.06*	*2,139.27*	*-583.79*
Pascagoula			
03170002	0.00	0.00	0.00
03170003	0.00	0.00	0.00
03170008	0.37	0.29	-0.08
03170009	1.36	1.99	0.63
Subtotal	*1.73*	*2.29*	*0.56*
Middle Tennessee-Hiwassee			
06020001	0.00	0.00	0.00
Subtotal	*0.00*	*0.00*	*0.00*
Middle Tennessee-Elk			
06030001	1,103.12	378.59	-724.54
06030002	2,942.67	3,012.27	69.60
06030003	0.00	0.00	0.00
06030004	0.33	0.09	-0.24
06030005	1,349.78	1,014.72	-335.06
06030006	7.03	5.64	-1.39
Subtotal	*5,402.94*	*4,411.32*	*-991.62*
Total	**9,460.92**	**7,628.71**	**-1,833.32**

Figure 69. Map of change in public-supply returns by subbasin from 2010 to 2015 in Alabama, in MGD.

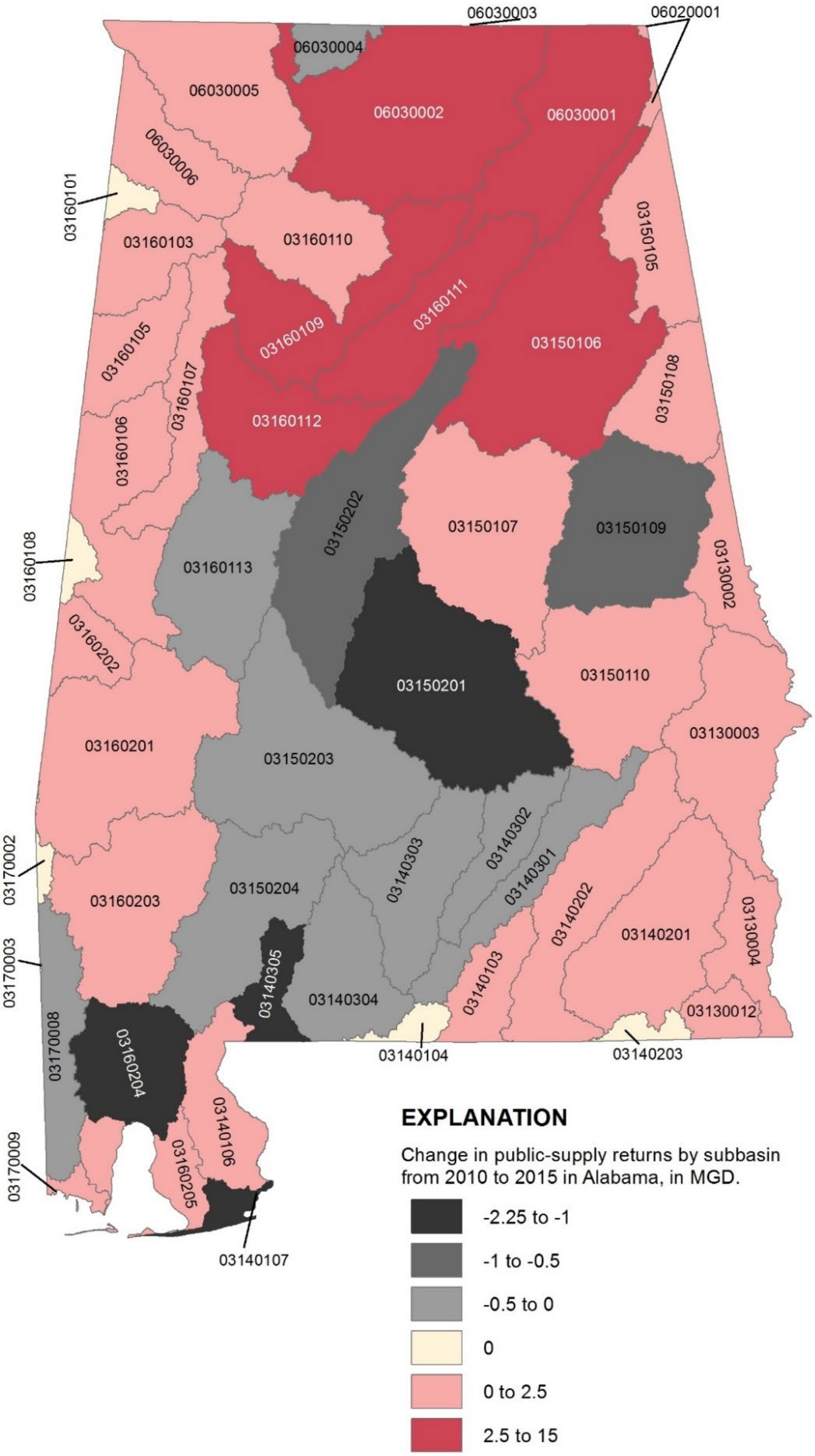


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Table 81. Change in public-supply returns by subbasin from 2010 to 2015 in Alabama, in MGD.

Hydrologic subregion and subbasin	2010 Total Returns	2015 Total Returns	Total Diff 2010 to 2015
Apalachicola			
03130002	4.02	4.74	0.73
03130003	5.53	5.60	0.07
03130004	4.18	4.45	0.27
03130012	1.62	2.18	0.56
Subtotal	*15.34*	*16.97*	*1.63*
Chocawhatchee-Escambia			
03140103	1.35	1.35	0.00
03140104	0.00	0.00	0.00
03140106	2.32	2.99	0.67
03140107	6.44	5.11	-1.33
03140201	12.26	13.10	0.84
03140202	5.84	5.99	0.15
03140203	0.00	0.00	0.00
03140301	1.95	1.47	-0.48
03140302	0.41	0.31	-0.10
03140303	1.92	1.68	-0.24
03140304	2.33	2.02	-0.31
03140305	2.92	0.92	-2.00
Subtotal	*37.73*	*34.93*	*-2.80*
Alabama			
03150105	1.83	1.84	0.02
03150106	39.08	42.70	3.62
03150107	10.33	10.86	0.53
03150108	0.43	0.46	0.03
03150109	6.00	5.27	-0.73
03150110	12.93	13.32	0.39
03150201	39.98	37.80	-2.18
03150202	28.28	27.47	-0.81
03150203	0.46	0.41	-0.04
03150204	1.08	0.80	-0.28
Subtotal	*140.40*	*140.93*	*0.54*
Mobile-Tombigbee			
03160101	0.00	0.00	0.00
03160103	1.49	1.78	0.29
03160105	0.81	1.84	1.03
03160106	0.80	1.00	0.20
03160107	1.42	1.62	0.21
03160108	0.00	0.00	0.00
03160109	10.80	13.41	2.61
03160110	0.38	0.46	0.08
03160111	92.76	96.44	3.68
03160112	61.32	64.79	3.48
03160113	4.94	4.77	-0.17
03160201	2.32	3.59	1.27
03160202	1.12	1.38	0.26
03160203	1.60	2.81	1.20
03160204	45.19	43.61	-1.58
03160205	2.55	3.12	0.57
Subtotal	*227.51*	*240.64*	*13.13*
Pascagoula			
03170002	0.00	0.00	0.00
03170003	0.00	0.00	0.00
03170008	0.37	0.29	-0.08
03170009	0.97	1.53	0.56
Subtotal	*1.34*	*1.82*	*0.48*
Middle Tennessee-Hiwassee			
06020001	0.00	0.00	0.00
Subtotal	*0.00*	*0.00*	*0.00*
Middle Tennessee-Elk			
06030001	12.82	19.19	6.38
06030002	68.48	81.89	13.41
06030003	0.00	0.00	0.00
06030004	0.33	0.09	-0.25
06030005	16.68	18.84	2.16
06030006	3.57	4.29	0.72
Subtotal	*101.87*	*124.29*	*22.42*
Total	**524.19**	**559.58**	**35.40**

Figure 70. Map of change in industrial, thermoelectric, and mining returns by subbasin from 2010 to 2015 in Alabama, in MGD.

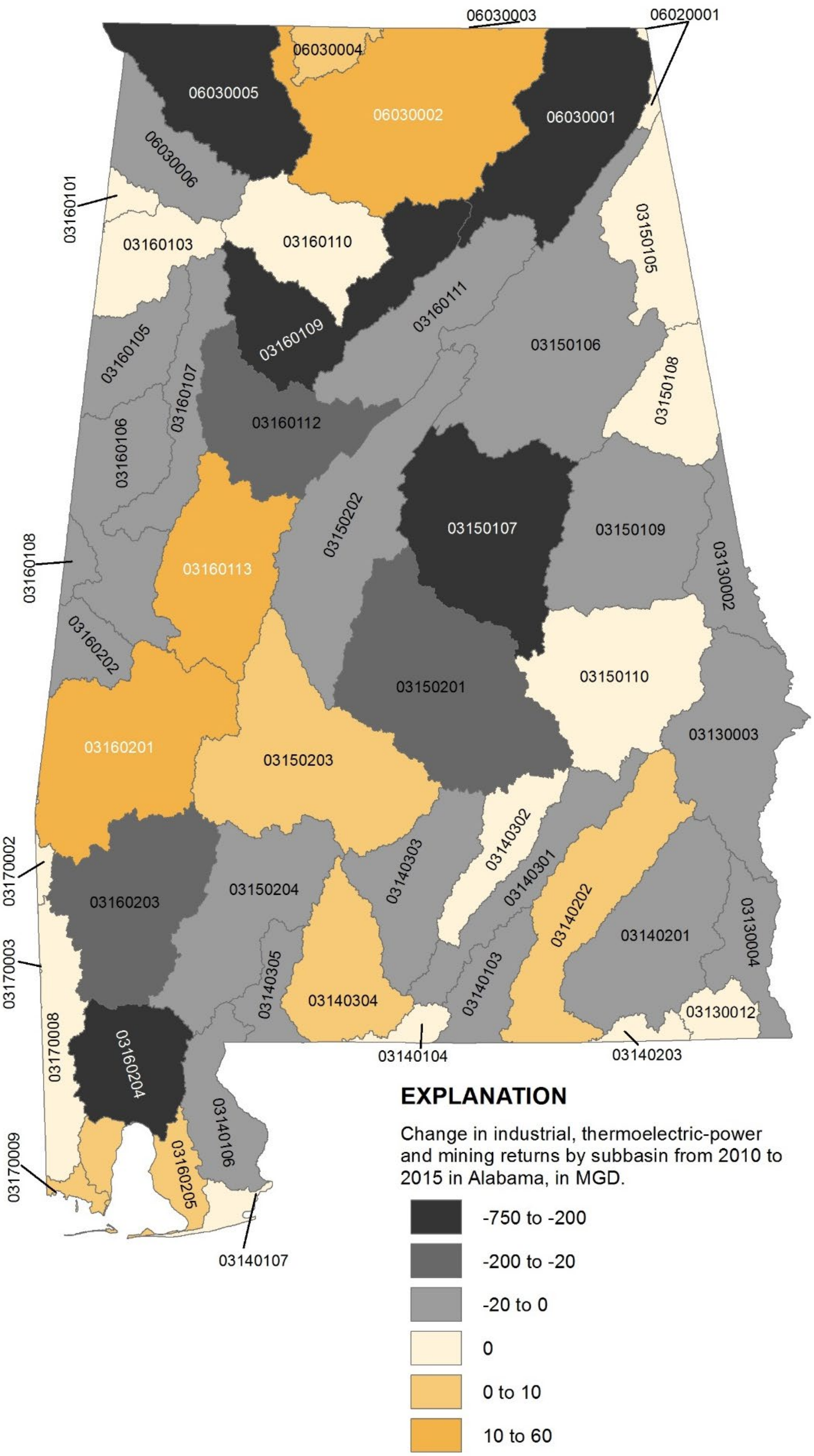


Table 82. Change in industrial, thermoelectric, and mining returns by subbasin from 2010 to 2015 in Alabama, in MGD.

Hydrologic subregion and subbasin	2010 Total Returns	2015 Total Returns	Total Diff 2010 to 2015
Apalachicola			
03130002	2.15	0.00	-2.15
03130003	21.23	19.79	-1.43
03130004	81.54	77.38	-4.16
03130012	0.00	0.00	0.00
Subtotal	*104.92*	*97.18*	*-7.74*
Chocawhatchee-Escambia			
03140103	0.18	0.00	-0.18
03140104	0.00	0.00	0.00
03140106	0.38	0.00	-0.38
03140107	0.00	0.00	0.00
03140201	3.70	2.90	-0.79
03140202	0.96	0.97	0.01
03140203	0.00	0.00	0.00
03140301	0.18	0.12	-0.05
03140302	0.00	0.00	0.00
03140303	0.04	0.03	-0.02
03140304	32.51	34.83	2.32
03140305	0.10	0.03	-0.08
Subtotal	*38.06*	*38.88*	*0.82*
Alabama			
03150105	0.00	0.00	0.00
03150106	159.63	140.43	-19.20
03150107	674.10	469.53	-204.56
03150108	0.00	0.00	0.00
03150109	0.25	0.16	-0.09
03150110	0.00	0.00	0.00
03150201	93.15	71.25	-21.90
03150202	0.85	0.06	-0.79
03150203	18.93	19.78	0.85
03150204	49.84	45.73	-4.11
Subtotal	*996.75*	*746.94*	*-249.80*
Mobile-Tombigbee			
03160101	0.00	0.00	0.00
03160103	0.00	0.00	0.00
03160105	1.84	0.30	-1.54
03160106	0.34	0.17	-0.18
03160107	0.02	0.00	-0.02
03160108	3.10	1.28	-1.82
03160109	868.77	624.82	-243.95
03160110	0.00	0.00	0.00
03160111	20.59	16.47	-4.12
03160112	72.59	31.59	-41.01
03160113	357.03	371.14	14.11
03160201	47.50	69.49	22.00
03160202	0.19	0.11	-0.08
03160203	116.64	71.35	-45.29
03160204	1,003.73	708.38	-295.35
03160205	3.21	3.55	0.34
Subtotal	*2,495.55*	*1,898.64*	*-596.92*
Pascagoula			
03170002	0.00	0.00	0.00
03170003	0.00	0.00	0.00
03170008	0.00	0.00	0.00
03170009	0.39	0.47	0.07
Subtotal	*0.39*	*0.47*	*0.07*
Middle Tennessee-Hiwassee			
06020001	0.00	0.00	0.00
Subtotal	*0.00*	*0.00*	*0.00*
Middle Tennessee-Elk			
06030001	1,090.31	359.39	-730.91
06030002	2,874.19	2,930.38	56.19
06030003	0.00	0.00	0.00
06030004	0.00	0.01	0.01
06030005	1,333.10	995.89	-337.22
06030006	3.46	1.35	-2.11
Subtotal	*5,301.07*	*4,287.02*	*-1,014.05*
Total	**8,936.73**	**7,069.12**	**-1,867.61**

Summary of Returns

Water returns for 2 major sectors— the industrial, thermoelectric, and mining sector and the public supply sector— were estimated for 2015. NPDES data for permitted discharge sites was compiled from the EPA's DMR Loading tool as well as OWRs AWURP database, eWater, and ADEM's online eFile system.

Total returns were approximately 7,629 MGD during 2015. The industrial, thermoelectric, and mining sector accounted for 93 percent (7,069 MGD) and public supply accounted for the remaining 7 percent (560 MGD). The counties with the largest total returns are Limestone (2,847 MGD), Colbert (1,001 MGD), Mobile (757 MGD), and Walker (630 MGD) Counties. The subbasin with the largest returns for 2015 are the Wheeler Lake (06030002; 3,012 MGD), the Pickwick Lake (06030005; 1,015 MGD), the Mobile-Tensaw (03160204; 752 MGD) and the Mulberry Fork (03160109; 638 MGD).

The counties with the largest public supply returns are Jefferson (151 MGD), Madison (47 MGD), and Mobile (44 MGD) Counties. The subbasins with the largest total returns are the Locust Fork (03160111; 96 MGD), the Wheeler Lake (06030002; 82 MGD), the Upper Black Warrior (03160112; 65 MGD), the Mobile-Tensaw (03160204; 44 MGD) and the Middle Coosa (03150106; 43 MGD) subbasins.

The counties with the largest industrial, thermoelectric, and mining returns are Limestone (2,840 MGD), Colbert (996 MGD), Mobile (714 MGD), Walker (624 MGD) and Shelby (460 MGD) Counties. The subbasins with the largest industrial, thermoelectric, and mining returns are the Wheeler Lake (06030002; 2,930 MGD), the Pickwick (06030005; 996 MGD), the Mobile-Tensaw (03160204; 708 MGD), the Mulberry Fork (03160109; 625 MGD), and the Lower Coosa (03150107; 470 MGD) subbasins.

Total water returns decreased 19 percent from 2010 to 2015 from 9,641 MGD in 2010 to 7,629 MGD in 2015. Public-supply returns increased 7 percent from 2010 to 2015 from 524 MGD in 2010 to 560 MGD in 2015. Industrial, thermoelectric, and mining returns decreased 21 percent from 2010 to 2015 from 8,937 MGD to 7,069 MGD in 2015 due in part to the closure of some industrial and thermoelectric-power facilities.

Net Water Demands (Consumption)

A critical aspect of this report was to develop consumptive use estimates for each subbasin. This report has summarized water withdrawals for each subbasin for 8 sectors of water use (public supply, self-supplied residential, irrigation, aquaculture, livestock, industrial, mining and thermoelectric power) as well as returns for two sectors; the public supply sector and the industrial, thermoelectric, and mining sector. Consumptive use was then calculated as the difference between surface-water withdrawals and water returns.

The monthly public-supply and residential water withdrawal estimates were developed based on an analysis of reported data as previously detailed in this report. Water sold to or purchased from other public suppliers was not included in this study.

Self-supplied residential withdrawals are not reported as part of the AWURP and are not collected by any other state or federal agency. Since this data is unavailable, self-supplied residential withdrawals estimated at the county level were aggregated to the subbasin level.

The agriculture sector consists of the aquaculture, irrigation and livestock sectors. The average estimates of water withdrawals for the livestock and aquaculture subsectors was applied to each month to develop monthly withdrawal estimates. As for the irrigation subsector, the baseline data that was used to develop the 2015 annual withdrawal estimates was analyzed and a percent of average for each month was developed, resulting in a “bell curve” for this subsector. Those percentages were then multiplied to the annual average, to estimated monthly withdrawals. It was assumed for this report that all agriculture water withdrawals were completely consumptive and that no returns occurred.

The industrial, miming, and thermoelectric withdrawal estimates by subbasin were primarily based on site-specific monthly reported data through the AWURP. Subbasin estimates for mining withdrawals were aggregated from the county estimates with the annual average withdrawal applied for each month.

For a detailed summary of water withdrawals, returns, and net consumption monthly by county and subbasin, respectively, according to source of water and water-use sector, see Appendices D and E.

Total Net Demand

The geographic distribution of the total net demand for 2015 is shown monthly in table 83. The total net demand for 2015 is 114 MGD. The subbasins with the largest net demands for 2015 are the Mulberry Fork (03160109; 80 MGD), the Escatawpa (03170008; 53 MGD), and the Cahaba (03150202; 31 MGD) subbasins. The subbasins with the smallest net demands for 2015 are the Locust Fork (03160111; -75 MGD), the Mobile-Tensaw (03160204; -52 MGD), the Upper Black Warrior (03160112; -45 MGD), and the Upper Alabama (03150201; -22 MGD) subbasins (figure 71).

Public Supply Net Demand

The geographic distribution of the public-supply net demand for 2015 is shown monthly in table 84. The public-supply net demand for 2015 is -70 MGD. Although there is limited information on the specific reasons for the decrease in water demands for this sector other than natural variability in residential, industrial, and commercial water use within a public water system, the fact that 2015 had approximately 3 inches above average annual precipitation while 2010 had approximately 10 inches below average annual precipitation is a contributing factor.

The subbasins with the largest public-supply net demands for 2015 are the Escatawpa (03170008; 52 MGD), the Mulberry Fork (03160109; 36 MGD) and the Cahaba (03150202; 24 MGD) subbasins. The subbasins with the smallest public-supply net demands for 2015 are the Locust Fork (03160111; -62 MGD) and the Mobile-Tensaw (03160204; -44 MGD) subbasins (figure 72).

Agriculture Net Demand

The geographic distribution of the agriculture net demand for 2015 is shown monthly in table 85. The agriculture net demand for 2015 is 161 MGD. The subbasins with the largest net demands for 2015 are the Wheeler Lake (06030002; 13 MGD), the Middle Coosa (03150106; 12 MGD), the Lower Black Warrior (03160113; 11 MGD) the Middle Chattahoochee-Lake Harding (03130003; 10 MGD) and the Upper Alabama (0315020; 10 MGD) subbasins (figure 73).

Industrial, Thermoelectric, and Mining Net Demand

The geographic distribution of the industrial, thermoelectric, and mining net demand for 2015 is shown monthly in table 86. The industrial, thermoelectric and mining net demand for 2015 is 23 MGD. The subbasins with the largest net demands for 2015 are the Mulberry Fork (03160109; 42 MGD) the Lower Chattahoochee (03130004; 22 MGD), and the Wheeler Lake (06030002; 11 MGD) subbasins. The subbasins with the smallest industrial, thermoelectric, and mining net demands for 2015 are the Upper Black Warrior (03160112; -31 MGD), the Locust Fork (03160111; -16 MGD), and the Mobile Tensaw (03160204; -11 MGD) subbasins. (figure 74).

Figure 71. Map of total net demand in Alabama for 2015, in MGD.

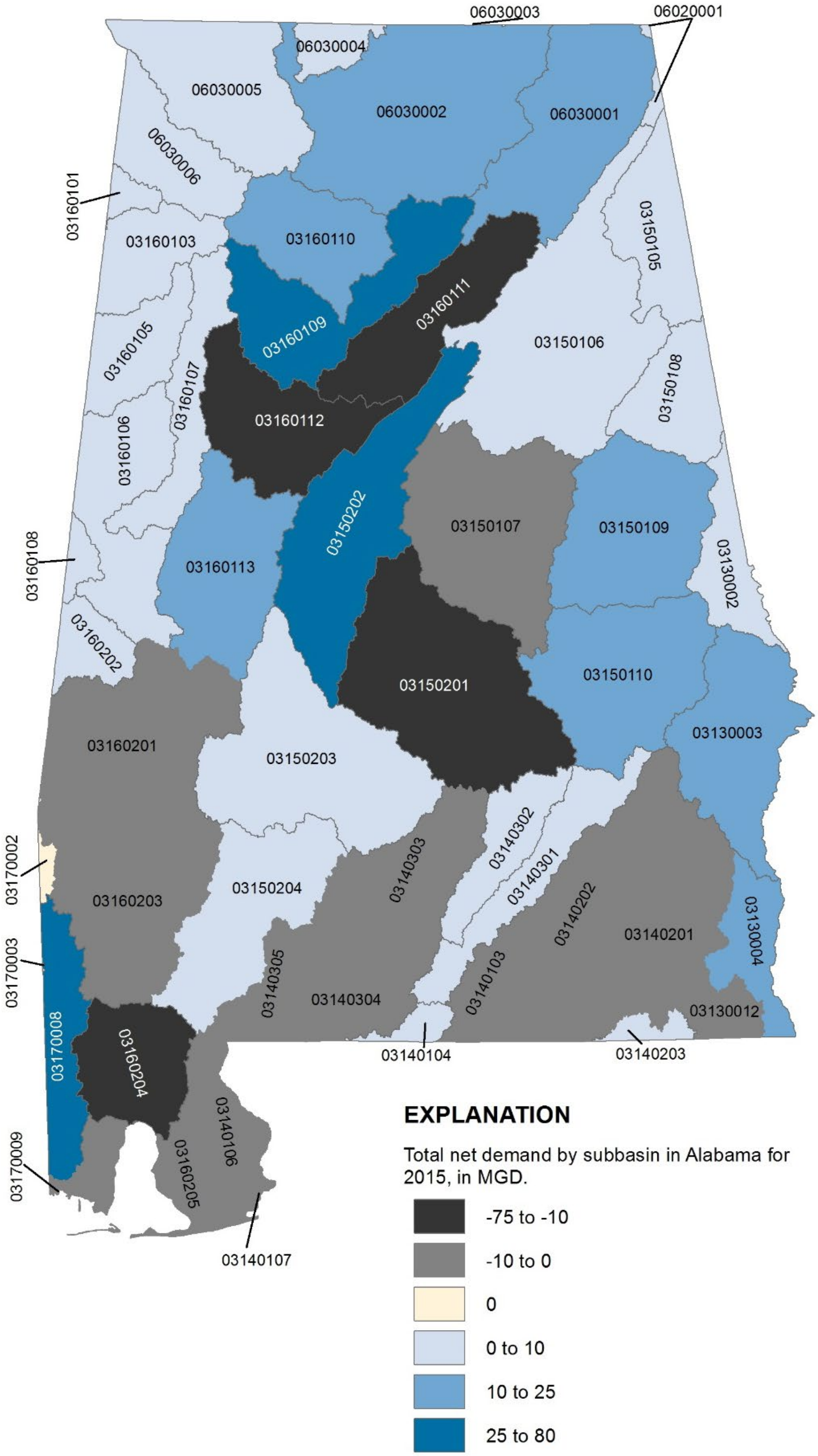


Table 83. Total net demand by subbasin in Alabama for 2015, in MGD.

Hydrologic subregion and subbasin	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	AVG
Apalachicola													
03130002	3.18	2.67	2.88	2.91	4.72	4.72	5.98	5.64	6.41	5.78	2.42	-0.64	3.89
03130003	9.72	1.34	17.60	3.40	25.50	33.03	26.83	34.37	27.73	23.08	11.31	0.81	17.98
03130004	23.27	23.64	7.06	-5.49	15.35	45.63	39.91	35.48	28.94	26.51	6.00	2.64	20.82
03130012	-2.15	-1.69	-1.35	-2.08	-0.73	0.21	0.14	0.40	-0.48	-0.77	-3.69	-3.01	-1.26
Subtotal	*34.01*	*25.95*	*26.19*	*-1.27*	*44.83*	*83.60*	*72.87*	*75.90*	*62.59*	*54.60*	*16.04*	*-0.21*	*41.43*
Chocawhatchee-Escambia													
03140103	-1.21	-0.83	-0.79	-0.66	0.67	1.30	1.24	1.11	0.92	0.25	-1.84	-1.15	-0.08
03140104	0.04	0.09	0.10	0.14	0.20	0.27	0.28	0.28	0.23	0.19	0.12	0.09	0.17
03140106	-2.90	-1.30	-2.49	-3.37	0.01	1.73	2.01	2.75	2.17	1.35	-1.89	-3.15	-0.42
03140107	-4.56	-3.33	-3.74	-3.86	-2.65	-3.44	-4.00	-2.29	-2.08	-2.33	-2.96	-3.17	-3.19
03140201	-13.50	-12.63	-10.40	-12.97	-5.19	0.76	3.16	1.86	-4.07	-5.26	-19.60	-18.74	-8.01
03140202	-5.30	-4.75	-3.80	-3.41	0.11	3.47	3.79	2.61	-1.20	-1.98	-6.17	-6.77	-1.93
03140203	0.16	0.28	0.42	0.57	1.00	1.53	1.59	1.36	0.84	0.67	0.38	0.27	0.76
03140301	-0.14	-0.50	0.44	-0.07	1.88	3.42	3.79	3.66	2.60	2.23	0.72	-0.18	1.50
03140302	0.23	0.28	0.35	0.59	1.02	1.55	1.65	1.32	0.70	0.54	0.21	0.13	0.72
03140303	-1.49	-1.11	-1.09	-0.93	0.36	1.08	1.36	1.25	0.89	0.32	-0.66	-1.71	-0.14
03140304	-15.99	-4.07	-8.57	-12.32	-0.52	-0.20	-0.40	0.56	-0.34	-0.37	5.72	-7.08	-3.60
03140305	-1.01	-0.81	-0.83	-0.87	-0.36	-0.36	-0.45	-0.25	-0.29	-0.47	-1.12	-1.18	-0.67
Subtotal	*-45.67*	*-28.70*	*-30.40*	*-37.17*	*-3.47*	*11.11*	*14.00*	*14.22*	*0.36*	*-4.84*	*-27.11*	*-42.65*	*-14.89*
Alabama													
03150105	0.23	1.66	1.08	1.07	4.86	6.75	7.09	7.29	6.55	5.40	1.87	1.10	3.76
03150106	-16.52	-3.48	-11.21	-25.88	22.76	31.56	24.51	31.04	10.56	13.05	-12.76	-25.76	3.00
03150107	-11.79	-11.43	-7.76	-8.18	1.87	5.68	5.61	5.69	6.91	1.96	-8.66	-13.29	-3.39
03150108	0.61	0.71	0.67	0.52	0.82	1.19	1.19	1.12	1.03	0.96	0.59	0.45	0.82
03150109	10.90	9.67	11.09	10.75	14.81	16.30	17.41	17.11	15.15	16.42	13.22	10.59	13.64
03150110	13.77	14.68	14.16	16.88	25.56	34.28	36.04	36.10	32.93	25.84	15.14	7.36	22.77
03150201	-47.55	-40.57	-39.40	-41.90	-16.10	-7.97	-1.01	3.69	3.92	-7.03	-30.21	-43.21	-22.20
03150202	20.82	23.69	19.12	11.89	39.06	41.51	38.77	40.97	41.09	43.88	30.47	20.49	31.01
03150203	6.90	2.83	5.44	4.52	10.02	13.41	12.69	13.14	7.47	10.26	5.00	7.11	8.24
03150204	2.05	3.44	0.19	6.05	4.04	3.61	8.95	4.78	8.28	4.73	1.23	-1.07	3.90
Subtotal	*-20.58*	*1.20*	*-6.63*	*-24.28*	*107.69*	*146.32*	*151.26*	*160.94*	*133.89*	*115.49*	*15.90*	*-36.22*	*61.56*
Mobile-Tombigbee													
03160101	0.08	0.08	0.10	0.11	0.15	0.20	0.21	0.18	0.13	0.11	0.09	0.08	0.13

Table 83. Total net demand by subbasin in Alabama for 2015, in MGD – Continued.

Hydrologic subregion and subbasin	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	AVG
03160103	0.65	0.41	-0.22	-0.17	0.82	0.98	0.87	1.00	1.33	1.27	0.56	-0.21	0.61
03160105	-3.15	-0.33	-1.01	-1.43	-2.09	0.83	2.08	1.74	1.79	1.52	0.92	0.32	0.10
03160106	0.62	0.63	0.65	0.96	3.06	5.02	5.07	4.20	2.22	1.98	0.25	-0.10	2.06
03160107	-0.15	-0.07	-0.83	-0.74	0.89	2.00	2.07	2.06	1.64	1.29	0.00	-0.68	0.63
03160108	1.18	0.27	0.62	0.22	3.05	3.10	3.11	3.07	3.02	3.01	0.66	-0.35	1.75
03160109	47.44	92.51	57.18	63.90	74.56	95.61	96.08	89.75	93.74	103.99	83.90	53.42	79.51
03160110	24.19	6.66	3.56	10.33	18.34	17.91	15.14	11.29	11.97	15.83	12.25	9.72	13.15
03160111	-76.32	-64.99	-100.75	-125.84	-66.55	-40.38	-46.08	-48.43	-53.80	-56.17	-79.78	-138.98	-74.87
03160112	-96.15	-78.75	-85.01	-94.28	-15.57	-25.71	-32.90	-25.81	-11.07	-4.55	-22.53	-52.45	-45.37
03160113	18.48	18.25	3.96	6.13	13.13	12.72	16.76	23.57	21.49	14.15	8.27	7.85	13.55
03160201	-7.78	-3.92	-8.22	-5.64	-0.52	1.18	-5.98	-1.13	6.71	3.97	-3.76	-14.53	-3.28
03160202	-0.09	-0.28	-0.70	-0.13	0.65	0.76	1.26	1.59	1.37	0.99	-0.17	-0.29	0.41
03160203	-8.75	-7.01	-7.20	-8.22	-7.65	-5.71	-3.60	-3.36	-6.49	-14.12	-11.32	-13.01	-8.14
03160204	-45.15	-54.09	-91.82	-82.34	-59.66	-48.27	-24.21	-27.77	-40.12	-40.74	-51.81	-61.75	-52.02
03160205	-7.03	-3.96	-4.36	-2.65	-0.09	1.78	3.44	2.88	1.12	-2.66	-6.10	-5.46	-1.91
Subtotal	*-151.94*	*-94.58*	*-234.06*	*-239.78*	*-37.47*	*22.02*	*33.33*	*34.84*	*35.06*	*29.86*	*-68.56*	*-216.40*	*-73.70*
Pascagoula													
03170002	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03170003	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03170008	51.05	47.88	49.72	52.47	56.55	59.38	50.59	58.24	55.66	54.21	52.73	50.03	53.23
03170009	-1.30	-1.34	-1.57	-1.86	-1.25	-1.37	-1.95	-1.80	-1.76	-1.89	-2.48	-2.31	-1.74
Subtotal	*49.76*	*46.54*	*48.16*	*50.62*	*55.31*	*58.01*	*48.64*	*56.44*	*53.90*	*52.32*	*50.26*	*47.72*	*51.50*
Middle Tennessee-Hiwassee													
06020001	0.07	0.11	0.11	0.13	0.17	0.20	0.20	0.22	0.20	0.18	0.13	0.11	0.15
Subtotal	*0.07*	*0.11*	*0.11*	*0.13*	*0.17*	*0.20*	*0.20*	*0.22*	*0.20*	*0.18*	*0.13*	*0.11*	*0.15*
Middle Tennessee-Elk													
06030001	13.00	14.52	10.02	11.66	25.34	29.56	28.96	28.76	30.22	24.91	17.05	5.22	19.17
06030002	-27.81	-16.04	-61.39	-41.51	16.93	76.91	91.55	86.46	46.13	39.25	-4.07	-57.98	12.12
06030003	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06030004	7.25	7.51	7.71	8.39	10.78	14.05	14.55	12.76	10.29	9.55	8.24	7.83	9.93
06030005	-1.66	1.21	-11.28	-11.55	7.48	6.48	17.60	16.62	15.92	13.57	1.12	-14.33	3.54
06030006	0.94	2.78	0.74	1.04	3.61	5.45	6.58	6.63	5.93	5.01	3.18	-0.06	3.49
Subtotal	*-8.28*	*9.98*	*-54.21*	*-31.96*	*64.14*	*132.45*	*159.24*	*151.23*	*108.49*	*92.28*	*25.52*	*-59.32*	*48.24*
Total	**-142.63**	**-39.51**	**-250.84**	**-283.70**	**231.20**	**453.70**	**479.53**	**493.80**	**394.49**	**339.90**	**12.18**	**-306.97**	**114.29**

Figure 72. Map of public-supply net demand in Alabama for 2015, in MGD.

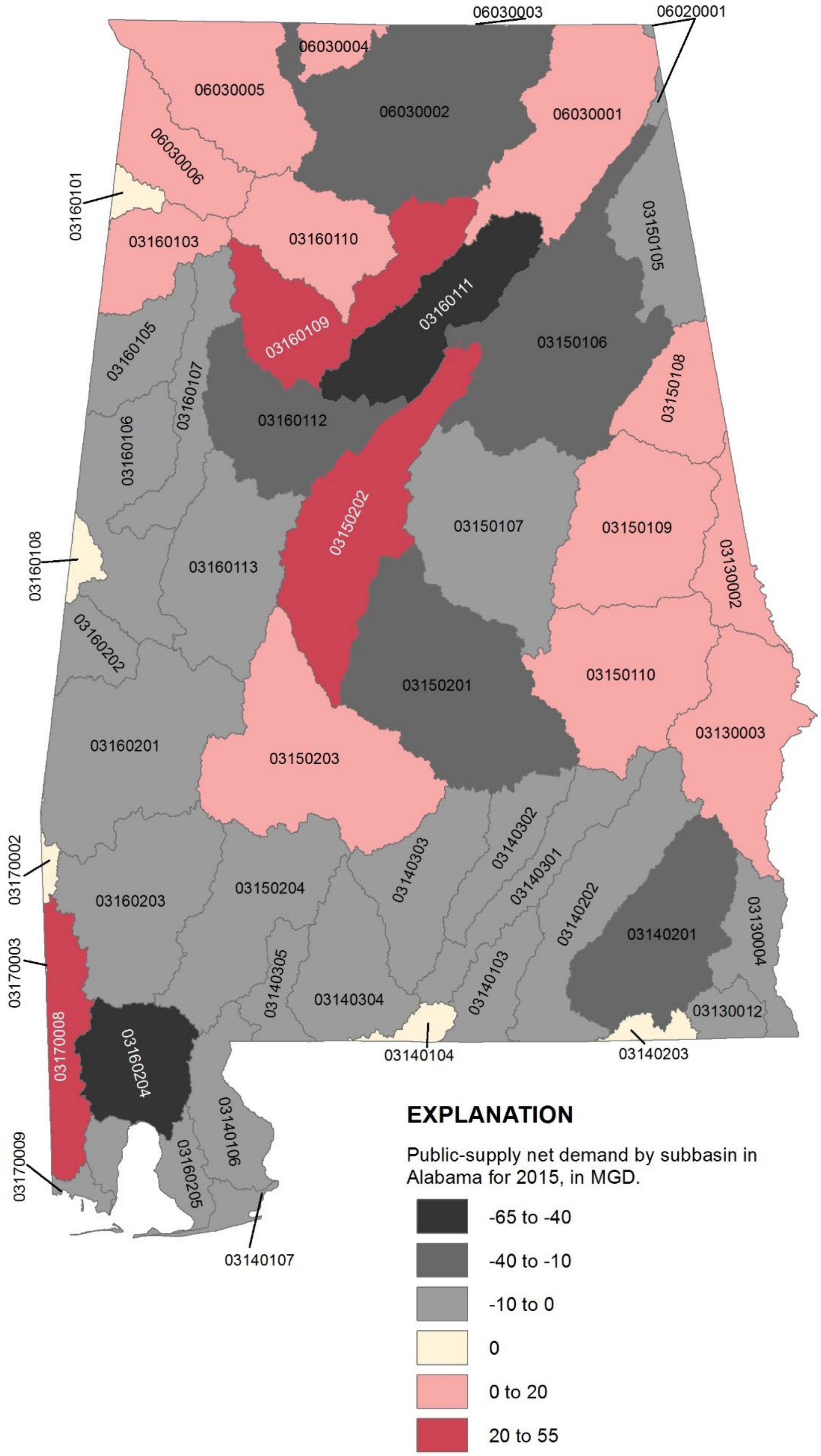


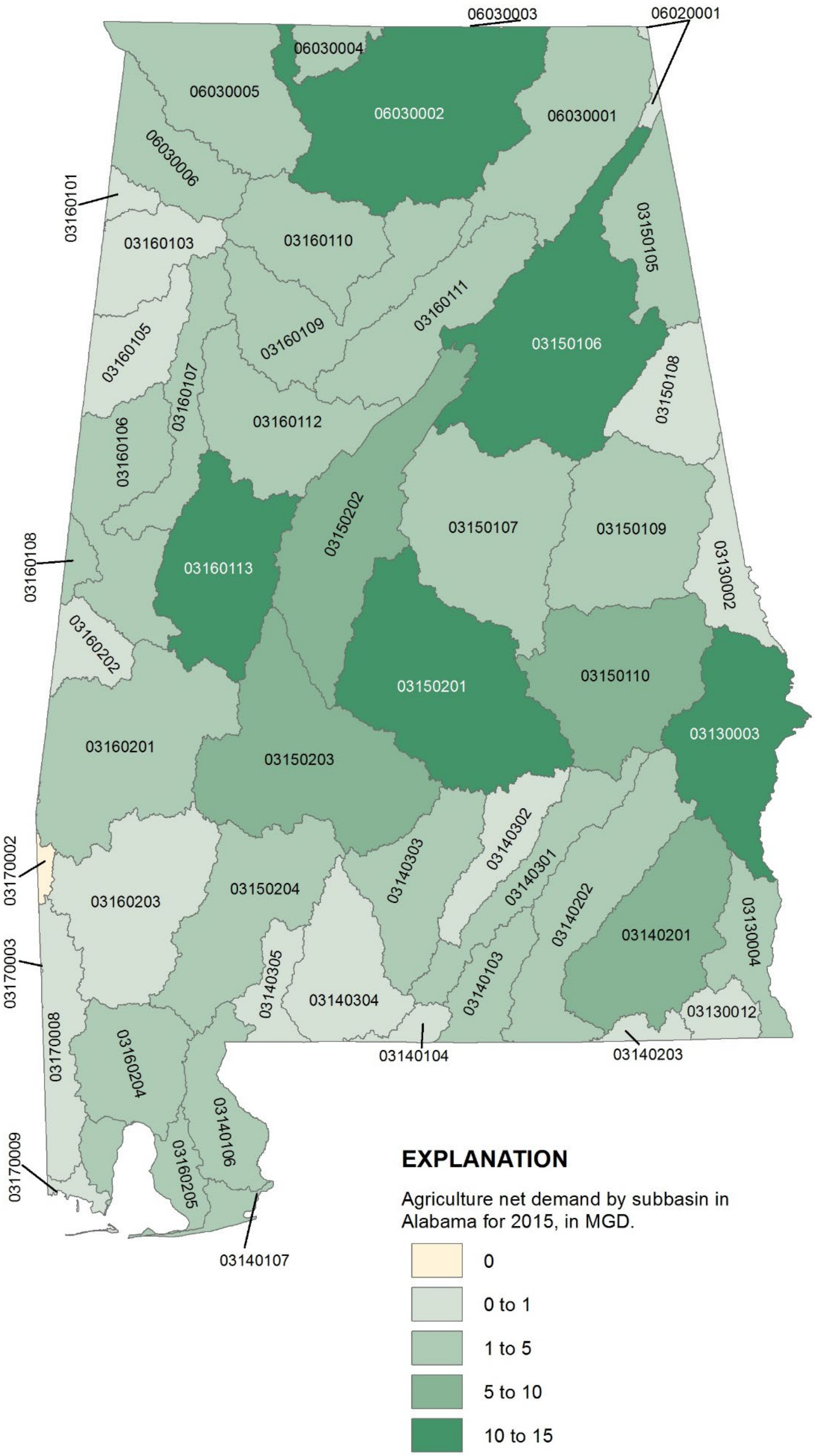
Table 84. Public-supply net demand by subbasin in Alabama for 2015, in MGD.

Hydrologic subregion and subbasin	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	AVG
Apalachicola													
03130002	3.00	2.37	2.51	2.38	3.92	3.71	4.94	4.52	5.44	4.96	2.00	-0.94	3.24
03130003	0.94	0.53	0.68	-0.97	2.39	2.68	3.73	2.72	3.07	2.93	-0.65	-2.88	1.27
03130004	-4.25	-3.75	-3.78	-5.34	-4.15	-4.02	-3.84	-3.29	-3.50	-3.39	-7.57	-6.49	-4.45
03130012	-2.36	-1.87	-1.73	-2.75	-2.02	-1.78	-1.95	-1.38	-1.59	-1.62	-3.93	-3.17	-2.18
Subtotal	*-2.67*	*-2.73*	*-2.32*	*-6.68*	*0.13*	*0.58*	*2.89*	*2.57*	*3.42*	*2.88*	*-10.14*	*-13.48*	*-2.12*
Chocawhatchee-Escambia													
03140103	-1.51	-1.41	-1.51	-1.74	-0.90	-0.71	-0.82	-1.03	-0.83	-1.24	-2.69	-1.76	-1.35
03140104	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03140106	-3.17	-2.40	-3.86	-5.47	-3.13	-2.25	-2.04	-1.82	-1.80	-2.01	-3.68	-4.30	-2.99
03140107	-4.90	-4.03	-4.71	-5.46	-5.17	-6.57	-7.28	-5.57	-4.90	-4.60	-4.21	-3.93	-5.11
03140201	-12.83	-11.85	-11.75	-16.33	-12.94	-12.46	-10.99	-9.47	-9.85	-9.57	-20.53	-18.61	-13.10
03140202	-5.62	-5.61	-5.49	-6.18	-5.66	-5.71	-5.84	-5.54	-6.00	-5.58	-7.30	-7.30	-5.99
03140203	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03140301	-1.60	-1.81	-1.52	-2.18	-1.56	-1.23	-1.05	-0.97	-0.87	-0.99	-1.86	-1.98	-1.47
03140302	-0.30	-0.29	-0.34	-0.33	-0.30	-0.30	-0.26	-0.24	-0.27	-0.29	-0.41	-0.45	-0.31
03140303	-1.96	-1.65	-1.92	-2.11	-1.68	-1.50	-1.41	-1.31	-1.32	-1.40	-1.59	-2.27	-1.68
03140304	-2.52	-2.52	-1.90	-2.54	-1.83	-1.87	-2.04	-1.52	-1.46	-1.53	-2.10	-2.35	-2.02
03140305	-1.06	-0.89	-0.93	-1.05	-0.70	-0.79	-0.89	-0.73	-0.72	-0.83	-1.20	-1.25	-0.92
Subtotal	*-35.46*	*-32.46*	*-33.94*	*-43.40*	*-33.89*	*-33.40*	*-32.60*	*-28.18*	*-28.02*	*-28.04*	*-45.57*	*-44.18*	*-34.93*
Alabama													
03150105	-0.55	-0.14	-1.15	-2.15	0.05	0.54	0.76	0.49	0.82	0.54	-0.81	-0.75	-0.20
03150106	-24.67	-20.22	-31.84	-43.12	-7.38	-4.14	1.66	1.86	3.00	0.98	-20.73	-35.43	-15.00
03150107	-5.15	-3.09	-4.40	-3.86	1.83	3.34	3.24	3.68	4.19	2.63	-1.83	-5.86	-0.43
03150108	0.30	0.38	0.32	0.15	0.38	0.66	0.65	0.62	0.62	0.57	0.25	0.13	0.42
03150109	10.37	9.13	10.40	9.49	12.97	13.81	14.85	14.77	13.35	14.89	12.57	10.03	12.24
03150110	11.70	11.02	9.32	9.90	14.48	19.70	21.01	20.67	20.20	15.29	9.72	3.68	13.90
03150201	-36.72	-39.35	-37.20	-42.13	-37.59	-36.54	-35.24	-34.07	-32.58	-31.86	-38.12	-52.24	-37.80
03150202	17.97	20.67	15.16	5.79	29.66	30.31	27.11	28.72	29.72	34.55	26.08	17.35	23.60
03150203	1.77	1.84	1.44	1.35	1.55	1.71	1.94	1.66	1.60	1.47	1.12	1.13	1.55
03150204	-0.67	-0.63	-0.76	-0.90	-0.85	-1.01	-0.77	-0.78	-0.75	-0.70	-0.66	-1.11	-0.80
Subtotal	*-25.64*	*-20.39*	*-38.71*	*-65.49*	*15.11*	*28.39*	*35.22*	*37.62*	*40.18*	*38.36*	*-12.41*	*-63.08*	*-2.52*
Mobile-Tombigbee													
03160101	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table 84. Public-supply net demand by subbasin in Alabama for 2015, in MGD – Continued.

Hydrologic subregion and subbasin	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	AVG
03160103	0.43	0.21	-0.46	-0.49	0.38	0.48	0.35	0.44	0.81	0.82	0.33	-0.42	0.24
03160105	-2.97	-0.11	-0.49	-1.57	-2.62	-0.17	1.17	0.96	1.14	1.14	0.91	0.46	-0.18
03160106	-0.95	-1.08	-1.30	-1.62	-0.86	-0.65	-0.75	-0.57	-0.72	-0.55	-1.42	-1.55	-1.00
03160107	-1.55	-1.64	-2.58	-2.74	-1.67	-1.14	-1.14	-1.05	-0.94	-1.04	-1.75	-2.25	-1.62
03160108	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03160109	14.42	33.08	25.52	24.84	39.25	49.84	49.61	47.00	46.65	40.07	31.88	26.15	35.68
03160110	23.43	5.91	2.61	9.00	16.41	15.33	12.48	8.90	10.22	14.34	11.38	8.95	11.62
03160111	-64.79	-47.74	-75.44	-113.66	-53.24	-32.82	-37.59	-40.51	-40.54	-43.50	-67.40	-121.48	-61.60
03160112	-55.76	-37.30	-47.82	-64.00	-2.21	7.95	0.84	5.03	7.19	8.74	-7.26	-36.05	-18.37
03160113	-6.34	-4.32	-6.07	-5.68	-3.78	-4.01	-2.84	-2.77	-2.62	-4.31	-7.15	-7.37	-4.77
03160201	-3.61	-3.81	-3.88	-4.73	-1.48	-1.50	-7.58	-1.18	-1.19	-1.24	-2.85	-10.04	-3.59
03160202	-1.69	-1.84	-2.37	-1.88	-1.28	-1.21	-0.71	-0.41	-0.60	-0.92	-1.77	-1.85	-1.38
03160203	-3.23	-2.54	-2.24	-1.91	-1.17	-1.74	-1.75	-1.10	-0.95	-7.20	-4.88	-4.01	-2.73
03160204	-43.04	-38.62	-51.53	-60.56	-56.46	-48.95	-31.38	-36.05	-34.35	-34.22	-36.33	-51.82	-43.61
03160205	-3.09	-3.03	-3.65	-3.64	-2.88	-2.69	-2.57	-3.00	-2.88	-3.01	-3.33	-3.69	-3.12
Subtotal	*-148.75*	*-102.83*	*-169.69*	*-228.62*	*-71.61*	*-21.28*	*-21.87*	*-24.31*	*-18.79*	*-30.87*	*-89.65*	*-204.98*	*-94.43*
Pascagoula													
03170002	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03170003	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03170008	50.79	47.67	49.40	51.72	55.37	57.94	49.11	56.61	54.18	53.00	52.39	49.80	52.35
03170009	-1.18	-1.17	-1.37	-1.79	-1.38	-1.62	-1.69	-1.55	-1.43	-1.56	-1.84	-1.77	-1.53
Subtotal	*49.61*	*46.50*	*48.03*	*49.93*	*53.99*	*56.32*	*47.43*	*55.06*	*52.74*	*51.44*	*50.55*	*48.03*	*50.82*
Middle Tennessee-Hiwassee													
06020001	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*
Middle Tennessee-Elk													
06030001	7.77	8.96	4.74	5.39	16.79	21.56	20.83	19.78	21.65	18.13	12.60	1.66	13.34
06030002	-33.93	-22.40	-56.21	-53.13	-4.43	14.96	19.32	15.16	23.15	20.79	-10.80	-60.29	-12.26
06030003	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06030004	6.86	7.03	6.63	6.69	7.37	8.33	8.54	8.26	8.24	8.06	7.59	7.37	7.58
06030005	3.28	3.97	-10.08	-10.24	6.47	-0.11	8.65	7.71	10.38	8.95	-0.47	-13.18	1.28
06030006	1.66	3.22	1.71	1.83	3.06	4.68	5.13	5.40	5.64	4.99	3.53	0.49	3.44
Subtotal	*-14.35*	*0.79*	*-53.22*	*-49.48*	*29.25*	*49.41*	*62.47*	*56.31*	*69.07*	*60.92*	*12.44*	*-63.95*	*13.39*
Total	**-177.26**	**-111.12**	**-249.83**	**-343.74**	**-7.01**	**80.01**	**93.54**	**99.07**	**118.60**	**94.69**	**-94.78**	**-341.64**	**-69.79**

Figure 73. Map of agriculture net demand in Alabama for 2015, in MGD.


06030003
06020001
06030004
06030005
06030002
06030001
06030006
03160101
03160103
03160110
03150105
03160111
03150106
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03160109
03150108
03160107
03160112
03160106
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03150107
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03160113
03130002
03160202
03150201
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03130003
03160201
03150203
03170002
03140302
03140303
03140301
03160203
03150204
03140202
03130004
03140201
03170003
03140305
03140103
03140304
03130012
03140104
03140203
03170008
03160204
03140106
03160205
03170009
03140107
EXPLANATION
Agriculture net demand by subbasin in Alabama for 2015, in MGD.
0
0 to 1
1 to 5
5 to 10
10 to 15

Table 85. Agriculture net demand by subbasin in Alabama for 2015, in MGD.

Hydrologic subregion and subbasin	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	AVG
Apalachicola													
03130002	0.18	0.30	0.37	0.53	0.80	1.02	1.04	1.12	0.97	0.82	0.42	0.30	0.66
03130003	1.00	3.99	5.39	7.86	12.80	17.62	18.06	18.63	14.63	12.15	6.38	4.04	10.25
03130004	0.54	0.84	1.65	2.54	4.97	7.98	8.35	6.85	3.84	2.93	1.22	0.80	3.56
03130012	0.21	0.17	0.38	0.66	1.30	2.00	2.09	1.78	1.11	0.85	0.24	0.16	0.92
Subtotal	*1.93*	*5.30*	*7.79*	*11.60*	*19.87*	*28.61*	*29.54*	*28.39*	*20.55*	*16.75*	*8.26*	*5.30*	*15.38*
Chocawhatchee-Escambia													
03140103	0.30	0.58	0.71	1.08	1.57	2.02	2.06	2.13	1.76	1.49	0.84	0.61	1.27
03140104	0.04	0.09	0.10	0.14	0.20	0.27	0.28	0.28	0.23	0.19	0.12	0.09	0.17
03140106	0.27	1.10	1.37	2.09	3.14	3.98	4.04	4.56	3.97	3.36	1.79	1.15	2.58
03140107	0.34	0.69	0.97	1.60	2.52	3.13	3.27	3.27	2.82	2.28	1.25	0.76	1.92
03140201	1.72	2.22	3.86	5.89	10.86	16.39	17.18	14.56	9.22	7.15	3.27	2.18	7.91
03140202	1.18	1.77	2.69	3.78	6.60	10.01	10.40	8.96	5.61	4.51	2.37	1.73	4.99
03140203	0.15	0.27	0.41	0.57	0.99	1.52	1.58	1.36	0.83	0.67	0.37	0.27	0.75
03140301	0.61	0.74	1.02	1.59	2.52	3.45	3.57	3.36	2.50	2.06	0.99	0.76	1.94
03140302	0.49	0.52	0.66	0.88	1.28	1.81	1.87	1.51	0.93	0.79	0.59	0.54	0.99
03140303	0.49	0.56	0.84	1.19	2.06	2.60	2.78	2.58	2.22	1.73	0.95	0.57	1.55
03140304	0.23	0.24	0.32	0.62	0.91	1.11	1.13	1.19	1.02	0.85	0.36	0.27	0.69
03140305	0.08	0.09	0.12	0.22	0.36	0.45	0.46	0.51	0.45	0.37	0.13	0.09	0.28
Subtotal	*5.89*	*8.86*	*13.09*	*19.64*	*33.02*	*46.74*	*48.63*	*44.29*	*31.57*	*25.46*	*13.02*	*9.00*	*25.04*
Alabama													
03150105	0.77	1.80	2.24	3.22	4.82	6.21	6.33	6.81	5.73	4.86	2.69	1.85	3.96
03150106	2.19	4.57	6.23	9.36	15.03	19.92	20.58	20.82	16.91	13.90	7.22	4.70	11.83
03150107	0.78	1.32	1.92	3.17	5.19	7.01	7.24	7.16	5.62	4.58	2.08	1.37	3.97
03150108	0.31	0.33	0.35	0.37	0.44	0.52	0.53	0.50	0.41	0.39	0.34	0.33	0.40
03150109	0.60	0.58	0.78	1.33	1.99	2.62	2.71	2.49	1.86	1.55	0.74	0.62	1.49
03150110	1.12	2.69	3.88	6.02	10.12	13.62	14.07	14.47	11.77	9.59	4.46	2.73	7.91
03150201	3.60	4.90	6.21	8.43	12.67	16.78	17.34	16.51	12.85	10.79	6.51	4.98	10.16
03150202	2.78	2.89	3.85	5.98	9.24	11.02	11.49	12.08	11.18	9.16	4.25	2.98	7.27
03150203	3.74	4.59	5.11	5.92	7.59	9.48	9.67	9.30	7.52	6.78	5.27	4.62	6.64
03150204	0.26	0.55	0.66	0.90	1.31	1.62	1.65	1.86	1.66	1.42	0.80	0.56	1.11
Subtotal	*16.14*	*24.24*	*31.21*	*44.70*	*68.40*	*88.82*	*91.61*	*92.00*	*75.50*	*63.03*	*34.35*	*24.74*	*54.74*
Mobile-Tombigbee													
03160101	0.06	0.07	0.08	0.10	0.14	0.19	0.20	0.17	0.11	0.10	0.08	0.07	0.11

Table 85. Agriculture net demand by subbasin in Alabama for 2015, in MGD – Continued.

Hydrologic subregion and subbasin	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	AVG
03160103	0.22	0.21	0.24	0.32	0.44	0.51	0.52	0.56	0.52	0.45	0.23	0.21	0.37
03160105	0.20	0.18	0.27	0.39	0.66	0.95	0.99	0.88	0.61	0.49	0.21	0.18	0.50
03160106	1.19	1.15	1.59	2.10	3.36	5.02	5.23	4.13	2.36	1.94	1.24	1.14	2.54
03160107	1.15	1.32	1.49	1.75	2.31	2.89	2.96	2.86	2.34	2.08	1.50	1.32	2.00
03160108	2.92	2.92	2.94	2.95	2.99	3.04	3.04	3.01	2.95	2.94	2.92	2.92	2.96
03160109	0.93	0.94	1.03	1.53	1.84	2.08	2.11	2.06	1.79	1.61	1.10	1.01	1.51
03160110	0.73	0.73	0.92	1.30	1.90	2.55	2.63	2.36	1.72	1.46	0.84	0.74	1.50
03160111	1.14	0.96	1.29	2.64	3.89	4.57	4.68	5.12	4.70	3.91	1.37	1.06	2.96
03160112	0.79	1.49	2.04	3.15	5.01	6.30	6.56	6.69	5.79	4.70	2.52	1.57	3.90
03160113	9.76	10.14	10.30	10.97	11.57	12.02	12.06	12.27	11.89	11.52	10.56	10.23	11.11
03160201	1.33	1.28	1.35	1.68	1.96	2.07	2.09	2.24	2.19	2.00	1.38	1.31	1.74
03160202	0.41	0.39	0.42	0.59	0.68	0.73	0.73	0.76	0.71	0.65	0.44	0.42	0.58
03160203	0.24	0.23	0.26	0.44	0.54	0.59	0.60	0.62	0.57	0.51	0.29	0.26	0.43
03160204	0.44	0.92	1.31	2.10	3.43	4.36	4.54	4.70	4.08	3.30	1.62	0.96	2.66
03160205	0.85	1.48	2.26	3.74	6.29	7.89	8.29	8.44	7.44	5.91	2.81	1.58	4.77
Subtotal	*22.36*	*24.41*	*27.77*	*35.75*	*47.02*	*55.76*	*57.22*	*56.87*	*49.76*	*43.57*	*29.12*	*24.96*	*39.64*
Pascagoula													
03170002	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03170003	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03170008	0.26	0.21	0.32	0.75	1.19	1.44	1.48	1.63	1.48	1.21	0.34	0.23	0.88
03170009	0.07	0.06	0.10	0.19	0.34	0.45	0.46	0.48	0.41	0.33	0.09	0.06	0.26
Subtotal	*0.33*	*0.27*	*0.43*	*0.95*	*1.53*	*1.89*	*1.94*	*2.12*	*1.89*	*1.54*	*0.44*	*0.30*	*1.14*
Middle Tennessee-Hiwassee													
06020001	0.07	0.11	0.12	0.14	0.17	0.20	0.20	0.22	0.20	0.18	0.14	0.11	0.15
Subtotal	*0.07*	*0.11*	*0.12*	*0.14*	*0.17*	*0.20*	*0.20*	*0.22*	*0.20*	*0.18*	*0.14*	*0.11*	*0.15*
Middle Tennessee-Elk													
06030001	1.72	1.95	2.28	3.48	4.76	5.55	5.64	6.18	5.67	4.88	2.51	2.03	3.90
06030002	3.09	3.07	5.80	9.64	18.08	27.06	28.31	24.66	16.20	12.57	4.45	2.97	13.06
06030003	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06030004	0.40	0.49	1.09	1.71	3.42	5.73	6.02	4.51	2.05	1.50	0.66	0.47	2.35
06030005	1.37	1.40	2.25	3.63	6.14	8.70	9.14	7.70	5.17	4.05	2.04	1.47	4.44
06030006	0.50	0.53	0.75	1.01	1.66	2.46	2.56	2.16	1.37	1.12	0.62	0.52	1.28
Subtotal	*7.09*	*7.45*	*12.16*	*19.47*	*34.07*	*49.50*	*51.67*	*45.21*	*30.46*	*24.11*	*10.27*	*7.46*	*25.02*
Total	**53.82**	**70.65**	**92.57**	**132.25**	**204.08**	**271.51**	**280.80**	**269.10**	**209.94**	**174.64**	**95.60**	**71.86**	**161.12**

Figure 74. Map of industrial, thermoelectric, and mining net demand by subbasin in Alabama for 2015, in MGD.

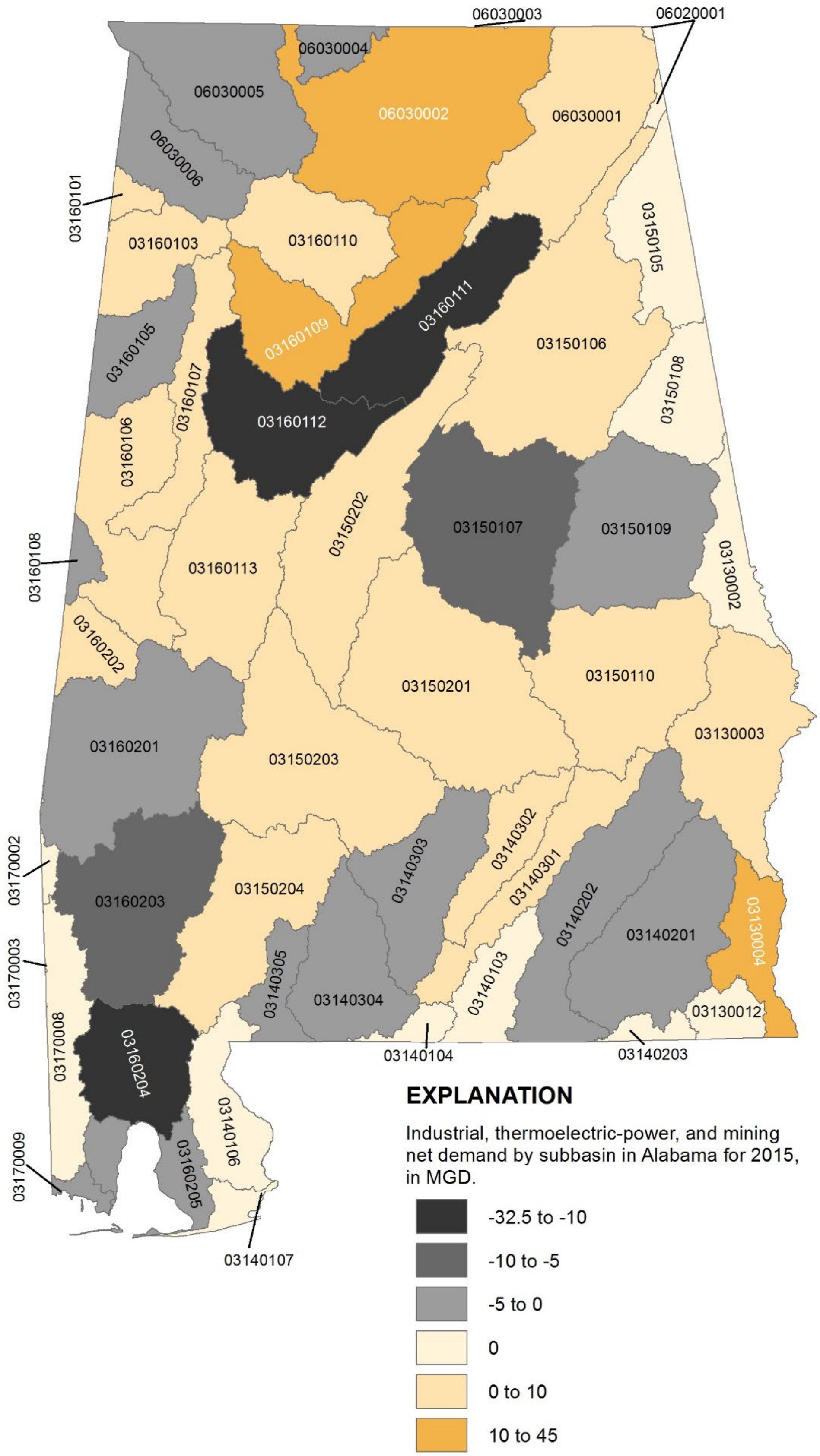


Table 86. Industrial, thermoelectric, and mining net demand by subbasin in Alabama for 2015, in MGD.

Hydrologic subregion and subbasin	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	AVG
Apalachicola													
03130002	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03130003	7.78	-3.18	11.53	-3.49	10.31	12.73	5.04	13.03	10.03	8.00	5.58	-0.35	6.46
03130004	26.98	26.55	9.19	-2.70	14.53	41.67	35.40	31.92	28.60	26.97	12.35	8.33	21.70
03130012	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal	*34.75*	*23.37*	*20.72*	*-6.19*	*24.84*	*54.40*	*40.44*	*44.94*	*38.62*	*34.97*	*17.92*	*7.98*	*28.17*
Chocawhatchee-Escambia													
03140103	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03140104	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03140106	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03140107	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03140201	-2.39	-2.99	-2.51	-2.54	-3.12	-3.17	-3.03	-3.24	-3.45	-2.84	-2.35	-2.31	-2.83
03140202	-0.86	-0.91	-1.00	-1.00	-0.82	-0.82	-0.77	-0.81	-0.81	-0.90	-1.24	-1.20	-0.93
03140203	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03140301	0.85	0.57	0.94	0.53	0.92	1.19	1.26	1.26	0.97	1.16	1.59	1.04	1.03
03140302	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
03140303	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02
03140304	-13.69	-1.79	-6.99	-10.40	0.40	0.57	0.51	0.90	0.10	0.31	7.46	-5.00	-2.28
03140305	-0.03	0.00	-0.02	-0.04	-0.01	-0.02	-0.03	-0.02	-0.02	-0.02	-0.05	-0.03	-0.02
Subtotal	*-16.10*	*-5.10*	*-9.56*	*-13.42*	*-2.60*	*-2.22*	*-2.03*	*-1.88*	*-3.18*	*-2.26*	*5.44*	*-7.47*	*-5.00*
Alabama													
03150105	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03150106	5.96	12.17	14.39	7.87	15.10	15.78	2.27	8.36	-9.35	-1.84	0.75	4.97	6.17
03150107	-7.41	-9.66	-5.29	-7.49	-5.15	-4.67	-4.87	-5.15	-2.90	-5.24	-8.91	-8.80	-6.93
03150108	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03150109	-0.06	-0.03	-0.10	-0.07	-0.15	-0.13	-0.15	-0.15	-0.06	-0.01	-0.09	-0.05	-0.09
03150110	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
03150201	-14.43	-6.12	-8.41	-8.20	8.81	11.79	16.89	21.25	23.65	14.04	1.40	4.05	5.44
03150202	0.07	0.12	0.12	0.13	0.15	0.18	0.17	0.16	0.19	0.17	0.14	0.16	0.15
03150203	1.39	-3.61	-1.11	-2.75	0.87	2.21	1.09	2.18	-1.65	2.02	-1.39	1.36	0.05
03150204	2.45	3.52	0.30	6.05	3.58	3.00	8.07	3.70	7.37	4.01	1.09	-0.52	3.59
Subtotal	*-11.08*	*-2.66*	*0.86*	*-3.50*	*24.18*	*29.11*	*24.43*	*31.31*	*18.21*	*14.11*	*-6.05*	*2.12*	*9.33*
Mobile-Tombigbee													
03160101	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01

Table 86. Industrial, thermoelectric, and mining net demand by subbasin in Alabama for 2015, in MGD – Continued.

Hydrologic subregion and subbasin	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	AVG
03160103	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03160105	-0.38	-0.40	-0.79	-0.26	-0.13	0.05	-0.08	-0.10	0.04	-0.11	-0.20	-0.32	-0.22
03160106	0.38	0.57	0.37	0.48	0.56	0.65	0.59	0.64	0.58	0.59	0.43	0.32	0.51
03160107	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
03160108	-1.74	-2.66	-2.31	-2.73	0.07	0.07	0.07	0.07	0.07	0.07	-2.27	-3.27	-1.22
03160109	32.09	58.49	30.64	37.53	33.46	43.69	44.37	40.68	45.31	62.31	50.92	26.26	42.32
03160110	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
03160111	-12.67	-18.21	-26.60	-14.82	-17.20	-12.13	-13.17	-13.03	-17.95	-16.57	-13.75	-18.55	-16.22
03160112	-41.19	-42.93	-39.23	-33.43	-18.37	-39.96	-40.30	-37.52	-24.05	-17.99	-17.79	-17.96	-30.89
03160113	15.06	12.43	-0.27	0.84	5.34	4.70	7.55	14.07	12.23	6.93	4.87	4.99	7.21
03160201	-5.49	-1.39	-5.69	-2.59	-0.99	0.61	-0.49	-2.19	5.71	3.21	-2.29	-5.79	-1.43
03160202	1.20	1.16	1.26	1.16	1.24	1.24	1.24	1.25	1.25	1.26	1.16	1.15	1.21
03160203	-5.76	-4.71	-5.23	-6.74	-7.02	-4.56	-2.44	-2.89	-6.11	-7.43	-6.72	-9.26	-5.84
03160204	-2.55	-16.38	-41.60	-23.88	-6.63	-3.68	2.64	3.58	-9.85	-9.81	-17.10	-10.90	-11.07
03160205	-4.79	-2.41	-2.97	-2.75	-3.51	-3.42	-2.28	-2.57	-3.43	-5.56	-5.58	-3.34	-3.55
Subtotal	*-25.55*	*-16.16*	*-92.15*	*-46.90*	*-12.89*	*-12.45*	*-2.03*	*2.28*	*4.09*	*17.17*	*-8.03*	*-36.38*	*-18.90*
Pascagoula													
03170002	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03170003	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03170008	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03170009	-0.19	-0.24	-0.30	-0.26	-0.21	-0.20	-0.72	-0.74	-0.74	-0.66	-0.74	-0.60	-0.47
Subtotal	*-0.19*	*-0.24*	*-0.30*	*-0.26*	*-0.21*	*-0.20*	*-0.72*	*-0.74*	*-0.74*	*-0.66*	*-0.74*	*-0.60*	*-0.47*
Middle Tennessee-Hiwassee													
06020001	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*
Middle Tennessee-Elk													
06030001	3.50	3.61	3.01	2.80	3.80	2.45	2.48	2.80	2.90	1.89	1.95	1.53	1.93
06030002	3.03	3.28	-10.98	1.99	3.28	34.89	43.92	46.64	6.77	5.90	2.29	-0.66	11.32
06030003	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06030004	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
06030005	-6.32	-4.16	-3.45	-4.93	-5.13	-2.11	-0.19	1.21	0.37	0.56	-0.45	-2.62	-2.18
06030006	-1.23	-0.98	-1.72	-1.79	-1.12	-1.69	-1.11	-0.93	-1.08	-1.10	-0.97	-1.07	-1.23
Subtotal	*-1.02*	*1.75*	*-13.15*	*-1.95*	*0.82*	*33.54*	*45.10*	*49.71*	*8.96*	*7.25*	*2.81*	*-2.83*	*9.83*
Total	**-19.18**	**0.96**	**-93.59**	**-72.22**	**34.13**	**102.18**	**105.19**	**125.63**	**65.96**	**70.57**	**11.36**	**-37.20**	**22.96**

Comparison of Net Water Demands (Consumption)

Total Net Demand Comparison

The geographic distribution of the comparison of total net demands from 2010 to 2015 is shown in table 87. Overall total net demand increased 32 MGD (39%) from 2010 to 2015 from 82 MGD in 2010 to 114 MGD in 2015. The subbasins with the largest increases in total net demand from 2010 to 2015 are the Upper Black Warrior (03160112; 52 MGD), the Upper Alabama (03150201; 34 MGD) and the Guntersville Lake (06030001; 33 MGD) subbasins. The subbasins with the largest decreases in total net demand from 2010 to 2015 are the Locust Fork (03160111; -28 MGD), the Escatawpa (03170008; -17 MGD), the Middle Tombigbee-Chickasaw (03160201; -17 MGD), and the Mulberry Fork (03160109; -16 MGD) subbasins (figure 75).

Public-Supply Net Demand Comparison

The geographic distribution of the comparison of public-supply net demands from 2010 to 2015 is shown in table 88. Public-supply net demand decreased 97 MGD (-350%) from 2010 to 2015 from 28 MGD in 2010 to -70 MGD in 2015. The subbasins with the largest increases in total net demand from 2010 to 2015 are the Upper Black Warrior (03160112; 11 MGD), the Upper Alabama (03150201; 2 MGD), the Middle Alabama (03150203; 2 MGD), the Escambia (03140305; 2 MGD), and the Mobile Tensaw (03160204; 2 MGD) subbasins. The subbasins with the largest decreases in public-supply demand from 2010 to 2015 are the Locust Fork (03160111; -32 MGD), the Wheeler Lake (06030002; -22 MGD), and the Escatawpa (03170008; -18 MGD) subbasins (figure 76).

Agriculture Net Demand Comparison

The geographic distribution of the comparison of agriculture net demands from 2010 to 2015 is shown in table 89. Agriculture net demand decreased 30 MGD (16%) from 2010 to 2015 from 191 MGD in 2010 to 161 MGD in 2015. The subbasins with the largest increases in agriculture net demand from 2010 to 2015 are the Upper Alabama (03150201; 3 MGD), the Noxubee (03160108; 2 MGD), and the Wheeler Lake (06030002; 2 MGD) subbasins. The subbasins with the largest decreases in agriculture net demand from 2010 to 2015 are the Lower Black Warrior (03160113; -14 MGD), the Middle Alabama (03150203; -10 MGD), the Middle Tombigbee-Lubbub (03160106; -8 MGD) and the Middle Coosa (03150106; -7 MGD) subbasins (figure 77).

Industrial, Thermoelectric, and Mining Net Demand Comparison

The geographic distribution of the comparison of industrial, thermoelectric, and mining net demands from 2010 to 2015 is shown in table 90. Industrial, thermoelectric, and mining demand increased 160 MGD (117%) from 2010 to 2015 from -137 MGD in 2010 to 23 MGD in 2015. The subbasins with the largest increases in industrial, thermoelectric and mining net demand are the Upper Black Warrior (03160112; 41 MGD), the Guntersville (06030001; 40 MGD), and the Upper Alabama (03150201; 29 MGD). The subbasins with the largest decreases in industrial, thermoelectric and mining net demand are the Middle Tombigbee-Chickasaw (03160201; -14 MGD) and the Mulberry Fork (03160109; -13 MGD) subbasins (figure 78).

Figure 75. Map of change in total net demand by subbasin in Alabama from 2010 to 2015, in MGD.

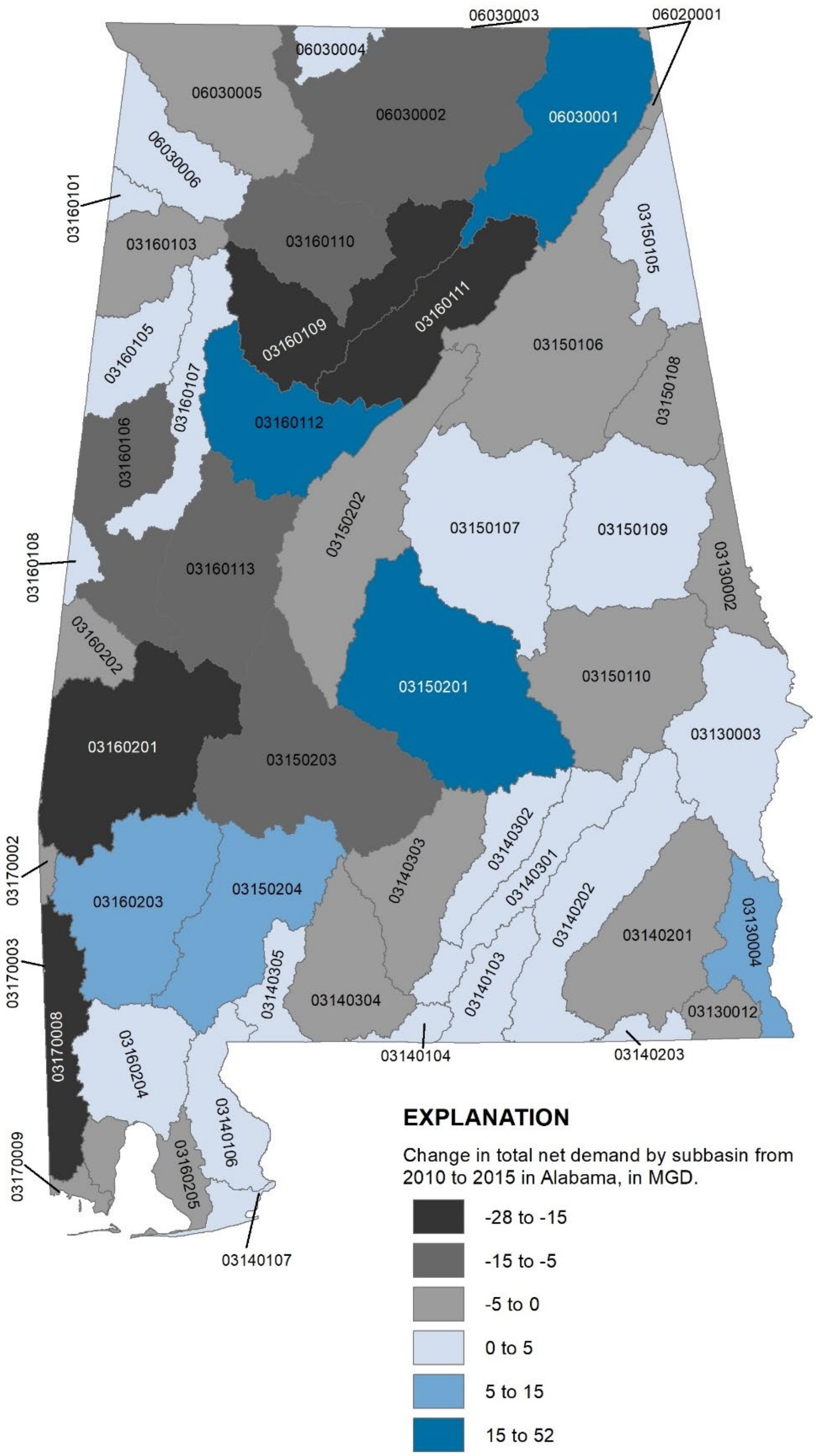


Table 87. Change in total net demand by subbasin in Alabama from 2010 to 2015, in MGD.

Hydrologic subregion and subbasin	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	AVG
Apalachicola													
03130002	1.39	0.42	-0.32	3.79	1.12	3.31	3.16	3.53	4.55	1.42	4.17	7.40	-2.82
03130003	3.52	11.23	-2.40	9.42	-12.98	-10.08	2.16	-9.96	-4.38	-2.14	-1.98	10.06	0.72
03130004	-35.51	-39.35	-18.85	-1.19	-20.17	-21.78	-10.84	-5.25	-3.84	-14.21	-4.01	3.70	14.24
03130012	-0.79	-1.44	-0.09	1.81	1.15	1.65	2.24	1.03	1.08	0.78	2.86	2.03	-1.02
Subtotal	*-31.39*	*-29.13*	*-21.66*	*13.83*	*-30.89*	*-26.89*	*-3.27*	*-10.65*	*-2.60*	*-14.13*	*1.03*	*23.19*	*11.12*
Choctawhatchee-Escambia													
03140103	-1.30	-2.35	-0.90	0.20	-0.59	-1.00	-0.53	-0.49	-0.40	0.22	1.50	0.58	0.42
03140104	0.01	-0.03	-0.03	0.01	-0.02	-0.03	0.00	-0.07	-0.03	-0.04	-0.04	-0.03	0.03
03140106	-0.93	-2.43	0.21	3.70	0.31	-0.09	0.02	-1.94	-0.69	-0.56	0.11	1.67	0.06
03140107	-0.62	-2.06	-1.40	0.21	-1.08	-2.15	-1.55	-3.19	-2.29	-2.25	-2.43	-2.10	1.75
03140201	-4.62	-8.23	-0.98	8.32	2.27	2.00	1.90	-0.61	3.69	1.92	11.77	10.90	-2.32
03140202	-2.06	-1.76	-2.21	-0.22	-1.35	-1.69	-0.61	-2.42	0.03	-1.03	1.70	1.46	0.87
03140203	0.00	-0.09	-0.18	-0.15	-0.40	-0.63	-0.58	-0.59	-0.26	-0.24	-0.14	-0.10	0.28
03140301	-1.49	-1.11	-1.69	1.04	0.21	0.62	0.74	0.05	-0.11	-0.09	0.16	0.79	0.08
03140302	-0.49	-0.59	-0.59	-0.39	-0.51	-0.66	-0.59	-0.53	-0.20	-0.28	-0.03	-0.03	0.41
03140303	-0.91	-1.36	-0.42	1.26	0.41	0.29	0.94	0.92	1.21	1.01	1.08	1.44	-0.48
03140304	19.14	6.21	18.64	8.60	-5.38	-1.24	0.29	-6.25	2.85	2.74	-9.82	1.67	-3.09
03140305	-3.76	-4.49	-3.21	-1.64	-2.51	-1.39	-1.29	-1.53	-1.30	-1.40	-1.21	-1.49	2.10
Subtotal	*2.97*	*-18.29*	*7.26*	*20.93*	*-8.65*	*-5.96*	*-1.27*	*-16.65*	*2.48*	*0.00*	*2.65*	*14.77*	*0.11*
Alabama													
03150105	0.21	-1.64	-0.44	2.55	-0.21	0.16	1.16	-0.53	-0.80	-1.34	0.38	0.32	0.03
03150106	-9.23	-29.38	-25.61	30.47	-13.62	-5.39	-0.99	-6.63	17.68	14.67	18.12	20.17	-1.09
03150107	-8.70	-14.16	-15.52	21.60	-6.71	-4.29	-2.18	-6.82	-4.93	-2.18	3.53	8.64	1.23
03150108	0.21	0.02	0.04	0.53	0.56	0.66	0.73	0.64	0.45	0.32	0.53	0.62	-0.44
03150109	-1.77	-2.32	-3.75	1.01	-3.02	-0.24	0.49	-0.54	3.43	-2.35	-2.67	2.54	0.79
03150110	1.30	0.04	2.74	8.43	1.12	-3.86	-0.61	-0.57	2.78	2.95	6.28	10.48	-2.55
03150201	-25.51	-33.16	-32.64	-48.27	-35.09	-33.06	-53.55	-46.85	-46.36	-33.77	-16.76	-1.79	33.97
03150202	1.08	-13.75	-3.57	23.30	-4.50	-5.03	7.28	1.04	5.11	-4.86	-0.83	4.07	-0.74
03150203	2.96	4.81	6.77	12.15	6.80	6.10	8.10	7.23	6.36	7.36	10.57	4.82	-7.00
03150204	-5.52	-8.72	-13.54	-4.11	-4.90	-3.16	-7.63	-7.86	-11.38	-10.46	-7.31	-6.96	7.67
Subtotal	*-44.96*	*-98.26*	*-85.52*	*47.66*	*-59.58*	*-48.11*	*-47.22*	*-60.90*	*-27.66*	*-29.67*	*11.84*	*42.90*	*31.87*
Mobile-Tombigbee													
03160101	0.01	0.00	0.00	0.00	-0.03	-0.07	-0.06	-0.05	0.00	0.01	0.00	0.00	0.02

Table 87. Change in total net demand by subbasin in Alabama from 2010 to 2015, in MGD – Continued.

Hydrologic subregion and subbasin	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	AVG
03160103	-0.27	-0.44	0.39	0.54	-0.62	0.02	0.77	0.47	-0.10	0.01	0.62	1.25	-0.22
03160105	4.29	1.17	0.68	2.38	2.75	-0.36	-1.72	-8.12	-5.08	0.57	-0.11	0.71	0.24
03160106	8.02	7.88	7.57	8.46	7.23	5.81	6.16	6.60	8.19	8.41	9.36	9.67	-7.77
03160107	-0.62	-0.77	0.62	0.90	-1.26	-1.33	-0.85	-1.00	-0.66	-0.58	0.03	0.59	0.42
03160108	-4.44	-12.69	-10.72	-4.60	-3.06	-3.65	-2.01	-1.98	-1.92	-1.92	0.43	1.43	3.76
03160109	56.79	-0.79	13.55	35.19	9.34	18.42	24.87	43.28	10.93	-6.25	-11.88	7.13	-15.88
03160110	-17.03	0.66	8.54	-2.52	-10.03	-3.91	6.77	18.37	24.85	20.46	13.10	29.46	-7.35
03160111	-18.88	-41.81	-7.60	86.42	13.18	3.05	29.66	34.35	33.20	46.50	56.47	95.78	-27.56
03160112	-54.56	-65.03	-48.43	-18.99	-90.24	-50.56	-37.37	-44.85	-45.59	-64.80	-62.25	-36.42	51.62
03160113	-0.82	-2.82	11.52	13.99	5.60	7.73	2.48	-2.71	0.04	6.31	9.90	10.49	-5.60
03160201	15.76	8.72	21.51	21.68	14.17	17.26	17.68	12.08	8.29	12.30	17.74	32.29	-16.60
03160202	0.11	0.18	0.43	0.95	0.63	0.78	-0.07	-0.50	0.16	0.22	0.42	0.84	-0.35
03160203	0.93	-3.73	1.42	2.68	0.92	1.27	-7.64	-9.91	-13.02	-15.13	-24.93	-12.09	6.48
03160204	-40.44	-22.99	26.89	33.68	0.97	-2.96	-14.48	-16.30	-0.46	-3.75	-5.94	17.26	3.85
03160205	0.22	-2.55	0.30	3.53	0.77	1.06	2.04	0.82	2.57	3.74	3.69	0.45	-1.37
Subtotal	*-50.95*	*-135.00*	*26.67*	*184.28*	*-49.66*	*-7.42*	*26.24*	*30.56*	*21.41*	*6.09*	*6.66*	*158.85*	*-16.30*
Pascagoula													
03170002	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	-0.01
03170003	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03170008	21.70	18.55	16.58	18.05	13.39	16.24	22.62	15.54	18.29	15.99	14.36	16.61	-17.30
03170009	-0.16	-0.84	0.33	0.93	0.52	0.76	1.45	1.02	1.11	1.21	1.60	1.26	-0.77
Subtotal	*21.55*	*17.72*	*16.92*	*18.98*	*13.92*	*17.01*	*24.08*	*16.56*	*19.41*	*17.20*	*15.96*	*17.88*	*-18.07*
Middle Tennessee-Hiwassee													
06020001	0.02	-0.01	0.00	0.03	0.01	0.03	0.05	-0.01	0.00	-0.01	-0.02	-0.01	0.00
Subtotal	*0.02*	*-0.01*	*0.00*	*0.03*	*0.01*	*0.03*	*0.05*	*-0.01*	*0.00*	*-0.01*	*-0.02*	*-0.01*	*0.00*
Middle Tennessee-Elk													
06030001	-24.58	-58.25	-23.68	-39.59	-72.85	-36.56	-26.10	-27.08	-30.55	-28.20	-15.56	-3.56	32.25
06030002	1.98	-16.35	26.72	59.50	2.76	-37.83	-21.55	-22.06	4.88	6.02	16.09	58.62	-5.56
06030003	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06030004	1.10	0.53	0.54	0.67	-0.54	-1.94	-1.08	-0.20	0.01	-0.71	-0.41	-0.80	0.25
06030005	-18.29	-17.39	13.37	8.43	0.99	9.27	4.66	2.40	7.97	7.73	12.20	24.88	-4.96
06030006	-1.01	-3.37	-0.65	-0.18	-2.91	-2.99	-3.41	-2.56	-0.31	-1.13	-1.96	1.59	1.58
Subtotal	*-40.81*	*-94.83*	*16.30*	*28.82*	*-72.55*	*-70.04*	*-47.49*	*-49.51*	*-18.00*	*-16.29*	*10.37*	*80.73*	*23.56*
Total	**-143.57**	**-357.80**	**-40.04**	**314.53**	**-207.40**	**-141.40**	**-48.89**	**-90.59**	**-4.96**	**-36.82**	**48.48**	**338.31**	**32.27**

Figure 76. Map of change in public-supply demand by subbasin in Alabama from 2010 to 2015, in MGD.

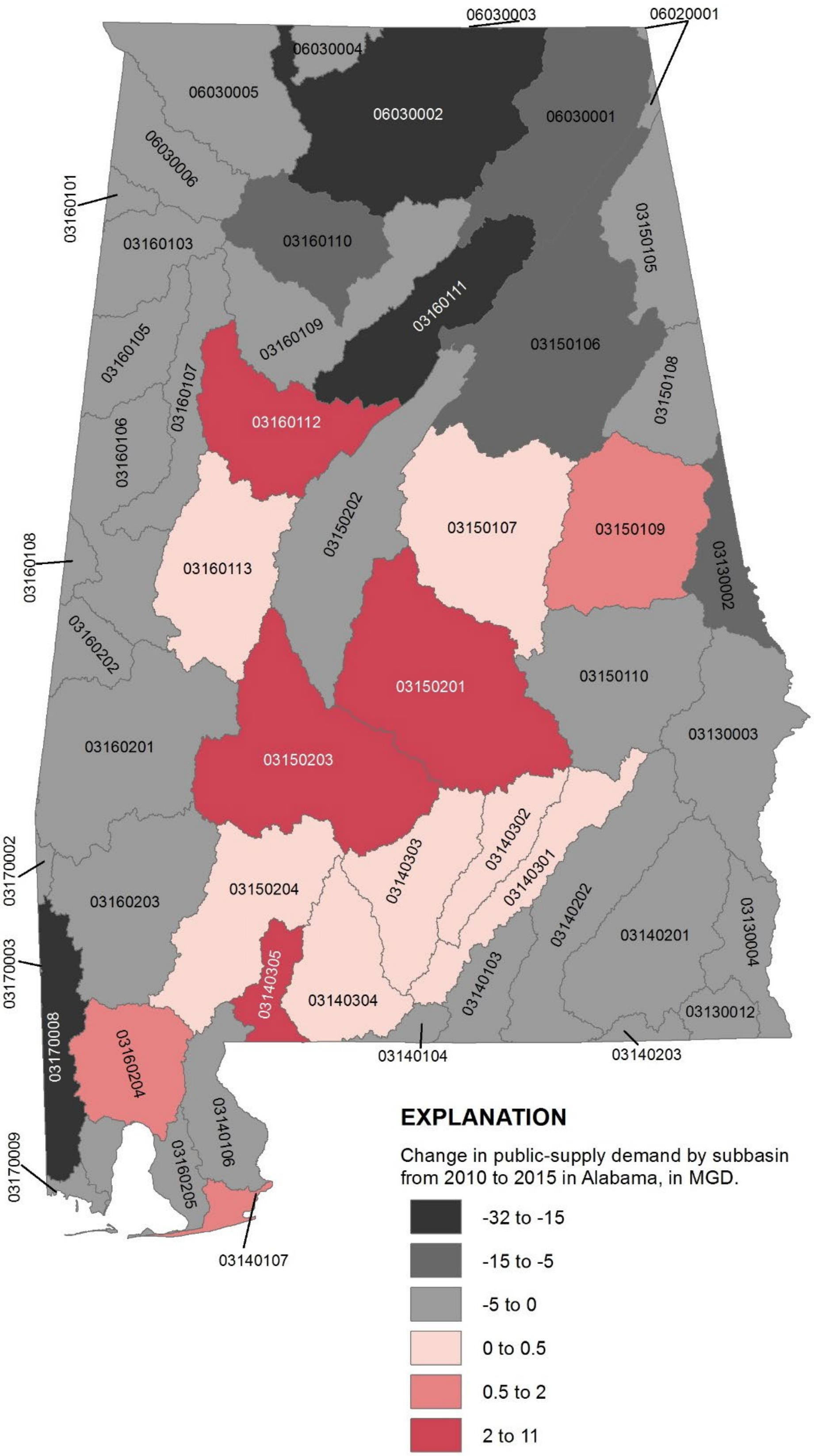


Table 88. Change in public-supply net demand by subbasin in Alabama from 2010 to 2015, in MGD.

Hydrologic subregion and subbasin	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	AVG
Apalachicola													
03130002	-3.31	-2.49	-1.93	-5.62	-3.88	-5.35	-5.65	-6.59	-7.07	-4.02	-6.44	-9.19	-5.12
03130003	2.73	3.06	2.49	-1.60	3.47	-0.18	-1.25	-1.84	-1.65	-1.09	-4.16	-6.29	-0.52
03130004	2.54	3.67	1.55	-0.95	-0.30	-0.61	-0.49	0.04	-0.27	-0.32	-4.53	-3.57	-0.27
03130012	0.77	1.55	0.11	-1.47	-0.57	-0.49	-0.76	-0.10	-0.42	-0.55	-2.74	-2.00	-0.56
Subtotal	*2.74*	*5.79*	*2.21*	*-9.65*	*-1.28*	*-6.62*	*-8.14*	*-8.51*	*-9.40*	*-5.99*	*-17.87*	*-21.06*	*-6.47*
Chocawhatchee-Escambia													
03140103	1.29	2.13	0.62	-0.42	0.07	0.40	0.03	-0.35	-0.17	-0.76	-1.92	-0.92	0.00
03140104	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03140106	0.79	1.57	-0.92	-3.85	-1.01	-0.59	-0.17	0.47	-0.21	-0.46	-1.19	-2.50	-0.67
03140107	0.46	1.61	1.17	-0.14	0.45	1.39	1.18	2.56	1.96	1.74	2.04	1.55	1.33
03140201	7.07	11.02	2.99	-5.53	-1.78	-1.95	-0.85	1.27	-0.97	-0.71	-10.81	-9.80	-0.84
03140202	1.86	1.21	1.35	-0.18	-0.20	-0.33	-0.68	0.20	-0.76	-0.33	-2.07	-1.86	-0.15
03140203	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03140301	1.98	1.76	1.46	-0.36	0.26	0.23	0.30	0.54	0.40	0.13	-0.65	-0.33	0.48
03140302	0.38	0.47	0.37	0.09	0.04	0.01	-0.01	0.03	0.00	0.06	-0.14	-0.13	0.10
03140303	1.29	1.74	1.08	0.01	0.21	0.29	0.06	0.05	-0.11	-0.23	-0.39	-1.12	0.24
03140304	0.87	1.59	1.07	-1.05	1.24	-0.40	-0.31	1.91	-0.36	-0.15	0.16	-0.85	0.31
03140305	3.68	4.37	3.10	1.57	2.39	1.34	1.31	1.40	1.15	1.21	1.14	1.36	2.00
Subtotal	*19.68*	*27.46*	*12.29*	*-9.86*	*1.67*	*0.40*	*0.86*	*8.07*	*0.93*	*0.49*	*-13.82*	*-14.60*	*2.80*
Alabama													
03150105	-0.01	0.96	-0.06	-2.13	-0.07	-0.21	-0.49	-0.57	0.37	0.53	-1.20	-1.05	-0.33
03150106	0.26	15.89	6.12	-29.01	8.18	0.01	-3.44	-5.77	-8.85	-7.19	-22.68	-35.11	-6.79
03150107	-0.17	6.14	4.46	-2.33	2.89	2.55	-0.70	0.11	-0.37	-0.89	-2.62	-6.28	0.24
03150108	-0.13	0.08	0.06	-0.33	-0.21	-0.05	-0.03	-0.16	-0.17	-0.15	-0.45	-0.55	-0.17
03150109	2.01	2.69	4.23	-0.76	3.25	0.24	-0.19	0.78	-2.78	2.71	3.39	-2.02	1.15
03150110	-1.67	-1.65	-4.08	-7.85	-2.65	2.28	0.55	-2.39	-4.11	-5.09	-7.87	-12.19	-3.88
03150201	15.49	11.58	9.34	-4.56	2.32	1.05	1.64	2.72	2.08	2.09	-1.35	-16.23	2.18
03150202	-0.94	13.39	3.02	-20.70	3.30	6.24	-5.41	-1.94	-3.46	5.14	1.03	-5.58	-0.48
03150203	2.40	2.48	2.01	1.66	1.95	2.16	2.34	2.19	2.10	1.77	1.52	1.46	2.00
03150204	0.54	0.77	0.53	0.08	0.42	0.09	0.34	0.18	0.42	0.37	0.22	-0.55	0.28
Subtotal	*17.77*	*52.32*	*25.64*	*-65.93*	*19.38*	*14.37*	*-5.39*	*-4.85*	*-14.77*	*-0.70*	*-30.04*	*-78.09*	*-5.80*
Mobile-Tombigbee													
03160101	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table 88. Change in public-supply net demand by subbasin in Alabama from 2010 to 2015, in MGD – Continued.

Hydrologic subregion and subbasin	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	AVG
03160103	0.27	0.46	-0.39	-0.53	0.58	-0.05	-0.77	-0.54	0.06	-0.07	-0.59	-1.23	-0.23
03160105	-3.77	-0.75	-0.99	-2.49	-3.36	-1.51	-0.28	-0.56	-0.50	-0.37	-0.20	-0.40	-1.26
03160106	0.47	0.48	0.42	-0.60	-0.24	-0.22	-0.45	-0.17	-0.12	-0.27	-0.81	-0.94	-0.20
03160107	0.30	0.30	-1.13	-1.30	0.48	0.30	0.00	-0.01	0.10	0.00	-0.50	-1.05	-0.21
03160108	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03160109	-32.62	-3.05	-2.42	-15.49	-1.50	0.98	-2.00	3.81	10.73	5.76	-2.73	9.04	-2.47
03160110	17.09	-0.53	-8.48	2.67	10.07	4.05	-6.43	-18.29	-24.58	-20.38	-12.97	-29.39	-7.22
03160111	3.57	32.33	5.29	-90.64	-10.93	-7.98	-28.97	-39.39	-39.23	-44.82	-56.77	-102.47	-31.71
03160112	-3.01	29.73	18.64	-21.19	36.72	27.02	11.20	14.55	10.69	14.50	7.66	-16.96	10.81
03160113	-1.09	3.04	0.43	-0.29	1.84	0.36	1.81	1.02	1.09	-0.59	-2.44	-3.13	0.17
03160201	0.38	0.55	-0.72	-2.95	0.65	0.01	-5.96	0.57	-0.13	-0.16	0.53	-8.05	-1.27
03160202	0.19	0.10	-0.26	-0.77	-0.58	-0.64	0.18	0.72	0.02	-0.40	-0.82	-0.84	-0.26
03160203	-5.00	-3.44	-1.95	-2.64	-2.15	-2.05	-3.06	-2.39	-2.65	-8.87	-6.17	-5.81	-3.85
03160204	20.03	24.77	0.76	-22.30	-9.38	-5.20	5.62	11.31	3.47	-1.11	4.32	-13.29	1.58
03160205	-0.10	0.11	-0.80	-1.33	-0.45	-0.12	-0.22	-0.34	-0.51	-0.73	-0.98	-1.39	-0.57
Subtotal	*-3.29*	*84.11*	*8.38*	*-159.84*	*21.76*	*14.97*	*-29.33*	*-29.71*	*-41.58*	*-57.53*	*-72.47*	*-175.92*	*-36.70*
Pascagoula													
03170002	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03170003	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03170008	-21.83	-18.60	-16.70	-18.23	-13.72	-16.41	-22.65	-15.94	-18.67	-16.47	-14.45	-16.71	-17.51
03170009	0.00	-0.03	-0.28	-0.91	-0.42	-0.64	-0.70	-0.37	-0.45	-0.75	-1.07	-1.06	-0.56
Subtotal	*-21.83*	*-18.63*	*-16.98*	*-19.13*	*-14.14*	*-17.05*	*-23.35*	*-16.31*	*-19.12*	*-17.22*	*-15.53*	*-17.77*	*-18.07*
Middle Tennessee-Hiwassee													
06020001	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*
Middle Tennessee-Elk													
06030001	-8.51	-3.45	-8.06	-11.75	0.09	0.06	-6.51	-7.20	-5.09	-5.90	-7.83	-17.83	-6.81
06030002	-14.20	12.52	-30.87	-53.20	-12.88	-5.65	-23.42	-27.56	-18.11	-12.70	-21.63	-60.86	-22.32
06030003	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06030004	-0.95	-0.34	-0.79	-0.90	-0.41	0.24	-0.44	-0.94	0.06	0.66	0.49	0.91	-0.20
06030005	12.49	14.74	-13.60	-2.36	1.26	-9.14	-3.13	-5.06	-2.65	-2.67	-8.73	-21.77	-3.38
06030006	-1.29	1.65	-0.44	-1.25	0.51	1.11	0.09	-0.38	-0.87	-0.42	-1.22	-3.69	-0.52
Subtotal	*-12.45*	*25.11*	*-53.77*	*-69.46*	*-11.43*	*-13.39*	*-33.40*	*-41.14*	*-26.66*	*-21.03*	*-38.91*	*-103.25*	*-33.23*
Total	**2.61**	**176.16**	**-22.23**	**-333.89**	**15.97**	**-7.32**	**-98.74**	**-92.45**	**-110.59**	**-101.98**	**-188.63**	**-410.70**	**-97.48**

Figure 77. Map of change in agriculture demand by subbasin in Alabama from 2010 to 2015, in MGD.

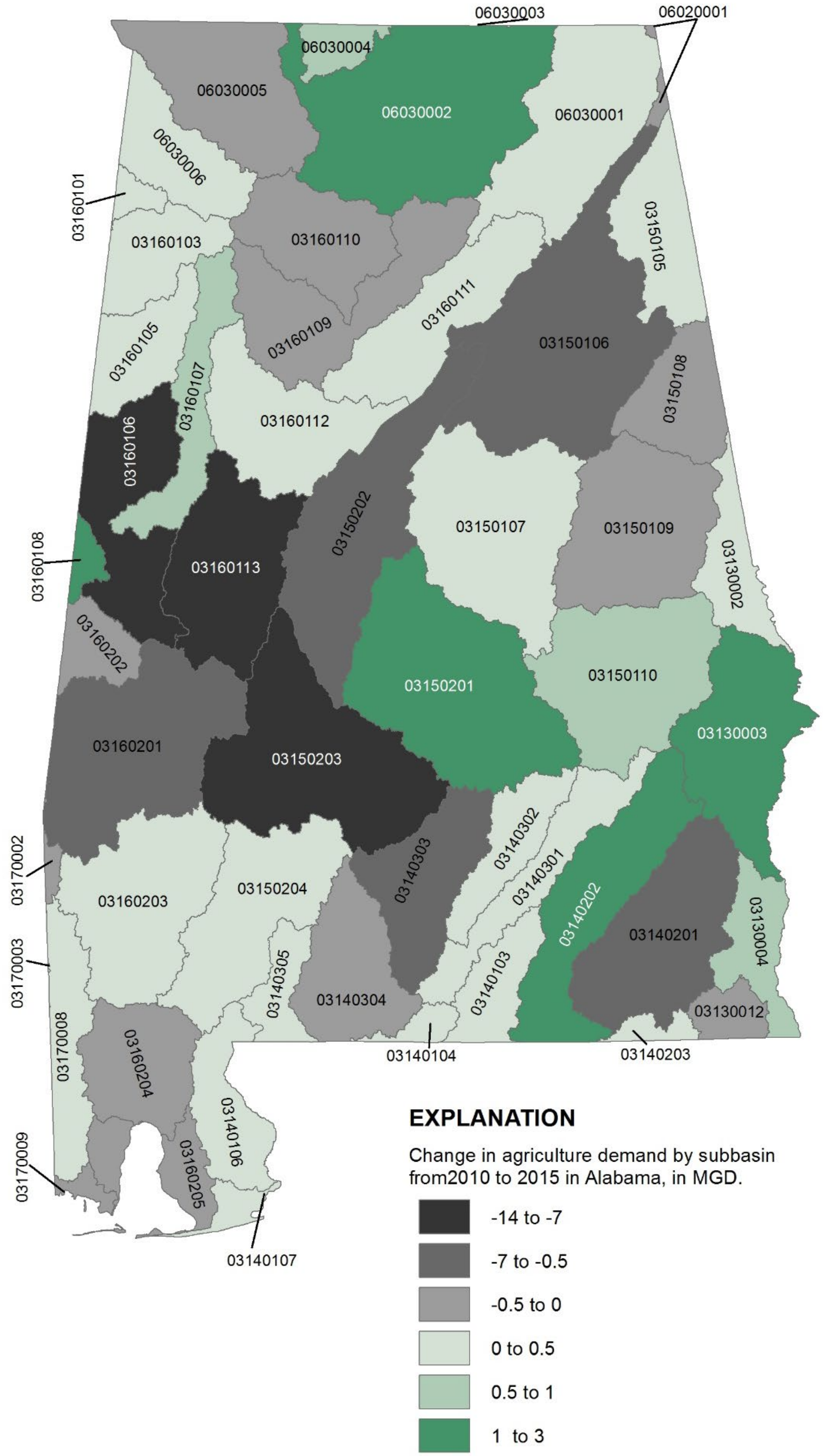


Table 89. Change in agriculture net demand by subbasin in Alabama from 2010 to 2015, in MGD.

Hydrologic subregion and subbasin	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	AVG
Apalachicola													
03130002	0.03	0.12	0.14	0.09	0.19	0.16	0.08	0.33	0.28	0.31	0.17	0.13	0.17
03130003	-0.73	1.83	1.56	-1.04	1.43	1.74	-0.07	4.14	1.48	2.27	2.26	1.86	1.43
03130004	0.06	0.14	0.61	0.24	0.94	1.16	0.66	1.22	0.35	0.68	0.33	0.25	0.57
03130012	0.02	-0.11	-0.02	-0.34	-0.58	-1.17	-1.49	-0.92	-0.67	-0.23	-0.12	-0.03	-0.47
Subtotal	*-0.62*	*1.97*	*2.28*	*-1.05*	*1.98*	*1.90*	*-0.81*	*4.77*	*1.44*	*3.03*	*2.65*	*2.21*	*1.71*
Chocawhatchee-Escambia													
03140103	-0.11	0.14	0.13	0.05	0.33	0.41	0.26	0.62	0.31	0.34	0.22	0.16	0.24
03140104	-0.01	0.03	0.03	-0.01	0.02	0.03	0.00	0.07	0.03	0.04	0.04	0.03	0.03
03140106	-0.21	0.53	0.36	-0.25	0.31	0.22	-0.27	1.02	0.49	0.70	0.66	0.55	0.35
03140107	0.16	0.45	0.23	-0.07	0.63	0.76	0.37	0.63	0.33	0.51	0.39	0.55	0.42
03140201	-2.90	-2.83	-2.25	-3.31	-1.46	-0.93	-2.18	-1.38	-3.18	-2.21	-2.80	-2.53	-2.29
03140202	0.08	0.43	0.94	0.48	1.46	1.89	1.31	2.05	0.83	1.17	0.73	0.56	1.02
03140203	0.00	0.10	0.18	0.15	0.40	0.63	0.59	0.59	0.26	0.25	0.15	0.10	0.29
03140301	0.06	0.12	0.18	-0.06	0.27	0.27	-0.03	0.42	-0.03	0.21	0.11	0.17	0.15
03140302	0.12	0.13	0.23	0.30	0.48	0.65	0.61	0.52	0.22	0.23	0.18	0.16	0.32
03140303	-0.40	-0.41	-0.68	-1.29	-0.65	-0.60	-1.02	-1.00	-1.12	-0.81	-0.72	-0.34	-0.75
03140304	-0.06	-0.07	-0.05	-0.03	0.03	-0.08	-0.19	0.05	0.00	0.10	-0.05	-0.03	-0.03
03140305	0.03	0.02	0.03	-0.01	0.03	-0.02	-0.07	0.06	0.05	0.09	0.02	0.03	0.02
Subtotal	*-3.24*	*-1.37*	*-0.69*	*-4.06*	*1.86*	*3.22*	*-0.63*	*3.64*	*-1.81*	*0.62*	*-1.06*	*-0.59*	*-0.24*
Alabama													
03150105	-0.19	0.69	0.51	-0.41	0.29	0.06	-0.66	1.11	0.44	0.82	0.83	0.73	0.36
03150106	-2.02	-0.44	-2.72	-10.29	-8.55	-11.29	-15.38	-9.12	-11.75	-7.88	-2.65	-0.39	-6.83
03150107	-0.03	0.36	0.31	-0.45	0.60	0.81	0.11	1.13	-0.10	0.40	0.28	0.44	0.34
03150108	-0.07	-0.08	-0.09	-0.19	-0.34	-0.60	-0.68	-0.47	-0.26	-0.15	-0.07	-0.06	-0.25
03150109	-0.59	-0.65	-0.55	-0.51	-0.28	-0.24	-0.42	-0.29	-0.71	-0.50	-0.64	-0.58	-0.49
03150110	-0.21	1.03	0.76	-1.16	0.95	1.00	-0.52	2.39	0.75	1.56	1.02	1.14	0.76
03150201	1.71	2.68	2.68	1.29	3.52	4.13	2.80	4.38	2.28	3.08	2.73	2.90	2.88
03150202	-0.16	-0.27	-0.87	-2.49	-0.67	-1.16	-2.69	-0.98	-1.61	-0.35	-1.03	-0.03	-1.00
03150203	-10.26	-9.57	-9.50	-10.08	-9.43	-9.35	-9.88	-8.82	-9.57	-9.32	-9.33	-9.50	-9.54
03150204	0.07	0.33	0.31	0.17	0.41	0.44	0.30	0.74	0.56	0.58	0.42	0.34	0.39
Subtotal	*-11.74*	*-5.92*	*-9.16*	*-24.12*	*-13.50*	*-16.18*	*-27.02*	*-9.93*	*-19.98*	*-11.75*	*-8.44*	*-5.02*	*-13.38*
Mobile-Tombigbee													
03160101	0.00	0.00	0.01	0.00	0.03	0.07	0.07	0.05	0.00	0.00	0.00	0.00	0.02

Table 89. Change in agriculture net demand by subbasin in Alabama from 2010 to 2015, in MGD – Continued.

Hydrologic subregion and subbasin	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	AVG
03160103	0.04	0.02	0.03	0.02	0.07	0.07	0.03	0.11	0.07	0.10	0.01	0.02	0.05
03160105	0.09	0.05	0.11	0.10	0.24	0.35	0.31	0.31	0.13	0.15	0.05	0.06	0.17
03160106	-9.11	-9.19	-8.86	-8.72	-7.73	-6.51	-6.48	-7.26	-8.84	-8.96	-9.22	-9.18	-8.33
03160107	0.67	0.82	0.85	0.71	1.07	1.31	1.20	1.36	0.91	0.93	0.83	0.81	0.96
03160108	1.89	1.89	1.90	1.91	1.94	1.99	1.99	1.96	1.91	1.90	1.89	1.89	1.92
03160109	-0.04	-0.06	-0.04	-0.02	0.00	-0.25	-0.44	-0.23	-0.35	-0.08	-0.01	0.03	-0.12
03160110	-0.06	-0.12	-0.05	-0.14	-0.03	-0.13	-0.33	-0.07	-0.26	-0.07	-0.13	-0.06	-0.12
03160111	0.42	0.15	0.22	0.19	0.35	-0.33	-0.91	0.21	0.01	0.71	0.11	0.34	0.13
03160112	0.22	0.77	0.28	-0.89	0.37	0.41	-0.49	0.38	-0.35	0.26	0.46	0.89	0.21
03160113	-14.29	-13.96	-14.04	-14.14	-13.82	-13.84	-14.11	-13.56	-14.05	-13.86	-13.87	-13.88	-13.95
03160201	-0.93	-0.99	-0.99	-1.01	-0.97	-1.11	-1.25	-1.01	-1.11	-0.91	-1.02	-0.95	-1.02
03160202	-0.27	-0.28	-0.27	-0.20	-0.17	-0.20	-0.24	-0.19	-0.24	-0.20	-0.26	-0.25	-0.23
03160203	0.00	-0.01	0.02	0.17	0.26	0.28	0.27	0.31	0.27	0.23	0.04	0.02	0.16
03160204	-0.22	0.13	-0.20	-1.11	-0.41	-0.68	-1.38	-0.42	-0.70	-0.20	-0.07	0.22	-0.41
03160205	0.19	0.61	-0.10	-1.85	-0.33	-0.67	-2.02	-0.80	-1.34	-0.25	0.02	0.82	-0.46
Subtotal	*-21.38*	*-20.18*	*-21.12*	*-24.99*	*-19.13*	*-19.24*	*-23.78*	*-18.84*	*-23.94*	*-20.25*	*-21.18*	*-19.24*	*-21.01*
Pascagoula													
03170002	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
03170003	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03170008	0.13	0.05	0.11	0.18	0.33	0.18	0.03	0.40	0.37	0.48	0.09	0.10	0.21
03170009	0.01	-0.01	-0.02	-0.13	-0.17	-0.29	-0.38	-0.23	-0.25	-0.10	-0.05	0.00	-0.13
Subtotal	*0.13*	*0.03*	*0.09*	*0.04*	*0.15*	*-0.12*	*-0.35*	*0.16*	*0.12*	*0.37*	*0.04*	*0.09*	*0.07*
Middle Tennessee-Hiwassee													
06020001	-0.02	0.02	0.01	-0.02	-0.01	-0.03	-0.05	0.02	0.01	0.02	0.03	0.02	0.00
Subtotal	*-0.02*	*0.02*	*0.01*	*-0.02*	*-0.01*	*-0.03*	*-0.05*	*0.02*	*0.01*	*0.02*	*0.03*	*0.02*	*0.00*
Middle Tennessee-Elk													
06030001	0.20	0.29	0.30	0.11	0.30	-0.49	-1.11	0.45	0.54	1.05	0.43	0.45	0.22
06030002	0.72	0.09	1.48	0.38	3.61	4.83	3.01	4.42	0.76	2.29	0.05	0.51	1.91
06030003	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06030004	0.18	0.15	0.59	0.57	1.29	2.03	1.85	1.48	0.26	0.39	0.25	0.23	0.79
06030005	0.35	0.13	0.14	-0.65	0.24	0.08	-0.83	-0.51	-1.28	-0.39	-0.15	0.38	-0.19
06030006	0.00	-0.01	0.11	0.02	0.39	0.72	0.64	0.58	0.03	0.07	-0.03	0.00	0.22
Subtotal	*1.45*	*0.65*	*2.61*	*0.44*	*5.83*	*7.18*	*3.56*	*6.42*	*0.31*	*3.41*	*0.56*	*1.58*	*2.95*
Total	**-35.41**	**-24.80**	**-25.98**	**-53.76**	**-22.82**	**-23.26**	**-49.09**	**-13.76**	**-43.86**	**-24.54**	**-27.40**	**-20.94**	**-29.91**

Figure 78. Map of change in industrial, thermoelectric, and mining demand by subbasin from 2010 to 2015 in Alabama, in MGD.

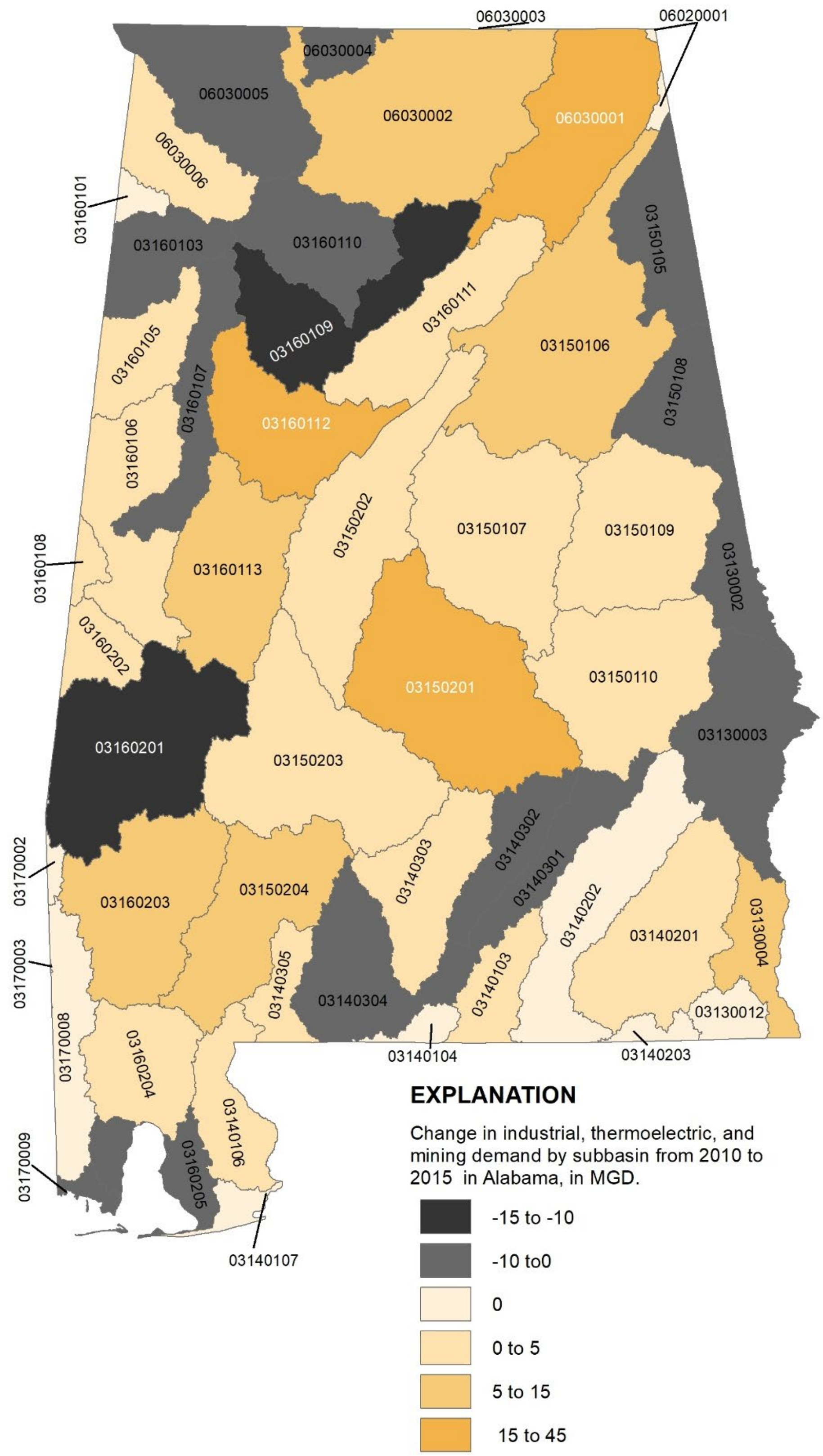


Table 90. Change in industrial, thermoelectric, and mining demand by subbasin from 2010 to 2015 in Alabama, in MGD.

Hydrologic subregion and subbasin	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	AVG
Apalachicola													
03130002	1.89	1.95	2.11	1.75	2.56	1.87	2.41	2.74	2.24	2.29	2.10	1.66	2.13
03130003	-5.53	-16.12	-1.64	-6.78	8.08	8.52	-0.85	7.67	4.56	0.95	3.89	-5.62	-0.19
03130004	32.91	35.54	16.70	1.91	19.54	21.22	10.66	3.99	3.76	13.85	8.21	-0.38	13.94
03130012	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal	*29.27*	*21.37*	*17.17*	*-3.12*	*30.19*	*31.61*	*12.22*	*14.39*	*10.55*	*17.09*	*14.19*	*-4.35*	*15.88*
Choctawhatchee-Escambia													
03140103	0.12	0.08	0.15	0.18	0.19	0.18	0.24	0.22	0.27	0.20	0.21	0.17	0.18
03140104	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03140106	0.35	0.33	0.35	0.41	0.39	0.46	0.42	0.46	0.42	0.32	0.42	0.28	0.38
03140107	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03140201	0.45	0.05	0.24	0.53	0.97	0.88	1.13	0.73	0.46	1.00	1.84	1.43	0.81
03140202	0.11	0.12	-0.08	-0.07	0.10	0.12	-0.02	0.16	-0.10	0.20	-0.36	-0.16	0.00
03140203	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03140301	-0.55	-0.76	0.04	-0.62	-0.74	-1.11	-1.01	-1.01	-0.26	-0.24	0.38	-0.62	-0.55
03140302	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
03140303	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
03140304	-19.95	-7.74	-19.65	-7.51	4.11	1.73	0.21	4.29	-2.49	-2.69	9.70	-0.79	-3.37
03140305	0.06	0.10	0.08	0.07	0.09	0.07	0.06	0.08	0.10	0.10	0.05	0.10	0.08
Subtotal	*-19.41*	*-7.81*	*-18.85*	*-7.01*	*5.11*	*2.34*	*1.04*	*4.94*	*-1.60*	*-1.11*	*12.23*	*0.42*	*-2.45*
Alabama													
03150105	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
03150106	10.99	13.93	22.21	8.83	13.99	16.67	19.81	21.52	2.92	0.41	7.22	15.33	12.53
03150107	8.90	7.65	10.75	-18.82	3.23	0.93	2.77	5.58	5.40	2.66	-1.19	-2.80	0.66
03150108	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02
03150109	0.35	0.29	0.07	0.25	0.05	0.23	0.12	0.06	0.07	0.14	-0.08	0.06	0.13
03150110	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58
03150201	8.31	18.90	20.62	51.54	29.25	27.88	49.12	39.75	42.00	28.59	15.38	15.12	28.91
03150202	0.01	0.64	1.41	-0.11	1.87	-0.05	0.82	1.89	-0.04	0.06	0.83	1.55	0.74
03150203	4.90	2.28	0.72	-3.73	0.67	1.09	-0.56	-0.60	1.11	0.19	-2.76	3.22	0.54
03150204	4.92	7.61	12.70	3.87	4.07	2.63	6.99	6.94	10.39	9.51	6.68	7.17	6.99
Subtotal	*38.93*	*51.86*	*69.05*	*42.38*	*53.69*	*49.93*	*79.63*	*75.68*	*62.41*	*42.11*	*26.63*	*40.20*	*51.06*
Mobile-Tombigbee													
03160101	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table 90. Change in industrial, thermoelectric, and mining demand by subbasin from 2010 to 2015 in Alabama, in MGD – Continued.

Hydrologic subregion and subbasin	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	AVG
03160103	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04
03160105	-0.61	-0.47	0.20	0.00	0.36	1.51	1.69	8.37	5.45	-0.35	0.26	-0.37	1.34
03160106	0.62	0.83	0.86	0.87	0.75	0.92	0.77	0.83	0.77	0.82	0.67	0.45	0.76
03160107	-0.35	-0.35	-0.35	-0.31	-0.29	-0.29	-0.35	-0.35	-0.34	-0.35	-0.35	-0.35	-0.34
03160108	2.55	10.80	8.82	2.69	1.12	1.67	0.02	0.02	0.02	0.02	-2.32	-3.32	1.84
03160109	-24.13	3.90	-11.08	-19.69	-7.84	-19.15	-22.43	-46.87	-21.31	0.57	14.62	-16.20	-13.29
03160110	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
03160111	14.88	9.34	2.08	4.04	-2.61	5.26	0.23	4.83	6.03	-2.39	0.19	6.36	4.02
03160112	57.35	34.52	29.51	41.07	53.15	23.13	26.66	29.91	35.26	50.04	54.13	52.50	40.60
03160113	16.20	13.73	2.08	0.45	6.37	5.74	9.82	15.25	12.91	8.15	6.42	6.52	8.17
03160201	-15.20	-8.28	-19.81	-17.71	-13.85	-16.16	-10.47	-11.64	-7.05	-11.23	-17.25	-23.29	-14.31
03160202	-0.03	0.00	0.11	0.02	0.11	0.05	0.13	-0.03	0.06	0.38	0.66	0.26	0.14
03160203	4.07	7.17	0.52	-0.21	0.97	0.50	10.43	11.99	15.40	23.77	31.06	17.88	10.18
03160204	20.63	-1.91	-27.44	-10.27	8.82	8.84	10.24	5.40	-2.31	5.06	1.69	-4.18	2.68
03160205	-0.31	1.84	0.61	-0.35	0.01	-0.28	0.20	0.32	-0.72	-2.76	-2.73	0.12	-0.34
Subtotal	*75.62*	*71.07*	*-13.93*	*0.55*	*47.03*	*11.69*	*26.88*	*17.98*	*44.12*	*71.69*	*86.99*	*36.32*	*41.41*
Pascagoula													
03170002	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03170003	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03170008	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03170009	0.15	0.88	-0.03	0.11	0.07	0.16	-0.37	-0.42	-0.41	-0.35	-0.47	-0.20	-0.07
Subtotal	*0.15*	*0.88*	*-0.03*	*0.11*	*0.07*	*0.16*	*-0.37*	*-0.42*	*-0.41*	*-0.35*	*-0.47*	*-0.20*	*-0.07*
Middle Tennessee-Hiwassee													
06020001	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*
Middle Tennessee-Elk													
06030001	32.89	61.41	31.44	51.23	72.46	37.00	33.72	33.84	35.10	33.05	22.96	20.94	38.84
06030002	11.50	3.74	2.67	-6.68	6.52	38.65	41.97	45.19	12.47	4.39	5.48	1.73	14.85
06030003	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06030004	-0.34	-0.34	-0.34	-0.34	-0.34	-0.34	-0.34	-0.34	-0.34	-0.34	-0.34	-0.34	-0.34
06030005	5.45	2.52	0.09	-5.41	-2.49	-0.21	-0.70	3.17	-4.04	-4.67	-3.32	-3.49	-1.39
06030006	2.31	1.73	0.98	1.41	2.01	1.15	2.68	2.37	1.15	1.48	3.20	2.11	1.88
Subtotal	*51.81*	*69.07*	*34.85*	*40.21*	*78.16*	*76.26*	*77.33*	*84.23*	*44.34*	*33.91*	*27.99*	*20.95*	*53.84*
Total	**176.37**	**206.44**	**88.25**	**73.12**	**214.25**	**171.99**	**196.72**	**196.81**	**159.41**	**163.34**	**167.56**	**93.34**	**159.67**

Surface Water Availability Assessment: 2010 versus 2015

An important aspect of an assessment of surface-water availability includes information regarding the characteristics of streamflows in subbasins. These streamflow characteristics are important in evaluating Alabama's existing and future uses and availability of surface water in the state. This information is also necessary for the design and operation of reservoirs and for management of water supplies for drinking water, commercial, industrial, irrigation, and thermoelectric power uses as well as instream uses such as navigation, recreation, aquatic habitat, and water quality.

Statistical analysis and summaries of streamflow characteristics were developed for the 53 subbasins in the state and include mean monthly and mean annual streamflow as well as the magnitude and frequency of monthly and annual low flows. This information was then used to develop surface-water availability characteristics for each of the subbasins as described in a report published by OWR in December 2017 entitled "*2017 Alabama Surface Water Assessment Report*" (hereafter referred to as the 2017 Report) (Atkins and others, 2017). The comparisons of flows and the 2010 and 2015 water demand estimates resulted in the development of relative net demand (RND) ratios of monthly flow characteristics and net water consumption estimates for subbasins in Alabama.

Comparison of Precipitation 2010 to 2015

A key factor in an analysis involving differences in hydrology and water availability between 2010 and 2015 should begin with a review of the rainfall that occurred in each year. 2010 and 2015 were very different in terms of average statewide precipitation. While the long-term average precipitation in Alabama is approximately 55.66 inches[2], the 2010 average statewide precipitation was estimated at 45.59 inches or approximately 10 inches below normal. In comparison, the 2015 average statewide precipitation was estimated at 59.22 inches or more than three inches above normal. This information is based on county and subbasin estimates of precipitation for 2010, 2015, normal, and a comparison of 2010 to 2015 provided by the University of Alabama Huntsville (UAH) (UAH, written communication, 2018).

The geographic distribution of the 2010 and 2015 precipitation values are listed by county and hydrologic subbasin in tables 91 and 92. The counties with the highest difference in precipitation from 2010 to 2015 are Lee (27.56 inches), Houston (27.45 inches), and Coffee (27.26 inches) Counties. The counties with the lowest difference in precipitation from 2010 to 2015 are Pickens (-5.23 inches), Fayette (0.42 inches) and Hale (1.91 inches) Counties (figure 79). The subbasins with the highest difference in precipitation from 2010 to 2015 are the Chipola (03130012; 29.21 inches), the Mississippi Coastal (03170009; 28.77 inches), and the Upper Choctawhatchee (03140203; 26.20 inches). The subbasins with the lowest difference in precipitation from 2010 to 2015 are the Middle Tombigbee-Lubbub (03160106; -1.59 inches), the Sipsey (03160107; 0.41 inches), and the Noxubee (03160108; 0.88 inches) subbasins (figure 80).

[2] Due to estimating methodologies and rounding techniques, there are slight differences in statewide precipitation totals between county and subbasin delineations.

Figure 79. Map of change in precipitation by county in Alabama from 2010 to 2015, in inches.

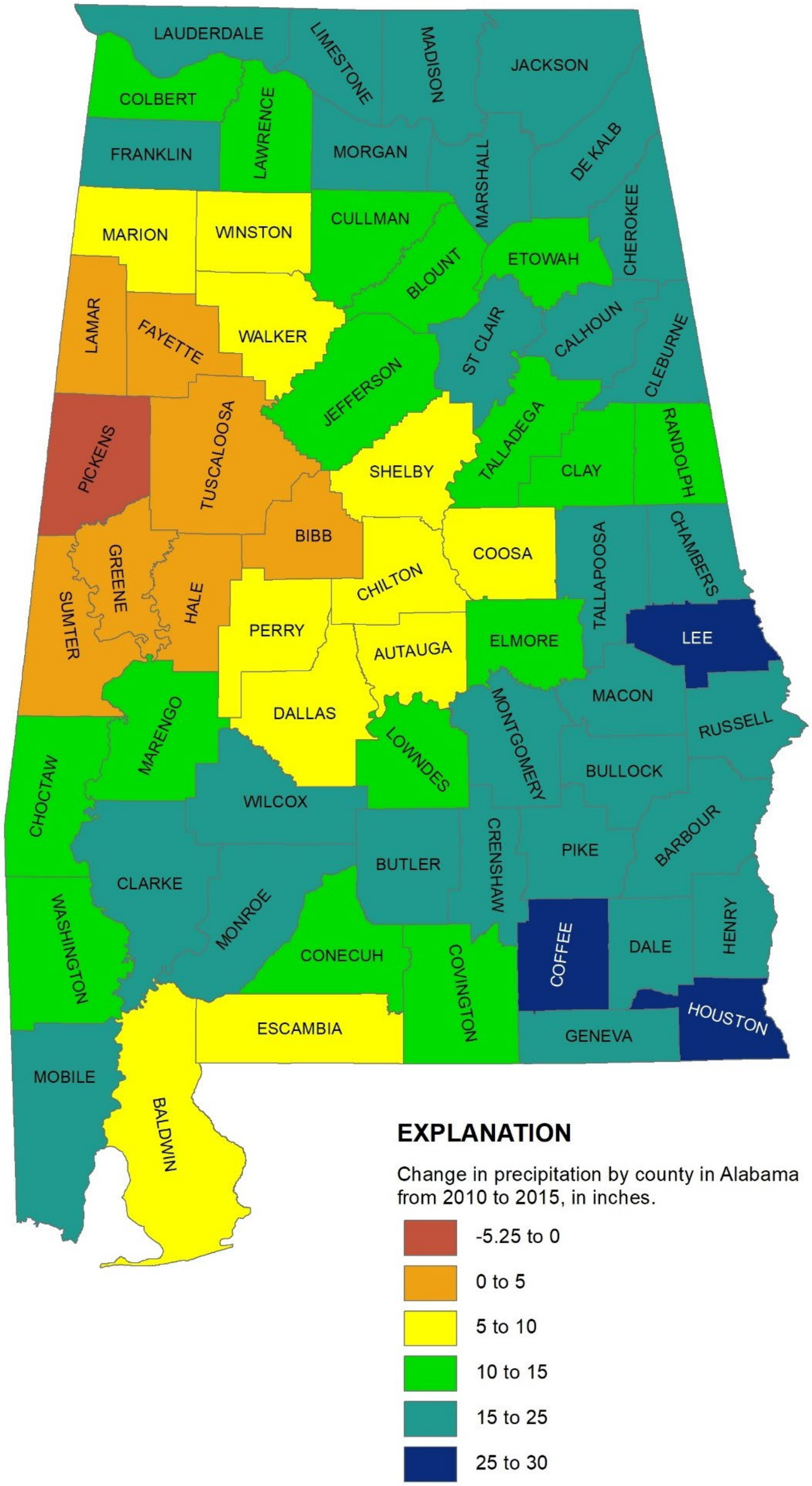


Figure 80. Map of change in precipitation by subbasin in Alabama from 2010 to 2015, in inches.

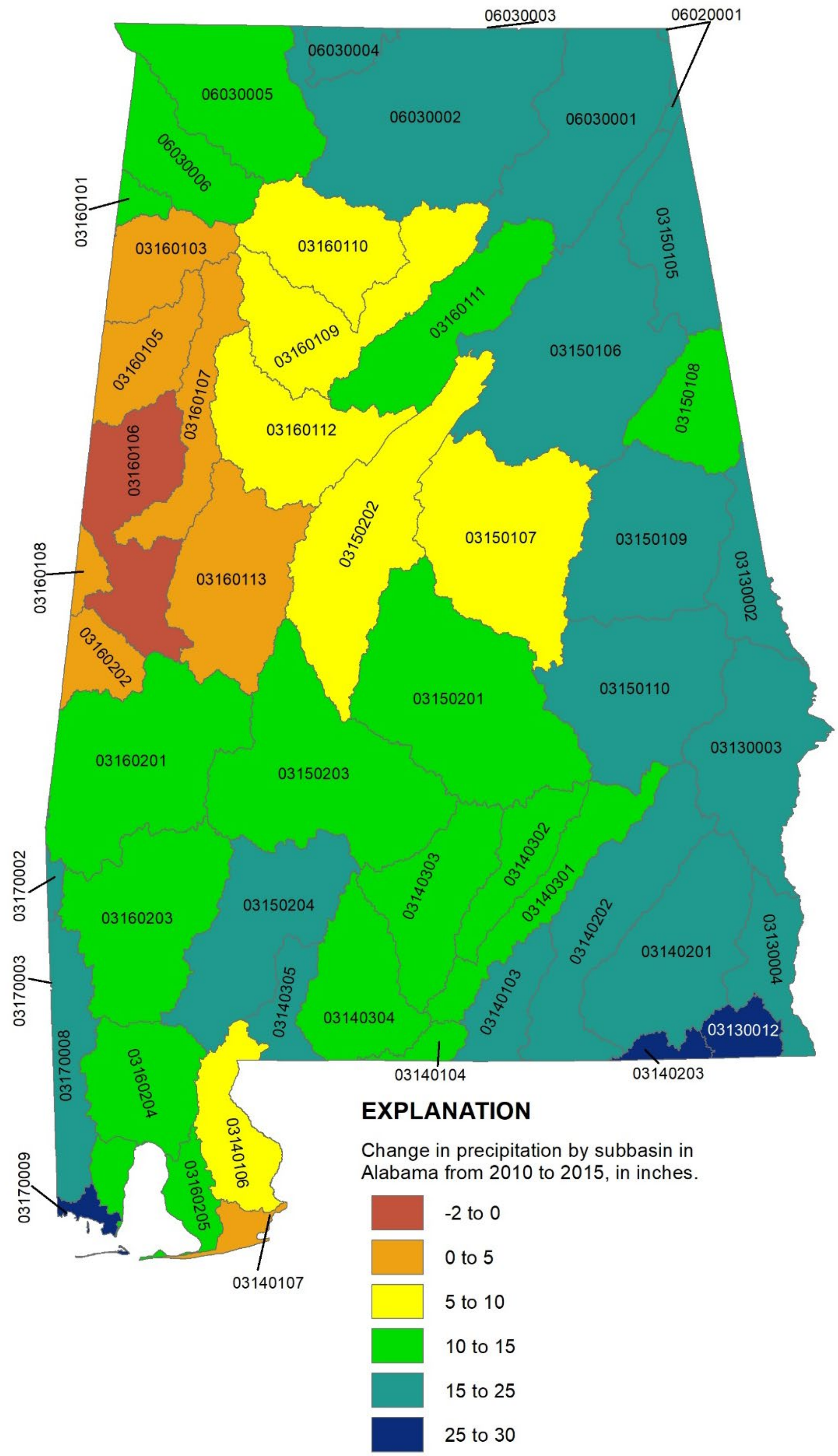


Table 91. Normal, 2010, 2015, and 2010 to 2015 difference in precipitation in Alabama by county, in inches.

County	Normal Precipitation (1980-2010)	2010 Observed Precipitation	2015 Observed Precipitation	Difference from 2010 to 2015
AUTAUGA	54.01	46.81	52.34	5.54
BALDWIN	65.35	53.78	61.45	7.67
BARBOUR	52.12	40.02	62.96	22.94
BIBB	55.25	51.12	55.23	4.11
BLOUNT	55.69	48.08	61.61	13.54
BULLOCK	52.77	42.25	59.64	17.39
BUTLER	56.29	47.05	62.08	15.03
CALHOUN	52.97	46.29	62.79	16.49
CHAMBERS	52.19	33.39	54.17	20.78
CHEROKEE	54.34	42.77	57.81	15.05
CHILTON	54.55	46.62	54.50	7.88
CHOCTAW	54.93	47.53	58.56	11.03
CLARKE	56.93	44.58	60.04	15.46
CLAY	55.89	42.42	57.28	14.86
CLEBURNE	54.07	43.92	60.24	16.33
COFFEE	56.35	41.21	68.47	27.26
COLBERT	57.27	43.87	57.99	14.13
CONECUH	60.76	47.50	60.88	13.38
COOSA	54.11	43.54	52.83	9.29
COVINGTON	59.71	46.04	60.40	14.36
CRENSHAW	55.89	45.64	60.65	15.01
CULLMAN	57.70	53.05	64.10	11.06
DALE	55.00	40.66	61.32	20.65
DALLAS	52.70	46.35	54.04	7.68
DEKALB	55.28	40.12	58.84	18.72
ELMORE	52.69	43.13	55.98	12.85
ESCAMBIA	64.19	51.06	59.61	8.55
ETOWAH	54.74	43.19	57.54	14.35
FAYETTE	57.14	56.86	57.28	0.42
FRANKLIN	58.43	44.36	59.88	15.52
GENEVA	57.73	37.28	61.80	24.53
GREENE	54.20	49.69	52.92	3.24
HALE	53.94	49.76	51.66	1.91
HENRY	53.68	39.79	59.53	19.74

Table 91. Normal, 2010, 2015, and 2010 to 2015 difference in precipitation in Alabama by county, in inches – Continued.

County	Normal Precipitation (1980-2010)	2010 Observed Precipitation	2015 Observed Precipitation	Difference from 2010 to 2015
HOUSTON	54.99	37.28	64.73	27.45
JACKSON	57.53	41.85	59.59	17.75
JEFFERSON	56.30	46.70	59.79	13.10
LAMAR	56.87	54.94	57.58	2.64
LAUDERDALE	57.75	43.10	59.47	16.37
LAWRENCE	56.96	49.38	62.05	12.66
LEE	51.28	37.65	65.21	27.56
LIMESTONE	56.49	44.21	61.94	17.73
LOWNDES	52.91	44.43	56.77	12.34
MACON	51.98	38.35	61.03	22.68
MADISON	55.82	44.57	61.00	16.43
MARENGO	53.76	48.71	58.87	10.16
MARION	58.92	57.97	64.30	6.33
MARSHALL	54.53	40.35	58.90	18.54
MOBILE	64.96	51.90	69.79	17.89
MONROE	57.72	45.24	62.83	17.59
MONTGOMERY	52.37	41.90	59.38	17.48
MORGAN	56.19	44.42	61.46	17.04
PERRY	52.96	47.24	53.60	6.35
PICKENS	54.57	54.69	49.45	-5.23
PIKE	54.16	45.24	60.77	15.53
RANDOLPH	53.52	41.41	54.15	12.74
RUSSELL	48.78	40.55	60.43	19.87
SHELBY	55.18	47.99	57.89	9.90
ST. CLAIR	55.12	42.82	61.57	18.75
SUMTER	54.25	51.69	55.01	3.32
TALLADEGA	53.84	49.00	60.94	11.93
TALLAPOOSA	53.62	34.26	51.11	16.85
TUSCALOOSA	55.09	49.98	54.11	4.12
WALKER	58.02	52.75	61.21	8.47
WASHINGTON	60.16	45.58	60.17	14.59
WILCOX	54.56	43.87	63.49	19.62
WINSTON	59.11	54.70	62.65	7.95
AVERAGE	**55.66**	**45.59**	**59.22**	**13.63**

Table 92. Normal, 2010, 2015, and 2010 to 2015 difference in precipitation in Alabama by subbasin, in inches.

Hydrologic Subbasin	Normal Precipitation (1980-2010)	2010 Observed Precipitation	2015 Observed Precipitation	Difference from 2010 to 2015
03130002	51.33	37.04	58.58	21.54
03130003	50.05	40.43	61.35	20.91
03130004	53.98	38.81	60.84	22.03
03130012	55.31	37.28	66.50	29.21
03140103	59.69	45.12	61.99	16.86
03140104	62.18	47.86	59.10	11.23
03140106	66.10	54.16	61.48	7.32
03140107	65.60	59.03	62.30	3.28
03140201	55.06	39.68	62.94	23.26
03140202	55.79	41.63	64.49	22.86
03140203	57.46	36.24	62.44	26.20
03140301	56.16	46.46	59.49	13.03
03140302	55.58	46.56	58.36	11.80
03140303	57.59	47.31	60.05	12.74
03140304	63.09	50.07	60.32	10.25
03140305	62.35	46.23	61.54	15.32
03150105	54.67	42.85	58.44	15.59
03150106	54.27	45.48	61.43	15.95
03150107	54.14	45.99	55.04	9.05
03150108	54.18	43.76	58.35	14.60
03150109	53.91	35.32	51.52	16.21
03150110	52.42	38.97	60.53	21.57
03150201	53.17	44.99	55.18	10.19
03150202	54.87	48.27	56.09	7.82
03150203	53.88	45.24	60.08	14.84
03150204	58.35	45.10	62.38	17.28

Table 92. Normal, 2010, 2015, and 2010 to 2015 difference in precipitation in Alabama by subbasin, in inches – Continued.

Hydrologic Subbasin	Normal Precipitation (1980-2010)	2010 Observed Precipitation	2015 Observed Precipitation	Difference from 2010 to 2015
03160101	58.38	50.08	63.18	13.09
03160103	58.65	58.02	62.90	4.88
03160105	56.77	56.54	58.26	1.71
03160106	54.35	53.06	51.47	-1.59
03160107	56.05	54.08	54.48	0.41
03160108	54.30	53.46	54.35	0.88
03160109	57.79	52.66	61.74	9.09
03160110	58.48	53.76	63.16	9.41
03160111	55.51	46.61	61.06	14.45
03160112	56.18	50.49	55.72	5.22
03160113	53.99	49.27	51.91	2.65
03160201	54.37	48.29	58.39	10.09
03160202	54.44	51.83	55.38	3.55
03160203	58.52	45.76	58.78	13.02
03160204	64.86	53.18	65.44	12.25
03160205	66.50	54.66	66.63	11.96
03170002	57.82	40.25	62.77	22.52
03170008	63.70	47.35	70.44	23.09
03170009	66.39	49.94	78.71	28.77
06020001	55.77	40.69	58.23	17.54
06030001	55.68	40.00	59.51	19.51
06030002	56.47	44.71	61.37	16.65
06030004	57.34	42.28	61.24	18.96
06030005	57.36	45.01	59.71	14.70
06030006	58.55	44.41	59.20	14.79
Average	**57.24**	**46.59**	**60.29**	**13.70**

Comparison of 2010 and 2015 Subbasin Flows to Historical Record

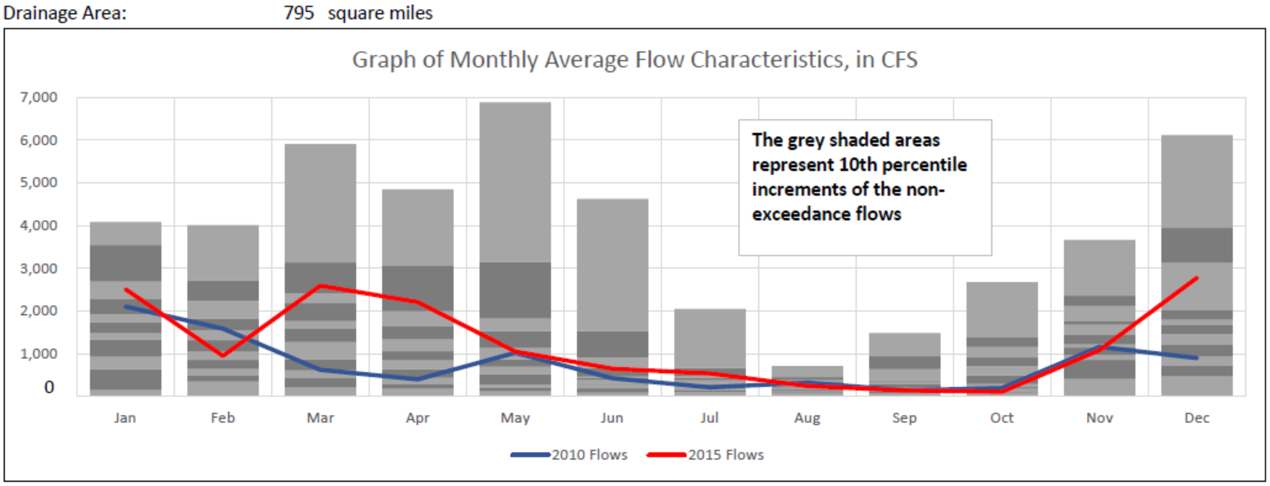
Another component of the analysis conducted for this report was to assess how the specific hydrology of 2010 and 2015 for each subbasin compared with the statistical streamflow data presented in the 2017 Report. In the following figure (figure 81), the 2010 and 2015 monthly average flows for the Bear Creek (06030006) subbasin are shown in comparison to the historical statistical summary of the streamflows for that subbasin as an example of the information presented for all 53 subbasins. Streamflow statistics were based on observed and estimated monthly streamflows using a 40-year period from January 1975 through December 2014. This period was selected from the streamflow data available because it provided a representative number of low and high streamflow years during the 40-year data assessment period. The statistics were calculated for all 53 subbasins and the complete results are contained in Appendix I.

Figure 81. Monthly average flows for 2010 and 2015 compared to the streamflow statistical summary – Bear Creek Subbasin (06030006).

Gage#: 06030006 Name: Bear Creek

Period of Record: Jan-1975 - Dec-2014

Drainage Area: 795 square miles



MONTHLY AVERAGE AND NON-EXCEEDANCE STATISTICS, in CFS

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Average	1,879	1,506	1,750	1,427	1,377	718	406	277	406	715	1,549	2,012
100%	4,078	4,010	5,903	4,843	6,872	4,618	2,048	716	1,487	2,674	3,660	6,111
98%	3,963	3,826	5,167	4,733	5,449	2,707	1,418	571	1,339	2,321	3,031	5,073
95%	3,850	3,635	4,626	3,839	3,963	2,158	1,003	475	1,242	2,175	2,519	4,512
90%	3,542	2,719	3,135	3,070	3,147	1,540	674	454	944	1,403	2,353	3,942
75%	2,518	2,117	2,276	1,889	1,685	823	476	365	499	1,097	1,911	2,483
50%	1,729	1,322	1,589	1,064	871	433	286	245	292	499	1,443	1,671
25%	1,148	793	698	542	386	293	196	149	139	219	1,084	1,116
10%	641	494	452	305	204	195	145	114	120	132	862	735
5%	299	393	378	224	181	148	132	107	104	125	661	580
2%	238	377	299	194	135	99	128	104	101	115	486	499
0%	167	355	227	191	134	97	122	99	90	100	425	477
2010 Flows	2,106	1,591	629	403	1,025	431	218	326	149	204	1,166	904
2015 Flows	2,510	952	2,591	2,211	1,055	652	543	247	145	115	1,088	2,779

Relative Net Demand Comparisons for 2010 and 2015 by Subbasin

As discussed in the 2017 Report, a method for evaluating surface water availability in a subbasin is to express the consumptive use (or net demand) in relation to the streamflow in the subbasin. This can be accomplished by calculating the relative net demand, or RND, which is the ratio of the net demand to an estimate of the average streamflow at the mouth of the subbasin (Weiskel and others, 2007). The RND for a subbasin is expressed as follows:

$$RND = \frac{D_{out} - D_{in}}{Q_{out}} \qquad (1)$$

where
D_{out} is the total withdrawals in the subbasin, in cubic feet per second;
D_{in} is total return flows plus imports of water and wastewater to the basin, in cubic feet per second; and
Q_{out} is the average outflow of the subbasin, in cubic feet per second (Reeves, 2010).

Weiskel and others (2007) stated that positive ratios of RND indicate withdrawals are greater than return flows and negative ratios of RND indicate return flows (plus imports) are greater than withdrawals in a subbasin. Therefore, RND can be used to characterize return-flow-dominated and withdrawal-dominated systems. For this report, cumulative consumptive demands that included demands from upstream subbasins were used to calculate RND ratios.

For the calculation of RND ratios for this report, monthly cumulative consumptive 2010 and 2015 demands were compared to the corresponding monthly flow statistics for each subbasin. From these RND ratios, annual averages and four seasonal averages (January-March, April-June, July-September, and October-December) were calculated. Results of the comparisons revealed that all the monthly consumptive 2010 and 2015 net demands were less than the average monthly streamflow for each subbasin; therefore, all of the RND ratios were less than 1.0. The complete tabular summary of the RND ratios for both 2010 and 2015 are provided in Appendix J.

Monthly subbasin ratios of the 2010 RNDs ranged from -0.20 in September for the Locust Fork (03160111) to 0.546 in October for the Mulberry Fork (03160109) (Appendix J, table J-1). Monthly subbasin ratios of the 2015 RND ranged from -0.731 in October for the Locust Fork (03160111) to 0.316 in September for the Escatawpa (03170008) (Appendix J table J-2). The higher ratios for the Mulberry Fork (03160109) and the Escatawpa (03170008) subbasins are significantly higher in the respective years for only a brief period during the August through October timeframe and are due mainly to the impacts of upstream water storage and reservoir operations. The values for the remaining subbasins in each year are substantially lower with most equal to 0.10 or lower.

Average annual ratios of the 2010 RND ranged from -0.046 for the Locust Fork subbasin to 0.097 for the Escatawpa (Appendix J, table J-3). The seasonal ratios of the 2010 RND ranged from -0.11 in both the July-September and the October-December timeframes for the Locust Fork subbasin to 0.34 in the October-December timeframe for the Mulberry Fork subbasin. The highest 2010 annual and three of the four seasonal RND ratios are for the Escatawpa (03170008) and consist of 0.097 for the average annual value, 0.04 for the January-March seasonal ratio, 0.14 for the April-June seasonal ratio, and 0.254 for the July-September seasonal ratio. For the October-December seasonal ratio, the Mulberry Fork (03160109) leads with a value of 0.34; slightly edging out the 0.32 ratio for Escatawpa (03170008).

Average annual ratios of the 2015 RND ranged from -0.065 for the Locust Fork subbasin to 0.082 for the Escatawpa subbasin (Appendix J, table J-4). The seasonal ratios of the 2015 RND ranged from -0.326 in the October-December timeframe for the Locust Fork subbasin to 0.254 in the October-December timeframe for the Escatawpa subbasin. The highest 2015 annual and seasonal RND ratios are all for the Escatawpa (03170008) and consist of 0.082 for the average annual ratio, 0.077 for the January-March seasonal ratio, 0.077 for the April-June seasonal ratio, 0.254 for the July-September seasonal ratio, and 0.093 for the October-December seasonal ratio.

In addition to the tabular summaries, the RND ratios were presented in a spatial or map-based perspective by subbasin. The figures below provide the information for the average annual ratios for 2010 (figure 82) and 2015 (figure 83). The monthly and seasonal maps for each year by subbasin are provided in Appendix K.

Figure 82. Map of Average Annual RND Ratios by subbasin in Alabama for 2010.

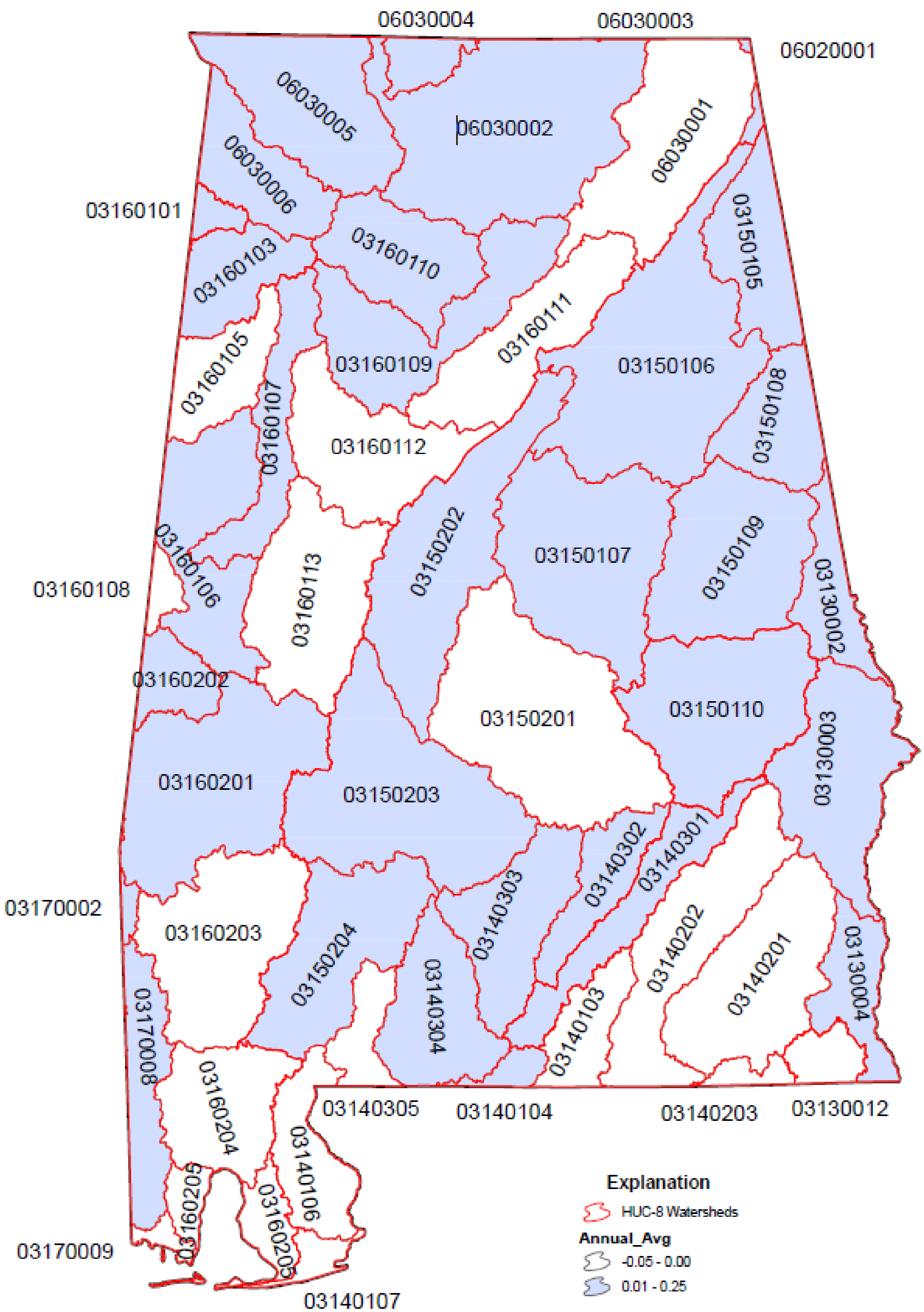
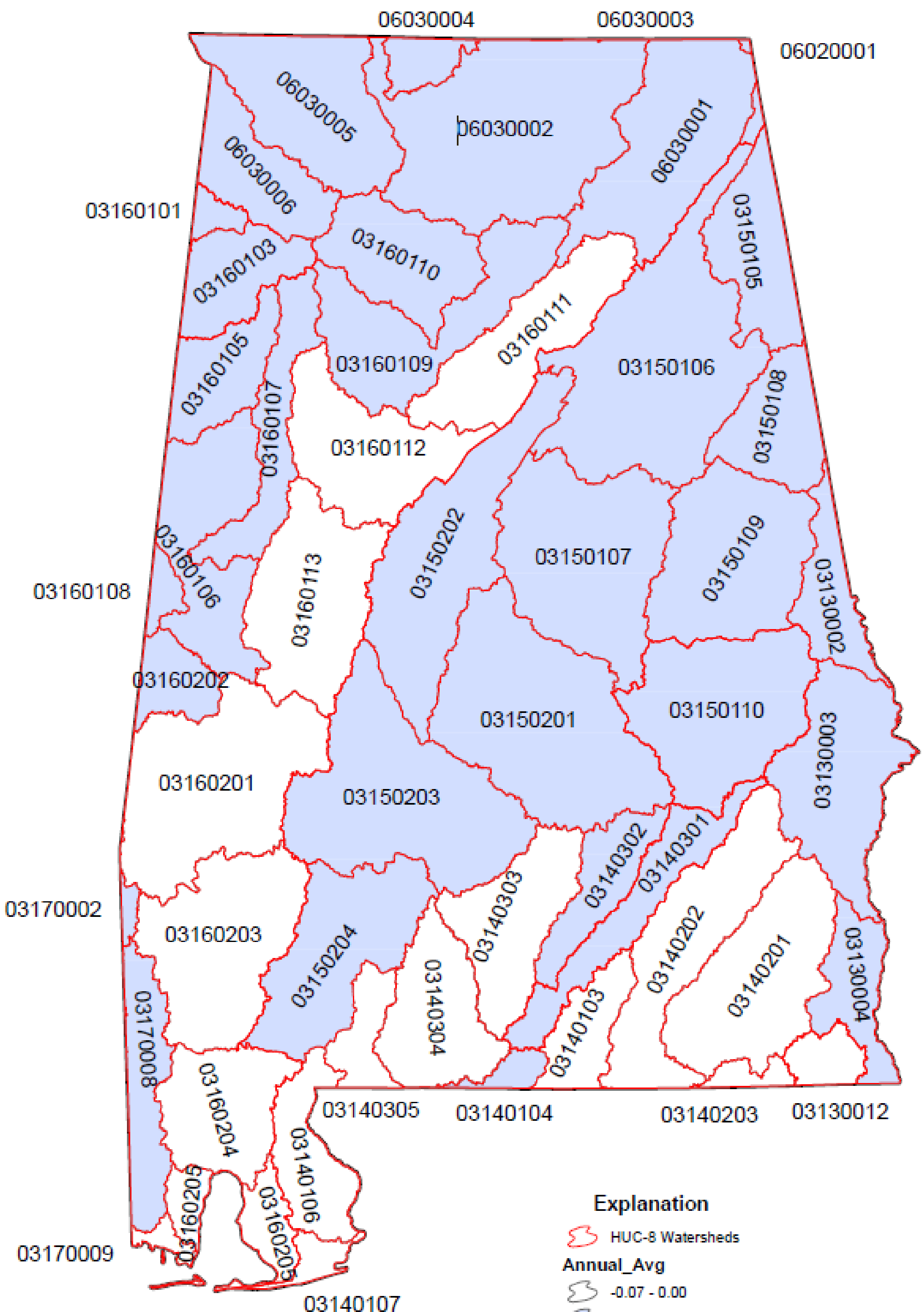


Figure 83. Map of Average Annual RND Ratios by subbasin in Alabama for 2015.



Conclusion

Water withdrawals by source of supply and eight categories of use—public supply, self-supplied residential, irrigation, livestock, aquaculture, self-supplied industrial, mining, and thermoelectric power were estimated by month for both counties and eight-digit hydrologic watersheds or subbasins (HUC-8) for Alabama for 2015. Site-specific data were used as a basis for estimates for public supply, public-supplied deliveries, self-supplied industrial, mining, thermoelectric power, and golf course, nursery, and sod irrigation and was primarily developed from information contained in the Alabama Water Use Reporting Program (AWURP). Aggregated data from additional sources helped to develop estimates for self-supplied residential, crop irrigation, livestock, and aquaculture.

Additionally, water use estimates were developed for three sectors – public supply; irrigation; and a combined sector of industrial, thermoelectric power, and mining. These three sectors were developed due to limitations in the information regarding the source of water return data. The eight water withdrawal sectors were aggregated to correspond to these three return sectors in order to calculate net demand (or consumption) summaries for each county and subbasin. Finally, an analysis was conducted to assess the differences in water availability and use for the years 2010 and 2015.

Total water withdrawals were about 8,239 million gallons per day (MGD) during 2015. Surface water continues to be the main source of water supply and provided about 94 percent of the total withdrawals (7,743 MGD) with the remaining 5 percent (496 MGD) from groundwater. More surface water than groundwater was used in all categories except aquaculture, mining, and self-supplied residential. Estimated water withdrawals by sector and in descending order were thermoelectric power, 6,624 MGD; public supply, 761 MGD; self-supplied industrial, 495 MGD; irrigation, 223 MGD; aquaculture, 49 MGD; self-supplied residential, 37 MGD; livestock, 26 MGD; and mining, 22 MGD. It should be noted that 2015 marks a significant reduction in Alabama's overall water withdrawal total. From 2000 through 2010, water withdrawals have been relatively constant. This is primarily driven by the closure of three major facilities; the International Paper Courtland facility in Lawrence County and TVA's coal-fired generating units at the Widows Creek facility in Jackson County and the Colbert Fossil Plant in Colbert County. These three facility closures account for the majority of the almost 2 billion gallons per day reduction in water withdrawals.

Total net water demands reflect the significant impact of returns. Total net demands for Alabama for 2015 were 114 MGD compared to total withdrawals of 8,239 for an overall consumption rate of just over 1 percent. The subbasins with the largest net demands for 2015 are the Mulberry Fork (03160109; 80 MGD), the Escatawpa (03170008; 53 MGD), and the Cahaba (03150202; 31 MGD) subbasins. The subbasins with the smallest net demands for 2015 are the Locust Fork (03160111; -74 MGD), the Mobile-Tensaw (03160204; -52 MGD), the Upper Black Warrior (03160112; -45 MGD), and the Upper Alabama (03150201; -22 MGD) subbasins.

For the public supply sector, the net demands for 2015 were -70 MGD. This represents the largest change from 2010 in water demands among all the various sectors (98 MGD lower; 28 MGD in 2010 versus -70 MGD in 2015). A number of factors may account for this but the most significant is probably the fact that rainfall in 2010 was approximately 10 inches below normal while rainfall in 2015 was approximately 3 inches above normal. The subbasins with the largest public-supply net demands for 2015 are the Escatawpa (03170008; 52 MGD), the Mulberry Fork (03160109; 36 MGD) and the Cahaba (03150202; 24 MGD) subbasins. The subbasins with the smallest public-supply net demands for 2015 are the Locust Fork (03160111; -62 MGD) and the Mobile-Tensaw (03160204; -44 MGD) subbasins.

For the agriculture sector, the net demands for 2015 were 161 MGD. The subbasins with the largest net demands for 2015 are the Wheeler Lake (06030002; 13 MGD), the Middle Coosa (03150106; 12 MGD), the Lower Black Warrior (03160113; 11 MGD) the Middle Chattahoochee-Lake Harding (03130003; 10 MGD) and the Upper Alabama (03150201; 10 MGD) subbasins. Since this sector is considered 100 percent consumptive, there are no water returns and zero is the lowest possible net water demand value.

For the industrial, thermoelectric and mining sector, the net demands for 2015 is 23 MGD. The subbasins with the largest net demands for 2015 are the Mulberry Fork (03160109; 42 MGD) the Lower Chattahoochee (03130004; 22 MGD), and the Wheeler Lake (06030002; 11 MGD) subbasins. The subbasins with the smallest industrial, thermoelectric, and mining net demands for 2015 are the Upper Black Warrior (03160112; -31 MGD), the Locust Fork (03160111; -16 MGD), and the Mobile Tensaw (03160204; -11 MGD) subbasins.

Once the development of net demand estimates were complete, the process of then assessing surface water availability began with an analysis of rainfall that occurred in both 2010 and 2015. While the long-term average precipitation in Alabama is approximately 55.66 inches, the 2010 average statewide precipitation was estimated at 45.59 inches or approximately 10 inches below normal. In comparison, the 2015 average statewide precipitation was estimated at 59.22 inches or more than three inches above normal. This information provided a backdrop for the more detailed analysis of individual subbasins.

The surface-water availability for each of the state's 53 subbasins was assessed by comparing 2010 and 2015 monthly net demands to corresponding monthly streamflows and calculating relative net demand (RND) ratios. Monthly subbasin ratios of the 2010 RNDs ranged from -0.20 in September for the Locust Fork (03160111) to 0.546 in October for the Mulberry Fork (03160109) subbasins. Monthly subbasin ratios of the 2015 RND ranged from -0.731 in October for the Locust Fork (03160111) to 0.316 in September for the Escatawpa (03170008) subbasins. The higher ratios for the Mulberry Fork (03160109) and the Escatawpa (03170008) subbasins are significantly higher in the respective years for only a brief period during the August through October timeframe and are due mainly to the impacts of upstream water storage and reservoir operations. The values for the remaining subbasins in each year are substantially lower with most equal to 0.10 or lower.

Average annual ratios of the 2010 RND ranged from -0.046 for the Locust Fork subbasin to 0.097 for the Escatawpa subbasin. The seasonal ratios of the 2010 RND ranged from -0.11 in both the July-September and the October-December timeframes for the Locust subbasin to 0.34 in the October-December timeframe for the Mulberry subbasin. The highest 2010 annual and three of the four seasonal RND ratios are for the Escatawpa (03170008) subbasin and consist of 0.097 for the average annual ratio, 0.04 for the January-March seasonal ratio, 0.14 for the April-June seasonal ratio, and 0.254 for the July-September seasonal ratio. For the October-December seasonal ratio, the Mulberry Fork (03160109) subbasin leads with a ratio of 0.34; slightly edging out the 0.32 ratio for the Escatawpa (03170008) subbasin.

Average annual ratios of the 2015 RND ranged from -0.065 for the Locust Fork subbasin to 0.082 for the Escatawpa subbasin. The seasonal ratios of the 2015 RND ranged from -0.326 in the October-December timeframe for the Locust Fork subbasin to 0.254 in the October-December timeframe for the Escatawpa subbasin. The highest 2015 annual and seasonal RND ratios are all for the Escatawpa (03170008) and consist of 0.082 for the average annual ratio, 0.077 for the January-March seasonal ratio, 0.077 for the April-June seasonal ratio, 0.254 for the July-September seasonal ratio, and 0.093 for the October-December seasonal ratio.

This report represents the latest summary of water quantity data and information on the State of Alabama's water resources. It continues to underscore the need to conduct periodic water withdrawal and consumption assessments using data and information from the AWURP. Under the AWURP and its annual data collection process, OWR maintains the state's most comprehensive data repository for water-use information. This data is vital to the ability to connect the results of both the surface and groundwater capacity assessments with the impacts of water withdrawals in individual subbasins to ensure water resources can continue to meet local and regional needs. The OWR continues to support the state's efforts to maintain and enhance the collection of updated streamflow and reservoir data by state and federal agencies as well as other organizations. Identifying and ensuring that key streamflow gages remain active and are strategically located are not only critical to water quantity and water quality assessments but provide the detailed information necessary to better understand how and where water usage and streamflows are changing over time and how those changes are altering historic flood and drought patterns and magnitudes.

In conclusion, OWR is committed to providing updated water use and availability reports at least every five years. The information is vital to help guide potential enhancements to state water policies and water resource management activities as well as indicate where additional focus may be needed in the future.

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Appendices

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