Surplus Water Available in Water Marketing Program Lakes Calendar Year 2020

December 2019

Kansas Water Office

Table of Contents

INTRODUCTION 2
SURPLUS WATER AVAILABLE IN 2020 2
EXPLANATION OF YIELD CHANGES FROM CY 2019 SURPLUS REPORT 3
DROUGHT CONDITION CONTINGENCY 3
EXPLANATION OF RESERVOIR TABLES 3
INTERNAL POLICY MEMORANDUM #12 6

RESERVOIR SPECIFIC TABLES 8

BIG HILL LAKE 9
CLINTON LAKE 11
COUNCIL GROVE LAKE 13
ELK CITY LAKE 15
HILLSDALE LAKE 17
JOHN REDMOND RESERVOIR 19
KANOPOLIS LAKE 21
MARION RESERVOIR 23
MELVERN LAKE 25
MILFORD LAKE 27
PERRY LAKE 29
POMONA LAKE 31
TORONTO LAKE 33
TUTTLE CREEK LAKE 35

Introduction

Surplus water is defined as waters within the conservation water supply capacity committed to the State, but not required to meet contractual requirements. Water in this storage may be sold under short term contracts if it is found to be surplus, is determined to be in the public interest, and if the contract will advance the purposes of the State Water Resource Planning Act.

This report for Calendar Year 2020, as approved by the Kansas Water Authority, constitutes the finding that the waters so indicated in the report are surplus (IPM-12).

The report will be used as guidance to the Director of the Kansas Water Office in contracting for surplus waters for calendar year 2020. The surplus yield identified in this report is a starting point in determining whether the Office should enter into a surplus water marketing contract. At the time an application for a surplus contract is submitted, the Director will also consider:

- Pending applications that are actively being pursued by an applicant which may result in water being committed to a user in the near future
- The impact of the adopted lake level management plan
- The existence of drought conditions and the effect of the drought on water in storage
- Any other information that could be used in the determination of the public interest.

Surplus Water Available in 2020

Statute limits the amount of water that can be provided as surplus water in any one calendar year to 10% of the water supply yield capability, unless the Governor has declared an emergency which affects the public, health, safety or welfare. Surplus Yield is the yield associated with water supply storage that is in service and is not committed to another user for that year. The Surplus Yield Available is equal to either the surplus yield or 10% of the water supply yield, whichever value is smaller.

Summary Table

	Water Supply Yield		**Surplus Yield Available in 2020**	
Lake	mgd	Af/yr	mgd	Af/yr
Big Hill (Pearson-Skubitz)	8.0	8,947	0.80	895
Clinton	18.3	20,485	0.00	0
Council Grove	8.3	9,339	0.83	934
Elk City	13.8	15,476	1.38	1,548
Hillsdale	15.5	17,364	0.00	0
John Redmond	31.7	35,499	3.1	3,432
Kanopolis	8.6	9,691	0.86	969
Marion	5.1	5,716	0.51	572
Melvern	8.6	9,642	0.86	964
Milford	108.0	121,028	0.00	0
Perry	67.4	75,585	0.00	0
Pomona	7.8	8,792	0.78	879
Toronto	4.7	5,249	0.11	126
Tuttle Creek	173.0	193,918	17.3	19,392

Explanation of Yield Changes from CY 2019 Surplus Report

The primary difference between the water supply yields of this report and the previous year's report is due to the application of an additional year of sediment accumulation in each reservoir. The annual sedimentation rate at each reservoir is published online by the Kansas Water Office and establishes the annual volumetric reduction to the reservoirs listed in this surplus report. In addition to the impact of annual sediment accumulation on yield, operational changes can impact yield. A real-world operational change to Milford's Lake Level Management Plan was incorporated into the model, resulting in a greater reduction in yield. Toronto Lake has been added to the report, with surplus yield being available from its marketing storage. The changes from 2019 to 2020 are summarized in the table below.

Yield Changes From 2019 Surplus Report

Lake	2019 Yield (MGD)	2020 Yield (MGD)	% Change from 2019	Comment
Big Hill (Pearson-Skubitz)	8.0	8.0	-0.2%	
Clinton	18.3	18.3	-0.2%	
Council Grove	8.4	8.3	-0.3%	
Elk City	13.9	13.8	-0.9%	
Hillsdale	15.5	15.5	-0.1%	
John Redmond	32.0	31.7	-1.0%	Updated Survey
Kanopolis	8.1	8.6	7.1%	Updated Survey
Marion	5.1	5.1	-0.7%	
Melvern	8.7	8.6	-1.0%	Updated Survey
Milford	108.1	108.0	-0.1%	
Perry	68.0	67.4	-0.8%	
Pomona	7.9	7.8	-0.6%	
Toronto	4.7	4.7	-1.0%	
Tuttle Creek	174.6	173.0	-0.9%	

Yields units are million gallons/day (MGD)

Drought Condition Contingency

The Kansas Water Office has the statutory responsibility to advise the Governor on drought conditions and coordinates the Governor's drought response team. The Drought Monitoring Program collects climate data from a variety of sources, monitors drought activities and publishes a drought report during periods of drought. **The impact of drought conditions on reservoir storage will be evaluated at the time a surplus contract is being considered. Prior to entering into a surplus contract, the Kansas Water Office will review current drought conditions, declarations and forecasts. Conditions that may warrant declining a new surplus contract include: extended below normal precipitation; below normal streamflow in the river basin; concern about percent of storage remaining in the conservation pool and low probability of refill based on historic record**.

Explanation of Reservoir Tables

Table 1 - Conservation Storage Break Out

Table 1 for each reservoir separates the conservation storage into various components. The conservation storage is used for multiple purposes, which are identified in Table 1 and the pie charts as Water Quality, Other/Local and Water Supply.

The Water Quality pool is utilized to make established minimum releases which are intended to maintain flow in the stream below the lake. The Corps retains ownership of this storage.

The Other/Local pool includes storage that has been contracted by the Corps of Engineers to a local water supplier and storage that has been retained by the Corps of Engineers.

The Water Supply pool includes the amount of storage the State has under contract to serve the needs of municipal or industrial users' long term needs. The Water Supply pool is further divided into an In Service portion and a Future Use portion. Some of the water supply contracts between the Corps of Engineers and the Kansas Water Office allow the State to defer payment on storage until the storage is needed. When the storage is being paid for it is considered In Service. The Corps of Engineers retains ownership of the Future Use storage until the State calls that storage into service.

The In Service water supply is then further divided by how that storage has been and is being paid for. Water Marketing is the amount of committed storage to serve the customers of that program. Water Assurance is the amount of storage owned by the municipal and industrial users below lakes that have formed an assurance district. The Reserve Capacity is storage the State purchased in the mid 1990's under the 1985 Memorandum of Understanding (MOU) between Kansas and the U.S. Army Corps of Engineers. This portion of storage has not yet been needed for either the Water Marketing or Water Assurance programs. Annual operation and maintenance costs of the Reserve Capacity are paid by the State Water Plan Fund.

Table 1 provides the break out of the conservation storage in percentage of the current total conservation pool and in current estimated acre-feet, which is based on a projection using the most recent sediment survey adopted by the Corps of Engineers. The amount of water the water supply storage can yield during a 2% drought is also provided. The drought from 1952 through 1957 is defined in regulations as a 2% drought.

Table 2 - Contracted Quantities

Table 2 lists data associated with existing water marketing contracts for each lake. Table 2 provides the annual maximum quantity of water for each contract as well as the amount of water committed to each customer in 2019. Statute allows for a contract holder to negotiate a contract for an amount of water which gradually increases over time. The difference between the 2020 maximum quantity and the annual maximum quantity is a portion of the water available for surplus.

Table 3 - Pending Applications

Table 3 lists pending applications for water marketing contracts for each lake. The Water Marketing Program allows applications to remain on file for up to 13 years without beginning negotiations for a contract. Thus, some applications will not result in long term contracts in 2020. This information will be reviewed by the Director at the time a surplus application is submitted.

Table 4 - Past Surplus Contracts

Table 4 lists the surplus water marketing contracts for the past two years for each lake.

Table 5 - Surplus Yield

This table lists the yield that is determined to be surplus in 2020. Storage owned by a water assurance district and water committed to a water marketing customer in 2020 is not available for surplus contracts. Thus, the yield committed through marketing contracts and the yield associated with the portion of the Water Supply pool owned by a water assurance district is subtracted from the estimated 2020 yield. Additionally, the portion of the Water Supply pool considered Future Use Storage is controlled by the Corps of Engineers and is not available for a surplus water marketing contract. When there is Surplus Yield, the amount of Surplus Yield Available for use during the calendar year is limited to 10% of the Current Yield or the calculated Surplus Yield, whichever is less.

Calculation of Surplus Yield Available (*example*):

	mgd	AF/yr	
	10	11,201	Current Yield
-	2	2,240	Marketing Contracts
-	3	3,360	WAD Storage Yield
-	3	3,360	Future Use Yield
	2	2,240	Surplus Yield
	1	**1,120**	**Surplus Yield Available**

Lake Level Management Considerations

The Kansas Water Office is charged by the State Water Planning Act with negotiating and entering into agreements with the Corps of Engineers and the Bureau of Reclamation regarding operation or releases of water from federal projects. Seasonal lake levels are developed annually and are known as Lake Level Management Plans. Development of these plans includes public and stakeholder input. They are intended to increase the benefits to recreational users and improve wildlife and aquatic habitat while protecting the flood control, water supply and water quality purposes of the lake. It is important to note that the plans are developed for average climate conditions.

Most plans include additional flood storage for high springtime flows but flood operation procedures are followed as specified in the regulation manual. Drought conditions may also warrant deviation from the plan. Large volumes of water are stored or evacuated as the seasonal pool elevation changes. Protection of water supply storage is essential and statutory limitations are in place for this purpose. Water from the water quality and water supply pools may be evacuated during a lake level operation; however, the amount of water evacuated from the water supply pool under a lake level management operation is limited to the surplus yield available.

Internal Policy Memorandum #12

KANSAS WATER AUTHORITY
901 South Kansas Avenue, Topeka, KS 66612-1249 (785) 296-3185

Steve Irsik, Chairman
5405 Six Road, Ingalls, KS 67853
(620) 335-5363 - steve@ucom.net

IPM-12
Adopted April 7, 2006

MEMORANDUM OF INTERNAL POLICY

Disposal of Surplus Water in the State's Conservation Water Supply Capacity

Background

The Kansas Water Authority shall authorize the director of the Kansas Water Office to dispose of water when the Authority finds

1. the water is determined to be surplus,
2. it is in the public interest to dispose of the water, and
3. such disposal will advance the purposes of the State water resource planning act.

Surplus water is defined as waters within the conservation water supply capacity committed to the State, but not required to meet contractual requirements. K.S.A. 82a-1305(b) addresses disposal of surplus water.

82a-1305. (b) Whenever the authority finds that it is in the public's interest and will advance the purposes set forth in this act and in article 9 of chapter 82a of Kansas Statutes Annotated, and amendments thereto, the authority shall authorize the director to dispose of waters found by the authority to be surplus waters. Any arrangement for the disposition of any such surplus waters shall not be subject to the provisions of K.S.A. 82a-1306, 82a-1307 and 82a-1308a, and amendments thereto, relating to long-term contracts. No such arrangement shall be made for a period of time in excess of one year nor shall any such arrangement dispose of water from the conservation water supply capacity in excess of 10% of the yield capability as computed pursuant to subsection (a) unless the governor has declared that an emergency exists which affects the public health, safety or welfare. No charges shall be levied on the disposition of surplus waters when the purpose for such disposition is streamflow maintenance or reservoir pool management. A charge at a rate not to exceed the rate established pursuant to K.S.A. 82a-1306, and amendments thereto, shall be levied on the disposition of surplus waters when the purpose of such disposition is the maintenance of public health. A charge at a rate that may exceed the rate established pursuant to K.S.A. 82a-1306, and amendments thereto, shall be levied on the disposition of surplus waters when the purpose for such disposition is other than streamflow maintenance, reservoir pool management or maintenance of public health. History: L. 1974, ch. 452, § 5; L. 1976, ch. 441, § 2; L. 1977, ch. 358, § 1; L. 1983, ch. 343, § 4; L. 1984, ch. 382, § 2; L. 1986, ch. 396, § 4; July 1.

Process and Criteria

At the last Kansas Water Authority meeting of each calendar year, the Kansas Water Office will report to the Authority the following:

1. available surplus water within the State's water conservation storage capacity by reservoir for the following calendar year,
2. pending applications and on-going negotiations of water marketing contracts,
3. anticipated uses of the surplus water, including anticipated water marketing surplus contracts, streamflow maintenance needs and lake level management plans, and
4. assessment of any drought that may be occurring in the State and potential impacts of the drought on storage.

Approval of the report by the Authority will constitute a finding that the waters so indicated in the report are surplus, that it is in the public interest to dispose of the surplus waters, and disposal will advance the purposes of the State water resource planning act. The report will guide the director of the Kansas Water Office in disposing of surplus waters for the following calendar year, including entering into surplus water marketing contracts.

Because the yield capability of each reservoir's water conservation storage, referred to in K.S.A. 82a-1305(a), is projected into the future forty years per K.A.R. 98-5-8(a)(4) and the annual report of disposal of surplus water will utilize yield data associated with the following calendar year, the disposal of surplus water will be limited to the amount of storage that allows 90% of the "yield capability as computed pursuant to subsection (a)" to remain in storage for the following calendar year.

Date: June 2, 2006

Steve Irsik, Chairman
Kansas Water Authority

Reservoir Specific Tables

Big Hill Lake

Table 1: Conservation Storage Break Out

Conservation Pool Elevation (ft msl)	814 - 858	Flood Pool Elevation (ft msl)	858 - 867.5

	Break Out of Conservation Storage	Current Yield (mgd)	Current Storage (acre feet)
Water Quality	0.00%	0	0
Other/Local	0.00%	0	0
Water Supply	100.00%	8.0	22,148
Future Use	64.20%	5.1	14,219
In Service	35.80%	2.9	7,929
Water Marketing	35.80%	2.9	7,929
Assurance District	0.00%	0	0
Reserve Capacity	0.00%	0	0

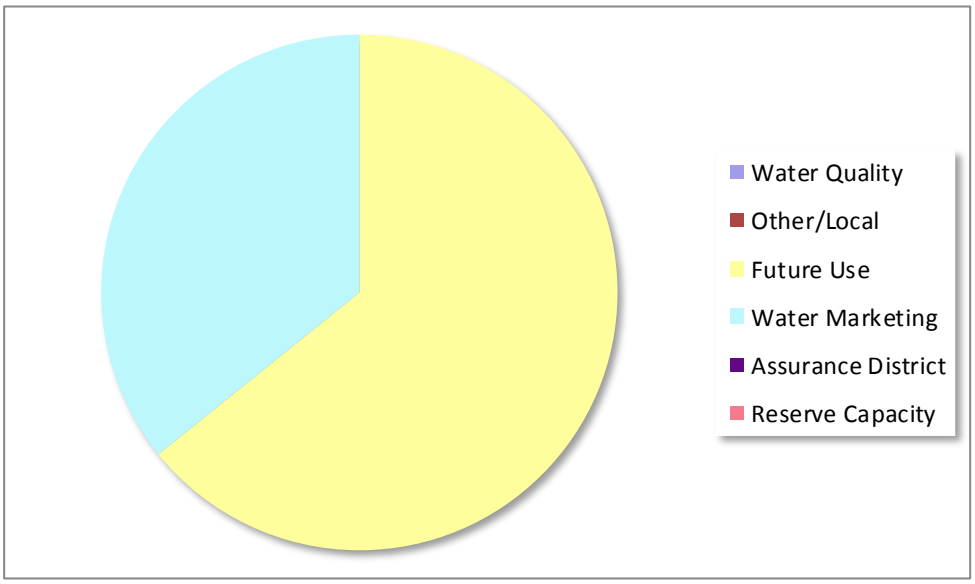


Table 2: Contracted Quantities

Contract Number	Customer Name	Contract End Date	2020 Maximum Gallons	2020 Maximum AF	Annual Contract Maximum Gallons	Annual Contract Maximum AF
98-1	Public Wholesale Water Supply Dist. No. 4	4/17/2038	454,700,000	1,395	454,700,000	1,395
			454,700,000	1,395	454,700,000	1,395

Table 3: Pending Applications

Applicant Name	Application Expiration Date	Requested Quantity Gallons	Requested Quantity AF
There are no pending applications on file			

Table 4: Past Surplus Contracts

Contract Number	Customer Name	Contract End Date	Annual Contract Maximum Gallons	Annual Contract Maximum AF
There were no surplus contracts in the past two years				

Table 5: Surplus Yield

mgd	AF/yr	
8.0	8,947	Current Yield
1.2	1,395	Marketing Contracts
0	0	WAD Storage Yield
5.1	5,744	Future Use Yield
1.6	1,807	Surplus Yield
0.80	**895**	**Surplus Yield Available**

Lake Level Management Consideration

No Lake Level Management Plan was prepared for Big Hill for Water Year 2020.

Clinton Lake

Table 1: Conservation Storage Break Out

Conservation Pool Elevation (ft msl)	840 - 875.5	Flood Pool Elevation (ft msl)	875.5 - 903.4

	Break Out of Conservation Storage	Current Yield (mgd)	Current Storage (acre feet)
Water Quality	19.20%	0	22,117
Other/Local	0.00%	0	0
Water Supply	80.80%	18.3	93,077
Future Use	32.30%	7.3	37,208
In Service	48.50%	11.0	55,869
Water Marketing	48.50%	11.0	55,869
Assurance District	0.00%	0	0
Reserve Capacity	0.00%	0	0

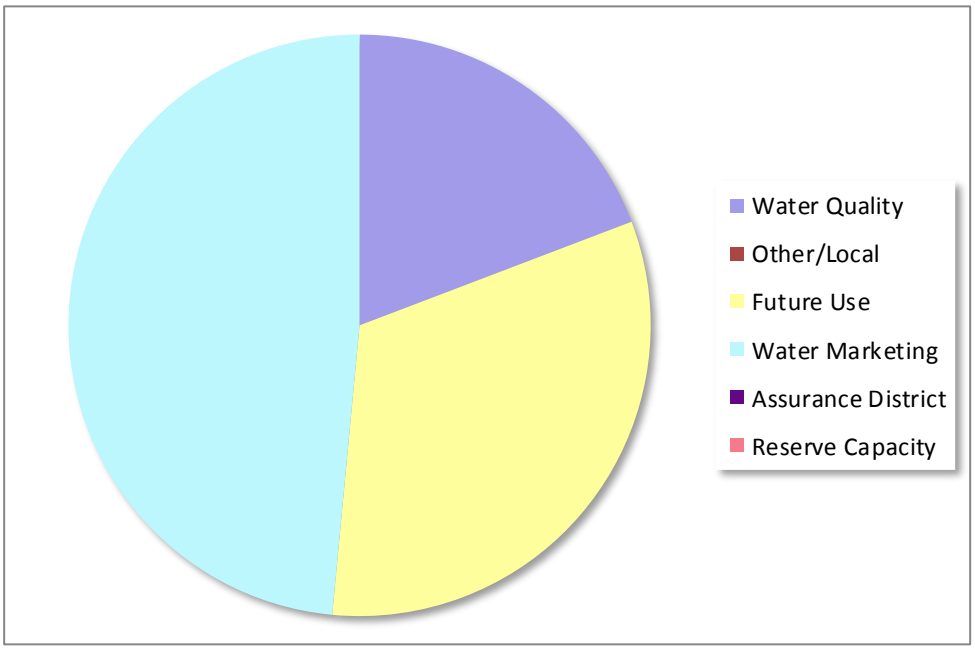


Table 2: Contracted Quantities

Contract Number	Customer Name	Contract End Date	2020 Maximum Gallons	2020 Maximum AF	Annual Contract Maximum Gallons	Annual Contract Maximum AF
79-1	Douglas County Rural Water District No. 3	12/13/2021	684,273,174	2,100	684,273,174	2,100
79-2	Douglas County Rural Water District No. 6	12/13/2021	23,759,981	73	23,759,981	73
90-2	Douglas County Rural Water District No. 6	1/1/2031	9,503,298	29	9,503,298	29
95-3	Douglas County Rural Water District No. 5	10/26/2035	128,298,541	394	128,298,541	394
19-1	City of Lawrence	12/29/2059	4,988,000,000	15,308	4,988,000,000	15,308
			5,833,834,994	17,903	5,833,834,994	17,903

Table 3: Pending Applications

Applicant Name	Application Expiration Date	Requested Quantity Gallons	Requested Quantity AF
There are no pending applications on file			

Table 4: Past Surplus Contracts

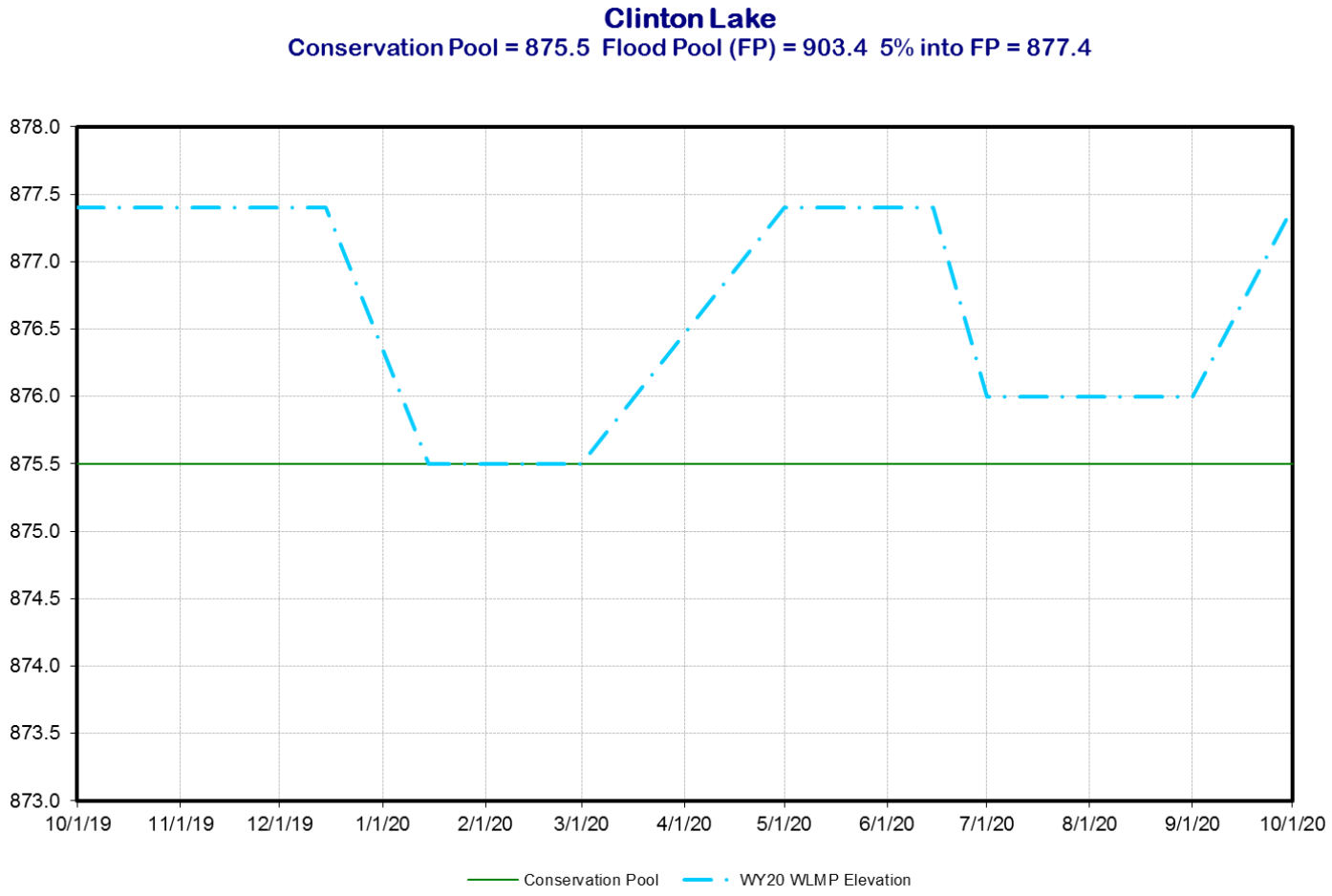
Contract Number	Customer Name	Contract End Date	Annual Contract Maximum Gallons	Annual Contract Maximum AF
There were no surplus contracts in the past two years				

Table 5: Surplus Yield

mgd	AF/yr	
18.3	20,485	Current Yield
16.0	17,903	Marketing Contracts
0	0	WAD Storage Yield
7.3	8,189	Future Use Yield
0.0	0	Surplus Yield
0.0	**0**	**Surplus Yield Available**

Lake Level Management Consideration

In accordance with the Lake Level Management Plan for Clinton, no conservation storage will be evacuated during the 2020 Water Year.



Council Grove Lake

Table 1: Conservation Storage Break Out

Conservation Pool Elevation (ft msl)	1240 - 1274	Flood Pool Elevation (ft msl)	1274 - 1289

	Break Out of Conservation Storage	Current Yield (mgd)	Current Storage (acre feet)
Water Quality	22.67%	0	9,350
Other/Local	0.00%	0	0
Water Supply	77.33%	8.3	31,892
Future Use	0.00%	0.0	0
In Service	77.33%	8.3	31,892
Water Marketing	43.43%	4.7	17,911
Assurance District	14.80%	1.6	6,104
Reserve Capacity	19.10%	2.1	7,877

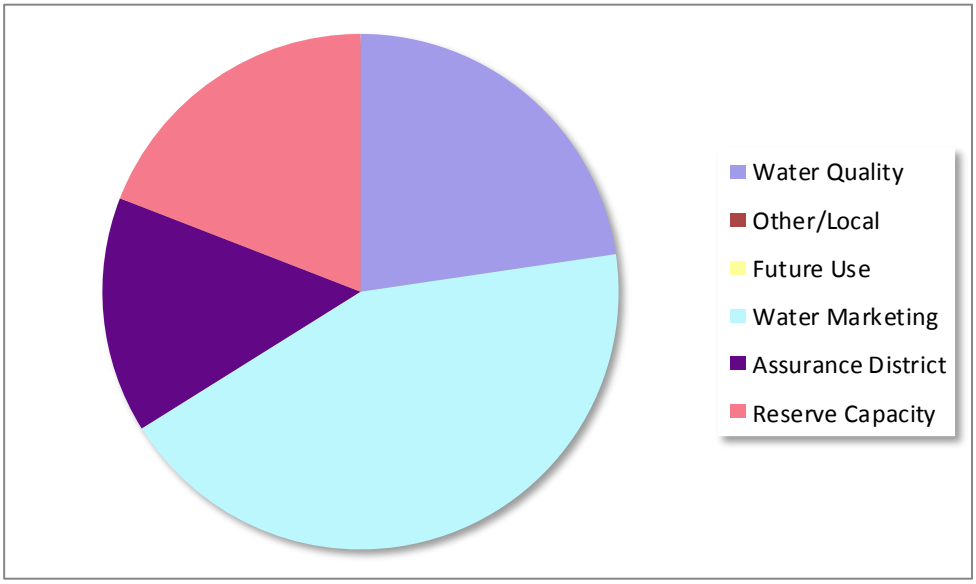


Table 2: Contracted Quantities

Contract Number	Customer Name	Contract End Date	2020 Maximum Gallons	2020 Maximum AF	Annual Contract Maximum Gallons	Annual Contract Maximum AF
81-2	City of Emporia	10/21/2023	1,095,000,000	3,360	1,095,000,000	3,360
93-4	City of Council Grove	9/13/2033	30,000,000	92	150,000,000	460
			1,125,000,000	3,452	1,245,000,000	3,820

Table 3: Pending Applications

Applicant Name	Application Expiration Date	Requested Quantity Gallons	Requested Quantity AF
City of Council Grove	12/6/2028	175,000,000	537

Table 4: Past Surplus Contracts

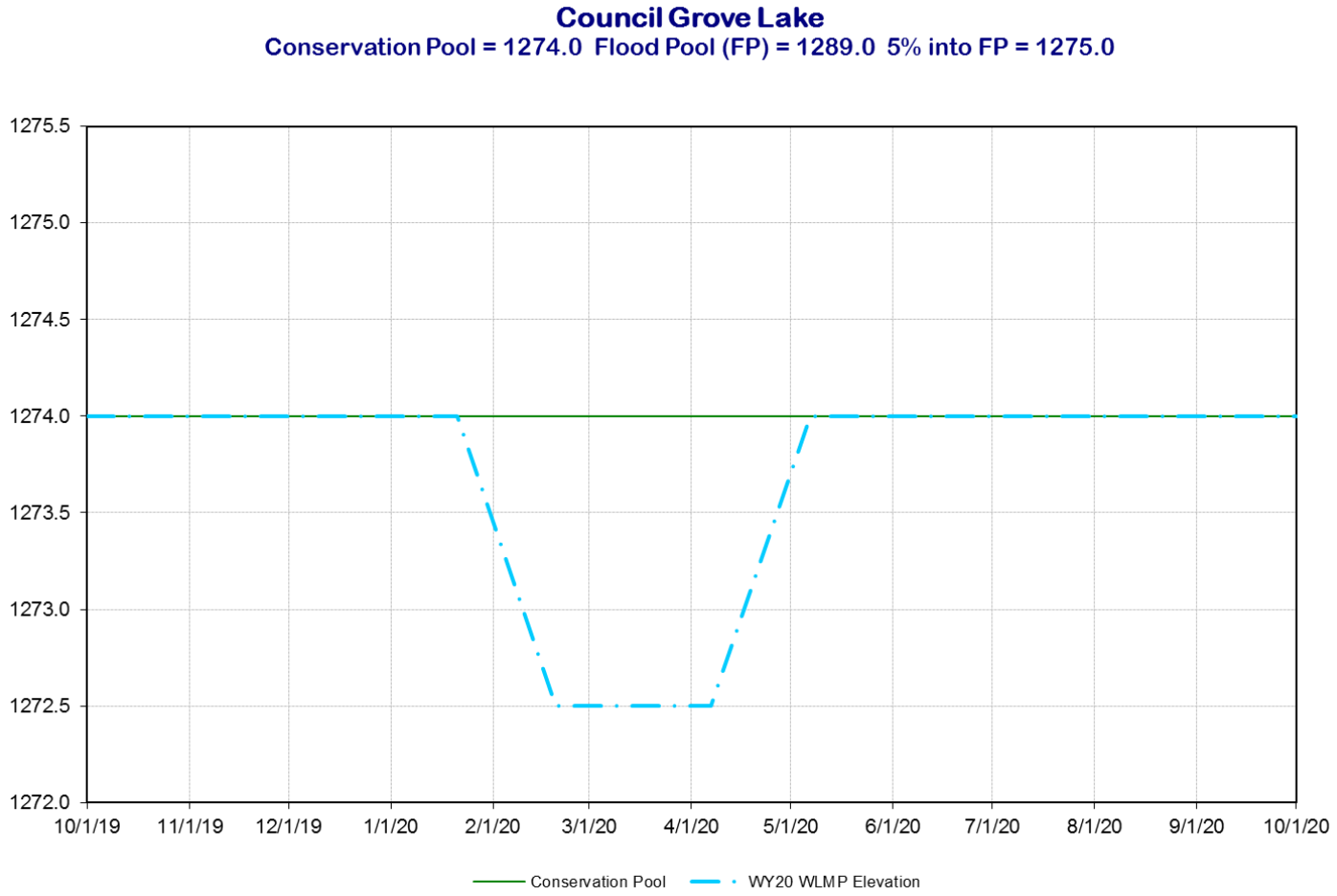
Contract Number	Customer Name	Contract End Date	Annual Contract Maximum Gallons	Annual Contract Maximum AF
18-01	Tom J. Moxley	12/31/2018	25,000,000	77
18-02	D. Randall Heilman	12/31/2018	14,112,000	43

Table 5: Surplus Yield

mgd	AF/yr	
8.3	9,339	Current Yield
3.1	3,452	Marketing Contracts
1.6	1,787	WAD Storage Yield
0.0	0	Future Use Yield
3.7	4,099	Surplus Yield
0.83	**934**	**Surplus Yield Available**

Lake Level Management Consideration

According to the Lake Level Management Plan, pool level may be lowered in January (or prior to freezing). The minimum lake level in this plan does not require disposition of surplus water.



Elk City Lake

Table 1: Conservation Storage Break Out

Conservation Pool Elevation (ft msl)	764 - 796	Flood Pool Elevation (ft msl)	796 - 825

	Break Out of Conservation Storage	Current Yield (mgd)	Current Storage (acre feet)
Water Quality	14.08%	0	4,822
Other/Local	0.00%	0	0
Water Supply	85.92%	13.8	29,427
Future Use	0.00%	0.0	0
In Service	85.92%	13.8	29,427
Water Marketing	57.45%	9.2	19,676
Assurance District	0.00%	0.0	0
Reserve Capacity	28.47%	4.6	9,751

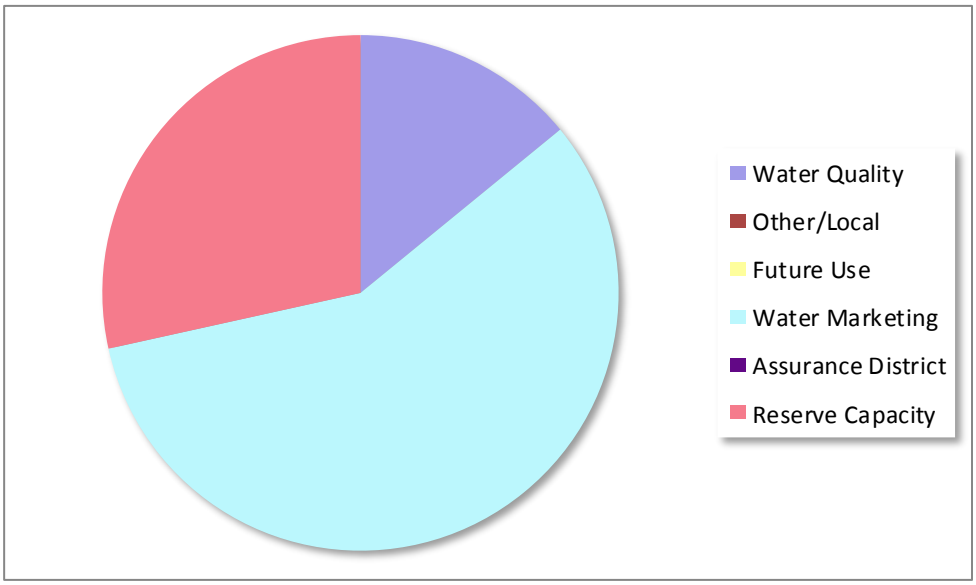


Table 2: Contracted Quantities

Contract Number	Customer Name	Contract End Date	2020 Maximum Gallons	2020 Maximum AF	Annual Contract Maximum Gallons	Annual Contract Maximum AF
81-5	City of Coffeyville	12/16/2023	300,000,000	921	300,000,000	921
99-5	Coffeyville Resources	12/3/2039	608,000,000	1,866	608,000,000	1,866
12-7	Coffeyville Resources	8/9/2051	400,000,000	1,228	400,000,000	1,228
			1,308,000,000	4,015	1,308,000,000	4,015

Table 3: Pending Applications

Applicant Name	Application Expiration Date	Requested Quantity Gallons	Requested Quantity AF
There are no pending applications on file			

Table 4: Past Surplus Contracts

Contract Number	Customer Name	Contract End Date	Annual Contract Maximum Gallons	Annual Contract Maximum AF
There were no surplus contracts in the past two years				

Table 5: Surplus Yield

mgd	AF/yr	
13.8	15,476	Current Yield
3.6	4,015	Marketing Contracts
0.0	0	WAD Storage Yield
0.0	0	Future Use Yield
10.2	11,461	Surplus Yield
1.38	**1,548**	**Surplus Yield Available**

Lake Level Management Consideration

No Lake Level Management Plan was prepared for Elk City for Water Year 2020.

Hillsdale Lake

Table 1: Conservation Storage Break Out

Conservation Pool Elevation (ft msl)	850 - 917	Flood Pool Elevation (ft msl)	917 - 931

	Break Out of Conservation Storage	Current Yield (mgd)	Current Storage (acre feet)
Water Quality	22.06%	0	16,680
Other/Local	0.00%	0	0
Water Supply	77.94%	15.5	58,931
Future Use	53.26%	10.6	40,268
In Service	24.68%	4.9	18,663
Water Marketing	24.68%	4.9	18,663
Assurance District	0.00%	0.0	0
Reserve Capacity	0.00%	0.0	0

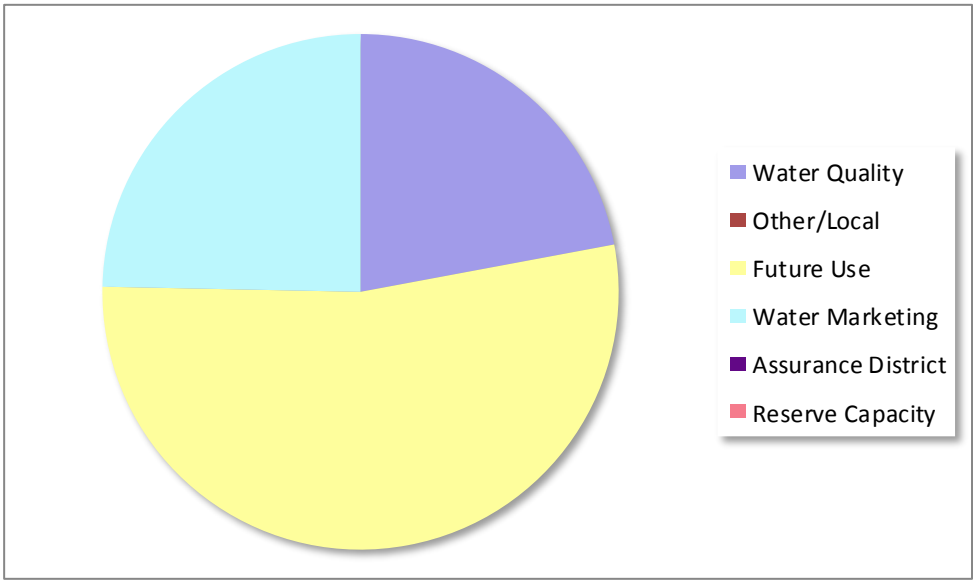


Table 2: Contracted Quantities

Contract Number	Customer Name	Contract End Date	2020 Maximum Gallons	2020 Maximum AF	Annual Contract Maximum Gallons	Annual Contract Maximum AF
81-1	Miami County Rural Water District No. 2	10/21/2023	239,440,000	735	239,440,000	735
13-1	Hillsdale Area Water Cooperative	12/31/2052	4,564,323,000	14,007	5,308,560,000	16,291
			4,803,763,000	14,742	5,548,000,000	17,026

Table 3: Pending Applications

Applicant Name	Application Expiration Date	Requested Quantity Gallons	Requested Quantity AF
There are no pending applications on file			

Table 4: Past Surplus Contracts

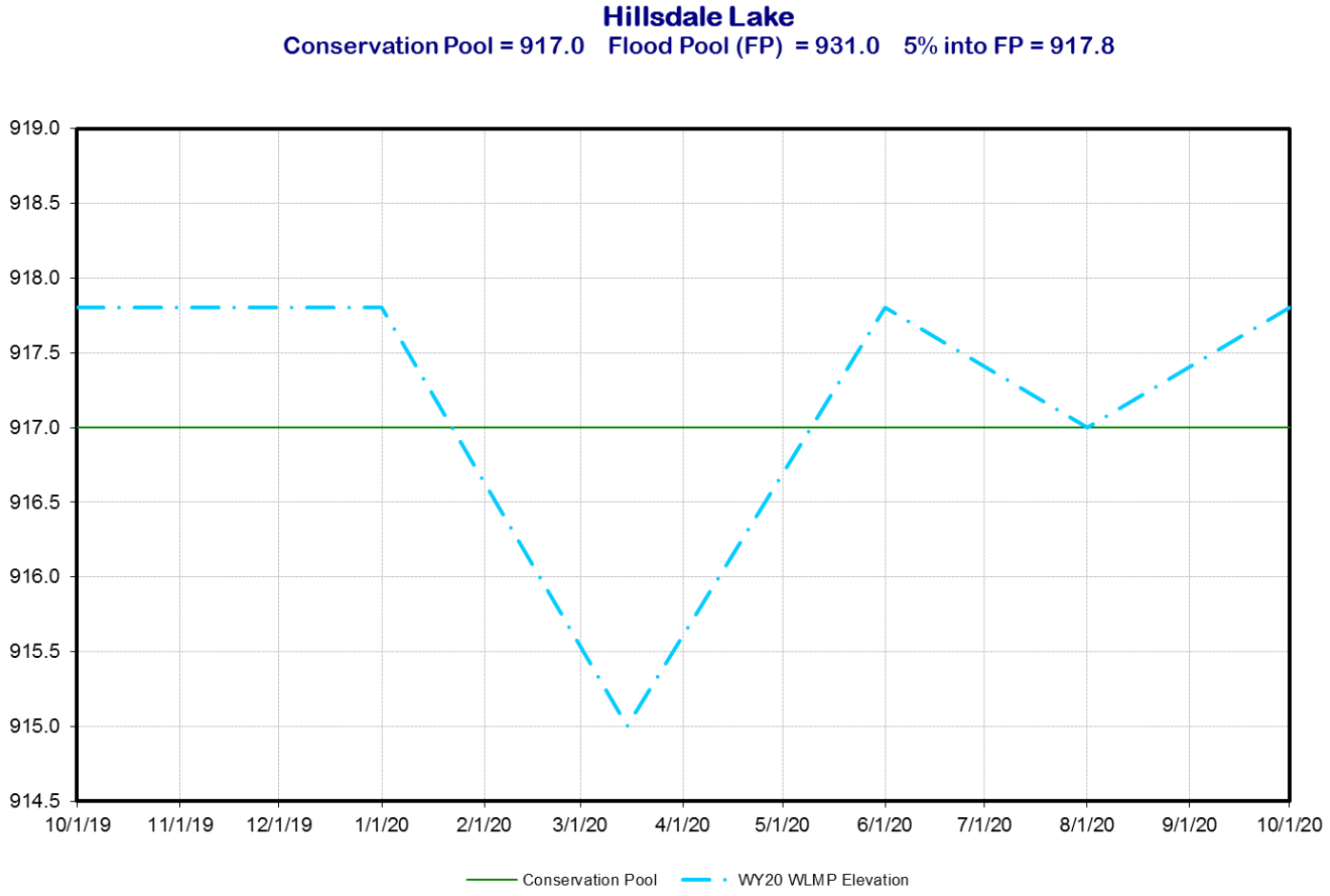
Contract Number	Customer Name	Contract End Date	Annual Contract Maximum Gallons	Annual Contract Maximum AF
There were no surplus contracts in the past two years				

Table 5: Surplus Yield

mgd	AF/yr	
15.5	17,364	Current Yield
13.2	14,742	Marketing Contracts
0.0	0	WAD Storage Yield
10.6	11,865	Future Use Yield
0.0	0	Surplus Yield
0.00	**0**	**Surplus Yield Available**

Lake Level Management Consideration

According to the Lake Level Management Plan, pool level may be lowered in January (or prior to freezing). The minimum lake level in this plan does not require disposition of surplus water.



John Redmond Reservoir

Table 1: Conservation Storage Break Out

Conservation Pool Elevation (ft msl)	1020 - 1041	Flood Pool Elevation (ft msl)	1041 - 1068

	Break Out of Conservation Storage	Current Yield (mgd)	Current Storage (acre feet)
Water Quality	23.82%	0	14,766
Other/Local	0.00%	0	0
Water Supply	76.18%	31.7	47,223
Future Use	0.00%	0.0	0
In Service	76.18%	31.7	47,223
Water Marketing	69.06%	28.7	42,810
Assurance District	7.12%	3.0	4,414
Reserve Capacity	0.00%	0.0	0

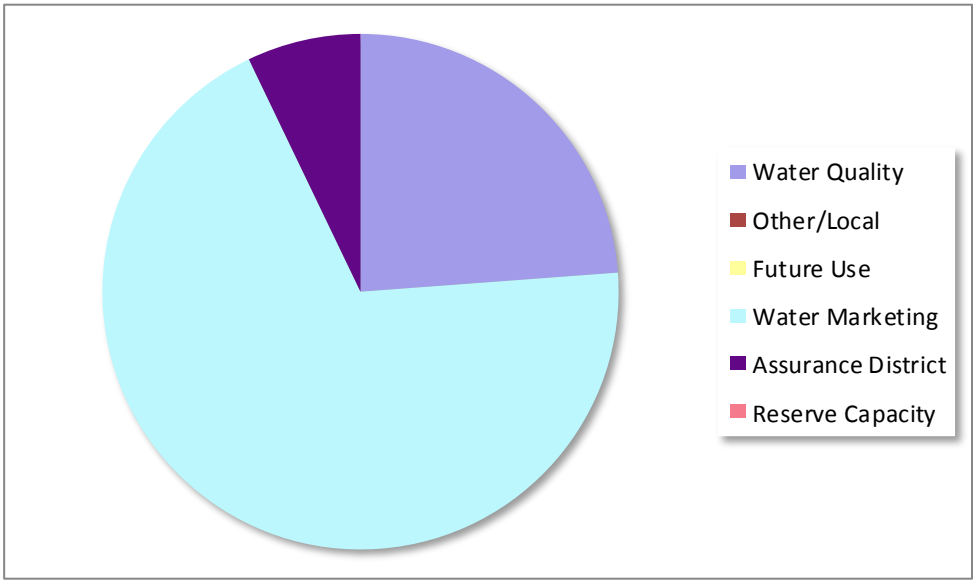


Table 2: Contracted Quantities

Contract Number	Customer Name	Contract End Date	2020 Maximum Gallons	2020 Maximum AF	Annual Contract Maximum Gallons	Annual Contract Maximum AF
17-2	Wolf Creek Nuclear Generating Station	12/31/2022	9,368,000,000	28,749	9,368,000,000	28,749
	(KG&E, KCP&L, KEPC)		9,368,000,000	28,749	9,368,000,000	28,749

Table 3: Pending Applications

Applicant Name	Application Expiration Date	Requested Quantity Gallons	Requested Quantity AF
There are no pending applications on file			

Table 4: Past Surplus Contracts

Contract Number	Customer Name	Contract End Date	Annual Contract Maximum Gallons	Annual Contract Maximum AF
There were no surplus contracts in the past two years				

Table 5: Surplus Yield

mgd	AF/yr	
31.7	35,499	Current Yield
25.6	28,749	Marketing Contracts
3.0	3,318	WAD Storage Yield
0.0	0	Future Use Yield
3.1	3,432	Surplus Yield
3.06	**3,432**	**Surplus Yield Available**

Lake Level Management Consideration

No Lake Level Management Plan was prepared for John Redmond for Water Year 2020.

Kanopolis Lake

Table 1: Conservation Storage Break Out

Conservation Pool Elevation (ft msl)	1431 - 1463	Flood Pool Elevation (ft msl)	1463 - 1508

	Break Out of Conservation Storage	Current Yield (mgd)	Current Storage (acre feet)
Water Quality	53.40%	0	24,814
Other/Local	0.00%	0	0
Water Supply	46.60%	8.6	21,655
Future Use	0.00%	0.0	0
In Service	46.60%	8.6	21,655
Water Marketing	22.37%	4.2	10,395
Access District	24.23%	4.5	11,259
Reserve Capacity	0.00%	0.0	0

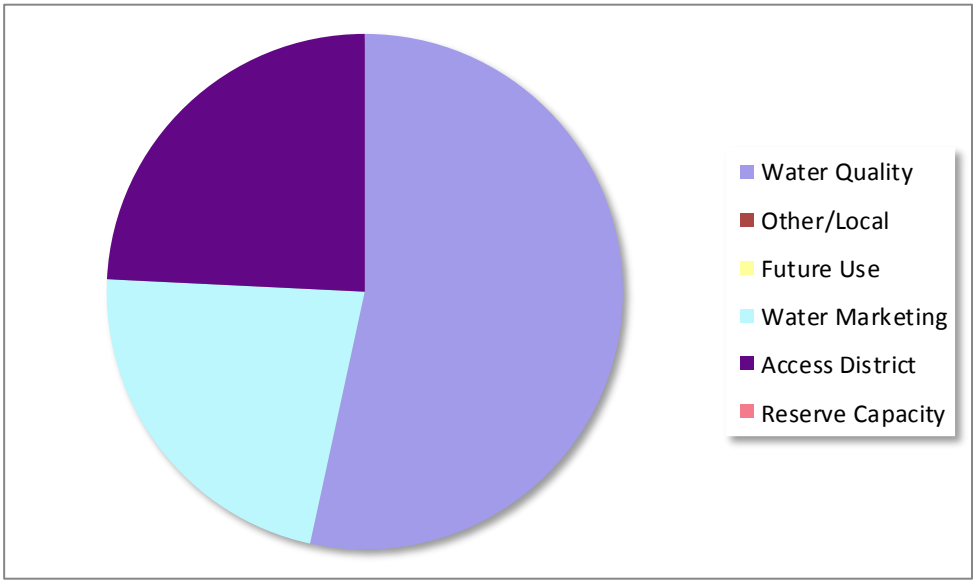


Table 2: Contracted Quantities

Contract Number	Customer Name	Contract End Date	2020 Maximum Gallons	2020 Maximum AF	Annual Contract Maximum Gallons	Annual Contract Maximum AF
01-2	Post Rock Rural Water District	7/12/2041	400,000,000	1,228	400,000,000	1,228
			400,000,000	1,228	400,000,000	1,228

Table 3: Pending Applications

Applicant Name	Application Expiration Date	Requested Quantity Gallons	Requested Quantity AF
There are no pending applications on file			

Table 4: Past Surplus Contracts

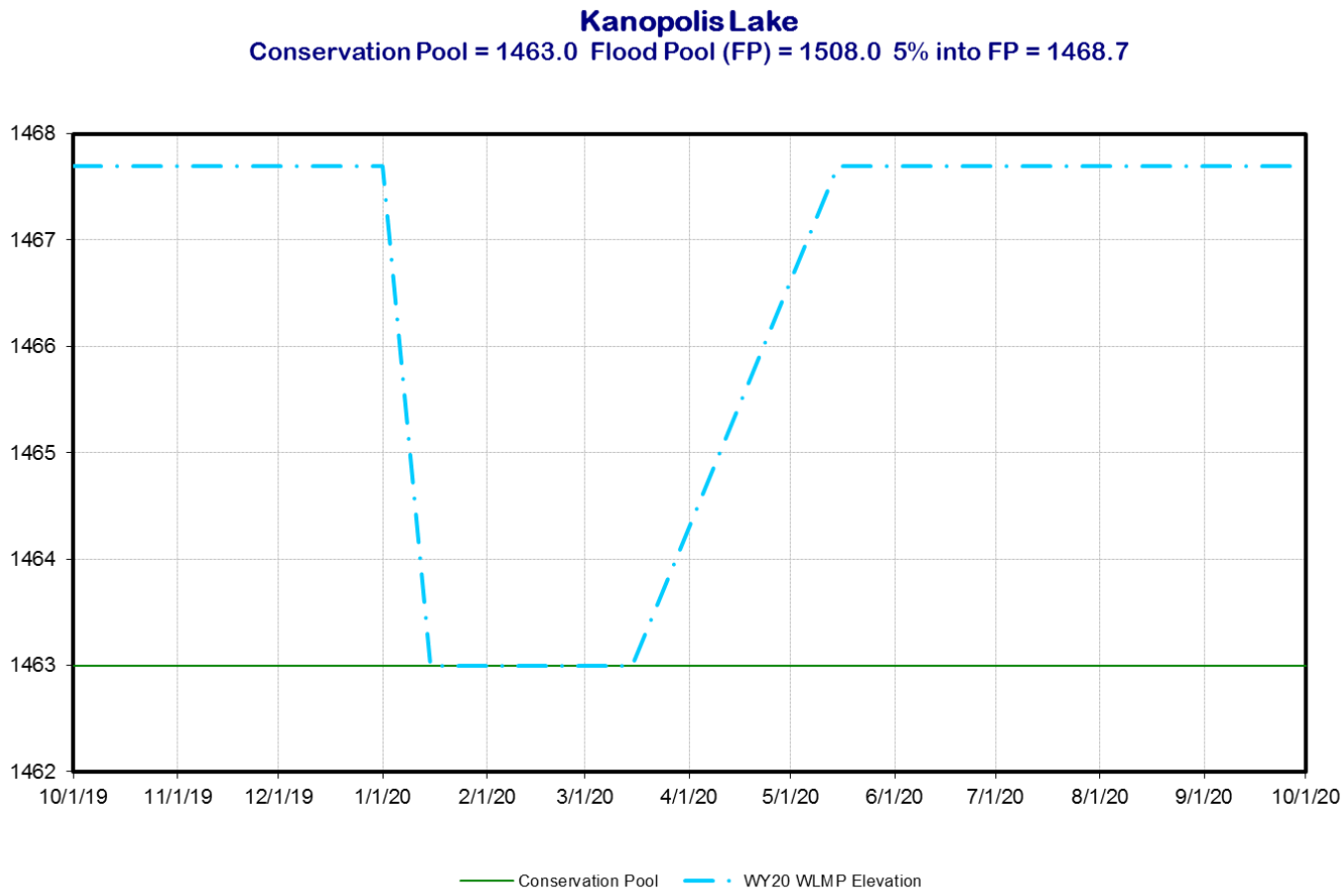
Contract Number	Customer Name	Contract End Date	Annual Contract Maximum Gallons	Annual Contract Maximum AF
There were no surplus contracts in the past two years				

Table 5: Surplus Yield

mgd	AF/yr	
8.6	9,691	Current Yield
1.1	1,228	Marketing Contracts
4.5	5,039	AD Storage Yield
0.0	0	Future Use Yield
3.1	3,425	Surplus Yield
0.86	**969**	**Surplus Yield Available**

Lake Level Management Consideration

In accordance with the Lake Level Management Plan for Kanopolis, no conservation storage will be evacuated during the 2020 Water Year.



Marion Reservoir

Table 1: Conservation Storage Break Out

Conservation Pool Elevation (ft msl)	1320 - 1350.5	Flood Pool Elevation (ft msl)	1350.5 - 1358.5

	Break Out of Conservation Storage	Current Yield (mgd)	Current Storage (acre feet)
Water Quality	35.88%	0	27,898
Other/Local	0.00%	0	0
Water Supply	64.12%	5.1	49,856
Future Use	0.00%	0.0	0
In Service	64.12%	5.1	49,856
Water Marketing	45.77%	3.64	35,588
Assurance District	0.43%	0.03	334
Reserve Capacity	17.92%	1.43	13,934

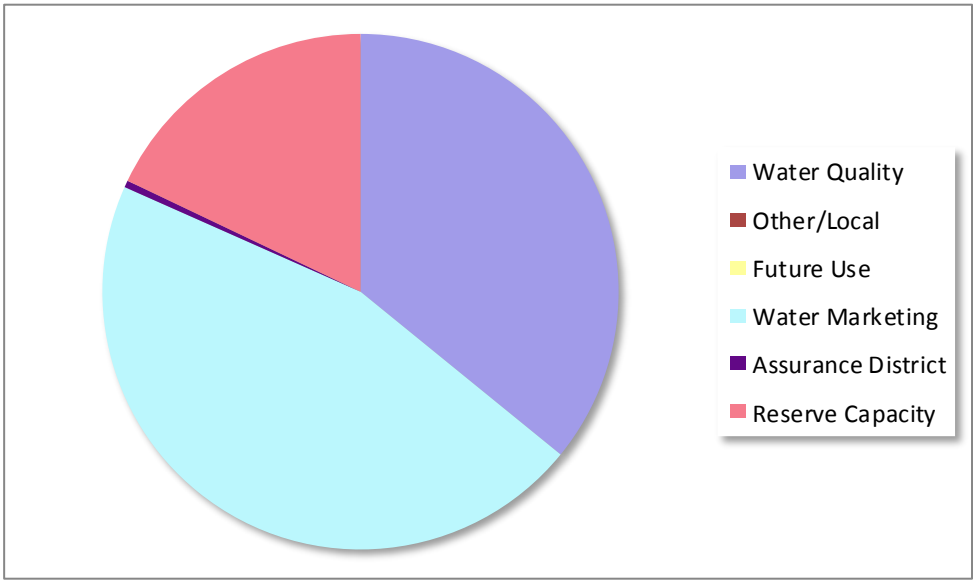


Table 2: Contracted Quantities

Contract Number	Customer Name	Contract End Date	2020 Maximum Gallons	2020 Maximum AF	Annual Contract Maximum Gallons	Annual Contract Maximum AF
80-1	City of Hillsboro	12/22/2021	300,000,000	921	300,000,000	921
81-4	City of Marion	10/3/2023	237,500,000	729	237,500,000	729
99-1	City of Peabody	4/9/2039	60,000,000	184	60,000,000	184
			597,500,000	1,834	597,500,000	1,834

Table 3: Pending Applications

Applicant Name	Application Expiration Date	Requested Quantity Gallons	Requested Quantity AF
There are no pending applications on file			

Table 4: Past Surplus Contracts

Contract Number	Customer Name	Contract End Date	Annual Contract Maximum Gallons	Annual Contract Maximum AF
There were no surplus contracts in the past two years				

Table 5: Surplus Yield

mgd	AF/yr	
5.1	5,716	Current Yield
1.64	1,834	Marketing Contracts
0.03	38	WAD Storage Yield
0.0	0	Future Use Yield
3.43	3,844	Surplus Yield
0.51	**572**	**Surplus Yield Available**

Lake Level Management Consideration

No Lake Level Management Plan was prepared for Marion for Water Year 2020.

Melvern Lake

Table 1: Conservation Storage Break Out

Conservation Pool Elevation (ft msl)	975 - 1036	Flood Pool Elevation (ft msl)	1036 - 1057

	Break Out of Conservation Storage	Current Yield (mgd)	Current Storage (acre feet)
Water Quality	27.59%	0	40,728
Other/Local	37.93%	0	55,992
Water Supply	34.48%	8.6	50,899
Future Use	0.00%	0.0	0
In Service	34.48%	8.6	50,899
Water Marketing	9.90%	2.5	14,614
Assurance District	7.17%	1.8	10,584
Reserve Capacity	17.41%	4.3	25,701

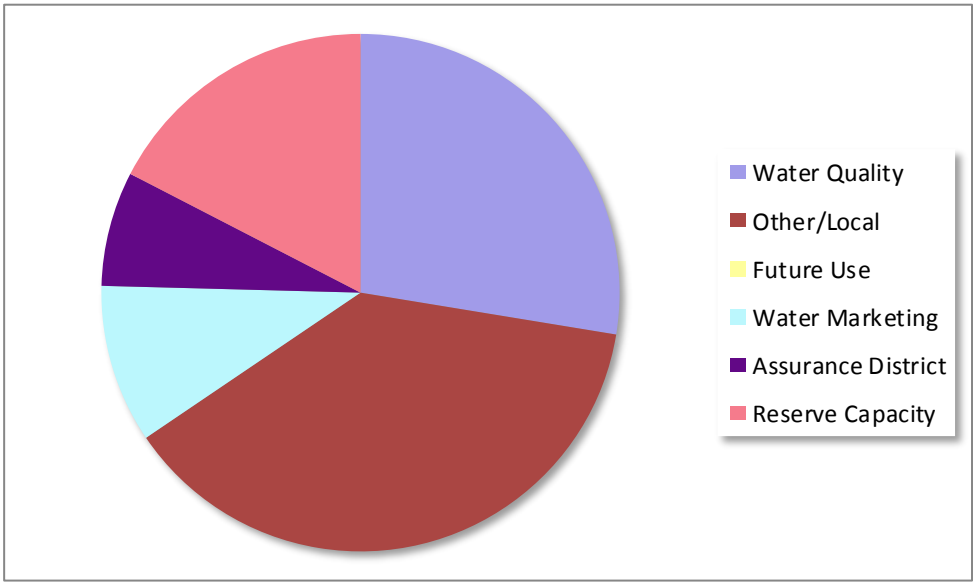


Table 2: Contracted Quantities

Contract Number	Customer Name	Contract End Date	2020 Maximum Gallons	2020 Maximum AF	Annual Contract Maximum Gallons	Annual Contract Maximum AF
93-3	City of Osage City	4/22/2033	100,000,000	307	100,000,000	307
93-2	City of Burlingame	7/15/2033	65,000,000	199	65,000,000	199
93-1	Public Wholesale Water Supply District No. 12	1/1/2035	450,000,000	1,381	547,430,000	1,680
05-6	City of Harveyville	8/11/2045	25,000,000	77	25,000,000	77
			640,000,000	1,964	737,430,000	2,263

Table 3: Pending Applications

Applicant Name	Application Expiration Date	Requested Quantity Gallons	Requested Quantity AF
There are no pending applications on file			

Table 4: Past Surplus Contracts

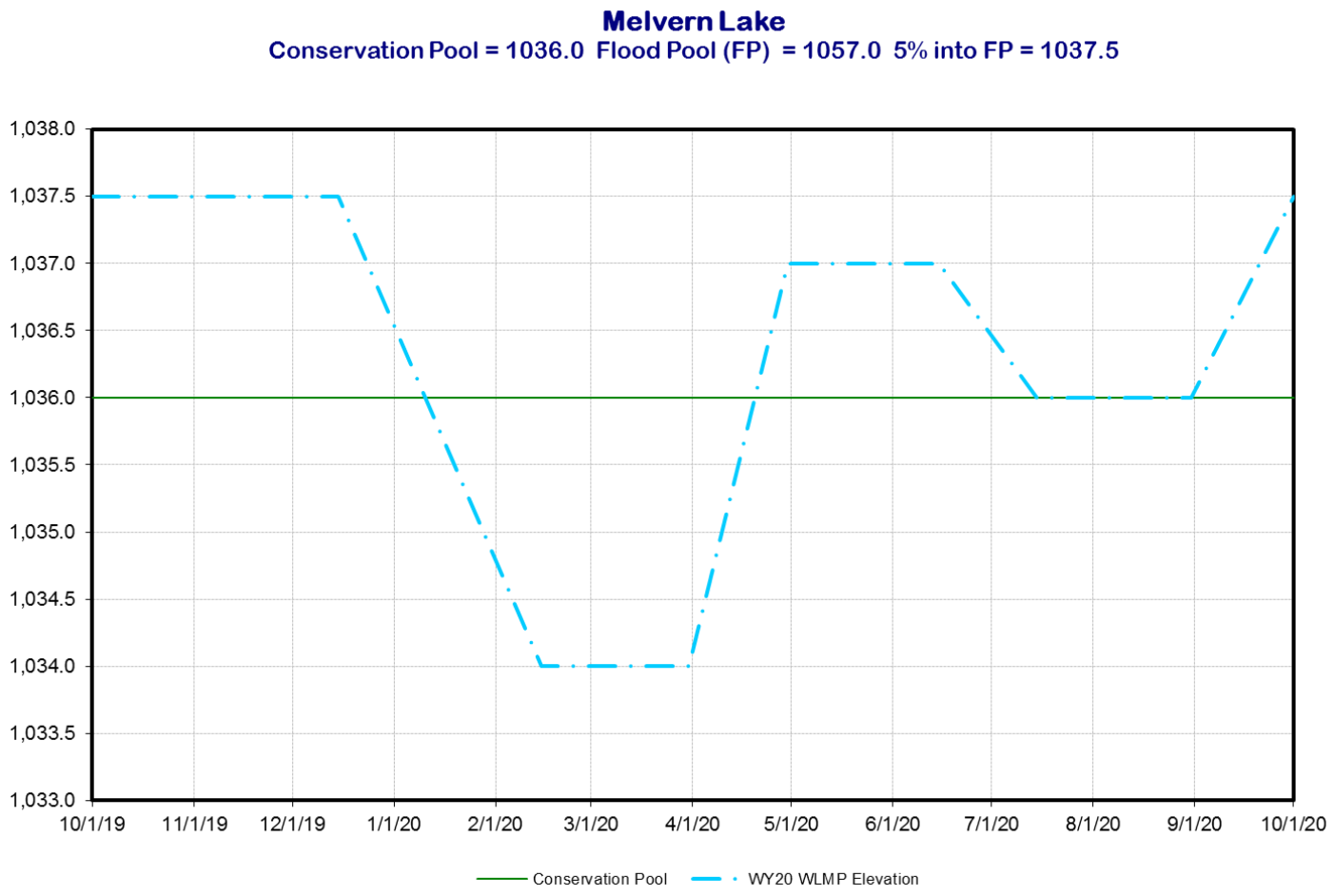
Contract Number	Customer Name	Contract End Date	Annual Contract Maximum Gallons	Annual Contract Maximum AF
There were no surplus contracts in the past two years				

Table 5: Surplus Yield

mgd	AF/yr	
8.6	9,642	Current Yield
1.8	1,964	Marketing Contracts
1.8	2,005	WAD Storage Yield
0.0	0	Future Use Yield
5.1	5,673	Surplus Yield
0.86	**964**	**Surplus Yield Available**

Lake Level Management Consideration

According to the Lake Level Management Plan, pool level may be lowered in December (or prior to freezing). The minimum lake level in this plan does not require disposition of surplus water.



Milford Lake

Table 1: Conservation Storage Break Out

Conservation Pool Elevation (ft msl)	1080 - 1144.4	Flood Pool Elevation (ft msl)	1144.4 - 1176.2

	Break Out of Conservation Storage	Current Yield (mgd)	Current Storage (acre feet)
Water Quality	0.00%	0	0
Other/Local	0.00%	0	0
Water Supply	100.00%	108	357,240
Future Use	66.12%	71	236,207
In Service	33.88%	37	121,033
Water Marketing	15.55%	17	55,551
Assurance District	18.33%	20	65,482
Reserve Capacity	0.00%	0	0

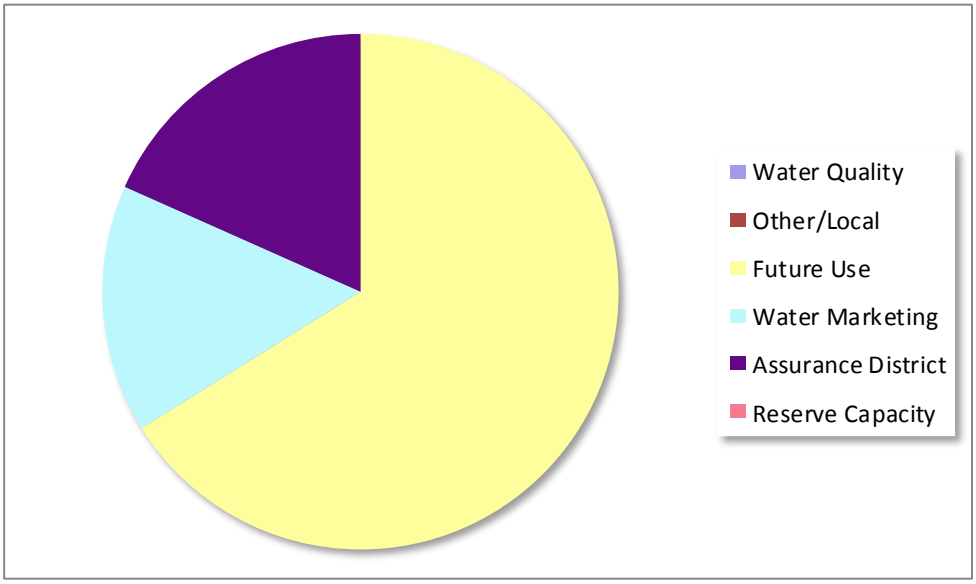


Table 2: Contracted Quantities

Contract Number	Customer Name	Contract End Date	2020 Maximum Gallons	2020 Maximum AF	Annual Contract Maximum Gallons	Annual Contract Maximum AF
80-2	Westar Energy - Jeffrey Energy Center	12/5/2022	7,300,000,000	22,403	7,300,000,000	22,403
			7,300,000,000	22,403	7,300,000,000	22,403

Table 3: Pending Applications

Applicant Name	Application Expiration Date	Requested Quantity Gallons	Requested Quantity AF
There are no pending applications on file			

Table 4: Past Surplus Contracts

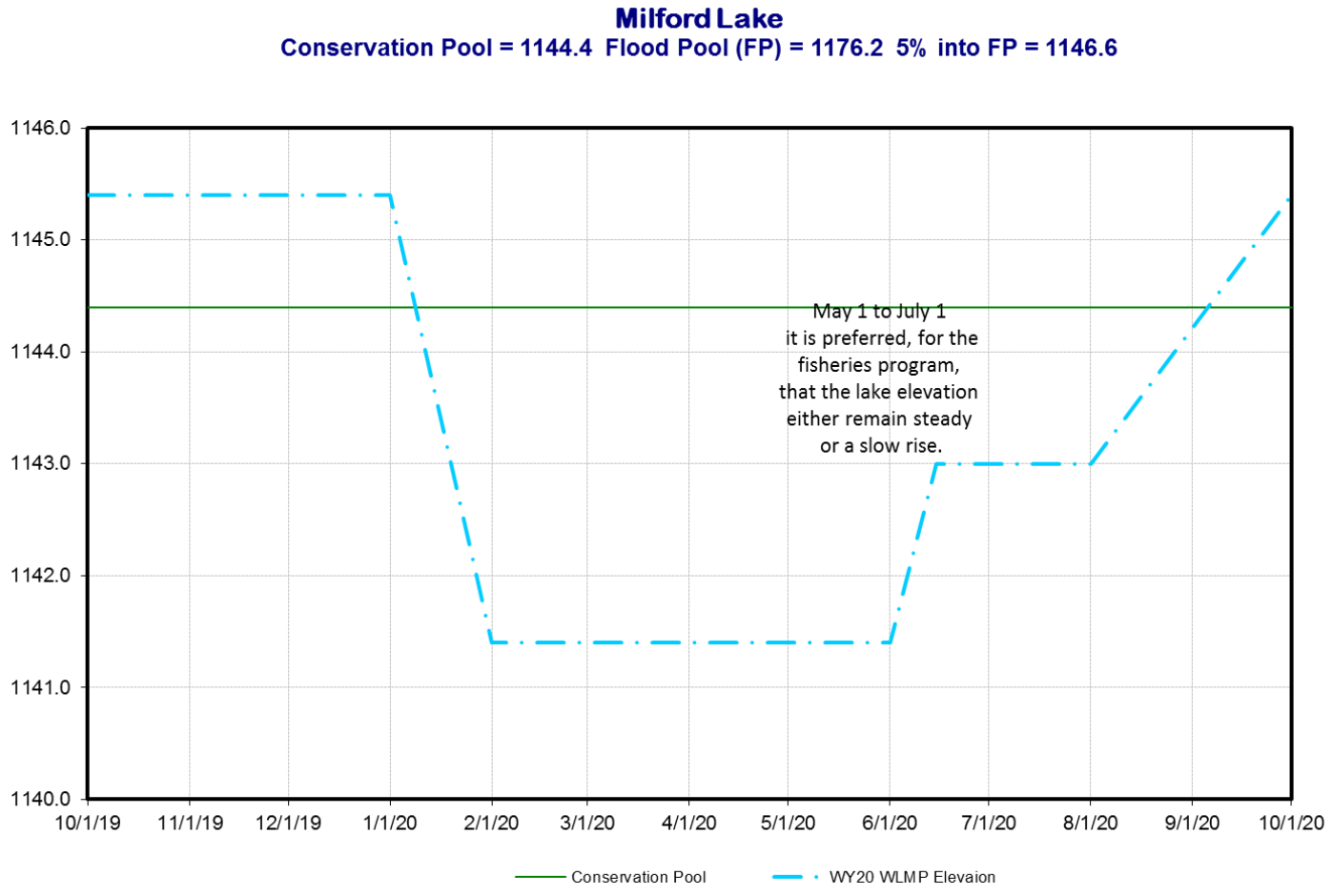
Contract Number	Customer Name	Contract End Date	Annual Contract Maximum Gallons	Annual Contract Maximum AF
There were no surplus contracts in the past two years				

Table 5: Surplus Yield

mgd	AF/yr	
108	121,028	Current Yield
20	22,403	Marketing Contracts
20	22,184	WAD Storage Yield
71	80,024	Future Use Yield
0.0	0	Surplus Yield
0.00	**0**	**Surplus Yield Available**

Lake Level Management Consideration

In accordance with the Lake Level Management Plan for Milford, pool level will be lowered in January. The drawdown will be made in an attempt to mitigate the impact of the harmful algal blooms in the lake. The quantity of water in the future use pool is sufficient for the evacuation of storage associated with the change in elevation.



Perry Lake

Table 1: Conservation Storage Break Out

Conservation Pool Elevation (ft msl)	850 - 891.5	Flood Pool Elevation (ft msl)	891.5 - 920.6

	Break Out of Conservation Storage	Current Yield (mgd)	Current Storage (acre feet)
Water Quality	0.00%	0	0
Other/Local	0.00%	0	0
Water Supply	100.00%	67.4	188,309
Future Use	83.33%	56.2	156,918
In Service	16.67%	11.2	31,391
Water Marketing	0.00%	0.0	0
Assurance District	16.67%	11.2	31,391
Reserve Capacity	0.00%	0.0	0

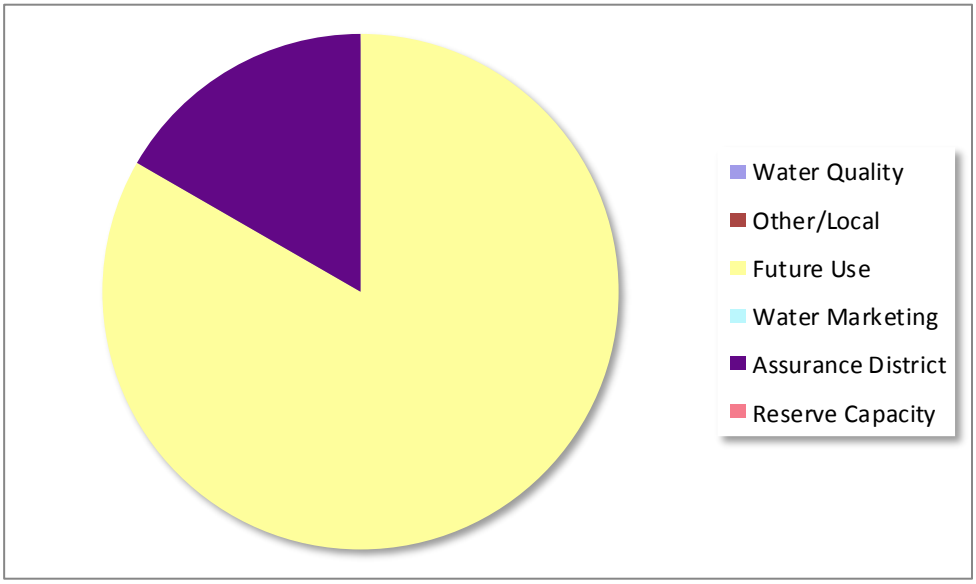


Table 2: Contracted Quantities

Contract Number	Customer Name	Contract End Date	2020 Maximum Gallons	2020 Maximum AF	Annual Contract Maximum Gallons	Annual Contract Maximum AF
There are no contracted quantities						

Table 3: Pending Applications

Applicant Name	Application Expiration Date	Requested Quantity Gallons	Requested Quantity AF
There are no pending applications on file			

Table 4: Past Surplus Contracts

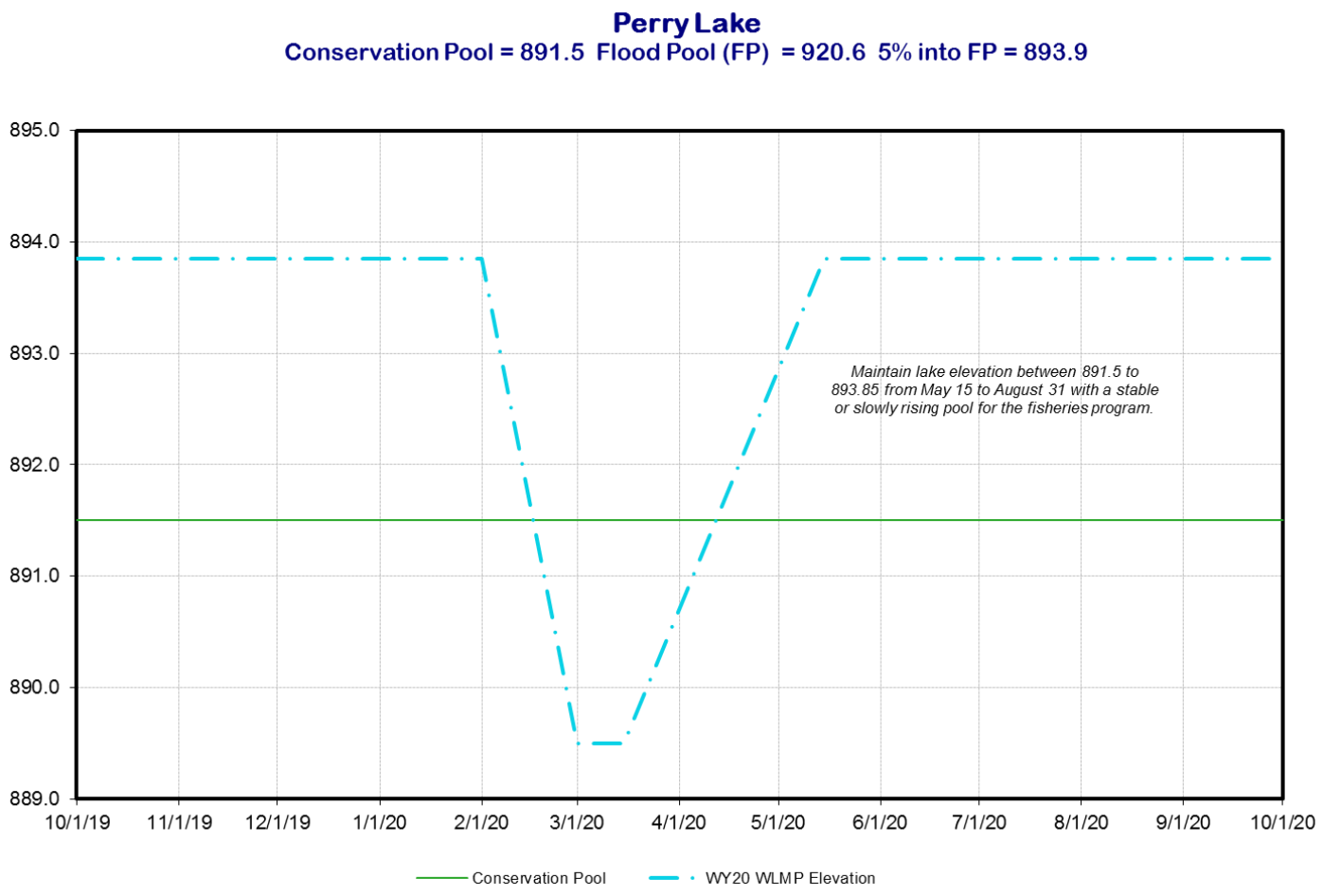
Contract Number	Customer Name	Contract End Date	Annual Contract Maximum Gallons	Annual Contract Maximum AF
There were no surplus contracts in the past two years				

Table 5: Surplus Yield

mgd	AF/yr	
67.4	75,585	Current Yield
0.0	0	Marketing Contracts
11.2	12,600	WAD Storage Yield
56.2	62,985	Future Use Yield
0.0	0	Surplus Yield
0.00	**0**	**Surplus Yield Available**

Lake Level Management Consideration

In accordance with the Lake Level Management Plan for Perry, pool level will be lowered in February. The quantity of water in the future use pool is sufficient for the evacuation of storage associated with the change in elevation.



Pomona Lake

Table 1: Conservation Storage Break Out

Conservation Pool Elevation (ft msl)	945 - 974	Flood Pool Elevation (ft msl)	974 - 1003

	Break Out of Conservation Storage	Current Yield (mgd)	Current Storage (acre feet)
Water Quality	25.24%	0	13,140
Other/Local	0.89%	0	465
Water Supply	73.86%	7.8	38,446
Future Use	0.00%	0.0	0
In Service	73.86%	7.8	38,446
Water Marketing	1.52%	0.2	791
Assurance District	23.63%	2.5	12,300
Reserve Capacity	48.71%	5.2	25,355

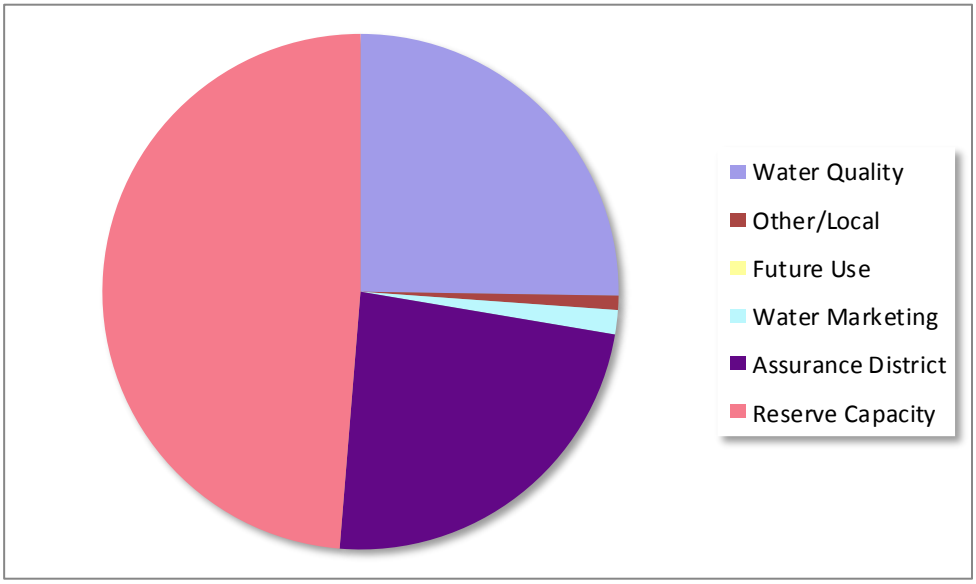


Table 2: Contracted Quantities

Contract Number	Customer Name	Contract End Date	2020 Maximum Gallons	2020 Maximum AF	Annual Contract Maximum Gallons	Annual Contract Maximum AF
05-5	Osage County Rural Water District No. 3	7/10/2048	55,600,000	171	55,600,000	171
			55,600,000	171	55,600,000	171

Table 3: Pending Applications

Applicant Name	Application Expiration Date	Requested Quantity Gallons	Requested Quantity AF
There are no pending applications on file			

Table 4: Past Surplus Contracts

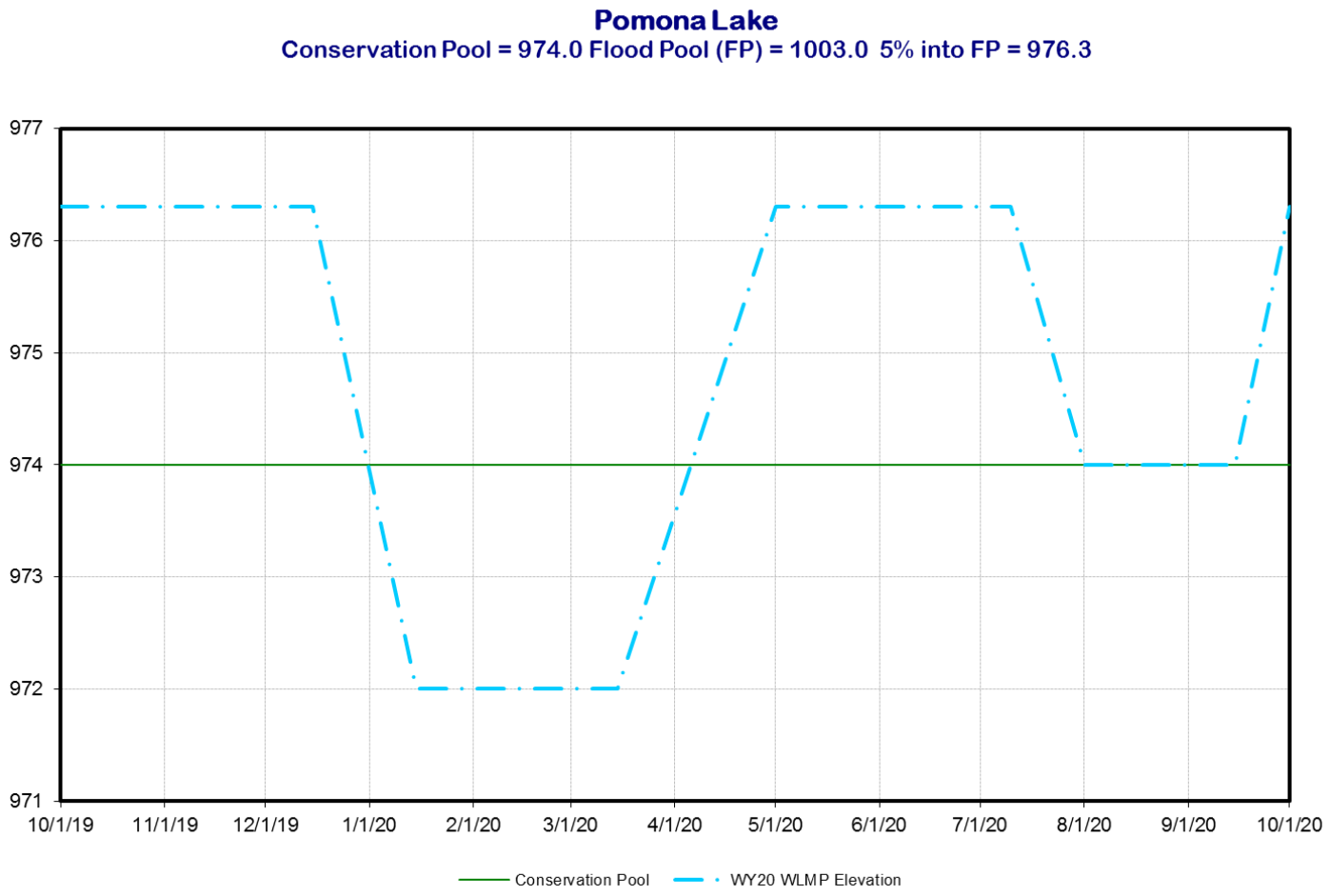
Contract Number	Customer Name	Contract End Date	Annual Contract Maximum Gallons	Annual Contract Maximum AF
There were no surplus contracts in the past two years				

Table 5: Surplus Yield

mgd	AF/yr	
7.8	8,792	Current Yield
0.2	171	Marketing Contracts
2.5	2,813	WAD Storage Yield
0.0	0	Future Use Yield
5.2	5,808	Surplus Yield
0.78	**879**	**Surplus Yield Available**

Lake Level Management Consideration

In accordance with the Lake Level Management Plan for Pomona, pool level will be lowered in December. The minimum lake level in this plan does not require disposition of surplus water.



Toronto Lake

Table 1: Conservation Storage Break Out

Conservation/Inactive Pool Elev. (ft msl)	856 - 901.5	Flood Pool Elevation (ft msl)	901.5 - 931

	Break Out of Conservation Storage	Current Yield (mgd)	Current Storage (acre feet)
Water Quality/Supply	61.76%	2.9	8,833
Inactive (Below 896.0)	35.85%	1.7	5,127
Water Supply	2.40%	0.1	343
Future Use	0.00%	0.0	0
In Service	2.40%	0.1	343
Water Marketing	2.40%	0.1	343
Assurance District	0.00%	0.0	0
Reserve Capacity	0.00%	0.0	0

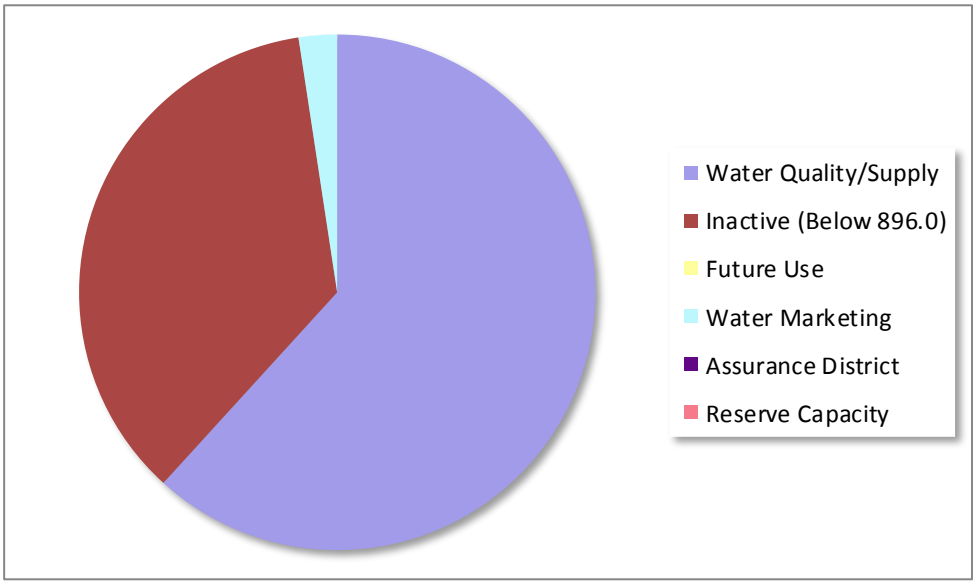


Table 2: Contracted Quantities

Contract Number	Customer Name	Contract End Date	2020 Maximum Gallons	2020 Maximum AF	Annual Contract Maximum Gallons	Annual Contract Maximum AF
There are no contracted quantities						

Table 3: Pending Applications

Applicant Name	Application Expiration Date	Requested Quantity Gallons	Requested Quantity AF
There are no pending applications on file			

Table 4: Past Surplus Contracts

Contract Number	Customer Name	Contract End Date	Annual Contract Maximum Gallons	Annual Contract Maximum AF
There were no surplus contracts in the past two years				

Table 5: Surplus Yield

mgd	AF/yr	
4.7	5,249	Current Yield
0.0	0	Marketing Contracts
0.0	0	WAD Storage Yield
0.0	0	Future Use Yield
0.1	126	Surplus Yield
0.11	**126**	**Surplus Yield Available**

Lake Level Management Consideration

No Lake Level Management Plan was prepared for Toronto for Water Year 2020.

Tuttle Creek Lake

Table 1: Conservation Storage Break Out

Conservation Pool Elevation (ft msl)	1020 - 1075	Flood Pool Elevation (ft msl)	1075 - 1136

	Break Out of Conservation Storage	Current Yield (mgd)	Current Storage (acre feet)
Water Quality	59.02%	0	128,543
Other/Local	0.00%	0	0
Water Supply	40.98%	173.0	89,252
Future Use	0.00%	0.0	0
In Service	40.98%	173.0	89,252
Water Marketing	0.00%	0.0	0
Assurance District	33.89%	143.1	73,811
Reserve Capacity	7.09%	29.9	15,442

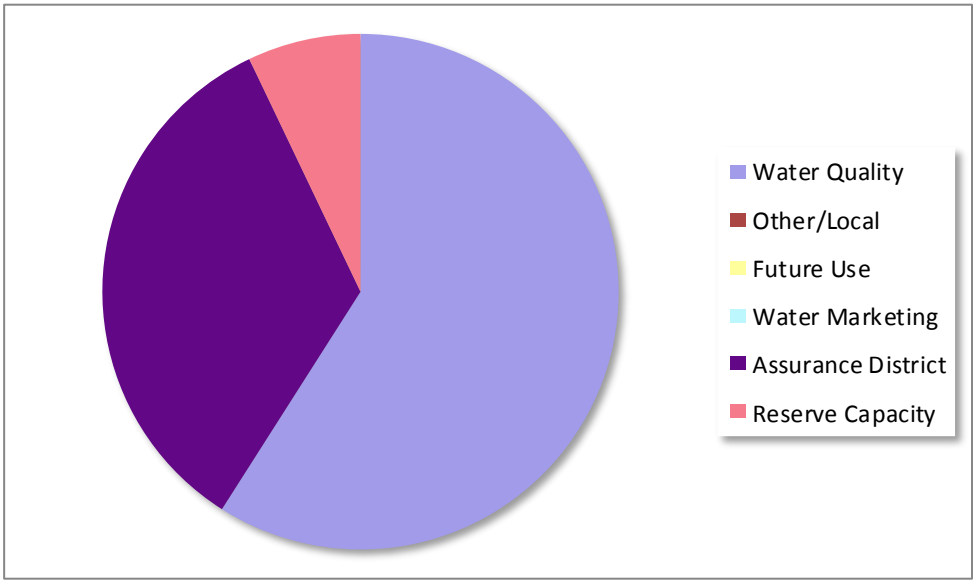


Table 2: Contracted Quantities

Contract Number	Customer Name	Contract End Date	2020 Maximum Gallons	2020 Maximum AF	Annual Contract Maximum Gallons	Annual Contract Maximum AF
There are no contracted quantities						

Table 3: Pending Applications

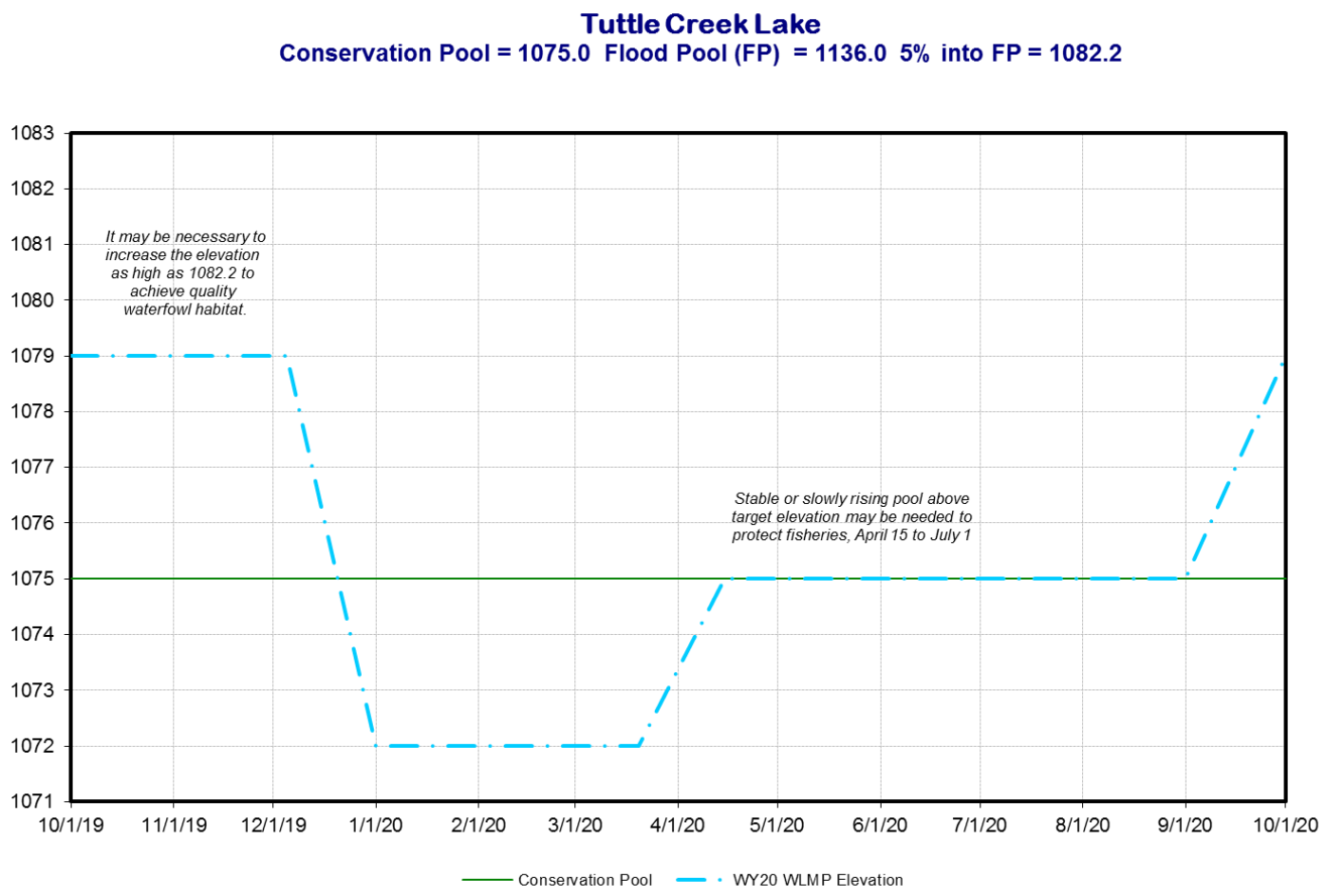
Applicant Name	Application Expiration Date	Requested Quantity Gallons	Requested Quantity AF
There are no pending applications on file			

Table 4: Past Surplus Contracts

Contract Number	Customer Name	Contract End Date	Annual Contract Maximum Gallons	Annual Contract Maximum AF
There were no surplus contracts in the past two years				

Table 5: Surplus Yield

mgd	AF/yr	
173	193,918	Current Yield
0	0	Marketing Contracts
143	160,368	WAD Storage Yield
0	0	Future Use Yield
30	33,550	Surplus Yield
17.3	**19,392**	**Surplus Yield Available**

Lake Level Management Consideration

In accordance with the Lake Level Management Plan for Tuttle Creek, pool level will be lowered in December. The minimum lake level in this plan does not require disposition of surplus water.