



# Save Medina Lake

*Committee update with*

***LAMCOS membership***

October 29, 2022

# WHO IS SAVE MEDINA LAKE?

**9 years ago**, a group of concerned citizens formed the Save Medina Lake committee (SML) and later joined forces with the Lake Medina Conservation Society.

In 2013, the fundamental question of the committee was:

***Why was Medina Lake drained from 2007 to 2013, while all comparable lakes in Central Texas were not?***

Today the SML committee has > 15,000 followers on Facebook and receives over 100,000 views on many of our posts.

We have gathered over 10,500 signatures on a petition supporting our efforts for water conservation and improved management of Medina Lake.

*Save Medina Lake is part of a 501(c)(4) organization.*

*There are no paid employees*



# SAVE MEDINA LAKE MEMBERS

Geren Anderson

Mike Crandall

Henning Eilert-Olsen

Rachel Mulherin

Travis Reich

Michelle Reichle

Dawn Volesky

People providing key support to SML's team –

*Shirlee Crandall, Casey Fox, Anne-Vi Eilert-Olsen,  
Mike Mulherin*



# GUIDING PRINCIPLES

1. Save Medina Lake is a data and fact driven organization. Research and data analysis drives all of our work.
2. The tremendous population growth in our area combined with significant economic and environmental changes requires political solutions in Austin to meet tomorrow's realities and demands.
3. All stakeholders interests must be considered when deciding the future of water usage in our semi-arid environment.
4. **Draining the lake TWICE in the last 10 YEARS** has elevated our challenge to Save Our Lake to a new level which requires significant, active support from the local community.



# 1. History

# 2. Problem Statement

# 3. Issues

- The Permit
- Drought Contingency & Water Conservation Plans
- Water Distribution System
- Rainfall & Demographic Changes

# 4. Solutions

# 5. Next Steps





# A brief History of Medina Lake

- Medina Lake was designed to hold 254,000 Acre Feet (AF) of water and the construction of the Medina Lake dam, Diversion Lake dam, and Canal System was completed in 1912.
- The total cost was around \$6 million primarily raised from British investors.
- The main driver and designer of the project was Engineer Frederick Pearson who died on his way to Europe to secure additional funding for the project when RMS Lusitania was torpedoed in 1915.
- After years of economic struggle and going through receivership **all assets were sold for \$10** and “other valuable considerations” to Bexar-Medina-Atascosa Counties Water Improvement District No. 1 in 1950. The district was established by the State of Texas.

# PROBLEM STATEMENT

Why is history repeating itself with BMA draining the lake twice in the last 10 years?



# THERE ARE SEVERAL FACTORS FOR THE “WHY”

- **>75% of the water released from Medina Lake is wasted.** It takes >4 gallons of water to deliver 1 gallon of water to farmers/property owners from BMA’s mostly **dirt-lined** ditch canal system.
- **BMA’s TCEQ Drought Contingency and Water Conservation plans are MEANINGLESS** as it allows BMA to drain the lake dry with absolutely NO CONSEQUENCE. TCEQ (i.e. the State of Texas) approved the plan.
- Central Texas in general has received less rain fall this past decade than previous decades. Because of this the lake has not been able recover from BMA’s wastefulness as in past decades despite some improvement in their operations.





# Issues

*Contributing to these FACTORS*

# INEFFECTIVE STATE / TCEQ POLICIES: THE BMA PERMIT ISSUED BY TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ)

- The permit is one of the oldest water permits in the State of Texas, known as a “Senior Water Right”. It is VERY difficult in the State of Texas to challenge Senior Water Rights.
- Only BMA and TCEQ are parties to the permit (i.e. agreement) driving the operations of the dam and irrigation system and how much water is released from the lake.
- BMA is allowed to divert up to 66,750 AF water per year as follows:
  - Not to exceed 20,144 AF for Municipal purposes, including 19,974 AF earmarked for Bexar Met (SAWS).
  - Not to exceed 45,856 AF for Agricultural Purposes.
  - Not to exceed 750 AF for domestic and livestock purposes.
- BMA is to allowed to irrigate the maximum of 33,000 acres

**ONLY BMA and TCEQ are parties to the permit.**

**NO OTHER PARTIES HAVE a “SAY” in the permit and its execution.**



# **BMA IS HEAVILY SUBSIDIZED:** THE BMA TCEQ PERMIT AND SAN ANTONIO WATER SYSTEMS (SAWS)

- BMA and Bexar Metropolitan Water District (“BexarMet”) entered into an agreement in 2007. BexarMet had the right to purchase up to 19,974 AF annually for municipal purposes in San Antonio.
- SAWS inherited the agreement in 2012 through the Texas Legislature when BexarMet was dissolved after its general manager and several officers were indicted on charges of racketeering, extortion and obstruction of justice.
- The agreement is for 40 years and will end on January 1, 2049. BexarMet and now SAWS will have paid BMA approximately \$120,000,000 once the agreement ends
- SAWS pays BMA approximately 75% (\$3,000,000 out of \$4,000,000) of their annual income. Making water BMA sales to property owners essentially FREE.
- **SAWS has NOT taken any water since 2013.**

**SAWS rate payers are PAYING BMA to drain the lake every year.**



# PROPERTY OWNERS IN BMA'S DISTRICT ARE NOT PAYING FOR BMA'S EXPENSIVE OPERATION

## SAWS RATE PAYERS ARE!

BEXAR-MEDINA-ATASCOSA COUNTIES WATER CONTROL AND IMPROVEMENT DISTRICT NO. 1

Management's Discussion and Analysis  
December 31, 2021

COPY

The District's net position increased during the current year. The increase is attributable to activities as shown in the following table:

Revenue	2021	2020	(Increase) (Decrease)
Municipal water sales	\$ 3,016,074	\$ 3,016,076	\$ (2)
Fixed water assessments	347,687	349,449	(1,762)
Irrigation water sales	244,321	395,933	(151,612)
Investment earnings	30,138	60,443	(30,305)
Other	237,792	188,479	49,313
<b>Total revenue</b>	<b>3,876,012</b>	<b>4,010,380</b>	<b>(134,368)</b>

In 2021 77.8% of all BMA's revenue came from SAWS despite the fact that SAWS has NOT taken water since 2013.

Page 9 of BMA's Audited Financial Statements

- In 2021, all property owners (3213) in BMA's district paid \$347,687 for the right to purchase water plus \$244,321 for purchasing water
- The total contribution from irrigation was only \$592,008 (15%).



# INEFFECTIVE STATE / TCEQ POLICIES: DROUGHT CONTINGENCY & WATER CONSERVATION PLANS

BMA developed both a Drought Contingency Plan (DCP) and a Water Conservation Plan (WCP), which were approved by TCEQ in 2013 and 2014 respectively.

## Charts from BMA's TCEQ Drought Contingency Plan, Page 3 Section XII & Page 4 Section XIII

### Stage 1 – 4 Definitions

Stage	Requirements for Initiation	Requirements for Termination
1 – Mild Water Shortage	Water Storage in Medina Lake is equal to or less than 78,000 acre-feet for 30 consecutive days.	Stage may be rescinded when Water Storage in Medina Lake exceeds 78,000 acre-feet for 30 consecutive days.
2 - Moderate Water Shortage	Water in Storage in Medina Lake is equal to or less than 66,000 acre-feet for 30 consecutive days.	Stage may be rescinded when Water Storage in Medina Lake exceeds 66,000 acre-feet for 30 consecutive days.
3 – Severe Water Shortage	Water in Storage in Medina Lake is equal to or less than 56,000 acre-feet for 30 consecutive days.	Stage may be rescinded when Water Storage in Medina Lake exceeds 56,000 acre-feet for 30 consecutive days.
4 – Critical Water Shortage	Water in Storage in Medina Lake is equal to or less than 46,000 acre-feet for 30 consecutive days.	Stage may be rescinded when Water Storage in Medina Lake exceeds 46,000 acre-feet for 30 consecutive days.

Stage	Target Reduction	Water Use Restrictions
1 – Mild Water Shortage	Achieve 10% reduction in average daily water demand.	Business Manager will contact wholesale water customers to discuss water supply and/or demand conditions and will request the wholesale customers initiate voluntary measures to reduce water use.
2 - Moderate Water Shortage	Achieve 20% reduction in average daily water demand.	Business Manager will contact wholesale water customers to discuss water supply and/or demand conditions and will request the wholesale customers to provide progress reports on reduction of water use.
3 – Severe Water Shortage	Achieve 30% reduction in average daily water demand.	Business Manager will contact wholesale water customers to discuss water supply and/or demand conditions and will request the wholesale customers to seek alternate water supplies.
4 – Critical Water Shortage	Achieve 40% reduction in average daily water demand.	Business Manager will assess the severity of the problem and identify actions needed and undertake necessary actions including termination of water supply and prepare a post-event assessment report.

**STAGE 4 CRITICAL WATER STORAGE –  
46,000 AF, TERMINATION OF WATER SUPPLY**



# INEFFECTIVE STATE / TCEQ POLICIES: DCP & WCP

CONTINUE

## *Specifically for the DCP,*

- Medina Lake reached Stage 4 (18% full, 46,000AF) on May 12<sup>th</sup> of this year however BMA did NOT terminate the water supplied to their district.
- SML filed a complaint with TCEQ and asked them to ensure that BMA follow their own DCP and close the valve(s) on the dam.
- TCEQ responded with **“TCEQ does not have the authority to require entities to implement their DCPs in times of drought. Each entity is responsible for overseeing implementation and enforcement of their DCP.”**
- Also in TCEQ’s response, they assured us that the DCP is posted in BMA’s office...

**The Texas State Water Code Section 11.1272 does NOT allow TCEQ to enforce DCPs and WCPs during drought conditions when these plans are most needed.**

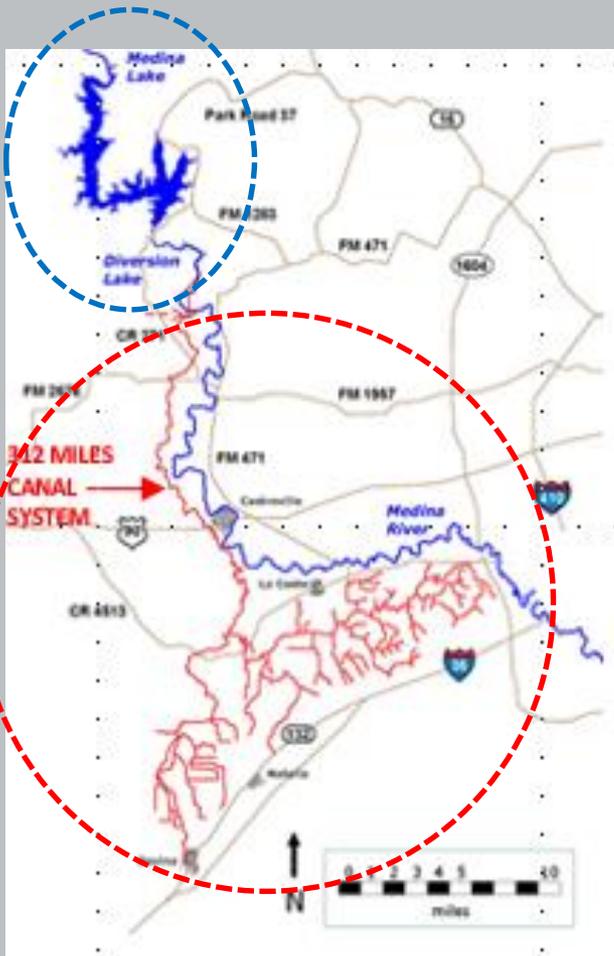


# HEAVILY FLAWED DESIGN: BMA'S WATER DISTRIBUTION SYSTEM/CANAL SYSTEM

- BMA fills 312 miles of mostly dirt lined ditch canals to distribute water.
- ONLY 10 – 15% of property owners (300 to 500 out of 3200) in their district buys water
- Less than half of the 33,000 Acres in their district is irrigated.
- 75% - 80% of water released from Medina Lake is wasted by seeping into the ground and evaporating into the air from the 110 year old canal system.

It takes >4 gallons of water to deliver 1 gallon of water to farmers/property owners because the entire canal must be filled to deliver water, regardless of the # of water sales.

**What other product is 75% wasted during its delivery?**

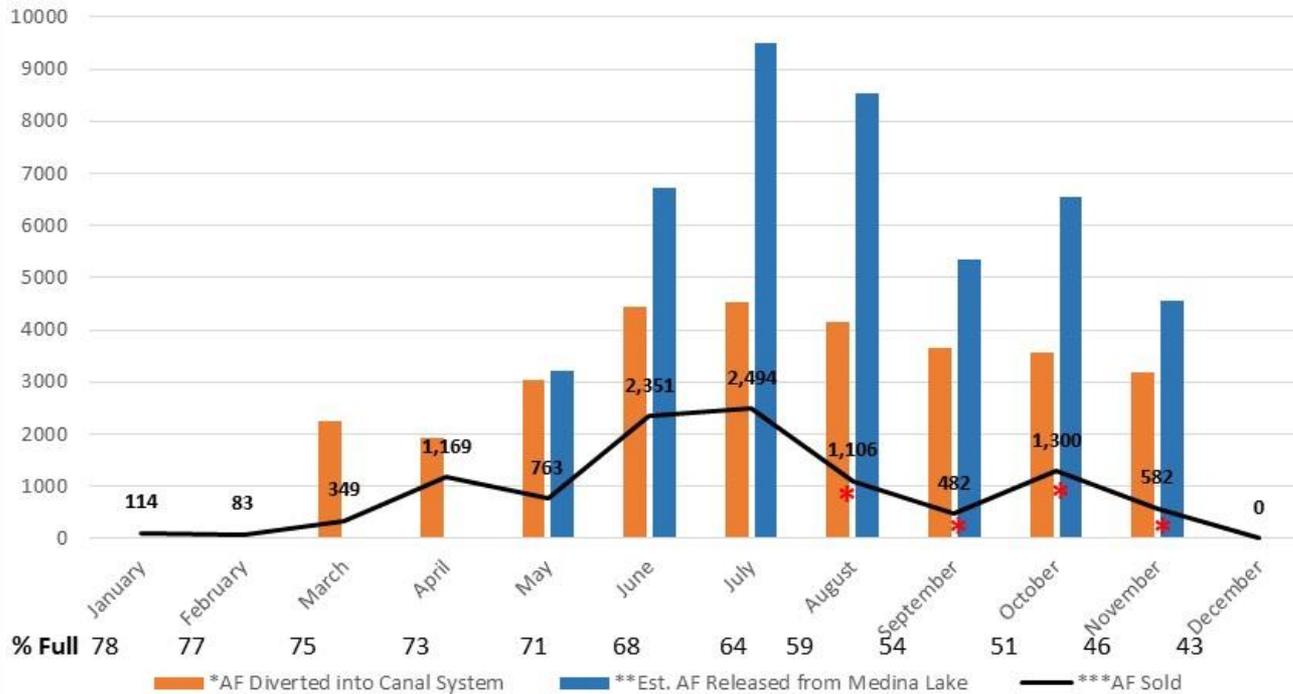




One of our pilots will be  
showing footage flying over  
BMA's Canal System

# HEAVILY FLAWED DESIGN: AF SOLD VS. AF RELEASED FROM MEDINA LAKE VS. AF DIVERTED INTO CANAL SYSTEM

AF Sold by Month vs. ~AF released from Medina Lake vs. AF diverted into Canal System 2020



In 2020 >44,407 AF of water was released from Medina Lake to only sell 10,805 AF.

- In September 2020 >5000 AF was released from Medina Lake, **only 482 AF was sold, 9%**
- In November nearly >4500 AF was released, **only 582 AF was sold, 13%**

For much of 2020, <20% of what BMA released from Medina Lake was **ACTUALLY \*SOLD**



# OF THE WATER SOLD, HOW WAS IT USED? SML HAS ANALYZED BMA'S \*WATER SALES FOR 2009, 2017, 2020

Analysis	2020 Water Sales Analysis	% Change from 2009	2017 Water Sales Analysis	% Change from 2009	2009 Water Sales Analysis
Total number of Sales Invoices	1513	-31%	986	-55%	2200
Total number of Properties	498	-37%	378	-53%	796
Total number of Property Owners	462	-34%	335	-52%	700
Total number of acres	15,300	3%	9,188	-38%	14,786
Total amount of water purchased AF	10,805	-31%	7,363	-53%	15,717
Total amount of water purchased \$	\$390,335	27%	\$265,946	-14%	\$307,874

**Significant** decline in service. The # of water sales and properties purchasing water and AF purchased decreased 30% to 50% from 2009 to 2020.

\*House Bill 872 was passed into law in 2021 therefore SML can no longer receive extracts of BMA's water sales.



# OF THE WATER SOLD, HOW WAS IT USED? WATER WAS SOLD TO FILL RECREATIONAL LAKES



# RAINFALL HAS DROUGHT HAS



Five-Year Time Periods	Annual Mean Daily Inflow in Acre Feet Per Day (Annual Rainfall in inches*)			
	5-yr Mean Data	10-yr Mean Data	15-yr Mean Data	25-yr Mean Data
1983 – 1987	368.0			
1988 – 1992	320.4	344.2		
1993 – 1997	448.7	179.2 (32.05)*	289.2	
1998 – 2002	513.3 (38.35)*	346.3 (35.20)*		
2003 – 2007	345.7 (35.97)*		(35.46)*	345.3 (36.93)*
<p>At this point the river inflow in Medina Lake and rainfall* declined by <b>56.3%</b> and 22.4%, respectively, for the decade of 2007 to 2017 (compared to the above historical data of 25 years for river inflow and 17 years of rainfall* data. Over a similar period of time, inflow into the Highland Lakes has declined by <b>50 – 60%</b> according to data from the Central Texas Water Coalition.</p>				
2008 – 2012	106.4 (25.03)*			
2013 – 2017	194.9 (32.27)*	150.7 (28.65)*		

*Central Texas has experienced greater than 50% decline in inflow this past decade than previous decades.*

***Making conservation of Medina Lake even more critical now than ever!***







# Solutions

# **SOLUTION:** SET MEDINA LAKE CONSERVATION LEVEL TO 50%

Establish a conservation level (water release from the dam is stopped) at 50% of the total capacity of the lake which will ensure that recharge of the Edwards Aquifer will continue even through several years of drought.

**DROUGHT IS NOW HAPPENING MORE FREQUENTLY.**



# **SOLUTION:** ENABLE ALL STAKEHOLDERS TO HAVE A “SAY” IN MEDINA LAKE AND ITS OPERATION

## STAKEHOLDERS of Medina Lake

- ✓ Property and Business owners –
  - ✓ in BMA’s district,
  - ✓ around Medina Lake & its community,
  - ✓ Medina River upstream & downstream
- ✓ SARA (San Antonio River Authority)
- ✓ BCRAGD (Bandera County River Authority and Groundwater District)
- ✓ SAWS (San Antonio Water Systems)
- ✓ Recreational users

**TODAY, ONLY BMA and TCEQ have a say on how Medina Lake dam and canal system is operated and managed.**



# **SOLUTION:** REPLACE THE CANAL SYSTEM WITH WELLS

History has shown that the BMA managed irrigation system is useless in drought conditions when farmers have the most need for irrigation water. Wells will solve this structural design flaw in the Medina Lake and River irrigation system.

- ✓ Based on the information SML has received, a significant number of the farmers in BMA's district have wells however uses Medina Lakes water when available because it is cheaper than operating wells.
- ✓ The canal system should be shut down and not used to distribute water.
- ✓ The state should take the initiative to ensure that issue permits to qualified farmers for drilling wells to replace BMA's obsolete irrigation canals/system.



2 key functions of River Authorities are:

1. Manage surface water rights
2. Operate dams

River Authorities have professionally skilled personnel, tools/equipment and “know how” (such as SARA or BCRAGD) to manage and operate Medina Lake and its dam.





# Next Steps

# TEXAS 88<sup>TH</sup> LEGISLATIVE SESSION: WORKING WITH OUR LOBBYIST IN AUSTIN, SML WILL FILE 4 BILLS

1. Change Texas Water Code Law requiring TCEQ to enforce Drought Contingency and Water Conservation Plans during drought.
2. Put BMA under Sunset Review.
3. Enable farmers in BMA's district to obtain water permits for wells, as needed.
4. Change BMA's enabling legislation to allow all stakeholders to be represented on BMA's board???

***88<sup>th</sup> Session starts on January 10, 2023***



# SEND LETTERS TO YOUR LEGISLATORS: DEMANDING BMA BE PUT UNDER SUNSET REVIEW

- Example Letter is available at the door.
- Medina and Bandera Counties
  - House Representative – Andrew Murr
  - Senator – TBD on November 8<sup>th</sup>
- WHO REPRESENTS ME

<https://wrm.capitol.texas.gov/home>



# SUNSET REVIEW OF ALL “RIVER AUTHORITIES”

The Sunset Advisory Commission is an agency of the Texas Legislature that evaluates state agencies and makes recommendations to the legislature on the **need for, performance of, and improvements to** agencies under review.

Because of the IMPORTANCE of surface water to the state of Texas, legislation was passed 2 sessions ago in 2015 to Sunset Review all “River Authorities”. However, since BMA does not have “River Authority” in their name, BMA fell thru a loop hole.

Bandera County River Authority and Ground Water District, Lower Colorado River Authority, San Antonio River Authority, etc. all are under review...

**SML believes this is an obvious mistake that BMA is not part of the River Authority Sunset Review because they have many key responsibilities of a River Authority –**

1. Manages a significant water right
2. Operates a dam

**BMA is one of the oldest water authorities in the state.**

**The way BMA operates warrants their review.**



# IDENTIFY POTENTIAL WELLS: USGS STUDY ON THE IMPACT OF MEDINA LAKE VOLUME ON LOCAL WELLS

- USGS would like to install 1 more monitor in a well on the north side of the lake that is shallow and not used day to day.
- Please send an email to **water@SaveMedinaLake.com** if you know of a well that could potentially be used.



PLEASE DONATE.

IT IS ONLY through your  
contributions SML is able to  
do our work to

**SAVE MEDINA LAKE**





THANK YOU!