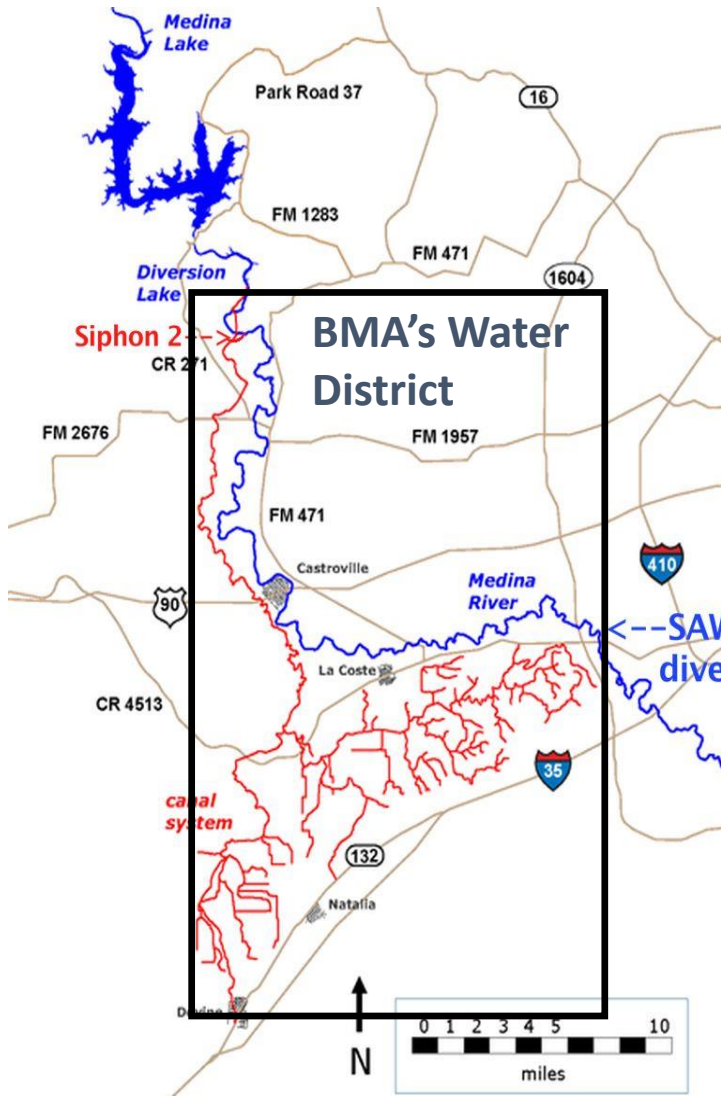


Save Medina Lake's Analysis

OF
BMA's Irrigation Water Sales in 2009

July 2017

The Goal of our Analysis



- Save Medina Lake (SML) believes that BMA's water district (land owners on **red** canal system in **black** box) HAS DRAMATICALLY CHANGED OVER THE PAST 100 YEARS
- Yet, the permit has essentially not changed in the last 100 years.
- Therefore we analyzed BMA's water sales invoices to determine how many farmers there are, how many acres are farmed, what of type of crops, etc...
- **THE GOAL OF OUR ANALYSIS** was to understand the changes in BMA's water district.

Methodology

- SML created a database containing BMA's water sales information for 1 year.
- 2009 was selected because it was the last normal irrigation year with average rainfall before the drought started in 2010.
- The database contains each individual water sales invoices from 2009.

Challenges

- Through public open records request, SML requested an electronic extract of BMA's system containing all 2009 water sales. BMA said this was not possible.
- Instead, we received 2240 paper copies of each BMA's water sales invoices in 2009.
- To create the database, SML -
 - Paid a company to scan each paper invoice and to convert each scanned invoice into an electronic invoice text file.
 - Wrote a program to move key data elements from each electronic text invoice file into the database.

Disclaimer – Since we had to create a database containing BMA's sales invoices, there may be up to 10% error in the data due to technical issues associated with scanning and converting the invoices into an electronic database.

The database for BMA's 2009 Water Sales

Each row contains key information for each water sales invoice – date, invoice #, owner, property size, type of crop, etc...

Orcl	Date	Invoice	Owner	Lessee	Past due on:	Area	Property	Acres	Description - D	Qty	Rate	Amount
1	2/19/2009	1992	BARDIN, HELEN: 51 1 1	BARDIN, HELEN: 51 1 1	2/19/2009	D3B-4	01-174	15.417	Grass	2	\$24.00	\$48.00
2	2/20/2009	1950	BYROM, KEITH & CHERILEA: 72 15 1	BYROM, KEITH & CHERILEA: 72 15 1	2/20/2009	D3B-11	72-12-1	14	Grass	2	\$24.00	\$48.00
3	2/12/2009	1871	COWEN, MARIE: 43 13 4	COWEN, MARIE: 43 13 4	2/12/2009	D3B-5	43 13 4	23.33	Corn	2	\$24.00	\$48.00
4	2/9/2009	1841	STONE ET AL, GEOFFREY: 9 1 1	STONE ET AL, GEOFFREY: 9 1 1	2/9/2009	D3A-4	03-150	44.46	Corn	19.31	\$24.00	\$463.44
5	2/6/2009	1824	SIMON, HAROLD L.: 5119 1	SIMON, HAROLD L.: 5119 1	2/6/2009	D3B-4	01-196	23.28	Grass	2	\$24.00	\$48.00
6	2/6/2009	1828	JUAN C. & MIRTAROJAS	DEBRA REYES - WEAVER	2/6/2009	D3B-3	01-12	13.27	Grass	2	\$24.00	\$48.00
7	2/12/2009	1885	ARMENDARIZ, DARIO: 6 11 1	ARMENDARIZ, DARIO: 6 11 1	2/12/2009	D3A-3	03-397	9.43	Pecan Trees	2	\$24.00	\$48.00
8	3/9/2009	2123	HEFLEY, ROY & MAGGIE	MUNOZ, CRISTOBAL & ROSALINDA: 33 60 2	3/9/2009	D1-6	03-722	11.13	Vegetables	2	\$24.00	\$48.00
9	3/9/2009	2124	AGUILERA, HECTOR: 61 14 2	AGUILERA, HECTOR: 61 14 2	3/9/2009	D3B-7	01-379	9.802	Grass	2	\$24.00	\$48.00
10	3/9/2009	2126	ESTRADA, JOSE S.: 2 45 1	ESTRADA, JOSE S.: 2 45 1	3/9/2009	D1-7	03-575	13.28	Vegetables	2	\$24.00	\$48.00
11	8/6/2009	3732	WEIMER, GEORGE H.: 0 0 1	WEINER, GEOFFREY & GEORGE: 0 0 1	9/18/2009	D1-6	03-918	73.133	Grass	2	\$24.00	\$48.00
12	2/12/2009	1875	SALINAS, DANIEL C.: 6 13 2	SALINAS, DANIEL C.: 6 13 2	2/12/2009	D3A-5	03-311	17.43	Grass	2	\$24.00	\$48.00
13	2/12/2009	1876	HUMES, LEONARD & PATRICIA: 72 16 2	HUMES, LEONARD & PATRICIA: 72 16 2	2/12/2009	D3B-11	01-539	15	Tank	2	\$24.00	\$48.00
14	2/12/2009	1873	MEZA, JESSER.: 0 32 1	MEZA, JESSER.: 0 32 1	2/12/2009	D3A-5	03-149	10.92	Tank	2	\$24.00	\$48.00
15	3/6/2009	2113	FRIESENHAHN, CHRISTOPHER: 75 1 1	FRIESENHAHN, CHRISTOPHER: 75 1 1	3/6/2009	KIRBY	01-569	20	Grass	2	\$24.00	\$48.00
16	9/3/2009	4025	RUNNELS, JENCY B.: 8 10 2	RUNNELS, FRANK.: 8 10 2	10/10/2009	D3A-5	03-10	32.16	Tank	2	\$24.00	\$48.00
17	3/6/2009	2114	GOMEZ ET AL, PATRICIA	GOMEZ ET AL, PATRICIA	3/6/2009	D3B-2	3-1020	25.83	Grass	2	\$24.00	\$48.00
18	4/23/2009	2423	GARCIA FAMILY TRUST: 0 0 2	GARCIA FAMILY TRUST: 0 0 2	4/23/2009	D1-5	03-886	24.82	Grass	2	\$24.00	\$48.00
19	3/6/2009	2115	PEREZ, RICK & PATRICIA: 4 64 1	PEREZ, RICK & PATRICIA: 4 64 1	3/6/2009	D1-3	03-415	14.41	Grass	2	\$24.00	\$48.00
20	8/31/2009	3996	BARR, M. B.: 7 18 1	BARR, M.B.: 7 18 1	8/31/2009	D3A-4	03-139	20	Grass	2	\$24.00	\$48.00
21	3/6/2009	2110	WELLS, DUANE B.: 0 0 1	WELLS, DUANE B.: 0 0 1	3/6/2009	D1-3	03-242A	4.27	Watermelon	2	\$24.00	\$48.00
22	3/6/2009	2118	CHAFIN, RICHARD & TRACY: 03-1029 7 2 1	CHAFIN, RICHARD & TRACY: 7 2 1	3/6/2009	D3A-4	7 2 1	42.33	Grass	2	\$24.00	\$48.00
23	4/23/2009	2425	WEATHERFORD, JUDY: 2 14 1	WEATHERFORD, JUDY: 2 14 1	4/23/2009	D1-5	03-501	23.13	Tank	2	\$24.00	\$48.00
24	3/6/2009	2119	HERNANDEZ, JORGE & WINDI: 2 11 3	HERNANDEZ, JORGE & WINDI: 2 11 3	3/6/2009	D1-5	03-493	34.11	Grass	2	\$24.00	\$48.00
25	3/6/2009	2117	VERSTUYET, LONNIE: 12 28 4	VERSTUYET, LONNIE: 12 28 4	3/6/2009	D3B-1	03-208	9.74	Grass	2	\$24.00	\$48.00

The database for BMA's 2009 Water Sales

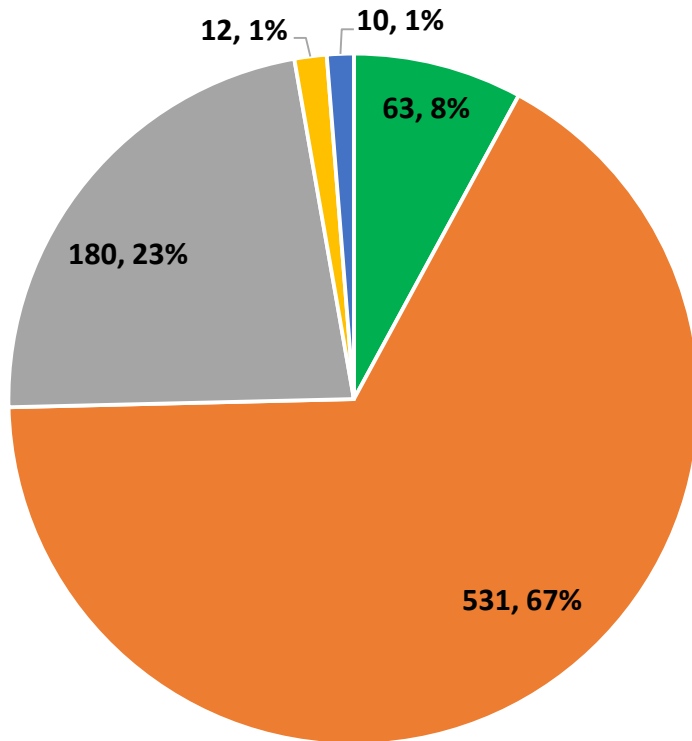
Each row also contains how much water was purchased.

[illegible]

ANALYSIS RESULTS

How many farmers are there?

Distribution of Property by Size (acres)



Total # of
Properties =
796

There are 796
properties/farms with
700 owners that
purchased irrigation
water in 2009.

75% of the farms are 20
acres or less

Only 22 farms are 50
acres or greater

63 farms are < 5 acres

■ <5 acres ■ 5 - 20 ■ >20 - 50 ■ >50 - 100 ■ >100

Farms >50 acres

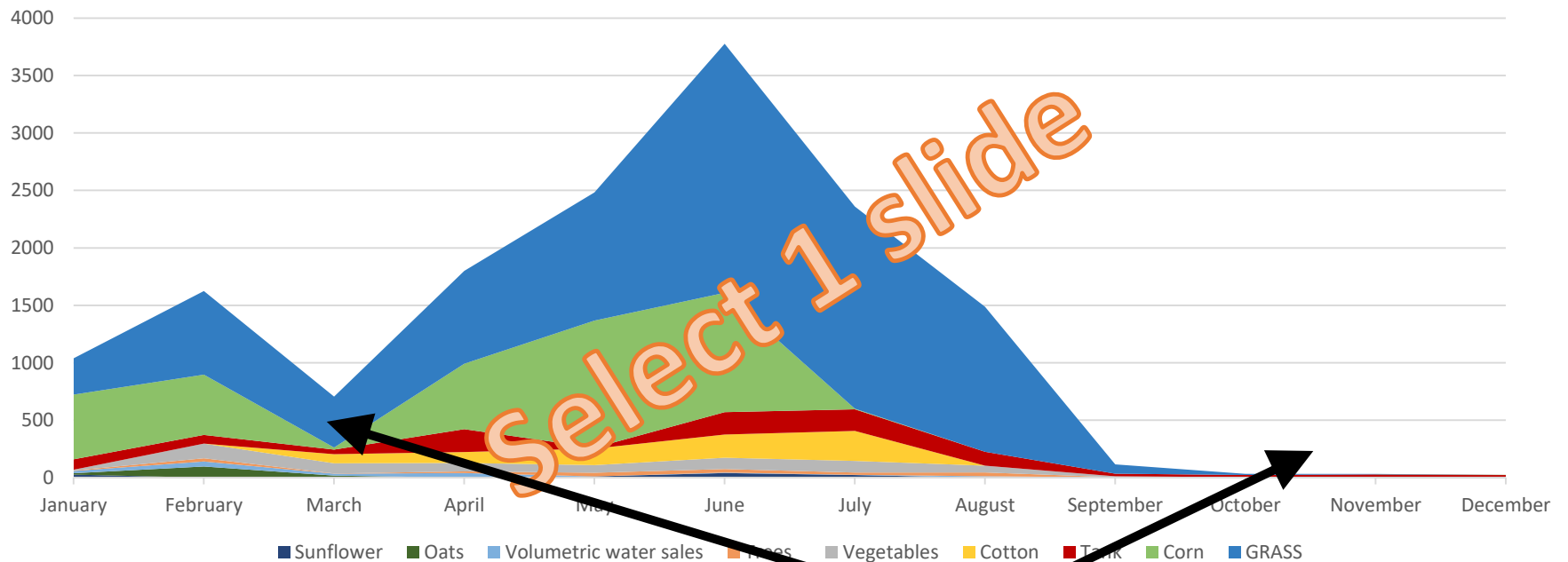
Owner	Lessee	Area	Property	Acres	Acre Feet Purchased	Acre Feet Purchased/Acres Farmed	Crop
STAR JAK INC.	L. R. COLE & SONS DAIRY,: 4 5 1	D3A-3	03-302	50.49	3.59	0.07	Grass
KELLER, HENRY LEE: SUR 37 0 4	KELLER, HENRY LEE: SUR. 37 0 4	D3B-2	03-1034	52.234	56.45	1.08	Grass, Sunflower
BLISS, KARL E.: 0 0 1	BLISS, KARL E. : 0 0 1	MAINR	03-910	54	2	0.04	Tank
TERRAZAS, CESAR & ELVIRA	TERRAZAS, CESAR & ELVIRA	D3A-2	03-111	55.46	20.28	0.37	Grass
WARD III, J. W.: 7 2 1	WARD III, J. W.: 7 2 1	D3A-4	03-119	58.09	11.16	0.19	Corn
R&S KOHLEPPEL FARMS INC.: 41 21 2	RALPH KOHLEPPEL	D3B-2	41-21-2	63.529	11.85	0.19	Corn
FEY, FREDERICK: 11 11 1	FEY, FREDERICK: 11 11 1	D3A-4	03-264	63.88	45.24	0.71	Corn
WEIMER, GEORGE H.: 0 0 1	WEINER, GEOFFREY & GEORGE: 0 0 1	D1-6	03-918	73.133	175.33	2.40	Grass, Tank
KOHLLEPPEL, HENRY: SUR 417-AI339-1	ALTA VISTA FARMS, INC.	MAIN		74.802	18.58	0.25	Cotton
KELLER, HENRY LEE: 37 0 1	KELLER, HENRY LEE: 37 0 1	D3B-2	37 0 1	80	67.55	0.84	Grass
PEAVY JR., W. A.: 0 0 2	PEAVY JR., W.A.: 0 0 2	D3A-1	03-893	97.86	259.58	2.65	Tank, Corn
RENDON, JOSE E.: SUR 20 AI317 3	RENDON, JOSE E.: SUR 20 AI317 3	D1-1	03-926	100	81.13	0.81	Tank
HABY ESTATE, MARIE 1.: 0 0 1	HABY ESTATE, MARIE 1.: 0 0 1	MAINR	X-1	100.027	100.56	1.01	Grass
SILVER LAKE FARM INC.: 63 0 1	SILVER LAKE FARM INC.: 63 0 1	D3B-7	01-577	128.6	96.99	0.75	Vegetables
BIEDIGER, DWIGHT & EVA: 0 0 1	BIEDIGER, DWIGHT & EVA: 0 0 1	D3A-4	03-911	150.462	27.493	0.18	Cotton
HABY, LARRY & DWIGHT: SUR 36 0 1	HABY, LARRY & DWIGHT: SUR 36 0 1	MAINR	03-1043 03-1043 PUMP #2 S ...	165	450.407	2.73	Cotton, Corn
SEALE FAMILY PROPERTIES, H. KYLE: 0 0 6	SEALE, H. K. : 0 0 6	D3B-8	0 0 6	170.02	270.13	1.59	Corn, Oats
CARROLL, MARK: SUR449-A1444-2	CARROLL, ALFRED & MARK: SUR449-A1444-1	D3A-5	03-1063 (Pivot 2 & 3)	200	642.761	3.21	Grass, Corn
HABY, LARRY & DWIGHT: 0 0 2	CARPE DIEM FAMS: 0 0 2	MAINR	03-977 PUMP# 1	250	700.572	2.80	Corn
RANCHO LA PRESA NUEVA, INC:	CARLSON, TED	D2-3	03-844	269.4	454.89	1.69	Grass
NOONER & NOONER LLC	Jerry Keller	D3A-4	03-216	326.03	73.917	0.23	Sunflower
MIRELES, TIERRA	MIRELES, TIERRA	D3B-2	03-253	400	539.01	1.35	Corn, Cotton

How much water did the farmers purchase?

- According to TCEQ, 35,090 acre feet was released into the irrigation canal system in 2009
- Of the 35,090 acre feet released, only 15,900 acre feet was purchased

And when?

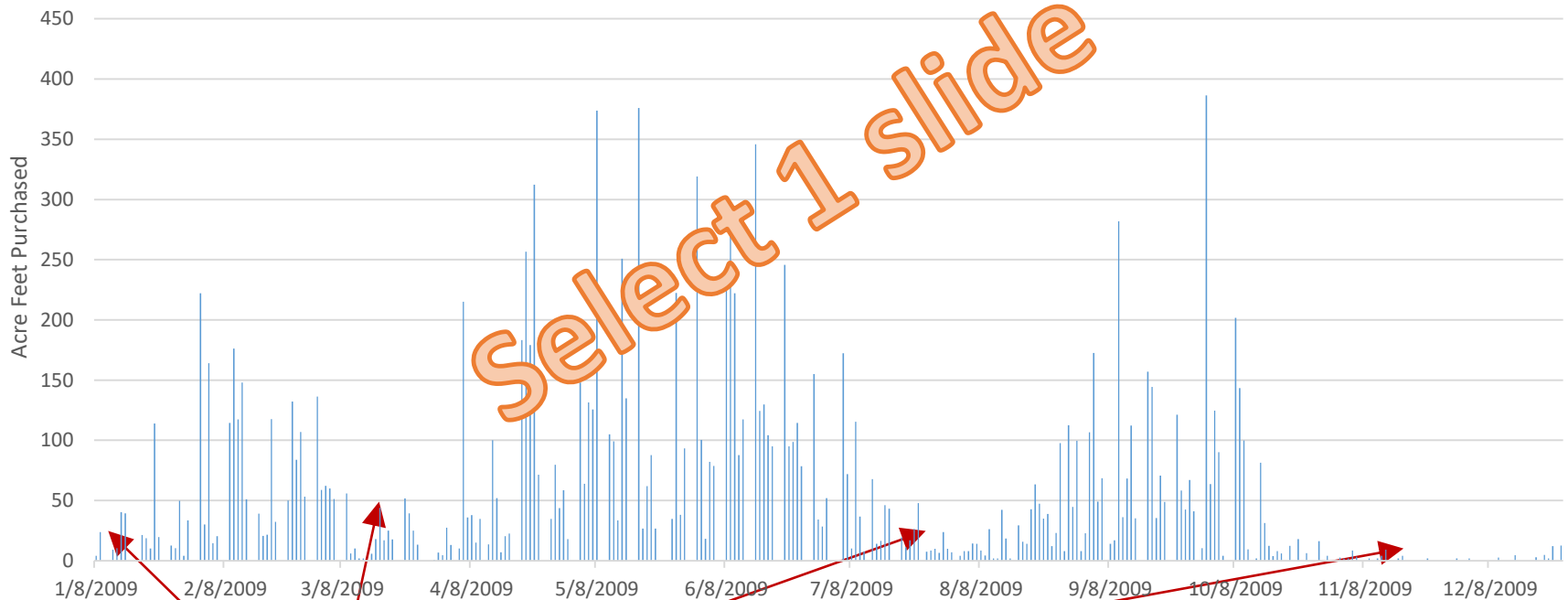
Acre Feet Purchased by Month by Crop



LITTLE OR NO WATER WAS PURCHASED DURING THESE MONTHS, YET THE MEDINA LAKE VALVES REMAINED OPENED WASTING WATER and NEEDLESSLY DRAINING THE LAKE!

And when?

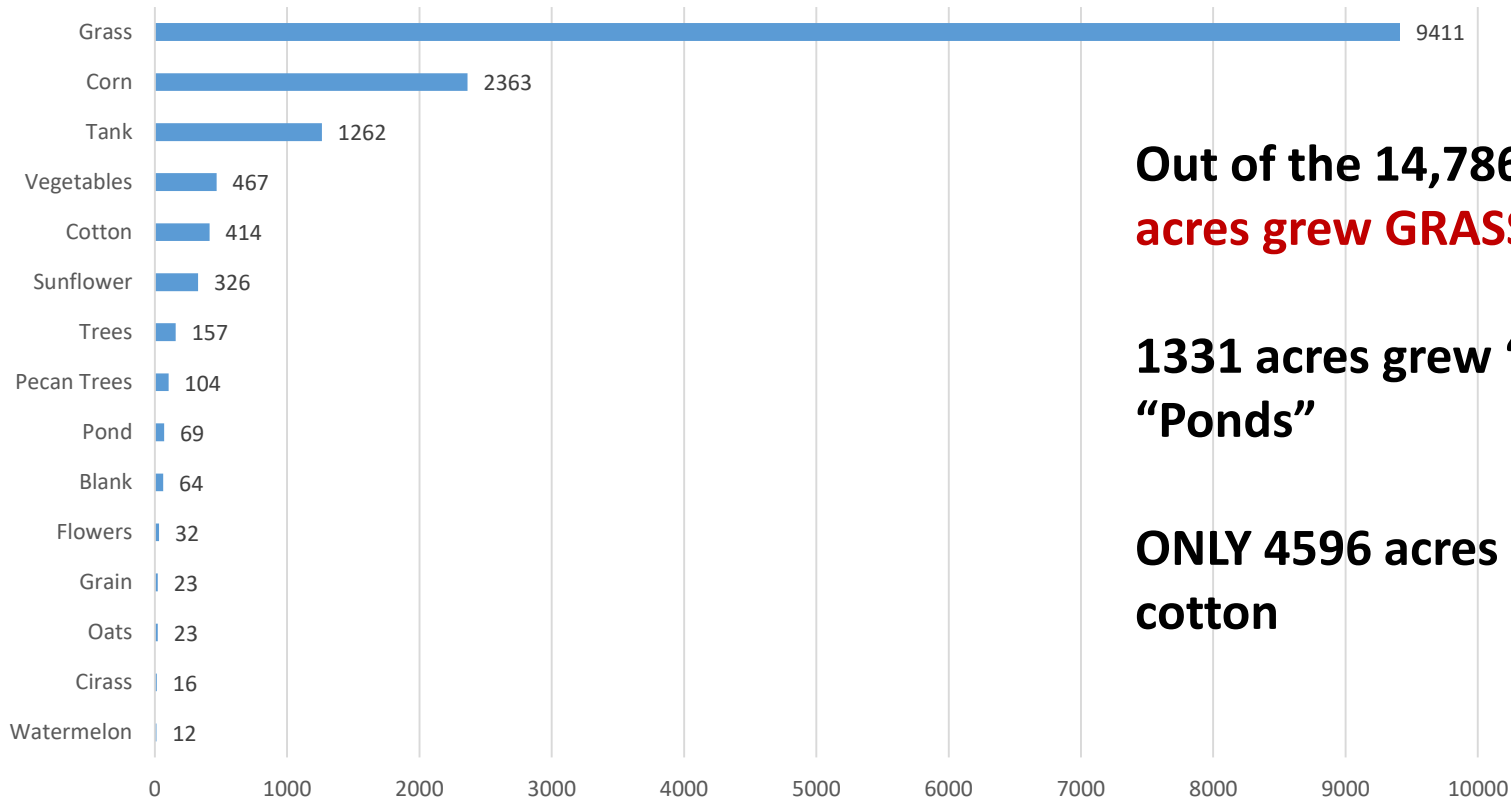
Peak and Non-peak Irrigation Months



VERY LITTLE WATER WAS PURCHASED DURING THESE MONTHS, YET THE MEDINA LAKE VALVES REMAINED OPENED WASTING WATER and NEEDLESSLY DRAINING THE LAKE!

What do the farmers grow?

Type of Crop (acres)



Out of the 14,786 acres, **9411** acres grew **GRASS** - 64%

1331 acres grew “TANKs” and “Ponds”

ONLY 4596 acres grew food or cotton

Some farmers purchased an exorbitant amount of water

Area	Property	Acres	Total Acre Feet Purchased in 2009	Crop
D2-1	03-571	0.29	11.92	Grass
D3B-4	01-158	0.3	4	Tank
D3B-5	01-436A	0.986	6.63	Grass
D3A-5	03-317	1.21	8	Tank
D3B-4	01-250A	1.254	6.68	Grass
D1-3	03-326A	2	18	Tank
D1-3	03-270A	2.17	9.88	Grass
D3B-4	01-119A	2.271	9.28	Grass
D3B-7	01-631	2.297	10.84	Grass
D3B-4	01-128A	2.967	17.47	Grass
D1-7	03-598	12.5	103.63	Grass
D3B-5	43 13 4	23.33	181.32	Corn
D1-6	03-719	10.05	73.08	Trees

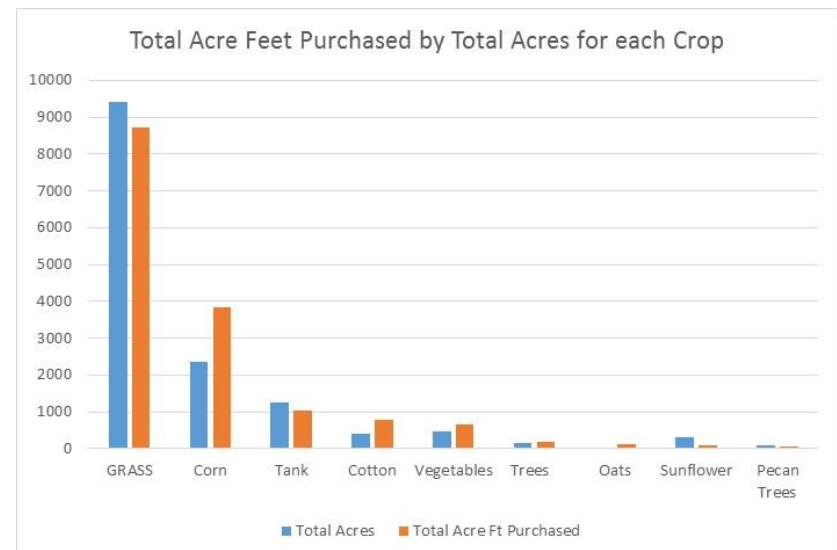
It **does NOT** take 12 AF to grow grass on a .29 acre “farm”.

OR

181 AF to grow corn on 20 acres.

Other corn farmers purchased <2AF of water for each acre of corn grown. See below.

What was this water used for?



Other farmers have private
lakes and ponds

section needs further development



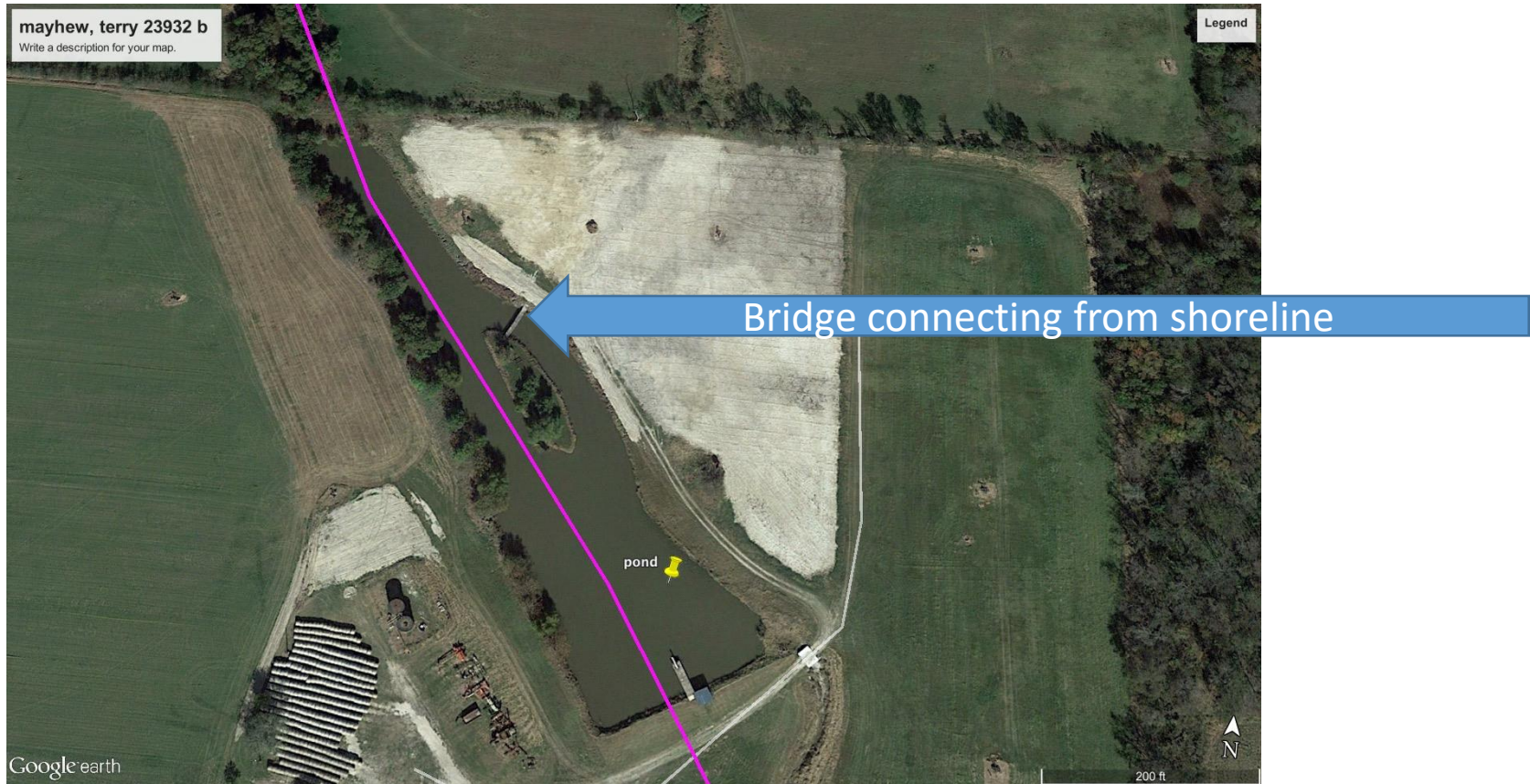
Property on canal system (**purple** line) outlined in **red** with home on private lake with dock.

Does not appear farming is occurring, yet property purchased water from BMA.

Zoom in on private lake with dock that has lights.



Private Lake that has canal going thru it. Lake has island in the middle.



Private pond
with dock
and cabana.

Paddle boat moored on dock.



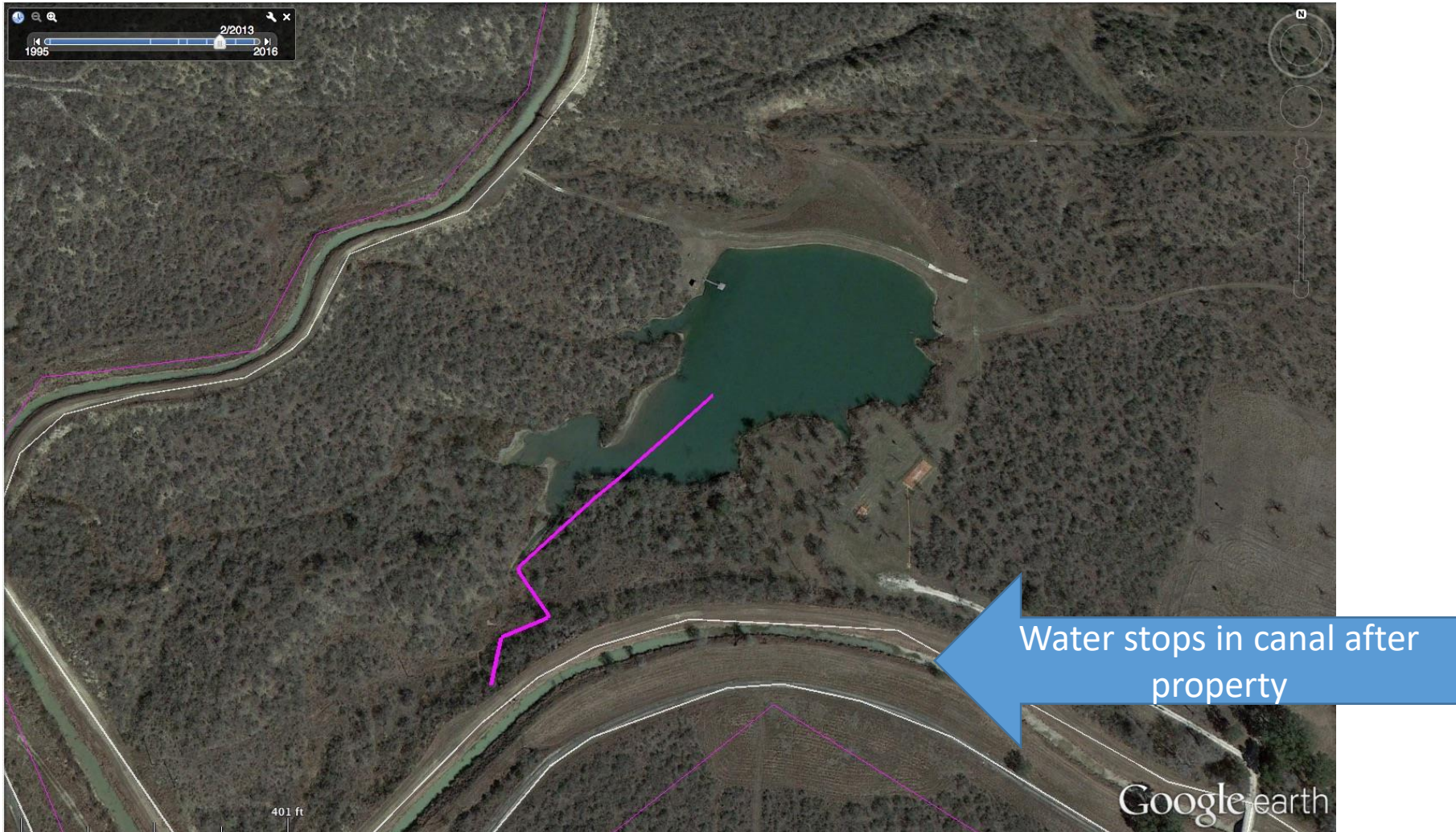


Ex-board member's property outlined in red.

Very large private pond on land. Surrounding land owned by others.

Ex- board member's property with private lake surrounded by forest.

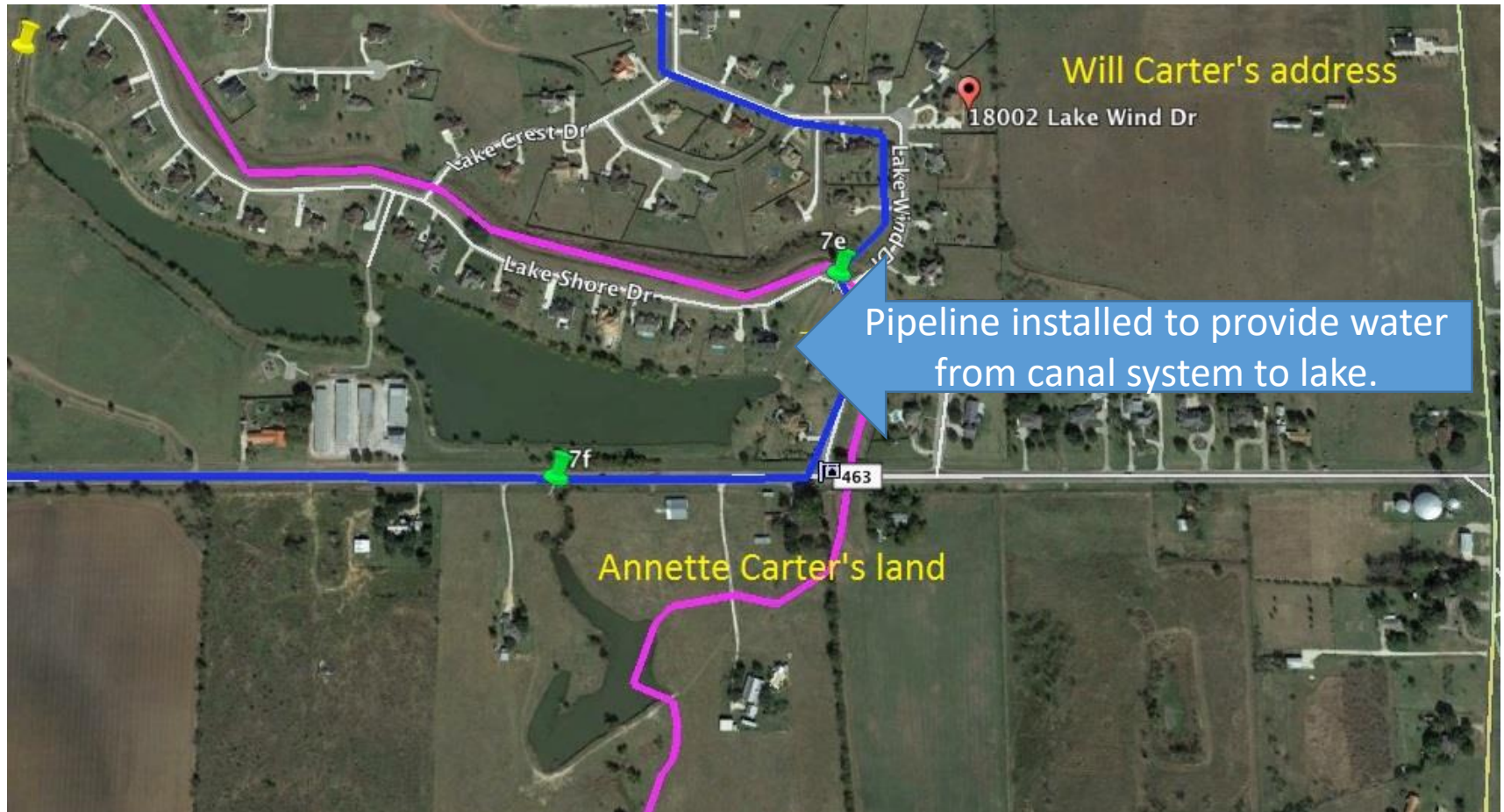
Google Earth picture taken February 2013, 5 months after the farmers were cut-off from receiving water from BMA.



Ex-board member's home in Lake Shore Estates with lake on canal system (purple line).

Historical Google Earth pictures taken in 1996 shows there was a ditch connecting the lake to canal system. It appears a pipeline has replaced the ditch.

Ex-board member's relative (wife?) has land below with private lake. Canal system (purple) runs thru lake.



**There are many/100s of examples
such as these**

What does this data tells us?

- The BMA drained the lake dry between 2007 – 2013 to predominately grow GRASS
- It appears water is being used for other purposes than crop irrigation. For example :
 - .29 acre farm purchasing 12 AF of water with a crop of grass.
 - Private ponds/lakes with docks, cabanas and paddle boats
- 4 out of 5 businesses around the lake shut down during this time
- Because of lack of maintenance and neglect, ~2/3 of the water sent down the canal system was lost
- There is NOT 33,000 acres being farmed as stated in the BMA's TCEQ permit. ONLY ~14,786 acres purchased water in 2009.
- AND of the 14,786 acres, there are only a few real farmers... the majority are what the BMA itself terms as "hobby" farmers
- Yet, the BMA drained the lake dry... AND continues to this day to operate in a closed, non-transparent, non-scientific way.