AGENDA
Borrego Water District Board of Directors
Special Meeting
January 19, 2016 9:00 a.m.
806 Palm Canyon Drive
Borrego Springs, CA 92004

I. OPENING PROCEDURES

A. Call to Order
B. Pledge of Allegiance
C. Roll Call
D. Approval of Agenda
E. Comments from Directors and Requests for Future Agenda Items
F. Comments from the Public and Requests for Future Agenda Items (comments will be limited to 3 minutes)

II. CURRENT BUSINESS MATTERS

A. Review and approval of increase in CSD fee for the collection of trash (2)

B. Discussion of Districts application for a Borrego Valley Groundwater Basin boundary adjustment (3-5)

C. Discussion of San Diego County's progress in applying to become a Groundwater Sustainability Agency (GSA) under SGMA for portions of the BVGB

D. Discussion of Groundwater Sustainability Plan (GSP) development costs sharing among municipal, recreation and agricultural groundwater users (6-19)

E. Discussion of Resolution 2016-01-01 of the Board of Directors of the Borrego Water District, Stating the Policy on Water Credits for New Developments to comply with the requirements of the Sustainable Groundwater Management Act (20-21)

F. Discussion of the District's consulting engineers (Dudek) work on the economic value of potable water from the BVGB under SGMA (22-32)

G. Discussion of FY 2017-2021 rate structure and rates changes messaging (33-54)

H. Discussion of a formal note of appreciation to the US Geological Service and the Department of the Interior Bureau of Reclamation for the excellent studies they completed for the benefit of the District's management of the BVGB

I. Discussion and approval of electing members to LAFCO (55-62)

J. Discussion of potential agenda items for January 27th board meeting

III. INFORMATION ITEM :

Marketing the SGMA: Applying economics to solve California's Groundwater problem (63-66)

IV. CLOSING PROCEDURE

The next Regular Meeting of the Board of Directors is scheduled for January 27, 2016 at the Borrego Water District

BORREGO WATER DISTRICT

January 19, 2016

MEMO TO: Board of Directors

FROM: Kim Pitman, Administration Manager

SUBJECT: Ramona Disposal trash pick-up increase

Beginning January 1, 2016, Ramona Disposal's rates are increasing 4% across the board. This will increase the charge for the Club Circle area from $2,897.50 to $3,031.50, an increase of $134. We are currently collecting $7,686.52 CSD fees and paying $4,770 for golf course maintenance monthly, which leaves a positive balance of $19.02. With an increase of $134 a month we will have a monthly negative balance of ($114.98).

In order to make up the $115, I would like the Board to approve an increase in the CSD fee by $.67 (cents) per unit (173 units).

Thank you for your consideration in this matter.

DUDEK

Basin Boundary Modification

Borrego Valley Groundwater Basin

Recognizing the importance of groundwater and the adverse impacts of its overuse, California passed bills addressing the management of groundwater in the state. Collectively, these bills make up the Sustainable Groundwater Management Act (SGMA), which took effect on January 1, 2015. The SGMA provides a process to modify groundwater basin boundaries from those originally established by the state.The location of groundwater basin boundaries is important to the SGMA process because it allows for accurate assessment of water use and supplies and determines which water users will be included in the Groundwater Sustainability Plans required by the SGMA. Boundary modifications must be applied for by local agencies and approved by the California Department of Water Resources (DWR).

On December 21, 2015, theBorrego Water District (BWD)submitted an initial notification of potential basin boundary modification for the Borrego Valley Groundwater Basin (BVGB).[1]

BorregoValley Groundwater Basin Background

Groundwater is essentially the sole source of water supply forBorrego Valley. Groundwater is used for agricultural, recreational (predominantly golf courses), and municipal uses. The Borrego Water District supplies water for much of the residential and commercial use in Borrego Springs. Groundwater levels have declined more than 100 feet in the northern portion of the groundwater basin in response to anthropogenic activities. Groundwater levels will continue to decline in areas of high pumping if more water is extracted from the groundwater basin than is being recharged on a long term basis. The DWR set the current basin boundary within the 2003 DWR Bulletin 118 limits (Figure 1). It is likely that the DWR developed the existing basin boundary for the Borrego Valley using the best information available at the time, including topographic and geologic maps.The area south of Borrego Springs including Ocotillo Wells, an unincorporated area of San Diego County and portions of Imperial County that overly the BVGB are sparsely populated with low groundwater use and no documented impacts.

Photograph 1.Anza-Borrego Desert State Park.

The Borrego Valley Groundwater Basin Hydrogeologic Study

In 2009, the BWD cooperated with the United States Geologic Survey to conduct a study of the groundwater conditionsin the BorregoValley. The study, which concluded in 2015, confirmed past findings of a significant imbalance between the groundwater used and replenished over the long term. Continued pumping has resulted in an increase in pumping lifts, reduced well efficiency, dry wells, changes in water quality, and loss of natural groundwater discharge.[2]

Review of Historical Groundwater Levels

Review of historical water levels from 1945-2010 indicate that there has been little to no change in groundwater elevations southeast of Borrego Springs where the San Felipe Wash discharges across the basin from a gap in the Vallecito Mountains. Pumping depressions are confined to areas north and west of the Borrego Sink Wash. As a result, adjusting the BVGB boundary to areas in the Borrego Valley where the effects of over-drafting have been documented is reasonable (Figure 1). Using the existing basin boundary,

[1]http://sgma.water.ca.gov/basinmod/initlist
[2]http://pubs.er.usgs.gov/publication/sir20155150

which includes areas unaffected by historical pumping southeast ofthe Borrego Sink Wash, only increases administrative burden on the BWD.

The BWD will request that the DWR adopt the adjusted basin boundary for inclusion in state bulletins and for the implementation of the SGMA. The area south of the San Felipe Wash will be subdivided as the "Lower" BVGB and the area to the north will retain the designation as the BVGB.

The Process for Basin Boundary Adjustment

The DWR developed a specific process for basin boundary adjustment requests, requiring that an agency overlying the basin act as the requesting agency, conduct outreach to interested parties, and prepare an application. Basin boundary adjustments may be made on a scientific or jurisdictional basis. For a scientific basis, there must be geologic or hydrologic evidence to support the proposed change in the existing basin boundary. Examples of such evidence include the discovery of an impermeable fault zone or the absence of groundwater where it was previously thought to exist. Jurisdictional adjustments commonly aid in the overall management of groundwater by recognizing the jurisdiction of overlying entities.

In addition to conducting outreach to affected parties, the requesting agency must prepare an application to submit to the DWR between January 1, 2016, and March 31, 2016. The application for a scientific modification must include both historical and technical components, as well as information on how the proposed modification may impact sustainable management.[3]

How to Comment

Submitting Comments to the BWD

Comments will be received at the workshop to be held at the **Location, Address,**on **Month Day, Year**, from **Time**p.m. to **Time** p.m. Verbal comments received atthe workshop will be summarized and submitted in writing to the DWR. Comments for inclusion in the application can also be submitted through the BWDwebsite.**(Ask the District… specific protocol?)**

Submitting Comments to the DWR

The DWR guidelines allow the public to submit information in favor of or opposition toa specific basin boundary modification request. Comments must be submitted within 30 days of the DWR providing notice that an application is complete. Information submitted must include the commenter's name, address, and email address and a clear statement of the basis for supporting or opposing the boundary modification. Such comments should be based on "similar scientific and technical information as the particular boundary modification to which it is addressed."[4]

Local Agency Input

Each agency with planning or water management responsibilities inthe basin will be contacted by the requesting agency. Affected agencies have additional requirements for commenting in support or opposition of a basin boundary modification, including a formal resolution adopted by the decision-making body of the agency or a letter signed by an executive officer or official representing the agency.[5]

Borrego Valley Groundwater Basin Boundary Modification Workshop

A workshop to explain and receive input onthe proposed basin boundary modification will be held on**Day, Month Date**, from **Time**p.m. to **Time**p.m. at the **Location**.

If you have questions,contact Trey Driscoll at Dudek, tdriscoll@dudek.com, 760.415.1425 or Jerry Rolwing at BWD, jerry@borregowd.org, 760.767.5806.

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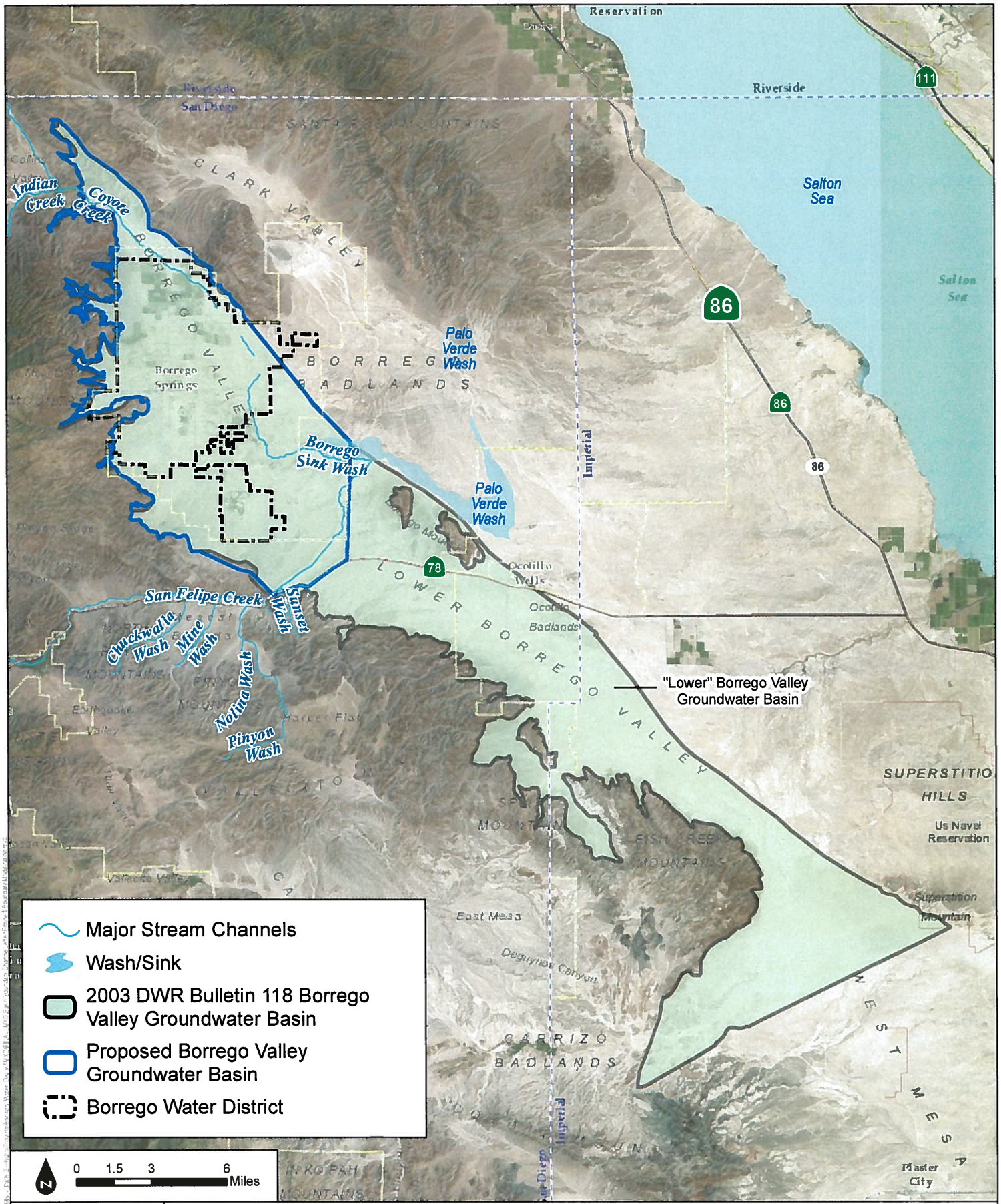
3 http://www.water.ca.gov/groundwater/sgm/basin_boundaries.cfm
4 http://www.water.ca.gov/groundwater/sgm/pdfs/SGMA_Basin_Boundary_Regulations.pdf
5 http://www.water.ca.gov/groundwater/sgm/pdfs/SGMA_Basin_Boundary_Regulations.pdf



DUDEK

SOURCE: DWR; USGS

Figure 1
Proposed Basin Boundary

January 11, 2016

Mr. Lyle Brecht
Borrego Water District
806 Palm Canyon Drive
Borrego Springs, CA

RE: Shared Allocation of Groundwater Sustainability Plan (GSP) development costs

Dear Lyle:

The Borrego Water Coalition at their meeting of January 7, 2016 approved the following recommendations to the Borrego Water District relative to development of a final GSP:

1. The costs will be shared among three groups as follows: Agriculture -42%, Municipalusers- 42% and Recreational users- 16%.
2. The current best understanding of the maximum costs is $1,385,000.
3. The costs will be amortized over 5 years.
4. Anassessment district be formed with the County of San Diego that covered the cost of the GSP and provided for repayment secured against each individual property. The County would use the property tax bill to secure repayment of the assessment. Since the amount is relatively small, we recommend seeking the County's commitment to fund the entire GSP cost subject to the aforementioned repayment through property taxes.

Please advise the Borrego Water Coalition of any modifications to the proposed shared allocation recommendation and the estimated cost.

Borrego Water Coalition

Jim Moxham

Groundwater Sustainability Plan (GSP) Development Costs Estimate

Best Estimate ~$1,385,000 over ~18 months

Draft - December 19, 2015 - For Discussion Purposes Only

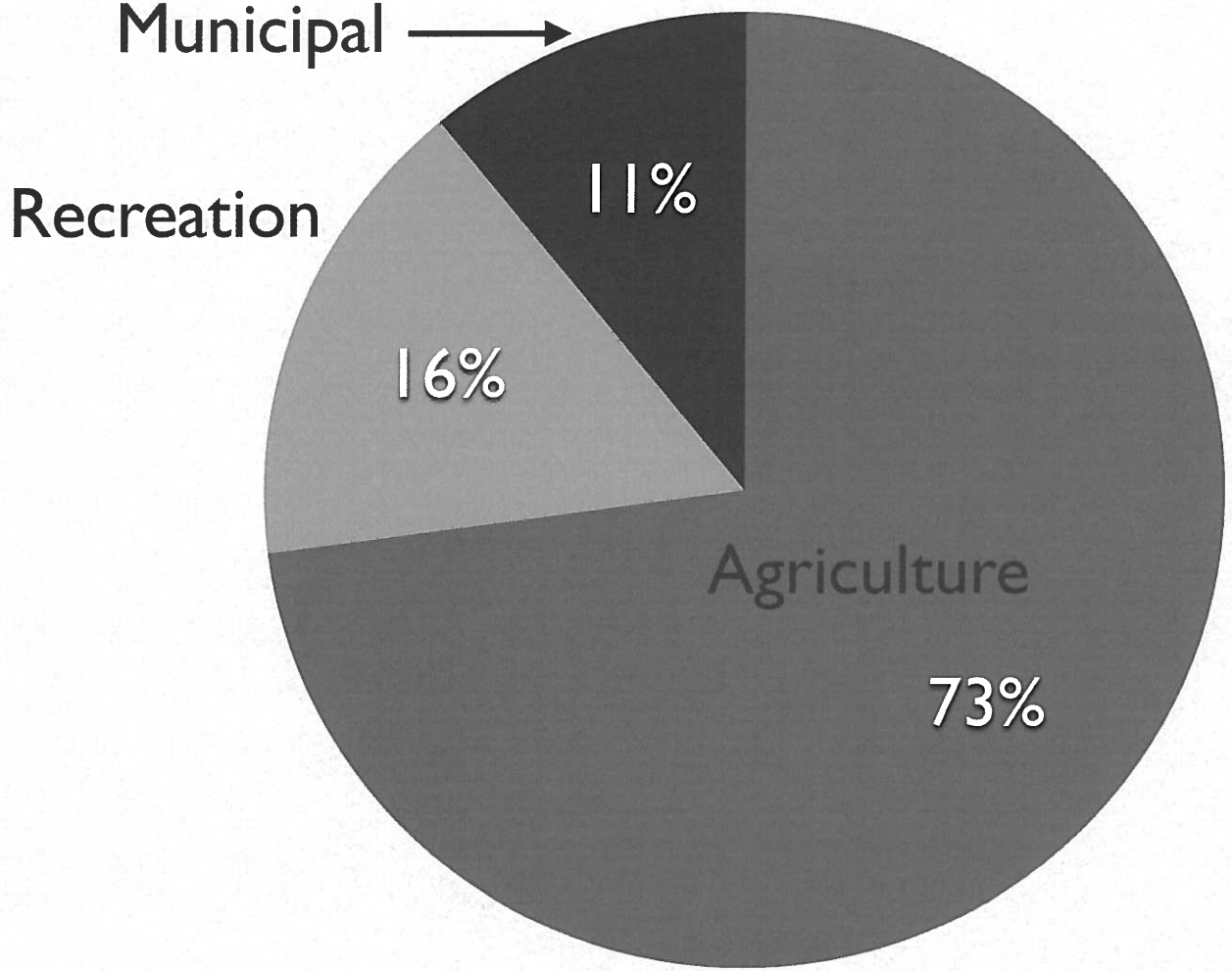
WHO PAYS?

- all present basin pumpers pay their fair proportional share
  - agricultural pumpers
  - recreational pumpers (resorts & golf courses)
  - municipal pumpers (BWD, Air Ranch, all private residential and commercial pumpers under ~2 AFY)

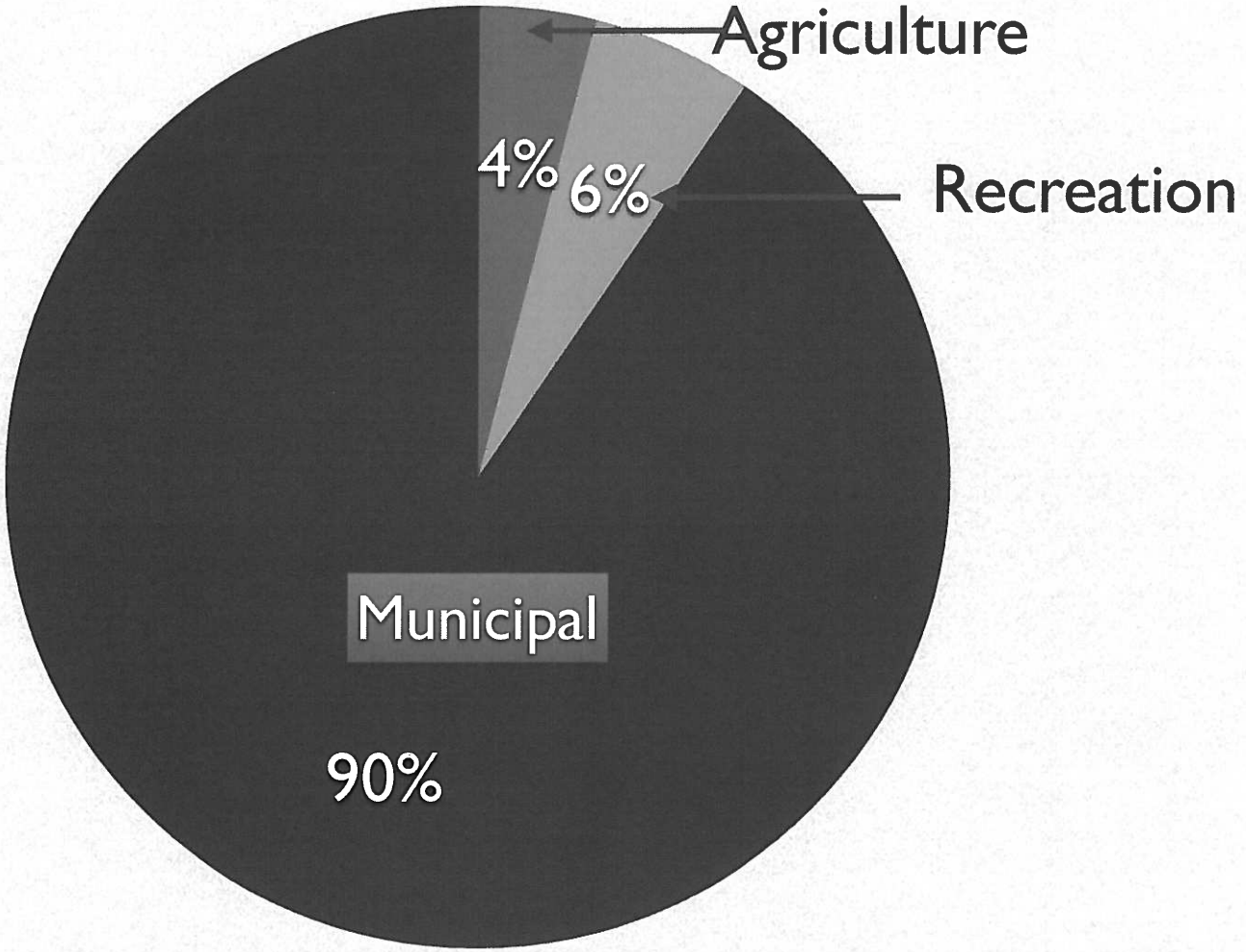
WHAT IS FAIR PROPORTIONAL SHARE OF GSP DEVELOPMENT?

- annual withdrawals
- assessed property values
- acreage
- blended proportional share

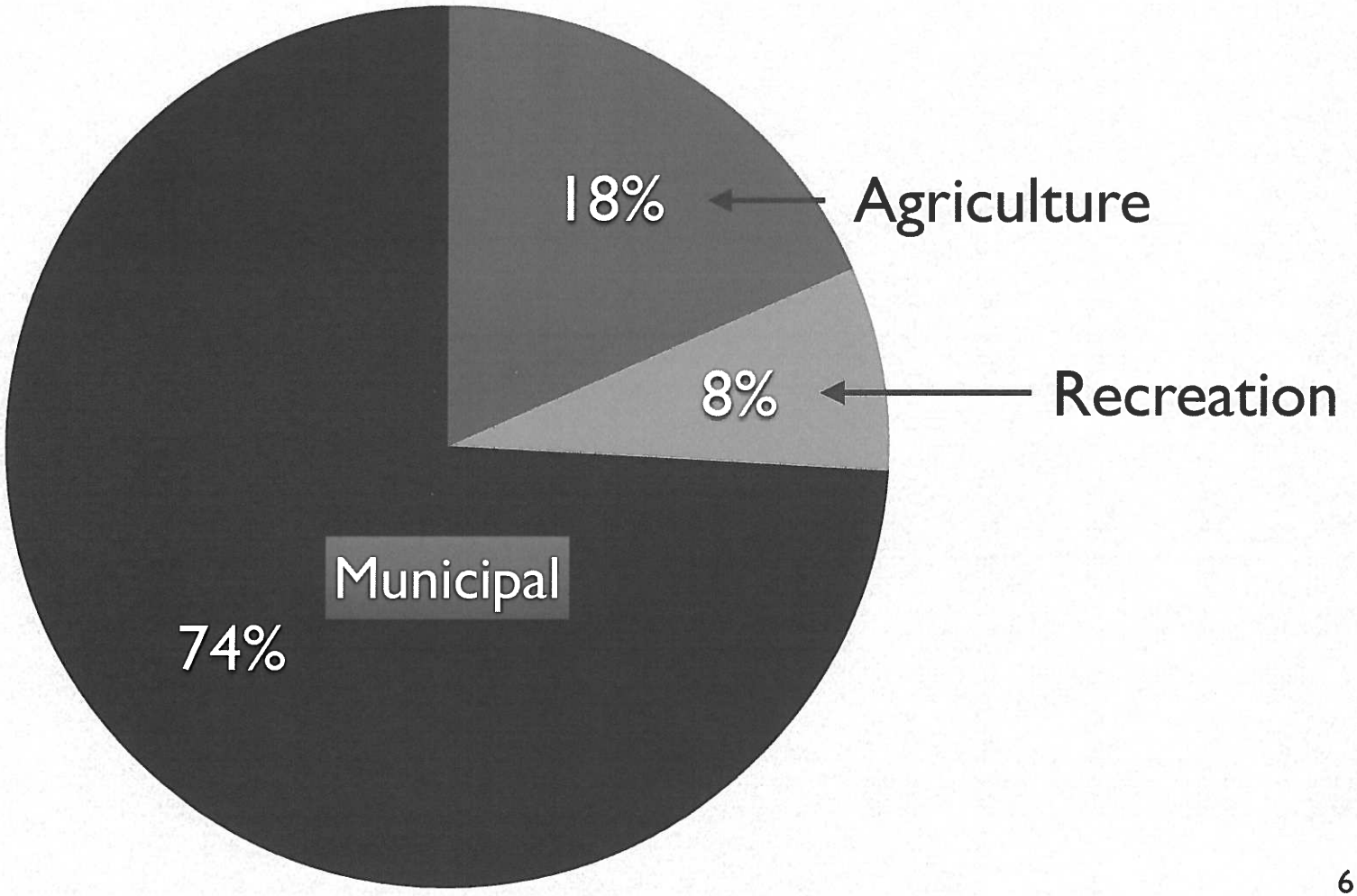
PROPORTIONAL SHARE OF ANNUAL WITHDRAWALS



PROPORTIONAL SHARE OF ASSESSED PROPERTY VALUES



PROPORTIONAL SHARE OF OWNED ACREAGE



Groundwater Sustainability Plan
Development Cost Allocation

	Acreage	Assessed Value	Water Use (AF)	Blended
Blend Mix	5.0%	35.0%	60.0%	100.0%
Blend Allocation	**$69,276**	**$484,933**	**$831,313**	**$1,385,522**
Agriculture	$12,729	$19,216	$602,281	$634,226
Golf Course	$5,187	$27,217	$138,143	$170,547
Borrego Water District	$51,360	$438,499	$90,889	$580,749
All Pumpers Total Cost:				$1,385,522
				TRUE
% of Total				
Agriculture	18.4%	4.0%	72.4%	45.8%
Golf Course	7.5%	5.6%	16.6%	12.3%
Borrego Water District	74.1%	90.4%	10.9%	41.9%
Total	**100%**	**100%**	**100%**	**100.0%**
$ Cost Allocation				
Agriculture	$254,581	$54,903	$1,003,802	$634,226
Golf Course	$103,740	$77,764	$230,238	$170,547
Borrego Water District	$1,027,201	$1,252,856	$151,482	$580,749
Total	**$1,385,522**	**$1,385,522**	**$1,385,522**	**$1,385,522**

Additional Calculations

Assessed Value Unit: $10,000

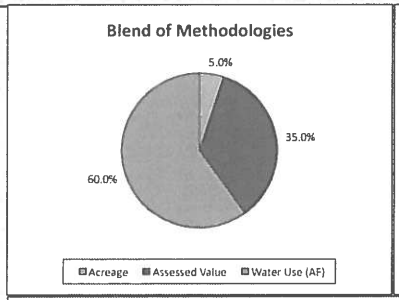
	Cost per Acre	Cost Per $10,000 Assessed Value	Cost per AF	Blended Cost
Per Unit Costs	$73.37	$32.61	$77.29	$61.45

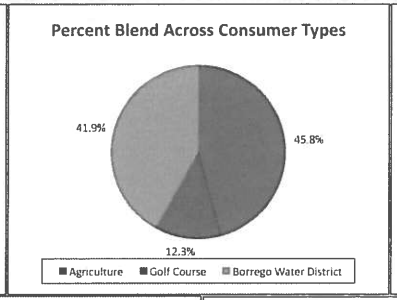
Inputs

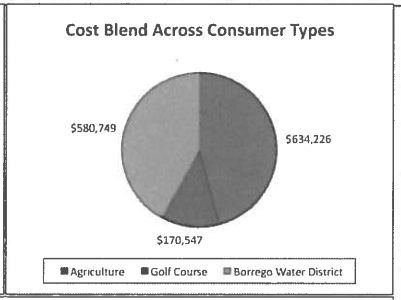
All Pumpers Total Cost: $1,385,522

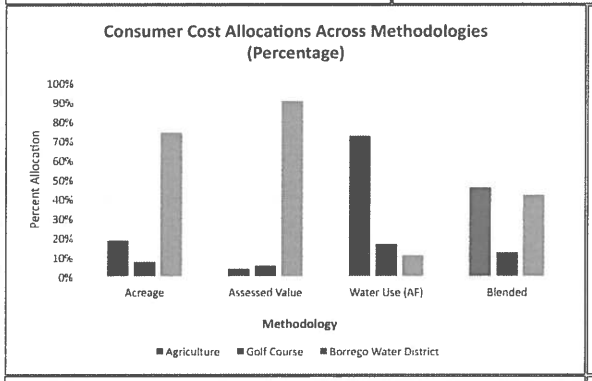
	Acreage	Assessed Value	Water Use (AF)
Agriculture	3,470	$16,836,116	12,988
Golf Course	1,414	$23,846,492	2,979
Borrego Water District	14,001	$384,192,678	1,960
Total	**18,885**	**$424,875,286**	**17,927**
Improved Land		**$424,875,286**	
Agriculture		$16,836,116	
Golf Course		$23,846,492	
Borrego Water District		$384,192,678	

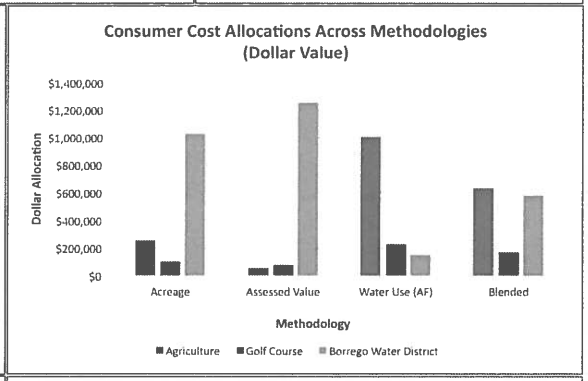
	Assessed Value per Acre	Water Use (AF) per Acre
Agriculture	$4,851.91	3.743
Golf Course	$16,864.56	2.107
Borrego Water District	$27,440.37	0.140

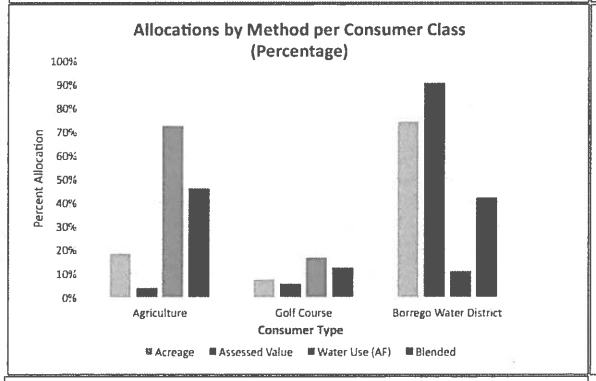


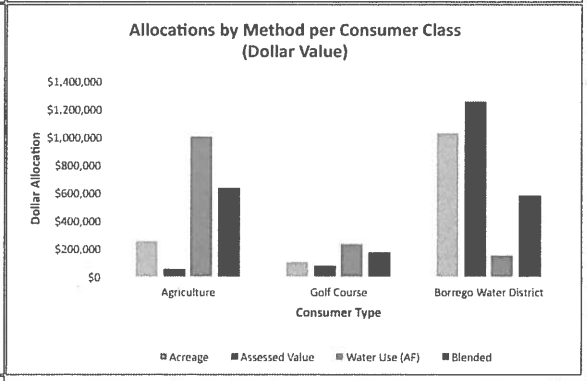


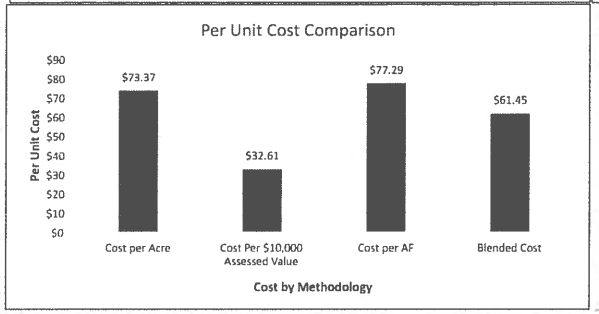




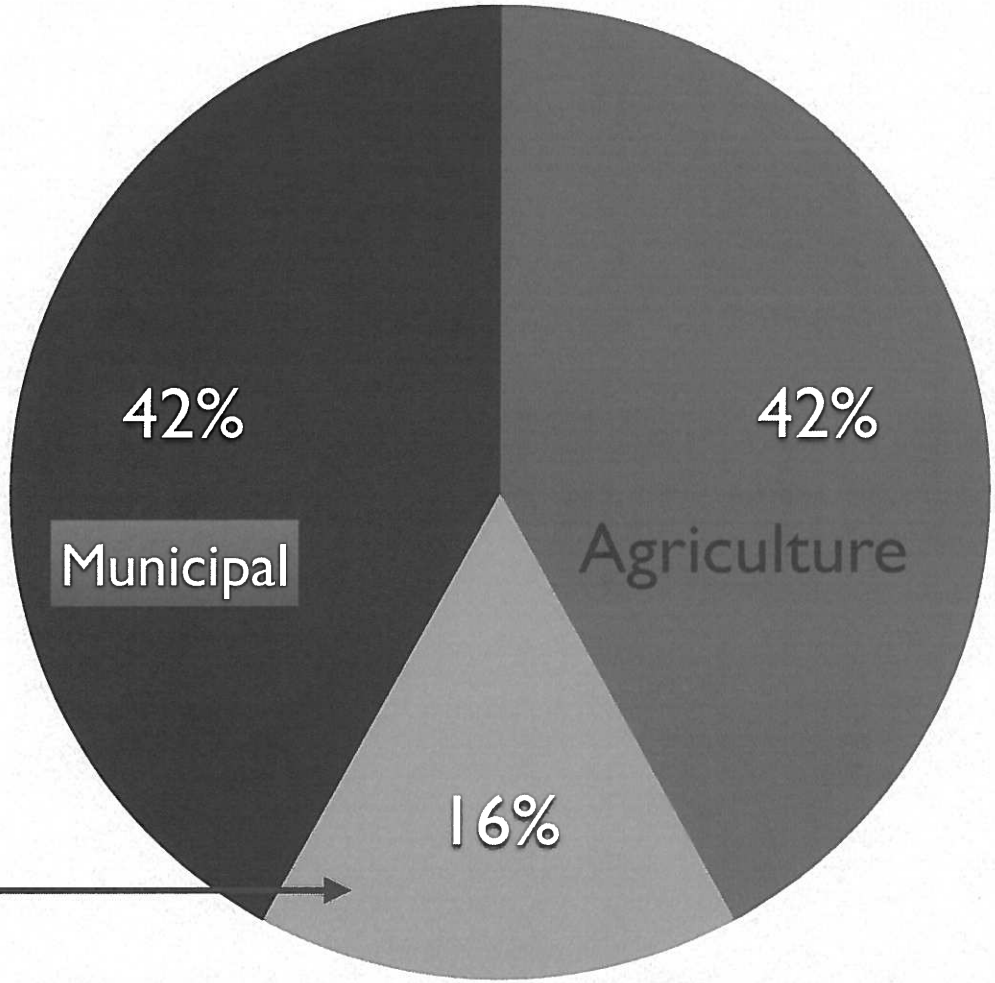








BLENDED PROPORTIONAL SHARE



BLENDED APPORTIONED COSTS

	AGRICULTURE	RECREATION	MUNICIPAL
SHARE OF TOTAL	$580,000	$220,000	$580,000
ANNUAL SHARE PAID 3-YEARS	$190,000	$70,000	$190,000
ANNUAL SHARE PAID 5-YEARS	$116,000	$44,000	$116,000
COST/ AF OF WITHDRAWALS	$9.00 - $14.60	$11.00 - $17.50	$58.00 - $95.00

MUNICIPAL COSTS (ESTIMATED)

# OF RATEPAYERS	USAGE (AFY AVERAGE)	ANNUAL COST FOR 5-YEARS	MONTHLY COST FOR 5-YEARS
141	0	$0.00	$0.00
838	0.33	~$19.15	~$1.60
275	0.55	~$31.90	~$2.65
350	>1.00	>$58.00	>$4.85

GRANTS

- the District will apply for any DWR grants available to pay for GSP development costs
- the "critical overdraft" designation of the basin should help with our competitiveness in grant awards from DWR
- any GSP development grants received will be credited to each pumper class based on the proportion of total costs allocated to that class
- grant funds will be used to shorten the time individual pumpers will need to make estimated GSP development payments, not the amount of the estimated GSP development payments due

PAYMENTS

- payments in advance towards GSP development costs will be made twice a year: by June 1st & January 1st
- all payments will be made to the District with "GSP development costs" in the memo field
- fees will be based on a combination of share of proportional costs for class of usage and either validated meter readings or estimated usage
- estimated usage may be appealed to the District board one time during the GSP development cost period (either 3 or 5-years)

PAYMENTS

- free riders (pumpers who fail to pay their fair share of GSP development costs in a timely fashion) will be subject to collection procedures and penalties, as well as a requirement to pay their estimated GSP costs for the entire GSP development cost period

- cash-basis accounting of all income and outflows related to the GSP development costs will be available to any pumper with 24-hours notice during the GSP development cost period

- in the off chance there are any overpayments, due to grants or the GSP development costing less than estimates or for whatever reason, pumpers will receive a refund from the District at the end of the GSP development cost period, based on their fair proportional share of actual cash payments for the GSP

RESOLUTION NO. 2016-01-01

RESOLUTIONOF THE BOARD OF DIRECTORS OF THE BORREGO WATER DISTRICT, STATING THE POLICY ON WATER CREDITS FOR NEW DEVELOPMENTSTO COMPLY WITH THE REQUIREMENTS OF THE SUSTAINABLE GROUNDWATER MANAGEMENT ACT

WHEREAS, the Borrego Water District ("District")in cooperation with the County of San Diego ("County"), developed and implemented a Demand Offset Mitigation Water Credit Policy ("WCP"); for the result of "no net gain" in the overall rate of extraction of groundwater;[1]and

WHEREAS, the current WCP for new development consists of two 1:1 policies: one water credit to satisfy the County New Subdivision Policy (the "County Water Credit") and one water credit to satisfy the District WCP (the "District Water Credit"); and

WHEREAS, currently for existing platted lots in the District, only one of either the County Water Credit or the District Water Credit is required to fulfill the District's WCP; ;whereas for all new subdivisions, both 1:1 policies must be satisfied for a total of two water credits; and

WHEREAS, the planning number for the sustainable yield of the Borrego Valley Groundwater Basin ("BVGB") is 5,700 acre-feet per year ("AFY")[2]; and

WHEREAS, the planning number for the current groundwater extractions from the BVGB is 19,000AFY[3]; and

WHEREAS, the Sustainable Groundwater Management Act ("SGMA") passed by the California Legislature on August 29, 2014, and signed into law by Governor Brown on September 16, 2014, requires measurable objectives, as well as interim milestones in increments of five years, to achieve the sustainability goal in the BVGB within 20 years of the implementation of the Groundwater Sustainability Plan ("GSP")[4]; and

WHEREAS, the GSP focuses on reduction of groundwater use in the BVGB by 70% (reduction from ~19,000 AFY to ~5,700 AFY)is required over the 20-year GSP implementation timeframe; and

WHEREAS, this would require retiring 19,000 water credits ("WC"), and issuing 5,700 production credits ("PC") at a ratio of 3.33:1 (WC:PC); and

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[1] WCP includes without limitation: the District's Demand Offset Water Credits Policy (BWD 2013a), as amended; the County's Groundwater Ordinance for Borrego (County of San Diego 2013); and the Memorandum of Agreement between the County and the District (BWD and County of San Diego 2013).

[2] In order to develop a planning number for the sustainable yield, the total recharge estimate of 5,670 AFY by Netto (2001, page 138) is used. This rounded value (5,700 AFY) is a little higher than the 4,500 AFY average natural recharge estimated by Faunt (2015, page 51) for modeled recharge.

[3] The BWD estimates the annual BVGB pumping is 18,639 acre-feet (BWD 2015). USGS estimates pumpage totals around 19,000 AFY in recent years (2005-2010) (Faunt 2015).

[4]California Water Code section 10727.2(b)(1)

WHEREAS, it is appropriate to apply a ratio of 4:1 (WC: PC) for new development in the Borrego Valley to account for slippage or variability in the actual or realized water usage reduction; and

WHEREAS, a ratio of 4:1 (WC:PC) for new development in the Borrego Valley would ensure that new development is required to mitigate for its allocated share of the condition of "overdraft" in the BVGB when approved by the County, and prior to actual development.

NOW, THEREFORE, the Board of Directors of the Borrego Water District does hereby resolve, determine and order as follows:

Section 1. All new development in the BVGB obtain 4 WC for every 1 PC required to meet new water demands. Each water credit requirement may be met through County Water Credits, District Water Credits, or any equivalent combination thereof.

Section 2. The District's General Manager is hereby authorized and directed to coordinate with the County to update the Demand Offset Water Credits Policy to incorporate the revised Board Policy.

ADOPTED, SIGNED AND APPROVED this 27th day of January 2016.

_____

President of the Board of Directors
of Borrego Water District

ATTEST:

_____

Secretary of the Board of Directors
of Borrego Water District

DUDEK

MAIN OFFICE
605 THIRD STREET
ENCINITAS, CALIFORNIA 92024
T 760.942.5147 T 800.450.1818 F 760.632.0164

DRAFT TECHNICAL MEMORANDUM

To:	Jerry Rolwing, General Manager, Borrego Water District
From:	Trey Driscoll, PG, CHG, Ron Schnabel, PG, CHG
Subject:	Water Replacement and Treatment Cost Analysis for the Borrego Valley Groundwater Basin
Date:	December 11, 2015

Water Replacement and Treatment Cost Analysis for the Borrego Valley Groundwater Basin

Purpose of this Study

Dudek has conducted a draft preliminary economic analysis of potential groundwater replacement and treatment costs for the Borrego Valley Groundwater Basin (BVGB). An analysis of economic costs is important in order to enable the Borrego Water District (BWD) to properly price the water services it provides for its customers and to anticipate infrastructure expenditures that will be required to supply potable water to its customers in the future. For an estimate of the economic value of water supply, the replacement cost method is applied by estimating the costs of replacing the groundwater from the overdrafted BVGB with imported water. For estimating the economic value of the quality of groundwater, future treatment costs are calculated for water that is withdrawn which could require advanced treatment to meet water quality standards for potability. These economic costs may also be used to establish the value of water credits, which account for the use of and/or reduction of an acre-feet per year (AFY) in withdrawals from the BVGB.

Background

A study completed by the U.S. Geological Survey (USGS), in cooperation with the BWD indicates that in Borrego Valley, irrigated agricultural, residential, and commercial users, as well as the Anza-Borrego Desert State Park, use approximately four times more water than is replenished through annual average natural recharge of the BVGB underlying the Valley (Faunt 2015). The cooperative study focused on water data from 1945 to 2010. The USGS determined that over the 66-year study period, on average, the natural recharge that reached the saturated groundwater system was approximately 5,700 AFY. During 2000–10, the BWD reported an

average groundwater use of about 4,000 AFY for residential and commercial uses; groundwater pumping for agricultural and recreational uses was estimated to be about 16,000 AFY. Today, the present annual groundwater withdrawals from the BVGB are approximately 19,000 AFY or an overdraft of approximately 13,300 AFY compared to the average annual recharge of 5,700 AFY.

The Department of Water Resources (DWR) has measured groundwater-level declines of more than 100 feet in some parts of the groundwater basin in response to anthropogenic activities, resulting in an increase in pumping lifts; reduced well efficiency; dry wells, changes in water quality; and loss of natural groundwater discharge, principally through reduced evapotranspiration from groundwater. Future growth and a lack of access to imported water could continue to increase these effects, producing significant economic impacts to the operation of the BWD and its ability to dependably deliver potable water to its customers.

In 2013, the U.S. Department of the Interior, Bureau of Reclamation (BR), published a Technical Memorandum (TM) entitled *"Proposed Imported Water Pipeline Routes for Borrego Water District Appraisal Analysis."* As part of this TM, the BR included an imported water pipeline cost/benefit analysis as Appendix C entitled *"Concept Level Economic and Financial Analysis Southeast California Regional Basin Study"* (2013 BR Cost Study). Although, the 2013 BR Cost Study concluded that none of the three pipeline alternatives analyzed were economically viable under current conditions, and that further study of the pipeline alternatives was not warranted, this conclusion was reached before enactment of the Sustainable Groundwater Management Act (SGMA) which went into effect on January 1, 2015. The 2013 BR Cost Study, however, provides a reasonable economic cost analysis to estimate the present cost of imported replacement water for the BVGB. Dudek used this 2013 BR Cost Study as the basis of their imported water replacement cost estimate. Additionally, the BR conducted a similar pipeline alignment cost study in 1968, which Dudek compared with the 2013 BR Cost Study estimate after adjustment for inflation.

Additional water supply costs could occur from continued overdraft conditions due to groundwater quality degradation as a function of lower groundwater levels. Groundwater basins within the high-deserts of Southern California consistently show that declining groundwater levels cause an increase in arsenic groundwater values due to the loss of shallower higher-quality and more productive water yielding aquifer zones, and from the oxidation of lower aquifer zones. Arsenic levels commonly increase to above the California drinking water maximum contaminant level (MCL) of 10 micrograms per liter (ug/L) requiring water treatment usually on well-by-well basis. Although detailed groundwater chemistry studies are needed to determine the most economical method for the arsenic treatment, some general cost analysis comparisons have been conducted that provide good general ranges of costs. For this study, Dudek used the Wang, L.,

and ALSA Tech, LLC (2011), "*Costs of Arsenic Removal Technologies for Small Water Systems*" study conducted for the U.S. Environmental Protection Agency (USEPA).

Water Replacement Costs

Imported Water Cost Analysis

The estimated costs for groundwater replacement for the BVGB come principally from Table 2 (page 6) of the 2013 BR Cost Study. Table 2 summarizes two imported water delivery scenarios from three imported water alignment alternatives. Table 1 of the 2013 BR Cost Study (page 4) defined the two imported water delivery scenarios as an Optimistic and a Pessimistic scenario based on projected forecast water supply and demand needs through December 2062. In the Optimistic Scenario, the forecasted water demand needs was 13,392 AFY, and in the Pessimistic Scenario the forecasted water demand needs was 18,998 AFY. It should be noted that these demand projections shall remain constant over the 50 year forecast as the 2007 San Diego County Department of Planning and Land Use *Policy Regarding California Environmental Quality Act (CEQA) Cumulative Impact Analyses for Borrego Valley Groundwater Use* prohibits new net water demands in BVGB. The difference in demand between the Optimistic and Pessimistic Scenarios is from decreased projected local water supply (precipitation) and higher agricultural demands. As stated above, the current overdraft in the BVGB is estimated at about 13,300 AFY indicating that the Optimistic Scenario would best fit the current groundwater replacement needs of the BVGB, barring decreased precipitation due to climate change. Table 2 of the 2013 BR Cost Study provided the construction and operation and maintenance (O&M) costs for the three alignment alternatives directly. It should be noted that the construction and O&M costs for both the Optimistic Scenario and the Pessimistic Scenario were the same for each of the three imported water alignment alternatives and that only the associated costs (water purchase cost) differed in the two scenarios.

The three imported water alignment alternatives consisted of the Carter Reservoir, Coachella, and West Side Alignments. Table A summarizes the costs of the three imported water alignment alternatives. The cost year for the three water alignment alternatives was 2012 and these costs were not updated to 2015, due to the low inflation rates for 2013 and 2014, which were 1.5 and 1.6 percent, respectively (http://www.usinflationcalculator.com/inflation/current-inflation-rates/). While 2015 prices may be approximated with 2012 prices, this assumption may not be made over the entire 50 year calculation period. The calculations in Table A express the present cost of replacement water and treatment for arsenic, but future costs will most likely increase due to inflation, rising energy costs, and increasing resource scarcity.

Construction Costs

Estimated construction costs for each of the three alternatives were calculated on a yearly cost basis by using a 6 percent cost-of-money figure over a repayment period of 50 years. A 50 year estimate was used as the life of the pipeline before replacement.

Operation and Maintenance Costs

The O&M costs from Table 2 (estimated in 2012 dollars) in the 2013 BR Cost Study were divided by the 50 year operational period of the three alternatives to provide the yearly O&M costs.

Power Costs

The 2013 BR Cost Study did not provide power costs for the imported water and given the estimated O&M cost relative to anticipated power costs for the three alternatives, power cost does not appear to have been included as a separate item. To estimate the power costs for the three alternatives, costs from the 1968 BR pipeline alignment cost study were used and adjusted to 2015 costs (http://www.usinflationcalculator.com/). The Carter Reservoir alternative was not included in the 1968 BR cost study so this cost was assumed to be similar to the West Side Alignment cost for power.

Replenishment Assessment Charge

The Coachella Valley Water District (CVWD) requires a Replenishment Assessment Charge (RAC) for imported water delivered through their system. The 2015 CVWD RAC for the West Whitewater River Subbasin Area of Benefit is $122 per acre-foot. A similar cost was assigned to the other alignments. These are basically water wheeling fee estimates.

Metropolitan Water District Untreated Water Costs

The 2013 BR Cost Study uses a Metropolitan Water District (MWD) untreated water cost of $593 per acre-foot for Tier 1 water purchase. This cost was used for each of the three imported water alignment alternatives.

Tables of Estimated Imported Water Replacement Costs

Table A - Costs Based on Bureau of Reclamation 2013 Concept Study

Imported Source	Year	Total Construction Cost ($)	Yearly Payment at 6% interest over 50 years (1)	O&M (Table 2/50 years)	Power (Table 11) (2)(3)(6)	CVWD RAC (4) ($/AF)	Total CVWD RAC (4) ($)	MWD Tier 1 (2013 per AF) (5)	MWD Tier 1 (2013) (Total $) (5)	Water Delivered (AF) (Table 2)	Total Yearly Cost	Total ($/AF)
Carter Reservoir Alignment	2012 (5)	$73,042,072	$4,613,964	$683,323	$1,504,250	$112	$1,499,904	$593	$7,941,456	13,392	$16,242,897	$1,213
Coachella Alignment	2012 (5)	$93,207,296	$5,887,772	$786,220	$1,825,612	$112	$1,499,904	$593	$7,941,456	13,392	$17,940,964	$1,340
West Side Alignment	2012 (5)	$80,153,844	$5,063,204	$638,607	$1,504,250	$112	$1,499,904	$593	$7,941,456	13,392	$16,647,422	$1,243

Table B- Costs Based on Bureau of Reclamation June 1968 Inland Basins Project Plus Inflation

Imported Source	Year	Total Construction Cost ($) (Table 11)	Yearly Payment at 6% interest over 50 years (1)	O&M ($) (Table 16)	Power ($) (Table 11)	CVWD RAC (4) ($/AF)	Total CVWD RAC (4) ($)	MWD Tier 1 (2013) ($ per AF) (5)	MWD Tier 1 (2013) (Total $) (5)	Water Delivered (AF) (Table 11)	Total Yearly Cost	Total ($/AF)
CVWD Oasis-	2015 (3)	$205,959,175	$13,010,148	$1,094,000	$1,825,612	$112	$1,904,000	$593	$10,081,000	17,000	$27,914,760	$1,642
Borrego Route	1968 (2)	$30,122,000	$1,213,457	$160,000	$267,000	NA	NA	NA	NA	17,000	$1,640,457	$96

NA =Not Available

(1) = year 1968 was 3.225% interest based

(2) Costs are from Bureau of Reclamation June 1968 Inland Basins Project

(3) Inflation costs are from http://www.usinflationcalculator.com/

(4) 2015 CVWD WEST WHITEWATER RIVER SUBBASIN AREA OF BENEFIT Replenishment Assessment Charge (RAC)

(5) Bureau of Reclamation 2013 BR Cost Study

(6) Carter Reservoir Alignment assumed to be same as West Side Alignment

NOTE: TDS of CVWD Imported is 600+ mg/L , The current California State Secodary Maxiumn Contaminate Level (MCL) for TDS is 500 mg/L, no treatment costs are corrently included by the CVWD

Total Cost and Acre-Foot Costs

Using the estimated costs outlined above, the yearly estimated costs and per acre-foot costs of imported water are provided in Table A. These costs are for 2015 with the exception of the estimated construction and O&M costs which are for 2012, but have not likely increased much form the original estimate.

Imported Water Cost Comparison with Previous Cost Estimate

For comparison purposes the estimated costs of imported water in the BR 2013 Cost Study were compared to the BR pipeline alignment cost study in 1968. Table B provides the estimated costs for the CVWD Oasis-Borrego Route from the 1968 RB study. This pipeline route is similar to the Coachella Alignment route of the BR 2013 Cost Study. The 1968 cost estimates for the CVWD Oasis-Borrego Route are shown in Table B in 1968 dollars and in 2015 dollars adjusted using the inflation calculator at http://www.usinflationcalculator.com/. No estimates for CVWD RAC or MWD water purchase costs are available for 1968. The estimated 2015 CVWD Oasis-Borrego Route cost of $1,642 per AF compares reasonably close to the estimated 2015 Coachella Alignment route of the BR 2013 Cost Study of $1,340 per AF even with a much higher construction cost due to the higher volume of water delivered in the 1968 route (17,000 AF vs. 13,392 AF).

Water Treatment Costs

The USGS actively monitors groundwater quality in the BVGB through the Groundwater Ambient Monitoring and Assessment (GAMA) Program (USGS 2014). Although BVGB groundwater is not currently being treated for any constituents, it is highly likely that groundwater quality will degrade with declining groundwater levels. The BVGB currently has some wells that have tested near or above the arsenic MCL on a few occasions. In addition to increased arsenic levels, the BVGB could see increases in other constituents, most notably total dissolved solids (TDS). However, for this study, potential costs were developed specifically for arsenic treatment. Wang, L., and ALSA Tech, LLC (2011) provide the basis for the arsenic treatment and their detailed review of costs associated with arsenic treatment options should be reviewed to provide a good understanding of the complexities associated with estimating potential arsenic treatment costs. Their study was conducted to evaluate the performance, reliability, and cost of arsenic removal technologies and to determine their effects on water quality in distribution systems. Their objective was to collect costs and performance data that could be used by small water systems, engineering firms, and state agencies to make informed decisions on selecting appropriate arsenic treatment technologies to achieve the arsenic MCL of 10 µg/L.

Wang, L., and ALSA Tech, LLC (2011) provide costs based on 28 absorptive media (AM) systems, 18 iron removal (IR) and coagulation/filtration (CF) systems (including four using IR pretreatment followed by AM), two ion exchange (IX) systems, and one each reverse osmosis (RO), point-of-use (POU) RO, POU AM, and system/process modification. Dudek has summarized the results of their study in Table C. A wide range of costs were used to develop an estimate of the potential arsenic treatment costs; this is particularly true with O&M costs, which vary significantly. As much as possible, variations in arsenic treatment O&M costs are footnoted in Table C.

Construction Costs

Table C presents an average well cost in dollars per gallon per minute ($/gpm) for three arsenic treatment system costs. These three systems are absorptive media (AM), combined iron removal (IR), and coagulation/filtration (CF) as IR/CF, and ion exchange (IX). Using the average system sizes (in gpm) for each of the three systems and an assumed well/treatment system use of 80 percent for 350 days provides cost per acre-foot for each system. Multiplying the average well cost ($/gpm) by the average system sizes (gpm) produces the initial capital cost for an average system. These capital costs were calculated on a yearly cost basis by using a 6 percent cost-of-money figure over a repayment period of 30 year. A 30 year estimate was used as the life of the treatment system before replacement.

Operation and Maintenance Costs

O&M costs are much harder to estimate for each of the system types due to wide ranges in actual O&M costs. O&M is the major cost associated with arsenic treatment systems and as shown in footnote 4 Table C, O&M costs can range significantly according to water quality which affects the life of the treatment system. Because of the wide range of O&M costs per system, Table C presents a minimum, average, and maximum O&M cost per system.

Power Costs

Electrical power costs for each of the treatment systems are provided in Table C.

Total Cost and Acre-Foot Costs

Three total costs for each of the three systems is presented in Table C based on the minimum, average, and maximum O&M cost per system.

Table of Estimated Water Treatment Costs

Table C - Arsenic Treatment Costs Based on 2011 EPA Cost Study

Arsenic Treatment Systems (1)	$/gpm (>100 gpm)	Average System Size (gpm)	AFY (Assumes 80% use over 350 days/year)	Capital Cost ($)	Capital Cost per year ($ year @6% for 30 years)	Capital Cost per AF ($/30 year @6%)	Min. O&M (4) ($/AF)	Average O&M (4) ($/AF)	Max. O&M (4) ($/AF)	Electrical ($/AF)	Min. Total Cost per AF ($/AF)	Average Total Cost per AF ($/AF)	Max. Total Cost per AF ($/AF)
AM (adsorptive media) (2)	$806	370	458	$298,220	$21,456	$47	$98	$3,911	$7,186	$10	$154	$3,967	$7,243
IR/CF (iron removal (IR), coagulation/filtration (CF)), (3)	$1,069	455	563	$486,395	$34,994	$62	$23	$486	$945	$23	$108	$548	$968
IX (ion exchange (IX))	$939	395	489	$370,905	$26,685	$55	$114	$156	$202	$16	$185	$227	$273

(1) U.S. EPA ARSENIC REMOVAL TECHNOLOGY DEMONSTRATION PROGRAM (EPA/600/R-11/090) September 2011

(2) AM systems have a higher O&M cost than the IR/CF and IX systems, due mainly to media replacement, which accounted for 79% of the total O&M cost.

(3) The lower O&M cost is a significant advantage of IR/CF over AM as long as the facility can handle IR/CF and IX residuals at a low cost.

(4) Note that O&M costs do not include residuals disposal cost, a key factor in selecting a treatment technology for arsenic removal, direction comparisons among different technologies would be less accurate

AM system electricity costs for the treatment systems (not including pumping from wells to treatment plants or re-pumping to distribution systems) ranged from zero to $0.16 (or $0.03 on average) per 1,000 gal of water treated.

AM systems media replacement costs varied widely from $0.30 to $22.05 per 1,000 gal of water treated due to large variations in media cost and media life and are 79% of the O&M cost.

Average of $12 per 1,000 gal as all of the O&M cost

IR/CF system total O&M costs, range from $0.07 to $2.90 per 1,000 gal of water treated. Average is $1.49 per 1,000 gal

IR/CF system include incremental electricity costs ranged from zero to $0.39 and averaged $0.07 per 1,000 gal of water treated. Electricity accounted for an average of 19% of the total O&M cost.

IX system total O&M costs were generally from $0.35 to $0.62 per 1,000 gal of water treated, average of $0.48 per 1,000 gal.

IX system electricity costs were $0.08 and $0.03/1,000 gal of water treated, assumes $0.055 per 1,000 gal

Conclusion

This economic cost analysis provides replacement imported water and treatment cost estimates to enable the BWD to properly price water services presently provided to their customers in excess of the BVGB's average annual recharge. Future infrastructure expenditures will be required to replace groundwater overdrafted due to groundwater pumping in excess of the average annual recharge to meet groundwater sustainability. The State's enactment of SGMA effective on January 1, 2015 requires that the BVGB achieve groundwater sustainability by 2040. SGMA requires that a Groundwater Sustainability Plan (GSP) to achieve groundwater sustainability be enacted by the Groundwater Sustainability Agency (GSA) by 2020. The BWD, in cooperation with the County of San Diego, is the GSA for the BVGB. The GSP must demonstrate to the State compliance with SGMA by showing measurable achievements in meeting groundwater sustainability.

To supply potable water to its customers in the future over the average annual recharge, the BWD will need to obtain additional imported water from outside the BVGB, and likely treat groundwater degraded due to continued overdraft. For an estimate of the economic value of water supply, the replacement cost method was applied by estimating the costs of replacing the groundwater from the overdrafted BVGB with imported water, and the economic cost for future groundwater treatment. These economic costs can also be used to establish the value of water credits, which accounts for the use of and/or reduction of groundwater withdrawn from the BVGB by the passage of SGMA.

Recommendation

The estimated present cost to the BWD for the importation of an acre-foot of water is show in Table A and ranges from $1,213 to $1,340 per acre-foot. The estimated cost range depends on the pipeline alignment selected and includes estimates of the pipeline construction, O&M, power, wheeling fee, and initial MWD water cost. For budgeting purposes, a value of $1,340 per acre-foot should be used as the current estimated cost to import water to the BVGB.

The estimated cost to the BWD for the treatment of groundwater due to potential degradation from groundwater overdraft is more difficult to estimate due to unknowns associated with amount of groundwater to be treated, the type and size of treatment facilities, and the amount of O&M cost associated with the selected treatment method. Future groundwater chemistry studies and continued groundwater quality monitoring will help determine the most economical method for groundwater treatment, if needed, as well as the number of systems and potential infrastructure associated with multiple treatment systems, if required.

The BVGB currently has some wells that have tested near or above the arsenic MCL, but need for future treatment for these wells cannot be determined. It is likely that with declining groundwater levels, arsenic MCL levels will increase in some wells, but blending with other wells could make treatment unnecessary.

The estimated costs associated with arsenic treatment are provided in Table C. These costs are for a single well head treatment system and include construction and three estimates of O&M costs for each system. O&M costs are highly dependent on groundwater chemistry and very significantly between systems. Higher O&M costs are probably not associated with the most economical method for treatment due to the relative narrow range of capital costs associated with each treatment system type (from $298,220 to $486,395). Therefore, a more average O&M cost range from $227 to $548 per acre-foot for arsenic treatment costs are likely. For budgeting purposes, a conservative value of $548 per acre-foot should be used as the current estimated cost to the BWD to treat arsenic in the BVGB including O&M costs. If O&M costs are deferred until the groundwater is actually pumped and treated, the capital costs associated with treatment should be used. A value of $62 per acre-foot (Table C) would allow for treatment facility capital expenditures.

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Business of the Water District

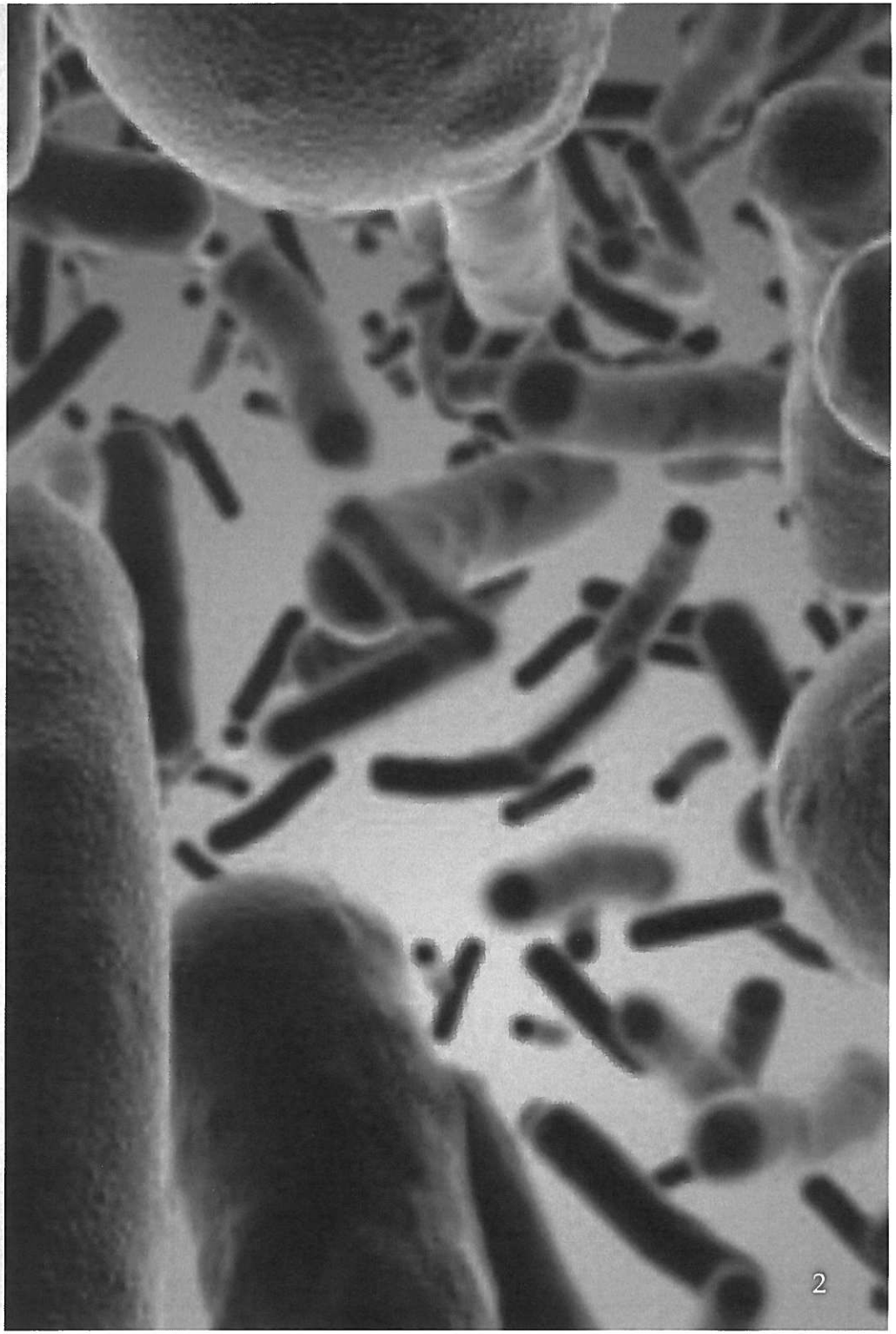
An Economic View

DRAFT - for discussion purposes only

January 2, 2016

Problems

Up until the modern era, almost all public water systems were plagued by severe public health issues



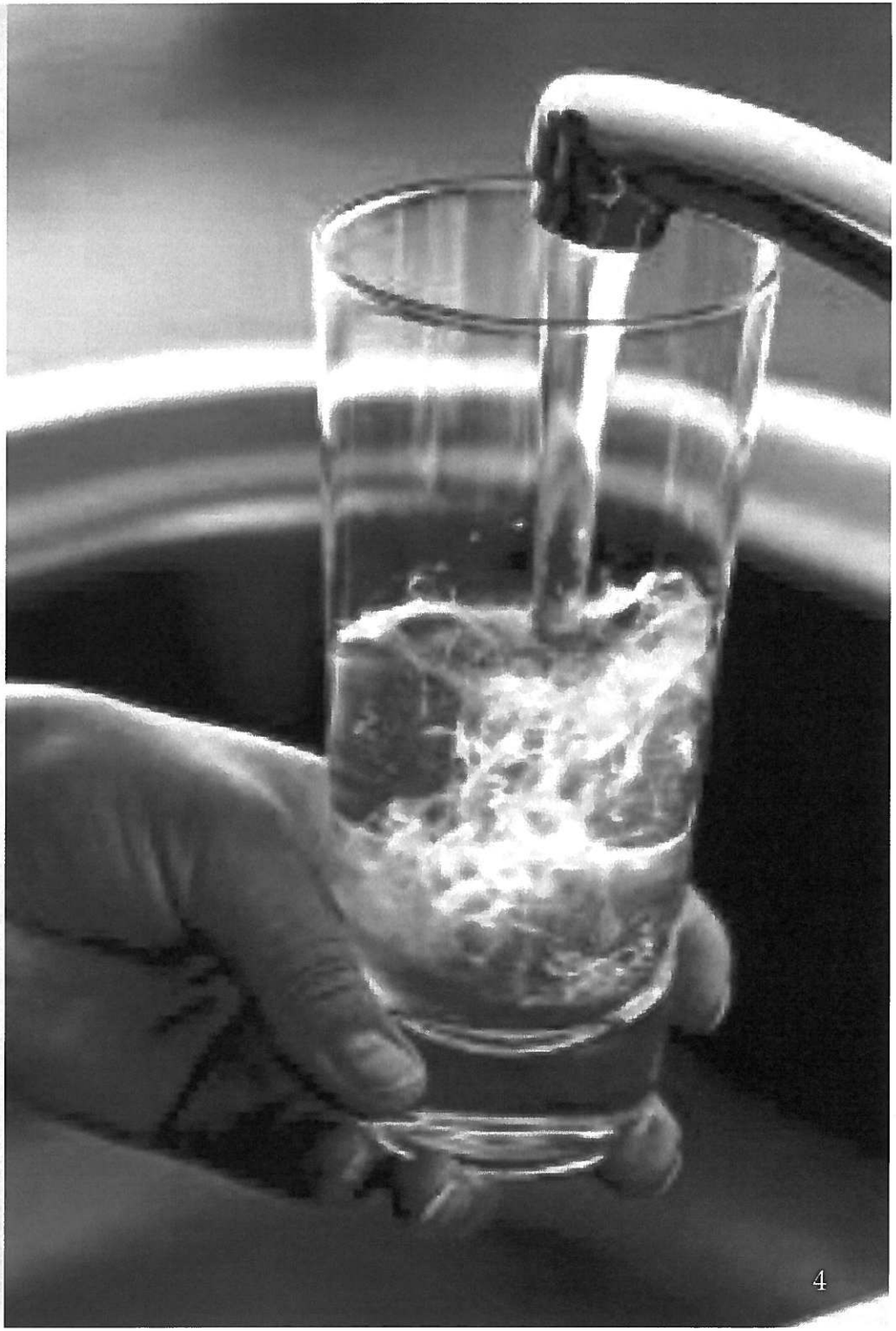
AGENDA PAGE 34

Health Issues

up until the later part of the 19th century, epidemics of typhoid fever, cholera, and other water borne diseases could kill as many as 10% of a community's population. Every few years a new pandemic might occur.

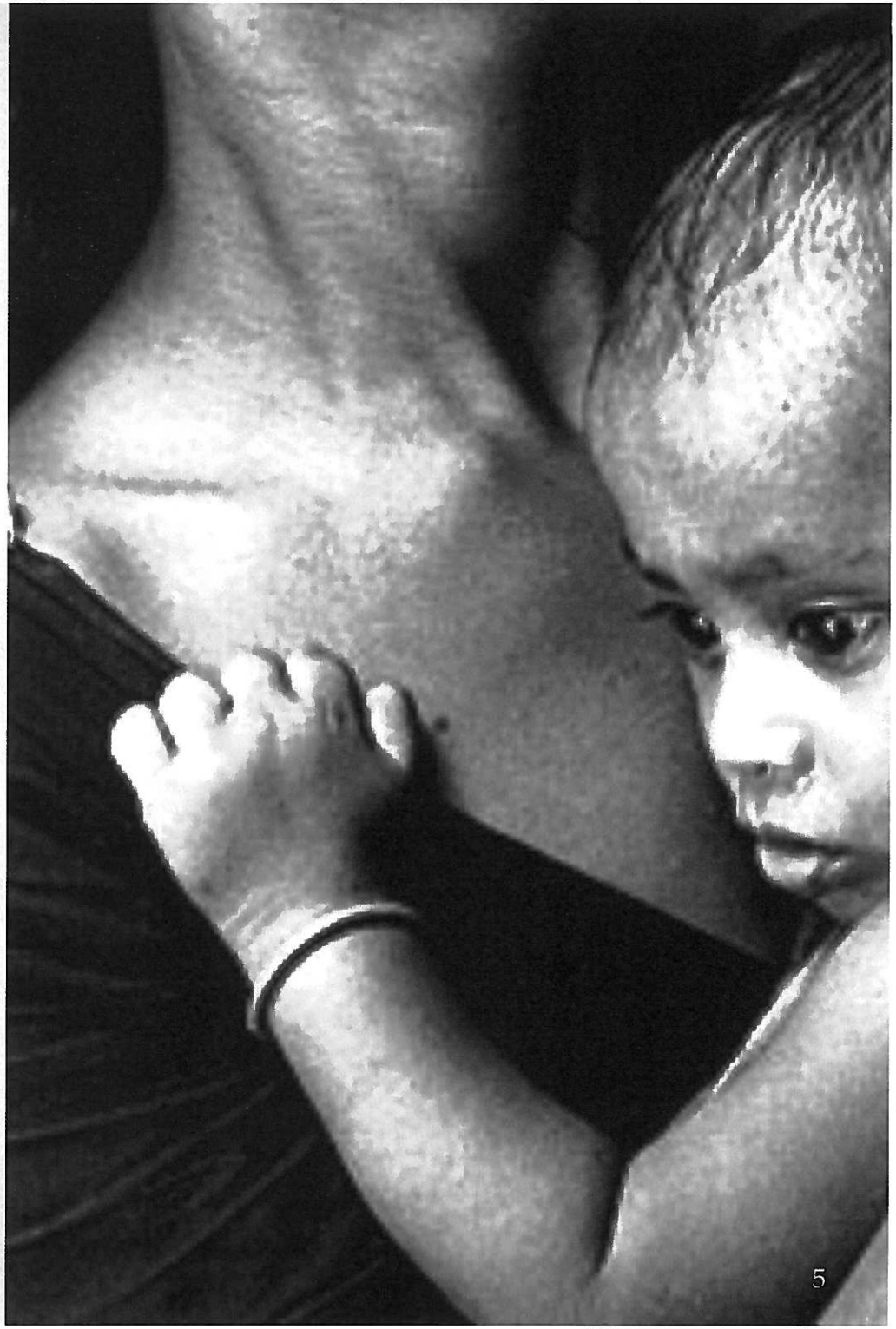
What Changed?

- separate sewer systems for waste disposal
- filtration of water supply
- addition of chlorine to public water supply
- treatment of wastewater before discharge into waterways



Changes Only for Some

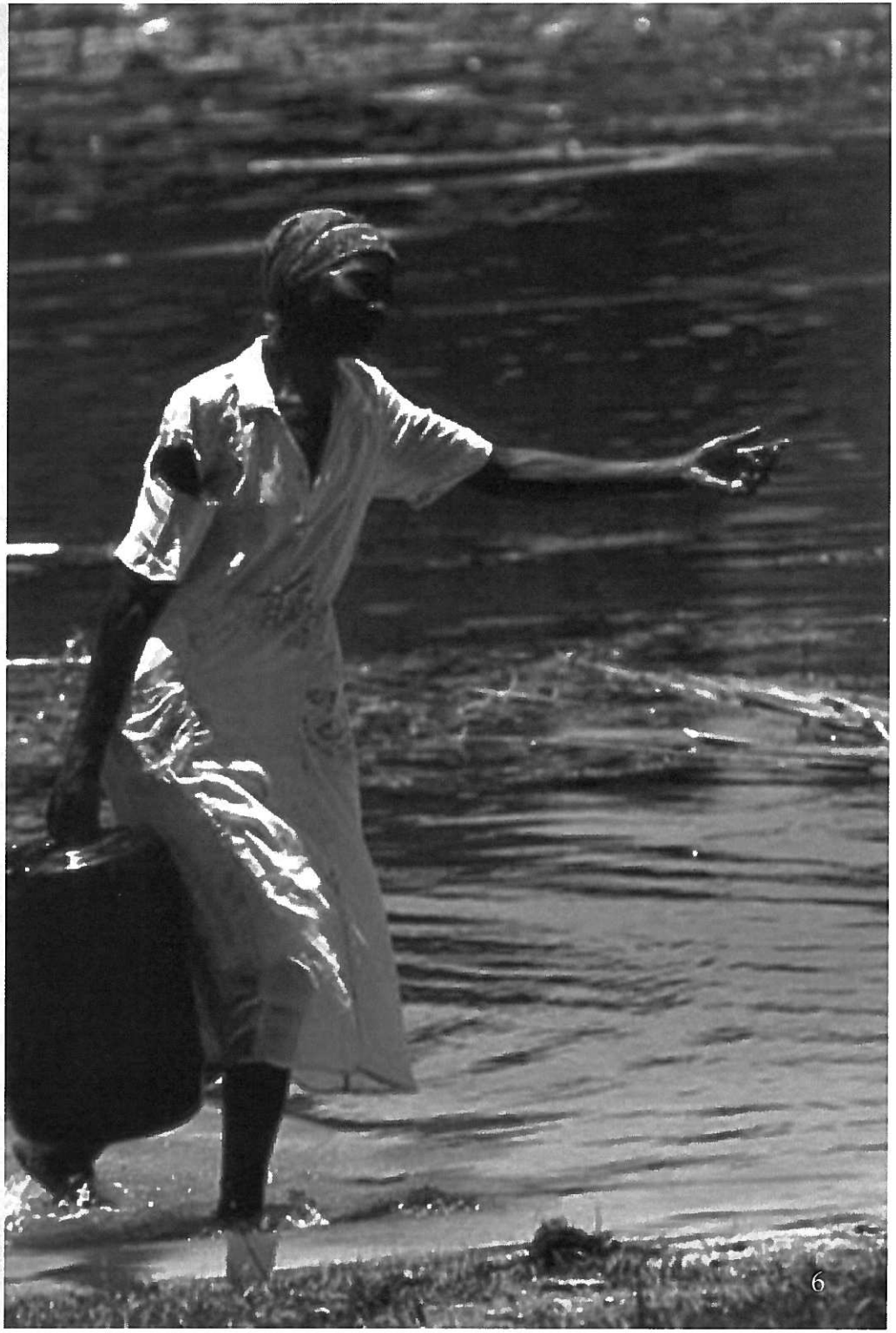
- globally, water borne diseases are still the #1 cause of human mortality
- more than famine; war; accidents; all other causes
- from 1900 to 1947, the lifespan of an average American increased from 47 to 63 years. About 50% of this increase has been attributed solely to the treatment of drinking water



AGENDA PAGE 37

Globally

- few countries in the world are able to afford a *24x7 positive pressure potable* water supply system
- many countries only supply public water for a few hours each day or a few days out of every week
- about 1/5th of the world's 7.3 billion population still lacks ready access to *potable* water supply
- less people have access to a *public* wastewater system today than own or use mobile phones
- bottled water is typically better than public water available in many countries, but sometimes not as pure as public water in many parts of the US. That is because commercially bottled water is unregulated as to federal drinking water standards

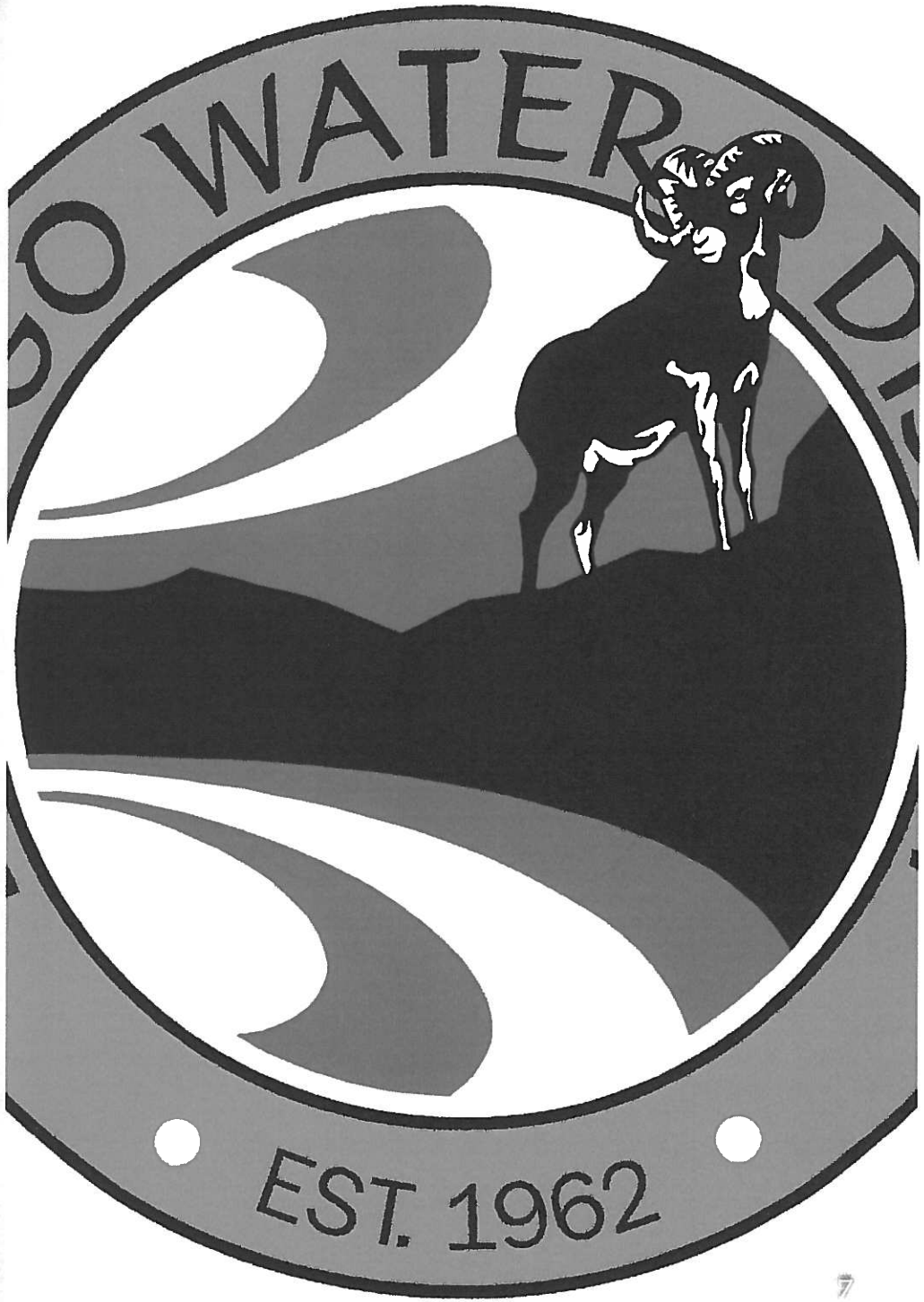


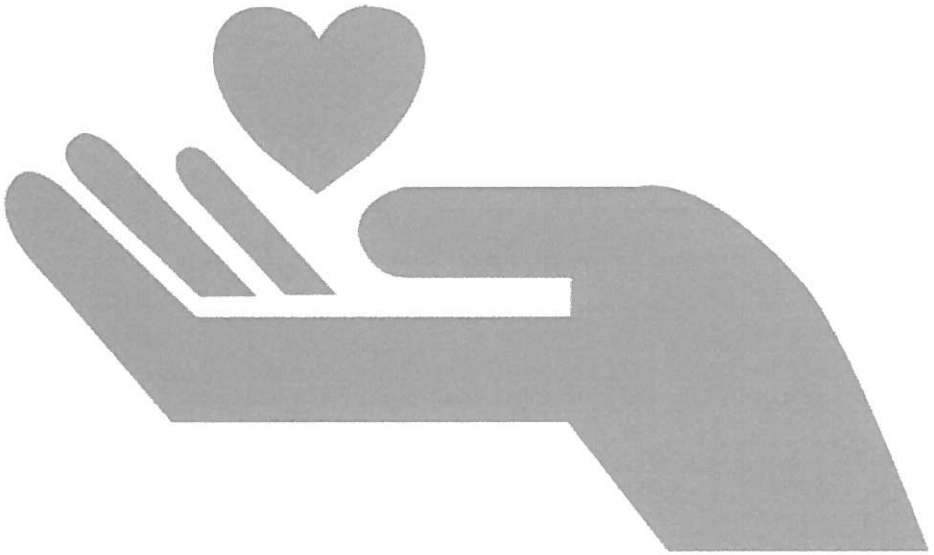
Borrego Water District

- the water district operates and maintains a 24x7 positive pressure system to supply *potable* water to its customers

- the *potability* of the District's public water supply is regulated by state and federal drinking water standards and is tested regularly to make certain these standards are met

- by delivering *potable* water on demand 24/7 to its customers, the district helps support the public health and economic well-being of the community

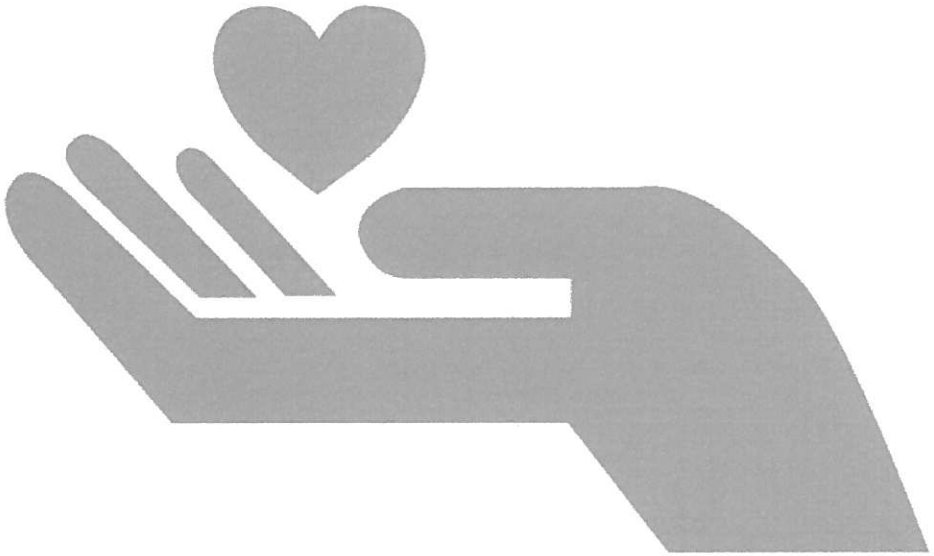




SERVICE TO OTHERS

District Economics

- 24x7 positive pressure *potable* water systems are expensive. If they are not maintained adequately and operated properly, people get sick
- replacement cost of the District's water, sewer & wastewater treatment systems is ~$62.5M
- deferring replacement and repair (R&R) of this infrastructure too long can be 3x more expensive than timely R&R



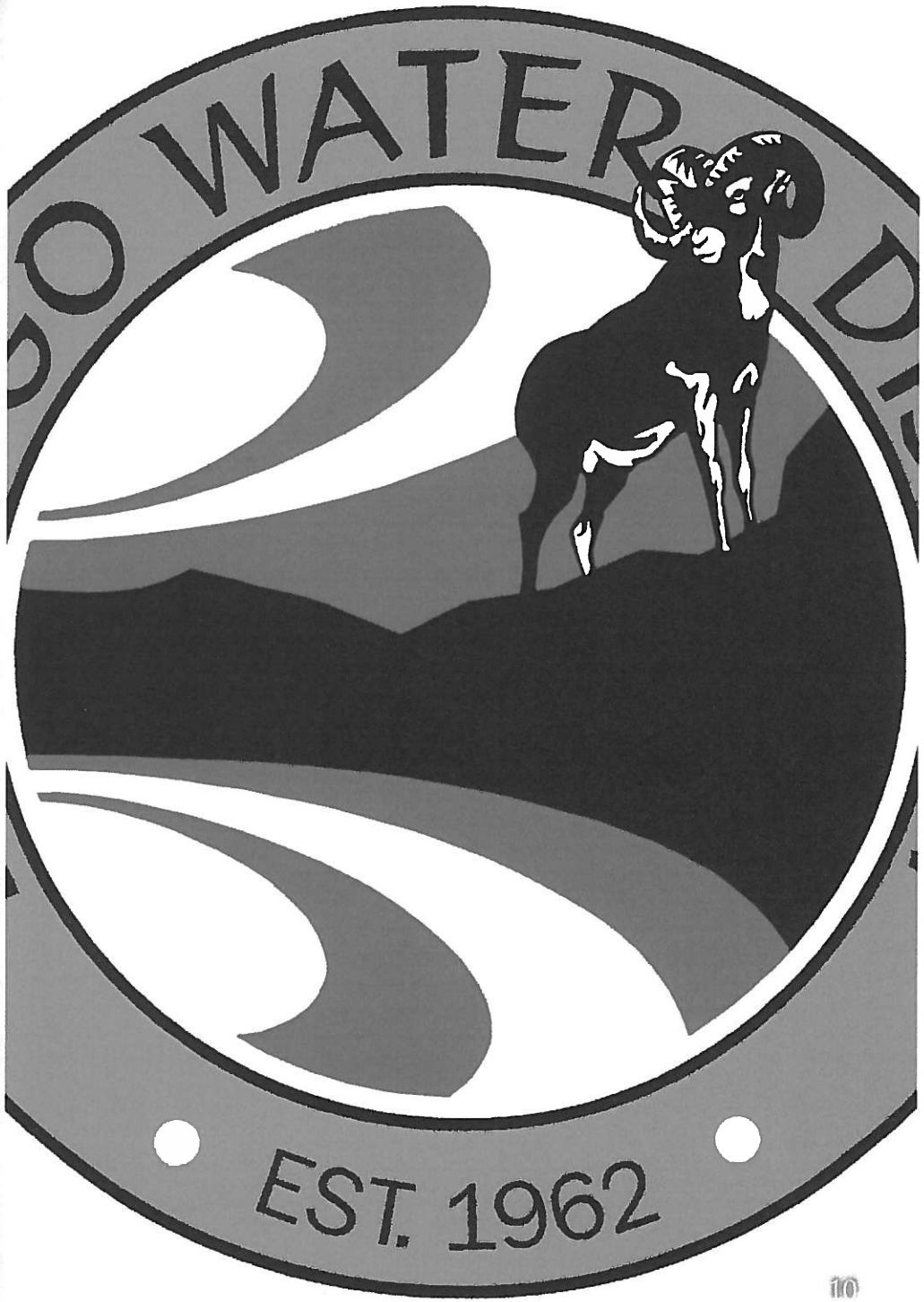
SERVICE TO OTHERS

District Economics

- presently, rates do not cover the *economic value* of the water withdrawn from the groundwater basin. The water itself is treated as a *free common pool resource*
- what rates presently cover are the *system* costs that assure *continual potability* (fit for human consumption) of the water delivered directly to your home or business (intermittent systems as in many parts of the world cannot deliver continual potability water to their customers)
- the cost of groundwater will change under the Sustainable Groundwater Management Act (SGMA)
- economics 101 - groundwater was *never really free*. Under conditions of scarcity (supply & water quality uncertainty), municipal water can only get more expensive. This is universal; it is happening almost everywhere in California, in the nation, in the world, not just in Borrego

District Economics

- assuming the district is being well-managed and properly governed by a responsible Board
  - from a *public health* perspective, most of the district's costs are non-discretionary. Costs are primarily driven by safe drinking water regulations and *potable* water supply economics
  - from an *economic development* perspective, most of the district's costs are non-discretionary. Water quality and supply uncertainty constrains *sustainable* economic development



Inadequate Budgeting is Expensive!

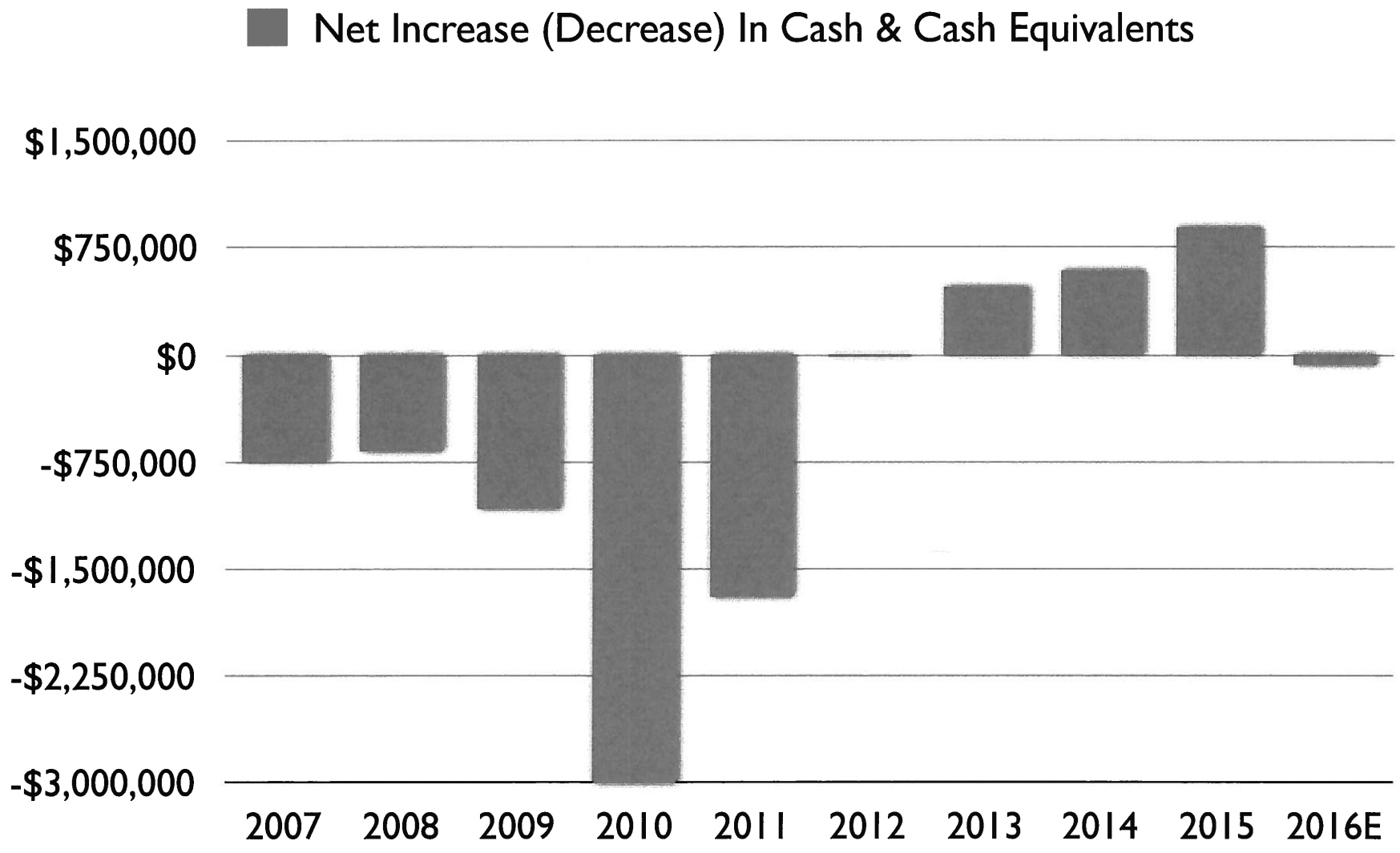
- In April 1993, inadequate water repair & replacement budgeting caused 400,000 customers to became ill, 4,000 were hospitalized, and 100 people died from exposure to *cryptosporidium oocysts* in Milwaukee's drinking water

- In May 2000, inadequate water operating & maintenance budgeting in Walkerton, Ontario, a town of 5,000, introduced *E coli 0157:H7* into the public water supply sickening 2,300. Hundreds were hospitalized and seven people died

- In April 2014, a decision to cut Flint, Michigan's water supply budget caused widespread lead poisoning of the children in Flint. Lead poisoning interferes with the development of the nervous system in children, causing potentially permanent learning and behavioral disorders

AGENDA PAGE 43

Financial Health of the District



Financial Shape of District in 2010

- 2007 Board had been spending ~$1M/yr more in O&M expenses than annual revenues
- the previous GM had capitalized more than $1M in costs that should have been expensed
- this Board had agreed to a $1M subsidy of the Club Circle golf course over a period of 20-years
- in other "deals" this Board had agreed to spend ~$6M in the future that could not be paid for by projected revenues
- this Board adopted a Cadillac pension program for District employees that cost ~$300,000 cash in the short term and created a future liability of ~$1.6M
- this Board had added Tier 2 rates that did not meet Proposition 218 nexus requirements for cost-justification
- Results:
  - the District had consumed almost all of its ~$6M+ cash reserves accumulated over ~20-years
  - the District lost its good credit rating
  - thus, the District was out of cash; it could not borrow to pay for necessary R&R expenses

2011 & 2015 Board Actions Taken to Restore Financial Stability

- reduced annual O&M spending by ~$1.2M
- wrote off more than $1M in previously capitalized items that had no value
- renegotiated Club Hill Golf Course agreement so that there would be zero cost to ratepayers rather than $1M cost
- cancelled as much of the $6M in existing deals from the past Board possible that had no business value for the District
- renegotiated financing on one deal that will save the ratepayers ~$1M in future interest costs
- restored the pre-Cadillac pension program the District had previously for future employees to reduce future pension liabilities
- agreed to refund 3-years of Tier 2 rates to ratepayers rather than an obligatory 1-year of refunds

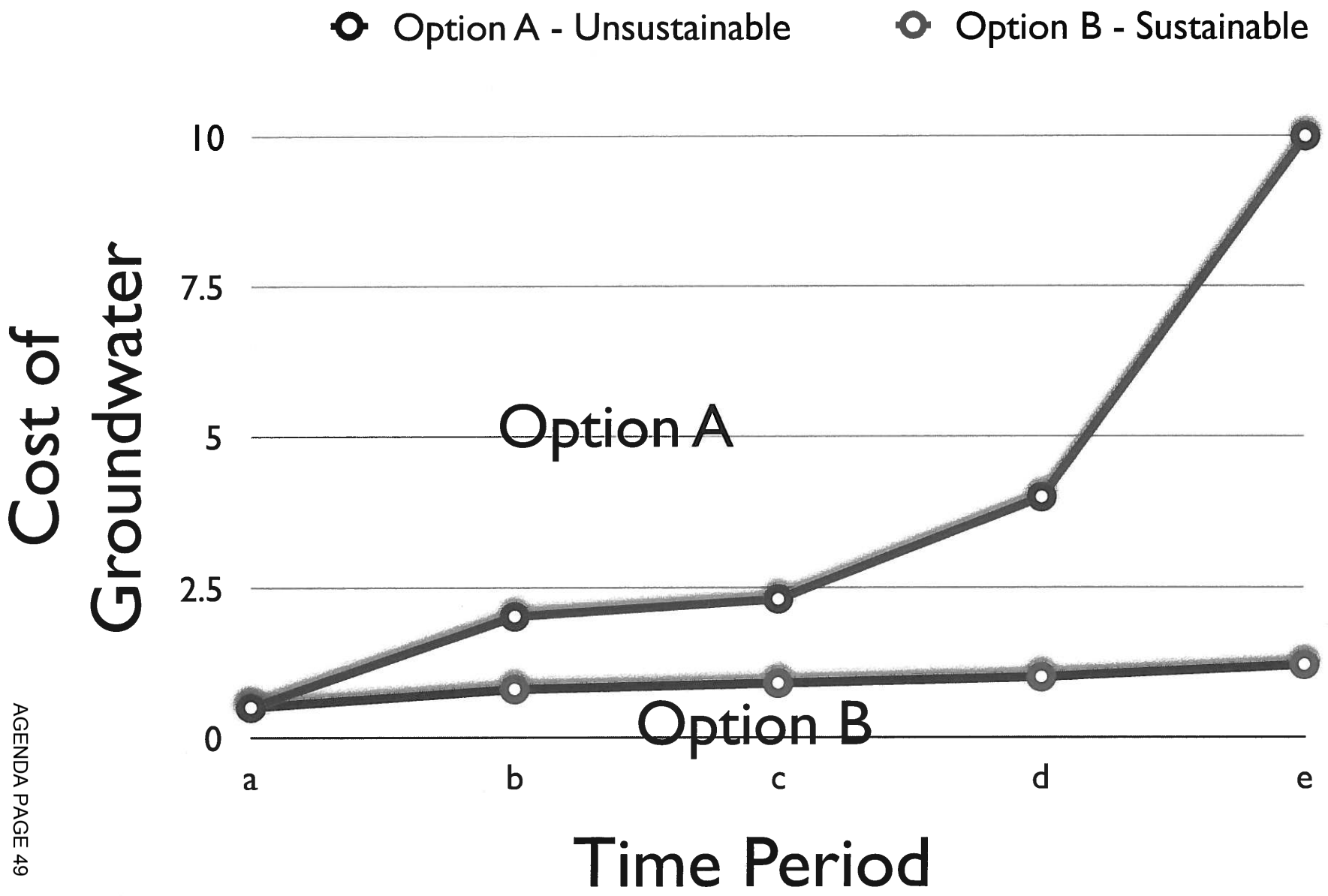
2011 & 2015 Board & Management Actions Taken to Restore Financial Stability

- retained legal advisors and consultants that had experience with such severe financial work-outs
- raised rates 100% over 5-years rather than over 1-year recommended by the District's advisors and financial consultants. Without the support of the community for these rate increases, the District would have been forced to cut-back water service [in some communities that were unwilling to support rate increases, property values fell, business revenues fell, and economic development ground to a standstill]
- revised the District's CIP to reflect least cost economic management of the District's $62.5M infrastructure investment going forward, but deferred costly R&R until the District is creditworthy again
- held District salaries to small increases, while reducing staff from 17 to 11

Longer-Term, Larger Financial Issues

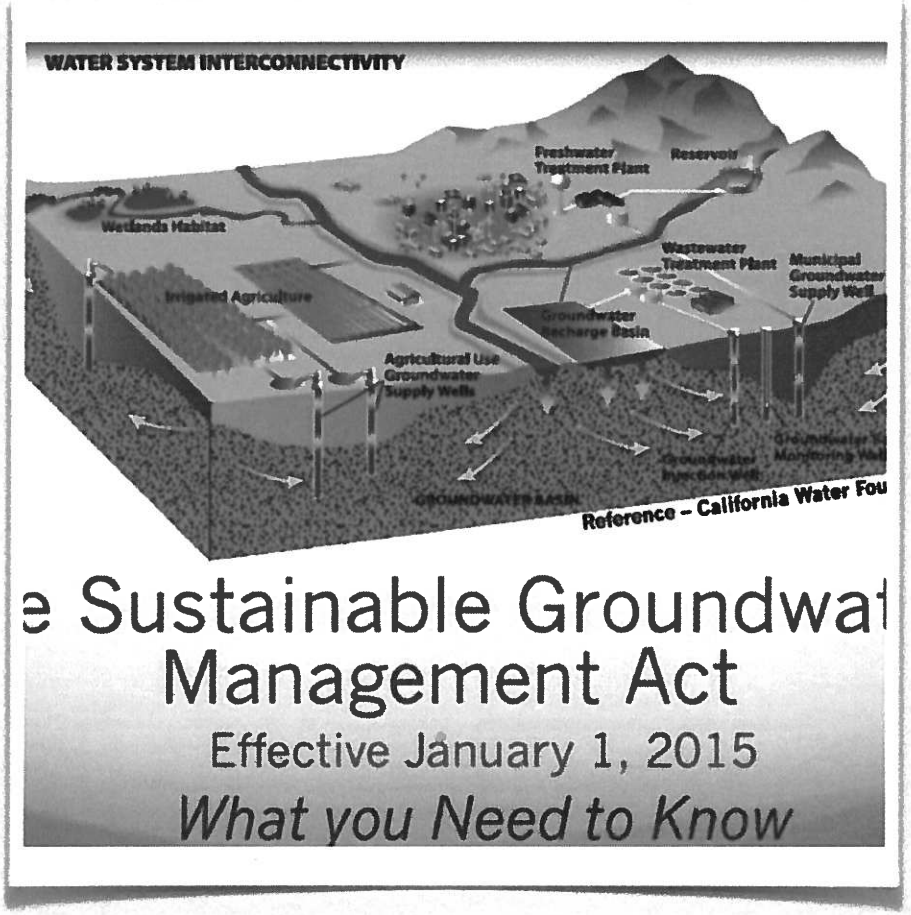
- from past boards deferring necessary R&R into the future (allowing assets to operate past their economically useful lives), today, the District is facing ~$15M-$20M in catch-up infrastructure R&R expenditures to keep its ~$62.5M in replacement cost system in top (least economic cost) operating shape
- but, by far the largest cost that can potentially be avoided or put off to the distant future is to solve the critical overdraft situation. If the overdraft is not eliminated soon, the potential cost to District ratepayers in the medium-future may be ~$40M-$70M in increased rates
- the Good News:
  - the future financial costs the District is facing are entirely addressable and much smaller on a per capita basis than many other water districts in California and other parts of the nation, *assuming the community has the willingness to tackle the overdraft in a timely fashion*
  - why are we potentially in good shape? Because, the District does not rely on any other water source other than the BVGB; we are surrounded by the ABDSP which protects the watershed from being destroyed or polluted; and most recently, the community has rallied to financially support the District in its work protecting water service to its customers!

Economics of Unsustainable vs Sustainable Management of the Groundwater Basin



SUSTAINABLE GROUNDWATER MANAGEMENT ACT (SGMA)

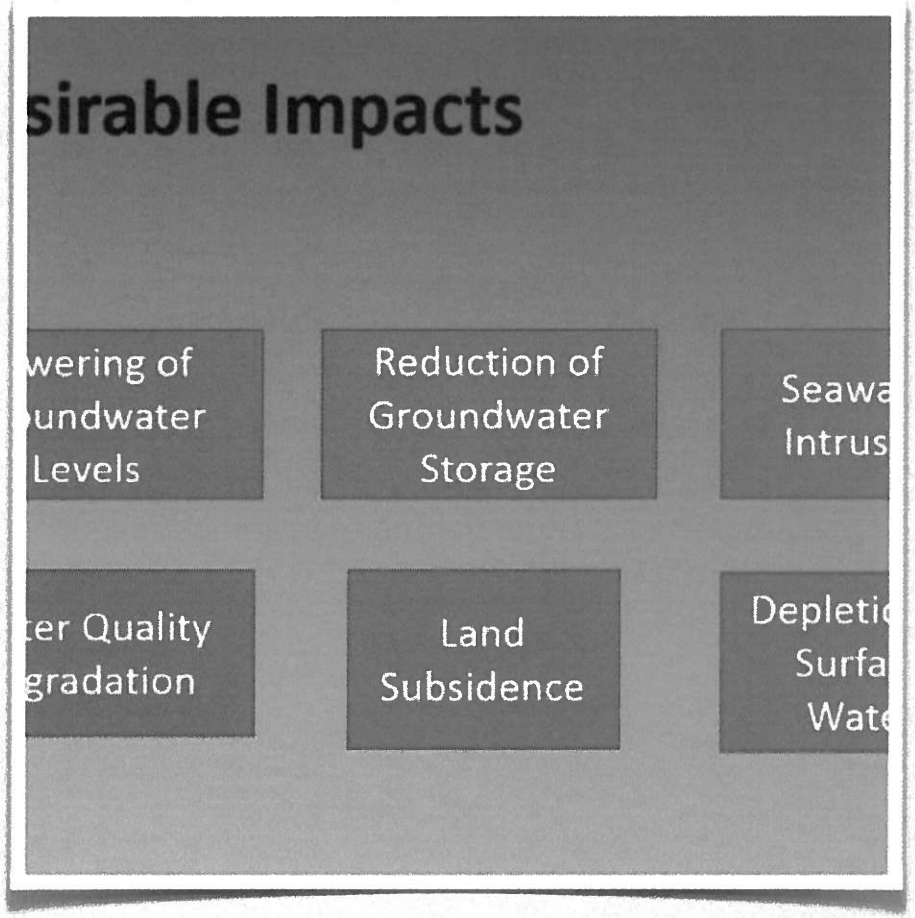
- SGMA's sole objective: *eliminate* overdraft by bringing groundwater basins into *sustainability* (balancing the water budget to maintain water levels within a range that prevents *undesirable* results)
- essentially, SGMA mandates that we achieve cost curve of Option B
- SGMA changes the cost of groundwater for all users from nothing to something. How much groundwater will cost is affected by the economics of each specific basin
- for the Borrego Valley Groundwater Basin (BVGB) this economic value of groundwater has been calculated. This does not mean rates will suddenly increase by the economic value of groundwater. Groundwater costs will be carefully factored in over the 20-year SGMA process.



ECONOMICS OF GROUNDWATER MANAGEMENT UNDER SGMA

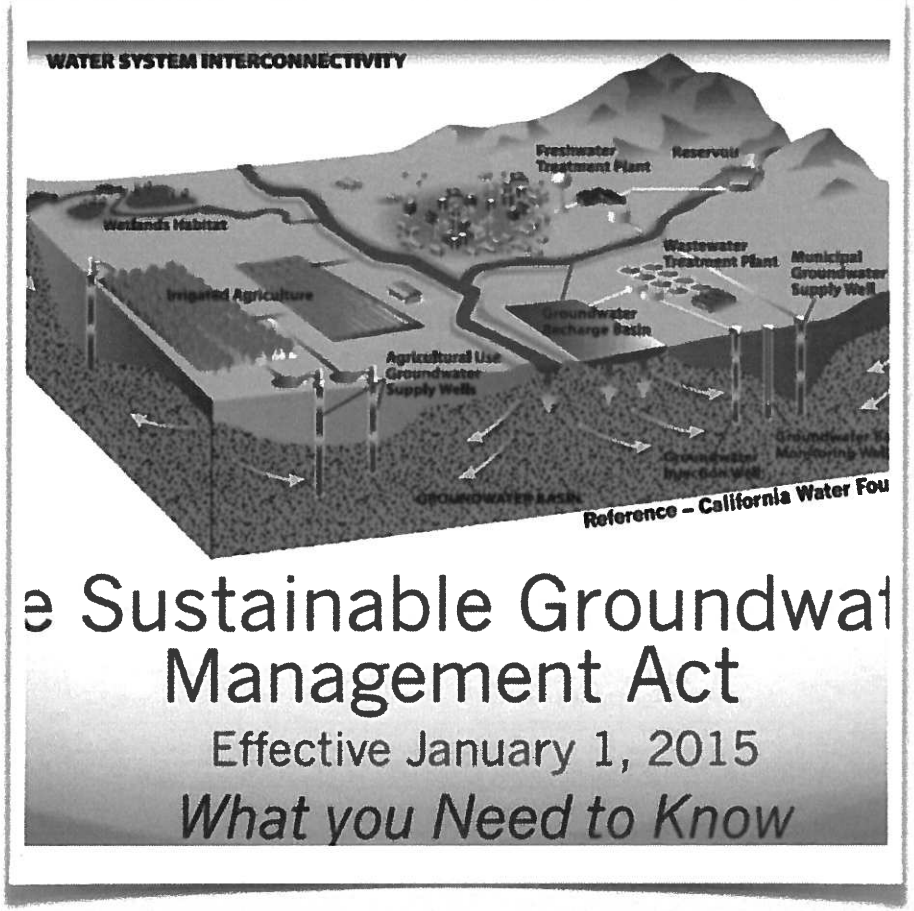
- the economic value of groundwater will be factored into the cost of groundwater for all present users of BVGB water, not just District ratepayers, in a variety of ways over the 20-year SGMA process
- the California State Water Resources Control Board (SWRCB) will enforce mandatory reductions if an adequate Groundwater Sustainability Plan (GSP) is not adopted by the District & County before 2020; if expected 5-year GSP reduction targets are not met; or if by 2040 at the latest, the BVGB is not *sustainable (i.e. is not being managed to reduce large scale uneconomic impacts for potential future economic development)*

WHY SGMA NOW?



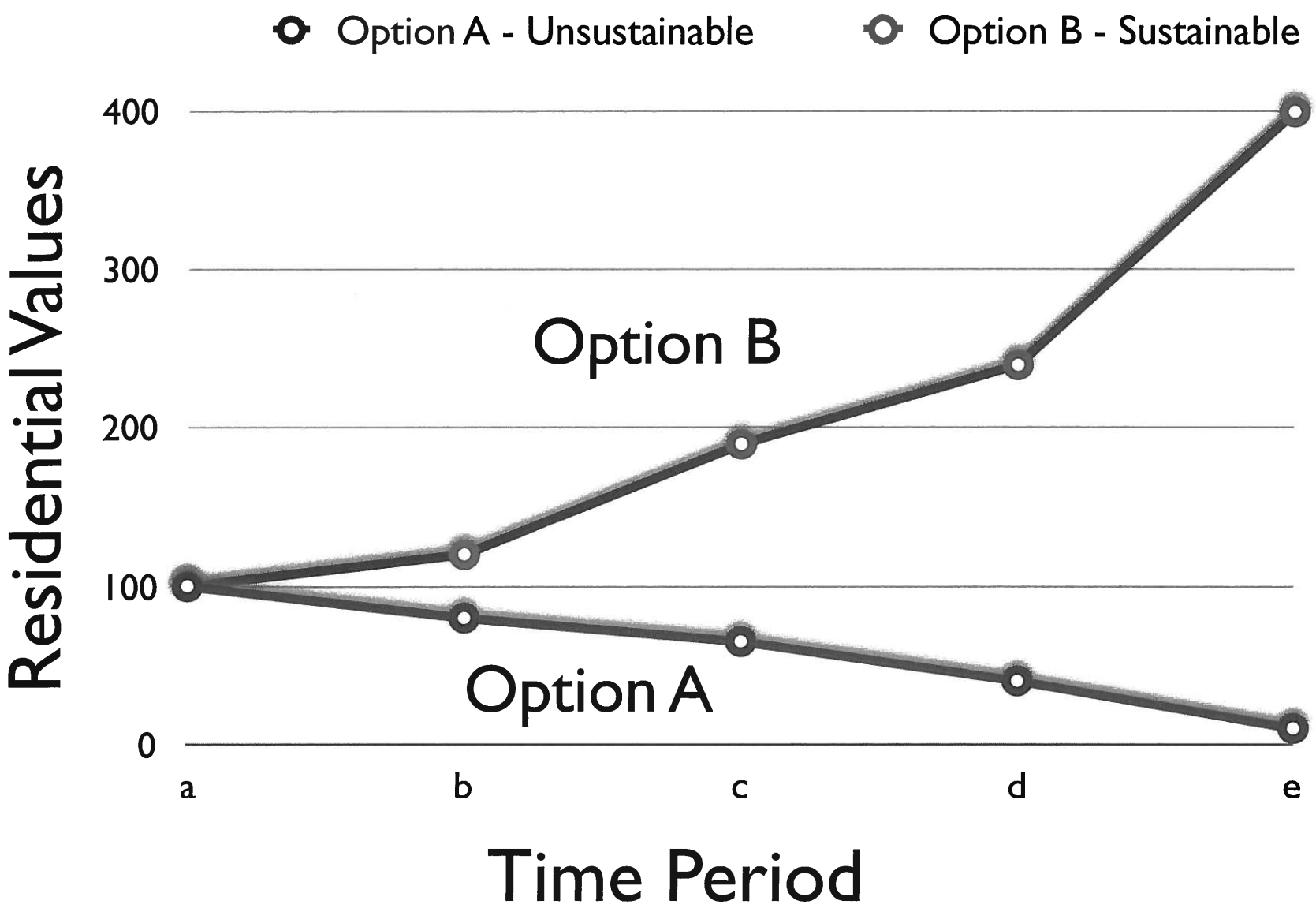
- CONTEXT: California is the 8th largest economy in the world
- CONTEXT: over past 5-years California has been experiencing the lowest snowpack in 500-years; the driest soil in 1,200-years
- groundwater basin overdrafts collectively cause billions of $$ in lost business revenue
- overdrafts have caused billions of $$ in property damage
- overdrafts will require billions of $$ for advanced water treatment
- overdrafts ultimately may prevent future economic development

BUT WHY SGMA?



- water markets have not efficiently reduced basin overdrafts
- adjudications have not been an efficient means to achieve sustainable use of groundwater basins
- past state regulations have not led to *sustainable* use of groundwater
- with markets, adjudications and past regulations, overdrafts have become larger, not smaller, over the past 30-years
- design of SGMA is to address overdraft as a complex systems problem that requires both regulations and markets dynamically working together to achieve timely improvements in basin management that enable future economic growth

OVERDRAFT'S ECONOMIC EFFECT ON RESIDENTIAL PROPERTY VALUES



LAFCO
San Diego Local Agency Formation Commission

9335 Hazard Way • Suite 200 • San Diego, CA 92123
(858) 614-7755 • FAX (858) 614-7766
Website: www.sdlafco.org

December 3, 2015

TO: Independent Special Districts of San Diego County

FROM: Executive Officer
Local Agency Formation Commission

SUBJECT: 2015 Special Districts Election

By our letter of August 7, 2015, we solicited nominations for two Local Agency Formation Commission (LAFCO) positions: one LAFCO regular district member and one LAFCO alternate district member, and eight positions on LAFCO's Special Districts Advisory Committee. By the deadline of October 9, 2015, two nominations for the regular member, and four nominations for the alternate member, and nine nominations for the eight positions on the Advisory Committee were received.

As required by the Selection Committee Rules, all eligible nominations were forwarded to a Nominating Committee. The 2015 Nominating Committee was comprised of Dennis Shepard (North County Cemetery District), Julie Nygaard (Tri–City Health Care District) and William Haynor (Whispering Palms Community Services District). After a Candidates Forum was held on November 19, 2015 in conjunction with the San Diego Chapter of the California Special District Association's Quarterly Dinner Meeting, LAFCO Consultant Harry Ehrlich and Michael Ott, LAFCO's Executive Officer met with the Nominating Committee on November 23, 2015 to discuss a recommended slate of nominees for the open positions. A copy of the Nominating Committee's Report and Recommendations is attached **(Attachment 1)**. Special District Election Ballots and Vote Certification forms on which to record your votes are also attached **(Attachment 2)**. A list of the eligible independent special districts is provided for your convenience in label format **(Attachment 3)**. Please note that LAFCO staff has not included any of the candidates' promotional materials with the election materials. Lastly, attached are the Special District Summary of Nominations and copies of Nomination Forms **(Attachment 4)**.

With respect to ballots, there is a separate ballot for each position: **yellow** for the LAFCO regular special district member; **blue** for the

LAFCO alternate special district member; **buff** for term extensions for two regular positions; and **green** for the advisory committee member. **Be sure each ballot is marked only for the number of positions to be voted for in that category. A ballot that is cast for more than the indicated number of positions will be disregarded.**

The ballots should be considered by your full district board. State Law and the Selection Committee Rules require a district's vote to be cast by its presiding officer, or an alternate member of the legislative body appointed by the other members. Therefore, the certification form has been incorporated with the ballot forms to be signed by the person who casts your district's votes. **A ballot received without a signed certification form will *not* be counted**.

All nominees are listed on the respective ballot. An asterisk indicates the nominating committee recommendations, and incumbents have been ***italicized***. Write-in candidates are permitted, and spaces have been provided for that purpose.

The deadline for receipt of the ballots by LAFCO is **February 26, 2016**. The Selection Committee Rules require that marked ballots be returned **by certified mail, return receipt requested**. Facsimile (FAX) ballots and certification forms will be accepted, **if necessary to meet the ballot deadline**, but originals must be submitted as soon as possible thereafter.

The Selection Committee Rules stipulate that a majority of the districts shall constitute a quorum for the conduct of committee business. There are 61 independent special districts in the county; therefore, a minimum of **31** ballots must be received to certify that a legal election was conducted. A candidate for the LAFCO member position must receive at least a majority of the votes cast to be elected. The ballots will be kept on file in this office, and will be made available upon request.

Please contact me or Tamaron Luckett at (858) 614-7755 if you have any questions.

MICHAEL D. OTT
Executive Officer

MDO:trl

Attachments

(1) Nominating Committee Report and Recommendations
(2) Special District Election Ballot and Vote Certification Forms:
    Regular Member-Yellow
    Alternate Member-Blue
    Term Extension Regular Member-Buff
    Advisory Committee Member-Green
(3) Independent Special District List
(4) Independent Special District Summary of Nominations and Copies of Nomination Forms

LAFCO
San Diego Local Agency Formation Commission

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(858) 614-7755 • FAX (858) 614-7766
Website: www.sdlafco.org

December 3, 2015

TO: Independent Special Districts in San Diego County

FROM: 2015 Special Districts Election Nominating Committee

SUBJECT: Nominating Committee Report and Recommendations

In 2015, independent special district nominations were solicited for: one regular district member on the Local Agency Formation Commission (LAFCO) with a term expiring in May 2017 (proposed for extension to 2019) and one alternate district member with a term expiring in May 2019 and eight positions on the Special Districts Advisory Committee with a term expiring in October 2019. By the deadline of October 9, 2015, our office received two nominations for the LAFCO regular member position, four nominations for the LAFCO alternate member position and nine nominations for the eight positions on the Advisory Committee.

As required by the Selection Committee Rules, a nominating committee was appointed to review the nominations submitted, and to prepare a list of recommended candidates. According to the Selection Committee Rules, the nominating committee is appointed by the chairperson or vice chair of the Special Districts Advisory Committee. A Candidates Forum, conducted by LAFCO Consultant Harry Ehrlich and Executive Officer Michael Ott was scheduled on November 19th as part of the quarterly dinner meeting in conjunction with the San Diego Chapter of the California Special Districts Association. All candidates were invited to attend and present a brief statement of qualifications. In the interest of impartiality, the Nominating Committee decided to conclude its deliberations after the Candidates Forum. In evaluating the nominations, the committee considered special district experience, interest, and knowledge of LAFCO issues. For those nominees who are incumbents, the committee further considered attendance records and meeting participation. The committee also wanted to ensure representation from those types of districts that most often are involved in making recommendations to LAFCO. The nominating committee's recommendation for each category follows:

Attachment 1

NOMINATING COMMITTEE RECOMMENDATIONS

LAFCO Regular Special District Member

The Nominating Committee recommended **Edmund K. Sprague** (Olivenhain Municipal Water District)

LAFCO Alternate Special District Member

The Nominating Committee recommended **Judy Hanson** (Leucadia Wastewater District)

Special District Advisory Committee Member

The Nominating Committee recommended:

Robert L. Thomas (Pomerado Cemetery District)
Tom Kennedy (Rainbow Municipal Water District)
John Pastore (Rancho Santa Fe Community Services District)
Kimberly A. Thorner (Olivenhain Municipal Water District)
Thomas Pocklington (Bonita-Sunnyside Fire Protection District)
Jack Bebee (Fallbrook Public Utility District)
Gary Croucher (Otay Water District)
Erin Lump (Rincon del Diablo Municipal Water District)

Copies of all nominations are attached following this report.

2015 NOMINATING COMMITTEE

DENNIS SHEPARD
NORTH COUNTY CEMETERY DISTRICT

JULIE NYGAARD
TRI–CITY HEALTH CARE DISTRICT

WILLIAM HAYNOR
WHISPERING PALMS COMMUNITY SERVICES DISTRICT

2015 SPECIAL DISTRICTS ELECTION
BALLOT and VOTE CERTIFICATION
FOR REGULAR LAFCO SPECIAL DISTRICT MEMBER

VOTE FOR ONLY ONE

* **Edmund K. Sprague** [ ]
(Olivenhain Municipal Water District)

George E. McManigle [ ]
(Mission Resource Conservation District)

Write-In

_____ [ ]
(Print Name)

I hereby certify that I cast the votes of the _____
(Name of District)
at the 2015 Special Districts Selection Committee Election as:

[ ] the presiding officer, or

[ ] the duly-appointed alternate board member.

_____
(Signature)

_____
(Title)

_____
(Date)

Please note: The order in which the candidates' names are listed was determined by random selection.

* = Nominating Committee's Recommendation

Return Ballot and Vote Certification Form to:
San Diego LAFCO
Tamaron Luckett
9335 Hazard Way, Suite 200
San Diego, CA 92123
(858) 614-7755 (office) · (858) 614-7766 (FAX)

Attachment 2

2015 SPECIAL DISTRICTS ELECTION
BALLOT and VOTE CERTIFICATION
FOR ALTERNATE LAFCO SPECIAL DISTRICT MEMBER

VOTE FOR ONLY ONE

Mark Robak [ ]
(Otay Water District)

Dennis A. Sanford [ ]
(Rainbow Municipal Water District)

Joel A. Scalzitti [ ]
(Helix Water District)

* **Judy Hanson** [ ]
(Leucadia Wastewater District)

Write-In

_____ [ ]
(Print Name)

I hereby certify that I cast the votes of the _____
(Name of District)
at the 2015 Special Districts Selection Committee Election as:

[ ] the presiding officer, or

[ ] the duly-appointed alternate board member.

_____
(Signature)

_____
(Title)

_____
(Date)

Please note: The order in which the candidates' names are listed was determined by random selection.

* = Nominating Committee's Recommendation

Return Ballot and Vote Certification Form to:
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2015 SPECIAL DISTRICTS ELECTION
BALLOT and VOTE CERTIFICATION
FOR TIME EXTENSION REGULAR LAFCO SPECIAL DISTRICT MEMBER

VOTE FOR THE FOLLOWING

I hereby certify that I cast the votes of the _____
(Name of District)
at the 2015 Special Districts Selection Committee Election as:

[ ] the presiding officer, or

[ ] the duly-appointed alternate board member.

_____
(Signature)

_____
(Title)

_____
(Date)

Circle either "YES" or "NO" for the following:

[Yes] or [No]: I support a term extension to 2020 for one regular LAFCO special district position currently occupied by Commissioner Jo MacKenzie.

[Yes] or [No]: I support a term extension to 2019 for one regular LAFCO special district position that is currently subject to election.

Return Ballot and Vote Certification Form to:
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Tamaron Luckett
9335 Hazard Way, Suite 200
San Diego, CA 92123
(858) 614-7755 (office) · (858) 614-7766 (FAX)

2015 SPECIAL DISTRICTS ELECTION
BALLOT and VOTE CERTIFICATION
FOR SPECIAL DISTRICTS ADVISORY COMMITTEE MEMBER

VOTE FOR ONLY EIGHT (Incumbents are *italicized)*

*	***John Pastore*** (Rancho Santa Fe Community Services District)	[ ]
	Robert Robeson (Lakeside Fire Protection District)	[ ]
*	**Jack Bebee** (Fallbrook Public Utility District)	[ ]
*	***Gary Croucher*** (Otay Water District)	[ ]
*	**Robert L. Thomas** (Pomerado Cemetery District)	[ ]
*	**Tom Kennedy** (Rainbow Municipal Water District)	[ ]
*	***Thomas Pocklington*** (Bonita-Sunnyside Fire Protection District)	[ ]
*	***Kimberly A. Thorner*** (Olivenhain Municipal Water District)	[ ]
*	**Erin Lump** (Rincon del Diablo Municipal Water District)	[ ]
**	**Write-Ins**	
	_____	[ ]

I hereby certify that I cast the votes of the _____
(Name of District)
at the 2015 Special Districts Selection Committee Election as:

[ ] the presiding officer, or

[ ] the duly-appointed alternate board member.

_____
(Signature)

_____
(Title)

_____
(Date)

Please note: The order in which the candidates' names are listed was determined by random selection.

* = Nominating Committee's Recommendation

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Marketing the Sustainable Groundwater Management Act: Applying Economics to Solve California's Groundwater Problems

David Aladjem and Dr. David Sunding

In 2014 California adopted the Sustainable Groundwater Management Act (SGMA), which represents California's first statewide groundwater management planning program. SGMA calls for local agencies to develop groundwater sustainability plans within the next five to seven years and then achieve sustainable levels of groundwater extraction by approximately 2040–2045. Given the current levels of overdraft in many California groundwater basins, substantial reduction in groundwater extractions will be necessary to meet the mandates of SGMA.

This paper proposes that California agencies may be able to avoid many of the disputes associated with substantial curtailments in groundwater extraction through the use of groundwater markets. Specifically, the paper will begin with the path-breaking work of Nobel laureate Elinor Ostrom, whose work on understanding groundwater basin management as a specific example of "common pool" resources was based on her analysis of groundwater basins in Southern California. Ostrom's work provides the theoretical basis through which local agencies can minimize the disruption caused by the reduced groundwater extraction mandated by SGMA.

After discussing the theory of groundwater markets, the paper will discuss existing groundwater markets in the United States and Australia. Groundwater pumpers in areas as diverse as Nebraska, Texas, and the Murray-Darling Basin all have implemented market-based systems in recent years to allocate extractions to uses deemed most valuable. Transfer payments under these market regimes have enabled some pumpers to achieve a "soft landing" and exit the market. We propose that the California Department of Water Resources develop one or more model regimes that could be used as local agencies seek to implement SGMA. The paper will conclude with general observations regarding the intersection of market mechanisms and regulatory requirements in the management of natural resources.

To understand the potential ways in which groundwater markets can assist California water agencies in implementing SGMA, it is important to understand the key components of the new legislation.

First, before determining how to manage a groundwater basin, there must be agreement on what constitutes a groundwater basin. In the normal situation, defining a groundwater basin by means of the major fault zones and differentials in water levels across those fault zones is relatively straightforward. In many cases, though, especially in California's Central Valley, a groundwater basin may extend for tens, if not hundreds of miles. SGMA, relying on work performed by the California Department of Water Resources, adopts basin boundaries that are primarily based on hydrogeographic factors but that also divide basins based on political boundaries. Thus, adjacent portions of a single groundwater basin may—for purposes of SGMA—be managed differently because they lie in different counties. Such potential externalities to management plans developed under SGMA present one of the largest challenges to the successful implementation of the act, but also one of the areas wherein markets may be most useful.

Second, after determining the boundaries of a groundwater basin, there must be a determination of which agency or agencies will actually perform the management. Under SGMA, any local public agency with authority to manage water can declare itself to be a "groundwater sustainability agency" or "GSA" and so will be eligible to participate in the management of a basin that it overlies. When—as is typically the case—there are multiple GSAs overlying a single basin, SGMA assumes that those agencies will be able to develop some *modus vivendi* that will enable them to manage the basin, perhaps a joint powers authority or similar collective management approach. If not, a basin with multiple GSAs could devolve into a series of individual management plans, each tied to a particular GSA, that collectively are intended to meet the sustainability target in SGMA. As with the basin boundaries question, if there are multiple GSAs in a basin, there may be an opportunity for a groundwater market to assist the agencies in moving toward a beneficial outcome.

Third, the centerpiece of the SGMA (as its name implies) is a mandate that groundwater basins be managed in a manner that is "sustainable" over the long run. This mandate for sustainability is largely the same as the previous legal standard that basins be managed in a manner that was consistent with the "safe yield" of the basin. The innovation in SGMA is that the GSA(s) overlying a groundwater basin are required to develop and adopt a plan that is intended to achieve a sustainable level of groundwater extraction (a groundwater sustainability plan or GSP) by either 2020 or 2022. The GSP, once adopted, must then actually achieve sustainability within twenty years. The GSP can achieve sustainability by reducing extractions, importing water from outside the basin, or finding ways to increase the native water supplies in the basin

Mr. Aladjem is a partner with Downey Brand LLP in Sacramento, California. Dr. Sunding holds the Thomas J. Graff Chair in Environmental and Resource Economics at the University of California, Berkeley, where he is a professor in the Department of Agricultural & Resource Economics.

(e.g., developing new surface storage to serve the basin). Once again, a market mechanism could be of great utility in helping to coordinate efforts of different groundwater basins to achieve a sustainable level of extractions.

Common Pool Resources

The economic theory that supports the use of markets as an integral part of groundwater management was originally developed by Nobel laureate Elinor Ostrom. While in graduate school at UCLA, she studied the disputes over the use (and overuse) of groundwater in Southern California during the 1950s. From that work, she developed a theory of what she described as "common pool resources" (i.e., those resources that are sufficiently large so as to make it very costly to exclude others from use of the resource). In this respect, common pool resources resemble "public goods" such as national defense. The key difference between common pool resources and public goods, however, is what Ostrom calls "subtractability." One person's use of national defense or the weather forecast, for instance, does not detract from another person's use. Hence, national defense or a weather forecast is a public good. By contrast, even though there are few barriers to entry in a groundwater basin, one pumper's use of water directly reduces the quantity of water that another pumper can extract (e.g., by lowering the static groundwater level). Thus, common pool resources are those for which there is, as Garret Hardin famously put it, a "tragedy of the commons."

The successful management of common pool resources, according to Ostrom, share a number of characteristics: (1) clearly defined boundaries, both in area and in participants; (2) rules that are tailored to the local circumstances; (3) local governance; (4) active monitoring for compliance with adopted rules; (5) graduated sanctions for violations of those rules; (6) conflict resolution mechanism within the institution; and (7) support for local institutions by external governments. Although it is too soon to tell whether every GSP will include these characteristics, many—if not most—of these concepts are integral portions of SGMA.

As noted above, the questions relating to defining the basin to be managed and the agencies that will participate in management directly respond to Ostrom's first criterion. A GSP, if properly developed, will be a set of rules that involve local governance, rules tailored to local circumstances, and active monitoring for compliance, thereby complying with several more of Ostrom's criteria. The Chair of the California State Water Resources Control Board, Felicia Marcus, has stated on many occasions that the State of California wants to support local agencies in implementing SGMA and not interfere with their ability to craft local solutions to local problems. In this way, yet another of Ostrom's criteria is met. Chair Marcus notes, however, that if agencies fail to implement SGMA properly, the act provides for graduated sanctions, up to and including the imposition of a groundwater plan by the State of California. Thus, yet another of Ostrom's criteria is included in the design of SGMA. Indeed, the only one of Ostrom's criteria for the successful management of a common pool resource that is not required by SGMA is a conflict resolution process within the GSA/GSP. Prudence indicates that such conflict resolution processes (short of litigation) should be included, but they are not required by the law.

One of the path-breaking elements of Ostrom's work was her ability to move beyond the dichotomy of managing resources either by means of the private market or governmental "command and control." She wrote in *Governing the Commons*,

> Institutions are rarely either private or public—"the market" or "the state." Many successful CPR [common pool resource] institutions are rich mixtures of "private-like" and "public-like" institutions defying classification in a sterile dichotomy. By "successful," I mean institutions that enable individuals to achieve productive outcomes in situations where temptations to free-ride and shirk are ever present. A competitive market—the epitome of private institutions—is itself a public good. . . . No market can last for long without underlying public institutions to support it. In field settings, public and private institutions frequently are intermeshed and depend on one another, rather than existing in isolated worlds.

(page 15)

Part of her evidence for this approach is the history she describes in *Governing the Commons* of the Raymond Basin and the Central and West Basins in Southern California. In both cases, litigation led to the development of institutions that had all of the criteria that she describes as being necessary for the successful management of common pool resources. She then notes (at pages 114 and 136) that in both cases, after the establishment of these institutions, localized markets for water developed, which then served to reallocate water based on local needs.

> Accurate monitoring and measurement of groundwater use is a precondition for the establishment of a market. Well metering and reporting are mandatory in a growing number of groundwater management areas around the world.

We believe that Ostrom's analysis of Southern California groundwater basins is a "back to the future" look at the way in which SGMA can be implemented successfully. As noted above, SGMA includes almost all of these key elements that Ostrom identifies as being needed to manage a common pool resource successfully. Ostrom's observation that, with the development of these types of institutions, markets naturally developed within each of the basins, leads us to conclude that

incorporating markets within those institutions from the start will ease the implementation of SGMA and help groundwater pumpers in overdrafted basins find the proverbial "soft landing." Moreover, well-functioning markets within groundwater basins can also help address the externalities between basins or between GSAs, as noted above.

Real-Life Experience with Groundwater Markets

There are numerous examples of successful groundwater markets in the United States and beyond. In this section we review a few of these markets, with an eye toward illustrating how particular design features address common problems in implementing groundwater markets. It is important to note that these markets are intended to operate within a specified groundwater basin; developing a market for the transfer of groundwater between different groundwater basins is an entirely different discussion.

Because groundwater is a common property resource, pumping can lead to impacts on other groundwater users. Changing the location of pumping, as in a market-based exchange, may change the distribution and magnitude of pumping externalities.

Accurate monitoring and measurement of groundwater use is a precondition for the establishment of a market. Well metering and reporting are mandatory in a growing number of groundwater management areas around the world. Users in adjudicated groundwater basins in California are typically required to meter and report their water usage to the basin watermaster. Similarly, in much of the states of Kansas and Nebraska, irrigation wells must be metered and pumping reported annually, while groundwater management districts in other states such as Texas are increasingly requiring meter installation. Metering is also found elsewhere in the world, including in Australia and New Zealand, as well as in some river basins in China. SGMA provides GSAs with a number of tools that can accomplish the monitoring of groundwater extractions, ranging from actual metering of individual wells to monitoring of groundwater levels through monitoring wells or remote sensing. GSAs will—and should—make different decisions based on the conditions of each groundwater basin that are consistent with good management practices.

Establishing groundwater markets also requires enforcement of use limits when violations occur. When the submission of meter data is voluntary and there is no penalty for inaccurate reporting, there is little incentive to provide timely or accurate readings. Conversely, in some groundwater management districts, district employees do the meter reading, with fines for broken meters and severe penalties for violators. For example, in 2010, the Upper Republican Natural Resources District in Nebraska revoked the pumping rights, with a value in the millions of dollars, of several groundwater users who had bypassed their well-flow meters. In Australia, meters are similarly read by government employees, and there are large penalties for violators. Again, SGMA provides GSAs with a number of different tools to limit extractions in overdrafted basins to the limits established in a GSP (or mandated by a court). In some basins, remote telemetry may be the most useful way to ensure that extractions are consistent with the GSP; in others, a GSA will be entirely justified in relying on voluntary reporting. The key will be for the GSA, working with stakeholders, to determine what measure(s) work best for that basin in ensuring sustainable groundwater management.

A related issue is carryover of pumping permits between years. As water demand varies enormously based on climate, it is desirable to provide groundwater users with some flexibility of how permits are used across time. Groundwater management areas in both the United States and Australia allow carryover of unused allocations, though the amount that may be carried over is often limited. In all cases, though, carrying over unused annual allocations should only be done when that carryover reflects the hydraulic reality of the groundwater basin.

Because groundwater is a common property resource, pumping can lead to impacts on other groundwater users. Changing the location of pumping, as in a market-based exchange, may change the distribution and magnitude of pumping externalities; indeed, this is often the purpose of groundwater management. For example, groundwater-trading schemes in Nebraska use trading ratios that adjust for the difference in stream depletion between locations of buyers and sellers of groundwater rights. Consequently, when moving a unit of water to a location that induces more stream depletion than the original location, less than a unit of water may be transferred. The effect of trading ratios is to create location-specific market prices for groundwater.

Zonal trading schemes are also implemented to deal with concerns about the external effects of pumping. For example, trading in the Lower Lachlan and Murrumbidgee in the Murray-Darling Basin is subject to zonal restrictions where pumping rights may be transferred out of critical areas, but may not be transferred into critical areas. Similarly, in the Middle and Upper Republican Natural Resources Districts in Nebraska, trading is restricted to defined sub-areas so that the distance between the original point of groundwater pumping and the point to which water pumping is transferred is limited. For example, in the Upper Republican Natural Resources District, the pre- and post-trade points of extraction must fall within a 6-mile by 6-mile area.

If a GSA wishes to incorporate such differentials (trading ratios or zonal trading schemes) as part of a market (which has not, to the authors' knowledge been done in California), there will need to be careful analysis performed about the conditions giving rise to these trading differentials. For instance, even if there is more stream depletion associated with certain extractions, it may be beneficial to the groundwater basin (and not injurious to surface water users) to encourage such

groundwater extractions in order to modify the overall basin groundwater contours. Similarly, it may be advantageous to encourage additional extractions in areas away from streams in order to better manage the groundwater basin. All of these decisions should only be made by the GSA after good technical analysis and extensive discussion with stakeholders. But, if such programs are implemented with local support and good technical understanding of the dynamics of a groundwater basin, we believe that they can help with the transition to sustainable groundwater management.

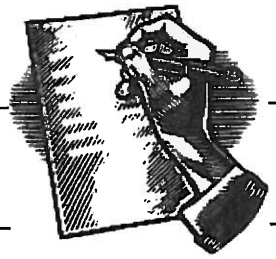
Conclusion

The examples above show that carefully designed groundwater markets can (and do) function to adjust the use of water within a well-defined institutional regime, the type that the California Legislature intended to create in enacting SGMA. The law gives local agencies—the GSAs—the authority to monitor groundwater extraction and enforce pumping limits as may be needed to foster the development of groundwater markets. Other concerns specific to groundwater use such as pumping externalities and the ability to bank unused pumping credits can be addressed through thoughtful market design by local agencies and stakeholders.

We believe that GSAs can and should incorporate groundwater markets as part of their development of GSPs. Such markets, as discussed above, can reduce conflict between groundwater pumpers, reallocate water as between sectors during development periods, and otherwise improve the flexibility of a groundwater management system to adapt over time. All of these methods, including a groundwater market within a GSP should be considered by each GSA.

However, we also note that the development and implementation of groundwater markets in each of the areas described above took a number of years and involved some significant mistakes. Given the dire state of many of California's groundwater basins, we believe that the state does not have the luxury of "reinventing the wheel" of groundwater markets in a number of different groundwater basins at once. Instead, we believe that the California Department of Water Resources, possibly with the expert assistance of the University of California, should convene a working group of experienced groundwater managers to develop two or three "off the shelf" groundwater market packages that GSAs could customize to their own local situations. In this way, the experience of the Chino, Seaside, and Buena Vista Basins, which have developed small-scale groundwater markets within their boundaries, could readily be translated and disseminated to the many groundwater basins that will now be managed under SGMA. Moreover, because it is also likely that some of these groundwater basins will be the subject of future groundwater adjudications, the development of groundwater markets that could be employed by judges or special masters in the course of those adjudications would also benefit those groundwater basins.

In the end, Ostrom's work—as well as most economic theory—finds that common pool resources can be privatized, managed by the government, or managed in a more fluid and flexible manner through the combination of markets and governmental oversight. SGMA has opted for this last approach, and only time will tell whether Ostrom's optimism that groundwater could be successfully managed will prove to be true. We're betting that her analysis will prove to be correct in the end; after all, she did win a Nobel Prize in Economics.



LETTER TO THE EDITOR

Dear Editor,

I just received the Summer 2015 Rules & Guidelines issue of *Natural Resources & Environment* and read the article entitled "Sue and Settle: Citizen Suit Settlements and Environmental Law." There are some factual errors in the article that should be corrected for the benefit of readers.

In one paragraph, the authors claim that the settlement in *Fowler v. EPA* is an illustrative Clean Water Act sue and settle case. As lead counsel for the plaintiffs in that matter, I take great exception to the characterization that this was a "sue and settle" case. It was not.

First, the author's statement that the *Fowler* settlement agreement required EPA to establish the Chesapeake Bay TMDL in seven months ignores the facts. EPA had been in the process of developing the Bay TMDL with the affected states for years and was under prior consent decree and memoranda of understanding with the states to develop a Bay TMDL. The *Fowler* settlement merely set a deadline for Bay TMDL issuance. A quick perusal of the executive summary of the Bay TMDL makes this abundantly clear. www.epa.gov/reg3wapd/tmdl/ChesapeakeBay/tmdlexec.html.

Second, the authors' statement that the American Farm Bureau Federation challenged the *Fowler* settlement agreement in the *American Farm Bureau Federation v EPA* matter is simply false. The Farm Bureau made no such allegation in its complaint. The Farm Bureau challenged the Chesapeake Bay TMDL and the EPA's authority to issue it, not the settlement agreement or its terms. Moreover, private and municipal wastewater groups intervened in the *Fowler* case and sought

(continued on page 63)