back to basics

EAST BAY MUNICIPAL UTILITY DISTRICT
2012-2013 BIENNIAL REPORT

A PROUD PAST
A VITAL FUTURE

LETTER FROM THE GENERAL MANAGER

Fiscal Years 2012-2013 marked a period of significant transition at EBMUD. While we continued holding a tight rein on expenses to get through the economic doldrums affecting the nation, we also began to see that several cycles of budget cuts were taking their toll. We made tough capital investment choices that slowed the rate of pipe and equipment replacement. To balance the budget we held vacancies open as baby-boomers left the workforce and saw the implications of less work hours invested in preventive maintenance. The challenges of the past two years sharpened our awareness of how essential it is to the communities we serve that we continuously invest in water and wastewater system reliability.

First-class public water and wastewater systems protect public health and the environment. Excellent service and reliability have a direct effect on the local economy and the quality of life in the East Bay. Two decades ago, our top priority was implementing seismic protections for the water system. The last decade was dominated by intensive negotiations to secure drought water supplies and then to construct the means to convey that alternate water supply to the East Bay. Now EBMUD is turning back to basics. We are restructuring work teams for more efficient meter repair and replacement and we are re-securing future supplies through water rights permit renewals and water resource sharing agreements with other agencies. We are assembling the resources we need to increase the number of aging water pipes we replace each year and to ensure the network of city-owned sewer pipes that empty into our wastewater treatment plant work optimally so we can clean those flows and protect the Bay. As we turn back to basics, we do so with an eye on the future. We rededicate ourselves to assertive stewardship of natural resources and reduction of greenhouse gases.

This biennial period drew to a close as we celebrated the 90th anniversary of the decision by voters to create EBMUD as the East Bay's regional water service provider. Our region has benefited for decades from the ratepayers' initial investments in the construction of high-quality pipes, reservoirs, pumps and water and wastewater treatment plants in the 20th century. That infrastructure has done its job to bring us safe and reliable water supplies and make a cleaner Bay possible, but much of it is in the twilight of its useful life. It's our generation's turn to continue the proud tradition of community investments in water and wastewater systems and stewardship of natural resources for the future.

Alexander R. Coate

General Manager

HIGH**LIGHTS**

July 1, 2011 – June 30, 2013

OVERVIEW

Over the two-year budget period, adequate water supplies were available for EBMUD customers. When full, our reservoirs hold enough water to meet customer needs, regulatory requirements and downstream water release obligations along the Mokelumne River for more than a year. Overall, customer water use was below historical norms for the past two years, thus stretching the water supply. Prudent budgeting and rigorous cost controls offset revenue shortfalls.

DELIVERING SAFE WATER [4-5]

EBMUD's daily water supplies are drawn from the Mokelumne River watershed in the foothills of the Sierra Mountains. Periodically EBMUD assesses the East Bay's long-term water needs to ensure those needs can be met by available supplies. EBMUD adopted a new 30-year plan in 2012. Water Supply Management Program 2040 will maintain a reliable high-quality water supply by aggressively conserving and recycling, implementing reasonable rationing goals in dry periods and tapping a variety of regional sources and storage options to supplement Mokelumne River supplies when needed.

SERVING PEOPLE AND PLACE [6-9]

Advances in technology constantly change customers' perceptions of what constitutes responsive service. EBMUD works hard to keep pace with innovations and expectations. Over the past two years, we implemented a new customer service software system and improved the reliability of our on-line bill-paying service. Our changes made it easier for customers to carry their good payment history with them from home to home.

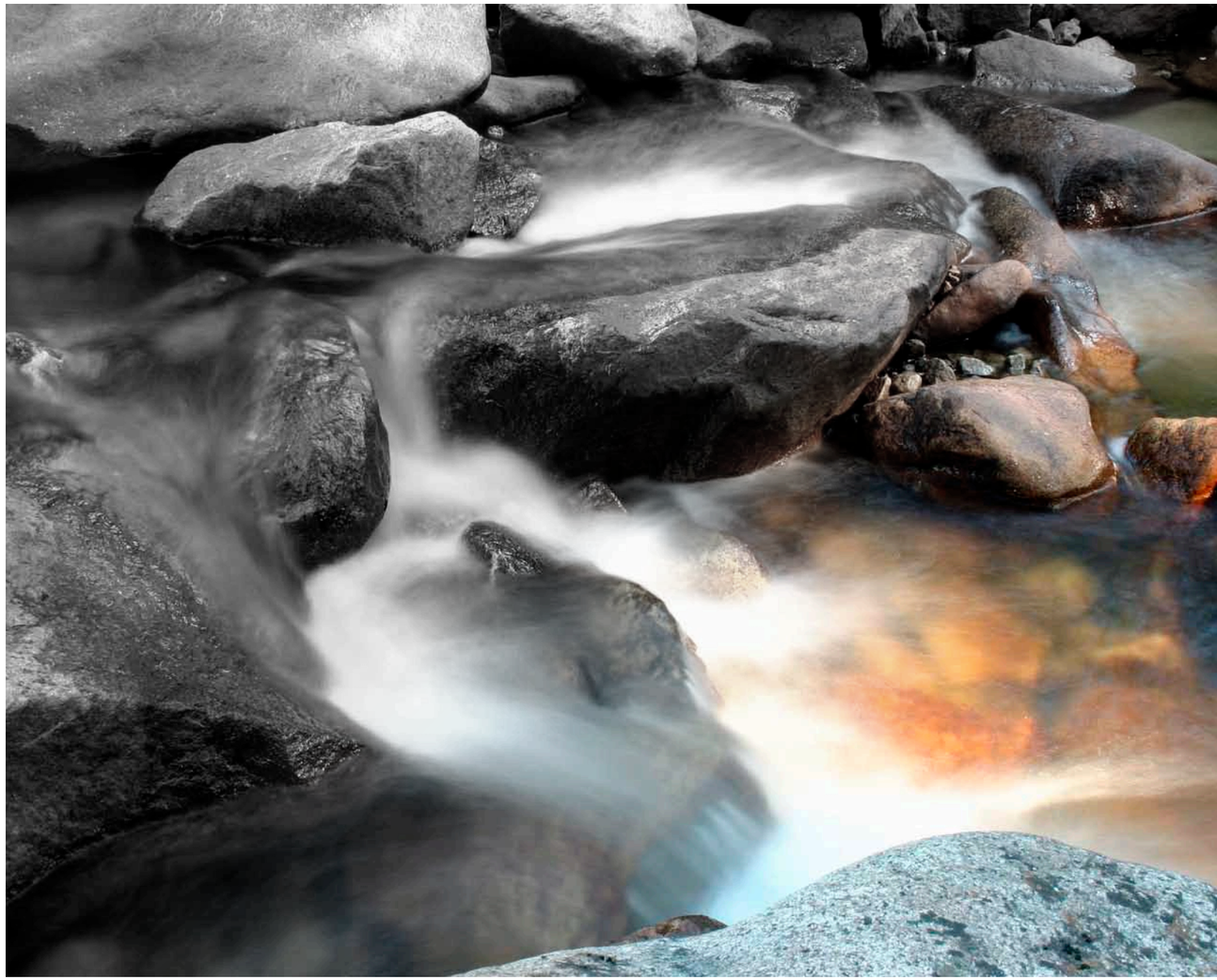
From the central Sierra foothill watersheds, along the Mokelumne and Sacramento Rivers, across the Delta, throughout the East Bay and far out into San Francisco Bay, EBMUD employees are at work protecting the environment. We carefully balance recreation, biodiversity and watershed protection needs on nearly 55,000 acres of land and within deep waters that are sheltered by almost 13,000 surface acres. Few entities in the world have matched EBMUD's record of sustained exemplary regulatory compliance and safe management of water and wastewater facilities. In 2012, EBMUD became the first utility in the nation to generate net renewable energy by capturing methane gas from the wastewater treatment process while also reducing food waste and other materials going to local landfills.

STRENGTHENING INFRASTRUCTURE [10-15]

More than half of the pipes that deliver water to East Bay homes and businesses today are more than 50 years old. Water and wastewater infrastructure are durable assets that provide reliable service but over time they require more care and replacement. An EBMUD-led collaborative regional program has begun fixing local sewer pipes to make San Francisco Bay healthier by reducing excess sewage flows that reach the Bay during large storms.

TRANSPARENCY IN PUBLIC MANAGEMENT [16-19]

Updated financial documents and more online resources make it easy for ratepayers, bondholders and others to understand and engage with EBMUD as it plans for ensuring reliable high quality water supplies, wastewater treatment services, and renewable energy production in the future. The adopted budget for the coming two fiscal years will allow more investments in water reliability and protect EBMUD's bond rating.



DELIVERING **SAFE WATER**

TAKING THE LONG VIEW

Water service providers don't focus on delivering water for just the next quarter, the next year or even the next decade. Ensuring reliable and safe drinking water supplies requires a much longer perspective. Over the past ninety years, EBMUD has used the best available data to forecast changes in environmental regulations, precipitation patterns, business demand, residential populations and other factors so we can optimize our systems, meet water supply demands and keep the cost of service as low as possible. In the 1920s, that work resulted in a move to acquire Sierra supplies. In 2012, EBMUD's long-range planning involved public workshops in three counties and certification of a revised programmatic environmental impact report and plan for water supply management to the year 2040. EBMUD's long-term water supply plans maximize cost-effective water conservation and water recycling.

> "The melting snows from the rugged peaks of Round Top Mountain are flowing down the Mokelumne River through the East Bay Aqueduct, past us here into the San Pablo Reservoir and thence into the distribution mains. It is a day appropriate for music and poetry and imaginative expression, rather than dry engineering facts."
>
> —EBMUD Chief Engineer Frank Hanna, June 23, 1929, speaking to 2,000 people gathered to celebrate the arrival of water from the Sierras; drought had virtually eliminated local supplies.

In 1949, EBMUD filed an application for a supplementary water allotment from the Mokelumne River. It took a dozen years of work to resolve all the disputes and establish clear rights to the additional 125 million gallons of water a day needed by the East Bay. Today, EBMUD is well on its way to concluding a similarly complex effort to secure a 40-year extension to that permit. Following release of a draft environmental impact report in late 2013, the State Water Resources Control Board is expected to consider action on the permit in 2014.

Our updated conservation master plan guides our efforts to encourage cost-effective and sustained water savings. In recent years, EBMUD has seen an overall reduction in water demand from customers that we attribute to several factors. They include drought-motivated changes to water uses, an evolving marketplace focused on water-conserving fixtures and devices, a strong local ethic toward protecting the environment and using natural resources wisely, and a weak economy. While the local environmental conscience can be expected to remain strong, other factors are expected to drive up water demand over time. EBMUD's conservation master plan ensures that we continue supporting wise water use by customers through water-conserving tips, techniques and technology.

Recycled water use by industries and irrigators assures more reliable drinking water supplies. EBMUD expanded recycled water service for landscape irrigation in the San Ramon Valley, Emeryville and Oakland; those new facilities were partly paid for with federal and state grant funding. We worked with the City of Albany to install a recycled water pipeline during a bike path project and saved money while providing access to recycled water for local parks and irrigation purposes. And we helped the Oakland Museum of California convert to recycled water for its landscape irrigation.

COLLABORATING FOR RELIABLE WATER SUPPLIES

EBMUD's path to negotiating a permit for supplemental supply water rights on the Mokelumne was hailed in the early 1960s as a model approach. Five decades later, the East Bay continues to benefit from EBMUD's efforts to seek peaceful resolution to water rights issues through mutually beneficial agreements rather than litigation.

EBMUD and Sacramento County found a way to strike an agreement for a pumping facility that would meet each agency's pressing needs, and jointly built the Freeport Regional Water Facility. That facility began operating in April 2011. The ability to draw water from the Sacramento River will ease the severity of future droughts in the East Bay.

Over the past two years, as a member of the Upper Mokelumne River Water Authority, we've sought broad stakeholder input and helped produce an integrated regional water management plan. State funding both for water system improvement studies and for construction work has supported the collaborative project.

A groundwater management plan was developed for the southeast bay plain groundwater basin with active participation from Alameda County Water District and other stakeholders. Within that plain (which stretches south from 35th Avenue in Oakland to the southern limits of the Hayward), EBMUD built the Bayside Groundwater Facility, a state-of-the-art groundwater well that injects water more than 500 feet below ground storage. During droughts, up to one million gallons per day of water from the well can be pumped from the aquifer, treated at the on-site water treatment plant and distributed to customers. The well was successfully tested in 2012.

Looking ahead, the Delta is a critical water supply issue for EBMUD. Because we convey our Sierra water supply in three 90 mile long aqueducts that cross 15 miles of the Delta, our water supply reliability is affected by the Delta's islands and levees. EBMUD invests in Delta levee maintenance to protect the ecosystem in the Delta and to protect EBMUD's aqueducts. This ongoing investment is essential but not sufficient. As plans for the Delta's future take shape, EBMUD continues to work with other Northern California water suppliers to ensure all beneficiaries will bear their fair share of responsibility and costs. We advocate a long-term sustainable plan that addresses both ecosystem and levee restoration while meeting the drinking water needs of the millions of Californians who rely on the Delta. We have led a coalition of water interests urging the state to appropriately address the interests of Northern California residents and businesses as it conducts a comprehensive proceeding for the Bay Delta Conservation Plan and establishes future operating conditions that will affect California drinking water suppliers.

The Delta is a critical water supply issue for EBMUD.

SERVING
PEOPLE & PLACE

EDUCATING PEOPLE ON WISE RESOURCE USE

In the 20th century, water and wastewater utilities prided themselves on "silent service." Like other organizations at the time in its early decades EBMUD worked hard to improve water reliability and ensure drinking water was safe, but otherwise kept a low profile in the community. Over time, the organization's view of its responsibilities as a public agency has broadened.

EBMUD established a water conservation program in 1971. Four years later it was the first water supplier in the nation to establish an ongoing water conservation and water education program targeted to youth in schools. The timing could not have been better because just two years after that launch a deep drought required all EBMUD customers to cut their water use. Today EBMUD tracks the water consumption of businesses and offers tools and services to help them conserve water. In 2012 and 2013, EBMUD recognized 21 businesses for outstanding water use efficiency, awarding each a WaterSmart Business Certificate that acknowledges their effort.

EBMUD has developed progressive programs to combat pollution in San Francisco Bay. Many commonly used household items contain chemicals that are difficult to remove from wastewater. Dumping them down the drain sends them through the wastewater system and ultimately out to San Francisco Bay. EBMUD promotes public awareness of this and other issues through its pollution prevention programs. Campaigns to encourage the public to properly dispose of unwanted medication collected an estimated 3,636 pounds of medication during FY 12-13. District efforts to reduce improper pharmaceutical disposal practices continued to grow through installation of safe disposal locations and sponsorship of pharmaceutical take-back events. Additionally, EBMUD was a strong advocate for the passage of the Alameda County Safe Medication Disposal Ordinance, the first of its kind in the nation.

MAKING CUSTOMER SERVICE RELIABLE

EBMUD was an early adopter of technology in the 20th century and a pioneer in the use of computers for the business of managing water distribution. In 1963, EBMUD began using these new devices to keep records and handle customer billing. EBMUD used its new capabilities to assist other public agencies when it took over billing and collection of the City of Oakland's sewage service charge.

Today, EBMUD continues to partner with other agencies. Five sewer agencies rely on EBMUD's expertise in customer service to help their customers. EBMUD's Contact Center responded to more than 700,000 customer contacts over the past two years. A dedicated team of employees works hard to meet customer needs for advice, information and answers to billing questions. Self-service tools allow customers to conduct business around-the-clock. EBMUD replaced outdated software to provide more flexibility and better customer service system reliability.

Clif Bar's efficient new headquarters helped cut its water use over 65%, while at the same time including a fully equipped restaurant and extensive fitness and shower facilities. This impressive effort earned the company a WaterSmart Business Certificate.

SUPPORTING ACTIVE LIFESTYLES

After a half century of protecting water supplies by gating off the watersheds that surrounded them, EBMUD began to open facilities to recreation activities. Eight thousand residents were at Lafayette Reservoir the day it opened for public recreation on June 13, 1966. By the close of its first season in December, about 120,000 people had used the facility.

After almost five decades of service as a recreational area, Lafayette Reservoir is host to more than a million visitors annually. In 2012, EBMUD improved the visitor experience by reconfiguring the reservoir's parking areas, improving traffic flow, and replacing old-fashioned pay meters with automatic pay stations. In 2012, EBMUD also completed the last segment of the 35-plus miles of the Mokelumne Coast to Crest Trail. The completion of the final trail segment, in the Middle Bar area of Pardee Reservoir, was accompanied by the publication of a new trail map that helps trekkers appreciate the history of the area and the diversity of the environment.

OFFERING LOCAL CAREER OPPORTUNITIES

Since the 1960s, EBMUD has worked with the local community to promote a qualified workforce. At that time, as demand in the service area grew, the goal was to fill positions in a growing workforce. Local high school boys and girls selected by local groups were recruited for clerical work and jobs in the trades. The students would attend regular school classes in the morning and work for pay each afternoon under the direction of EBMUD supervisors.

Today, an exodus of baby boomers from the District's ranks is creating demand for a new generation of skilled workers. Because a third of the current plumber workforce is at or near retirement age, EBMUD has joined with Laney College in Oakland to provide needed skills to people seeking entry into the trades. The outreach seeks out a diverse student body and offers training to close a skills gap that is a result of less vocational education made available to students today. Sixteen students graduated from the program in March 2012 and one graduate was successfully ranked on the District's hiring list for Water Distribution Plumber I. Also, the District partnered with Laney College and the Peralta Foundation to secure five industrial maintenance internship placements during the fall of 2012.

RESPECTING NEIGHBORS

When EBMUD began building its first pipelines, pumping plants and reservoirs throughout the East Bay the local population was clustered in several areas. Large traffic corridors did not exist, underground seismic faultlines were unknown, and environmental regulations were nonexistent. Crews single-mindedly focused on efficiently installing infrastructure to improve the safety of water supplies.

Today, nearly all EBMUD infrastructure is in the midst of bustling communities—families and businesses live next door to each of our facilities and adjacent to or above critical pipelines. Rebuilding infrastructure causes disruptions to the daily lives of our customers and neighbors and requires strict adherence to environmental and safety regulations. When crews work below city streets today, they still give top priority to the safety of drinking water but now their work is done within tight constraints on time to minimize traffic and noise impacts, and within strict rules to protect the crews and the environment.

For example, San Pablo Dam was originally built by the Peoples Water Company in 1920 and became part of EBMUD's system in 1923. The reservoir remained mostly empty until EBMUD completed the first aqueduct from Pardee in 1926. The dam was originally built using the hydraulic fill method borrowed from the mining industry, where fire hoses washed down material near the dam area and carried it by flumes on trestles to the dam site. Over the decades as knowledge is gained from earthquake occurrences the dam has been upgraded three times. The most recent upgrade was completed in 2010 and cost over $80 million. To strengthen the dam, EBMUD injected and mixed cement with the foundation materials up to 120 feet deep below the dam, hardening the dam's foundation against seismic failure. The project involved working with over a dozen agencies to develop careful mitigations to avoid impacts to the community and to the environment.

PROTECTING SPECIES IN THE WATER AND ON LAND

In 1960, EBMUD and the California Department of Fish and Game agreed to a plan for Mokelumne water releases that would support the river's fish population. That agreement was an element of negotiations for the development of Camanche Reservoir, a lake that protects the City of Lodi and surrounding communities from floods and offers extensive recreation opportunities enjoyed by thousands of visitors annually.

The management and understanding of the underlying value of the fisheries has changed much since then. In 1987, EBMUD launched a comprehensive study of the lower Mokelumne fishery. Today, EBMUD is a lauded steward of the Mokelumne River and its salmon fishery. EBMUD owns and the California Department of Fish and Wildlife operates the Mokelumne River Fish Hatchery, the most modern salmon hatchery in the Central Valley. It produces approximately 5 million juvenile salmon per year; the fish are planted in the Delta and reach adulthood in the ocean. These fish have a significant impact supporting commercial and sport fisheries in Central California. Recent fall run Chinook salmon returns have been very robust on the Mokelumne with over 18,000 fish returning to the river in 2011, the highest number since records were kept starting in 1940. The return in 2012 was the fourth highest at just over 12,000 fish. Even though the Mokelumne River and its watershed represent less than three percent of the inflow in the Central Valley, the river is responsible for 5 to 10 percent of the fall run salmon return.

EBMUD continues to look for ways to build on this success and further protect the resource. With our lower Mokelumne River partners, we are advocating for revised Central Valley Water Project gate operations in the Delta, construction of net pens to reduce predation when hatchery-raised fish are moved into the Delta, and salmon outmigration tracking using radio telemetry to improve knowledge of outmigration paths and mortality.

EBMUD protects species on land as well. EBMUD and U.S. Fish and Wildlife Service signed one of the largest Safe Harbor Agreements in the country in 2009 to protect species on 28,000 acres. The agreement outlined habitat improvements to be completed over a five year period and established an extensive species inventory plan. In 2012, EBMUD sampled most of the ponds on the Camanche and Pardee watersheds. California Tiger Salamanders appear to be doing very well under the Safe Harbor Agreement as salamander larvae were observed over a much larger area than in previous surveys, including in five ponds where they were never before observed. Dry years like 2013 are a part of the natural weather cycle and pose a challenge for some species. Due to low precipitation, many ponds had low water levels and some were completely dry. Data collected this year will help identify how species density and distribution are affected by dry year weather patterns.

GENERATING RENEWABLE ENERGY

The original design of Pardee Dam, dedicated in 1929, included hydropower. Energy was cheap at the time, but the height of the dam made it worthwhile to construct the power facilities. The rising cost of energy prompted EBMUD to add more hydropower and cogeneration facilities in later decades.

> "We've turned wastes into commodities. We had to find a way to control our energy costs."
>
> —Director of Wastewater David Williams at the 2012 unveiling of EBMUD's newest green technology, a turbine that enables EBMUD to be a net producer of renewable energy at its wastewater plant, saving ratepayer dollars and protecting the environment.

In recent years, EBMUD has adopted increasingly sophisticated and creative strategies for minimizing energy use and generating renewable energy and is now a net energy producer. In FY12-13, EBMUD generated 433,000 MWh of renewable energy at its hydropower, photovoltaic and cogeneration facilities and used 69,000 of it for its own use. The total energy used by EBMUD was 258,000 MWh over that two-year span. EBMUD's wastewater treatment plant transforms food waste collected from local restaurants and other biodegradable waste into renewable energy. This resource recovery program benefits the environment and wastewater treatment service customers. Recycling the waste stream into renewable energy provides a supplemental source of revenues that keep rate increases at single digits even as costs escalate at a double-digit rate. FY12-13 renewable energy revenues were $12.6 million. EBMUD's innovations in energy management were awarded the National Environmental Achievement Award from the National Association of Clean Water Agencies for the design and construction of the wastewater treatment plant renewable energy expansion project and the sustainable practices of the program.

During the energy crisis in the early 2000s EBMUD was urged to consider a broader role in public power but ultimately chose to direct more attention to managing its own energy use since water delivery and wastewater treatment are energy-intensive services. The question of a larger role in public power returned for further consideration in 2012 when EBMUD prepared a comprehensive pre-feasibility report on the benefits and risks of helping customers in parts of its service area get access to greener power options. This option for consolidating the energy demand of individual customers who want to have their energy sourced from a green power portfolio, known as community choice aggregation, was recently authorized in California. EBMUD's Board of Directors considered the report at a well-attended public meeting and determined that the District should remain focused on minimizing District energy use and generating renewable energy through its operations. We will be monitoring the community choice aggregation efforts by local cities.

EBMUD met its goal of a ten percent net reduction in greenhouse gas emissions over the past ten years. A target of reducing greenhouse gas emissions 10 percent by 2015 was surpassed in 2009, six years ahead of schedule. EBMUD's sustainability policies and practices encourage daily attention to conserving natural resources and to reducing, recycling, reusing and reclaiming waste. Looking ahead, EBMUD is planning to raise the bar on its work in energy management and set for itself more challenging goals in producing renewable energy and reducing carbon emissions from its work.

Interpretive signs along the newly opened Bay Bridge Trail explain EBMUD facilities to passersby.

STRENGTHENING **INFRASTRUCTURE**

> "Waterworks properties are perishable structures which begin to deteriorate as soon as they are installed."
>
> —Wiggington Creed, President of the East Bay Water Company, in a 1919 speech

> "EBMUD has had three major eras… building the Pardee system and the aqueducts…the growth of the service area after World War II, and securing a reliable dry-year water supply for our current District customers."
>
> —General Manager Dennis M. Diemer, in a 1998 interview for EBMUD's 75th anniversary

REPAIRING AND REPLACING

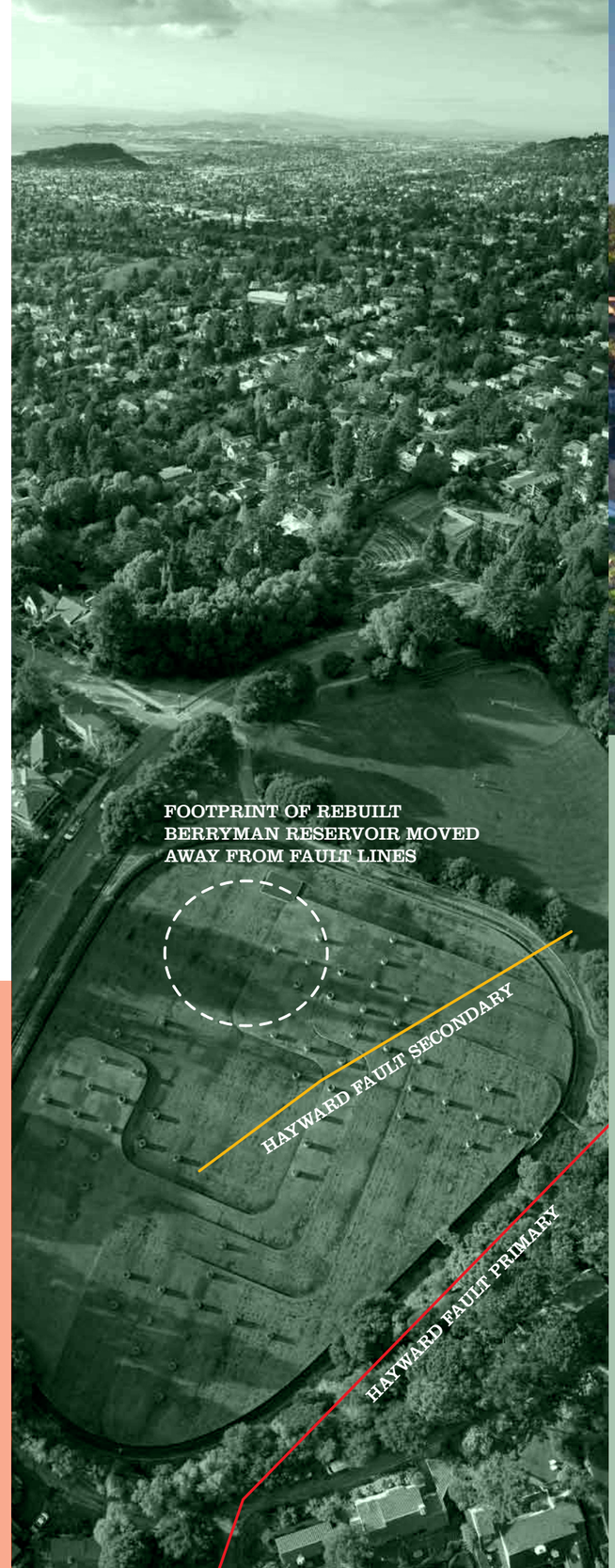
Keeping infrastructure in good repair protects the environment and public health. Most of the pipes, pumps and other infrastructure in EBMUD's current inventory have been in service for more than 50 years. As pipes and facilities age, a growing proportion need repair or replacement. In FY12-13, EBMUD replaced a total of 19 miles of water system pipe. We replaced 37 miles of pipes over the last five years and we anticipate replacing at least 53 miles of pipe over the next five years. That's a 43 percent increase in infrastructure rehabilitation to help maintain reliable water service. Contracts were awarded for rehabilitation of three steel reservoirs, and other rehabilitation work was in planning, design or construction for a wide range of projects at pumping plants, treatment plants and other locations.

We strive to get the maximum service from the infrastructure in the ground and, as we get back to basics, we have been laying plans for both preventive maintenance and timely upgrades. During 2012, we completed master plans to help guide this work. One plan identifies resources, operational strategies and capital funding needs for the raw water system and provides the priorities and schedule for storage, transmission, pumping and treatment improvements for the next 30 years. A second plan included a risk-based evaluation to prioritize large diameter replacement projects and to determine capital funding needs. Other master plans were updated for major water distribution

DINGEE

In 1890, William J. Dingee was a landowner looking for water supplies. At the time, private companies provided the water service and when Dingee sought supplies for his Montclair-Piedmont hill area development he was turned down. He proceeded to drill a series of tunnels into Moraga Peak and tapped an ancient reserve for 250,000 gallons a day that he piped into three reservoirs in the Piedmont and Montclair area. Today, the area served by those three reservoirs extends across much of the territory William Dingee once owned. The Estates reservoir in Montclair is currently being rebuilt after serving the community since the days of William Dingee. Planning for this project started in 2007 and construction should be complete in 2014. But it is not just the reservoirs that need to be rebuilt. The pipes that connect them have also reached the end of their lifespan.

On Tuesday, January 29, 2013, the 36-inch steel main serving this area and called the Dingee Pipeline, began to leak. Forecasts for repairing the pipe warned of an extended shutdown affecting 13,500 customers unless it was completed before the weather warmed and demands increased. Water service to customers who rely on this critical pipeline was maintained through a secondary source while repairs were made. Work to rehabilitate the Dingee Pipeline will be occurring over the next few years. The project will replace some pipelines in new alignments to avoid the Hayward Fault and landslide-susceptible areas.



BERRYMAN

Berryman Reservoir was built in 1884 in the Berkeley Hills near Codornices Creek, next to what we now call the Hayward Fault, to serve downtown Berkeley and the University of California Berkeley. In 1969, EBMUD reduced the size of the reservoir from 30 million to 15 million gallons. The unused portion of the property was transferred to the City of Berkeley to build playing fields. In subsequent years, the reservoir level was dropped to 11 million gallons. In the late 1990s, the California Department of Safety of Dams ordered the reservoir be taken out of service within a few years based on seismic evaluation findings that suggested that a dam failure could cause flooding in Berkeley.

Left, Berryman prior to the 2013 renovations. The roofed open-cut reservoir is visible as well as the outline of the original 30M gallon facility from 1884. Right, the new tank under construction. Top, completed and in service.

EBMUD completed environmental studies in 1998. Before the reservoir could be removed from service, some new facilities had to be built and some existing facilities had to be modified to maintain service to the area. The supporting system changes were completed in 2006 and Berryman Reservoir was drained. After the dam was removed, additional studies enabled EBMUD to pinpoint the fault line and those findings resulted in further redesign of the replacement reservoir. A steel tank was completed in 2013 and replaced the old facility, which began as a dammed open-cut reservoir and was later roofed.

EBMUD's strategy of reaching out to and working with the local medical community, educational institutions and residential customers on the proper disposal of mercury bearing devices (such as old mercury thermometers) kept thousands of pounds of this heavy metal out of the bay. The program has been replicated across the united states to protect other vital waterways.

MOKELUMNE AQUEDUCTS

In 1925, plans were started to build EBMUD's first aqueduct from the Sierra mountains and across the Delta to a treatment plant at Walnut Creek. Water began flowing three years later through the 90-mile-long pipeline. A second aqueduct was completed in 1949 and a third in 1963. During this biennial budget period, construction was completed on a series of aqueduct interconnections to improve the operational resilience of the three Mokelumne aqueducts in the event of a flood or earthquake. A $10 million Department of Water Resources grant funded the work. Three temperature anchors that help stabilize the older two aqueducts also were upgraded.

Mokelumne Aqueduct #3 under construction, 1963

facilities, distribution pipelines, reservoirs, pumping plants, rate control stations and regulators. Additionally, we studied ways to extend the life of cement pipes, the most commonly-installed pipe material in the U.S. during the post-World War II era, and joined a multi-agency collaboration led by the national Water Research Foundation to sample, test and further assess cement pipe condition and life expectancy.

READYING FOR EMERGENCIES

Emergency preparations are a way of life in the Bay area, and EBMUD has been a leader in learning from emergencies and preparing for the next one. EBMUD losses from the Loma Prieta earthquake approached $4 million dollars, even though the epicenter was 60 miles away. In the aftermath, EBMUD launched a decade-long seismic improvement program to strengthen the water system against earthquake damage. When the Oakland Hills firestorm occurred, killing more than 40 persons and sweeping away more 3,000 houses. EBMUD's financial losses from the fire exceeded $11 million. After that incident, EBMUD took the lead in forming a permanent organization of East Bay agencies, counties and cities to reduce the potential for another firestorm in our area. EBMUD also developed the Water Agency Response Network with water agencies in 16 coastal counties. It later was expanded to include all water agencies in California.

EBMUD continues to drill, evaluate readiness, and do more to prepare for emergencies. In 2012, EBMUD signed mutual assistance agreements with the Los Angeles Department of Water and Power and the Las Vegas Water District. The agreements provide for rapid response immediately following a disaster by a large contingent of fully-equipped crews from large water agencies outside of the Bay Area. During the past two fiscal years, personnel from all three agencies visited one another's facilities to discuss planning prior to an actual event.

Chabot Intake Tower, September 12, 1924..

CHABOT

Chabot Dam was originally built in 1875. The reservoir is one of many legacies left by Anthony Chabot in the East Bay. He hired more than 800 Chinese workers and used an estimated 200 wild horses brought from Oregon to beat the ground, using their hooves and wagons that they pulled, to strengthen the earthenworks dam.

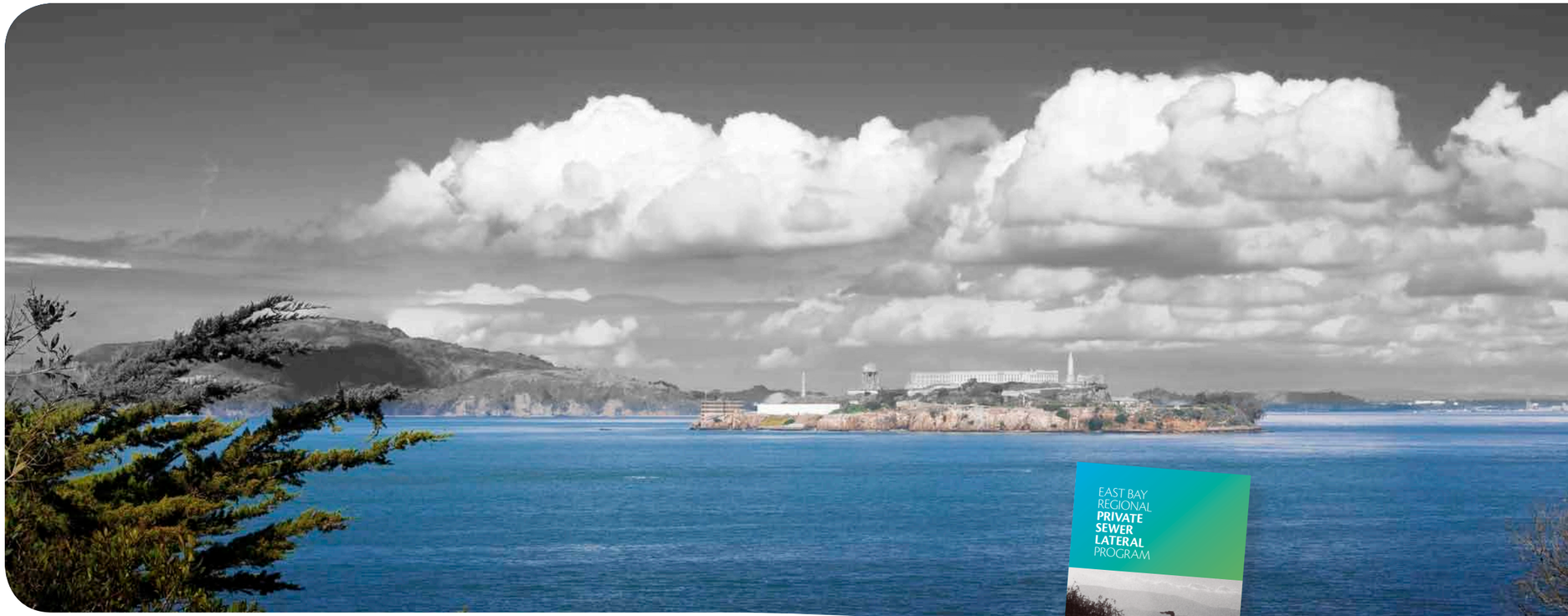
Chabot Reservoir today is an emergency water supply, last used for that purpose during a deep drought in the 1970s. Over the past two years, work got underway to plan a seismic upgrade to Chabot Dam, EBMUD's oldest facility. Public outreach and environmental studies will be occurring over the next two years, and construction is expected in 2015.

PROTECTING A NATIONAL TREASURE

San Francisco Bay is a unique ecosystem and one of the environmental jewels of our world-class region. Since 1951, EBMUD has been among the many agencies and environmental groups committed to protecting and enhancing the Bay. We provide regional wastewater treatment services and educate businesses and residents on how to help keep pollutants out of the Bay. The wastewater treatment plant has operated continuously, 24 hours a day, for more than 13 years within permit limits and without a National Pollutant Discharge Elimination System violation—a true measure of excellence.

Over the past two years, we have worked intensively with local sewer agencies to establish programs and plans to accelerate maintenance and replacement of the sewer system collection and treatment infrastructure that supports storm water management and protects San Francisco Bay. The East Bay has separate systems for stormwater runoff and sewage. But storm water can seep into cracked, aging sewer systems when it rains heavily, resulting in excessive sewage flows and the runoff of partially treated sewage into the Bay. Almost half of each city sewage collection system is made up of private sewer laterals that connect homes and businesses to the public sewer systems.

During 2012 and 2013, EBMUD worked with the cities in its wastewater service area (Alameda, Albany, Berkeley, Emeryville, Oakland, Piedmont and the Stege Sanitary District, which includes El Cerrito, Kensington and parts of Richmond) to implement programs to maintain the sewage collection system and require private property owners to check and repair the sewer pipes serving their residences and businesses when properties are sold or remodeled.



Looking ahead, EBMUD is working with other stakeholders to understand the potential impact of nutrients in the Bay ecosystem and identify appropriate and cost-effective ways to reduce nutrient loading over time.

The East Bay Regional Private Sewer Lateral Program is a long-term effort to protect the Bay by reducing excess wet weather sewer flows which can overwhelm wastewater treatment systems.

WALNUT CREEK PUMPING PLANT

A raw water pumping plant in Walnut Creek is used to meet demands in peak periods by accelerating the movement of the Sierra flows toward filter plants for treatment, local storage and use by customers. EBMUD's first pumping plant in Walnut Creek was replaced in 1958 with a new pumping plant at a different location. For many years, the Lindsay Wildlife Museum used the original pumping plant structure to house resting and injured animals. In 1993, Lindsay Wildlife Museum moved out of our old building, to a purpose-built museum/hospital structure near the same location. The old Walnut Creek Pumping Plant building is now used by Lindsay for storage.

EBMUD was making plans to overhaul the Walnut Creek pumping plant and electrical substation first built in 1958, when a 2011 substation fire and flood extensively damaged the facility. Over the past two years the facility was completely reconstructed and is now ready for use when summer demands require it.

TRANSPARENCY
IN PUBLIC MANAGEMENT

"The sound financial position of the organization has been steadfastly maintained despite the heavy expenditures required to maintain and expand the vast system with the development of the area served. Water rates and tax rates have been held to the lowest possible levels consistent with sound fiscal management."

—Roscoe Jones, EBMUD Board President, 1949

LOCALLY FUNDED INFRASTRUCTURE

In 1924, EBMUD's first bonds were issued—a total of $39 million—to build Pardee Dam and provide reliable water supplies to the East Bay communities that until then had survived on the uncertain supplies captured from the surface runoff of four local creeks. In the nine decades since local residents voted to form a municipal utility district the East Bay has grown dramatically.

Today our service area includes 1.3 million people and many of the region's largest employers. Our vitality is inseparable from the $518 billion Bay Area regional economy and essential to the economic health of California and the nation. The District's infrastructure is diverse and extensive, with a replacement cost conservatively estimated at $13.9 billion. EBMUD's strong financial management is reflected in its long-term high credit ratings— AAA rating by Standard & Poor's, Aa1 by Moody's Investors Service and AA+ by Fitch Ratings. EBMUD's bonds fund work to replace and improve pumping plants, reservoirs, pipelines and treatment plants.

ENCOURAGING PUBLIC UNDERSTANDING OF THEIR UTILITY

In 1947, EBMUD policies and procedures were committed to writing for the first time. EBMUD began developing the excellence in organization management that it had established in water supply engineering and design over previous decades. An enterprise budget system was established that looked to the future and established financial needs based on that long view.

"Maintaining the lowest possible water rates during these difficult economic times remains a Board priority. I commend EBMUD's staff on their efforts to confront these challenging issues with a budget that reinvests in maintaining our aging infrastructure."

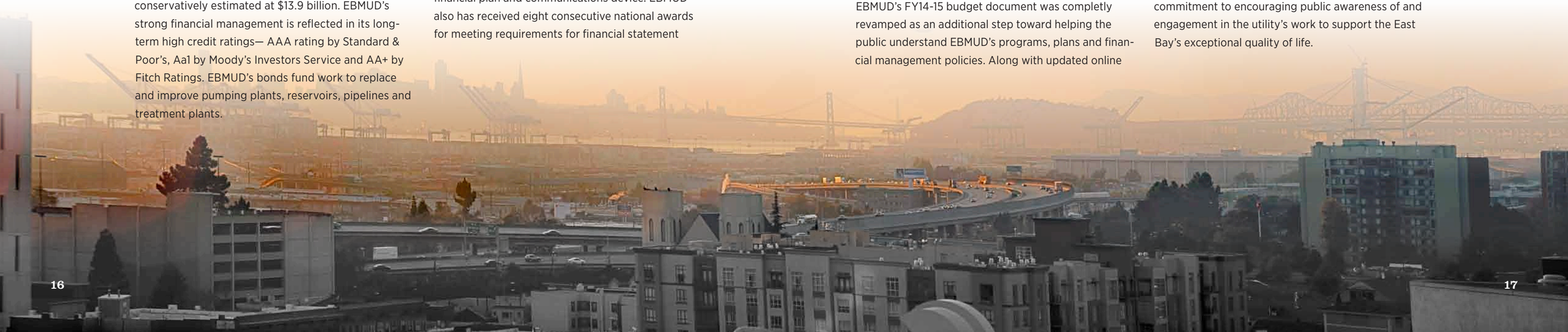
—Andy Katz, EBMUD Board President, 2013

Since 1996, EBMUD's budget document has received twelve consecutive national awards recognizing effective presentation of materials that meet stringent guidelines as a policy document, operations guide, financial plan and communications device. EBMUD also has received eight consecutive national awards for meeting requirements for financial statement presentation and compliance with government accounting, auditing and financial reporting guidelines. EBMUD's FY14-15 budget document was completly revamped as an additional step toward helping the public understand EBMUD's programs, plans and financial management policies. Along with updated online resources and information for the bond investment community, this new document underscores EBMUD commitment to encouraging public awareness of and engagement in the utility's work to support the East Bay's exceptional quality of life.

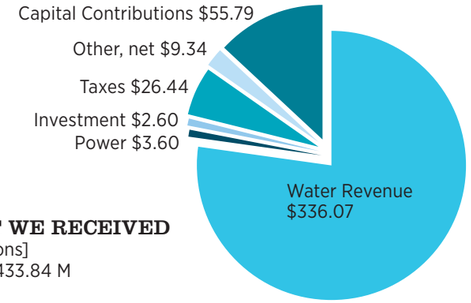
WATER SYSTEM	FY 2013	FY 2012
DURING THE YEAR		
Total Water Production, millions of gallons	67,089	65,242
Average Daily Water Production, MGD*	184	178
Maximum Daily Water Production, MGD	253	251
Minimum Daily Water Production, MGD	116	123
AT YEAR END		
Number of Accounts	378,852	378,123
Number of Employees	1,473	1,499
Miles of Water Distribution Pipe	4,110	4110
Operating Distribution Storage Capacity, millions of gallons	637	630

WASTEWATER SYSTEM	FY 2013	FY 2012
DURING THE YEAR		
Average Daily Wastewater Flow, MGD	61	62
AT YEAR END		
Number of Accounts	174,536	174,232
Number of Employees	252	257

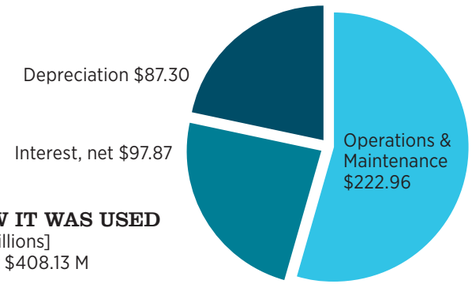
** MGD = millions of gallons per day*



WATER SYSTEM

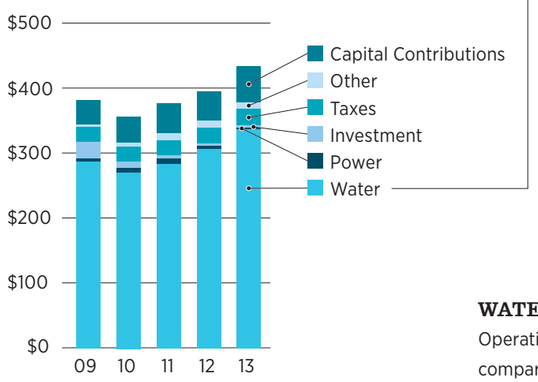


WHAT WE RECEIVED
[in millions]
Total: $433.84 M

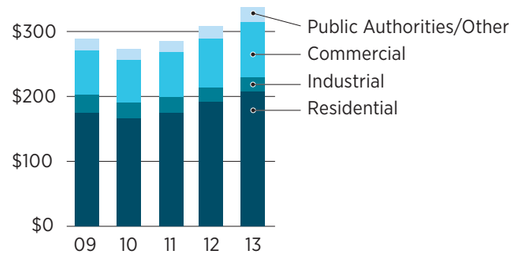


HOW IT WAS USED
[in millions]
Total: $408.13 M

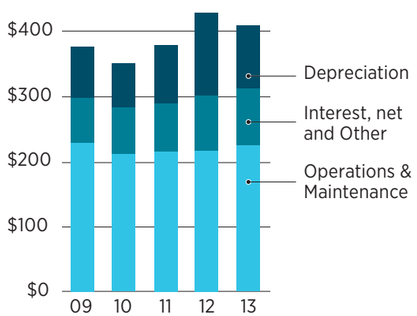
TOTAL REVENUES
[in millions]



WATER REVENUE
[in millions]



TOTAL EXPENSES
[in millions]



WATER SYSTEM FINANCIAL HIGHLIGHTS

Operating Revenues increased while Operating Expenses decreased compared to prior years. There was a slight increase in consumption in the second half of the current year compared to the prior year. While the District continued on-going cost saving measures, it also took advantage of low interest rates to refinance debt and lower debt service costs in the current year.

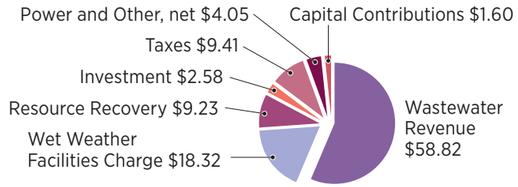
Total revenues for the Water System increased 10 percent from $395 million in 2012 to $434 million in 2013 primarily due to an 6% increase in water rates and 3.9% increase in consumption due to dryer than normal weather.

Total expenses decreased from $427 million in 2012 to $408 million in 2013, primarily due to the refinancing and restructuring of outstanding variable debt and swap agreements to fixed-rate debt, taking advantage of the current low borrowing rates.

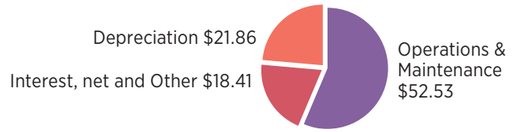
Before considering capital contributions, net assets decreased $30 million compared to last year's decrease of $77 million.

Cash reserves are $294 million or $179 million above the target of $115 million. These excess reserves will be used to fund future capital improvements.

WASTEWATER SYSTEM

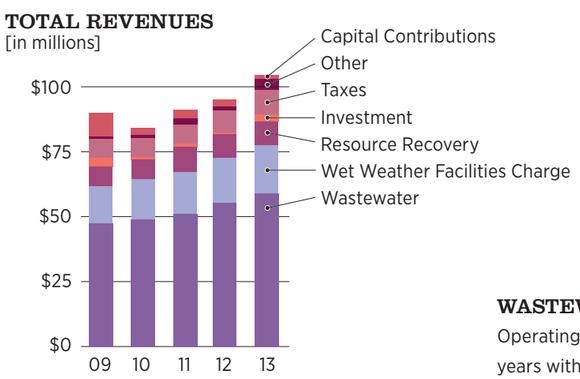


WHAT WE RECEIVED
[in millions]
Total: $104.01 M



HOW IT WAS USED
[in millions]
Total: $92.80 M

TOTAL REVENUES
[in millions]



TOTAL EXPENSES
[in millions]

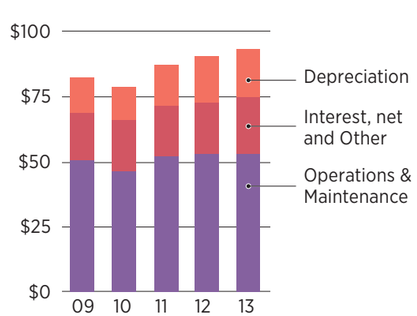


Chart notes:
The pie charts on these pages are scaled proportionally to reflect the difference in magnitude between the Water and Wastewater Systems and also to facillitate relative size comparisons between wedges in either System.

However, the bar charts use separate monetary scales to facillitate readability of the individual items. Height of bars are not comparable between Systems.

WASTEWATER SYSTEM FINANCIAL HIGHLIGHTS

Operating revenues and expenses have grown steadily over the past four years with the difference between operating revenues and expenses used to fund debt service and capital improvements.

Total revenues for the Wastewater System increased 10 percent from $95 million in 2012 to $104 million in 2013, based on increase in sewage rates.

Total expenses increased 3 percent from $90 million in 2012 to $93 million in 2013 primarily due to an increase in depreciation expense related to additional capital investments in digester improvements while other operating expenses remained flat.

Before considering capital contributions, net assets increased $10 million compared to last year's increase of $2 million.

Cash reserves are $64 million or $44 million above the target of $20 million. These excess reserves will be used to fund future capital improvements.

MISSION **STATEMENT**

To manage the natural resources with which the District is entrusted; to provide reliable, high quality water and wastewater services at fair and reasonable rates for the people of the East Bay; and to preserve and protect the environment for future generations.

BOARD OF DIRECTORS

Board Member	Ward
Lesa R. McIntosh	1
John A. Coleman	2
Katy Foulkes	3
Andy Katz	4
Doug Linney	5
William B. Patterson	6
Frank Mellon	7

Alexander R. Coate, General Manager

EBMUD provides high-quality drinking water for 1.3 million customers in Alameda and Contra Costa counties.

EBMUD's award-winning wastewater treatment plant generates renewable energy from waste and protects San Francisco Bay; it serves 650,000 customers.

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