
Updated Financial Assessment for the Recycled Water System

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Background

The San Elijo Joint Powers Authority (SEJPA) owns and operates a recycled water utility. The SEJPA is the producer of the recycled water and wholesales it to the Santa Fe Irrigation District (SFID), the San Dieguito Water District (SDWD) and the City of Del Mar. The SEJPA financed, permitted and constructed the recycled water treatment, storage and distribution systems, which became operational in September 2000. The SEJPA's recycled water program (program) currently delivers approximately 1,300 acre-feet per year (afy).

Much like any typical business venture, the early years of the program were financially challenging. During the first six years of operations, the program's expenditures exceeded revenues. However, as water sales grew and the value of water increased, the program became financially secure. For the past three years, revenues have exceeded expenditures and the program has built-up a small dedicated repair-replacement reserve of \$630,000. In addition, the program has an operating fund balance of approximately \$2.3 million, which can be used to fund capital improvements and to bridge future budget shortfalls, if they were to reappear.

The program has long-term debt in the form of a State Revolving Fund (SRF) loan with an estimated balance of \$8.5 million and the program has an internal debt to the SEJPA Member Agencies of approximately \$4 million. At the current rate of repayment, these debts are projected to be paid off in 14 years.

At the present time, the program is at a crossroads. It is financially successful at its current size, but state and regional water supply concerns are creating an environment in which it may be very attractive to expand the volume of water delivered. Additionally, while the program provides recycled water that meets Title 22 standards for unrestricted use, increasing concerns about water quality, particularly salinity, suggest that a proactive investment in demineralization could benefit SEJPA, its retailers and ultimately the customers. In order to balance future investments with sound financial practices, SEJPA has requested an update to its July 2005 Financial Assessment.

Goals for the Updated Financial Assessment

SEJPA requested a financial assessment that:

- Provides a third party review of the program’s current financial situation including observations and recommendations that stem from the review;
- Includes a financial analysis of future planning scenarios in order to guide decisions around investments in proposed capital improvement activities.

The primarily goals of the updated financial assessment are to:

- Provide decision makers with information on the cost of providing recycled water service relative to revenues generated from the program
- Provide decision makers with information regarding the estimated future financial condition of the program
- Provide an economic justification for proposed improvements to the recycled water system.

Current Financial Situation

SEJPA receives revenue from recycled water sales and incentive funding provided by both the Metropolitan Water District of Southern California (Metropolitan) and the San Diego County Water Authority (Authority). Recycled water is sold at 85% of the potable water rate; therefore the recycled water rate is slightly different in each of the three retail water service areas. The anticipated (FY 2009-10) revenue structure for SEJPA is illustrated below

	Recycled Water Rate (AFY)	Volume of Recycled Water Purchased (AF)	Total Revenue
Santa Fe Irrigation District	\$1071	510	\$546,210
City of Del Mar	\$922	150 ¹	\$138,300
San Dieguito Water District	\$1003 ²	710	\$712,130
Incentives (Metropolitan & Authority)	\$450	1300 ³	\$585,000
Total Revenue			\$1,981,640

¹ The City of Del Mar has a take or pay agreement with the SEJPA for 150 afy. The estimated Del Mar use for FY 2009-10 is 80 afy; the 22nd Agricultural District of California is responsible for paying the difference.

² The San Dieguito Water District has two rates at which recycled water is sold at (\$922 afy and \$1125 afy). Sales are roughly split 60/40 between the two rates which produces an average rate of \$1003 afy.

³ Incentives are paid on actual water deliveries which are estimated to be 510 AFY of SFID, 80 AFY to Del Mar and 710 AFY to SDWD for a total of 1300 AFY.

SEJPA has two major categories of expenditure including its debt service on the SRF loan used to construct the system and its operating costs. The anticipated (FY 2009-10) cost structure for SEJPA is illustrated below.

Budgeted Operating Costs	
Debt Service on SRF Loan	\$834,675
Personnel	\$420,130
Supplies & Services	\$522,090
Contingency	\$42,040
Total Expenditures	\$1,818,935

Recent Revenue and Expenditure History

While SEJPA had struggled financially with its recycled water utility in the early years, recent financial performance has been quite solid. The table below shows a trend of improving financial performance for the recycled water program.

	2004-05	2005-06	2006-07	2007-08	2008-09
Total Revenues	\$ 1,311,080	\$ 1,450,720	\$1,748,725	\$ 1,818,136	\$ 1,998,371
Total Expenditures	\$ 1,451,475	\$ 1,589,727	\$ 1,601,753	\$ 1,701,029	\$ 1,750,935
Program Cash Flow	\$ (140,395)	\$ (139,007)	\$ 146,972	\$ 117,107	\$ 247,436
Running Fund Balance¹	\$ 2,802,213	\$ 2,817,739	\$ 2,630,389	\$ 2,890,694	\$ 2,960,587
Fund Balance as % of Expenditures	143.45%	177.25%	164.22%	169.34%	169.09%

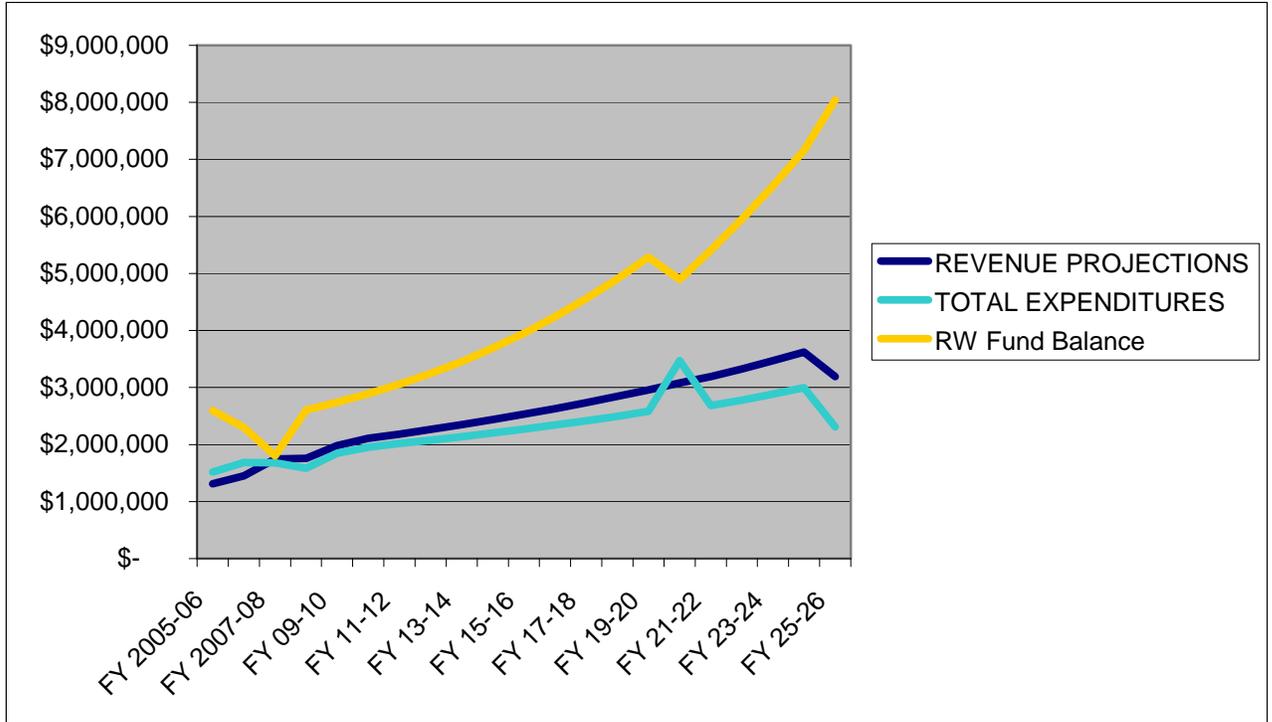
¹ Running fund balance includes accrued interest and reserves

Assumptions and Projections for the Status Quo

In order to understand the program’s ability to support new capital investments, the current revenue and expenditure pattern was projected forward to the year 2030 using the following assumptions:

- No increase in recycled water deliveries;
- 5% increase in water rates annually
- 5% increase in program operating costs annually (debt service and debt service reserve requirements remain fixed)
- SRF loan pay-off in 2020
- Member agency pay-off in 2024
- Metropolitan and Authority incentives end in 2025

The graph below illustrates the results of this modeling and clearly shows that, particularly in the out years, the recycled water program is accumulating substantial fund balances.



Summary Conclusions

The recycled water program’s recent history indicates that it is in a good financial position. Revenues regularly outpace costs and the available fund balance exceeds annual expenses. Because approximately one-half of the program’s expenditures (debt service) are a fixed cost, inflation-based increases to water rates are likely to outpace inflation-based increases to expenditures. The program has some capacity to make careful, planned investments.

Future Planning Scenarios, Assumptions and Results

The analysis of current conditions indicates that the recycled water program has some capacity to pursue new capital projects that can improve and expand the existing program. In order to understand the impacts of these investments, a spreadsheet based financial model has been developed in order study and analyze the impacts of various planning scenarios on the financial health of the program. A range of assumptions regarding future size of the program, the scope of future infrastructure investments, inflation rates and financing plans were developed with the SEJPA staff and modeled by the consultant. The intent of this modeling effort is to bracket a reasonable range of assumptions and assist decision makers in targeting an appropriate level of investment while maintaining an overall fiscally sound recycled water utility.

Drivers for Investing in the Recycled Water Program

There are two primary drivers for future investments in the recycled water program: water supply and water quality.

Water Supply

The Authority's 2005 Urban Water Management Plan (UWMP), which is consistent with Metropolitan's Integrated Resources Plan, recognizes the need for diversified local supplies in order to enhance water supply reliability and reduce the impacts of drought, climate change and regulatory uncertainties around the imported water supply. The Authority's 2005 UWMP identifies the need for up to 14,000 afy in new recycled water supplies by the year 2030 to meet dry year water needs.

Currently, the Authority has all of its member agencies under Drought Alert, which includes a requirement for 20% mandatory conservation. Water recycling is a very effective conservation practice resulting in a 100% offset of potable water demands. SEJPA has recently experienced significant interest, from its retail water agency partners, in expanding recycled water deliveries as they work to comply with the Drought Alert.

Water Quality

While recycled water has a role to play to expanding local water supplies, the State Water Resource's Control Board's newly adopted Recycled Water Policy is clear that water quality must also be addressed. Recycled water has an incrementally higher Total Dissolved Solids (TDS) load than potable water and TDS levels above 1100 mg/liter can limit the use of recycled water for landscape irrigation. Long-term use of incrementally saltier water can also result in groundwater degradation. In order to balance the water supply and water quality concerns, the Recycled Water Policy calls for the development of regional salt and nutrient management plans.

There are several areas in California where these plans have been developed: the Santa Ana Watershed Project Authority and the Callegus watershed are notable local examples. In both these cases, demineralization strategies to improve water quality are part of the long-term suite of solutions that provide for recycled water use in the area.

As noted, the TDS loading in SEJPA's recycled water approaches the level that can limit irrigation applications. Investments in improving water quality could anticipate future regulatory requirements while preserving the value of the water resource the SEJPA provides.

Planning Scenarios

Four planning scenarios have been developed to model a range of future conditions that SEJPA may experience. These are:

- Scenario 1 Status Quo with demineralization improvements: the scenario involves construction of demineralization improvements to meet current demands and improving the quality of water delivered to customers. This scenario is intended to represent the low range of future probable costs.
- Scenario 2 Slow growth with demineralization improvements: this scenario involves construction of demineralization improvements to serve a maximum system demand of 1600 afy. It also assumes that the system will slowly build-out to capacity by Fiscal Year 2019-20.

- Scenario 3 Rapid near-term growth with demineralization, storage and pumping improvements: this scenario assumes that the current drought conditions will result in 150 afy of new recycled water demands by Fiscal Year 2011-12, with slower build-out to full system capacity by Fiscal Year 2019-20. This scenario assumes an investment of \$3 million in demineralization treatment and \$1.5 million in storage and pump system improvements to meet these new demands.
- Scenario 4 Maximum near-term growth with demineralization, distribution, pumping and storage improvements: this scenario assumes that the current drought conditions will result in 300 afy of new recycled water demands by Fiscal Year 2011-12, coupled with continued growth through Fiscal Year 2019-20 for a maximum demand of 1900 afy. This scenario includes allowance for SEJPA to invest funds in constructing expected improvements necessary to meet these new demands. This scenario is intended to represent the high range of future probable costs.

The assumptions for each scenario are illustrated below. Detailed discussion follows in the next sub-section.

	Scenario 1	Scenario 2	Scenario 3	Scenario 4
Current Sales	1300 afy			
Future Sales	no increase	1600 afy by FY 2019-20	1450 afy by FY 2011-12 1600 afy by FY 2019-20	1600 afy by FY 2011-12 1900 afy by FY 2019-20
Water Rate Increases	5% annually			
Inflation Increases	5% annually			
Interest on Fund Balance	2% annually			
Future SRF Rates and Terms	0% interest for 20 years			
CIP Improvements	demineralization	demineralization	demineralization pumping storage	demineralization distribution system pumping storage
CIP Budget	\$2,000,000	\$3,000,000	\$4,500,000	\$7,000,000
SEJPA Contribution to CIP	\$1,000,000			\$1,400,000
Increase in O&M	\$60,000	75,000	105,000	135,000

Assumptions

The following assumptions are reflected in the each of the scenarios modeled. The goal of the analysis is to assist decision makers in bracketing a reasonable range of deliveries. All cost estimates are “order of magnitude” cost estimates with expected accuracy of +50% to -30%.

- **Current Sales:** SEJPA retails approximately 510 afy to Santa Fe Irrigation District, approximately 710 afy to San Dieguito Water District and approximately 80 afy to the City of Del Mar. However, the City of Del Mar is required to pay for 150 afy regardless of use.
- **Future Sales:**
 - Scenario 1 assumes that there are no increases in future sales.
 - Scenario 2 assumes future sales grow slowly in the Santa Fe Irrigation District and San Dieguito Water District service areas until the system reaches build-out capacity in Fiscal Year 2019-20.
 - Scenario 3 assumes that Santa Fe Irrigation District and San Dieguito Water District each add 75 afy of new demand in the next 3 years as a result of drought pressures and then grow slowly to buildout (1600afy) by year Fiscal Year 2019-20.
 - Scenario 4 has the assumptions as Scenario 3 but include the addition of a new service area (Rancho Santa Fe Golf Course) that adds 300 afy in the next three years. This scenario assumes that slow growth continues within the existing service areas to 1600 afy by the year 2020. This usage, coupled with the addition of the Rancho Santa Fe (RSF) Golf Course (300 afy), totals a system demand of 1900 afy in 2020. It is assumed that the Santa Fe Irrigation District will construct the necessary distribution system and offsite storage to serve the RSF Golf Course and that SEJPA will construct the necessary treatment, storage and pumping improvements at the water reclamation facility. For this new distribution system, it is assumed that the recycled water rate is \$900/af and that the Metropolitan & Authority financial assistance is equally shared (\$225 each) between the Santa Fe Irrigation District and SEJPA, as both agencies are contributing to the capital cost of this new service area.
- **Water Rate Increases:** All scenarios assume that water rates increase at 5% per year. This increase in water rates is based on the fact that Metropolitan, the wholesale water supplier, is budgeting for steep increases in water rates (approximately 20% in 2010 and 12% in 2011). These increases in wholesale water pricing will influence retail rates.
- **Inflation Increases:** All scenarios assume that SEJPA's operation costs will also increase at a rate of 5% per year.
- **Interest on Fund Balance:** All scenarios assume that SEJPA will earn a 2% interest rate on its invested fund balance.
- **SRF Rates and Terms:** All scenarios assume that SEJPA will utilize the State Water Resources Control Board's Revolving Fund Loan Program (SRF) to construct facilities. The SRF has two borrowing programs. The conventional borrowing program allows agencies to borrow money at half the current state general obligation rate. The "match" program allows agencies to borrow money at a 0% interest rate, which is the rate at which the State borrows fund from the federal

- government, provided that the agencies provides a 20% match to project costs, which is the match that the State must provide the federal government to access SRF Funds. All scenarios assume that repayments on the second SRF loan begin in Fiscal Year 2012-13 (i.e. one year after the completion of construction).
- CIP Improvements and Budget: Scenario 1 assumes the SEJPA constructs minimum capacity demineralization facilities at a cost of \$2 million. Scenario 2 assumes that SEJPA constructs demineralization facilities with a capacity of up to 1600 afy at a cost of \$3 million. Scenario 3 assumes that SEJPA constructs full capacity demineralization facilities and modest extensions to its distribution and storage systems at a cost of \$4.5 million. Scenario 4 assumes that SEJPA constructs demineralization facilities, pumping, storage and distribution facilities at a cost of \$7 million. All estimates include a 15% allowance for soft costs.
 - SEJPA Contribution to the CIP: Scenarios 1, 2 and 3 assume that SEJPA provides a \$1 million match to project costs, which allows it to access the SRF's zero-interest match program. Scenario 4 assumes that SEJPA provides a \$1.4 million match (or 20% of the project costs), which allows it to access the zero-interest match program.
 - Increase in O&M Costs: It is assumed that SEJPA's non-fixed operating costs (labor, energy, chemicals, repair parts, etc.) will increase proportionally to water sales and demineralization operations. All scenarios assume that the demineralization facilities come on-line in Fiscal Year 2011-12. For Scenario 1, it is assumed that the SEJPA's operating costs increase by \$60,000. For Scenario 2, it is assumed that the SEJPA's operating costs increase by \$75,000. For Scenario 3, it is assumed that the SEJPA's operating costs increase by \$105,000. For Scenario 4, it is assumed that the SEJPA's operating costs increase by \$135,000.

Summary of Results

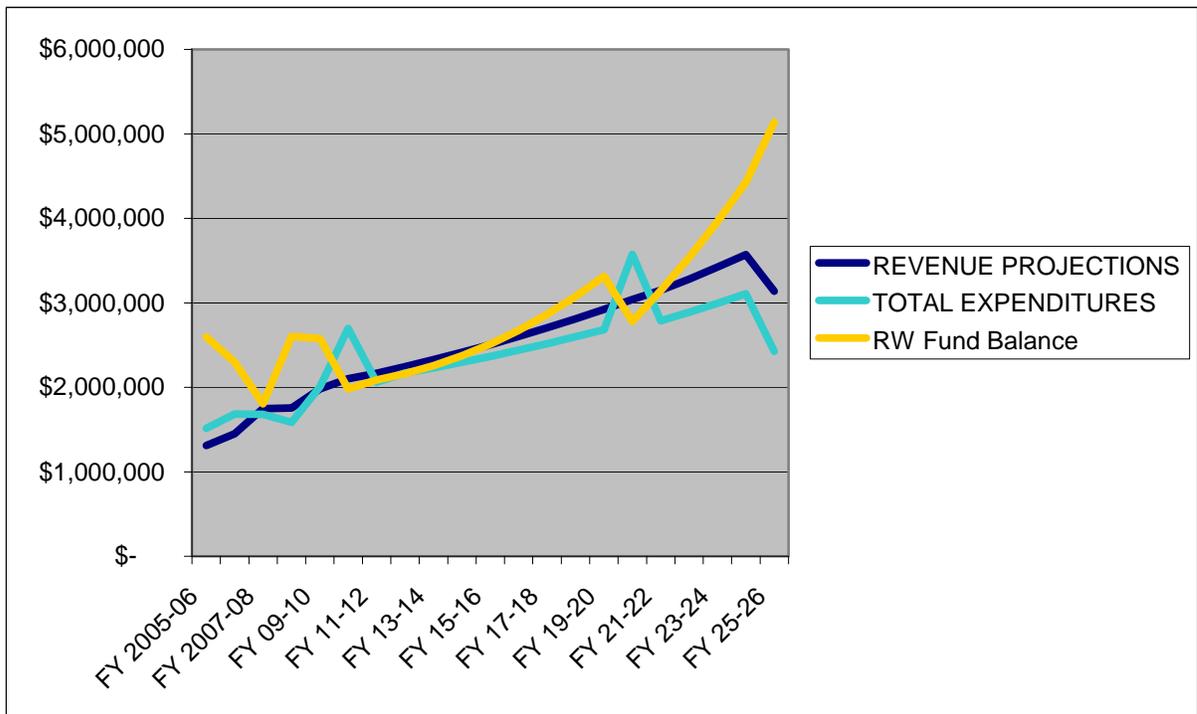
The spreadsheet model was used to analyze the impacts of each of the proposed scenarios on SEJPA's cash flow and fund balance. In each case, the program cash-flow and fund balance recovers quickly after the initial investment in system construction, indicating that the program has the financial capacity to make these investments. The results are presented graphically below.

Because of the current rate structure, overall program revenues are closely tied to assumptions about water rates. The model assumes that water rates are likely to increase because of factors such as drought, climate change and regulatory constraints around the State Water Project. In all four models, program revenues begin to outpace expenditures around 2015. If this modeled condition holds true, the SEJPA will be in a strong position to dedicate additional funds to its repair and replacement asset account. Currently this account is funded at the minimum level required by the State Revolving Fund. In future years, SEJPA may wish to develop a formal reserve policy to guide the dedication of revenues to overall management of its infrastructure assets.

Scenario 1

This scenario maintains positive cash flow, except in Fiscal Years 2009-10 and 2010-11 when the initial \$1 million investment is made, and again in Fiscal Year 2020-21, when SEJPA makes the last payment on its first SRF loan and begins re-paying member agencies. The program generally retains a Fund Balance in excess of expenditures. In Fiscal Year 2025-26, when the first SRF loan and member agency contributions are paid off, the program has an estimated fund balance of \$5.2 million, or approximately \$3 million less than is projected for the Status Quo. This reflects the investment made in improved water quality.

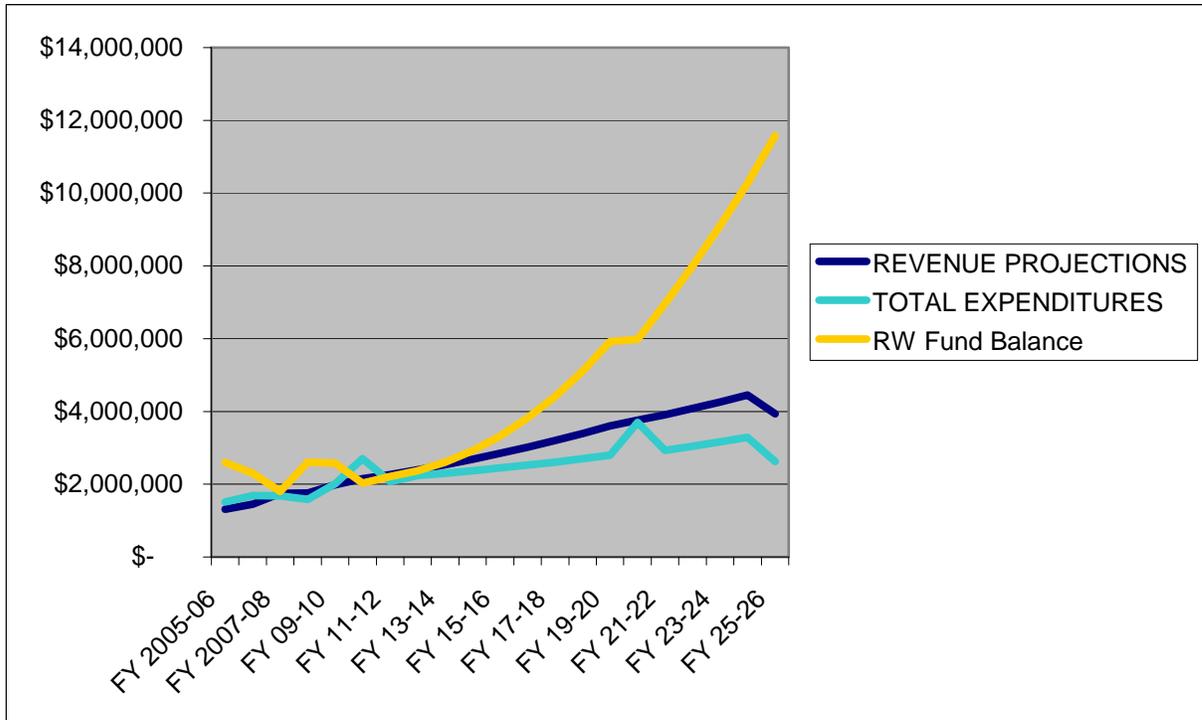
The program’s projected revenues, expenditures and fund balance, under Scenario 1, are illustrated below.



Scenario 2

This scenario also maintains positive cash flow, except in Fiscal Years 2009-10 and 2010-11 when the initial \$1 million investment is made, and again in Fiscal Year 2020-21, when SEJPA makes the last payment on its first SRF loan and begins re-paying member agencies. The program retains a Fund Balance well in excess of expenditures beginning in Fiscal Year 2015-16. In Fiscal Year 2025-26, when the first SRF loan and member agency contributions are paid off, the program has an estimated fund balance of approximately \$11.5 million, or approximately \$3 million more than is projected for the Status Quo. This illustrates that water quality improvements can more than pay for themselves, if they allow the program to attract additional customers at a very modest rate.

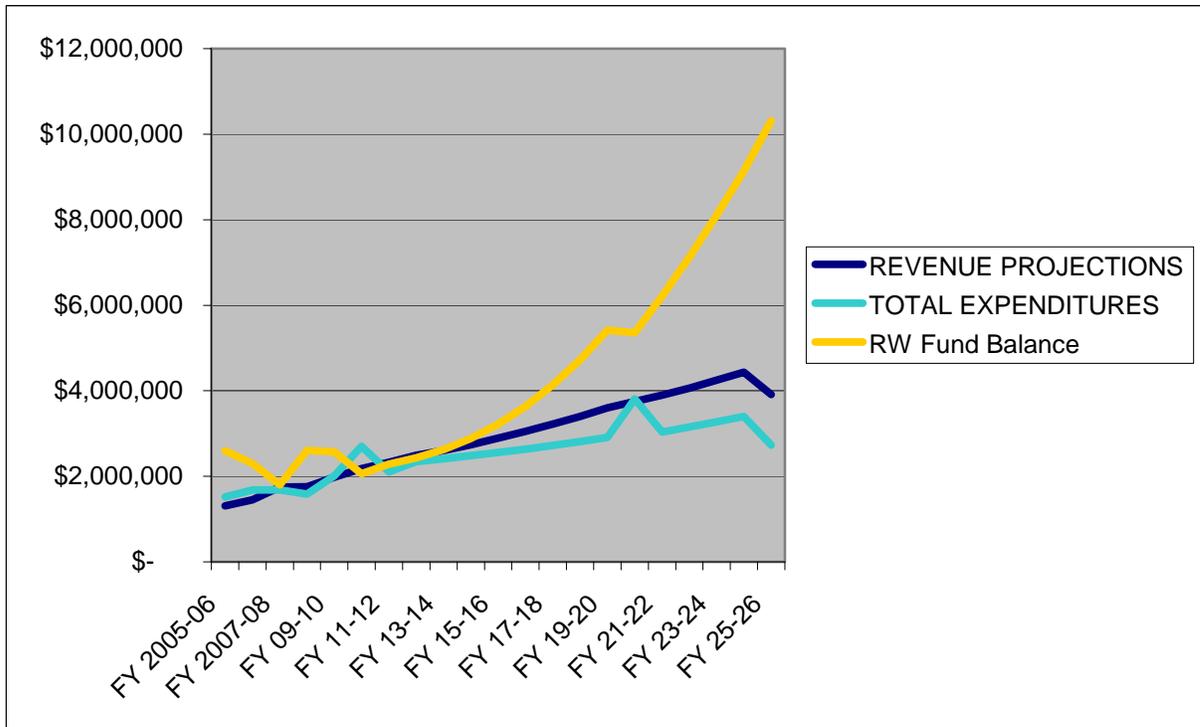
The program’s projected revenues, expenditures and fund balance, under Scenario 2, are illustrated below.



Scenario 3

This scenario also maintains positive cash flow, except in except in Fiscal Years 2009-10 and 2010-11 when the initial \$1 million investment is made, and again in Fiscal Year 2020-21, when SEJPA makes the last payment on its first SRF loan and begins re-paying member agencies. The program retains a Fund Balance well in excess of expenditures beginning in Fiscal Year 2016-17. In Fiscal Year 2025-26, when the first SRF loan and member agency contributions are paid off, the program has an estimated fund balance of approximately \$10.3 million, or approximately \$2 million more than is projected for the Status Quo. This illustrates that water quality improvements and system expansion can pay for themselves, if they allow the program to attract additional customers.

The program’s projected revenues, expenditures and fund balance, under Scenario 3, are illustrated below.



Scenario 4

This scenario results in the largest drain on near-term cash flow but ultimately the highest potential for revenue growth. SEJPA makes the largest near-term investment, \$1.4 million. For the next three fiscal years, expenditures will exceed revenues while investments are made in design and construction. The success of the scenario is highly dependent upon the golf course coming on-line in Fiscal Year 2012-13 so that additional water sales begin to increase revenues. However at the end of the planning term, this scenario results in the largest fund balance of \$14 million.

The major risk of this scenario is that the water rate for the new golf course customer is “de-coupled” from water rates. This could set a precedent for SEJPA’s negotiations with other water retailers in the future. Future fund balance accruals are dependent on water rates out-pacing expenditures. If future recycled water rates for all retailers are set at \$900/af, then future fund balances will be substantially less than the model predicts and cash flow may again turn negative.

The program’s projected revenues, expenditures and fund balance, under Scenario 4, are illustrated below.

