Performance Measurement Report

Calendar Year 2020

Performance Measurements Using the "Effective Utility Management" Framework

NapaSan
Collection • Treatment • Recovery • Reuse

Issue Date: March 3, 2021

www.NapaSan.com

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More information about the Napa Sanitation District can be found at
www.NapaSan.com

Introduction

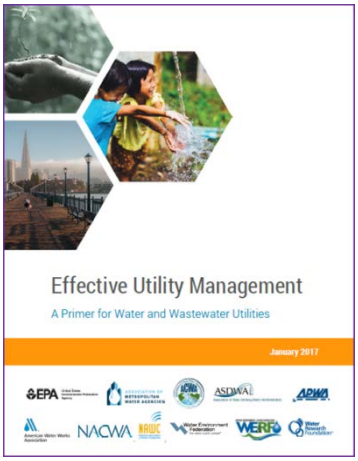
Introduction to the Report

This report is the eleventh annual report by the Napa Sanitation District ("NapaSan") regarding its performance. It includes performance measures that, when taken as a whole, should give the reader a sense of how well the utility is performing and being managed. This report is prepared by management for use by NapaSan's Board of Directors and by the general public.

NapaSan has chosen to use the Effective Utility Management (EUM) framework for presenting this information. This framework is specific to water and wastewater utilities and provides for the possibility of comparing NapaSan to other wastewater utilities once more providers begin using EUM for measuring and reporting on performance.

About Effective Utility Management

Effective Utility Management (EUM) is a framework for evaluating water and wastewater utilities. In May 2007, six major water and wastewater associations and the United States Environmental Protection Agency agreed to support EUM collectively and individually throughout the water sector. EUM is designed to help utility managers make practical, systematic changes to achieve excellence in utility performance, and encapsulates the collective knowledge and experience of utilities leaders who are committed to helping improve water and wastewater management.



EUM has identified Ten Attributes of Effectively Managed Water Sector Utilities. This performance measurement report has been divided into those ten attributes, as they are intended to help utilities maintain a balanced focus on all important operational areas rather than quickly moving from one problem to the next.

More can be learned about Effective Utility Management by visiting the website www.waterEUM.org.

About Performance Measures

Performance measures are those things that are measured by an organization to evaluate the performance of that organization. There are several types of measures, including input, output, efficiency and effectiveness. Input and output measures tend only to capture the amount of work performed by departments or organizations. This report focuses on efficiency and effectiveness measures, and then only on the measures that are meaningful to management of NapaSan and that NapaSan has some ability (total or partial) to influence.

Quick-Glance Ratings

This report includes with every measure an analysis of how NapaSan is doing within that area. Additionally, next to each graph or qualitative measure is an icon to help the reader assess quickly how NapaSan is performing against that measure. Those icons are as follows:

"Satisfactory" (green star) – signifies that NapaSan has met its goals, or that the trend is positive.

"Watch" (orange diamond) – signifies that NapaSan is in danger of not meeting its goals, that the trend is indeterminate, or that there is insufficient data to make an assessment.

"Unsatisfactory" (red triangle) – signifies that NapaSan has not met its goals or that the trend is negative.

"No Measure" (purple circle with slash) – signifies that NapaSan has not developed a measurement for this performance indicator.

Executive Summary

This report is the eleventh annual Performance Measurement Report produced by the Napa Sanitation District ("NapaSan"). The report is structured around the Ten Attributes of Effectively Managed Water Sector Utilities, as developed in Effective Utility Management (EUM).

This report will be used by management of NapaSan to identify specific trends or issues regarding the ten attributes. The Report is also intended to provide a partial answer to the question asked by the Board of Directors and the ratepayers alike, "Is NapaSan a well-run utility?" This document will be used by NapaSan's Board of Directors as a source of information for setting goals and priorities through the strategic planning and annual budget processes.

In recognition of its commitment to the EUM, NapaSan was awarded the distinction of Utility of the Future Today in October 2018. The recognition program was launched in 2016 by four water sector organizations – the National Association of Clean Water Agencies (NACWA), the Water Environment Federation (WEF), the Water Environment & Reuse Foundation (WERF) and WateRuse – with input from the U.S. Environmental Protection Agency (EPA). The Utility of the Future Today recognizes the achievement of forward-thinking, innovative water and wastewater utilities that are providing resilient value-added service to communities, particularly in community engagement, watershed stewardship, and recovery of resources such as water, energy, and nutrients. NapaSan was specifically recognized for its efforts in water reuse and recycling. NapaSan is one of 118 utilities that have been recognized since the program started. Development of the Performance Measurement Report using the EUM framework has been an invaluable tool for staff to evaluate NapaSan's performance as an effective wastewater utility.

The following is a summary of performance measurements in this report.

Product Quality – NapaSan continues to meet or exceed regulatory compliance requirements at the wastewater treatment plant. Sanitary Sewer Overflows remained at "satisfactory" for 2020 due to the continuation of number and volume of overflows being significantly lower than the state and regional averages. The trend line for the number of sanitary sewer overflows and plugged main lines continued its downward trajectory. Recycled water quality has steadily improved since 2015, particularly for chlorides, but remains on the "watch" list due to its proximity to the "maximum concentration for sensitive grape species".

Customer Service – The continued trend in reduced number of service calls due to NapaSan causes should result in more satisfied customers. The customer service surveys that begun in 2011 appear to support this, with very high marks for the Collections crews. NapaSan met its stated customer service response time goals for service calls and for development review.

Employee and Leadership Development – Retirements have been as anticipated the past several years, with only minor turnover beyond what was expected. Anticipated retirements of almost 28% over the

next five years has been anticipated and planned for. The employee survey questions were not asked in 2020. As part of the strategic planning process planned for April 2021, NapaSan will reevaluate the employee survey in the upcoming Strategic Plan. This past year, on-line safety training met its 90% target for both completion and timeliness. NapaSan has drafted succession plans for key positions, with training enabled to support the plans, and training programs are in place to capture collection system and operations knowledge.

Operational Optimization – Over the past decade, the plant has generally remained steady in its consumption of electricity overall. Greater demand for recycled water is contributing toward an upward climb in consumption in use per million gallons treated, but this was expected with the recycled water system expansion. NapaSan's self-produced electricity represents the "new standard" at 50% in 2020. Chemical consumption per million gallons treated continues at reduced volumes for the polymer in overall quantity and in quantity per million gallons treated. Staff in both Collections and Plant Maintenance have maintained or improved their ratios of planned maintenance versus corrective maintenance.

Financial Viability – The operating ratio was positive for the fifth year in a row. The current ratio and the days of cash on hand are sufficient to meet operating needs. The debt service coverage ratio is significantly higher than the required 125%, in anticipation of issuing new debt in FY 2020/21, and NapaSan maintains adequate financial policies and internal controls. NapaSan's reserves are funded in accordance with financial policies. After the declaration of the global pandemic, Standard & Poor's affirmed NapaSan's "AA" rating but revised its outlook from "positive" to "stable". This was due to the overall uncertainty of the impact on revenues for all agencies in this sector. The Implicit Pension Debt was a new measure for 2019. It measures the pension unfunded actuarial liability, as if it were a debt obligation, against the resources available to pay it off. Ten years ago, the ratio was in the 50% range. In the last few years, NapaSan's increased operational revenues, reductions to its retirement benefits prior to PEPRA, and the additional contributions to pay down the unfunded liability has resulted in a downward trend in this measurement.

Infrastructure Stability –NapaSan maintains a computer-based asset and condition information of its collection system and most components of the Soscol Water Recycling Facility. NapaSan's new computerized maintenance management system (CMMS) is expected to launch in 2021. NapaSan exceeded its goals related to annual sewer main line condition assessments. NapaSan has been meeting its targets for spending on renewal & replacement projects, with increased investments in sewer renewal and rehabilitation efforts, meeting its replacement goal for renewal & replacement and Inflow & Infiltration sewer projects in 2020. NapaSan is performing very well regarding collection system collapse rates. Inspections of restaurant to help prevent fats, oil and grease (FOG) problems in the collection system decreased in 2020 due to the pandemic. Internal grease inspections will resume when it is safe to do so. NapaSan meet its sewer main line cleaning target for 2020. Recycled water service availability was at 99%.

Operational Resiliency – The recordable incident rate in 2020 dropped again from the prior year and did not result in any lost time for the year. There were no vehicle accidents in 2020. The number of

insurance claims dropped from prior year, but the variability over the last 10 years keeps this category on "watch". NapaSan's Experience Modification Rate (a measure of the quantity and severity of workers compensation claims) dropped to significantly below the industry average to 62. NapaSan maintains adequate Emergency Response Plans and practices them regularly. The cogeneration engine has been stable and reliable in recent years, with the only major downtime due to a planned major maintenance event at the end of 2016 and beginning of 2017. The uptime for all pumps at pump stations was added as a new measure in 2016, but there are still insufficient long-term metrics to evaluate at this time. Treatment plant capacity remains steady, with sufficient capacity at this time for planned growth in the community.

Community Sustainability – NapaSan has invested in meeting community needs, particularly with recycled water. In 2020, a higher volume of recycled water was distributed to recycled water customers than the volume of treated water that was discharged to the Napa River. This is the first year when recycled water distribution exceeded Napa River discharge. NapaSan is involved in several community programs that encourage environmental protection and awareness, and has incorporated "green" practices into its capital planning. Greenhouse gas emissions, in the form of carbon dioxide from purchased energy, has seen a decrease in recent years as solar has come online, however 2020 shows higher power purchase due to the high recycled water demand. Biosolids and digester gas beneficial reuse remain high. As for service affordability, sewer service charges are still significantly within the "low burden" rating established by the EPA, although it ticked up slightly in 2018 though 2020 as rates increased.

Water Resource Adequacy – This attribute, reinterpreted as a measure of recycled water adequacy, shows that NapaSan has both sufficient short-term and long-term adequacy to meet customer needs.

Stakeholder Understanding and Support – NapaSan continues to seek out customer input and engagement on various project, most recently to discuss the design, alignment and impacts of the Browns Valley Trunk project and during the new Citizens Academy. NapaSan's sewer service charges compare favorably to other provider's rates, even with recent increases approved by the Board. NapaSan continued to provide plant tours, classroom presentations and public presentations to increase awareness of NapaSan's mission and efforts. Media coverage for NapaSan was lower in 2020.

Summary of Measures and Ratings

More information about the specific measures and the rationale for the ratings can be found on the page number provided.

Satisfactory

Watch

Unsatisfactory

No Measure

Attribute	Measurement	2020	Trend	Page
1. Product Quality	1-NPDES Compliance: Treatment for BOD and TSS Removal	★	★	17
	2-NPDES Compliance: Total Allowable BOD and TSS	★	★	18
	3-Sanitary Sewer Overflows (SSOs)	★	★	19
	4-Volume of Sewage Overflow	★	★	20
	5-Plugged Main Lines	★	★	21
	6-Recycled Water Quality	★	◆	22
2. Customer Service	1-Service Calls for District Plugged Laterals	★	★	26
	2-Service Call Response Time	★	★	27
	3-Development Review Response Time	★	★	28
	4-Customer Satisfaction	★	★	29
3. Employee and Leadership Development	1-Experience Turnover Rate	★	★	33
	2-Employee Satisfaction	★	★	34
	3-Online Safety Training Hours	★	★	35
	4-Succession Planning	★	★	36
	5-Institutional Knowledge Capture	★	★	37
4. Operational Optimization	1-Electricity Self-Generation	★	★	41
	2-Electricity Consumption Efficiency	★	★	42
	3-Chemical Consumption	★	★	43
	4-Planned Maintenance Ratio-Collections	★	★	44
	5-Planned Maintenance Ratio-Treatment Plant	★	★	45
5. Financial Viability	1-Operating Ratio	★	★	49
	2-Current Ratio and Days Cash on Hand	★	★	50
	3-Capital Expenses Compared to Operating Expenses	★	★	51
	4-Debt Service Coverage Ratio	★	★	52
	5-Financial Procedure Integrity	★	★	53
	6-Bond Rating	★	★	54
	7-Financial Reserves	★	★	55
	8-Implicit Pension Debt	★	★	56

Satisfactory

Watch

Unsatisfactory

No Measure

Attribute	Measurement	2020	Trend	Page
6. Infrastructure Stability	1-Asset Inventory	Watch	Watch	60
	2-Renewal & Replacement of Assets	Satisfactory	Satisfactory	61
	3-Sewer Main Condition Assessment	Satisfactory	Satisfactory	62
	4-Sewer Main Line Cleaning	Satisfactory	Satisfactory	63
	5-Food Service Establishment Inspections	Watch	Satisfactory	64
	6-Sewer Main Renewal and Replacement	Satisfactory	Satisfactory	65
	7-Lower Sewer Lateral Renewal and Replacement	Satisfactory	Satisfactory	66
	8-Sewer Partial or Total Collapse Rate	Satisfactory	Satisfactory	67
	9-Recycled Water Service Availability	Satisfactory	Satisfactory	68
7. Operational Resiliency	1-Total Recordable Incident Rate	Satisfactory	Satisfactory	72
	2-Vehicle Accident Rate	Satisfactory	Satisfactory	73
	3-Lost Time Hours	Satisfactory	Satisfactory	74
	4-Insurance Claims	Satisfactory	Watch	75
	5-Experience Modification (XMOD) Rate	Satisfactory	Satisfactory	76
	6-Emergency Response Plans	Satisfactory	Satisfactory	77
	7-Uptime for Cogeneration Engine	Satisfactory	Satisfactory	78
	8-Uptime for Pumps at Pump Stations	Satisfactory	No Measure	79
	9-Resiliency Under Emergency Conditions: Power	Satisfactory	Satisfactory	80
	10-Resiliency Under Emergency Conditions: Staff	Satisfactory	Satisfactory	81
	11-Treatment Plant Capacity	Satisfactory	Satisfactory	82
8. Community Sustainability	1-Watershed-based Infrastructure Planning	Satisfactory	Satisfactory	86
	2-Green Infrastructure – Programs	Satisfactory	Satisfactory	87
	3-Green Infrastructure – New Infrastructure	Satisfactory	Satisfactory	88
	4-Greenhouse Gas Emissions – Purchased Energy	Satisfactory	Satisfactory	89
	5-Digester Gas Beneficial Reuse	Satisfactory	Satisfactory	90
	6-Recycled Water Beneficial Reuse	Satisfactory	Satisfactory	91
	7-Biosolids Beneficial Reuse	Satisfactory	Satisfactory	92
	8-Sewer Service Charge Affordability	Satisfactory	Satisfactory	93
	9-Low Income Billing Assistance	Satisfactory	Satisfactory	94
9. Water Resource Adequacy	1-Recycled Water Supply Adequacy	Satisfactory	Satisfactory	98
10. Stakeholder Understanding & Support	1-Stakeholder Consultation	Satisfactory	Satisfactory	102
	2-Public Education Presentations	Satisfactory	Satisfactory	103
	3-Comparative Rate Rank	Satisfactory	Satisfactory	104
	4-Recycled Water Comparative Rate Rank	Satisfactory	Satisfactory	105
	5-Media/Press Coverage	Satisfactory	Satisfactory	106

Performance Measurement Report

EUM Attribute #1

Product Quality

This attribute evaluates whether treated effluent, recycled water and residuals are processed in full compliance with regulatory and reliability requirements and consistent with customer, public health and ecological needs.

- Satisfactory
- Watch
- Unsatisfactory
- No Measure

Attribute	Measurement	2020	Trend	Page
1. Product Quality	1-NPDES Compliance: Treatment for BOD and TSS Removal	★	★	17
	2-NPDES Compliance: Total Allowable BOD and TSS	★	★	18
	3-Sanitary Sewer Overflows (SSOs)	★	★	19
	4-Volume of Sewage Overflow	★	★	20
	5-Plugged Main Lines	★	★	21
	6-Recycled Water Quality	★	◆	22

PRODUCT QUALITY

Rating	
Current Year	10-Year Trend
★ Satisfactory	★ Satisfactory

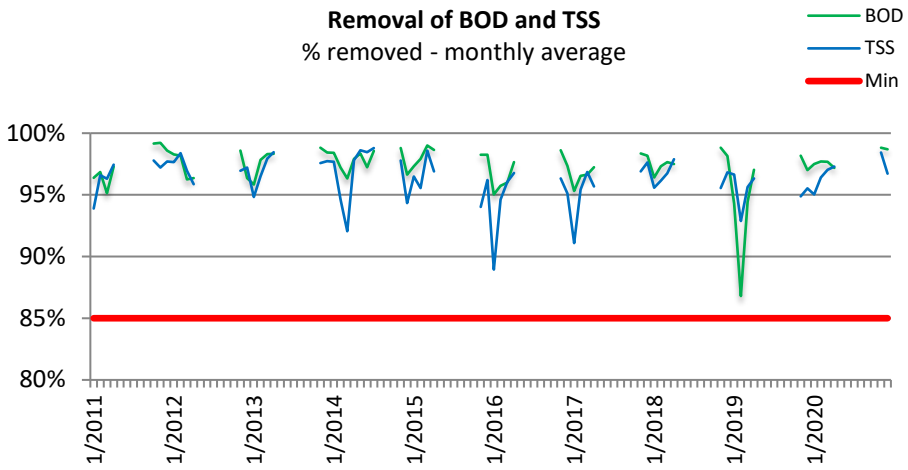
Measurement #1-1

NPDES Compliance: BOD and TSS Removal

Description

NapaSan is required under its NPDES permit to remove at least 85% of the biochemical oxygen demand (BOD) and total suspended solids (TSS) from the water received at the plant during the river discharge period (winter months). The chart shows the average monthly removal percentages for both BOD and TSS. The monthly average percentage removal must remain higher than 85% to stay in compliance with the permit.

Performance Data



Percentage of Days in Compliance

Year	Percent
2011	100%
2012	100%
2013	100%
2014	100%
2015	100%
2016	100%
2017	100%
2018	100%
2019	100%
2020	100%

Analysis

NapaSan remains in compliance with this NPDES Permit requirement for the percentage removal of BOD and TSS. NapaSan consistently removes over 95% of these constituents from the influent during the months when NapaSan discharges to the Napa River.

PRODUCT QUALITY

Rating	
Current Year	10-Year Trend
★ Satisfactory	★ Satisfactory

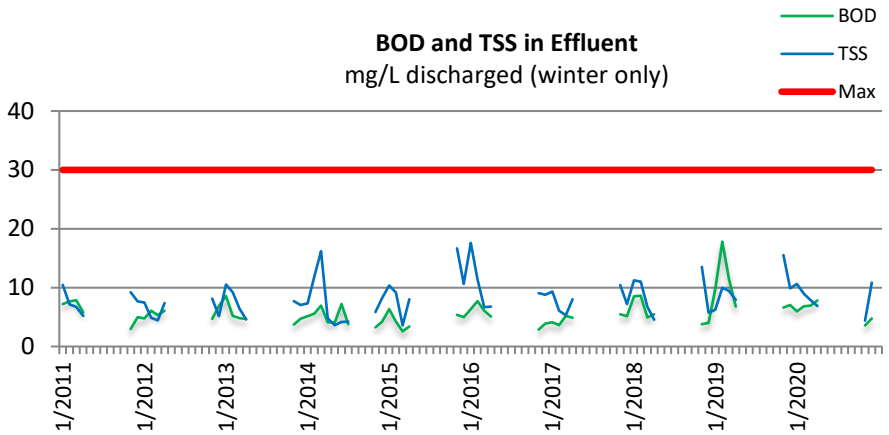
Measurement #1-2

NPDES Compliance: Total Allowable BOD and TSS

Description

NapaSan is required under its NPDES permit to remove biochemical oxygen demand (BOD) and total suspended solids (TSS) in its process so that the effluent to the river does not exceed 30 mg/L of either.

Performance Data



Percentage of Days in Compliance

Year	Percent
2011	100%
2012	100%
2013	100%
2014	100%
2015	100%
2016	100%
2017	100%
2018	100%
2019	100%
2020	100%

Analysis

NapaSan remains in compliance with this NPDES Permit requirement for the total allowable BOD and TSS in its effluent discharge to the Napa River.

PRODUCT QUALITY

Rating	
Current Year	5-Year Trend
★ Satisfactory	★ Satisfactory

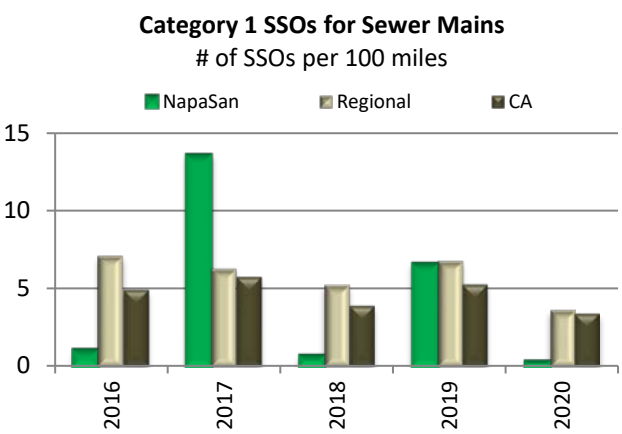
Measurement #1-3

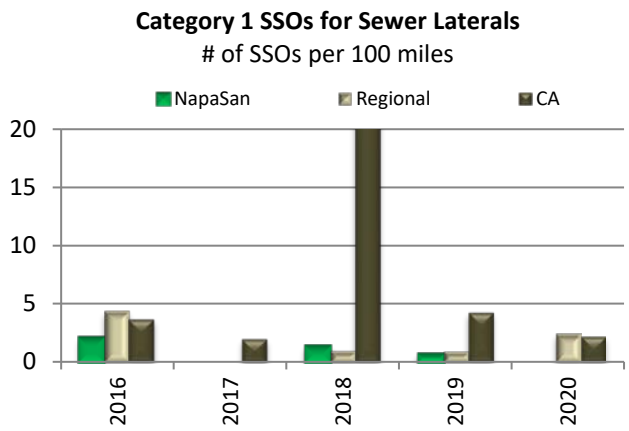
Number of Sanitary Sewer Overflows (SSOs)

Description

NapaSan's goal is to maintain the sewer collection system so that there are no SSOs. Especially important is to prevent overflows that reach a creek, river or other body of water, or overflows that reach a storm drain and were not fully recovered, both of which are considered "Category 1 SSOs". While the overall goal is to prevent all overflows, the operational goal of NapaSan is to have fewer overflows than the industry average in the San Francisco Bay Region and in California as a whole.

Performance Data





Analysis

For four of the last five years, NapaSan performed better than the regional average. In 2019, the increase in SSOs from 2018 was due large rain events in February 2019 (2018 and 2020 were dry years compared to 2017 and 2019). The decrease in SSO events from 2017 to 2019 indicates that completed sewer collection system rehabilitation project have reduced inflow and infiltration (I&I). In 2020, SSOs for sewer mains decreased and there were 0 SSOs for sewer laterals.

The sewer I&I and rehabilitation projects scheduled for Summer 2020 and Summer 2021 are focused upstream of locations where overflows have occurred in previous years.

PRODUCT QUALITY

Rating	
Current Year	5-Year Trend
Satisfactory	Satisfactory

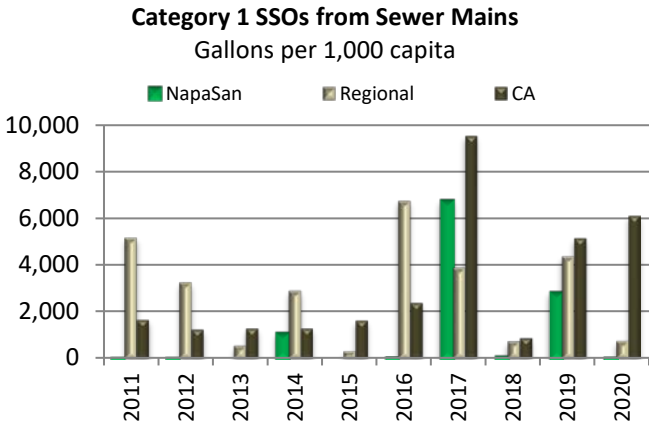
Measurement #1-4

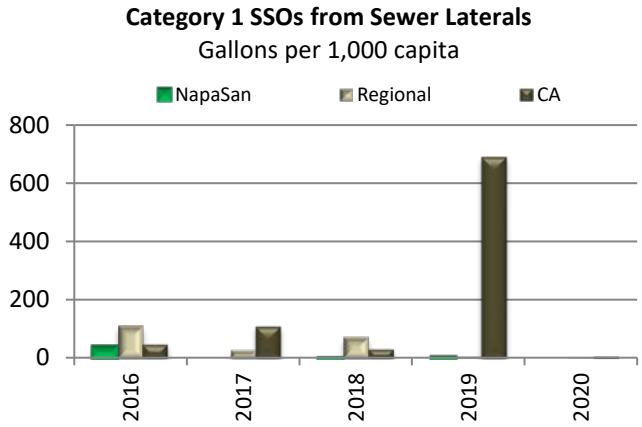
Volume of Sanitary Sewer Overflows (SSOs)

Description

It is NapaSan's goal to prevent Sanitary Sewer Overflows. However, when an SSO occurs, the NapaSan strives to respond quickly to prevent as much spillage from reaching a body of water as possible. This measure is the volume (in gallons) of sewage spilled reaching surface water as a Category 1 SSO per 1,000 residents, and is compared to the San Francisco Bay Region and California statewide averages.

Performance Data





Analysis

NapaSan has generally been very successful in keeping the amount of Category 1 sewage spilled at levels below the San Francisco Bay Region and California State averages.

In 2020, Category 1 overflows from mains, NapaSan averaged just 19 gallons per 1,000 population, compared to the state average of over 6,000 gallons.

In 2020, NapaSan had no Category 1 overflows from laterals, compared to the state average of over 7 gallons per 1,000 population.

PRODUCT QUALITY

Rating	
Current Year	10-Year Trend
★ Satisfactory	★ Satisfactory

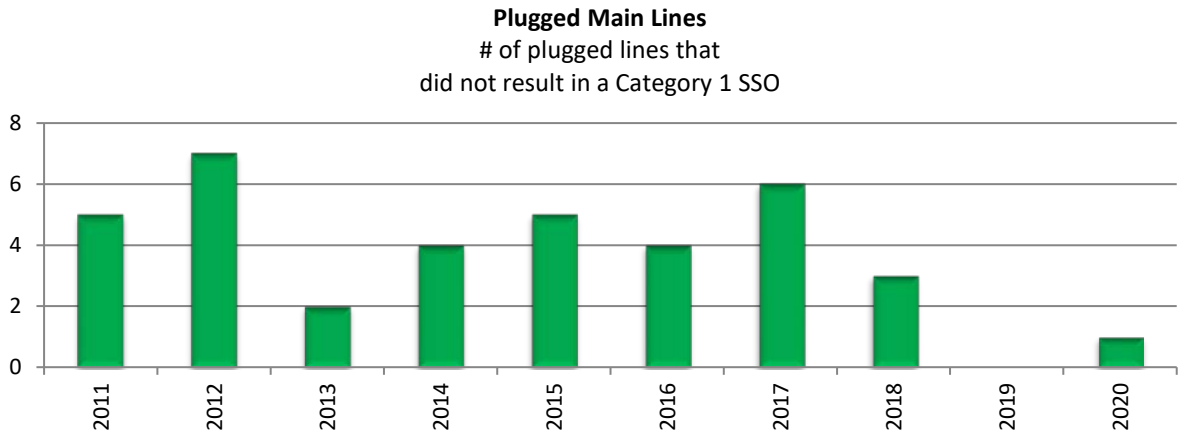
Measurement #1-5

Plugged Main Lines

Description

This is the number of sewer mains that were plugged and needed immediate attention, but did not result in a Category 1 Sanitary Sewer Overflow (SSO).

Performance Data



Analysis

There has been a positive trend in this measure over the past several years, as NapaSan has made increased investments and efforts toward preventive maintenance and prioritizing repairs and system rehabilitation. In 2019, there were no plugged main lines.

Rating	
Current Year	5-Year Trend
Satisfactory	Watch

Measurement #1-6

Recycled Water Quality

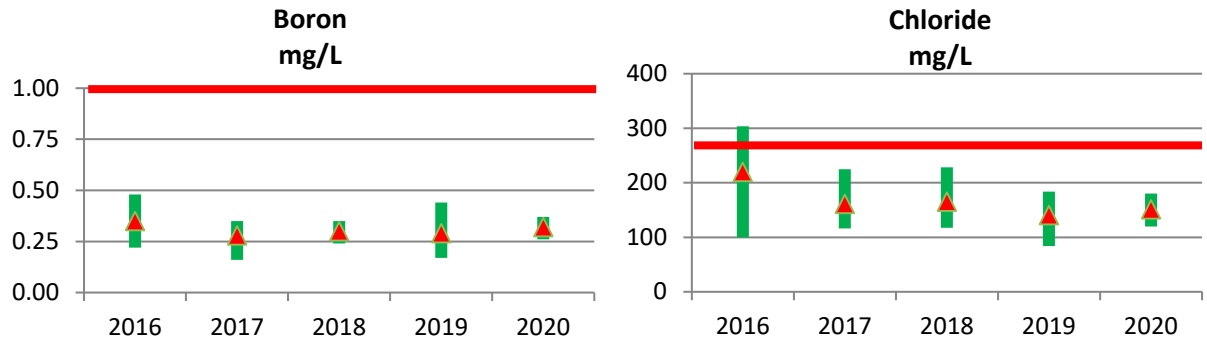
Description

These are two measures of recycled water constituents, chloride and boron. In a study of the impact of NapaSan's recycled water on wine grapes, it was noted that while maximum chloride levels for most wine grape varietals have yet to be determined, it appears that the most sensitive species can tolerate up to 262 mg/L of chloride. It was also noted that boron tends to develop injury (i.e., foliar burn) when concentrations are above 1 mg/L. The maximum thresholds noted in the charts are based on these study findings.

Performance Data

Indicates the range within the year indicates annual average

Indicates the maximum concentration for sensitive grape rootstocks



Analysis

Boron levels in NapaSan's recycled water historically have been below the levels generally considered harmful to wine grapes and other common foliage and turf irrigated by recycled water.

Chloride levels saw an upward trend from 2012 through 2015. Based on this trend, NapaSan staff took directed measures in the last five years to reduce chlorides in the recycled water. These efforts included emergency repairs of collection system pipes and manholes showing infiltration of saline groundwater, as well as proactive enforcement of BMPs and local limits compliance with commercial and industrial customers. These efforts have made a difference in reversing the trend of increased chlorides, but the measure remains on the "watch" list as more efforts may be necessary to continue a downward trend.

EUM Attribute #2

Customer Service

This attribute evaluates whether NapaSan is providing reliable, responsive and affordable services in line with explicit, customer-accepted service levels.

Satisfactory

Watch

Unsatisfactory

No Measure

Attribute	Measurement	2020	Trend	Page
2. Customer Service	1-Service Calls for District Plugged Laterals	★	★	**26**
	2-Service Call Response Time	★	★	**27**
	3-Development Review Response Time	★	★	**28**
	4-Customer Satisfaction	★	★	**29**

CUSTOMER SERVICE

Rating	
Current Year	10-Year Trend
★ Satisfactory	★ Satisfactory

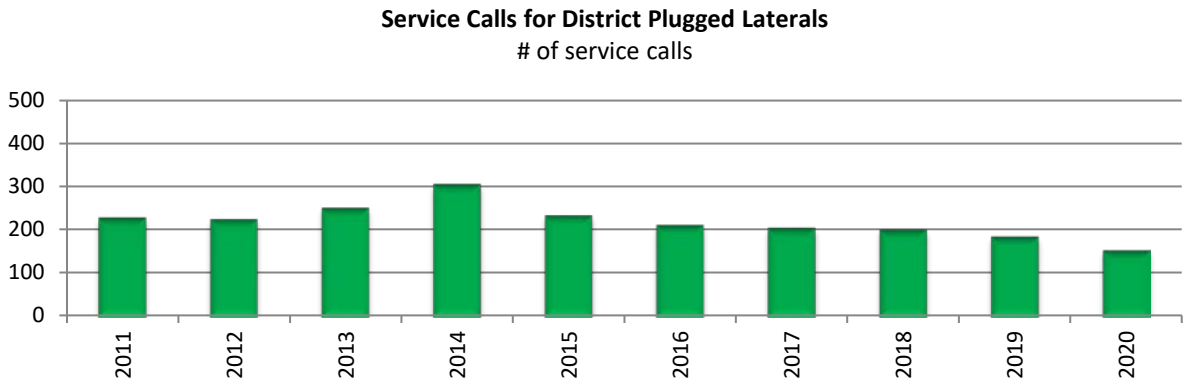
Measurement #2-1

Service Calls for District Plugged Laterals

Description

NapaSan uses the number of plugged laterals in its portion of the lateral as a proxy for determining customer complaints, as these problems lead to backups. The goal is to see a downward trend in this number.

Performance Data



Analysis

There has been a steady trend toward fewer service calls that were due to plugs in NapaSan's portion of the lateral. During the past several years, NapaSan has focused on preventive maintenance, partially in an effort to reduce these backups. These efforts have a long-term focus, but the number of NapaSan plugged laterals has decreased as a result of these efforts. The number of plugged laterals continued to decline in 2020 to 149.

CUSTOMER SERVICE

Rating	
Current Year	10-Year Trend
★ Satisfactory	★ Satisfactory

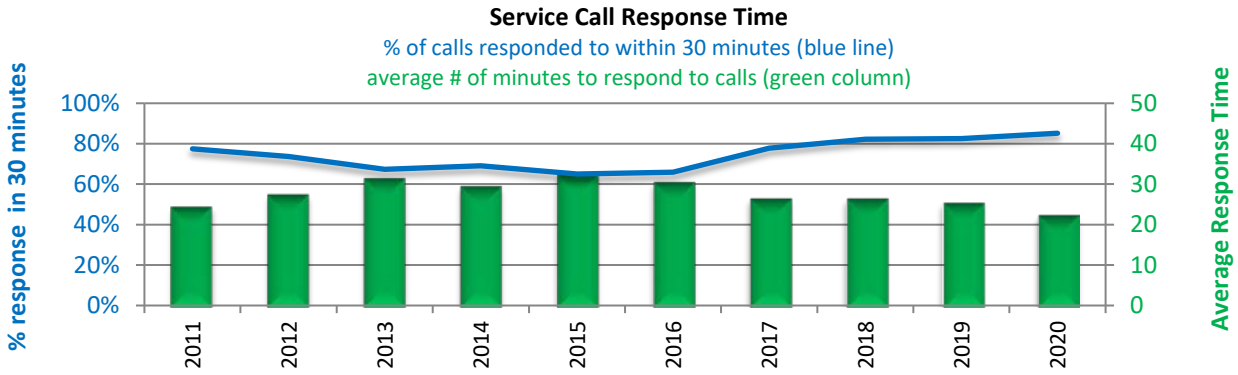
Measurement #2-2

Service Call Response Time

Description

NapaSan maintains a goal of responding to service calls for sewer backups by arriving at the site of the backup within 30 minutes of the call. This measure shows the percentage of calls that were initially responded to within 30 minutes and the average response time.

Performance Data



Analysis

The percentage of service calls responded to within 30 minutes has increased every year since 2015, and was 85% in 2020. The average response time has decreased every year since 2016, and in 2020 was 22 minutes.

CUSTOMER SERVICE

Rating	
Current Year	10-Year Trend
★ Satisfactory	★ Satisfactory

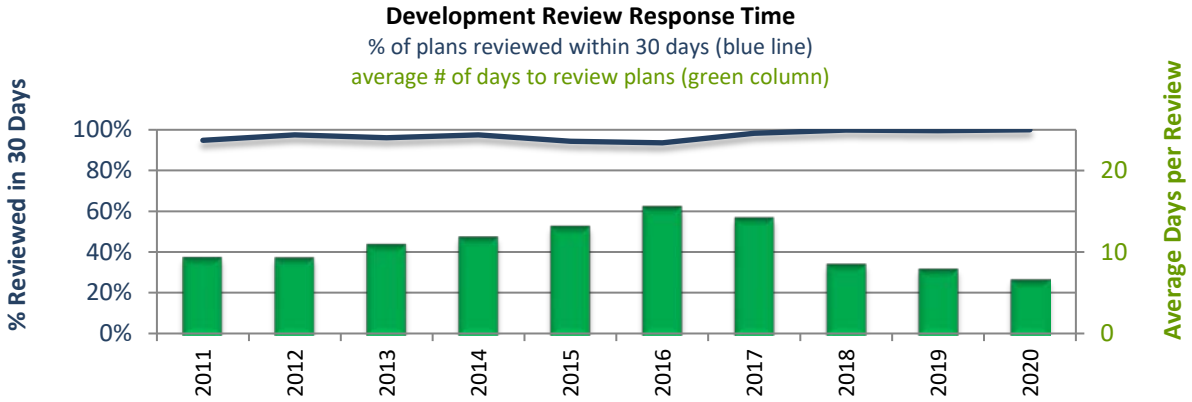
Measurement #2-3

Development Review Response Time

Description

NapaSan maintains a goal of completing review of development plans within 30 days of receipt of the plans. This chart shows the percentage of plans that were reviewed and returned within that goal.

Performance Data



Analysis

Over the past ten years, NapaSan met its goal of completing reviews within 30 days in 90% or more of submissions, while decreasing the average number of days to review plans since 2016, even as development plan submissions have increased significantly the past few years. In 2020, 100% of submittals were reviewed and returned within 30 days with an average of 6.5 days per review.

CUSTOMER SERVICE

Rating	
Current Year	5-Year Trend
★ Satisfactory	★ Satisfactory

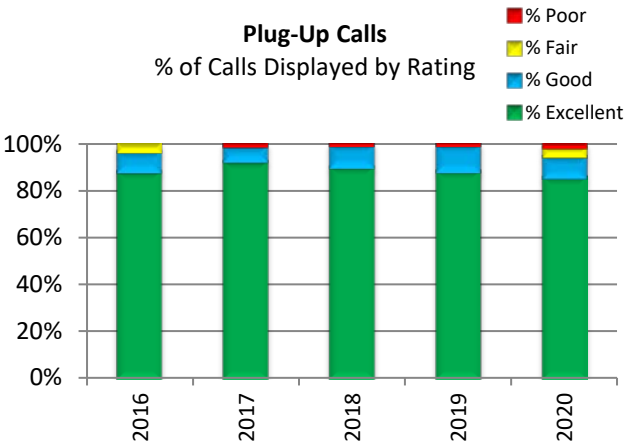
Measurement #2-4

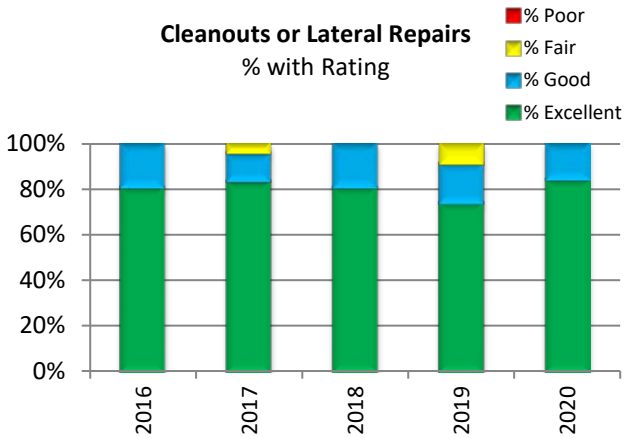
Customer Satisfaction

Description

This is the measure of how well NapaSan staff performed, according to the customer who was directly impacted by that work. Surveys were sent out for all plug-up calls and for any time NapaSan staff conducted a lateral repair or installed a cleanout that affected private property.

Performance Data





Analysis

The left chart is for interactions when the customer calls NapaSan for service to clear a plugged sewer line. The right chart is for the installation of sewer cleanouts or lateral replacements, where NapaSan initiates interaction and involves construction practices. Both measures show positively on NapaSan in 2020, with 94.6% of plug-up surveys and 100% of cleanout or lateral repair surveys reporting that NapaSan's service was either "Excellent" or "Good."

All survey responses with a rating of "Fair" or "Poor" are followed up on to try to fix any issues that were identified by property owners, if possible.

EUM Attribute #3

Employee and Leadership Development

This attribute evaluates whether NapaSan recruits and retains a workforce that is competent, motivated, adaptive and safe-working. It evaluates whether employee institutional knowledge is retained and improved upon over time.

Satisfactory

Watch

Unsatisfactory

No Measure

Attribute	Measurement	2020	Trend	Page
3. Employee and Leadership Development	1-Experience Turnover Rate	★	★	**33**
	2-Employee Satisfaction	★	★	**34**
	3-Online Safety Training Hours	★	★	**35**
	4-Succession Planning	★	★	**36**
	5-Institutional Knowledge Capture	★	★	**37**

EMPLOYEE AND LEADERSHIP DEVELOPMENT

Rating	
Current Year	5-Year Trend / Projection
★ Satisfactory	★ Satisfactory

Measurement #3-1

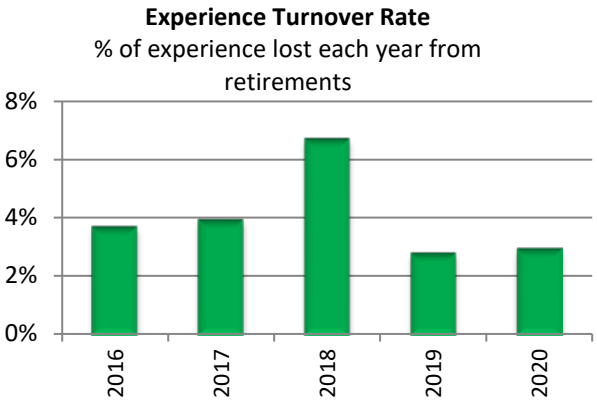
Experience Turnover Rate

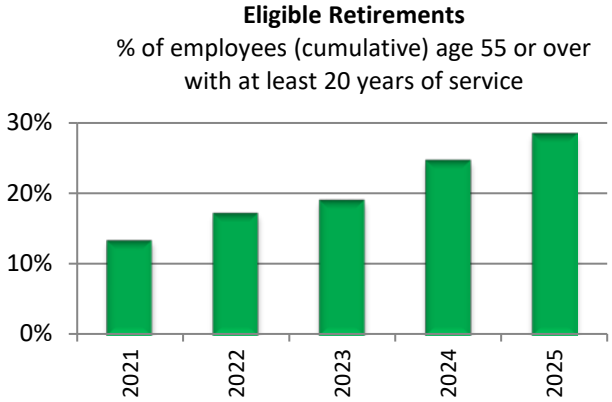
Description

Experience Turnover Rates is the percentage of years that employees retiring that year worked at NapaSan compared to the total number of years of experience for all employees. It measures the amount of experience lost in any given year due to retirements.

Eligible Retirements is the percentage of NapaSan employees at least age 55 with 20 or more years of service, and shows the potential for employee turnover in the next five years.

Performance Data





Analysis

Most employees who leave employment from NapaSan do so through retirement. Most retirements are known in advance and planned for. The experience turnover rate for 2016-2020 is in line with expectations.

The experience turnover rate from retirements at NapaSan is not a controllable measure, and as such this is not a performance measure as much as it is a data set that helps to inform whether there are trends in the workforce to which management needs to respond.

Over the next five years, NapaSan is expected to lose about 28% of its workforce to retirements. This number is significant and indicates a need for management to do appropriate succession planning.

EMPLOYEE AND LEADERSHIP DEVELOPMENT

Rating	
Current Year	10-Year Trend
★ Satisfactory	★ Satisfactory

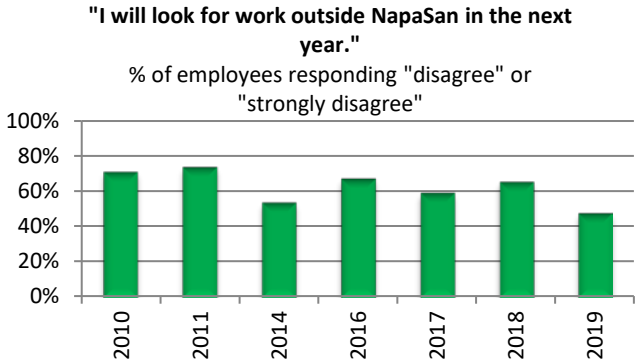
Measurement #3-2

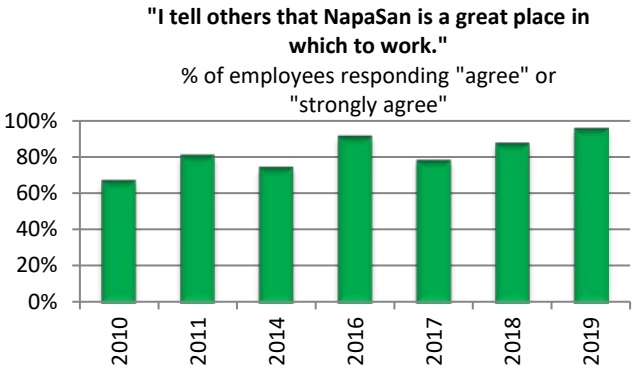
Employee Satisfaction

Description

The following charts show the response to three questions asked during employee surveys. These questions are designed to gauge employee satisfaction. A complete employee survey was conducted in 2010, 2011, 2014 and 2017. In 2016, 2018, and 2019 employees were asked only the following questions.

Performance Data





Analysis

Fall 2010 was the first time the NapaSan surveyed its employees on about 60 attributes, including these three. In Fall 2011, 2014, and 2017 the complete survey was repeated. In 2016, 2018, and 2019 employees were surveyed on only the four attributes included in this report.

The percentage of employees that feel valued by their work unit and the percentage of employees that would tell others that NapaSan is a great place in which to work both increased from 2018 to 2019. However, the survey suggests that more employees will be looking for work outside of NapaSan in comparison to prior years.

No survey was conducted during 2020. As part of the strategic planning process planned for April 2021, NapaSan will reevaluate how to accurately capture its employees' satisfaction in the upcoming Strategic Plan.

EMPLOYEE AND LEADERSHIP DEVELOPMENT

Rating	
Current Year	10-Year Trend
★ Satisfactory	★ Satisfactory

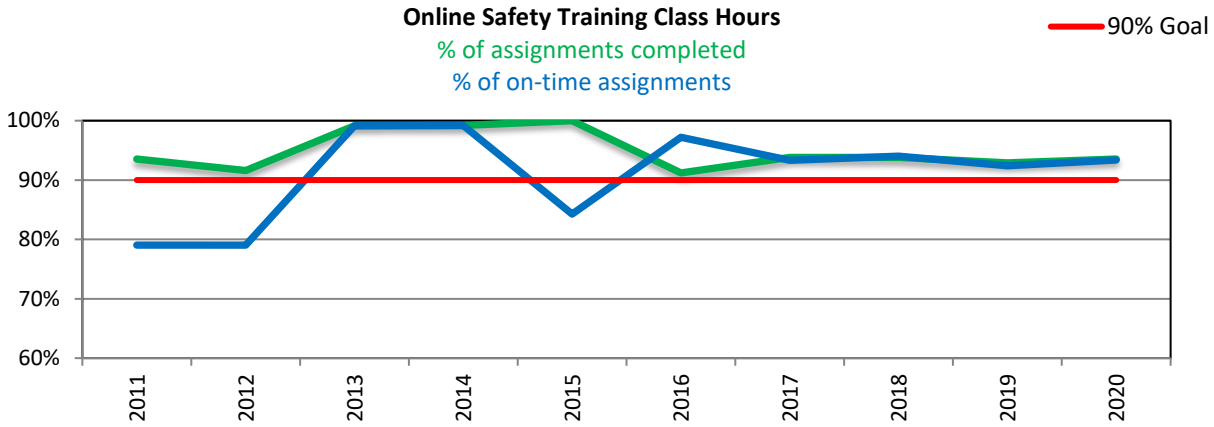
Measurement #3-3

Online Safety Training Completion

Description

This is the percentage of total online safety training class hours completed by staff, and the percentage that were completed prior to their due date. A goal of 90% or higher has been established for these metrics.

Performance Data



Analysis

This measure shows the completion rates and on-time completion rates for online safety classes. Fiscal Year 2020 showed continued high performance in completing assignments on time, with both the on-time completion and the overall completion rates exceeding the 90% target.

EMPLOYEE AND LEADERSHIP DEVELOPMENT

Rating	
Current Year	10-Year Trend
 Satisfactory	 Satisfactory

Measurement #3-4

Succession Planning

Description

Percentage of key positions covered by long-term workforce succession plan.

Performance Data

Previously, seven (7) positions were identified as critical for the development of succession plans. NapaSan has developed formal succession plans for each position and has completed the necessary cross training associated with these plans.

In 2017, an eighth position was identified, Collection System Technician. Succession plan for that position was completed in advance of the incumbent's retirement at the end of 2018.

Analysis

NapaSan has completed succession plans for the following eight positions: Operations Services Director, Reclamation System Manager, Collection System Manager, Regulatory Compliance Manager, Human Resources Officer/Clerk of the Board, Senior Accountant, Collection System Technician, and Safety, Training and Fleet Maintenance Officer.

In addition to development of succession plans for the most critical positions at the District, NapaSan maintains other practices designed to capture institutional knowledge and maintain continuity during periods of staffing transition.

NapaSan has implemented the "Operator III Training Program" to increase operator knowledge and allow for the necessary skills to operate the plant's treatment processes and regulatory control on a day-to-day basis. The Plant Maintenance Supervisor and Regulatory Compliance Manager have also trained staff sufficiently to provide coverage in the event of vacancy. The Collection Department has a cross-training process to ensure that all employees know how to do every job and use all of the equipment in the department.

NapaSan has developed a number of intern programs designed to provide experience and exposure to careers in wastewater treatment. These include an Operator-In-Training program, where OITs volunteer in the treatment plant to get the hours needed for their state licenses. The Engineering Division has two interns that provide hands-on, real world experience to students studying for a career in engineering. The Laboratory takes on one intern during the summer months to provide hands-on, real world experience to physical science students. Plant Maintenance Department hires one intern for students interested in a career maintenance with real world training at the treatment plant on various equipment. All these efforts are designed to introduce students to the wastewater profession and encourage them to consider careers in wastewater.

In response to COVID-19, all internships and training programs have been suspended during FY 2020-21.

EMPLOYEE AND LEADERSHIP DEVELOPMENT

Rating	
Current Year	10-Year Trend
★ Satisfactory	★ Satisfactory

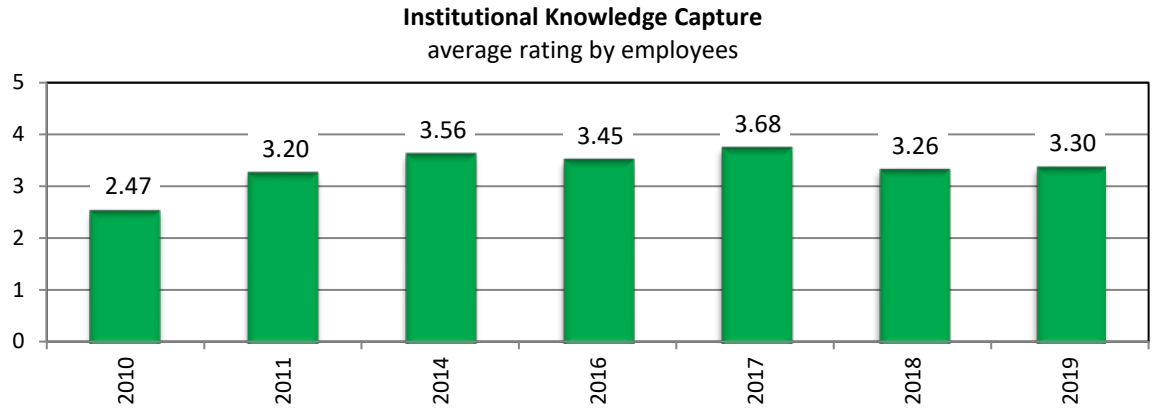
Measurement #3-5

Institutional Knowledge Capture

Description

Percent of employees who believe NapaSan is capturing critical institutional knowledge. In the Employee Survey, employees were asked to rate whether they agree or disagree with the following statement, "***Efforts are being made at NapaSan to capture the critical institutional knowledge that may be held by one employee in order to reduce the risk of losing that knowledge all together should the employee leave.***" The chart shows the average rating by employees on a 1-to-5 scale, where 1 is "strongly disagree" and 5 is "strongly agree."

Performance Data



Analysis

In 2010, 2011, 2014 and 2017, this question was included as part of a more comprehensive employee survey program. In 2016, 2018 and 2019, the question was one of only four questions that employees were asked to give their opinions.

The data over time shows that there is a general trend toward increased belief among staff that there are adequate efforts to capture institutional knowledge, with an average belief toward sufficiency. There was a slight increase in 2019 however; the decrease in 2018 appears to reflect a belief that there is room for improvement.

No survey was conducted during 2020. As part of the strategic planning process planned for April 2021, NapaSan will reevaluate the employee survey in the upcoming Strategic Plan.

EUM Attribute #4

Operational Optimization

This attribute evaluates whether NapaSan ensures ongoing, timely, cost-effective, reliable and sustainable performance improvements in all facets of its operations.

Satisfactory

Watch

Unsatisfactory

No Measure

Attribute	Measurement	2020	Trend	Page
4. Operational Optimization	1-Electricity Self-Generation	★	★	**41**
	2-Electricity Consumption Efficiency	★	★	**42**
	3-Chemical Consumption	★	★	**43**
	4-Planned Maintenance Ratio-Collections	★	★	**44**
	5-Planned Maintenance Ratio-Treatment Plant	★	★	**45**

OPERATIONAL OPTIMIZATION

Rating	
Current Year	10-Year Trend
★ Satisfactory	★ Satisfactory

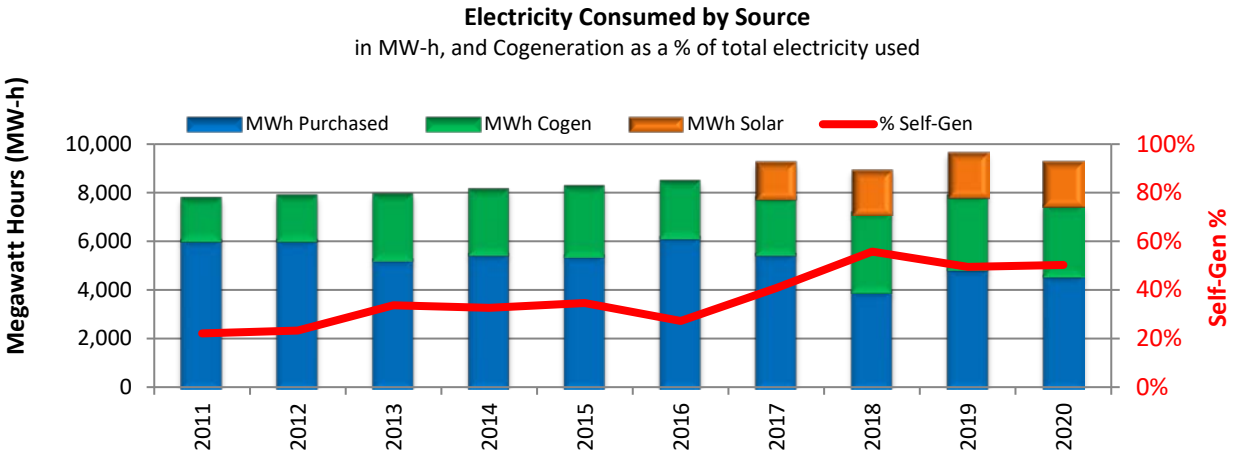
Measurement #4-1

Electricity Self-Generation

Description

Electricity is one of the largest expenses in the treatment process. The treatment plant uses a cogeneration engine ("Cogen") powered by captured and compressed biogas gas to create electricity. The goal is to generate as much electricity as possible from the Cogen system, to offset purchased electricity. In 2016, the NapaSan's solar array completed construction, but did not come on line until the end of March 2017. This chart shows the total megawatt hours of electricity purchased, electricity produced by cogeneration, electricity produced by solar, and the percentage of total electricity that was self-generated (cogen and solar).

Performance Data



Analysis

Self-generation of electricity continues to be approximately 50% of overall power use.

OPERATIONAL OPTIMIZATION

Rating	
Current Year	10-Year Trend
★ Satisfactory	★ Satisfactory

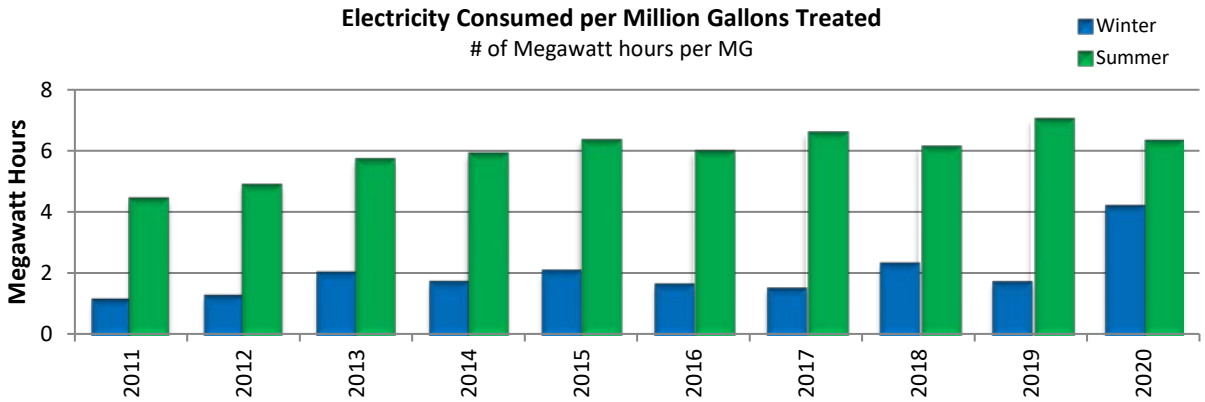
Measurement #4-2

Electricity Consumption Efficiency

Description

This chart shows overall electricity efficiency by measuring the amount of electricity consumed per million gallons of wastewater effluent. In general, winter months (November-April) represent wastewater processed and discharged to the river. In general, summer (May-October) represents wastewater treated to recycled water standards and either sold to customers or applied to NapaSan properties for beneficial reuse.

Performance Data



Analysis

Electricity consumption per million gallons treated at the plant has increased during the winter of 2020 compared to previous years due to the increase in winter recycled water demand. Calendar Year 2020 was the first year NapaSan sold recycled water during each month of the winter season. Recycled water is distributed by large 600 Hp pumps, the largest load at the treatment plant.

The numbers since 2014 represent a change in treatment technology from prior years as the plant shifted from using flocculating clarifiers to a dissolved air floatation clarifier, a process that uses more electricity to remove algae from pond water. Also new is the creation of two pressure zones in the recycled water pump station that has increased electricity usage. Starting in 2017, both aeration basins (ABs) were operated during the summer months, instead of the usual practice of running only one, in an effort to reduce chlorides in recycled water. This change in process resulted in more air required in the ABs, thus increasing electricity usage.

OPERATIONAL OPTIMIZATION

Rating	
Current Year	10-Year Trend
★ Satisfactory	★ Satisfactory

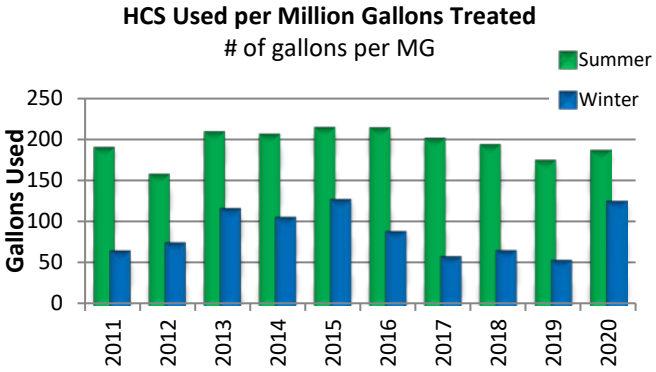
Measurement #4-3

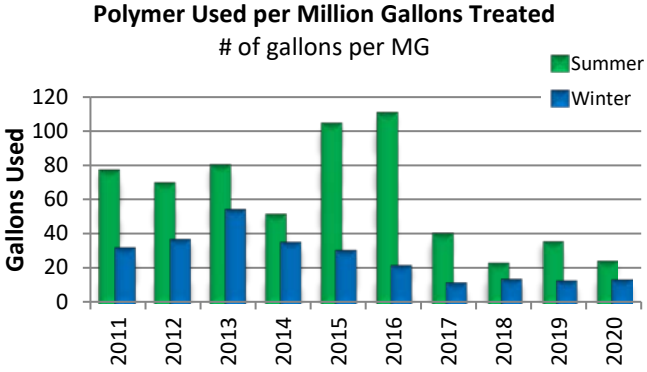
Chemical Consumption

Description

Chemicals are a significant cost in the wastewater treatment process. Two chemicals specifically make up a majority of the chemical budget – sodium hypochlorite (HCS) and polymer. HCS is used to disinfect water, while polymer is used to remove suspended solids and to "dewater" biosolids. Usage can fluctuate based on environmental conditions, the amount of wastewater processed and the type of processing (river discharge or recycled water production), so these have been represented using gallons of chemicals per million gallons processed for both the summer and winter seasons.

Performance Data





Analysis

Increases in sodium hypochlorite in 2020 is due to increased recycled water production. The production of recycled water requires a higher chlorine residual than water treated for river discharge. Winter 2020 had the largest demand on recycled water since the start of the program.

Polymer use is also down, most significantly during the summer months. For the last four years, plant staff have operated both aeration basins, rather than just one, and reduced the amount of pond water needed for the production of recycled water. With less water being treated from the pond systems, there was less algae to remove, which requires the use of polymer. Recycled water demand is showing an increase trend which may result in increased polymer dosing in future years.

OPERATIONAL OPTIMIZATION

Rating	
Current Year	10-Year Trend
★ Satisfactory	★ Satisfactory

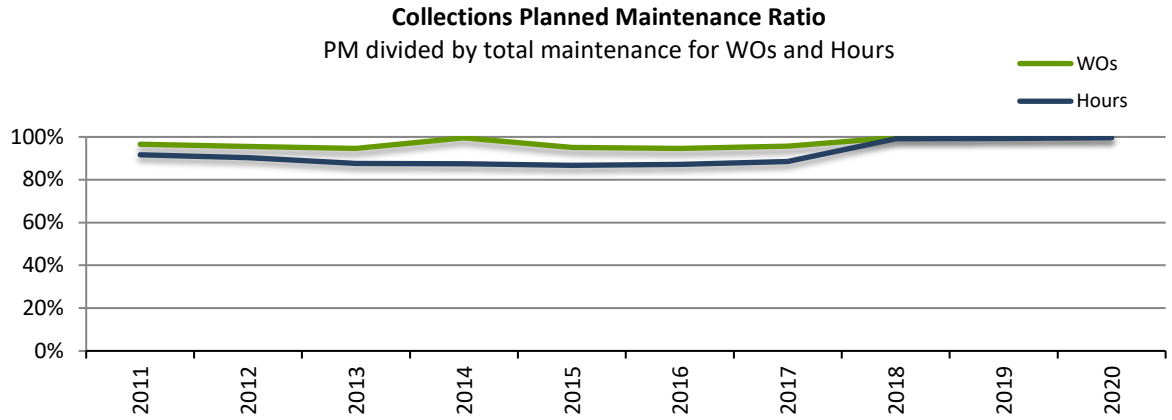
Measurement #4-4

Planned Maintenance Ratio – Collections

Description

This is the total number of staff hours spent on planned maintenance in the collection system divided by the total number of hours spent doing any maintenance activity (planned and corrective). Numbers closer to 100% means that the focus is on planned maintenance activities, rather than responding to emergency repairs.

Performance Data



Analysis

The collection system has consistently maintained a very high ratio of planned maintenance to total maintenance, both for the number of work orders and for the number of hours worked.

OPERATIONAL OPTIMIZATION

Rating	
Current Year	10-Year Trend
★ Satisfactory	★ Satisfactory

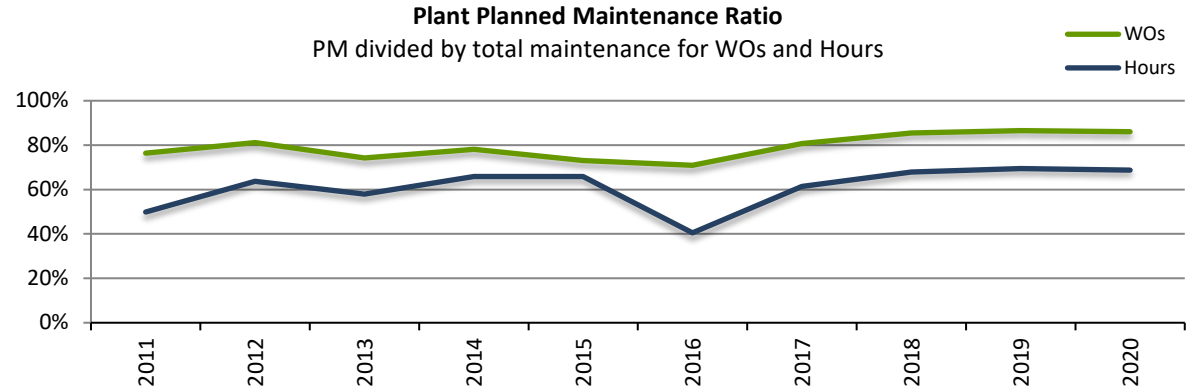
Measurement #4-5

Planned Maintenance Ratio – Treatment Plant

Description

There are two numbers here. The first is the percentage of the number of work orders (WOs) assigned to planned maintenance at the treatment plant divided by the total number of WOs for any maintenance activity (planned and corrective). The second is the same ratio, but uses the total number of hours worked instead of the number of work orders.

Performance Data



Analysis

The plant has been able to maintain a relatively consistent ratio of work orders, between 75% and 85% on preventive maintenance activities, and 15-25% on corrective maintenance activities. The ratio for hours is lower, as corrective maintenance items tend to take more time to complete than performing preventive maintenance. Overall, there is an upward trend in the number (and percentage) of hours spent doing preventive maintenance.

EUM Attribute #5

Financial Viability

This attribute evaluates whether NapaSan established and maintains an effective balance between long-term debt, asset values, operations and maintenance expenditures, and operating revenues. It evaluates whether NapaSan rates are adequate to recover costs, provides for reserves, maintains support from bond rating agencies, and plans and invests for future needs.

Satisfactory

Watch

Unsatisfactory

No Measure

Attribute	Measurement	2020	Trend	Page
5. Financial Viability	1-Operating Ratio	★	★	**49**
	2-Current Ratio and Days Cash on Hand	★	★	**50**
	3-Capital Expenses Compared to Operating Expenses	★	★	**51**
	4-Debt Service Coverage Ratio	★	★	**52**
	5-Financial Procedure Integrity	★	★	**53**
	6-Bond Rating	★	★	**54**
	7-Financial Reserves	★	★	**55**
	8-Implicit Pension Debt	★	★	**56**

Rating	
Current Year	10-Year Trend
★ Satisfactory	★ Satisfactory

Measurement #5-1

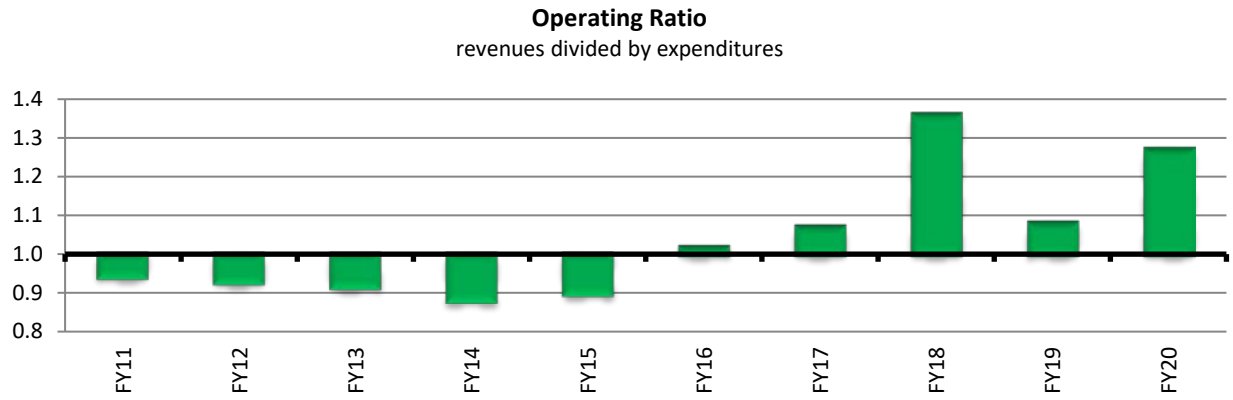
Operating Ratio

Description

This ratio is total operating revenue (sewer service charges, capacity charges, recycled water sales, etc., but excluding bond or debt proceeds) divided by total operating expenditures (including depreciation and debt service). This ratio shows whether the NapaSan is collecting enough revenue to operate and maintain the sewer and treatment systems at the current level of service, including the regular renewal and replacement of equipment and machinery. A ratio below 1.0 means there is insufficient revenue to cover operating expenses. A ratio above 1.0 means there is additional revenues above the cost of operations that is available for capital projects.

The ratio can fluctuate above and below 1.0, depending on the financial plan for the year, but a long-term trend of expenditures greater than revenues (a ratio of less than 1.0) is problematic and indicates that reserves are being used to finance capital projects and/or the ongoing expenses, and that a course correction is likely.

Performance Data



Analysis

The March 2016 fee increase, with increased revenues beginning in FY17, has resulted in generating sufficient revenues for NapaSan to cover operating expenses, debt service and depreciation, meaning that it has sufficient revenues for the ongoing renewal and replacement of capital assets. The FY20 results continue to stay above the target ratio. However, It is anticipated that the ratio will decrease in the future with the issuance of debt for the Browns Valley Truck and West Napa Pump Station project (FY22), 66" sewer trunk rehabilitation phase 1 (FY22) and phase 2 (FY28), and second digester and third aeration basin (FY29).

Rating	
Current Year	5-Year Trend
★ Satisfactory	★ Satisfactory

Measurement #5-2

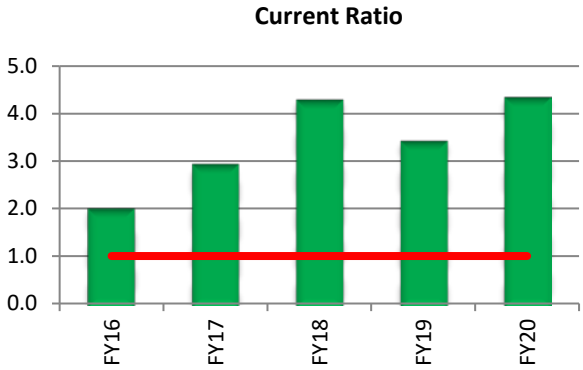
Current Ratio and Days Cash on Hand

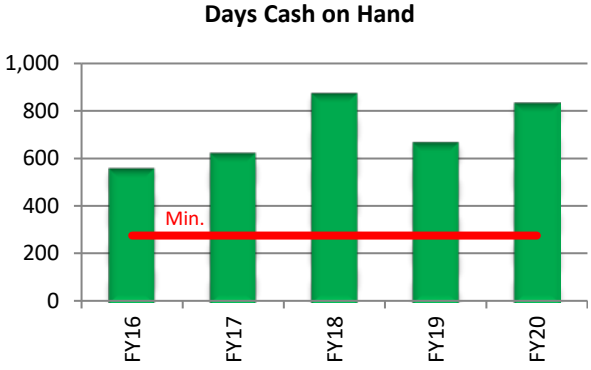
Description

The Current Ratio is a measure of short term liquidity. It is designed to evaluate NapaSan's ability to pay current bills. The calculation consists of unrestricted current assets, excluding inventory and prepaid items, divided by current liabilities. A number of 1.0 means NapaSan has sufficient current assets to pay for current liabilities. The ratio here is based on assets and liabilities as of June 30.

Days Cash on Hand is a measure of how much cash NapaSan has to pay its operating expenses. It is calculated as the unrestricted cash and investments divided by operating expenses (excluding depreciation and amortization) divided by 365 days. It shows how many days NapaSan could operate before running out of cash. Based on cash flow modeling, NapaSan has a minimum target of 275 Days Cash on Hand.

Performance Data





Analysis

NapaSan needs to maintain a high Current Ratio and high Days Cash on Hand because of the nature of its revenue collection mechanism. While most expenses are spread out throughout the year, the majority of NapaSan's revenues come in only twice a year, in December and April, corresponding with residential property tax payments. NapaSan needs to have sufficient current assets at the beginning of the fiscal year to pay for debt service payments due in August and for ongoing operating expenses through December, when it receives in the majority of its revenue. The data above shows that NapaSan has sufficient current assets to maintain the necessary Current Ratio and high Days Cash on Hand.

Rating	
Current Year	10-Year Trend
★ Satisfactory	★ Satisfactory

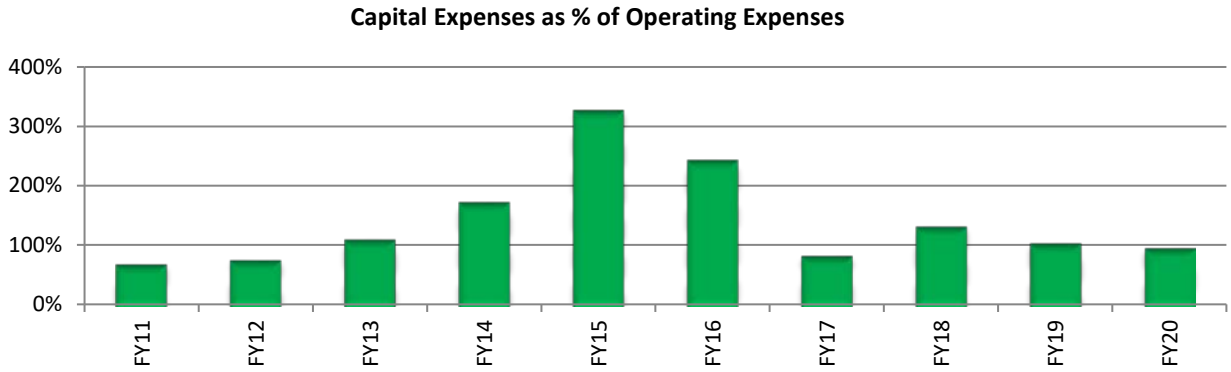
Measurement #5-3

Capital Expenses Compared to Operating Expenses

Description

Capital expenses as a percentage of operating expenses (less depreciation) is a measure that has meaning only when compared against itself over time, or compared to other similar agencies. An upward trend is indicative of an expansion period or a period focused on renewal and replacement of capital assets, while a downward trend is indicative of decreased growth or less investment in system renewal and replacement.

Performance Data



Analysis

NapaSan is still evaluating this measure to determine what an appropriate "baseline" or "target" number should be. Much of FY15 and FY16 capital expenses were bond-funded projects and the construction of the MST and LCWD recycled water projects that were financed by other agencies. The FY17 and FY18 percentages are slightly higher than the first five years in the trend analysis, with the ratio expected to increase in the next several years as the Browns Valley Trunk Project and West Napa Pump Station Rehabilitation Project have begun construction and NapaSan continues to invest additional resources into sewer rehabilitation.

Rating	
Current Year	10-Year Trend
★ Satisfactory	★ Satisfactory

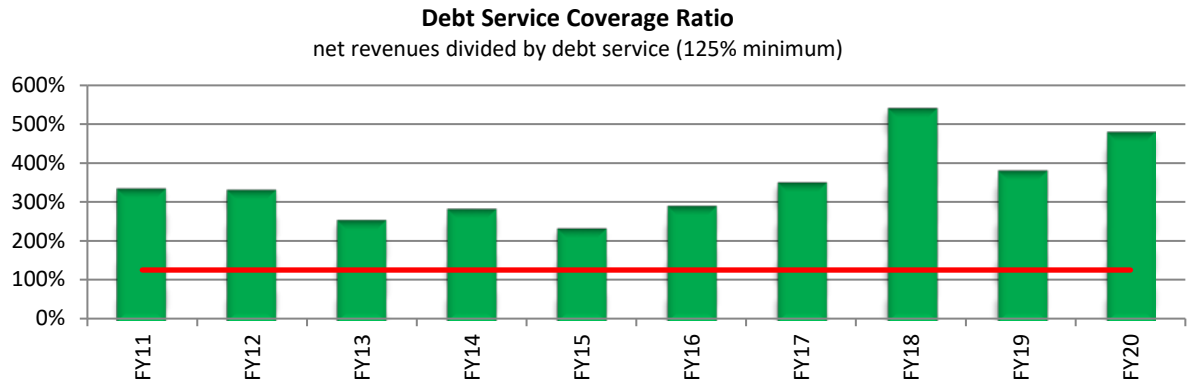
Measurement #5-4

Debt Service Coverage Ratio

Description

NapaSan is required by its debt covenants and financial policies to maintain a debt service coverage ratio of at least 1.25, or 125%. The calculation is made by adding all revenue sources and subtracting all operating expenses (excluding depreciation) to get net revenue. The net revenue (green bars) must be more than 125% (red line) of the sum of all debt service payments.

Performance Data



Analysis

NapaSan has consistently maintained a debt service coverage ratio higher than the 125% minimum requirement. This number is evaluated during each budget development and adoption process to ensure that this covenant is maintained. With the issuance of new debt, the ratio decreased in recent years. The ratio increased in FY18 and is anticipated to stay high until the debt service associated with the Browns Valley Trunk and West Napa Pump Station project begins in FY22 and the 66" Trunk Main Rehabilitation in FY22.

Rating	
Current Year	10-Year Trend
Satisfactory	Satisfactory

Measurement #5-5

Financial Procedure Integrity

Description

These are questions that gauge the presence of "best practices" and internal processes to ensure a high level of financial management integrity.

Performance Data & Analysis

- **Does NapaSan have financial accounting policies and procedures? (Y/N)**

  Yes. Comprehensive policies were adopted in February 2007, and revised and updated in May 2010, May 2012, February 2017 and May 2018.

- **Are the financial results and internal controls of NapaSan audited annually? (Y/N)**

  Yes. NapaSan is required to conduct an annual audit both by its bond covenants and by its accounting policies.

- **Have the number of control deficiencies and material weaknesses been reduced from previous audits? (Y/N)**

  Yes. There have been no control deficiencies in the last ten fiscal years.

Rating	
Current Year	10-Year Trend
★ Satisfactory	★ Satisfactory

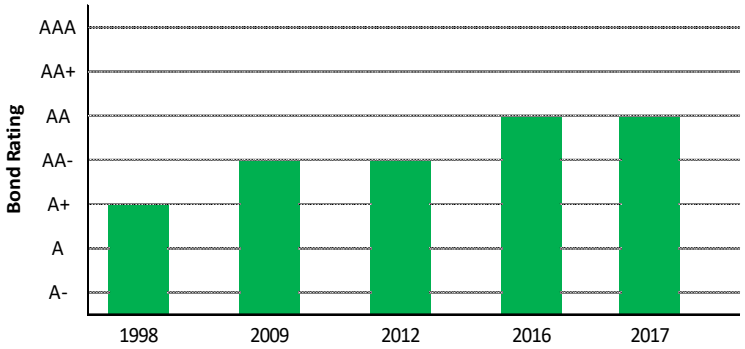
Measurement #5-6

Bond Rating

Description

Bond ratings are a general indicator of financial viability; however the rating is not entirely in NapaSan's control as ratings also take into consideration the condition of the local economy and the condition of the capital markets. A higher bond rating is desirable and can be viewed as one of several factors of financial health.

Performance Data



Analysis

When NapaSan refinanced most of its long-term debt in 2009, Standard & Poor's upgraded the rating from "A+" to "AA-" for its fixed rate revenue bonds. In December 2012, S&P confirmed the rating of "AA-/Stable Outlook" for the issuance of new long-term debt.

Standard & Poor's regularly evaluates NapaSan's financial position and updates its ratings for the existing debt. During its evaluation in 2016, S&P upgraded the existing 2012 Certificates of Participation (COPs) from "AA-" to "AA" with a "stable" outlook.

When the 2009B COPs were advance refunded in December 2017, S&P again evaluated NapaSan's credit worthiness. S&P maintained its "AA" rating while enhancing the outlook from "stable" to "positive."

Shortly after the declaration of the COVID-19 pandemic in April 2020, S&P confirmed NapaSan's "AA" rating but revised the outlook from "positive" to "stable". The revision was based on the uncertainty of the surrounding local service area economy in regard to how it would fare during the recession.

"AA" rating means that NapaSan's debt is considered "High Grade/High Quality" in the bond market.

Rating	
Current Year	10-Year Trend
★ Satisfactory	★ Satisfactory

Measurement #5-7

Financial Reserves

Description

NapaSan maintains several reserves in accordance with financial policies and in support of its overall financial health.

Performance Data

- **Does NapaSan maintain an adequate Operating Reserve?**
  NapaSan maintains an Operating Reserve that is equal to 15% of annual operating expenses. This revenue serves to assist the District during emergencies and other events where additional cash may be necessary. This reserve is fully funded.

- **Does NapaSan maintain an adequate Cash Flow Reserve?**
  NapaSan maintains a cash flow reserve sized so that on July 1 of every year, there is enough cash to cover all operating expenses, including debt service, until mid-December, when sewer service charge revenues are remitted to the District from the County Assessor's office. This reserve is fully funded.

- **Does NapaSan maintain a rate stabilization reserve to sustain operations during cycles of revenue fluctuation, in addition to operating reserves?**
  Reserves for rate stabilization and revenue fluctuation are not necessary at this time. The Operating Reserves functions to cover this need. Rate stabilization is not an issue given the current method of collecting sewer service charges as a flat rate on residential customers. This may need to be addressed in the future if and when recycled water revenues become a significant portion of NapaSan's annual revenues.

Analysis

Sewer service charges constitute about 83% of operating revenues, with the significant majority of that revenue coming from residential customers. SSCs are collected as an assessment on the property tax statements, and the majority of rate revenue is based on fixed charges, not on consumption. These structural factors combine to provide adequate revenue stability. The operating and cash flow reserves, as established in NapaSan's financial policies, are fully funded and sufficient to cover timing fluctuations in revenue collection without impacting operational readiness.

Rating	
Current Year	10-Year Trend
★ Satisfactory	★ Satisfactory

Measurement #5-8

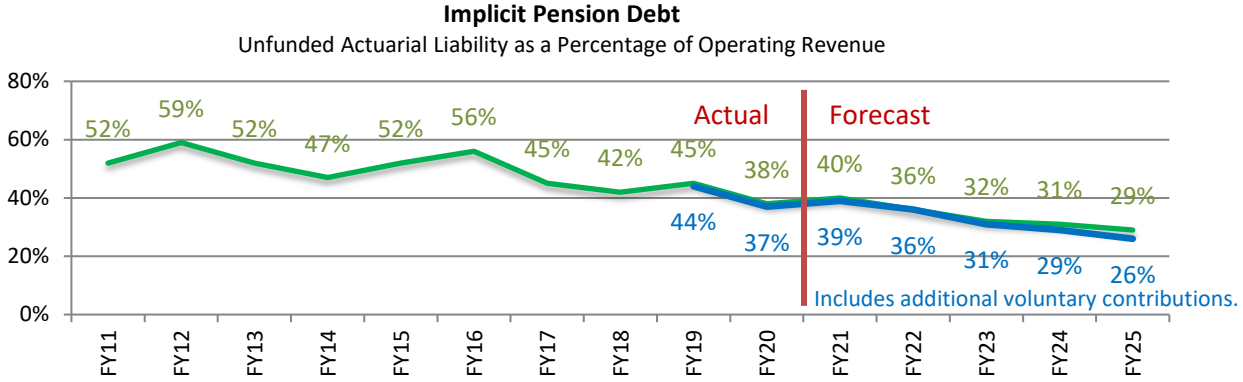
Implicit Pension Debt

Description

NapaSan is a member of the CalPERS retirement system. CalPERS publishes a "funded ratio" that is the percentage of the funded portion of the actuarial liability. The closer the number is to 100%, the closer NapaSan is to having its long-term pension liability advance funded. However, this funded ratio is subject to many external influences and changes in actuarial assumptions. For example, if CalPERS changes the assumed future rate of return for investments, or the stock market lags or exceeds this rate of return, or if CalPERS changes the "ramp up" for realizing gains and losses, the funded ratio can be significantly impacted, without any change in NapaSan's actions toward meeting this obligation.

A better measure of NapaSan's performance is to think about pensions as a form of debt, and then to measure that debt against the resources available to pay off the debt. The resulting ratio is a measure of NapaSan's ability to pay for this obligation, both now and in the future. This type of analysis takes into consideration actions that NapaSan can take to both reduce this long-term obligation and improve its resources to carry this obligation. The forecasted revenues are from the 10-Year Financial Plan, while the forecasted 10-year UAL is from the CalPERS Annual Valuation Report.

Performance Data



Analysis

Several factors have contributed to the overall reduction in the pension unfunded actuarial liability (UAL) as a percentage of operational revenues. First, NapaSan has increased its operational revenues through increases in sewer service charges. Second, NapaSan made reductions to its retirement benefits several years before the PEPRA law was enacted, giving it a "head start" over other agencies in reducing its pension costs. Third, NapaSan has made voluntary pension contributions to CalPERS to pay down its long-term liabilities. The forecasted numbers are influenced by a continuation of additional voluntary contributions starting back in FY 22/23 after a couple of years of suspending the payment to reduce expenses in response to the impact of the COVID-19 pandemic.

EUM Attribute #6

Infrastructure Stability

This attribute evaluates the condition of and costs associated with critical infrastructure assets, whether assets are maintained over the long term at the lowest possible life-cycle cost and at acceptable risk consistent with customer, community and regulator-supported service levels, and consistent with anticipated growth and system reliability goals. It evaluates whether asset repair, rehabilitation and replacement efforts are adequate to meet long-term sustainability goals.

Satisfactory

Watch

Unsatisfactory

No Measure

Attribute	Measurement	2020	Trend	Page
6. Infrastructure Stability	1-Asset Inventory	Watch	Watch	60
	2-Renewal & Replacement of Assets	Satisfactory	Satisfactory	61
	3-Sewer Main Condition Assessment	Satisfactory	Satisfactory	62
	4-Sewer Main Line Cleaning	Satisfactory	Satisfactory	63
	5-Food Service Establishment Inspections	Watch	Satisfactory	64
	6-Sewer Main Renewal and Replacement	Satisfactory	Satisfactory	65
	7-Lower Sewer Lateral Renewal and Replacement	Satisfactory	Satisfactory	66
	8-Sewer Partial or Total Collapse Rate	Satisfactory	Satisfactory	67
	9-Recycled Water Service Availability	Satisfactory	Satisfactory	68

INFRASTRUCTURE STABILITY

Rating	
Current Year	10-Year Trend
Watch	Watch

Measurement #6-1

Asset Inventory

Description

This is the percent of NapaSan's critical assets that have been inventoried within the past 5-10 years.

Performance Data

Inventory is maintained with two asset management systems – one for Collections (Hansen) and one for the plant (MP2). Both systems track assets and condition assessments.

Analysis

The Hansen database is updated regularly as repair work and condition assessment CATV work is completed. The MP2 database is populated with major assets, but still needs to be completed. All capital assets are also tracked in the Fixed Asset database used for financial reporting. NapaSan is currently conducting a physical asset inventory as part of its replacement of the two computerized maintenance management systems (Hansen and MP2), as part of its Asset Management Program.

In 2020, significant efforts were made and progress achieved to populate the asset inventory in advance of the new computerized maintenance management system rollout which is scheduled to occur in 2021.

INFRASTRUCTURE STABILITY

Rating	
Current Year	10-Year Trend
★ Satisfactory	★ Satisfactory

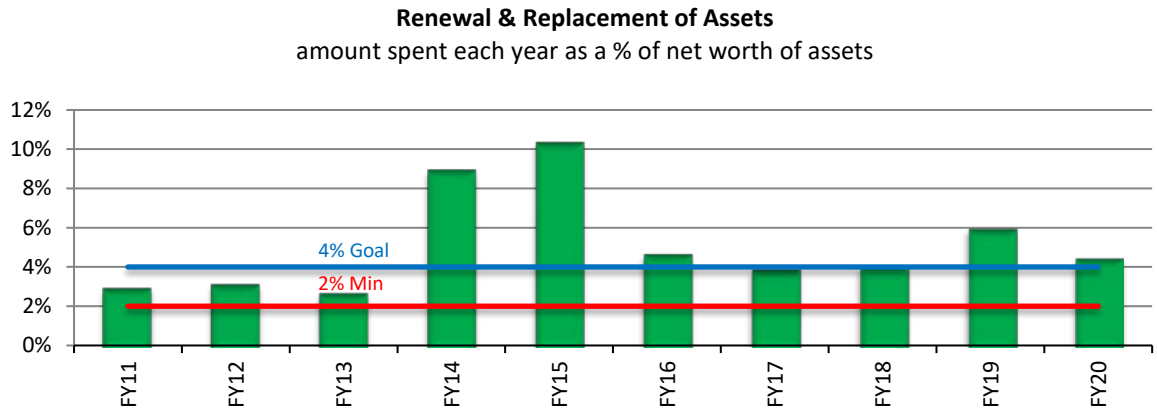
Measurement #6-2

Renewal & Replacement of Assets

Description

This graph shows the amount actually spent toward the renewal or replacement of capital assets divided by the total net worth of assets, shown as a percent.

Performance Data



Analysis

NapaSan strives to replace at least 2% and preferably 4% of the value of its assets, on average, annually, although this is not necessarily the best measure to determine whether NapaSan is investing sufficiently in asset replacement and rehabilitation. The ratio was up in FY14 through FY15 due to replacement of the Influent Pump Station. The reduction in FY16 – FY18 was due to most of the capital asset expenses being spent on the new recycled water pipeline projects in the MST and Los Carneros areas. In FY19, construction of the Treatment Plant Rehabilitation Project, rehabilitation of the Headworks equipment and the Sewer System rehabilitation projects account for a majority of the capital expenses. A Treatment Plant Rehabilitation Project was completed in FY20. The Browns Valley Trunk Rehabilitation Project also began construction in FY20. It is anticipated to stay at or above the goal into the next several years as NapaSan continues to invest in replacement and rehabilitation of its sewer system.

INFRASTRUCTURE STABILITY

Rating	
Current Year	10-Year Trend
★ Satisfactory	★ Satisfactory

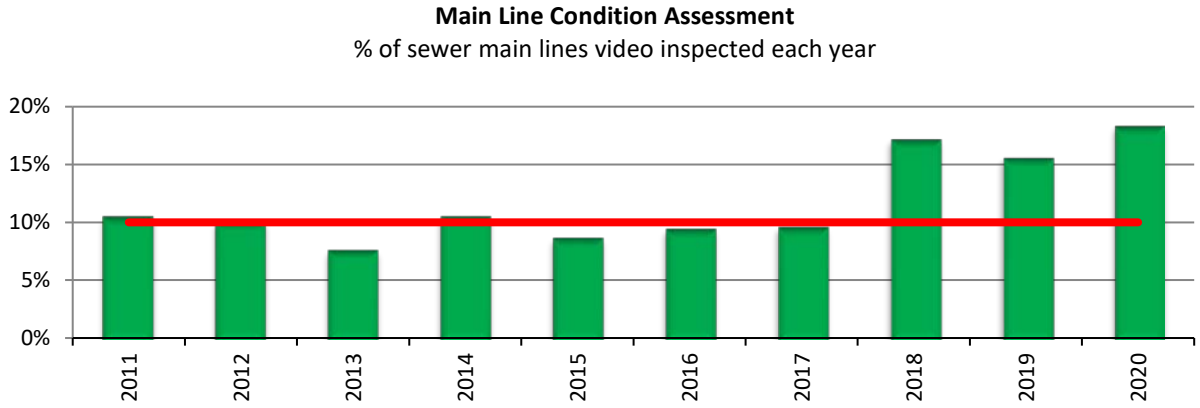
Measurement #6-3

Sewer Main Condition Assessment

Description

This graph shows the percent of sewer main lines that are video inspected each year and assessed for condition and maintenance problems.

Performance Data



Analysis

NapaSan has consistently met or come close to its goal of 10% annually from 2011-2017. The 2013, 2015 and 2016 drops in assessments were due to lower staffing levels in the Collections Department than usual (injuries and position vacancies) able to complete this task. In 2015, there was also additional effort put toward system repairs (lateral and manhole repairs and replacements) in specific areas to keep ahead of the City's road paving schedule, which pulled staff away from this activity.

From 2018-2020, additional assessments were completed due to increased focus on the asset management program. Inspections were also completed in support of future I&I and sewer replacement projects. The additional inspections assist the engineers division to develop more complete bid documents.

INFRASTRUCTURE STABILITY

Rating	
Current Year	10-Year Trend
★ Satisfactory	★ Satisfactory

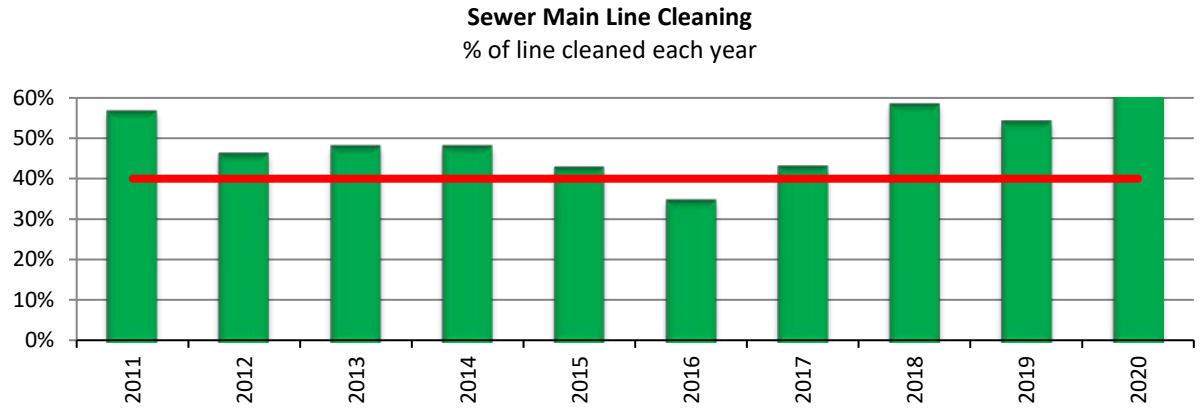
Measurement #6-4

Sewer Main Line Cleaning

Description

This chart shows the percentage of sewer main lines cleaned during the year, compared to the NapaSan's goal of 40% cleaned annually.

Performance Data



Analysis

Over the past decade, NapaSan has maintained its efforts in preventive maintenance and cleaning of sewer mains, with the goal of cleaning the equivalent of 40% of its sewer mains every year. In 2016, NapaSan did not meet this goal because of staffing vacancies. This deficiency was corrected in 2017. In 2018, new equipment (combination truck) was procured that is more reliable, allowing for increased productivity.

INFRASTRUCTURE STABILITY

Rating	
Current Year	10-Year Trend
Watch	Satisfactory

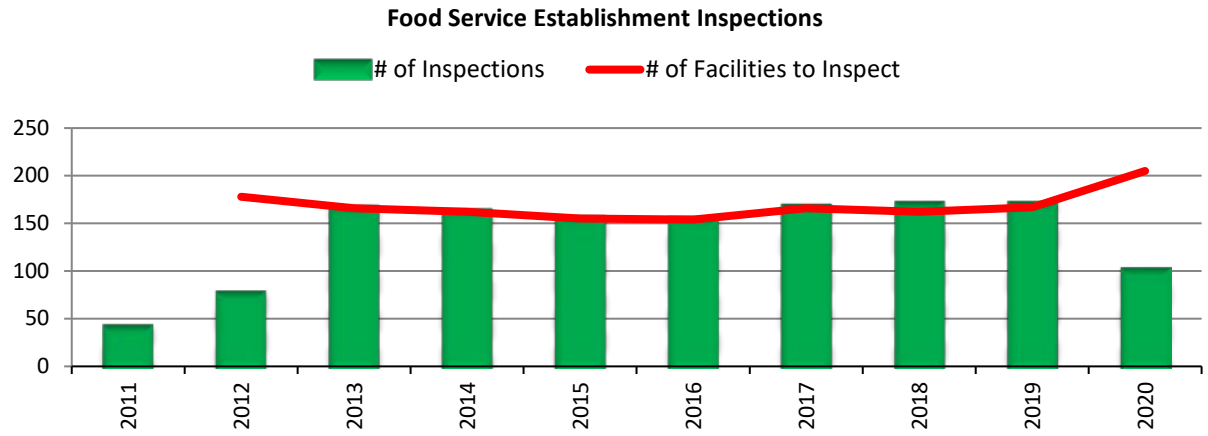
Measurement #6-5

Food Service Establishment Inspections

Description

Inspections ensure that restaurants and other Food Service Establishments (FSEs) are properly maintaining their grease interceptors and following Best Management Practices. Properly maintaining this equipment results in fewer corrective maintenance problems in the collections system. The goal is to inspect high risk FSEs more frequently than low risk FSEs, with a total inspection goal of at least 150 inspections annually. The objectives are to reduce the number of severity of overflows caused by fats, oil and grease (FOG) and decrease preventative maintenance efforts by collection system crews.

Performance Data



Analysis

In 2011, the Board adopted new Best Management Practices (BMPs) for fats, oil and grease management by food service establishments (FSEs). In 2012, the District increased its inspections for compliance with the District's Sewer Use Ordinance and with the BMPs.

In 2019, NapaSan coordinated with City and County staff to identify all food service establishments within NapaSan's service area. This effort resulted in an increase in the quantity of food service establishments in the data between 2019 and 2020.

For the benefit of NapaSan and restaurant staff safety, during the pandemic only external grease interceptors were inspected after February 2020, which limited interaction with restaurant staff. There are 78 external grease interceptors at food service facilities within NapaSan's service area.

INFRASTRUCTURE STABILITY

Rating	
Current Year	10-Year Trend
★ Satisfactory	★ Satisfactory

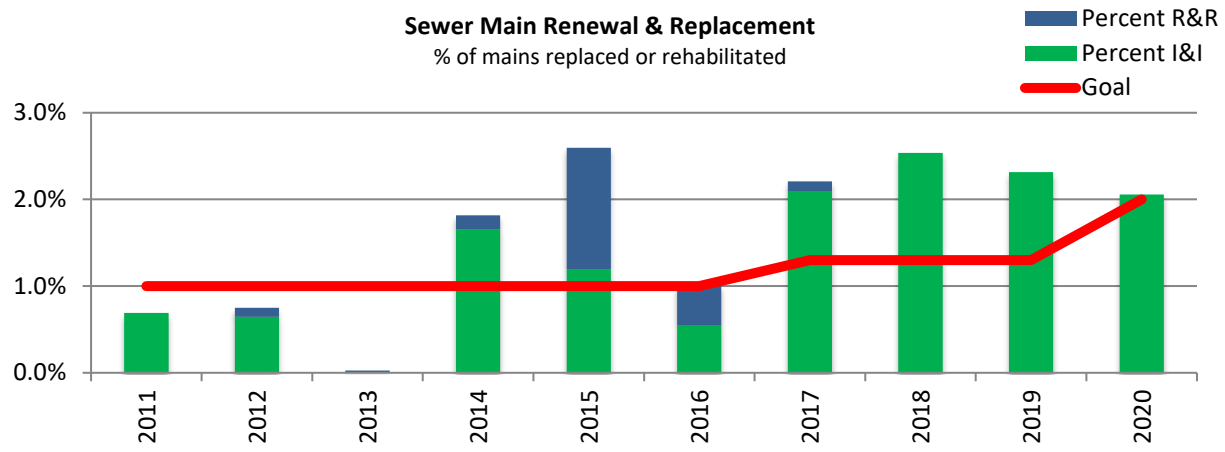
Measurement #6-6

Sewer Main Renewal & Replacement

Description

This graph shows the percent of sewer mains maintained by NapaSan that have been replaced or rehabilitated annually. Inflow and infiltration (I&I) projects are predominantly trenchless rehabilitation projects designed to decrease stormwater and groundwater intrusion into the sewer pipes. Rehabilitation and replacement (R&R) projects rehabilitate or replace sewer pipes based on condition assessment showing them to be deteriorating and losing structural integrity.

Performance Data



Analysis

NapaSan has met its renewal and replacement target in the past seven years, reversing the trend seen the previous three years. NapaSan has set future targets to increase the total replacement goal over the next five years to 2%, and has established future sewer service rates to meet this goal. NapaSan has met the 2% goal sooner than originally planned.

Year	Replacement Goal
2016	1.0%
2017	1.3%
2018	1.3%
2019	1.3%
2020	2.0%
2021	2.0%

INFRASTRUCTURE STABILITY

Rating	
Current Year	10-Year Trend
Satisfactory	Satisfactory

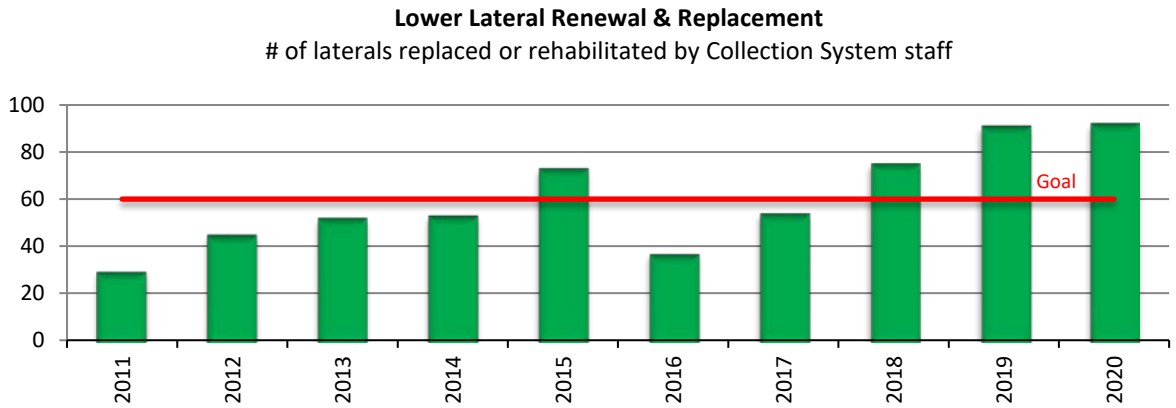
Measurement #6-7

Lower Sewer Lateral Renewal & Replacement

Description

This graph shows the number of lower sewer laterals maintained by NapaSan that have been replaced annually by the Collection Department, understanding that lower laterals are also replaced when sewer mains are replaced as part of capital improvement projects. The aspirational goal is for the Collection Department to rehabilitate or replace at least 60 lower laterals annually.

Performance Data



Analysis

NapaSan started keeping track of this metric in 2010 when it purchased the ability to line lower laterals itself, rather than contracting out. NapaSan has established an aspirational goal of rehabilitating or replacing 60 lower laterals annually, and has been making steady progress toward meeting the goal consistently by developing new methods for preparing for the implementing lining projects. In 2016, the department had limited staffing to devote to this activity due to staffing vacancies. Those vacancies have since been filled.

In 2020, NapaSan Collection System staff completed 91 rehabilitations through lateral lining, again exceeding its goal of 60 rehabilitations per year.

INFRASTRUCTURE STABILITY

Rating	
Current Year	10-Year Trend
Satisfactory	Satisfactory

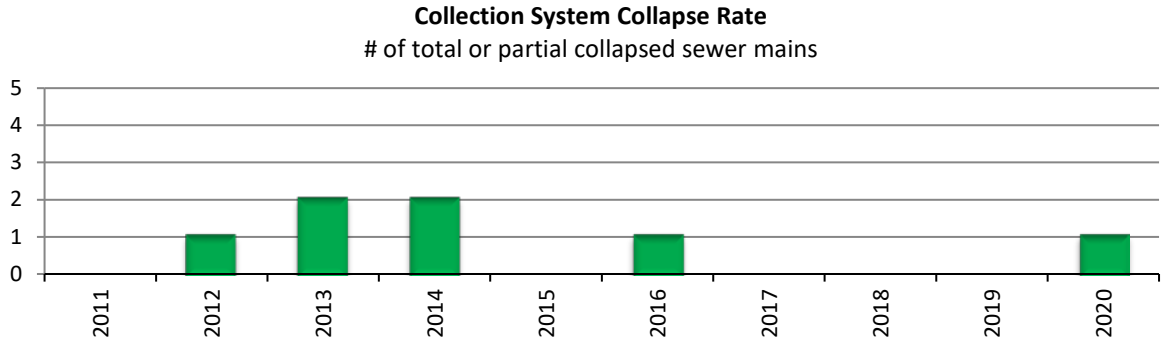
Measurement #6-8

Sewer Partial or Total Collapse Rate

Description

A sewer pipe collapse occurs when a portion of sewer pipe warps, deflects, or fails in a way where the pipe itself obstructs sewer flow, as opposed to a blockage caused by sediment, grease, roots or some other foreign object.

Performance Data



Analysis

There have been only 7 repairs in the past 10 years that were required because of collapsed sewer pipe.

The 2020 failure was located on the sewer force main from River Park Pump Station. The force main developed a hole and the pipe was replaced.

INFRASTRUCTURE STABILITY

Rating	
Current Year	10-Year Trend
Satisfactory	Satisfactory

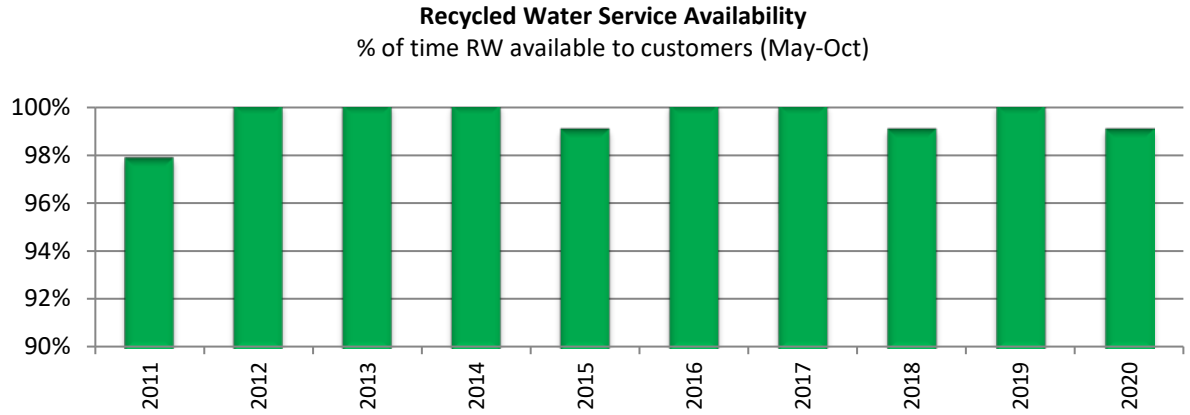
Measurement #6-9

Recycled Water Service Availability

Description

This is the percentage of days from May 1 through October 31 that there is no interruption in recycled water delivery.

Performance Data



Analysis

The availability of summer recycled water has been at least 98% for the past decade. In 2011, the system was down for 4 days to repair a leak in a recycled water main line, and down for two days in 2015. In 2020, the system availability was 99% of the year with the sole exception due to a short power outage at the treatment plant.

EUM Attribute #7

Operational Resiliency

This attribute evaluates whether NapaSan leadership and staff work together to anticipate and avoid problems, whether they proactively identify, assess, establish tolerance levels for, and effectively manage a full range of business risks (including legal, regulatory, financial, environmental, safety, security, and natural disaster-related) in a proactive way consistent with industry trends and system reliability goals.

Satisfactory
Watch
Unsatisfactory
No Measure

Attribute	Measurement	2020	Trend	Page
7. Operational Resiliency	1-Total Recordable Incidence Rate	★	★	72
	2-Vehicle Accident Rate	★	★	73
	3-Lost Time Hours	★	★	74
	4-Insurance Claims	★	◆	75
	5-Experience Modification (XMOD) Rate	★	★	76
	6-Emergency Response Plans	★	★	77
	7-Uptime for Cogeneration Engine	★	★	78
	8-Uptime for Pumps at Pump Stations	★	⊘	79
	9-Resiliency Under Emergency Conditions: Power	★	★	80
	10-Resiliency Under Emergency Conditions: Staff	★	★	81
	11-Treatment Plant Capacity	★	★	82

OPERATIONAL RESILIENCY

Rating	
Current Year	10-Year Trend
Satisfactory	Satisfactory

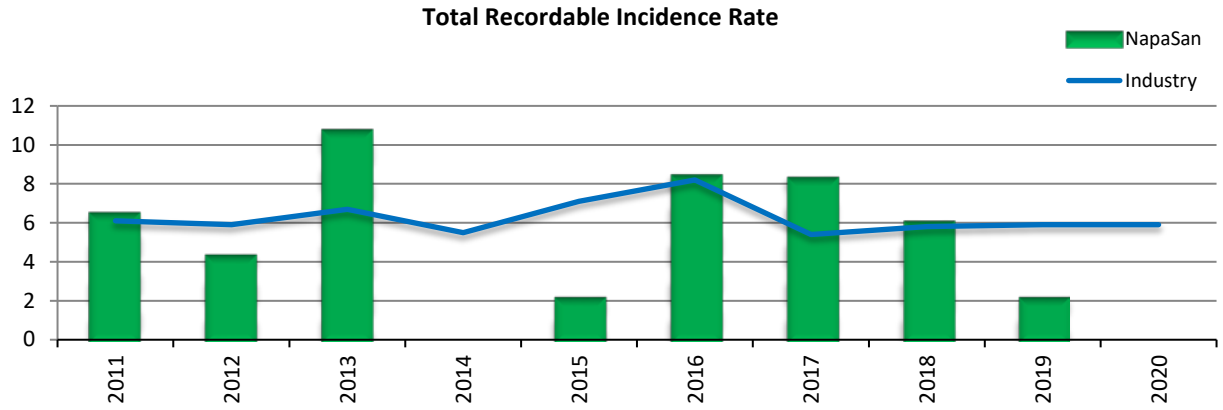
Measurement #7-1

Total Recordable Incidence Rate

Description

This is the number of work-related injuries and illnesses times 200,000 divided by the number of employee hours worked. This is a standard formula used by OSHA to normalize data. The 200,000 represents 100 employees working 40 hours per week, 50 weeks per year, and provides for the comparability of incidence rates.

Performance Data



Analysis

NapaSan is compared here to the "Local Government – Utility - Water, Sewage and Other Systems" industry category as reported by the U.S. Bureau of Labor Statistics. Over the past 10 years, NapaSan's incidence rate has generally been lower or comparable to the national average, with the exception of 2013 and 2017. Since 2017, NapaSan saw a steady decline with zero in 2020 which gives this measure a "satisfactory" score for the current year and the 10-Year Trend.

OPERATIONAL RESILIENCY

Rating	
Current Year	5-Year Trend
Satisfactory	Satisfactory

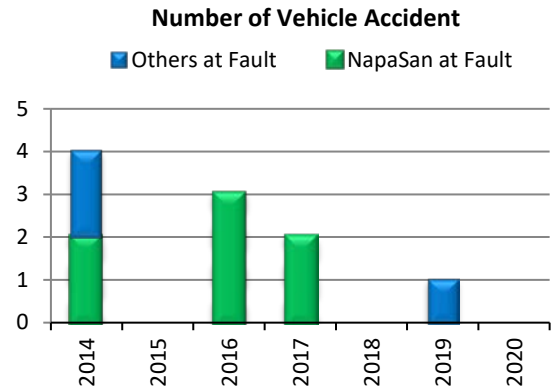
Measurement #7-2

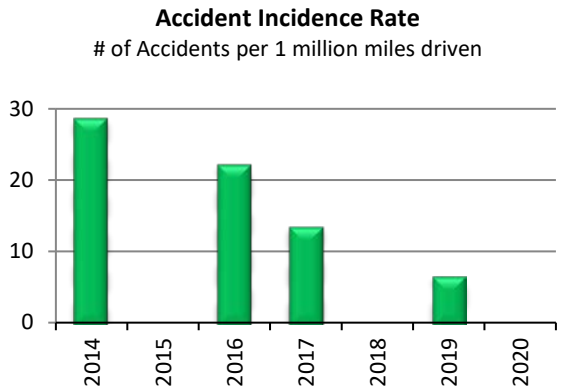
Vehicle Accident Rate

Description

This measure evaluates the number of vehicle accidents involving NapaSan vehicles that resulted in an insurance claim by either party involved. The data is divided into accidents where a NapaSan employee was at fault, and accidents where others were at fault, based on the incident investigation. Zero "NapaSan at Fault" accidents is the goal, but a determination of what level would be acceptable has not been made.

Performance Data





Analysis

NapaSan has compiled this data back to 2014. There were 2 vehicle accidents in 2014, no vehicle accidents in 2015, three vehicle accidents in 2016, two in 2017 and none in 2018 – 2020 where a NapaSan employee was at fault for the accident. No accidents in 2018 and 2020 and only a single accident in 2019 that was not a "NapaSan at Fault" resulted in the "satisfactory" annual and trend rating.

OPERATIONAL RESILIENCY

Rating	
Current Year	10-Year Trend
★ Satisfactory	★ Satisfactory

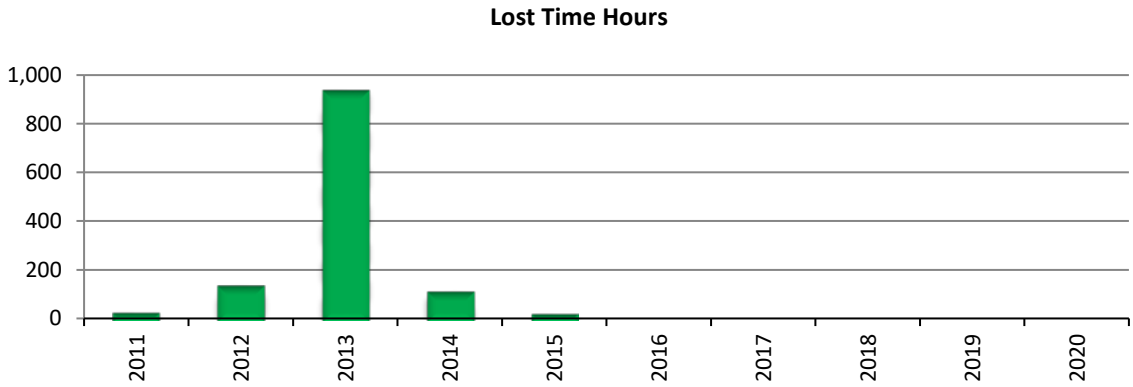
Measurement #7-3

Lost Time Hours

Description

This is the number of hours that a worker could not work due to a work-related injury or illness. Lost time begins to accrue once an employee misses one full day of work.

Performance Data



Analysis

NapaSan did not have a lost time accident from 2005 through 2010. The District continues to have exceptionally low lost time due to workplace injury or illness. In 2012, there was one lost time injury. The 2012 injury resulted in significant lost time in 2013. The 2014 hours are related to the same injury in 2012. While the increases from 2012 to 2014 appear to be significant, the fact that they are related to one incident in 2012 has a mitigating impact on the rating. In 2015, there was one injury resulting in 8 hours of lost time and in 2016 through 2020, there were no loss time accidents.

OPERATIONAL RESILIENCY

Rating	
Current Year	10-Year Trend
Satisfactory	Watch

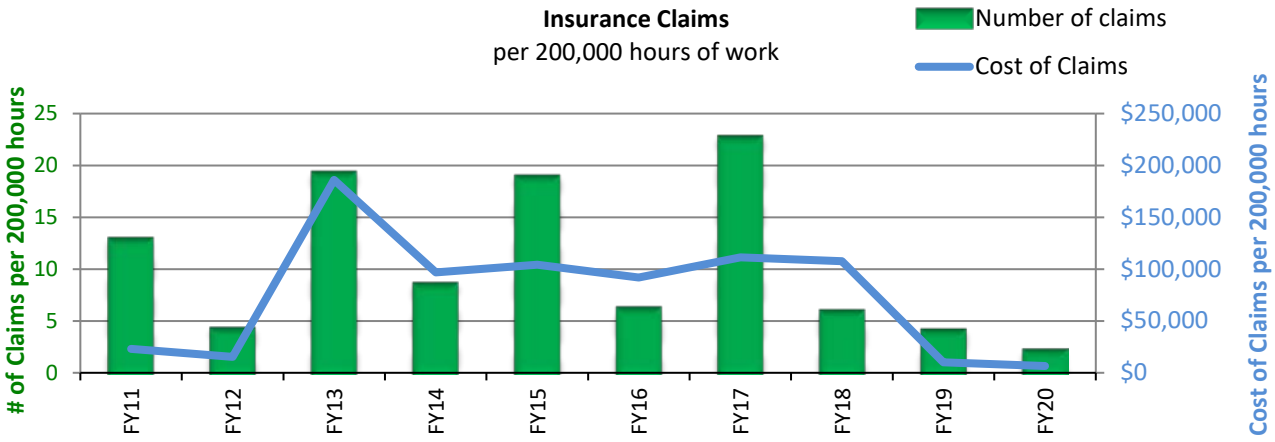
Measurement #7-4

Insurance Claims

Description

This is the number of and total amount paid out for general liability and automobile liability claims per 200,000 hours worked (the equivalent of 100 employees working one year). It is a standard practice to convert claims in this way to allow for comparison across organizations and industries, as it normalizes the data so that small and large organizations can be compared on an equal basis.

Performance Data



Analysis

NapaSan had been fairly consistent in the cost of claims paid out per 200,000 hours of work between 2014 and 2018, at just about $100,000, and saw a decrease in cost in 2019 and 2020. The number of claims were also fluctuating, but has decreased in the last two years.

The low number in claims in the last three years and the low cost of claims in FY19 and FY20 are why this year is rated “satisfactory.” The fluctuation from year to year results in the 10-year trend data being rated as “watch.”

OPERATIONAL RESILIENCY

Rating	
Current Year	10-Year Trend
★ Satisfactory	★ Satisfactory

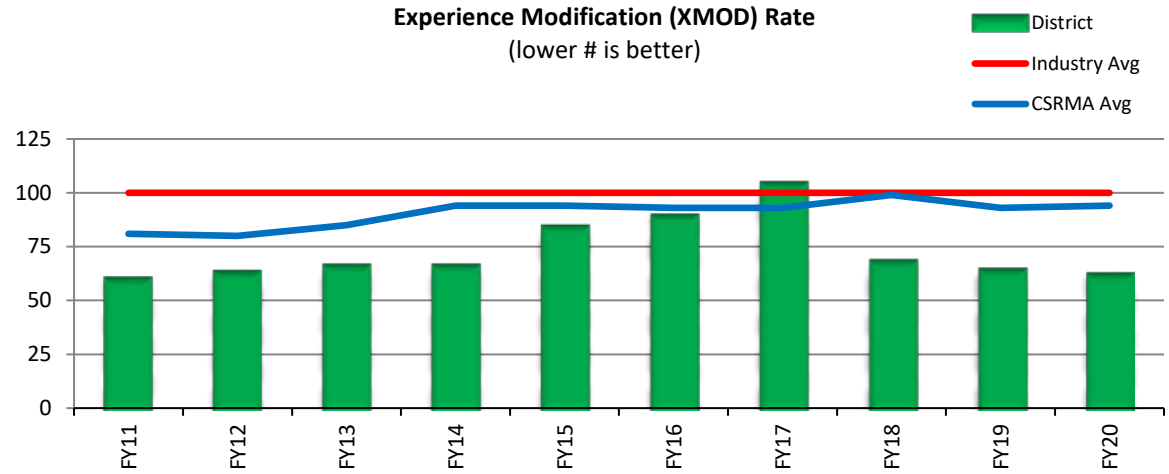
Measurement #7-5

Experience Modification (XMOD) Rate

Description

This is the rate used by the workers compensation insurance company to determine NapaSan's workers compensation experience. One hundred is considered the industry average. Numbers over 100 mean that NapaSan has more claims than the industry average, while numbers below 100 are better than the average. CSRMA is the insurance pool NapaSan is in for Workers' Compensation claims and includes only sanitation districts in the state of California.

Performance Data



Analysis

Through the implementation of several safety programs at NapaSan, NapaSan's XMOD rate has remained lower than the industry average and the Worker's Comp insurance pool representing similar facilities in California.

The increases from FY15 through FY17 are the result of lost time from one incident in 2012 and one in 2015, as the impacts of these incidents on the XMOD is delayed and smoothed over three years. The XMOD rating dropped in FY20 from 64 to 62.

OPERATIONAL RESILIENCY

Rating	
Current Year	10-Year Trend
Satisfactory	Satisfactory

Measurement #7-6

Emergency Response Plans

Description

Are Emergency Response Plans in place for the following? (Y/N)

Performance Data

- **Treatment Plant:** Yes
- **Lift Stations:** Yes
- **Collections:** Yes
- **Administration:** Yes

Analysis

Emergency Response Plans for the plant and lift stations are in place, and are trained and practiced regularly. The Collection System staff has plans and equipment for system bypasses, and conducts training on this equipment regularly.

OPERATIONAL RESILIENCY

Rating	
Current Year	10-Year Trend
★ Satisfactory	★ Satisfactory

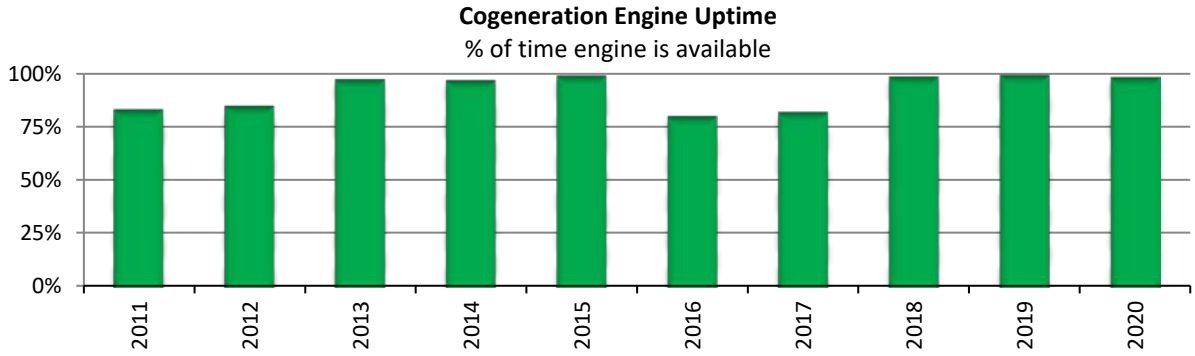
Measurement #7-7

Uptime for Cogeneration Engine

Description

The cogeneration engine ("Cogen") is critical equipment to reduce purchased electricity demand. The use of this equipment also reduced the need to operate the boiler. Increased boiler operation would require extensive and costly upgrades to the boiler to meet air quality standards.

Performance Data



Analysis

Since 2009, NapaSan has maintained the Cogen at an optimal level to provide for significant uptime. With increased FOG (fats, oils and grease) deliveries at the FOG receiving station in recent years, more biogas has been produced allowing for even greater operating efficiencies for the Cogen unit.

In late 2016 and early 2017, the Cogen unit was out of service (November to March) for planned major maintenance. Absent that planned shutdown, the engine uptime for the past eight years is consistently high. In 2020, FOG deliveries saw a decrease due to COVID-19. Staff took advantage of the downtime and scheduled major maintenance for the Cogen unit. Even with the shutdown for maintenance, the uptime rate was 97% in 2020.

OPERATIONAL RESILIENCY

Rating	
Current Year	10-Year Trend
Satisfactory	Insufficient data

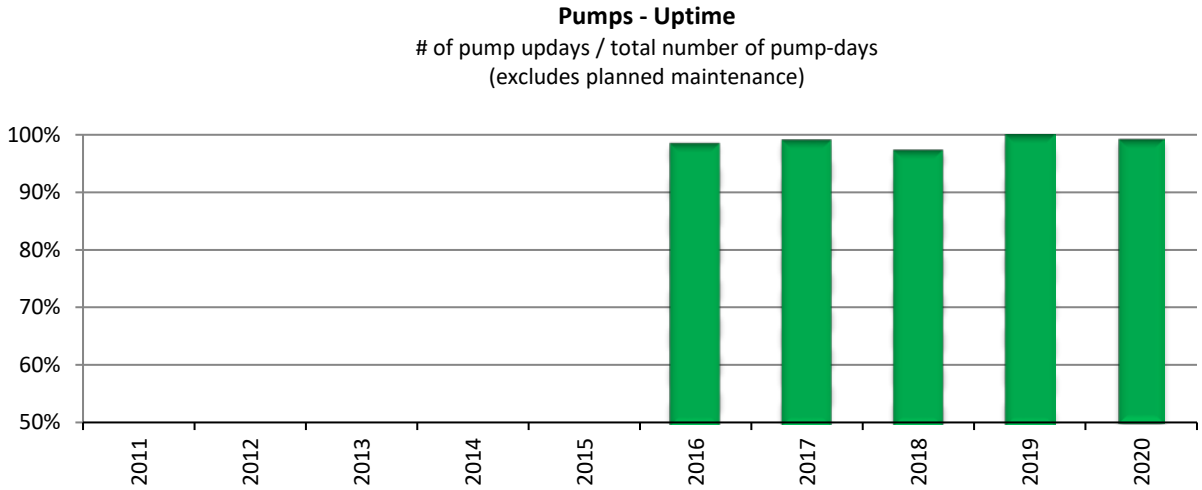
Measurement #7-8

Uptime for Pumps at Pump Stations

Description

There are currently 28 major pumps maintained. There are 9 in collection system pump stations, 12 are involved in treatment, and 7 are used in recycled water distribution. These pumps represent the major backbone of infrastructure needed to collect, treat and reuse wastewater. Each pump station has multiple pumps for redundancy, as an engineered mitigating measure to increase resiliency. The regular maintenance of the pumps is also a mitigating action taken by NapaSan to increase resiliency. This metric looks at the unplanned maintenance on these pumps as a measure of NapaSan's maintenance activity's impact on pump resiliency.

Performance Data



Analysis

2016 was the first year that this data has been calculated and reported in total for the 28 major pumps in the system. Uptime has been consistently above 96% for the past three years, with no pump station having more than one of its three (or more) pumps out of service for any extended period of time.

Because of the lack of historical data, it is not feasible to determine a trend rating at this time.

OPERATIONAL RESILIENCY

Rating	
Current Year	10-Year Trend
★ Satisfactory	★ Satisfactory

Measurement #7-9

Operational Resiliency under Emergency Conditions – Power

Description

This is the number of hours that backup power is available at the treatment plant (including the Influent Pump Station) and at the other three pump stations in the collections system.

Performance Data	Wet Weather	Dry Weather
Treatment Plant	23.5 hours	35.3 hours
West Napa PS	20.5 hours	36.9 hours
Riverpark PS	40.0 hours	55.6 hours
Stonecrest PS	47.5 hours	63.3 hours

Analysis

These times indicate how long the facilities could operate during peak pumping without electricity from the grid and without additional deliveries of diesel fuel for the generators. During power outages in wet weather longer than 20 hours, staff would be required to refuel the generator at West Napa Pump Station.

OPERATIONAL RESILIENCY

Rating	
Current Year	10-Year Trend
Satisfactory	Satisfactory

Measurement #7-10

Operational Resiliency under Emergency Conditions – Staff

Description

This is a measure of the ability for backup staff to cover critical operations and maintenance positions.

Performance Data

- **Collections:** All collection system workers are cross trained on tasks and equipment. Regular tasks are rotated to ensure continued familiarity with all tasks during emergency events. Of the twelve field workers, ten are on the standby rotation.

- **Plant Operations, Maintenance and Laboratory:** All critical staff positions have backup staff trained to complete all required tasks of that position, and supervisors are trained to complete all tasks within their work unit. The Operations Services Director position has limited coverage by the Operations Supervisor.

- **Critical Positions:** For the most critical positions where this is no redundancy in employee coverage, plans have been developed that include instructions on how to perform time-sensitive or regulatory-required activities, including phone numbers of those who could help someone perform the tasks. All critical tasks have assigned backup personnel, and all backups have been trained on necessary procedures.

Analysis

There is significant cross training for critical operations and maintenance positions to ensure adequate coverage with the appropriate skills, experiences and certifications.

OPERATIONAL RESILIENCY

Rating	
Current Year	10-Year Trend
Satisfactory	Satisfactory

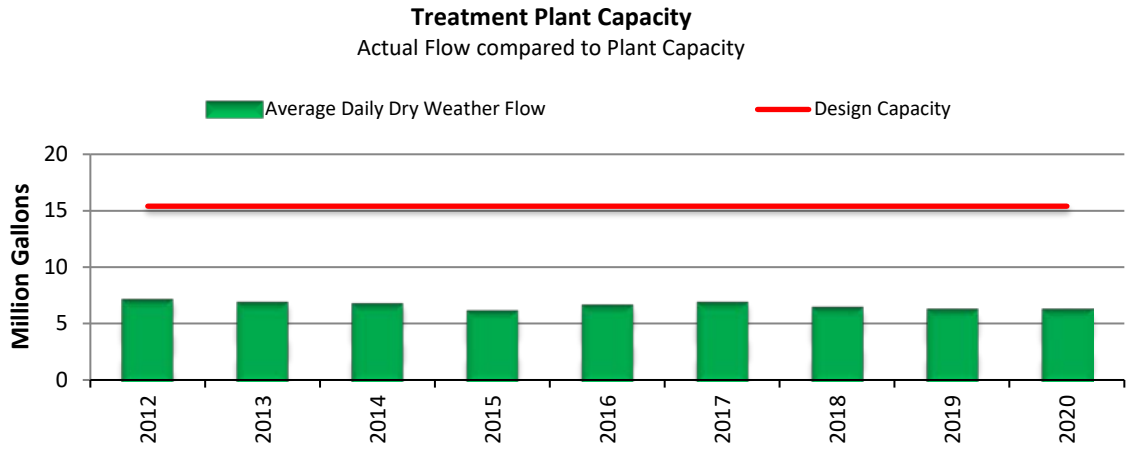
Measurement #7-11

Treatment Plant Capacity

Description

This measure evaluates the available hydraulic treatment capacity in the treatment plant. NapaSan needs to maintain treatment capacity for future development. As flow increases, it is necessary to invest in capital projects to expand the treatment capacity. (Note that hydraulic flow is only one component to evaluate when determining treatment capacity.)

Performance Data



Analysis

The flow into the plant has remained steady for several years. Even with growth in the community, the average daily dry weather flow has remained constant or even dropped slightly, due primarily to water conservation activities. There is sufficient treatment capacity at the plant to accommodate growth in the next several years. Treatment plant capacity will be further studied by the treatment plant master plan scheduled to start in 2020 and completed in 2021.

EUM Attribute #8

Community Sustainability

This attribute evaluates whether NapaSan is explicitly cognizant of and attentive to the impact its decisions have on current and long-term future community and environmental health and welfare.

Attribute	Measurement	2020	Trend	Page
8. Community Sustainability	1-Watershed-based Infrastructure Planning	★	★	**86**
	2-Green Infrastructure – Programs	★	★	**87**
	3-Green Infrastructure – New Infrastructure	★	★	**88**
	4-Greenhouse Gas Emissions – Purchased Energy	★	★	**89**
	5-Digester Gas Beneficial Reuse	★	★	**90**
	6-Recycled Water Beneficial Reuse	★	★	**91**
	7-Biosolids Beneficial Reuse	★	★	**92**
	8-Sewer Service Charges - Affordability	★	★	**93**
	9-Low Income Billing Assistance	★	★	**94**

COMMUNITY SUSTAINABILITY

Rating	
Current Year	10-Year Trend
★ Satisfactory	★ Satisfactory

Measurement #8-1

Watershed-based Infrastructure Planning

Description

This measure addresses NapaSan's efforts to consider watershed-based approaches when making management decisions affecting infrastructure planning and investment options.

Performance Data

- Does the utility employ alternative, watershed-based approaches to align infrastructure decisions with overall watershed goals and potentially reduce infrastructure costs? (Y/N)

  Yes.

Analysis

NapaSan is investing in recycled water infrastructure greater than is necessary to meet the current needs of its ratepayers to avoid summer river discharge. This infrastructure has been directed toward locations within the watershed that are at risk of significant groundwater depletion, so that recycled water can offset the overdraft in these groundwater deficient areas.

COMMUNITY SUSTAINABILITY

Rating	
Current Year	10-Year Trend
★ Satisfactory	★ Satisfactory

Measurement #8-2

Green Infrastructure - Programs

Description

"Green infrastructure" includes both the built and natural/non-built environment. This measure assesses the extent to which NapaSan promotes or engages in practices that protect natural resources and the environment in its community programs.

Performance Data

- Has NapaSan explored green infrastructure approaches and opportunities that are aligned with the District's mandate, goals and objectives and community interests? (Y/N)

  Yes.

Analysis

NapaSan has implemented the following programs or practices:

- Recycled Water Delivery – sold to customers to offset the use of groundwater or city-provided potable water for irrigation.
- Stream restoration – work with the local Resources Conservation District and schools to development and implement stream restoration and revegetation plans along creeks and streams on NapaSan property, to encourage habitat development and promote water quality.
- Regional Trails Support – work cooperatively with regional trail designers and advocates to connect a non-motorized multi-modal trail segment adjacent to the treatment plant.
- Pharmaceutical Disposal Program – works with local pharmacies and local agencies to encourage proper disposal of medications.
- Fats, Oils and Grease (FOG) Receiving Station – accept grease from food service establishment grease interceptors, reducing the need to truck this waste to Oakland, and converting the waste into biogas that can be used to generate electricity.
- Recycle More Program – partner with the City of Napa on a curbside collection program to reuse items that otherwise might be disposed in landfill. This program includes free curbside collection of residential cooking oil which is used to make biodiesel.

COMMUNITY SUSTAINABILITY

Rating	
Current Year	10-Year Trend
★ Satisfactory	★ Satisfactory

Measurement #8-3

Green Infrastructure – New Infrastructure

Description

"Green infrastructure" includes both the built and natural/non-built environment. This measure assesses the extent to which NapaSan promotes or engages in practices that protect natural resources and the environment in the development of new infrastructure.

Performance Data

- Does NapaSan have procedures that incorporate green infrastructure approaches and performance into new infrastructure investments? (Y/N)

  Yes.

Analysis

NapaSan has implemented the following programs or practices:

- Green Building – the Administration/Engineering building and corporation yard incorporates "green" features and complies with the "green building" code. The new West Napa Pump Station was designed with high efficiency pumps that will use significantly less power than the existing pumps.
- Electricity Self-Generation – NapaSan has studied ways to use the plant's resources (waste products, land) for the generation of alternative energy sources (methane, solar, wind, etc.). In 2012, NapaSan completed its Fats, Oil and Grease (FOG) Receiving Station that will result in the District generating significant amounts of its electricity needs.
- Solar Power – In 2015, NapaSan entered into a long-term contract for a private company to build a 1-megawatt photovoltaic solar array on District property, with the electricity generated being sold to NapaSan to offset electricity from PG&E. That project completed constructed in late 2016, with operation starting in March 2017. The new West Napa Pump Station is being designed with solar power to help augment electricity needs at that site.
- Lateral Lining System – NapaSan started using a trenchless system for lining laterals, which is used in lieu of digging trenches for the repair and replacement of laterals. This process reduces waste through reusing existing pipe rather than disposal, and reduces the use of asphalt, cement and rock to backfill the trench. There is also less diesel emissions from reduced backhoe and dump truck use.
- Pipe Bursting and Cured-in-Place Pipe (CIPP) Lining – NapaSan has developed a preference for pipe bursting or CIPP lining to replace or rehabilitate sewer mains, wherever feasible. These processes eliminate most of the trenching required, thus reducing landfill waste, reducing the use of rock, cement and asphalt to backfill, and reducing diesel emissions from associated equipment.

COMMUNITY SUSTAINABILITY

Rating	
Current Year	10-Year Trend
Satisfactory	Satisfactory

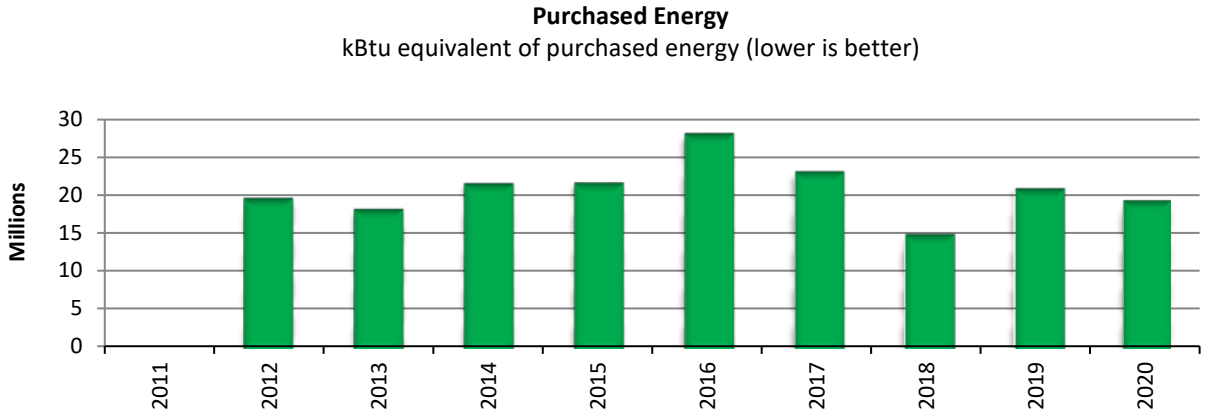
Measurement #8-4

Greenhouse Gas Emissions – Purchased Energy

Description

One source of greenhouse gas emissions is the generation of power. NapaSan's goal is to maximize its ability to produce its own heat and electricity and reduce the amount of energy that it purchases. The chart shows the amount of energy purchased from electricity (excluding from solar), natural gas, fuel oil and propane, converted to kBtu equivalents, used in the treatment plant.

Performance Data



Analysis

NapaSan started collecting this information in 2012. In 2019, the amount of purchased energy increased from the prior year primarily due to increased use of diesel fuel purchased during the Public Safety Power Shutdown (PSPS) events in fall 2019. Additionally, some diesel fuel was purchased to operate portable pumps for dewatering of the pond system in advance of a project that installed new pond transfer structures in summer 2019. Increased energy was purchased in 2020 to produce and distribute recycled water to meet the additional demand.

COMMUNITY SUSTAINABILITY

Rating	
Current Year	10-Year Trend
★ Satisfactory	★ Satisfactory

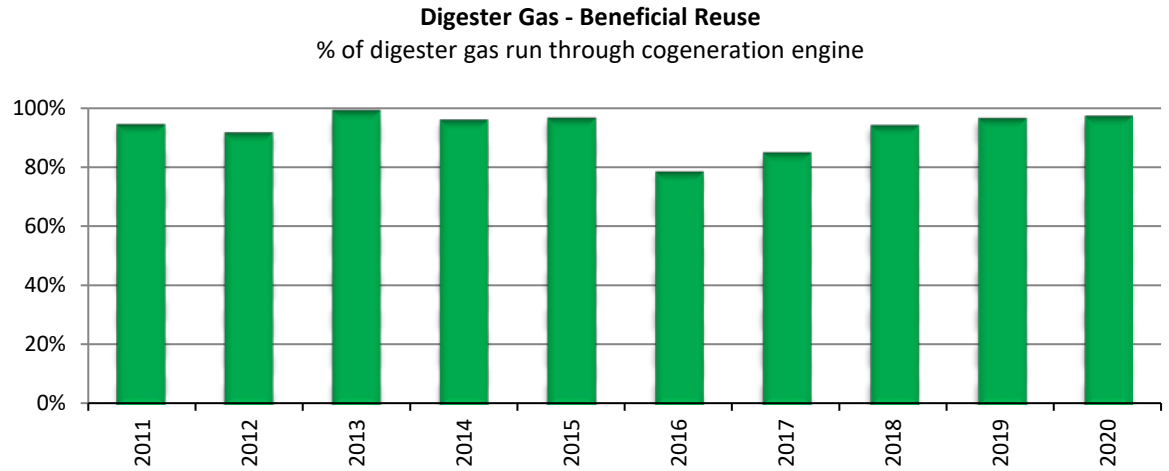
Measurement #8-5

Digester Gas Beneficial Reuse

Description

Biogas (predominantly methane) is a natural byproduct of anaerobic digestion and a greenhouse gas. By beneficially using the biogas as a fuel source to generate electricity, NapaSan avoids the need to dispose of the gas through flaring. This is a measure of the percentage of digester gas that is used as fuel in the cogeneration engine to create electricity and heat, as opposed to flaring the biogas.

Performance Data



Analysis

One of NapaSan's goals is to decrease the amount of digester gas flared (no beneficial reuse) and to increase the use of digester gas for electricity consumption through its cogeneration engine (beneficial reuse). Increased use of digester gas and decreased use of natural gas and purchased electricity will result in a net decrease in greenhouse gas emissions. The data shows a positive trend in putting the digester gas to beneficial reuse, with approximately 97% of digester gas being used in the cogeneration engine in 2020. In late 2016 and early 2017, the beneficial reuse dropped because the cogeneration engine was out of service for planned major maintenance. Absent that planned event, the beneficial reuse is satisfactory.

COMMUNITY SUSTAINABILITY

Rating	
Current Year	5-Year Trend
★ Satisfactory	★ Satisfactory

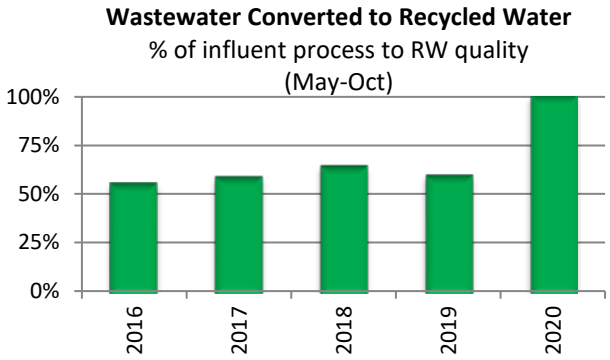
Measurement #8-6

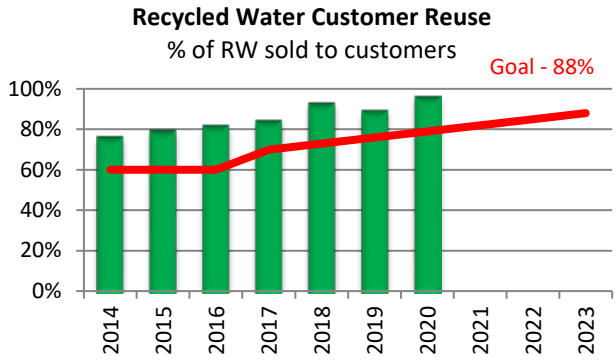
Recycled Water Beneficial Reuse

Description

The first metric is the percentage of influent from May through October that was treated to recycled water ("unrestricted tertiary disinfected") quality. This is a measure of how much of NapaSan's incoming wastewater was made available for recycling and put to beneficial reuse. The second metric is the percentage of recycled water created by the treatment plant that was sold to customers, instead of being used by NapaSan. This is a measure of how much of NapaSan's recycled water is being put to customer reuse.

Performance Data





Analysis

NapaSan has been consistently treating its influent during the irrigation system to recycled water quality and making it available to customers.

Over the last six years, NapaSan has been investing in the design and construction of additional recycled water pipelines and expanding its recycled water treatment capacity. With the completion of those projects in 2018 and customers starting to convert their properties for recycled water use, more of the water NapaSan receives during the irrigation season (May-October) has be treated to recycled water quality and delivered to customers.

In 2020, 82.5% of influent flow was beneficially reused as recycled water, with 94% of the recycled water sold to customers (6% internal use).

COMMUNITY SUSTAINABILITY

Rating	
Current Year	10-Year Trend
Satisfactory	Satisfactory

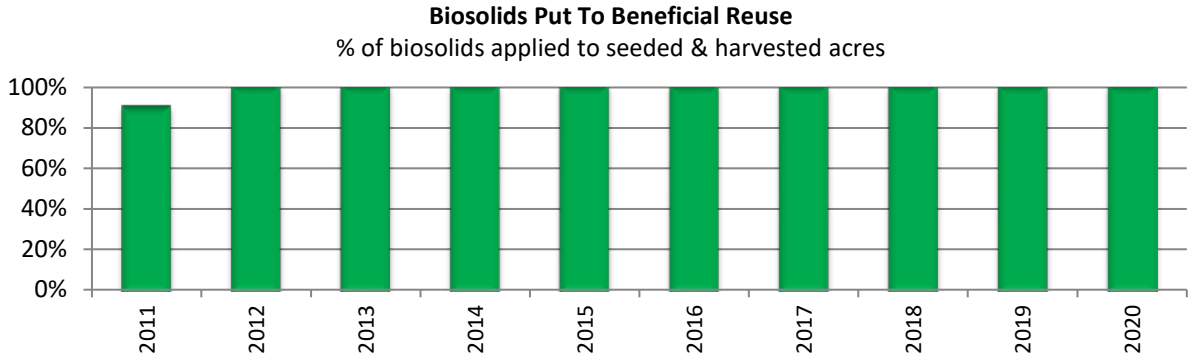
Measurement #8-7

Biosolids Beneficial Reuse

Description

Percentage of biosolids that are applied to land that is seeded and harvested for use by livestock or associated use, based on dry tons applied to acres.

Performance Data



Analysis

NapaSan's current program includes the agricultural application of biosolids for beneficial reuse on NapaSan owned or leased land. All lands applied with biosolids in 2012 to 2020 were seeded for beneficial reuse, either for agricultural commodities or as sheep grazing land.

COMMUNITY SUSTAINABILITY

Rating	
Current Year	10-Year Trend
★ Satisfactory	★ Satisfactory

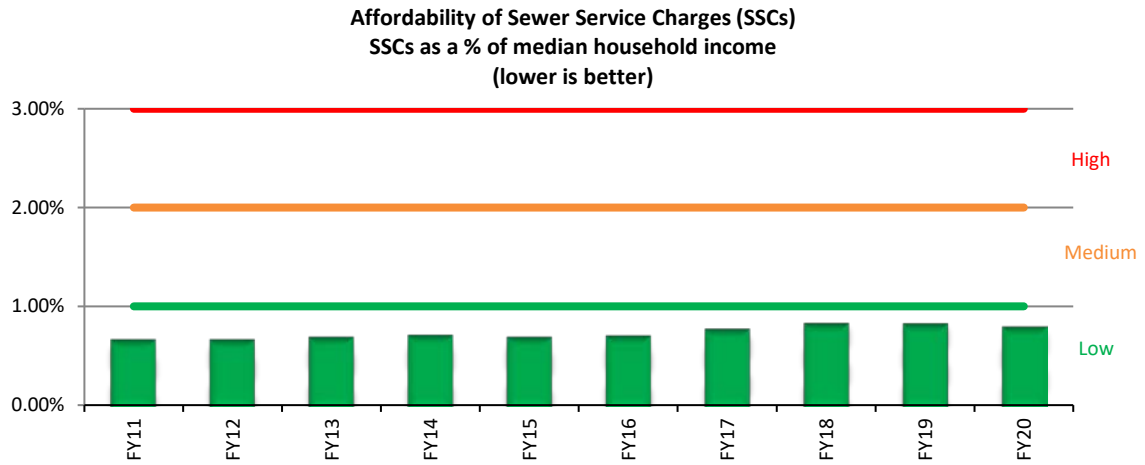
Measurement #8-8

Sewer Service Charges – Affordability

Description

Affordability is subjective. However, tracked over time, NapaSan can evaluate whether the sewer service charges (SSCs) are becoming more or less affordable *for the community* as compared to median household incomes (MHI) for the Napa County, using U.S. Census Bureau data. The U.S. EPA's 1997 Financial Capability Assessment established that communities with sewer charges between 0% and 1% of MHI have a "low" financial burden, between 1% and 2% of MHI have a "medium" burden, and over 2% as having a "high" burden.

Performance Data



Analysis

The SSC as a ratio of MHI has remained steady for the past ten years at a rate well within the "low" financial burden range. The increase in SSC rates approved by the Board in March 2016 did result in a slight increase in FY17, FY18, FY19, and FY20 (from 0.68% to 0.77%), but is expected to remain below 1% of MHI for the next several years.

COMMUNITY SUSTAINABILITY

Rating	
Current Year	10-Year Trend
★ Satisfactory	★ Satisfactory

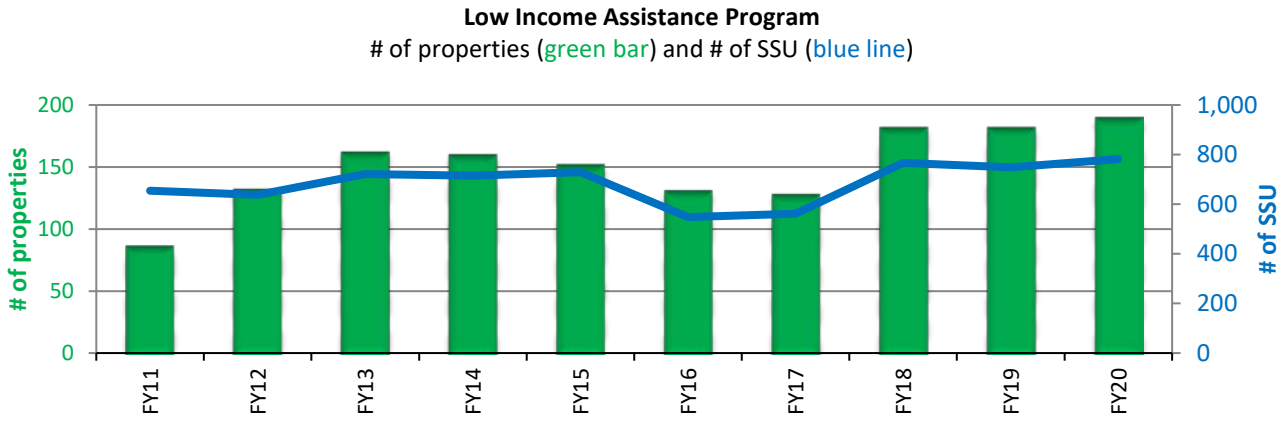
Measurement #8-9

Low Income Billing Assistance

Description

This measures the number of households that are enrolled in the NapaSan's Low Income Assistance Program for annual sewer service charges. The number of individual properties in the program is graphed (green bars), as well as the number of Sewer Service Units (SSU) that those properties represent (blue line). These numbers are different, as there may be several low income housing units situated on a single property or tax lot. For example, a multi-family apartment complex that has 10 affordable housing units in it would count as 1 property and 10 SSUs in the chart.

Performance Data



Analysis

This program began in FY07. At the same time, NapaSan began a process to increase sewer service charges by 15% per year for three years. In FY20, the program provided a reduction of $198.86 (28% reduction) per household from the annual charges ($710.20). As anticipated with the economic climate, the number of properties partaking in this program increased from FY12 through FY14 from prior years. As the economy improved, the numbers in FY15 and FY17 reduced as expected. The increase in FY18 – FY20 is due to increased community awareness of the sewer rates and the availability of the assistance program.

EUM Attribute #9

Water Resource Adequacy

This attribute evaluates whether recycled water availability is consistent with current and future customer needs through long-term supply and demand analysis.

Satisfactory

Watch

Unsatisfactory

No Measure

Attribute	Measurement	2020	Trend	Page
9. Water Resource Adequacy	1-Recycled Water Supply Adequacy	★	★	**98**

WATER RESOURCE ADEQUACY

Rating	
Current Year	10-Year Trend
★ Satisfactory	★ Satisfactory

Measurement #9-1

Recycled Water Supply Adequacy

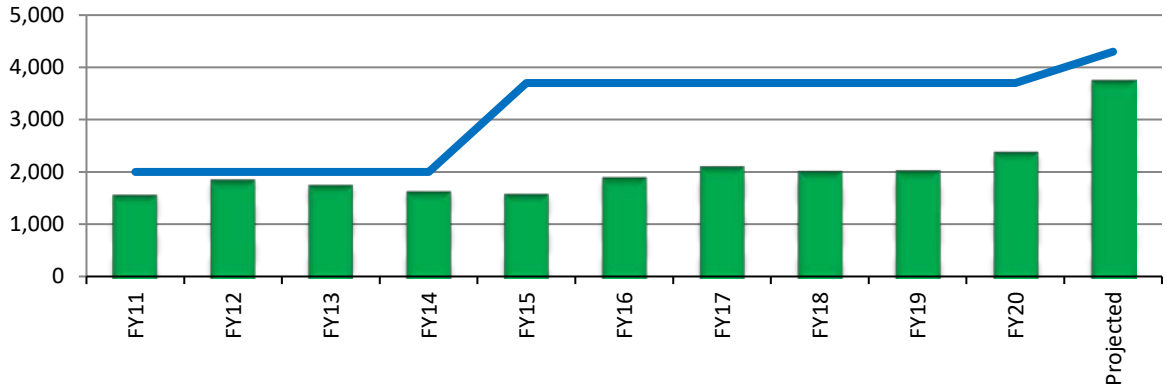
Description

This table shows the short-term actual recycled water usage in the most recent year and longer-term estimated demands on recycled water for a "typical" weather year for the months May through October. It compares these numbers to established Board Policy on the allocation of recycled water.

Performance Data

Recycled Water Supply Availability

Acre feet of RW delivered (green bar) and Acre feet of RW available (blue line)



Analysis

Up until 2015, NapaSan was only able to produce reliably about 2,000 AF of recycled water during the irrigation season (May-October), and during this time was successful in delivery of the water to customers or for application on NapaSan property. In FY15, NapaSan completed construction of the recycled water system expansion at the treatment plant. This allowed NapaSan to deliver reliably about 3,700 AF of recycled water during the irrigation system. In FY16, NapaSan completed construction of 5 miles of recycled water pipeline in the MST area, and 9 miles of recycled water in the LCWD area. The expansion of pipeline to these areas allows for increased distribution, which is expected to reach the production capacity of NapaSan once new customers connect to the system. As new users have connected to the system and started using recycled water, NapaSan has applied less water to its ranches.

EUM Attribute #10

Stakeholder Understanding and Support

This attribute evaluates whether NapaSan engenders understanding and support from oversight bodies, community and environmental interests, and regulatory bodies for service levels, rate structures, operating budgets, capital improvement programs, and risk management decisions. It also evaluates whether stakeholders are actively involved in the decisions that will affect them.

Satisfactory

Watch

Unsatisfactory

No Measure

Attribute	Measurement	2020	Trend	Page
10. Stakeholder Understanding & Support	1-Stakeholder Consultation	★	★	**102**
	2-Public Education Presentations	★	★	**103**
	3-SSC Comparative Rate Rank	★	★	**104**
	4-Recycled Water Comparative Rate Rank	★	★	**105**
	5-Media/Press Coverage	★	★	**106**

STAKEHOLDER UNDERSTANDING & SUPPORT

Rating	
Current Year	10-Year Trend
Satisfactory	Satisfactory

Measurement #10-1

Stakeholder Consultation

Description

This measure addresses NapaSan's actions to reach out to and consult with stakeholders about District matters, including NapaSan's goals, objectives and management decisions.

Performance Data

- Does NapaSan identify stakeholders, conduct outreach, and actively consult with stakeholders about matters? (Y/N)

  Yes.

Analysis

NapaSan has consulted stakeholders and the general public on the following projects:

- **Citizens Academy** (2018 & 2019) – Approximately 20 residents each year attended three meetings and a tour to learn more about NapaSan's operations and finances.
- **Browns Valley Trunk Project** (2017 & 2018) – 2 public meetings each year and numerous one-on-one meetings with residents and business owners to discuss the alignment and project impacts. Additional coordination meetings occurred with City of Napa Public Works staff.
- **Sewer Service Charge Rate Proposal** (2016) – public meetings, meetings with social clubs, meeting with the Napa Chamber of Commerce, and public hearings regarding recommended increase to the sewer service charge.
- **Sewer Service Charge Rate Study** (2015) – public meeting to specific stakeholders on a study recommending increase to the sewer service charges in 2016.
- **Winery Waste Forum** (2015) – Public meeting with interested stakeholders to discuss various options regarding winery waste that is trucked outside of Napa County for treatment or disposal.
- **Capacity Charge Methodology** (2014) – three public meetings and presentations to specific individuals on a study recommending changes to the methodologies used for calculating capacity charges for commercial buildings, restaurants and industrial users.
- **Recycled Water User Agreements** (2014) – Public meeting with current and future recycled water users, seeking input on the proposed new recycled water user agreements.
- **Winery Industrial User Permits** (2013) – public meetings and presentations to the Vintners Association and Chamber of Commerce on efforts to bring unpermitted wineries into the Industrial User program.
- **MST Recycled Water Pipeline** (2012 and 2013) – partnered with the County in their outreach efforts associated with the new recycled water pipeline in the MST area.

STAKEHOLDER UNDERSTANDING & SUPPORT

Rating	
Current Year	10-Year Trend
Satisfactory	Satisfactory

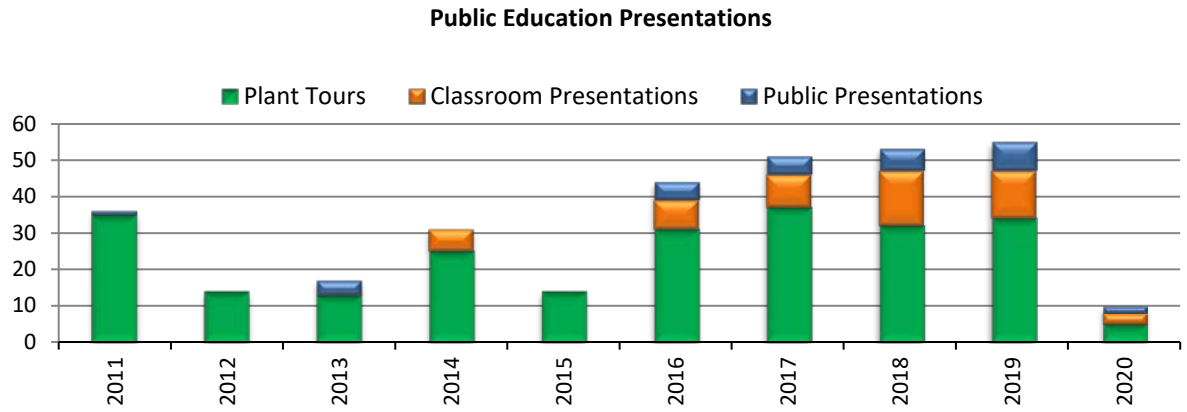
Measurement #10-2

Public Education Presentations

Description

This is a measure of the efforts by NapaSan to promote its activities and pollution prevention messages in the community. The measure includes the number of presentations to classrooms, presentations in other community forums, and the number of treatment plant tours.

Performance Data



Analysis

NapaSan provides free buses to schools that send teachers and students to the treatment plant for tours. However, the number of classroom tours can still be impacted by school funding by the school's ability to provide substitute teachers. There has been an uptick in plant tours and classroom presentations, since the decline in 2015 due to staffing issues at NapaSan. Plant tour numbers have also increased due to the new monthly public tours now being offer to the general public. In 2018 and 2019, there was an increased effort to make classroom presentations. The decrease in educational presentations is due to COVID-19 limitations.

STAKEHOLDER UNDERSTANDING & SUPPORT

Rating	
Current Year	10-Year Trend
★ Satisfactory	★ Satisfactory

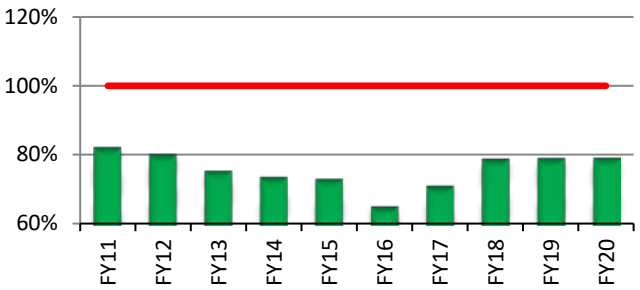
Measurement #10-3

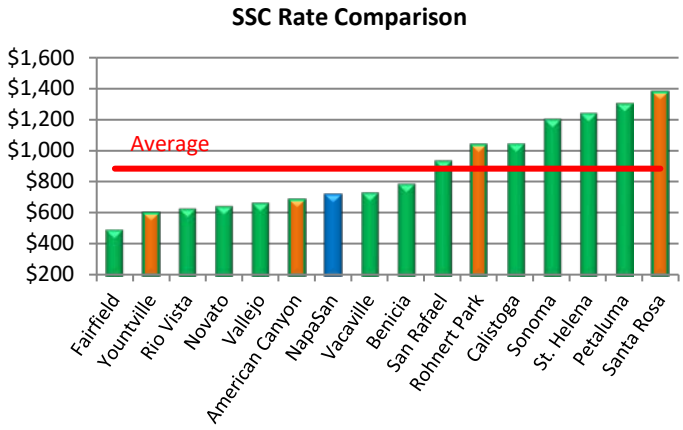
SSC Comparative Rate Rank

Description

This measure depicts how NapaSan's sewer service charge (SSC) compares to similar service providers in the region (i.e., local area wastewater providers with treatment and collection systems). The Comparative Rate Rank takes NapaSan's sewer service charge (SSC) and divides it by the average SSC for comparable wastewater providers in the region. A number over 100% means the District's rate is higher than the area average, while less than 100% means the District's rate is lower than the area average. A comparison of area sewer service charge rates is also provided.

Performance Data





Analysis

In comparison to other agencies, NapaSan's rate is lower than the regional average. In March 2016, the NapaSan Board approved an annual 15% rate increase for both FY17 and FY18, an increase of 6% in FY19, an increase of 5% in FY20, and an increase of 4% in FY21. Even with the rate increases for the last five years, NapaSan's rate remains lower than most other regional agencies since other agencies have increased their SSCs rates as well. While a lower than average rate is beneficial to rate payers, it may also be an indication that the rate is not keeping up with operational costs, maintenance demands and the necessary capital improvements.

STAKEHOLDER UNDERSTANDING & SUPPORT

Rating	
Current Year	5-Year Trend
★ Satisfactory	★ Satisfactory

Measurement #10-4

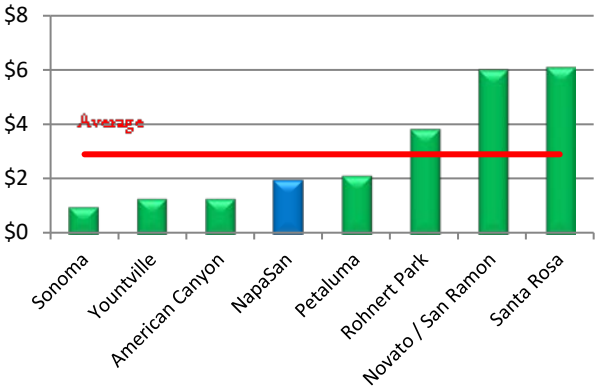
Recycled Water Comparative Rate Rank

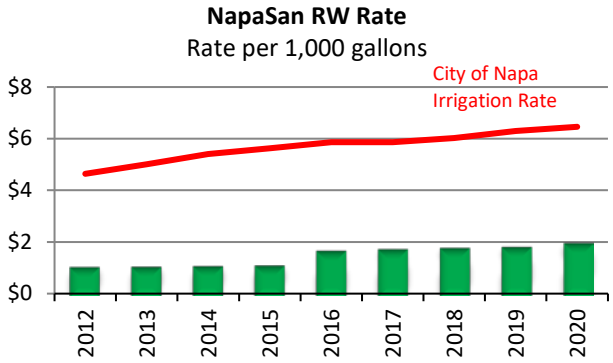
Description

This measure depicts how NapaSan's recycled water (RW) rate compares to similar service providers in the region (i.e., local area wastewater providers that make and deliver recycled water). Any monthly or annual meter reading or fixed charge fees are added into the rate.

The second measure shows NapaSan's recycled water rate over time.

Performance Data





Analysis

In 2012, the NapaSan Board increased recycled water rates so that the rate was equal to the cost of recycled water treatment and distribution. In this way, neither sewer customers nor recycled water customers were subsidizing the other. That rate increase went into effect for calendar year 2016.

The 2020 calendar year rate ($1.86 per 1,000 gallons) is below the regional average for recycled water, and is considerably lower than the City of Napa's water rate for comparable uses ($6.46 per 1,000 gallons for inside city irrigation water customers). This difference creates an incentive for irrigation customers to invest in changing their systems to recycled water if and when recycled water becomes available.

STAKEHOLDER UNDERSTANDING & SUPPORT

Rating	
Current Year	10-Year Trend
Satisfactory	Satisfactory

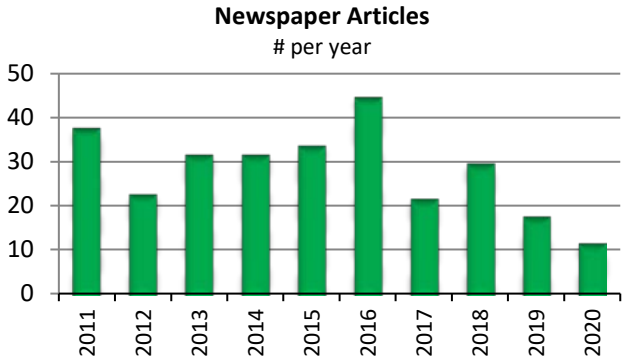
Measurement #10-5

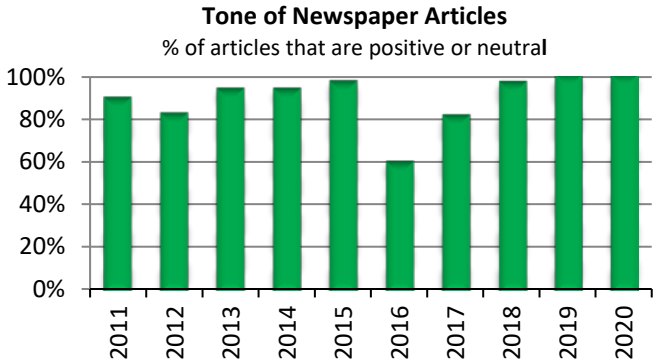
Media / Press Coverage

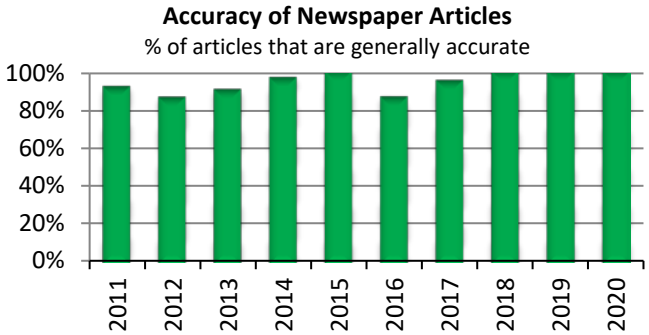
Description

This measure captures the print media portrayal of NapaSan in terms of awareness, accuracy and tone.

Performance Data







Analysis

The spikes in the number of articles in 2011 and 2016 were due to hearings regarding sewer service charge (SSC) increases that are required under California Proposition 218, which are required at least every 5 years. The jump in 2016 includes 19 Letters to the Editor regarding the SSC fee increase. In 2018, the quantity was at 29, and represents a solid number, although many of these articles only referenced NapaSan as the owner of property downtown that involved in a planning process.

The tone of the articles have been overwhelmingly positive or neutral in tone recently, but saw a dramatic drop in 2016 due to the SSC rate increase. In 2020, there were no negative articles in the newspaper.

All of the newspaper articles in 2019 were evaluated and determined to be factually accurate. "Accuracy" can be subjective, so here it has been defined narrowly as meaning that there were no significant factual errors in the story that could cause a reader to misinterpret what was being reported.


Collection • Treatment • Recovery • Reuse
NapaSan