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United We Save

Benefits of Consistent Regional Conservation Performance Monitoring

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BAWSCA
Bay Area Water Supply & Conservation Agency

Presentation Overview

- BAWSCA's mission and overview
- BAWSCA's regional water conservation planning and implementation
- Purpose and benefits of developing a regional water conservation database (WCDB)
- WCDB operational overview and site diagram
- WCDB Framework
  - Development
  - Testing
  - Implementation
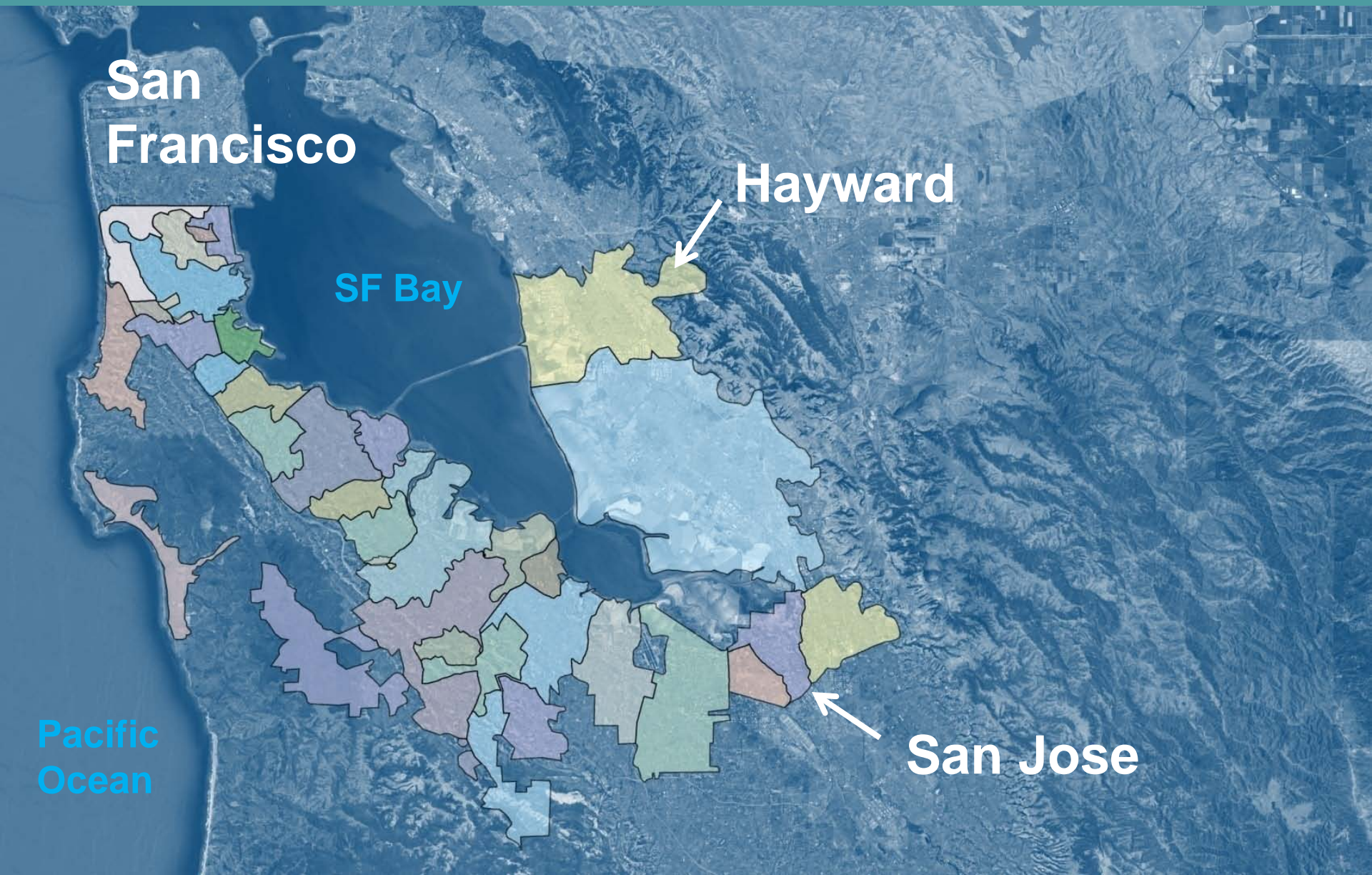 - User training
- Lessons learned

BAWSCA's Mission and Overview

- Bay Area Water Supply and Conservation Agency

- Special District Representing the Interests of
  - 26 cities, water districts and water companies in San Mateo, Santa Clara, and Alameda Counties
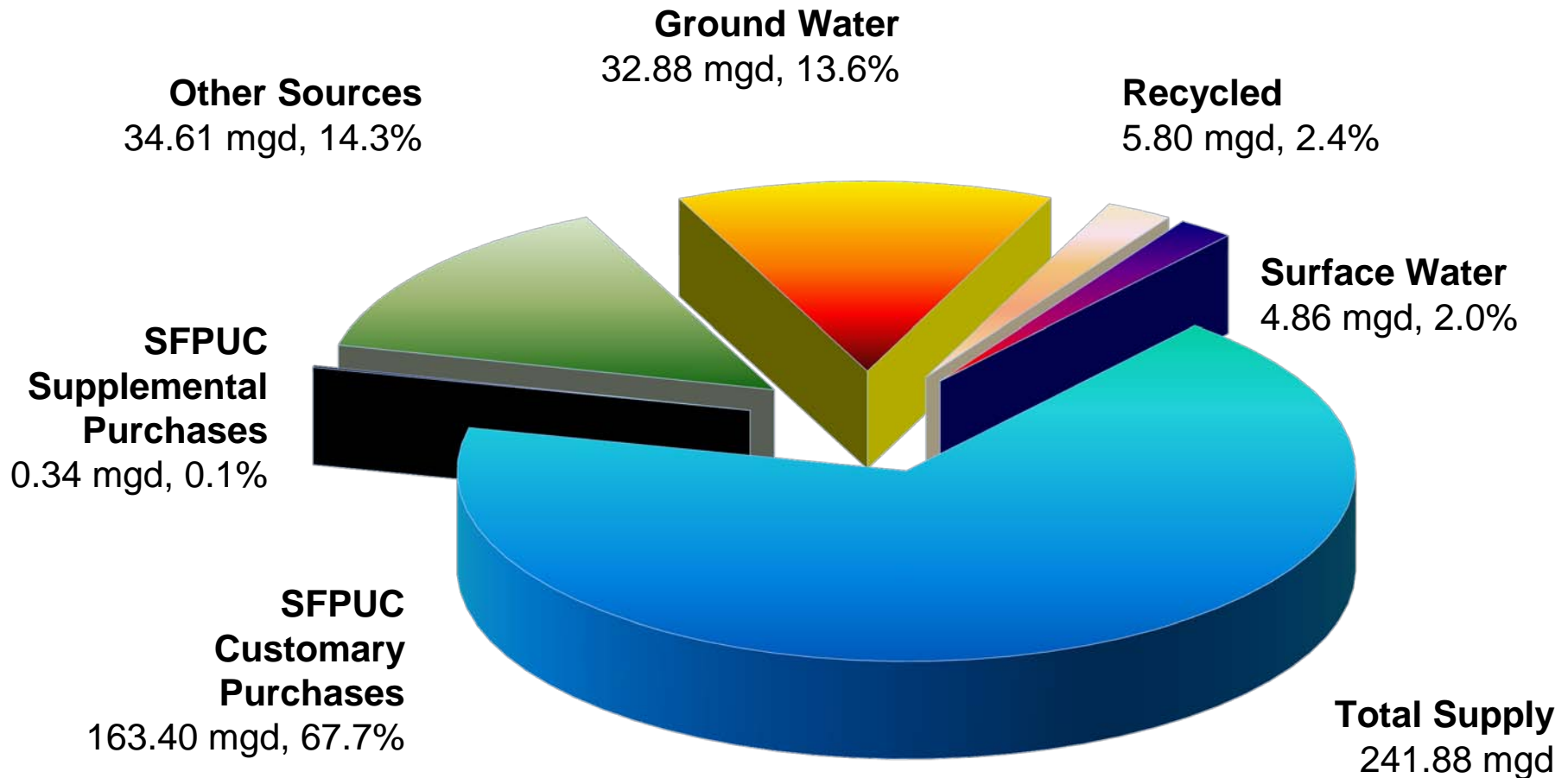 - 1.7 million residents, 30,000 businesses, and countless community organizations

- BAWSCA's Goal:

Reliable supply of high quality water at a fair price

BAWSCA Service Area

BAWSCA Agencies Reliant on SFPUC

Ground Water
32.88 mgd, 13.6%

Recycled
5.80 mgd, 2.4%

Other Sources
34.61 mgd, 14.3%

Surface Water
4.86 mgd, 2.0%

SFPUC Supplemental Purchases
0.34 mgd, 0.1%

SFPUC Customary Purchases
163.40 mgd, 67.7%

Total Supply
241.88 mgd

SFPUC Regional Water System

HETCH HETCHY REGIONAL WATER SYSTEM

- Daly City
- Hayward
- Foster City
- San Jose

BAWSCA Water Supply Challenges

- Water demand in the BAWSCA area is projected to increase

- SFPUC imposed a supply limitation of 184 MGD on BAWSCA

- Projected demands exceed supplies
  - 10 MGD shortfall by 2018
  - 25 MGD shortfall by 2035
  - Drought impacts are even more severe

Interim Supply Limitation (184 MGD)

BAWSCA demand for SFPUC Water

BAWSCA total demand
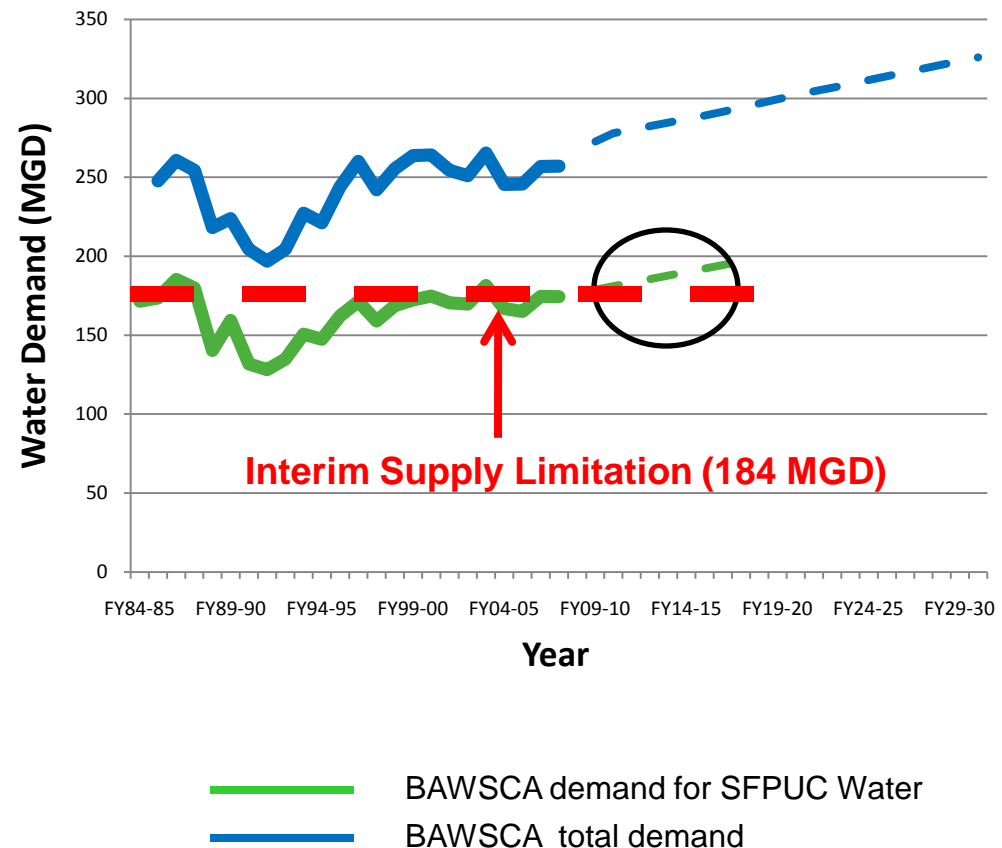
BAWSCA Initiatives

BAWSCA Has Launched a Two-Pronged Approach to Address Water Supply Issues:

- Water Conservation Implementation Plan
  - Multi-pronged water conservation program
  - Meeting needs to 2018

- Long-Term Reliable Water Supply Strategy
  - Identifying water supply management projects
  - Meet water needs to 2035
  - Increase drought reliability

BAWSCA Water Conservation Plan

- **Objective:** Develop an implementation plan for BAWSCA and its member agencies to
  - Attain the water efficiency goals that agencies committed to in WSIP PEIR; and
  - Provide reliable water supplies through 2018 given the 184 MGD supply limitation.

- **Product:** Who must do what, and by when?

- **Result:** A comprehensive conservation program implemented at <u>regional</u>, <u>sub-regional</u>, and <u>local</u> level

BAWSCA's Role

- Conduct public information and outreach
- Secure grant funding
- Administer water conservation programs
  - Regional level (all member agencies)
  - Sub-regional level (subset of member agencies)
- Coordinate 26 member agencies:
  - Water conservation planning
  - Data collection and reporting

BAWSCA Regional Programs

- Public Information
- School Education
- Indoor Conservation
  - High Efficiency Toilet Rebates
  - Washing Machine Rebates
  - Bulk Purchase Programs
  - Indoor Efficiency Ordinance
- Outdoor Conservation
  - Landscape Classes
  - Large Landscape Water Audits
  - Lawn Replacement Rebate
  - Outdoor Efficiency Ordinance

BAWSCA Water Conservation Database

Develop a Water Conservation Database (WCDB) to:

1. **Facilitate data collection and data management** to support the following activities:
   - Internal agency reporting and budgeting
   - Consistent electronic data collection and monitoring across region
   - BAWSCA Annual Survey Report
   - Pending: CUWCC Best Management Practice (BMP) reporting
   - Pending: DWR Urban Water Management Plan (UWMP) and annual Public Water Supervision System (PWSS) reporting requirements

2. **Gather the data necessary to quantify water savings** and to interface with the demand projection model

3. **Consider compatibility with member agencies' existing database systems**

Benefits of a Common Database

- Ability to track
  - progress related to implemented water conservation measures
  - activities associated with water savings

- Consistency in reporting

- Ability to more easily monitor, track and report progress to:
  - SFPUC (Wholesaler)
  - BAWSCA Board
  - Member agencies
  - Other state and local agencies

BAWSCA WCDB Priorities

- **Facilitate** data collection and long-term data management for producing the BAWSCA Annual Survey Report

- **Streamline** collecting data to support tracking of water conservation activities in the region

- **Reduce** difficulty for agencies to provide data to support regional program planning and progress

- **Monitor** quantifiable water savings in the region using the Demand Side Management Least Cost Planning Decision Support System (demand projection model used)

WCDB Development Framework

- Phase 1 (FY 2010)
  - Collaboratively develop database inputs, outputs & functionality
  - Utilize Working Group to represent agencies' needs
  - Perform Needs Analysis to develop user requirements list (Roadmap)
  - Build several iterations (versions):
    - Prototype (verify functionality)
    - Alpha (conduct member agency walkthrough)
    - Beta (conduct user acceptance testing)
    - Production (complete development of WCDB)

- Phase 2 (FY 2011)
  - Configure agency users, measures, etc.
  - Perform system training
  - Launch system

BAWSCA WCDB Features

- Ability to collect data for 22 water conservation measures

- Web access to WCDB by 26 member agencies

- Ability to export data to Excel to support reporting
  - BAWSCA Annual Report, Urban Water Management Plans, other State reports, etc.

- "Intervention"/activity tracking
  - Does not directly calculate "quantifiable" water savings
  - Provides data used in water demand projection model for each water purveyor

- Dashboards/charts to display activity progress

Measures in BAWSCA WCDB

- High efficiency toilets
- High efficiency clothes washers
- School education program
- Public information program
- Landscape classes
- Large landscape survey
- Landscape water budget
- Water budget incentive
- Irrigation upgrade incentive

- ET controller rebate
- Residential survey
- Residential retrofit
- Commercial survey
- Hotel survey
- Pre-rinse spray nozzle
- Coin-op laundry rebate
- Efficiency equipment upgrade
- "Other measures" (x5)

BAWSCA WCDB Development

Working Group:

- Representatives from 6 member agencies

- Provided input and feedback on WCDB's functionality and design

- Independent testing of WCDB

Technical approach:

- Microsoft SharePoint platform

Added benefits to BAWSCA include:

- Reduced manual data management and coordination with 26 member agencies

- Increased efficiency in communicating using WCDB's calendar and email tools

WCDB Reporting Sequence
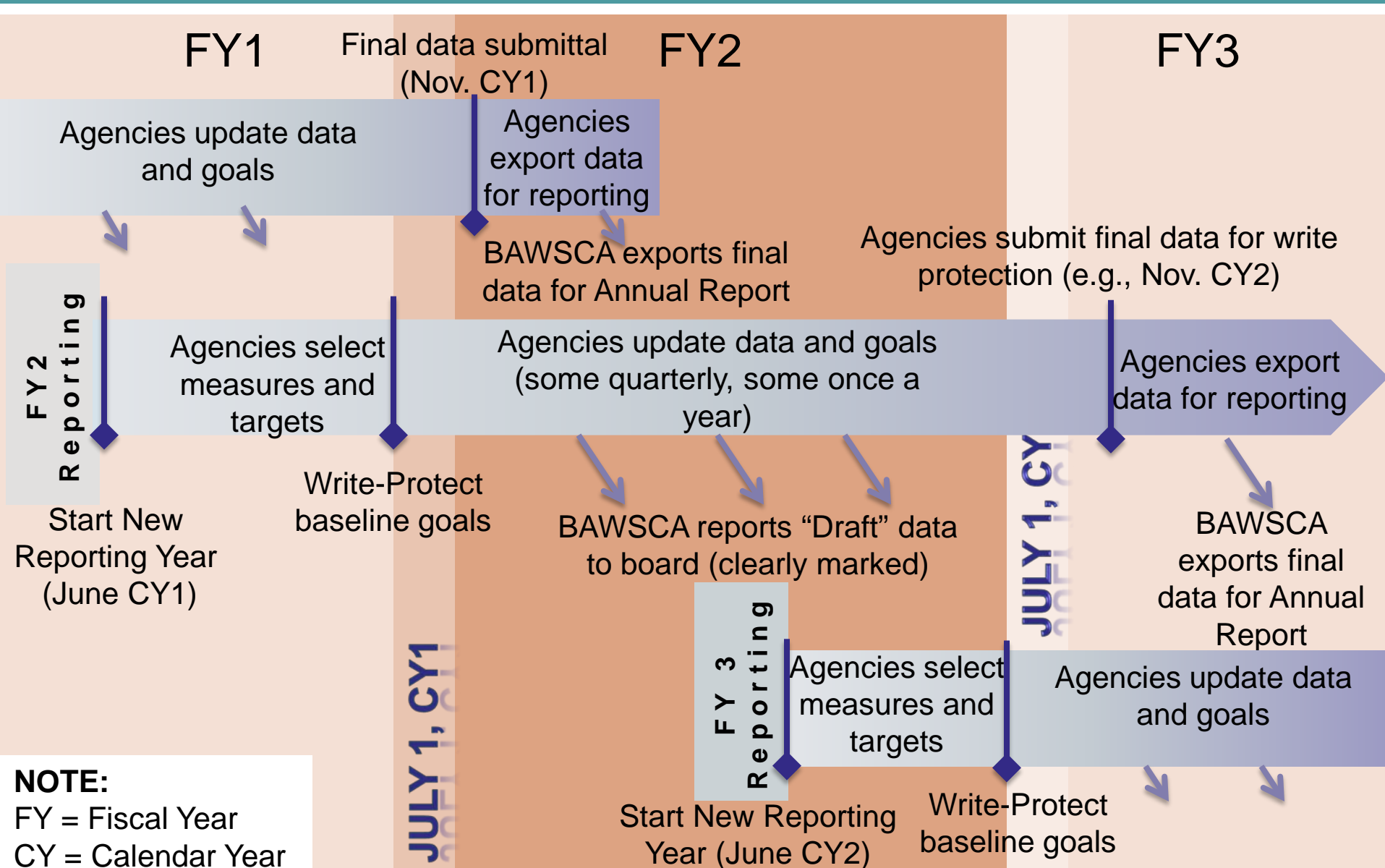
FY1

FY2

FY3

Final data submittal (Nov. CY1)

Agencies update data and goals

Agencies export data for reporting

BAWSCA exports final data for Annual Report

Agencies submit final data for write protection (e.g., Nov. CY2)

FY2 Reporting

Agencies select measures and targets

Agencies update data and goals (some quarterly, some once a year)

Agencies export data for reporting

Start New Reporting Year (June CY1)

Write-Protect baseline goals

BAWSCA reports "Draft" data to board (clearly marked)

BAWSCA exports final data for Annual Report

JULY 1, CY1

JULY 1, CY2

FY3 Reporting

Agencies select measures and targets

Agencies update data and goals

NOTE:
FY = Fiscal Year
CY = Calendar Year

Start New Reporting Year (June CY2)

Write-Protect baseline goals

BAWSCA WCDB - Home Screen

BAWSCA WCDB - Home Screen

User

Links to Files Stored in Database

Contacts for Technical Questions

BAWSCA WCDB - Measure Data Input Screen

NOTE: These are example data and do not reflect actual results.

BAWSCA WCDB - Measure Data Input Screen

NOTE: These are example data and do not reflect actual results.

BAWSCA WCDB - Measure Dashboard for Reporting Progress

WCDB TEST

Brisbane/GVMID

Home | BAWSCA | Alameda CWD | **Brisbane/GVMID** | Burlingame | CalWater-BG | CalWater-MP | CalWater-SSF | Coastside CWD | Daly City | East Palo Alto | Estero MID | Hayward | Hillsborough | Menlo Park

Please select a fiscal year and measure to display in the dashboard...

Fiscal Year: 2010 - 2011   Measure: 11. Residential Survey   Cancel

11. Residential Survey (Brisbane/GVMID, Fiscal Year 2010 - 2011)

Legend: DSS Goal | Agency Target | Modified Agency Target | Actual

Number of Residential Surveys (y-axis: 0 to 1000)

- DSS Goal: 500
- Agency Target: 750
- Modified Agency Target: 820
- Actual: 810

2010

NOTE: These are example data and do not reflect actual results.

BAWSCA WCDB - Measure Data Export Screen

Step 1

Step 2

NOTE: These are example data and do not reflect actual results.

Lessons Learned

- Form a diverse and involved Working Group
    - Involve through entire process
    - Allow adequate review and testing time for Working Group
    - Implement a process (e.g., "issues log") for collecting and screening feedback

- Involve all foreseeable users at key points to promote acceptance and buy-in

- Develop a team of IT and water conservation staff that work collaboratively

- Select an architecture that can be easily maintained and enhanced

Lessons Learned (Continued)

- Follow a formal IT development process to mitigate risk and to resolve scope issues

- Define specific user requirements that need to be achieved

- Prioritize defects and updates to ensure that key changes are made

- Allow for adaptive management

- Provide the ability to enhance database in future

Questions and Discussion

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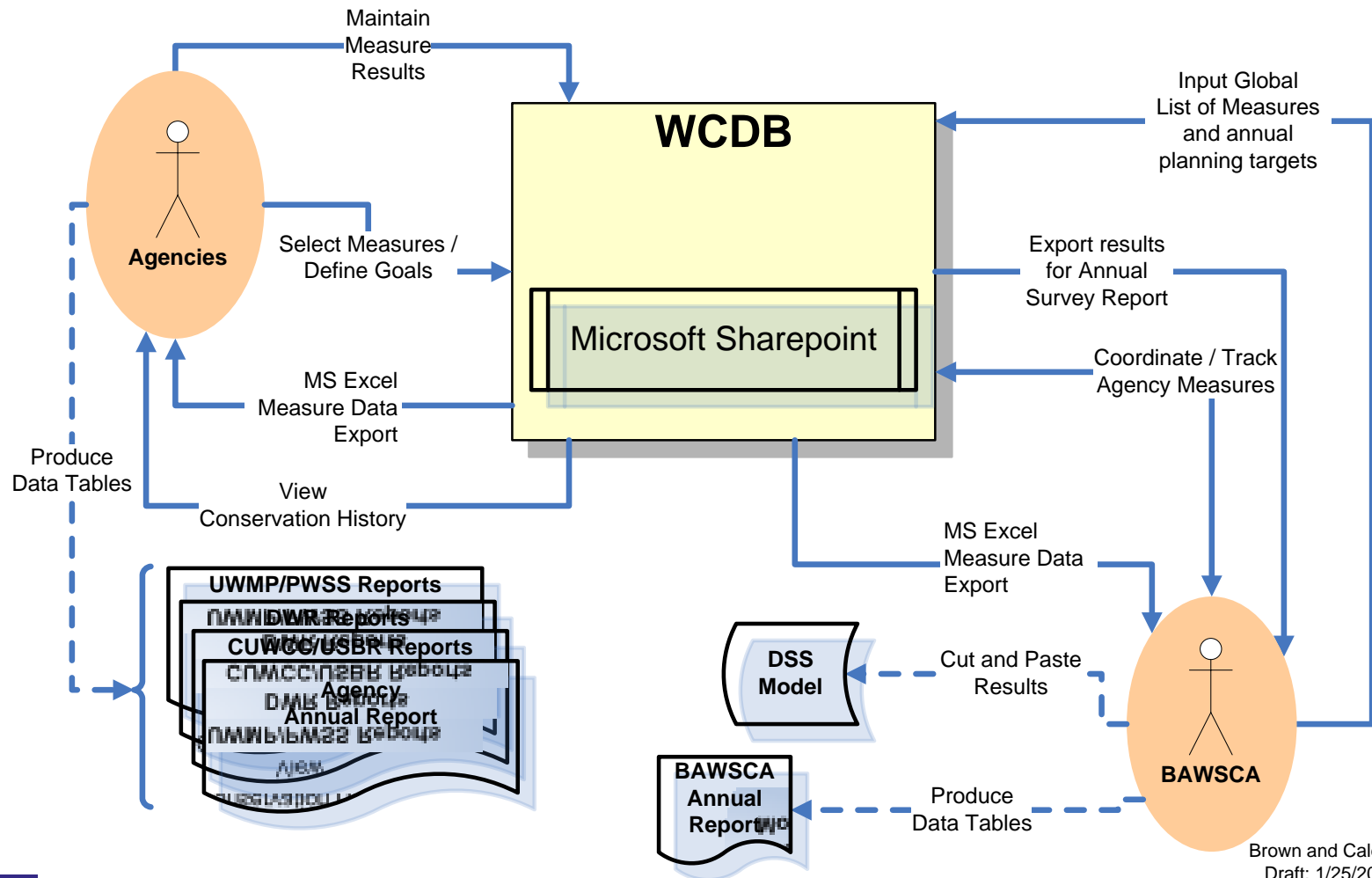
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BAWSCA WCDB Operational Overview

BAWSCA WCDB Site Diagram