Integrated One Water Framework for Water Master Plan – Unincorporated Solano County

Goals and Actions and Introduction to Project Concepts

September 18, 2023

Kennedy Jenks

Meeting Agenda

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INTRODUCTIONS

Purpose of the Solano One Water Framework

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MEETING PURPOSE AND OUTCOMES

Solano One Water Recap

Meeting Purpose and Outcomes

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Purpose of the Solano One Water Framework

- One Water Framework Objective
  - Focus on water resources in unincorporated County
  - Support and align with implementation of Solano County General Plan
  - Identify water-related challenges and opportunities through a stakeholder process
  - Develop One Water concepts and guiding principles collaboratively with goals, objectives, and strategies
  - Establish a process to develop regional, multi-benefit projects that leverage regional cooperation and coordination
- One Water Framework Outcome:
  - Vision, goals, and strategies as a roadmap to future Solano County Utilities Master Plan

Introductions

Steering Committee Participants

- Solano County*
  - Misty Kaltreider
  - Dick Tzou
  - James Bezek
  - Department of Resource Management
- Cal Water – Dixon*
- City of Benicia
- City of Dixon*
- City of Fairfield
- City of Rio Vista*
- City of Suisun City
- City of Vacaville/Vacaville GSA
- City of Vallejo Water Department
- Dixon RCD*
- Fairfield Suisun Sewer District
- Maine Prairie Water District*
- RD 2068*
- Rural North Vacaville Water District
- Solano County Agricultural Commissioner*
- Solano County Farm Bureau*
- Solano County Water Agency*
- Solano Irrigation District/SID GSA
- Solano RCD*
- Suisun RCD
- Vallejo Flood and Wastewater District

*Solano GSA Member

Kennedy Jenks & LSCE

Kennedy Jenks

Sachi Itagaki
Project Manager

Meredith Clement
Deputy Project Manager

Jennifer Larsen
Technical Lead

Luhdorff & Scalmanini Consulting Engineers

Nick Watterson, Hydrogeologist/ Groundwater Sustainability Planning

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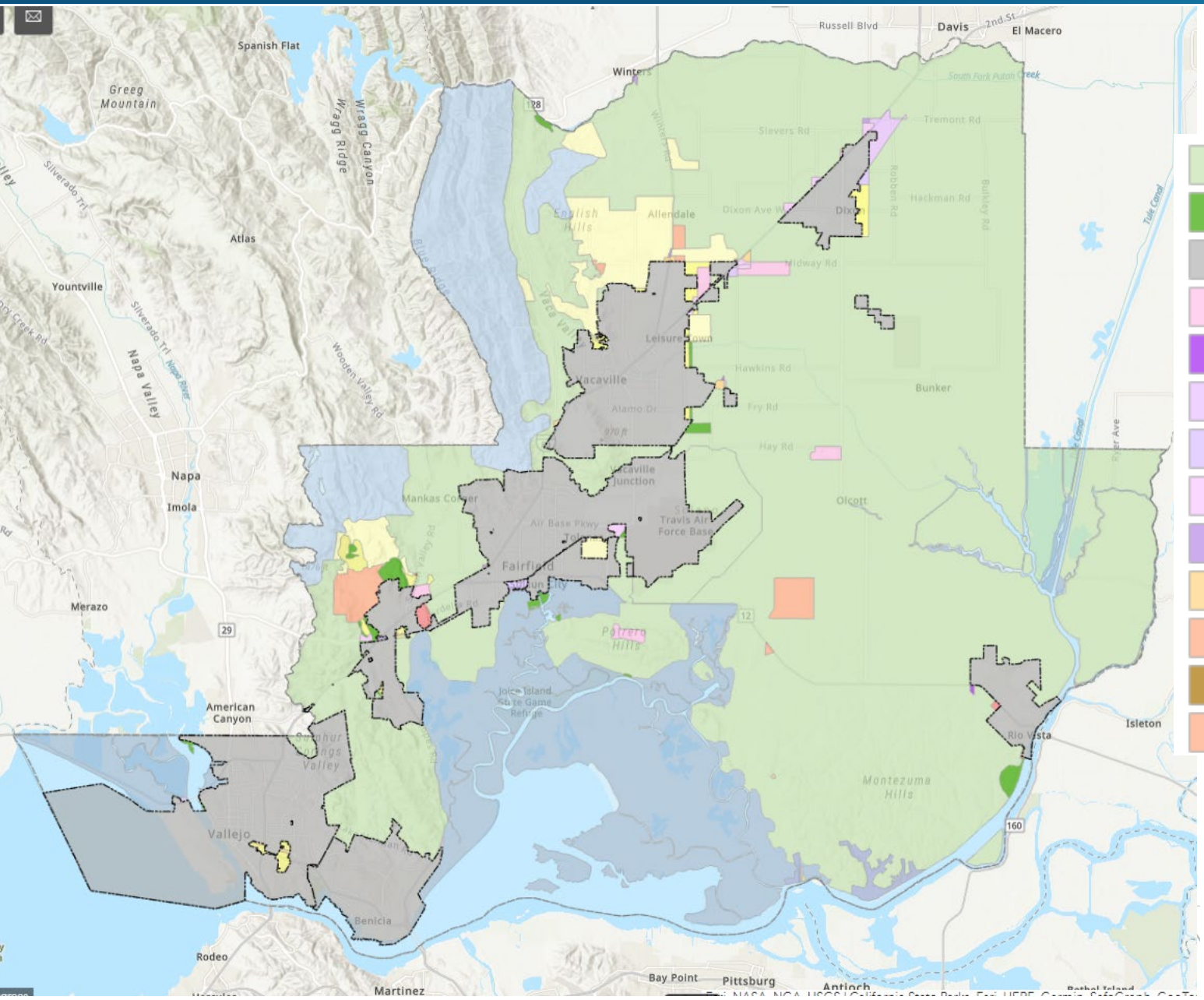
Solano One Water – Supporting General Plan Implementation



GENERAL PLAN LAND USE DESIGNATIONS – UNINCORPORATED COUNTY

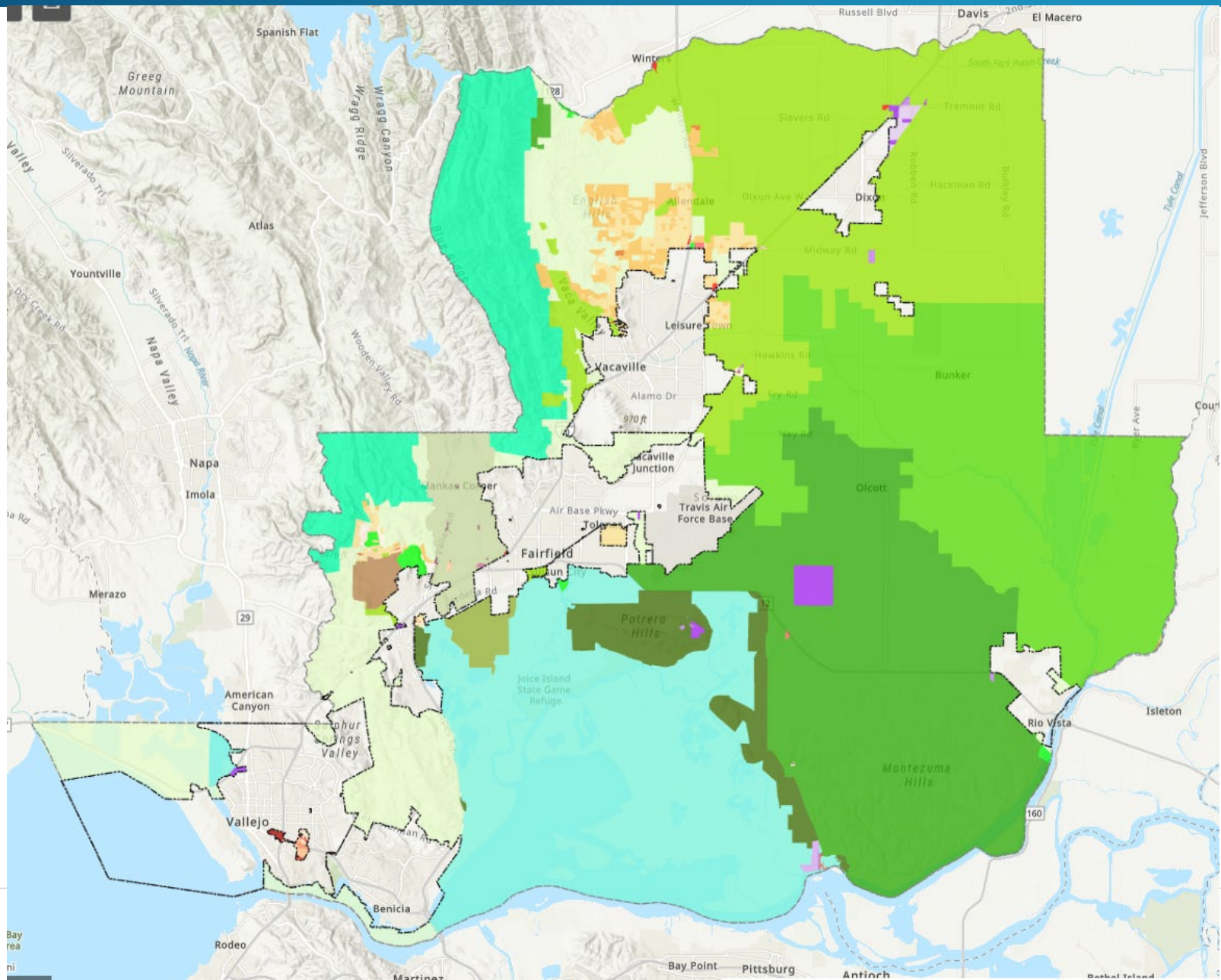
- Agriculture
- Park and Recreation
- Incorporated Area
- Public/Quasi-Public
- General Industrial
- Limited Industrial
- Urban Industrial
- Urban Commercial
- Service Commercial
- Highway Commercial
- Commercial Recreation
- Neighborhood Commercial
- Specific Project Area
- Urban Project Area
- Urban Residential
- Rural Residential
- Traditional Community - Residential
- Traditional Community - Mixed Use
- Marsh
- Water Bodies and Courses
- Water Dependent Industrial
- Watershed

Source: Solano County Resource Management Viewer.
"Solano_County_Unincorporated_General_Plan_2008_Updated"

Solano One Water – Unincorporated County Zoning

UNINCORPORATED COUNTY ZONING

A-20	RTC-20	CS
A-40	RTC-15	I-AS
A-80	RTC-10	IWD
A-160	RTC-6	MG-1/2
ASM-80	RTC-4	MG-3
ASM-160	RTC-D6	MP
ASV-20	RTC-D4	W-160
ATC	RTC-MF	P
ATC-NC	RTC-MU	MGV-SP
RR-2.5	CH	
RR-5	CN	
RR-10	CR	
RTC-1AC	CRL	



Source: Solano County Resource Management Viewer. "Solano County Unincorporated Zoning."

PURPOSE AND OUTCOMES OF TODAY'S MEETING

Discuss and Refine Framework Goals and Actions

Present Initial List of Project Concepts to Meet Goals

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Framework Goals and Actions

Discussion

One Water Framework Goals that Integrate All Aspects of Water Resources Management

A Vision for Solano County in 2030 – Preamble

The vision for Solano County is founded on the principles of "The Environment," "The Economy," and "Social Equity." The vision is for the county as a whole, recognizing that Solano County must work collaboratively with the cities and other public agencies to achieve this vision.

The vision uses words and phrases that may be subject to differing interpretations. These words and phrases are defined in more concrete terms as policies in the various chapters of the General Plan."

-Solano County General Plan

Outcomes of the Solano One Water Framework

Establish and engage the Solano One Water Steering Committee to provide direction and feedback on the Framework and the Master Plan.

Set the vision, goals, and actions as a roadmap to the development and implementation of the Master Plan.

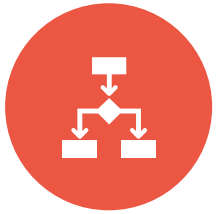
Identify and document challenges within the unincorporated portions of Solano County (e.g. water supply including for firefighting, stormwater and flood, wastewater treatment and disposal).

Identify specific geographies that are likely to require more focused support through the Master Plan.

Identify data gaps and strategies to fill data gaps.

Evaluate a wide range of water supplies to meet demands.

Identify concepts and opportunities to meet needs and challenges.



Develop approach to evaluate/prioritize activities to assist in development of projects that would meet the Master Plan Goals and Objectives.

Framework Goals and Actions

Goals consist of broad statements of purpose or direction.

Specific actions are identified as part of implementation programs to achieve the stated goals, policies, and plans.

Draft Framework Goals and Actions

- Goal 1: Support implementation of the Solano County General Plan in relation to integrated water resources planning.
  - Action 1A: Improve the collective understanding of the utility services and needs within the unincorporated areas of Solano County.
  - Action 1B: Assess the water utility requirements based on County land use and zoning areas.
  - Action 1C: Consider General Plan guiding principles for water development.

Draft Framework Goals and Actions

- Goal 2: Explore geographic-specific institutional mechanisms to support regional water resources management through interagency collaboration and partnership.
  - Action 2A: Coordinate with, leverage, and support where appropriate existing regional water management working groups on various planning efforts, including water purveyors, municipalities, water management entities, Groundwater Sustainability Agencies, and the Solano County Drought Taskforce.
  - Action 2B: Work with existing service providers to evaluate options and recommend an institutional structure to implement the One Water Framework and develop the future Master Plan.

Draft Framework Goals and Actions

- Goal 3: Enhance local sustainable water supply and its reliability and climate change resiliency.
  - Action 3A: Evaluate small water system redundancy, consolidation, and other needs to increase water supply reliability with a focus on vulnerable, underserved, and disadvantaged communities.
  - Action 3B: Improve groundwater sustainability in SGMA and non-SGMA groundwater aquifers by supporting active groundwater recharge activities in areas with historical low and declining water levels.
  - Action 3C: Evaluate existing and future water demand, including increases in demand from agricultural production and economic development, in relation to the existing water supply and lack of infrastructure and aquifer capacity in the Suisun Valley and other developing areas in the County.
  - Action 3D: Explore alternative water supply sources to meet demands such as recycled, stormwater, and others.
  - Action 3E: Optimize existing water conveyance, delivery, and drainage infrastructure to support current and future supplies.

Draft Framework Goals and Actions

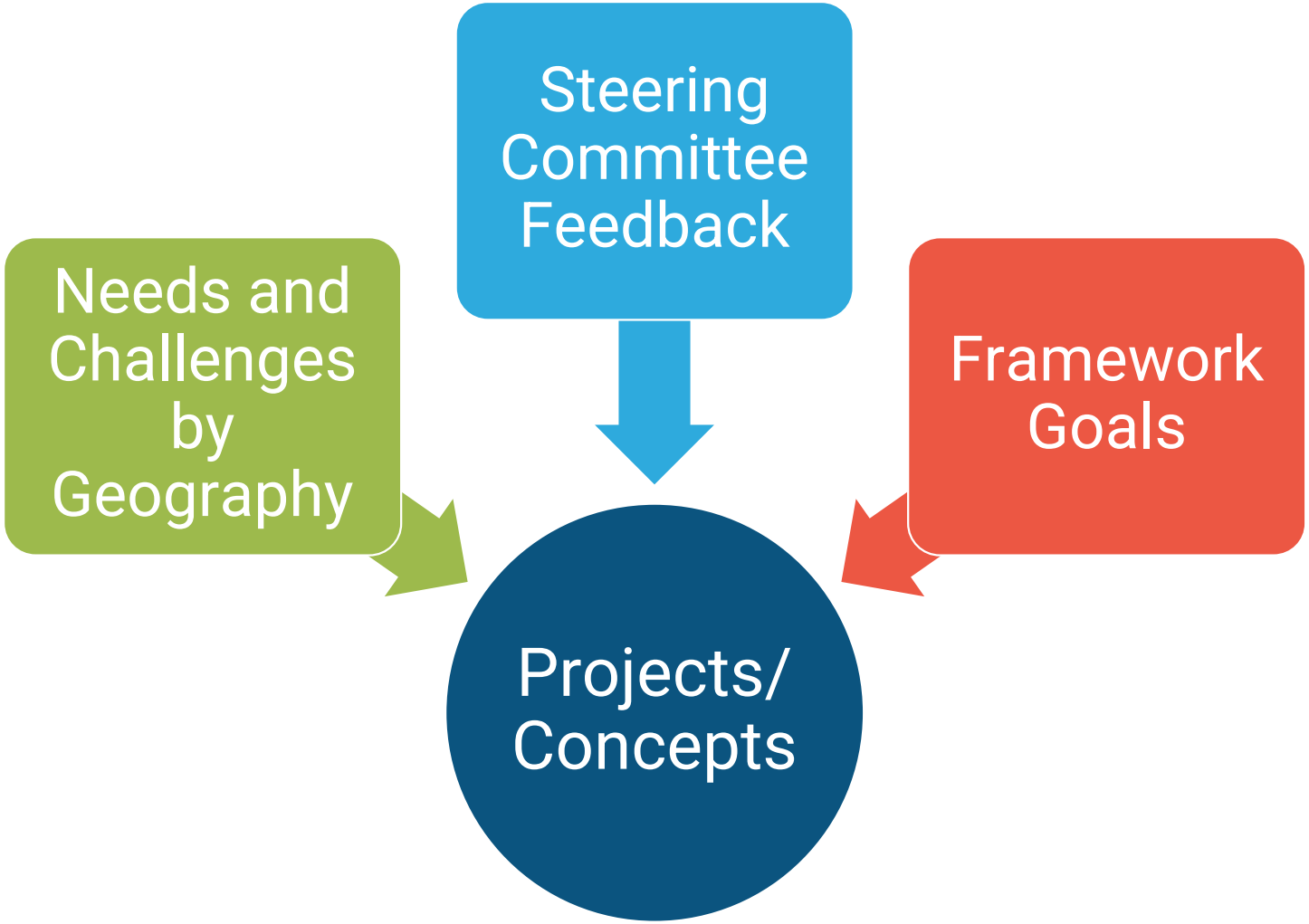
- Goal 4: Advance collaboration and coordination towards localized drainage, flood protection, and climate resiliency and improvements
  - Action 4A: Recommend nature-based solutions in drainage and wastewater projects to reduce climate change impacts.
  - Action 4B: Identify data gaps and further modeling studies for improving flood management and drainage.
  - Action 4C: Develop integrated solutions for flood protection and drainage improvements by incorporating nature-based infrastructures for groundwater recharge, ecosystem enhancement, and recreation opportunities.
  - Action 4D: Recommend land use considerations to support flood protection and drainage projects.

Draft Framework Goals and Actions

- Goal 5: Implement multi-benefit strategies, projects, and programs through the management and integration of all water resources.
  - Action 5A: Identify potential opportunities and constraints in utilizing existing water infrastructure such as drainage and water and wastewater systems for multiple purposes/benefits.
  - Action 5B: Identify and develop a list of potential conceptual multi-benefit project scenarios for consideration as integrated solutions to the various challenges in the County.
  - Action 5C: Develop prioritization criteria to rank conceptual multi-benefit projects.
  - Action 5D: Identify other water-related benefits for project integration beside climate resiliency, flood protection, and water supply reliability to consider such as ecosystem enhancement for habitat restoration, wildlife-friendly agricultural practices, recreation opportunities, etc.
  - Action 5E: Consider the need for other utilities with the need for water resources when evaluating new projects.
  - Action 5F: Identify financial requirements and mechanisms to implement strategies, projects, and programs.

Initial List of Concepts to Meet Framework Goals

Introduction to Agricultural Areas Needs, Challenges, Concepts



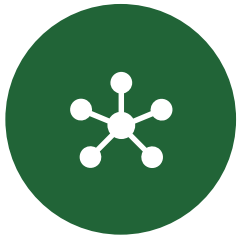
Potential Project/Concept Categories

POLICY CHANGES/ UPDATES

NEW/ IMPROVED INFRASTRUCTURE/ CONSOLIDATION

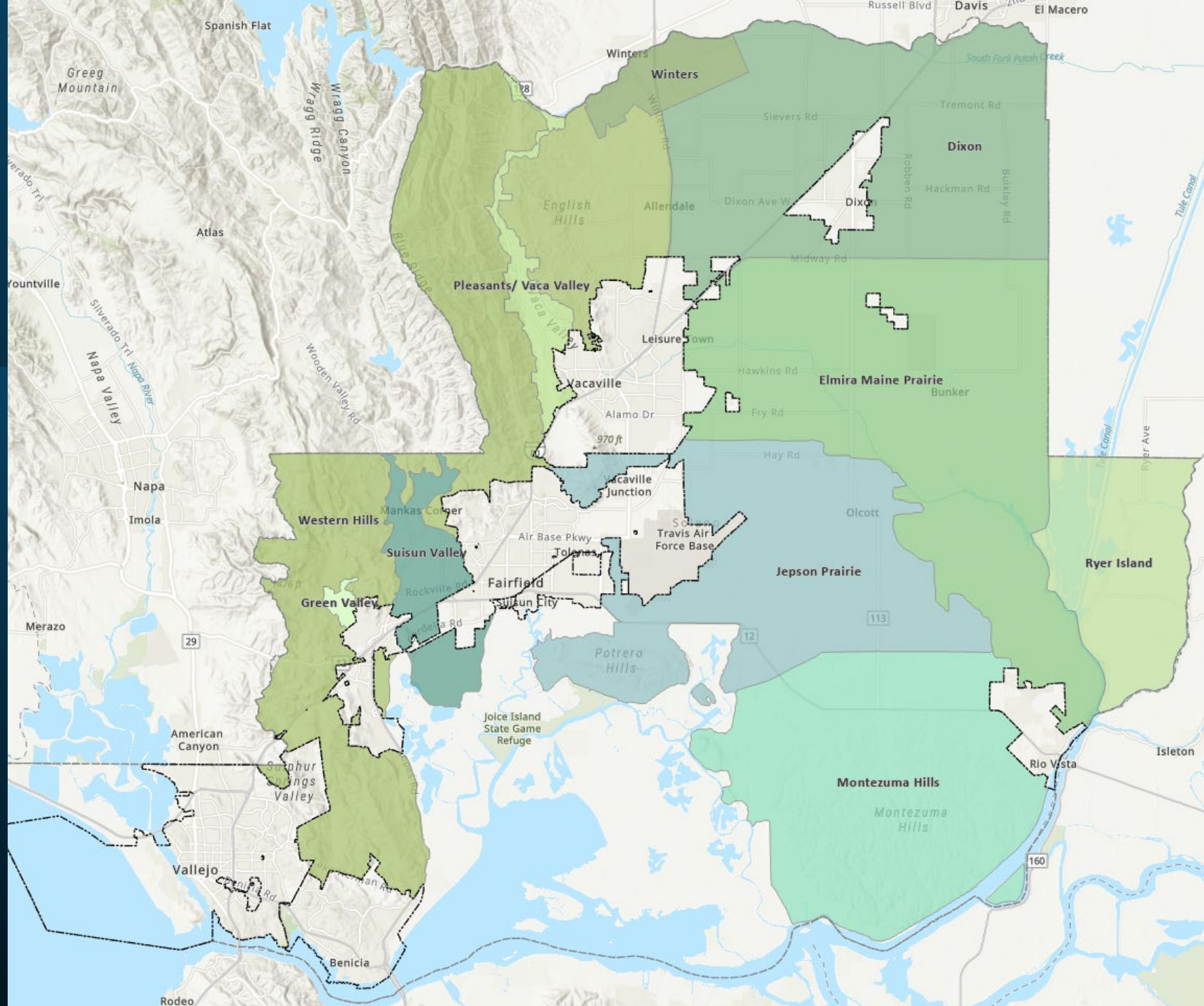
STUDY/ DATA COLLECTION

COORDINATION/ AGREEMENTS

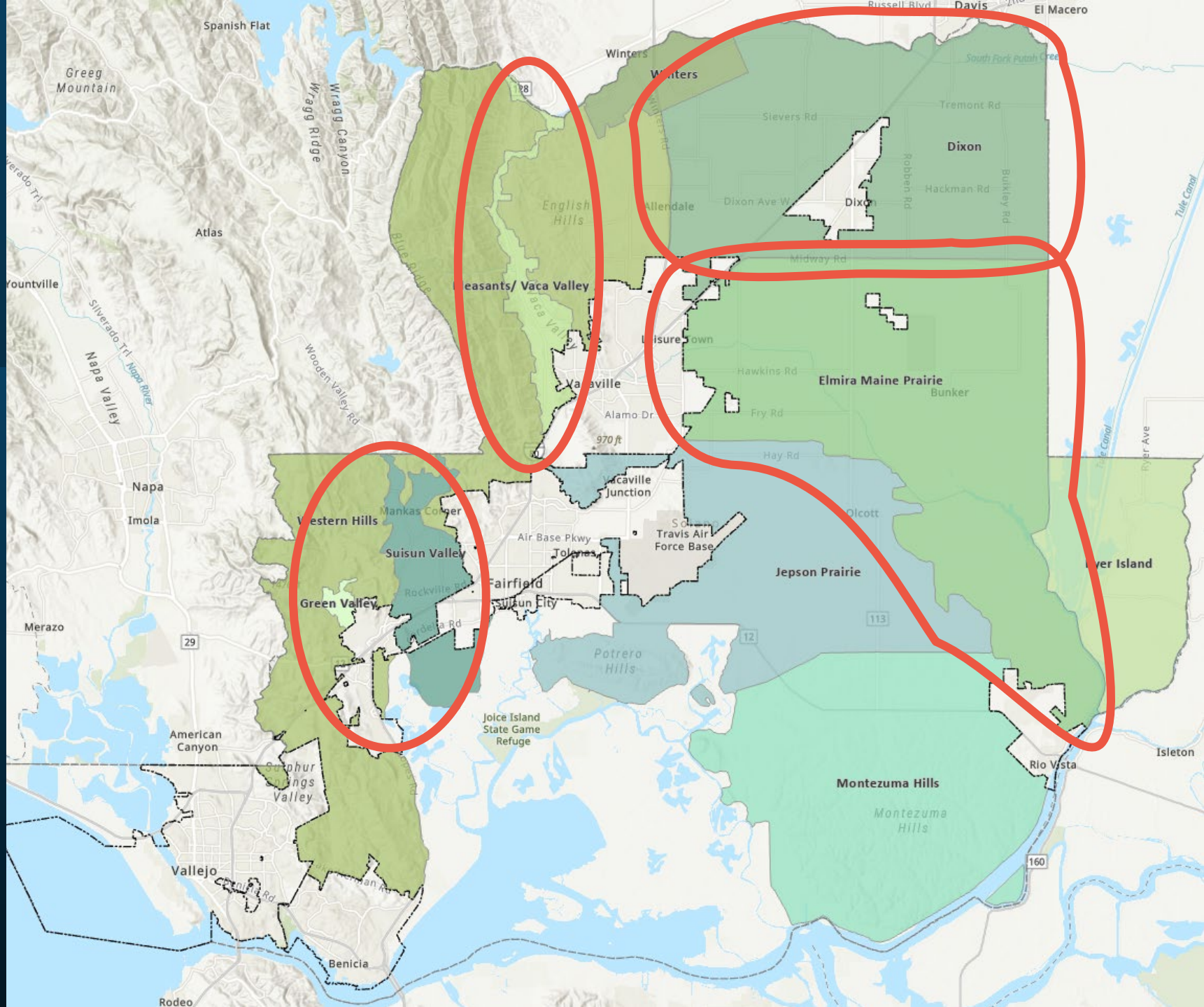


COMBINATION

General Plan Agricultural Areas



General Plan Agricultural Areas



Countywide Challenges

- Potential for General Plan buildout to require community water supply, flood control, and wastewater services
  - Physical, institutional, financial challenges/ barriers to establishing/ maintaining these utilities.
  - Landowners within the unincorporated county's watersheds must capture runoff on-site because there is no other system available to accommodate that runoff.
- Providing utility services could bring in facilities that would be incompatible with agriculture.

Overview of Target Agricultural Areas

- Summary of Needs and Challenges
- Initial Concepts to be explored with Steering Committee in future meetings
- Steering Committee Input Today
  - Confirm entities for engagement by geography

Dixon Agricultural Area

- Water Supply and Conveyance
  - Declining water supply reliability due to groundwater quality impacts due to human activities and naturally occurring contaminants and groundwater level decline.
- Flood Control and Drainage
  - Outdated infrastructure/studies
  - Limited locations to discharge drainage/flood flows during wet periods.
  - Multiple entities with responsibilities to maintain/operate natural/engineered drainages.
  - Future developments leading to increased runoff.
- Wastewater
  - Institutional barriers to extending/creating centralized wastewater services
  - Financial challenges to maintaining/extending wastewater infrastructure
  - Lack of septic system maintenance by property owners
  - Little demand for recycled water
  - Pending SFRWQCB nitrogen regulations may impact whether FSSD expands high strength waste service

Initial Concepts:

- Database of domestic wells
- Database of septic systems
- Prepare or review Community Septic Tank Management Plans
- Study of land capability for septic systems
- Emergency interties
- Database of properties/entities with jurisdictions along creeks/drainages
- Hydrologic/hydraulic study
- Utilities fee study
- Mutual aid agreements
- Water system operator sharing
- Evaluation of existing facilities and future demand for services
- Public/Stakeholder outreach to promote recycled water use

Elmira Maine Prairie Agricultural Area Challenges

- Water Supply and Conveyance
  - Water supply reliability as tailwater availability decreases and groundwater quality and levels decline
  - Financial challenges to maintaining/extending water supply/conveyance infrastructure.
- Flood Control and Drainage
  - Outdated infrastructure/studies
  - Limited locations to discharge drainage/flood flows during wet periods.
  - Multiple entities with responsibilities to maintain/operate natural/engineered drainages.
- Wastewater
  - Lack of septic system maintenance by property owners.
  - Little demand for recycled water
  - Pending SFRWQCB nitrogen regulations may impact whether FSSD expands high strength waste service
  - Financial challenges to maintaining/extending wastewater infrastructure

Initial Concepts:

- Database of domestic wells
- Utilities fee study
- Mutual aid agreements
- Water system operator sharing
- Evaluation of existing facilities and future demand for services
- Public/Stakeholder outreach to promote recycled water use
- Database of septic systems
- Prepare or review Community Septic Tank Management Plans
- Study of land capability for septic systems
- Database of properties/entities with jurisdictions along creeks/drainages
- Hydrologic/ hydraulic study
- Water system operator sharing
- Public/Stakeholder outreach to promote recycled water use

Green Valley/Suisun Valley Agricultural Areas and Suisun Marsh

- Water Supply and Conveyance
  - Supply reliability limited by groundwater quality and physical access to surface water infrastructure.
  - Financial challenges to maintaining/extending water supply/conveyance infrastructure over a small customer base.
- Flood Control and Drainage
  - Outdated infrastructure/studies.
  - Limited locations to discharge drainage/flood flows during wet periods.
  - Multiple entities with responsibilities to maintain/operate natural/engineered drainages.
- Wastewater
  - Physical challenges to providing adequate wastewater infrastructure such as soil suitability, elevation difference (to pump waste to treatment)
  - Institutional barriers to extending/creating centralized wastewater services
  - Financial challenges to maintaining/extending wastewater infrastructure
  - Lack of septic system maintenance by property owners
  - Little demand for recycled water
  - Pending SFRWQCB nitrogen regulations may impact whether FSSD expands high strength waste service

Initial Concepts:

- Database of domestic wells
- Database of septic systems
- Prepare or review Community Septic Tank Management Plans
- Study of land capability for septic systems
- Evaluation of existing facilities and future demand for services
- Public/Stakeholder outreach to promote recycled water use
- Change state legislation to allow FSSD to extend services or the formation of another WW service provider
- Emergency interties
- Database of properties/entities with jurisdictions along creeks/drainages
- Hydrologic/hydraulic study
- Utilities fee study
- Mutual aid agreements
- Water system operator sharing

Pleasants/Vaca Valley Agricultural Areas

- Water Supply and Conveyance
  - Supply reliability limited by groundwater quality and physical access to surface water infrastructure.
  - Financial challenges to maintaining/extending water supply/conveyance infrastructure over small customer base.
- Flood Control and Drainage
  - Limited locations to discharge drainage/flood flows during wet periods.
  - Multiple entities with responsibilities to maintain/operate natural/engineered drainages.
- Wastewater
  - Lack of septic system maintenance by property owners.
  - Little demand for recycled water
  - Pending SFRWQCB nitrogen regulations may impact whether FSSD expands high strength waste service
  - Financial challenges to maintaining/extending wastewater infrastructure

Initial Concepts:

- Database of domestic wells
- Emergency interties
- Utilities fee study
- Mutual aid agreements
- Evaluation of existing facilities and future demand for services
- Database of septic systems
- Prepare or review Community Septic Tank Management Plans
- Study of land capability for septic systems
- Database of properties/entities with jurisdictions along creeks/drainages
- Hydrologic/ hydraulic study
- Water system operator sharing
- Public/Stakeholder outreach to promote recycled water use

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Next Steps

- Draft Framework Chapter:
  - 1: Introduction to the Region
  - 2: Regional Challenges and Opportunities
  - 3: Goals and Actions that Integrate All Aspects of Water Resources Management
- Draft Bulletin: Fall 2023
- Follow-Up Meetings: Agricultural Area-Specific Discussions