COSUMNES SUBBASIN

PROJECT / MANAGEMENT ACTION

INFORMATION FORM

P/MA ID:	**BASIN/MANAGEMENT AREA** (if any): Cosumnes

TITLE: Groundwater Recharge Project - Storm water flooding of vineyards

DESCRIPTION[1]:

During December and March of the storm season storm water will be taken from the Cosumnes River and used to flood dormant vineyards. This flooding will be monitored and maintained through the specified time period.

EXPECTED ANNUAL BENEFIT (demand reduction or supply augmentation, in acre-feet per year):

2,000 AF (after 2027, likely to become 20,000 AFY)

AGENCY(s):

Primary/Lead: Omochumne Hartnell Water District

Supporting: _____

LOCATION: □ Check here if Basin-wide

Township / Range: _____

Coordinates (Latitude / Longitude): _____

Description: Cosumnes River

AFFECTED SUSTAINABILITY INDICATOR (check all that apply):

■ Chronic Lowering of Groundwater Levels
□ Reduction of Groundwater Storage
□ Seawater Intrusion
□ Degraded Water Quality
□ Land Subsidence
■ Depletions of Interconnected Surface Water

TYPE (check all that apply):

■ Water Supply Augmentation
- □ Surface Water
- ■ Groundwater (Recharge)
- □ Recycled Water
- □ Transfer
- ■ Stormwater
- □ Other

Source of Outside Water (if applicable): _____

□ Water Demand Reduction
- □ Conservation
- □ Land / Water Use Changes

□ Infrastructure / Capital Project
□ Policy Project
□ Data Gap Filling / Monitoring
□ Water Quality Improvement
□ Other: _____

[1] *Please continue to next page or attach additional pages to this form as necessary*

COSTS & FUNDING SOURCE(s):

Capital / Up-front ($): Already installed

Source(s):

O&M / On-going ($ per year): 70,000

Source(s): OHWD, Grant Funding

REGULATORY / LEGAL AUTHORITY REQUIREMENTS (describe all that apply):

Permits (name of authority, type of permit): Neg Dec CEQA

CEQA: Neg Dec

Other:

SCHEDULE / TIMING:

Implementation Trigger(s): 9/1/2021

Termination Trigger(s): 9/1/2031

Timeframe to Accrue Expected Benefits: 9/1/2021 to 12/31/2031

ADDITIONAL DETAILS (as necessary)**:**

Costs:

Project Environmental Documentation & Permits	$15,000
Flow Management - Roll out pipe installation	$45,000
Water Costs - Utilities	$10,000

COSUMNES SUBBASIN

PROJECT / MANAGEMENT ACTION

INFORMATION FORM

P/MA ID:	**BASIN/MANAGEMENT AREA** (if any):

TITLE: FSC Ag Recharge from American Recharge

DESCRIPTION[1]:

During winter months (December - March) water will be diverted from the American River at the Nimbus Dam into the FSC to flood agricultural land in the Cosumnes Basin.
Number of acres to be flooded: 2000
Number of AF to be infiltrated: 12000 (30,000 in 4 out of 10 year)
Anticipated location: in the vicinity of the Folsom South Canal, along Hadselville Creek/Twin Cities Road, and other location to be identified.

EXPECTED ANNUAL BENEFIT (demand reduction or supply augmentation, in acre-feet per year):

12,000 AFY

AGENCY(s):

Primary/Lead: Adminstrative entity for GSAs

Supporting: _____

LOCATION: □ Check here if Basin-wide

Township / Range: entire basin

Coordinates (Latitude / Longitude): approx. 38o 17' 43.53" N, -121o 11' 01.76"W

Description: in the vicinity of Twin Cities Road

AFFECTED SUSTAINABILITY INDICATOR (check all that apply):

■ Chronic Lowering of Groundwater Levels
■ Reduction of Groundwater Storage
□ Seawater Intrusion
□ Degraded Water Quality
□ Land Subsidence
□ Depletions of Interconnected Surface Water

TYPE (check all that apply):

■ Water Supply Augmentation
- □ Surface Water
- ■ Groundwater (Recharge)
- □ Recycled Water
- □ Transfer
- □ Stormwater
- □ Other

Source of Outside Water (if applicable): _____

□ Water Demand Reduction
- □ Conservation
- ■ Land / Water Use Changes

■ Infrastructure / Capital Project
■ Policy Project
□ Data Gap Filling / Monitoring
□ Water Quality Improvement
■ Other: SAFCA Flood MAR anticipate regional acquisition of the Folsom South Canal.

[1] *Please continue to next page or attach additional pages to this form as necessary*

COSTS & FUNDING SOURCE(s):

Capital / Up-front ($): unconfirmed at this time; could involve regional acquisition of the FSC

Source(s): State Water Board funds

O&M / On-going ($ per year): $400,000 paid to farmer; $1.6M contribution to SAFCA Flood-MAR

Source(s): GW banking revenue

REGULATORY / LEGAL AUTHORITY REQUIREMENTS (describe all that apply):

Permits (name of authority, type of permit): unknown at this time

CEQA: Yes

Other:

SCHEDULE / TIMING:

Implementation Trigger(s): 2027 -

Termination Trigger(s): ongoing

Timeframe to Accrue Expected Benefits: 2027

ADDITIONAL DETAILS (as necessary)**:**

This project will be part of the SAFCA Flood-MAR program which will require regional cooperation between Cosumnes and South American GSAs, Water Forum, and an agreement with the Bureau of Reclamation to provide American River winter water and a water control manual deviation approved by the Army Corps of Engineers to allow for temporary storage of winter water in the space dedicated for flood control at Folsom Dam.

COSUMNES SUBBASIN

PROJECT / MANAGEMENT ACTION

INFORMATION FORM

P/MA ID:	**BASIN/MANAGEMENT AREA** (if any):

TITLE: Folsom South Canal dry wells

DESCRIPTION[1]:

Install approximately 50 vadose zone infiltration wells along FSC between Cosumnes River to approximately 2 miles south of Dillard Road.

EXPECTED ANNUAL BENEFIT (demand reduction or supply augmentation, in acre-feet per year):

4000 AFY (10,000 AFY in 4 out of 10 years)

AGENCY(s):

Primary/Lead: Administrative entity for GSAs

Supporting: _____

LOCATION: □ Check here if Basin-wide

Township / Range: unknown

Coordinates (Latitude / Longitude): in the vinicity of 38o 25'11.23"; -121o 11' 01.76"

Description: along the FSC

AFFECTED SUSTAINABILITY INDICATOR (check all that apply):

■ Chronic Lowering of Groundwater Levels
■ Reduction of Groundwater Storage
□ Seawater Intrusion
□ Degraded Water Quality
□ Land Subsidence
□ Depletions of Interconnected Surface Water

TYPE (check all that apply):

■ Water Supply Augmentation
- □ Surface Water
- ■ Groundwater (Recharge)
- □ Recycled Water
- □ Transfer
- □ Stormwater
- □ Other

Source of Outside Water (if applicable): _____

■ Water Demand Reduction
- □ Conservation
- □ Land / Water Use Changes

■ Infrastructure / Capital Project
□ Policy Project
□ Data Gap Filling / Monitoring
□ Water Quality Improvement
□ Other: _____

[1] *Please continue to next page or attach additional pages to this form as necessary*

COSTS & FUNDING SOURCE(s):

Capital / Up-front ($): $7.5 M: 75% state; 25% local

Source(s): State bond money and GW banking revenue

O&M / On-going ($ per year): $50,000

Source(s): GW banking revenue

REGULATORY / LEGAL AUTHORITY REQUIREMENTS (describe all that apply):

Permits (name of authority, type of permit): Agreement with Bureau of Reclamation

CEQA: Yes, neg dec

Other:

SCHEDULE / TIMING:

Implementation Trigger(s): 2027 - 2042

Termination Trigger(s): none

Timeframe to Accrue Expected Benefits: 2027

ADDITIONAL DETAILS (as necessary)**:**

This project will be part of the SAFCA Flood-MAR program which will require regional cooperation between Cosumnes and South American GSAs, Water Forum, and an agreement with the Bureau of Reclamation to provide American River winter water and a water control manual deviation approved by the Army Corps of Engineers to allow for temporary storage of winter water in the space dedicated for flood control at Folsom Dam.

COSUMNES SUBBASIN

PROJECT / MANAGEMENT ACTION

INFORMATION FORM

P/MA ID:	**BASIN/MANAGEMENT AREA** (if any):

TITLE: FSC Ag Recharge from Sacramento River

DESCRIPTION[1]:

During winter months (December - March) water will be taken from the Sacramento River at Freeport and diverted through the Freeport Canal and the FSC to flood agricultural land in the Cosumnes Basin.
Number of acres to be flooded: 2000
Number of AF to be infiltrated: 4000
Anticipated location: in the vicinity of the Folsom South Canal, along Hadselville Creek/Twin Cities Road, and other locations to be identified.

EXPECTED ANNUAL BENEFIT (demand reduction or supply augmentation, in acre-feet per year):

4000 AFY

AGENCY(s):

Primary/Lead: administrative entity of the Cosumnes WG

Supporting: _____

LOCATION: □ Check here if Basin-wide

Township / Range: entire basin

Coordinates (Latitude / Longitude): approx. 38o 17' 43.53" N, -121o 11' 01.76"W

Description: _____

AFFECTED SUSTAINABILITY INDICATOR (check all that apply):

■ Chronic Lowering of Groundwater Levels
■ Reduction of Groundwater Storage
□ Seawater Intrusion
□ Degraded Water Quality
□ Land Subsidence
□ Depletions of Interconnected Surface Water

TYPE (check all that apply):

■ Water Supply Augmentation
- ■ Surface Water
- ■ Groundwater (Recharge)
- □ Recycled Water
- □ Transfer
- □ Stormwater
- □ Other

Source of Outside Water (if applicable): _____

□ Water Demand Reduction
- □ Conservation
- □ Land / Water Use Changes

■ Infrastructure / Capital Project
■ Policy Project
□ Data Gap Filling / Monitoring
□ Water Quality Improvement
□ Other: _____

[1] *Please continue to next page or attach additional pages to this form as necessary*

COSTS & FUNDING SOURCE(s):

Capital / Up-front ($): $1 M

Source(s): Ground water banking credits

O&M / On-going ($ per year): $400,000 paid to farmers, $270,000 water diversion/delivery

Source(s): Groundwater banking revenue and credits, source TBD

REGULATORY / LEGAL AUTHORITY REQUIREMENTS (describe all that apply):

Permits (name of authority, type of permit): Water Board temp permit for diversion

CEQA: yes

Other: Agreement of County and EBMUD (who control Freeport diversion, Freeport canal, and FSC

SCHEDULE / TIMING:

Implementation Trigger(s): 2024

Termination Trigger(s): 2027

Timeframe to Accrue Expected Benefits: 3 years

ADDITIONAL DETAILS (as necessary)**:**

This project assumes that in 2027 Sacramento River winter water will be replaced by American River winter water, diverted to the FSC at Nimbus, as the source of the recharge.

COSUMNES SUBBASIN

PROJECT / MANAGEMENT ACTION

INFORMATION FORM

P/MA ID:	**BASIN/MANAGEMENT AREA** (if any): Cosumnes

TITLE: Consumes River Flow Augmentation

DESCRIPTION[1]:

During late summer/early fall, after the river has disconnected, releasing 1500-5000 AF of water from the Folsom South Canal into the Cosumnes River so the river will flow to Highway 99. This will allow an earlier connection to tidewater and allow fall run Chinook salmon to migrate to upstream spawning areas as well as provide for groundwater recharge.

The river channel has become hydrologically disconnected from the underlying groundwater table during the dry summer and early fall months. This disconnection from the groundwater aquifer requires a greater volume of natural flow out of the foothills to overcome dry river bed conditions and establish a connection to tidewater. This project allows for that early connection

EXPECTED ANNUAL BENEFIT (demand reduction or supply augmentation, in acre-feet per year):

1,500 -3,000acre feet

AGENCY(s):

Primary/Lead: Omochumne Hartnell Water District

Supporting: _____

LOCATION: □ Check here if Basin-wide

Township / Range: _____

Coordinates (Latitude / Longitude): _____

Description: Cosumnes River

AFFECTED SUSTAINABILITY INDICATOR (check all that apply):

□ Chronic Lowering of Groundwater Levels
■ Reduction of Groundwater Storage
□ Seawater Intrusion
□ Degraded Water Quality
□ Land Subsidence
■ Depletions of Interconnected Surface Water

TYPE (check all that apply):

■ Water Supply Augmentation
- □ Surface Water
- ■ Groundwater (Recharge)
- □ Recycled Water
- □ Transfer
- □ Stormwater
- □ Other

Source of Outside Water (if applicable): _____

□ Water Demand Reduction
- □ Conservation
- □ Land / Water Use Changes

□ Infrastructure / Capital Project
□ Policy Project
□ Data Gap Filling / Monitoring
□ Water Quality Improvement
□ Other: _____

[1] *Please continue to next page or attach additional pages to this form as necessary*

COSTS & FUNDING SOURCE(s):

Capital / Up-front ($): 35,000

Source(s): _____

O&M / On-going ($ per year): 170,000

Source(s): OHWD, Grant Funding

REGULATORY / LEGAL AUTHORITY REQUIREMENTS (describe all that apply):

Permits (name of authority, type of permit): Neg Dec CEQA

CEQA: Neg Dec

Other: _____

SCHEDULE / TIMING:

Implementation Trigger(s): developing contract for the water - 9/1/2025

Termination Trigger(s): _____

Timeframe to Accrue Expected Benefits: 9/1/2025 to 12/31/2035

ADDITIONAL DETAILS (as necessary)**:**

Costs:

Project Environmental Documentation	$35,000
Flow Management and Monitoring	$45,000
Water Costs	$125,000

COSUMNES SUBBASIN
PROJECT / MANAGEMENT ACTION
INFORMATION FORM

P/MA ID:	**BASIN/MANAGEMENT AREA** (if any):

TITLE: City of Galt -recycled winter water and LID/dry wells

DESCRIPTION[1]:

1. Redirect recycled water from Galt from release to Badger Creek to infiltration
2. Implement LID practices, including use of dry wells, to redirect stormwater runoff for recharge use.

EXPECTED ANNUAL BENEFIT (demand reduction or supply augmentation, in acre-feet per year):

AGENCY(s):

Primary/Lead: _____

Supporting: _____

LOCATION: □ Check here if Basin-wide

Township / Range: _____

Coordinates (Latitude / Longitude): _____

Description: _____

AFFECTED SUSTAINABILITY INDICATOR (check all that apply):

□ Chronic Lowering of Groundwater Levels
□ Reduction of Groundwater Storage
□ Seawater Intrusion
□ Degraded Water Quality
□ Land Subsidence
□ Depletions of Interconnected Surface Water

TYPE (check all that apply):

□ Water Supply Augmentation
- □ Surface Water
- □ Groundwater (Recharge)
- □ Recycled Water
- □ Transfer
- □ Stormwater
- □ Other

Source of Outside Water (if applicable): _____

□ Water Demand Reduction
- □ Conservation
- □ Land / Water Use Changes

□ Infrastructure / Capital Project
□ Policy Project
□ Data Gap Filling / Monitoring
□ Water Quality Improvement
□ Other: _____

[1] *Please continue to next page or attach additional pages to this form as necessary*

COSTS & FUNDING SOURCE(s):

Capital / Up-front ($): _____

Source(s): _____

O&M / On-going ($ per year): _____

Source(s): _____

REGULATORY / LEGAL AUTHORITY REQUIREMENTS (describe all that apply):

Permits (name of authority, type of permit): _____

CEQA: _____

Other: _____

SCHEDULE / TIMING:

Implementation Trigger(s): _____

_____

Termination Trigger(s): _____

_____

Timeframe to Accrue Expected Benefits: _____

ADDITIONAL DETAILS (as necessary)**:**

COSUMNES SUBBASIN

PROJECT / MANAGEMENT ACTION

INFORMATION FORM

P/MA ID:	**BASIN/MANAGEMENT AREA** (if any):

TITLE: Fallowing Plan

DESCRIPTION[1]:

Fallow 2500 acres per year in order to achieve a net reduction in extraction of 6700 AFY.

EXPECTED ANNUAL BENEFIT (demand reduction or supply augmentation, in acre-feet per year):

6700 AFY

AGENCY(s):

Primary/Lead: administrative entity for the GSAs

Supporting: _____

LOCATION: □ Check here if Basin-wide

Township / Range: various locations in Cosumes Basin

Coordinates (Latitude / Longitude): n/a

Description: Annually rotate fallowing to different farmlands on a 5 year cycle

AFFECTED SUSTAINABILITY INDICATOR (check all that apply):

■ Chronic Lowering of Groundwater Levels
■ Reduction of Groundwater Storage
□ Seawater Intrusion
□ Degraded Water Quality
□ Land Subsidence
□ Depletions of Interconnected Surface Water

TYPE (check all that apply):

□ Water Supply Augmentation
- □ Surface Water
- □ Groundwater (Recharge)
- □ Recycled Water
- □ Transfer
- □ Stormwater
- □ Other

Source of Outside Water (if applicable): _____

■ Water Demand Reduction
- □ Conservation
- ■ Land / Water Use Changes

□ Infrastructure / Capital Project
■ Policy Project
□ Data Gap Filling / Monitoring
□ Water Quality Improvement
□ Other: _____

[1] *Please continue to next page or attach additional pages to this form as necessary*

COSTS & FUNDING SOURCE(s):

Capital / Up-front ($): none

Source(s): _____

O&M / On-going ($ per year): $1M / year; $400/acre x 2500 acres

Source(s): Groundwater fee

REGULATORY / LEGAL AUTHORITY REQUIREMENTS (describe all that apply):

Permits (name of authority, type of permit): n/a

CEQA: yes, neg dec

Other: _____

SCHEDULE / TIMING:

Implementation Trigger(s): 2024 -

_____

Termination Trigger(s): n/a

_____

Timeframe to Accrue Expected Benefits: 2024

ADDITIONAL DETAILS (as necessary)**:**

COSUMNES SUBBASIN
PROJECT / MANAGEMENT ACTION
INFORMATION FORM

P/MA ID:	**BASIN/MANAGEMENT AREA** (if any):

TITLE: Ground banking project: 2024-2027

DESCRIPTION[1]:

Sale of up to 4000 AFY to an urban water purveyor TBD for dry year augmentation.

EXPECTED ANNUAL BENEFIT (demand reduction or supply augmentation, in acre-feet per year):

this is a financing mechanism

AGENCY(s):

Primary/Lead: administrative entity of the GSAs

Supporting: _____

LOCATION: ■ Check here if Basin-wide

Township / Range: entire basin

Coordinates (Latitude / Longitude): _____

Description: _____

AFFECTED SUSTAINABILITY INDICATOR (check all that apply):

■ Chronic Lowering of Groundwater Levels
■ Reduction of Groundwater Storage
□ Seawater Intrusion
□ Degraded Water Quality
□ Land Subsidence
■ Depletions of Interconnected Surface Water

TYPE (check all that apply):

□ Water Supply Augmentation
- □ Surface Water
- □ Groundwater (Recharge)
- □ Recycled Water
- □ Transfer
- □ Stormwater
- □ Other

Source of Outside Water (if applicable): _____

■ Water Demand Reduction
- □ Conservation
- ■ Land / Water Use Changes

□ Infrastructure / Capital Project
■ Policy Project
□ Data Gap Filling / Monitoring
□ Water Quality Improvement
■ Other: This is a funding mechanism that will indirectly address all sustainability indicators.

[1] *Please continue to next page or attach additional pages to this form as necessary*

COSTS & FUNDING SOURCE(s):

Capital / Up-front ($): $2.1 M total, $700,000 for 3 years for pumping capacity of up to 12,000 AF in a dry year

Source(s): selected water purveyor

O&M / On-going ($ per year): n/a

Source(s): _____

REGULATORY / LEGAL AUTHORITY REQUIREMENTS (describe all that apply):

Permits (name of authority, type of permit): unclear at this time

CEQA: yes, neg dec

Other: _____

SCHEDULE / TIMING:

Implementation Trigger(s): 2024

Termination Trigger(s): estimated to be 2027, when Sac River water is replaced by American River water

Timeframe to Accrue Expected Benefits: 2024-2027

ADDITIONAL DETAILS (as necessary)**:**

This project could provide a net of $900,000 per year for Cosumnes GSP capital and operations costs, including a reserve for administrative expensesw.

COSUMNES SUBBASIN
PROJECT / MANAGEMENT ACTION
INFORMATION FORM

P/MA ID:	**BASIN/MANAGEMENT AREA** (if any):

TITLE: Groundwater banking project: 2027-2042

DESCRIPTION[1]:

Sale of up to 6000 AFY to an urban water purveyor TBD for dry year augmentation.

EXPECTED ANNUAL BENEFIT (demand reduction or supply augmentation, in acre-feet per year):

this is a funding mechanism

AGENCY(s):

Primary/Lead: administrative entity of the GSAs

Supporting: _____

LOCATION: ■ Check here if Basin-wide

Township / Range: entire basin

Coordinates (Latitude / Longitude): _____

Description: _____

AFFECTED SUSTAINABILITY INDICATOR (check all that apply):

■ Chronic Lowering of Groundwater Levels
■ Reduction of Groundwater Storage
□ Seawater Intrusion
□ Degraded Water Quality
□ Land Subsidence
■ Depletions of Interconnected Surface Water

TYPE (check all that apply):

□ Water Supply Augmentation
- □ Surface Water
- □ Groundwater (Recharge)
- □ Recycled Water
- □ Transfer
- □ Stormwater
- □ Other

Source of Outside Water (if applicable): _____

□ Water Demand Reduction
- □ Conservation
- ■ Land / Water Use Changes

□ Infrastructure / Capital Project
■ Policy Project
□ Data Gap Filling / Monitoring
□ Water Quality Improvement
■ Other: This is a funding mechanism that will indirectly address all sustainability indicators.

[1] *Please continue to next page or attach additional pages to this form as necessary*

COSTS & FUNDING SOURCE(s):

Capital / Up-front ($): $3 M total, $240,00 for years for extraction pumping capacity of up to 25,000 AF in a dry year

Source(s): selected water purveyor

O&M / On-going ($ per year): $360,000 for American Riv diversion and pumping costs

Source(s): selected water purveyor

REGULATORY / LEGAL AUTHORITY REQUIREMENTS (describe all that apply):

Permits (name of authority, type of permit): unclear at this time

CEQA: yes, neg dec

Other: _____

SCHEDULE / TIMING:

Implementation Trigger(s): 2027

Termination Trigger(s): none, this is a continuing program

Timeframe to Accrue Expected Benefits: 2027

ADDITIONAL DETAILS (as necessary)**:**

This project should provide a net of $3.3M per year to cover Cosymnes Basin GSP capital and operational costs including a reserve for administrative expenses..

COSUMNES SUBBASIN

PROJECT / MANAGEMENT ACTION

INFORMATION FORM

P/MA ID:	**BASIN/MANAGEMENT AREA** (if any):

TITLE: Study to Improve Consumptive Use

DESCRIPTION[1]:

Complete a study of surface water rights relative to actual reported use of surface water for irrigation. Use of surface water from the Cosumnes River and Deer Creek is regulated according to water rights, which were established decades ago under different technological and land use conditions. Irrigation practices have become more sophisticated and efficient, and particulate matter in surface water can clog the irrigation equipment. Consequently, farmers may be utilizing more groundwater due to the likely absence of particulates. The study will inform the GSA(s) about the efficient use of the surface water and groundwater resources and the need to facilitate the effective/efficient use of surface water. The results of the study may encourage further study in other portions of the subbasin.

EXPECTED ANNUAL BENEFIT (demand reduction or supply augmentation, in acre-feet per year):

Unknown pending further study

AGENCY(s):

Primary/Lead: Sacramento County GSA

Supporting: _____

LOCATION: □ Check here if Basin-wide

Township / Range: _____

Coordinates (Latitude / Longitude): _____

Description: Western portion of subbasin

AFFECTED SUSTAINABILITY INDICATOR (check all that apply):

- ■ Chronic Lowering of Groundwater Levels
- ■ Reduction of Groundwater Storage
- □ Seawater Intrusion
- □ Degraded Water Quality
- □ Land Subsidence
- □ Depletions of Interconnected Surface Water

TYPE (check all that apply):

■ Water Supply Augmentation

- □ Surface Water
- □ Groundwater (Recharge)
- □ Recycled Water
- □ Transfer
- □ Stormwater
- ■ Other

Source of Outside Water (if applicable): _____

□ Water Demand Reduction

- □ Conservation
- □ Land / Water Use Changes

□ Infrastructure / Capital Project

□ Policy Project

□ Data Gap Filling / Monitoring

□ Water Quality Improvement

□ Other: _____

[1] *Please continue to next page or attach additional pages to this form as necessary*

COSTS & FUNDING SOURCE(s):

Capital / Up-front ($): $5K

Source(s): _____

O&M / On-going ($ per year): _____

Source(s): _____

REGULATORY / LEGAL AUTHORITY REQUIREMENTS (describe all that apply):

Permits (name of authority, type of permit): None

CEQA: _____

Other: _____

SCHEDULE / TIMING:

Implementation Trigger(s): Staff availability during 2021

_____

Termination Trigger(s): _____

_____

Timeframe to Accrue Expected Benefits: 2022 -2025

ADDITIONAL DETAILS (as necessary)**:**

COSUMNES SUBBASIN

PROJECT / MANAGEMENT ACTION

INFORMATION FORM

P/MA ID:	**BASIN/MANAGEMENT AREA** (if any): N/A

TITLE: Drought Resilience Impact Platform - University of Colorado Boulder (UCB)

DESCRIPTION[1]:

Installation of on-site sensors to remotely monitor groundwater extraction from wells at volunteer owners. The groundwater extraction data will be combined with extraction data from other basins along with remote sensing data to create a groundwater demand model to aid in water resources management and planning. The scope of the study will include over 150 wells between El Dorado and Napa Counties plus selected wells in southern San Joaquin Valley. The remote sensing data will be derived from satellites, including from the Gravity Recovery and Climate Experiment (GRACE), Interferometric Synthetic Aperture Radar (InSAR), Climate Hazards Group Infrared Precipitation with Stations (CHIRPS), and Normalized Difference Vegetation Index (NDVI).

https://www.prepdata.org/dashboards/the-u-s-drought-resilience-impact-platform-drip

EXPECTED ANNUAL BENEFIT (demand reduction or supply augmentation, in acre-feet per year):

Benefit cannot be defined until the UCB study is complete.

AGENCY(s):

Primary/Lead: University of Colorado Boulder, UC Boulder's Mortenson Center in Global Engineering

Supporting: Sacramento County GSA

LOCATION: ■ Check here if Basin-wide

Township / Range: _____

Coordinates (Latitude / Longitude): _____

Description: Dependent on volunteers

AFFECTED SUSTAINABILITY INDICATOR (check all that apply):

■ Chronic Lowering of Groundwater Levels
■ Reduction of Groundwater Storage
□ Seawater Intrusion
□ Degraded Water Quality
□ Land Subsidence
□ Depletions of Interconnected Surface Water

TYPE (check all that apply):

□ Water Supply Augmentation
- □ Surface Water
- □ Groundwater (Recharge)
- □ Recycled Water
- □ Transfer
- □ Stormwater
- □ Other

Source of Outside Water (if applicable): _____

□ Water Demand Reduction
- □ Conservation
- □ Land / Water Use Changes

□ Infrastructure / Capital Project
□ Policy Project
■ Data Gap Filling / Monitoring
□ Water Quality Improvement
□ Other: _____

[1] *Please continue to next page or attach additional pages to this form as necessary*

COSTS & FUNDING SOURCE(s):

Capital / Up-front ($): $0

Source(s): University of Colorado Boulder, UC Boulder's Mortenson Center in Global Engineering

O&M / On-going ($ per year): $0

Source(s): University of Colorado Boulder, UC Boulder's Mortenson Center in Global Engineering

REGULATORY / LEGAL AUTHORITY REQUIREMENTS (describe all that apply):

Permits (name of authority, type of permit): None

CEQA: Not applicable

Other:

SCHEDULE / TIMING:

Implementation Trigger(s): Execution of access agreements in early 2021

Termination Trigger(s): Duration of 2-year study

Timeframe to Accrue Expected Benefits: 2-year study, 2021-2023

ADDITIONAL DETAILS (as necessary)**:**

The website states: "We envision a resilient western United States, where vulnerable communities gain access to cost effective and comprehensive monitoring networks and market-based platforms, empowering & incentivizing conservation, trade, and efficiently distributed clean water, year-round, regardless of water stress."

COSUMNES SUBBASIN
PROJECT / MANAGEMENT ACTION
INFORMATION FORM

P/MA ID:	**BASIN/MANAGEMENT AREA** (if any):

TITLE: Harvest Water Program

DESCRIPTION[1]:

In lieu groundwater recharge project using recycled water for irrigation on agricultural lands on the north side of the Cosumnes River, thereby allowing for less groundwater being pumped for irrigation. Additionally wintertime irrigation will recharge the groundwater system. These two changes in water management will result in an increase in groundwater levels/storage and a small portion of that benefit will manifest in the Cosumnes Subbasin. The rise in groundwater level may increase flows in the overlying Cosumnes River because the vertical gradient from the river to the groundwater will be less which could decrease losses from the river and/or the rising groundwater levels could contribute flow directly to the river, depending on seasonal and climatic conditions. The 2,000 AFY estimated benefit at full implementation is a very rough estimate that will be confirmed through near-term modeling.

Regional San will expect to maintain the benefits identified in the Prop 1 Water Storage Investment Program grant, and expects that the cone of depression in the Cosumnes Subbasin will be stabilized through other projects and management actions in the Cosumnes Subbasin. Partnering with Regional San for monitoring expected benefits in the Cosumnes Subbasin is included in this project, and will be identified in a monitoring program developed in partnership with Regional San for the Cosumnes Subbasin.

EXPECTED ANNUAL BENEFIT (demand reduction or supply augmentation, in acre-feet per year):

Supply Augmentation-Fully Implemented Est. 2,000 AFY

AGENCY(s):

Primary/Lead: Sacramento Regional County Sanitation District (Regional San)

Supporting: Sacramento County GSA

LOCATION: ■ Check here if Basin-wide

Township / Range: _____

Coordinates (Latitude / Longitude): _____

Description: South American Subbasin-southwest side along the boundary with the Cosumnes Subbasin-map attached

AFFECTED SUSTAINABILITY INDICATOR (check all that apply):

■ Chronic Lowering of Groundwater Levels
■ Reduction of Groundwater Storage
□ Seawater Intrusion
□ Degraded Water Quality
□ Land Subsidence
■ Depletions of Interconnected Surface Water

TYPE (check all that apply):

■ Water Supply Augmentation
- □ Surface Water
- ■ Groundwater (Recharge)
- ■ Recycled Water
- □ Transfer
- □ Stormwater
- □ Other

Source of Outside Water (if applicable): _____

□ Water Demand Reduction
- □ Conservation
- □ Land / Water Use Changes

□ Infrastructure / Capital Project
□ Policy Project
□ Data Gap Filling / Monitoring
□ Water Quality Improvement
□ Other: _____

[1] *Please continue to next page or attach additional pages to this form as necessary*

COSTS & FUNDING SOURCE(s):

Capital / Up-front ($): $280.5M by Regional San

Source(s): Prop 1 Water Storage Investment Program

O&M / On-going ($ per year): _____

Source(s): _____

REGULATORY / LEGAL AUTHORITY REQUIREMENTS (describe all that apply):

Permits (name of authority, type of permit): _____

CEQA: _____

Other: _____

SCHEDULE / TIMING:

Implementation Trigger(s): 2023-2030 depending on the construction schedule for the transmission and distribution pipelines

_____

Termination Trigger(s): _____

_____

Timeframe to Accrue Expected Benefits: 2030-2070

ADDITIONAL DETAILS (as necessary)**:**

https://www.regionalsan.com/harvest-water

From the website:

Regional San, in collaboration with regional stakeholders, is developing Harvest Water (formerly called the South County Ag Program). Harvest Water will offer multiple benefits, including providing a safe and reliable supply of tertiary-treated water for agricultural uses, reducing groundwater pumping, supporting habitat protection efforts, and providing near-term benefits to the Sacramento-San Joaquin Delta.

Harvest Water is an exceptional opportunity to proactively restore and manage groundwater, while improving stream flows in the lower Cosumnes River, enhancing riparian habitats and wetlands, sustaining prime agricultural lands, and improving regional water supply reliability. Harvest Water is being developed by Regional San and has the potential to deliver up to 50,000 acre-feet per year (AFY) of drought-resistant recycled water to irrigate more than 16,000 acres of permanent agriculture and habitat conservation lands near the Cosumnes River and Stone Lakes Wildlife Refuge. Essentially, this recycled water would be used in-lieu of pumping groundwater. Additionally, Harvest Water proposes to implement wintertime irrigation and wildlife-friendly recharge basins in the project area where the soils are suitable, to provide further groundwater recharge.

The California Water Commission announced that Regional San will receive up to $280.5 million in Proposition 1 grant funding through the Water Storage Investment Program (WSIP) to help make Harvest Water a reality for the Sacramento region. The WSIP funding was awarded based on the public benefits expected as a result of Harvest Water.

Next steps include continuing planning efforts with local farmers and beginning preliminary designs for transmission and distribution systems to convey recycled water from the Sacramento Regional Wastewater Treatment Plant near Elk Grove to agricultural lands in southern Sacramento county. Elk Grove to agricultural lands in southern Sacramento county.

COSUMNES SUBBASIN
PROJECT / MANAGEMENT ACTION
INFORMATION FORM

P/MA ID:	**BASIN/MANAGEMENT AREA** (if any): Cosumnes Sub-basin / GID

TITLE: Archoe Public Facility Well

DESCRIPTION[1]:
Apply for a new facility well for Arcohe School. Develop a groundwater recharge program for the campus and couple that with their educational garden utilizing Best Management Practices (BMP's) for Irrigation Water Management, Nutrient Management, and Integrated Pest Management. Educational component on water savings gardening is a community wide benefit that can provide water savings outreach back to homeowners.

EXPECTED ANNUAL BENEFIT (demand reduction or supply augmentation, in acre-feet per year):

A/F unknown at this time but known water quality, conservation & educational benefit

AGENCY(s):
Primary/Lead: Galt Irrigation District / Archoe Unified School District
Supporting: Sacramento County, USDA, DWR, RWQCB

LOCATION: □ Check here if Basin-wide
Township / Range: Southwest Quarter of Section 8, T 5 N, R 7 E Clay Quad
Coordinates (Latitude / Longitude): 038* 17' 43.550" N 121* 14' 25.046 ' W NAD 27
Description: Arcohe School grounds

AFFECTED SUSTAINABILITY INDICATOR (check all that apply):
■ Chronic Lowering of Groundwater Levels
□ Seawater Intrusion
□ Land Subsidence
■ Reduction of Groundwater Storage
■ Degraded Water Quality
□ Depletions of Interconnected Surface Water

TYPE (check all that apply):
□ Water Supply Augmentation
- □ Surface Water
- ■ Groundwater (Recharge)
- □ Recycled Water
- □ Transfer
- ■ Stormwater
- □ Other

Source of Outside Water (if applicable): _____

□ Water Demand Reduction
- ■ Conservation
- ■ Land / Water Use Changes

■ Infrastructure / Capital Project
□ Policy Project
□ Data Gap Filling / Monitoring
■ Water Quality Improvement
□ Other: _____

[1] *Please continue to next page or attach additional pages to this form as necessary*

COSTS & FUNDING SOURCE(s):

Capital / Up-front ($): Unknown at this time

Source(s): Grant funds, Cost Share funds, district funds, school district funds

O&M / On-going ($ per year): Unknown at this time

Source(s): School district will need to maintain once completed

REGULATORY / LEGAL AUTHORITY REQUIREMENTS (describe all that apply):

Permits (name of authority, type of permit): Sacramento County, unidentified as of current

CEQA: New well requirements

Other: Possble State/Federal permitting

SCHEDULE / TIMING:

Implementation Trigger(s): As soon as possible

Termination Trigger(s): None

Timeframe to Accrue Expected Benefits: Immediately

ADDITIONAL DETAILS (as necessary)**:**

Due to changes in the drinking water policy, current well test results indicate higher than allowed arsenic levels for human consumption. The current system requires water being flushed continuously to keep these levels from building up. This practice does not allow for responsible conservation of groundwater.

Arcohe Unified School District is within an underserved/disadvantaged community, serving Pre-K through 8th grade students.

A facility well is the only source of potable water for the school district. The old well could be used for irrigating the school garden or abandoned all together depending on new well placement.

COSUMNES SUBBASIN
PROJECT / MANAGEMENT ACTION
INFORMATION FORM

P/MA ID:	**BASIN/MANAGEMENT AREA** (if any): Cosumnes Sub-basin / GID

TITLE: Herald-Galt Recharge Projects

DESCRIPTION[1]:

Excavate and deepen catch ponds throughout the basin to capture winter storm water. Install some sort of Dry wells, seepage pits and/or water subbing practices to disturb the clay layer in the soil profile whereby assisting with ground water recharge. Targeted projects will be installed within or along identified water storage/ponds and just outside of drainage-ways throughout the Sub-basin, especially within the Cone of Depression. There is potential for multiple locations within the boundaries of Galt Irrigation District.

Work with City of Galt on management of their flood ponds that receive water flow from waterways within the District and accumulates in Deadmans Gulch.

EXPECTED ANNUAL BENEFIT (demand reduction or supply augmentation, in acre-feet per year):

Unknown at this time, however each location could potentially add 50 to 1,000+ acre-feet/year/location, depending on site & practices.

AGENCY(s):

Primary/Lead: Galt Irrigation District, City of Galt, CDFW,RWQCB, DWR (will depend on the actual project)

Supporting: _____

LOCATION: ■ Check here if Basin-wide

Township / Range: _____

Coordinates (Latitude / Longitude): _____

Description: Within Galt Irrigation District boundaries and City of Galt property west of Hwy 99

AFFECTED SUSTAINABILITY INDICATOR (check all that apply):

■ Chronic Lowering of Groundwater Levels
■ Reduction of Groundwater Storage
■ Seawater Intrusion
■ Degraded Water Quality
■ Land Subsidence
■ Depletions of Interconnected Surface Water

TYPE (check all that apply):

□ Water Supply Augmentation
- ■ Surface Water
- ■ Groundwater (Recharge)
- □ Recycled Water
- ■ Transfer
- ■ Stormwater
- □ Other

Source of Outside Water (if applicable): Possibly Bureau of Reclamation, SMUD, Folsom-South Canal, American River

□ Water Demand Reduction
- ■ Conservation
- ■ Land / Water Use Changes

□ Infrastructure / Capital Project
□ Policy Project
□ Data Gap Filling / Monitoring
■ Water Quality Improvement
□ Other: _____

[1] *Please continue to next page or attach additional pages to this form as necessary*

COSTS & FUNDING SOURCE(s):

Capital / Up-front ($): est of $10,000-$15,000 per site

Source(s): Grants & cost share monies

O&M / On-going ($ per year): Unknown at this time

Source(s): Grants & cost share monies

REGULATORY / LEGAL AUTHORITY REQUIREMENTS (describe all that apply):

Permits (name of authority, type of permit): Sacramento County, CDFW, RWQCB, DWR, Environmental health

CEQA: Unknown at this time

Other: _____

SCHEDULE / TIMING:

Implementation Trigger(s): As soon as funds and/or permits are available

Termination Trigger(s): None

Timeframe to Accrue Expected Benefits: Within 24 months or so depending on the winter storm water

ADDITIONAL DETAILS (as necessary)**:**

As the counties and states allow more building of houses and infrastructure to support the growing population, more land that was at one time permeable (allowing winter storm waters to slowly peculate through the soil profile whereby recharging the ground water) is now being restricted by roof tops, concrete, and asphalt. Winter storm water now sheet flows across the non-permiable surfaces into storm drains and drainage ways, This is not condusive to subbing back through the soil profile. We need to enhance the subbing of our surface waters back into the ground.

COSUMNES SUBBASIN
PROJECT / MANAGEMENT ACTION
INFORMATION FORM

P/MA ID:	**BASIN/MANAGEMENT AREA** (if any): Cosumnes Sub-basin / CID

TITLE: Clay Recharge Projects

DESCRIPTION[1]:

Enhance catch ponds throughout the basin to capture winter storm water. Install some sort of dry wells, seepage pits and/or water subbing practices to disturb the clay layer within the soil profile whereby assisting with ground water recharge through the clay layer. Practices will be installed within or along identified water storage ponds and possibly just outside of drainage-ways where water stands during the winter months. During heavy rain events, rain water from surrounding creeks such as Browns Creek, Hadsville Creek, Griffith Creek as well as multiple unnamed tributary drainages all flow into Laguna Creek. During these heavy flow months water can be diverted into some of the surrounding pasture lands where it can be held for recharging the aquifer. Excess winter water can also be siphoned from Folsom South into surrounding fields for ground water recharge if excess water is available.

EXPECTED ANNUAL BENEFIT (demand reduction or supply augmentation, in acre-feet per year):

Unknown at this time, however each location could potentially add 50 to 1,000+ acre-feet/year/location, depending on site & practices.

AGENCY(s):

Primary/Lead: Clay Irrigation District, CDFW, RWQCB, DWR, ACOE, will depend on the actual project

Supporting: Will depend on the actual project & site

LOCATION: ■ Check here if Basin-wide

Township / Range: several sections within the Clay Quad T 5 & 6 N R 7 & 8 E

Coordinates (Latitude / Longitude): _____

Description: Clay Irrigation District Wide

AFFECTED SUSTAINABILITY INDICATOR (check all that apply):

■ Chronic Lowering of Groundwater Levels
■ Reduction of Groundwater Storage
■ Seawater Intrusion
■ Degraded Water Quality
■ Land Subsidence
■ Depletions of Interconnected Surface Water

TYPE (check all that apply):

□ Water Supply Augmentation
- ■ Surface Water
- ■ Groundwater (Recharge)
- □ Recycled Water
- ■ Transfer
- ■ Stormwater
- □ Other

Source of Outside Water (if applicable): Bureau of Reclamation, SMUD, Folsom-South, American River, Where ever, but cant count on it!

□ Water Demand Reduction
- ■ Conservation
- ■ Land / Water Use Changes

□ Infrastructure / Capital Project
□ Policy Project
□ Data Gap Filling / Monitoring
■ Water Quality Improvement
□ Other: _____

[1] *Please continue to next page or attach additional pages to this form as necessary*

COSTS & FUNDING SOURCE(s):

Capital / Up-front ($): estimate of $10,000-$25,000 per site, but really not sure yet? could be way more if special drywells are needed. working on that.

Source(s): Grants & cost share money

O&M / On-going ($ per year): not sure yet

Source(s): Grants & cost share money

REGULATORY / LEGAL AUTHORITY REQUIREMENTS (describe all that apply):

Permits (name of authority, type of permit): Sacramento County, CDFW, RWQCB, DWR, ACOE, Environmental health

CEQA: possibly will depend on project

Other: _____

SCHEDULE / TIMING:

Implementation Trigger(s): as soon as funds and/or permits are available to do anything

_____

Termination Trigger(s): _____

_____

Timeframe to Accrue Expected Benefits: within 12 months or so depending on the winter storm water or other waters if available

ADDITIONAL DETAILS (as necessary)**:**

Rain water can be diverted onto surrounding pasture lands from laguna creek during winter months where it can slowly peculate through the soil profile and recharge the ground water. Excess water from Folsom South or SMUD can be dumped into Laguna Creek. Laguna Creek flows from Clay Irrigation District to Galt Irrigation District where the cone of depression exists within this sunbasin. Laguna Creek appears to have a sandy bottom in most places to allow for ground water recharge.

We need to enhance the subbing of our surface waters back into the ground.

COSUMNES SUBBASIN

PROJECT / MANAGEMENT ACTION

INFORMATION FORM

P/MA ID:	**BASIN/MANAGEMENT AREA** (if any): Amador GSA / Cosumnes Basin

TITLE: Amador County Surface Water Recharge

DESCRIPTION[1]:

To investigate the feasibility of utilizing potentially available surface water from Amador County through existing conveyance systems into areas within the Cosumnes Basin. This PMA could be both a recharge and/or replace pumped water. There needs to be further investigation of the possibility of either a sale or transfer of water which will require many discussion and the development of new agreements with other stakeholders.

EXPECTED ANNUAL BENEFIT (demand reduction or supply augmentation, in acre-feet per year):

Possibly up to 5,000 acre feet depending on available water.

AGENCY(s):

Primary/Lead: Amador County Groundwater Management Authority (ACGMA)

Supporting: Amador County GSA and the Cosumnes SGMA Basin

LOCATION: ■ Check here if Basin-wide

Township / Range: _____

Coordinates (Latitude / Longitude): _____

Description: _____

AFFECTED SUSTAINABILITY INDICATOR (check all that apply):

□ Chronic Lowering of Groundwater Levels
■ Reduction of Groundwater Storage
□ Seawater Intrusion
■ Degraded Water Quality
■ Land Subsidence
■ Depletions of Interconnected Surface Water

TYPE (check all that apply):

■ Water Supply Augmentation

■ Surface Water ■ Groundwater (Recharge) □ Recycled Water

□ Transfer □ Stormwater □ Other

Source of Outside Water (if applicable): Amador Water Agency (AWA)

□ Water Demand Reduction

□ Conservation □ Land / Water Use Changes

□ Infrastructure / Capital Project □ Policy Project

□ Data Gap Filling / Monitoring □ Water Quality Improvement

□ Other: _____

[1] *Please continue to next page or attach additional pages to this form as necessary*

COSTS & FUNDING SOURCE(s):

Capital / Up-front ($): Unknown at this time

Source(s): Unknown

O&M / On-going ($ per year): Unknown at this time

Source(s): Unknown

REGULATORY / LEGAL AUTHORITY REQUIREMENTS (describe all that apply):

Permits (name of authority, type of permit): Unknown at this time

CEQA: Possible

Other: _____

SCHEDULE / TIMING:

Implementation Trigger(s): Start in 2022

_____

Termination Trigger(s): _____

_____

Timeframe to Accrue Expected Benefits: Could be up to two years before knowing if beneficial

ADDITIONAL DETAILS (as necessary)**:**