STATE OF HAWAIʻI | KA MOKUʻĀINA ʻO HAWAIʻI
DEPARTMENT OF LAND AND NATURAL RESOURCES | KA ʻOIHANA KUMUWAIWAI ʻĀINA
COMMISSION ON WATER RESOURCE MANAGEMENT | KE KAHUWAI PONO
P.O. BOX 621
HONOLULU, HAWAII 96809

STAFF SUBMITTAL

for the meeting of the
COMMISSION ON WATER RESOURCE MANAGEMENT

July 26, 2023
Honolulu, Hawaiʻi

Request to Authorize the Chairperson to
Enter into a Joint Funding Agreement with U.S. Geological Survey
To Collect and Enter Site-Specific Water Use Information for Hawaiʻi, Statewide; and

Declare that Project is Exempt from Environmental Assessment Requirements under
Hawaii Revised Statutes Chapter 343, and Hawaii Administrative Rules Chapter 11-200.1

SUMMARY OF REQUEST:

Staff requests that the Commission on Water Resource Management (Commission) authorize the Chairperson to enter into a Joint Funding Agreement (JFA) with the U.S. Geological Survey (USGS) to collect and enter site-specific water use information for the State of Hawaiʻi. This JFA will be funded solely by the USGS with no cost to the Commission.

BACKGROUND:

Historically and in collaboration with the Commission on Water Resource Management, the USGS' Pacific Islands Water Science Center compiled county level water-use information every five years as part of a larger effort by the USGS National Water-Use Science Project. County-level water-use data will no longer be compiled by Water Science Centers every five years.

Instead, Water Science Centers are now being directed to collect site-specific or system-specific water-use data and metadata from State partners annually for the years 2000-2020. The water-use data that the Water Science Centers enter into the USGS Site-Specific Water-Use Data System will then be used to develop nationally consistent models to provide estimates and forecasts of water use with uncertainty estimates at finer temporal and spatial scales. The public supply, irrigation, and thermoelectric water use categories make up 90 percent of all water use nationally and irrigation is the largest category of freshwater use in Hawaiʻi. For Hawaiʻi, there

are currently only 592 water use sites in the USGS National Water Information System database and 259 water quantity records for public supply for the year 2010, one category of water-use data for one year. Water use data are available from the Commission on Water Resource Management, other state agencies, and county water departments, but the data format, quality, time period, method of data collection, and units are inconsistent. The effort to gather and enter these furnished data into the USGS Site-Specific Water-Use Data System therefore is difficult and time consuming. The templates, scripts, or tools created by the Water-Use Data Acquisition, Coordination, and Storage Project will be used to aide site-specific water-use data entry into the USGS Site-Specific Water- Use Data System for the state of Hawai‘i.

ALIGNMENT WITH PRIORITIES

This study aligns with the USGS Director's priority to produce science to inform land, water, and species management, including improving the spatial and temporal scale at which we report water-use data, and develop new water-use-estimation models for public supply, thermoelectric, and irrigation withdrawal as directed by the SECURE Water Act[1]. This study is consistent with the mission of the USGS Science Strategy (U.S. Geological Survey, 2007) and its broader theme of developing a Water Census of the United States to provide the public and decision makers with information on freshwater resources. This study addresses three of the five science directions of the Water Census by collecting and entering site-specific water-use information for Hawai‘i for as many years between 2000-2020 as possible: (1) the status of freshwater resources and how they are changing, (2) a more precise determination of water use for meeting future human, environmental, and wildlife needs, and (3) how freshwater availability is related to natural storage and movement of water as well as engineered systems, water use, and related transfer.

Furthermore, this study is in alignment with Goals 1 and 3 of the Commission's Water Resource Protection Plan to have a solid and up-to-date foundation of data on Hawai‘i water resources, water use, and water dynamics that is used to make water resource management decisions; and establishing partnerships, education, and awareness to increase collaborative water resource management among government, private, and community entities and the citizens of Hawai‘i.

The USGS Water Mission Area priorities of (1) improving integrated science planning for water; (2) advancing ecological flow science; and (3) delivering water data and analyses to

[1] The Omnibus Public Land Management Act of 2009 (Public Law 111-11) Subtitle F – SECURE Water was passed into law on March 30, 2009. Also known as the SECURE Water Act, the statute establishes that Congress finds that adequate and safe supplies of water are fundamental to the health, economy, security, and ecology of the United States although global climate change poses a significant challenge to the protection of these resources. Congress also finds that data, research, and development will help ensure future water supplies and that, although States bear the primary responsibility and authority for managing the water resources of the United States, the Federal Government should support the States, as well as regional, local, and tribal governments in this endeavor. With a focus on Reclamation's role as a Federal agency conducting water management and related activities, Reclamation is assessing risks to the water resources of the Western United States and developing strategies to mitigate risks to help ensure that the long-term water resources management of the United States is sustainable. The first SECURE Water Act Report, submitted to Congress in 2011 is available on the Reclamation website: https://www.usbr.gov/climate/secure/docs/SECUREWaterReport.pdf

the Nation (Evenson and others, 2013) are also addressed in this study. This study also attains the USGS Water Mission Area goals of: 1) advancing our understanding of processes that determine water availability; 2) predicting changes in the quantity and quality of water resources in response to changing climate, population, land use, and management scenarios; and 3) delivering timely hydrologic data, analyses, and decision-support tools seamlessly across the Nation to support water-resource decisions.

SCOPE OF SERVICES AND FUNDING

As much site-specific or system-specific water use data with the associated metadata will be populated into SWUDS for the top three water use categories of public supply, irrigation, and thermoelectric for the years 2000-2020. The data from 2020 will be prioritized, but the goal will be to populate SWUDS with data from 2000-2020. If time permits, data and metadata for the other five categories of water use (industrial, mining, livestock, aquaculture, and self-supplied domestic) will be entered for the same time period.

This proposed study is estimated to cost $161,000 and require 3 years to complete. The source of funds will be USGS Water Use Research Cooperative Matching Funds, which requires a local partner to be used. The Commission is the local partner, but will not be providing any funding support for the work. A cost breakdown is provided in Table 1.

Table 1. Project budget for the study by federal fiscal year.

Category	FY 2023	FY 2024	FY 2025	Total
Labor	$42,048	$42,783	$10,695	$95,526
Science support	$8,410	$8,557	$2,139	$19,105
Total net funds	$50,457	$51,339	$12,834	$114,631
DOTSC	$21,042	$20,060	$5,387	$46,489
FSSC	--	--	--	--
BOTSC	--	--	--	--
Total gross funds	$71,500	$71,400	$18,221	$161,121

ENVIRONMENTAL REVIEW (CHAPTER 343)

Under Hawaii Revised Statutes (HRS) §343-5(a), an EA shall be required for actions, as summarized in part below, that propose:

(1) use of state land or county lands, or the use of state or county funds;
(2) use within any land classified as a conservation district;
(3) use within a shoreline area;
(4) use within any historic site as designated in the National Register or Hawaii Register;
(5) use within the Waikiki area of O‘ahu;
(6) any amendments to existing county general plans where the amendment would result in designations other than agriculture, conservation, or preservation;
(7) any reclassification of any land classified as a conservation district;

(8) construction of new or the expansion or modification of existing helicopter facilities within the State, that may affect: (A) any land classified as a conservation district; (B) a shoreline area; or (C) any historic site as designated in the National Register or Hawai‘i Register;
(9) any (A) wastewater treatment unit, except an individual wastewater system or a wastewater treatment unit serving fewer than fifty single-family dwellings or the equivalent; (B) Waste-to-energy facility; (C) Landfill; (D) Oil refinery; or (E) Power-generating facility.

Hawaii Revised Statutes (HRS) Chapter 343 is triggered due to the use of State funds. However, Chapter 343 does not apply because this is a data collection and research study.

Hawaii Administrative Rule §11-200.1-16(a) provides that "*each agency, through time and experience, may develop its own exemption list consistent with both the letter and intent expressed in this subchapter and in chapter 343, HRS, of: (1), Routine activities and ordinary functions within the jurisdiction or expertise of the agency that by their nature do not have the potential to individually or cumulatively adversely affect the environment more than negligibly and that the agency considers to not rise to the level of requiring chapter 343, HRS, environmental review*."

The Commission's Comprehensive Exemption List, concurred with by the Environmental Council on January 5, 2021, provides for Exemption Type 5, "*Basic data collection, research, experimental management, and resource and infrastructure testing and evaluation activities that do not result in a serious or major disturbance to an environmental resource*;" Part 1, "*Conduct surveys or collect data on existing environmental conditions (e.g., water flow, water quality, hydrologic conditions, geologic conditions, rainfall amounts, etc.).*"

RECOMMENDATION

Staff recommends that the Commission:

1. Authorize the Chairperson to enter into a Joint Funding Agreement between the Commission on Water Resource Management and the U.S. Geological Survey to collect and enter site-specific water use information for the State of Hawai‘i. This JFA will be funded solely by the USGS with no cost to the Commission.

2. Authorize the Chairperson to make such further amendments or modifications of the contract agreement (consistent with the terms set forth above) as may be necessary to accomplish the goals described here, provided that any amendment or modification does not require additional Commission funding.

3. Declare that the project is exempt from EA requirements under HRS Chapter 343 and HAR Chapter 11-200.1

The terms of this agreement may be subject to the availability of funding and the approval of the Chairperson and the Department's Deputy Attorney General. Contract execution would be done in accordance with Chapter 103D, HRS, and Chapter 3-122, Hawaii Administrative Rules.

Ola i ka wai,

M. KALEO MANUEL
Deputy Director

Exhibits
1. U.S. Geological Survey, Pacific Islands Water Science Center, Proposal, June 2023.

APPROVED FOR SUBMITTAL:

DAWN N.S. CHANG
Chairperson

United States Department of the Interior
U.S. Geological Survey
Pacific Islands Water Science Center
Inouye Regional Center
1845 Wasp Blvd., Bldg 176
Phone: (808) 690-9600 Fax: (808) 690-9599

June 2, 2023

Mr. Kaleo L. Manuel, Deputy Director
State of Hawaii
Department of Land and Natural Resources
Commission on Water Resource Management
PO Box 621
Honolulu, Hawaii 96809

Attn: Katie Roth

Dear Mr. Manuel:

Subject: Joint Funding Agreement for a cooperative study to obtain and enter site-specific water-use data into SWUDS for the state of Hawaii for the public supply, irrigation, and thermoelectric water use categories during the period October 1, 2022 to December 31, 2024

Enclosed is a Joint Funding Agreement (JFA) between the State of Hawaii, Commission on Water Resource Management (CWRM) and the U.S. Geological Survey (USGS) for a cooperative study to obtain and enter site-specific water-use data into SWUDS for the state of Hawaii for the public supply, irrigation, and thermoelectric water use categories during the period October 1, 2022 to December 31, 2024. The total cost of the agreement is $161,121, which will be shared by CWRM ($0) and USGS ($161,121).

Federal law requires that we have a signed agreement before we can start or continue work. Please return the signed agreement by July 1, 2023. The scope of work for this study is attached to the enclosed Joint Funding agreement. If you wish to initiate this study, please sign and return a full copy to gs-w-hi-piwsc_agreements@usgs.gov.

During the course of this jointly planned study, USGS may provide unpublished USGS data or information to your agency for review. In accepting the unpublished data or information, your agency agrees to be bound by the USGS non-disclosure policy for unpublished USGS work products. Guidance concerning USGS's non-disclosure policy is explained in USGS Fundamental Science Practices (http://www.usgs.gov/fsp/policies).

If you have any questions, or would like more information about this study, please feel free to contact Stephen Zahniser at (808) 636-6738 or by email at szahniser@usgs.gov. Thank you for your continued interest in working with the USGS to provide water resource information for the State of Hawaii.

Sincerely,

John P. Hoffmann

John P. Hoffmann
Center Director

Enclosure
23ZHJFA00000084
Proposal

EXHIBIT 1

Form 9-1366
(May 2018)

U.S. Department of the Interior
U.S. Geological Survey
Joint Funding Agreement
FOR
Water Resource Investigations

Customer #: 6000001189
Agreement #: 23ZHJFA00000084
Project #: ZH00GSN
TIN #: 99-0266119

Fixed Cost Agreement YES[X] NO[ ]

THIS AGREEMENT is entered into as of the October 1, 2022, by the U.S. GEOLOGICAL SURVEY, Pacific Islands Water Science Center, UNITED STATES DEPARTMENT OF THE INTERIOR, party of the first part, and the State of Hawaii Commission on Water Resource Management party of the second part.

1. The parties hereto agree that subject to the availability of appropriations and in accordance with their respective authorities there shall be maintained in cooperation Water Resource Investigations (per attachment), herein called the program. The USGS legal authority is 43 USC 36C; 43 USC 50, and 43 USC 50b.

2. The following amounts shall be contributed to cover all of the cost of the necessary field and analytical work directly related to this program. 2(b) include In-Kind-Services in the amount of $0.00

(a) $161,121 by the party of the first part during the period October 1, 2022 to December 31, 2024

(b) $0 by the party of the second part during the period October 1, 2022 to December 31, 2024

(c) Contributions are provided by the party of the first part through other USGS regional or national programs, in the amount of: $0

Description of the USGS regional/national program:

(d) Additional or reduced amounts by each party during the above period or succeeding periods as may be determined by mutual agreement and set forth in an exchange of letters between the parties.

(e) The performance period may be changed by mutual agreement and set forth in an exchange of letters between the parties.

3. The costs of this program may be paid by either party in conformity with the laws and regulations respectively governing each party.

4. The field and analytical work pertaining to this program shall be under the direction of or subject to periodic review by an authorized representative of the party of the first part.

5. The areas to be included in the program shall be determined by mutual agreement between the parties hereto or their authorized representatives. The methods employed in the field and office shall be those adopted by the party of the first part to insure the required standards of accuracy subject to modification by mutual agreement.

6. During the course of this program, all field and analytical work of either party pertaining to this program shall be open to the inspection of the other party, and if the work is not being carried on in a mutually satisfactory manner, either party may terminate this agreement upon 60 days written notice to the other party.

7. The original records resulting from this program will be deposited in the office of origin of those records. Upon request, copies of the original records will be provided to the office of the other party.

8. The maps, records or reports resulting from this program shall be made available to the public as promptly as possible. The maps, records or reports normally will be published by the party of the first part. However, the party of the second part reserves the right to publish the results of this program, and if already published by the party of the first part shall, upon request, be furnished by the party of the first part, at cost, impressions suitable for purposes of reproduction similar to that for which the original copy was prepared. The maps, records or reports published by either party shall contain a statement of the cooperative relations between the parties. The Parties acknowledge that scientific information and data developed as a result of the Scope of Work (SOW) are subject to applicable USGS review, approval, and release requirements, which are available on the USGS Fundamental Science Practices website (https://www2.usgs.gov/fsp/).

Form 9-1366
(May 2018)

U.S. Department of the Interior
U.S. Geological Survey
Joint Funding Agreement
FOR
Water Resource Investigations

Customer #: 6000001189
Agreement #: 23ZHJFA00000084
Project #: ZH00GSN
TIN #: 99-0266119

9. Billing for this agreement will be rendered **quarterly**. Invoices not paid within 60 days from the billing date will bear Interest, Penalties, and Administrative cost at the annual rate pursuant the Debt Collection Act of 1982, (codified at 31 U.S.C. § 3717) established by the U.S. Treasury.

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Email: katie.c.roth@hawaii.gov

U.S. Geological Survey
United States
Department of Interior

Signature

By JOHN HOFFMANN Digitally signed by JOHN HOFFMANN Date: 2023.06.05 10:53:18 -10'00' **Date:** _____
Name: John P. Hoffmann
Title: Center Director

State of Hawaii
Commission on Water Resource Management

Signatures

By_____ **Date:** _____
Name:
Title:

By_____ **Date:** _____
Name:
Title:

By_____ **Date:** _____
Name:
Title:

Collection and entry of site-specific water-use information for Hawai‘i

U.S. Geological Survey
Pacific Islands Water Science Center
Proposal, January 2023

SUMMARY

Historically and in collaboration with the Commission on Water Resource Management, the USGS Pacific Islands Water Science Center compiled county level water-use information every 5 years as part of a larger effort by the USGS National Water-Use Science Project. County-level water-use data will no longer be compiled by Water Science Centers every 5 years. Instead, Water Science Centers are now being directed to collect site-specific or system-specific water-use data and metadata from State partners annually for the years 2000-2020. The water-use data Water Science Centers enter into the USGS Site-Specific Water-Use Data System will then be used to develop nationally consistent models to provide estimates and forecasts of water use with uncertainty estimates at finer temporal and spatial scales. The public supply, irrigation, and thermoelectric water use categories make up 90 percent of all water use nationally and irrigation is the largest category of freshwater use in Hawai‘i. For Hawai‘i, there are currently only 592 water use sites in the USGS National Water Information System database and 259 water quantity records for public supply for the year 2010, one category of water-use data for one year. Water-use data are available from the Commission on Water Resource Management, other state agencies, and county water departments, but the data format, quality, time period, method of data collection, and units are inconsistent. The effort to gather and enter these furnished data into the USGS Site-Specific Water-Use Data System therefore is difficult and time consuming. The templates, scripts, or tools created by the Water-Use Data Acquisition, Coordination, and Storage Project will be used to aide site-specific water-use data entry into the USGS Site-Specific Water-Use Data System for the state of Hawai‘i.

The objective of this study is to acquire and enter site-specific water-use data into USGS Site-Specific Water-Use Data System for the state of Hawai‘i for the public supply, irrigation, and thermoelectric water use categories for the years 2000-2020. This study will improve access to water-use data for local, regional, and national USGS projects that need water use data. The data and metadata collected will support regional and national model development by using the data to train, validate, and verify the models developed.

This proposed 2-year study is estimated to cost $161,000 and use USGS Water Use Research Cooperative Matching Funds. As much site-specific or system-specific water use data with the associated metadata will be populated into the USGS Site-Specific Water-Use Data System for the top three water-use categories of public supply, irrigation, and thermoelectric for the years 2000-2020. The data from 2020 will be prioritized, but the goal will be to populate the USGS Site-Specific Water-Use Data System with data from 2000-2020. If time permits, data and metadata for the other five categories of water use (industrial, mining, livestock, aquaculture, and self-supplied domestic) will be entered for the same time period.

INTRODUCTION

Since 1950 the U.S. Geological Survey (USGS) has estimated water use at the county level in the United States every 5 years. As a component of the National Water Census, the USGS Pacific Islands Water Science Center (PIWSC) compiled water-use information in collaboration with the Commission on Water Resource Management (CWRM) as part of a larger effort by the USGS National Water-Use Science Project (NWUSP). As part of the NWUSP, estimates of water withdrawals for *public supply, self-supplied domestic, industrial, irrigation, thermoelectric power, livestock, aquaculture, and mining* were prepared for each county in each state as well as fresh groundwater and surface-water estimates for all categories of use (Bradley, 2017). Aggregate water use data will no longer be compiled by Water Science Centers (WSCs) at the county level every 5 years. Instead, WSCs are now being directed to collect site-specific or system-specific water-use data and metadata from State partners annually for the years 2000-2020. The Site-Specific Water-Use Data System (SWUDS) stores measurements and estimates of water use by individual user (site-specific) and aggregate user or user-defined geographical area (system-specific). Water-use data entered into SWUDS will then be used to develop nationally consistent models to provide estimates and forecasts of water use with uncertainty estimates at finer temporal and spatial scales. Results of the national models will be released more frequently as well as published, starting in 2024 for the continental United States (models will be expanded to include Alaska, Hawai‘i, Puerto Rico and the U.S. Virgin Islands during the next phase of model development), in a 5-year National Water Availability Assessment report which will include trends for water budget components and estimates for the public supply, irrigation, and thermoelectric water use categories. Public supply, irrigation, and thermoelectric water use categories make up 90 percent of all water use nationally and irrigation is the largest category of freshwater use in Hawai‘i (Dieter and others, 2018).

In fiscal year 2022, the USGS completed a national 1-year study called the Water-Use Data Acquisition, Coordination, and Storage (WUDACS) Project with the main objectives of the project to “enter site-specific water-use data into SWUDS, improve access to water-use data for local, regional, and national USGS projects that need water use data, and reduce time required to acquire and process water use data from non-USGS sources.” However, in fiscal year 2022, PIWSC used USGS Water Use Research Cooperative Matching Funds available to WSCs for a study on irrigation water use and therefore did not participate in the WUDACS project directly.

PIWSC staff attended as many WUDACS project meetings as possible and stayed in contact with project managers but did not enter any site-specific water use data into SWUDS as a part of the project. For Hawai‘i, there are currently only 592 water use sites in the USGS National Water Information System (NWIS) database and 259 water quantity records for public supply for the year 2010, one category of water-use data for one year (U.S. Geological Survey, 2022).

With the passing of the SECURE Water Act, Section 9508 (c), USGS established the Water Use Data and Research Program (WUDR). WUDR provides financial assistance through cooperative agreements (grants) to State water resource agencies to improve the availability, quality, compatibility, and delivery of water-use data that are collected and/or estimated by States (Evenson and others, 2018). Hawai‘i’s representative State agency, CWRM, has submitted a draft workplan for a grant, but has not yet taken advantage of available WUDR funding. Until CWRM obtaines a WUDR grant used to fund a project that will improve water-use data discovery, collection, transfer, and quality assurance/quality control the PIWCS will need to enter the traditionally acquired water-use information into SWUDS using the tools developed by the WUDACS project.

PROBLEM

Water use data in Hawai‘i are available from CWRM, other state agencies, and county water departments, but the data format, quality, time period, method of data collection, and units are inconsistent. The effort to gather and enter these furnished data into SWUDS therefore is difficult and time consuming.

OBJECTIVES AND SCOPE

The objective of this study is to obtain and enter site-specific water-use data into SWUDS for the state of Hawai‘i for the public supply, irrigation, and thermoelectric water use categories for the years 2000-2020. This study will improve access to water-use data for local, regional, and national USGS projects that need water use data. The data and metadata collected will support regional and national model development by using the data to train, validate, and verify the models developed.

RELEVANCE AND BENEFITS

This study aligns with the USGS Director’s priority to produce science to inform land, water, and species management, including improving the spatial and temporal scale at which we

report water-use data, and develop new water-use-estimation models for public supply, thermoelectric, and irrigation withdrawal as directed by the SECURE Water Act. This study is consistent with the mission of the USGS Science Strategy (U.S. Geological Survey, 2007) and its broader theme of developing a Water Census of the United States to provide the public and decision makers with information on freshwater resources. This study addresses three of the five science directions of the Water Census by collecting and entering site-specific water-use information for Hawai‘i for 2000-2020: (1) the status of freshwater resources and how they are changing, (2) a more precise determination of water use for meeting future human, environmental, and wildlife needs, and (3) how freshwater availability is related to natural storage and movement of water as well as engineered systems, water use, and related transfer (U.S. Geological Survey, 2007).

The USGS Water Mission Area priorities of (1) improving integrated science planning for water; (2) advancing ecological flow science; and (3) delivering water data and analyses to the Nation (Evenson and others, 2013) are also addressed in this study. This study also attains the USGS Water Mission Area goals of (1) advancing our understanding of processes that determine water availability; (2) predicting changes in the quantity and quality of water resources in response to changing climate, population, land use, and management scenarios; and (3) delivering timely hydrologic data, analyses, and decision-support tools seamlessly across the Nation to support water-resource decisions (Evenson and others, 2013).

APPROACH

CWRM, other state agencies, and county water departments will be contacted to request any water-use data and metadata from 2000-2020 for all categories of use at the finest temporal and spatial scale available. Public supply, irrigation, and thermoelectric water-use data from 2020 will be prioritized first for entry into SWUDS and then data going back to the year 2000 will be entered for these top three categories of use. If time permits, data and metadata for the other five categories of water use (industrial, mining, livestock, aquaculture, and self-supplied domestic) will be entered for the same time period.

If necessary, crosswalk tables will be created for any datasets acquired so that the furnished water-use data can be loaded into the templates with the help of scripts or tools created by the WUDACS Project. The templates and recordings of how to use them and the tools can be found on the WUDACS project SharePoint site: Water Use Data Acquisition, Coordination, and Storage Project (WUDACS) (sharepoint.com). The metadata will also be created using tools

created by the WUDACS project and the original furnished records will be archived locally. Once the data has been transformed or has been loaded into SWUDS, it will be reviewed with the existing WU Review R program and appropriate tools created by the WUDACS project.

QUALITY ASSURANCE/QUALITY CONTROL

All furnished water-use data will be reviewed and entered with the WU Review (USGS R code), MS Excel, and tools or templates that were developed as part of the WUDACS Project. Existing data in SWUDS will be reviewed to identify potential outliers and erroneously reported data and if necessary, the existing records in SWUDS will be updated. Accuracy Code, Data Aging Code, Preferred Flag, and Water Quantity Comment fields in SWUDS will be used to indicate poor quality data.

PRODUCTS

As much site-specific or system-specific water use data with the associated metadata will be populated into SWUDS for the top three water use categories of public supply, irrigation, and thermoelectric for the years 2000-2020. The data from 2020 will be prioritized, but the goal will be to populate SWUDS with data from 2000-2020. If time permits, data and metadata for the other five categories of water use (industrial, mining, livestock, aquaculture, and self-supplied domestic) will be entered for the same time period.

TIMELINE

The major tasks and associated period of activity for this study are provided in Table 1.

Table 1. Project tasks and timeline for the study.

	2023			2024				2025
Task	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**
Project management	X	X	X	X	X	X	X	X
Obtain and process datasets	X	X	X					
Enter into SWUDS			X	X	X	X	X	
QA/QC					X	X	X	X

PERSONNEL

This study will require the equivalent of a GS12 hydrologist for about 20 percent of full time for the remainder of fiscal year 2023 through the first quarter of fiscal year 2025 for project

management, to obtain and process datasets, enter the data into SWUDS, and quality assure and control the data. A GS9 hydrologist will be required for about 15 percent of full time in fiscal year 2023 through the first quarter of fiscal year 2025 to obtain and process datasets, enter the data into SWUDS, and quality assure and control the data. Required personnel are currently available in the USGS PIWSC.

BUDGET

This proposed study is estimated to cost $161,000 and require parts of 3 years to complete. The source of funds will be USGS Water Use Research Cooperative Matching Funds.. A cost breakdown is provided in Table 2.

Table 2. Project budget for the study.

Category	FY 2023	FY 2024	FY 2025	Total
Labor	$42,048	$42,783	$10,695	$95,526
Science support	$8,410	$8,557	$2,139	$19,105
Total net funds	$50,457	$51,339	$12,834	$114,631
DOTSC	$21,042	$20,060	$5,387	$46,489
FSSC	--	--	--	--
BOTSC	--	--	--	--
Total gross funds	$71,500	$71,400	$18,221	$161,121

REFERENCES

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