STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT
P.O. BOX 621
HONOLULU, HAWAII 96809

STAFF SUBMITTAL

COMMISSION ON WATER RESOURCE MANAGEMENT

August 20, 2014
Honolulu, Hawaii

Request to Enter into a Joint Funding Agreement with U.S. Geological Survey
For Statewide Hydrologic Data Collection and
Water Resource Monitoring for Federal Fiscal Year (FFY) 2015

SUMMARY OF REQUEST

Staff recommends that the Commission on Water Resource Management ("Commission") enter into a Joint Funding Agreement ("Agreement") with the U.S. Geological Survey (USGS) for the inventory and investigation of Hawaii's water resources.

BACKGROUND

The cooperative monitoring of Hawaii's hydrologic resources began in 1909 when the USGS entered into an Agreement with the Territory of Hawaii. Initially, monitoring focused mainly on surface water. Only 12 streams were gaged continuously. By 1914 there were 87 continuous-record stations. The program continued to grow. It reached a peak in 1966 with 197 operational gages. Over the years, gages were discontinued for a variety of reasons. There was a shift in fiscal priorities, new economic realities, completed data acquisition objectives, and reduced partnership engagement in monitoring and data collection.

In 1972, groundwater data collection became an integral part of the Agreement. Baseline data throughout the State covered 170 observation wells. But like surface water gages, observation well data recording steadily declined over the years. Only 14 well sites now remain to provide continuity of data in FFY 2015.

Beginning in 1998, the Commission streamlined the cooperative agreement by transferring the crest-stage stream-gaging program to civil defense agencies where this data (e.g. flooding issues) are more relevant to disaster response than sustainability issues, and by eliminating duplicate groundwater data collection efforts in wells. Groundwater data gathering changed and expanded to incorporate data from water system purveyors and well owners, who are required by law and rule to report their water-use and groundwater and chloride levels.

Through a Partnership with the Division of Forestry and Wildlife (DOFAW) and its Watershed Management Grant Program (WMGP) gaging stations on watershed partnership lands increased. However, due to challenging economic times, WMGP withdrew its support for gaging operations in watershed management areas. WMGP disengaged the watershed partnerships from Commission and USGS efforts in monitoring the water resources in watershed areas.

However, to support the recent DOFAW *Rain Follows the Forest* initiative, the Commission will fund a continuous-record streamflow gage on the Moanalua Stream in the recently acquired Moanalua Valley State Forest Reserve. The data gathered from this gage will help DOFAW evaluate the impact of their watershed restoration efforts.

The Waiahole Trust Fund continues to defray the cost of monitoring the Waiahole Ditch system and its sources. At the request of DLNR Division of Forestry and Wildlife, the South Fork Kaukonahua Stream gage on the island of Oahu has been added to assess the effectiveness of watershed restoration efforts.

At USGS's request, the Mt. Waialeale rain gage was added on Kauai. The cost will be offset by partial funding from the USGS National Streamflow Information Program for the West Wailuaiki Stream gage on the island of Maui.

The cost of operating and maintaining each type of rainfall and groundwater monitoring station is now standardized while the total program costs for these stations compared to Federal Fiscal Year 2014 has not increased. The cost to operate and maintain each streamflow monitoring station is about $20,090. It is unchanged from Federal Fiscal Year 2014.

Exhibit 1 summarizes changes to the program, including the operational cost, since FFY 2007.

Exhibit 2 shows the change in the total number of monitoring stations since the beginning.

The cooperative monitoring of Hawaii's hydrologic resources is part of the Commission's mandate to "maintain an inventory of all water uses and water resources." Haw. Rev. Stat. §174C-5(14). The program also helps the Commission assess how climate variability affects water resources, changing land use, and increasing water demands. Maintaining a long-term hydrologic monitoring program with the USGS is an essential component of the Commission's mission to manage Hawaii's water resources.

CURRENT AGREEMENT

Although the nature of the Agreement and relationship of the parties remains the same as FFY 2014, the total number of stream gaging stations has increased from 25 to 26.

Exhibit 3 outlines the proposed scope of services. The Agreement covers FFY 2014 (October 1, 2014 to September 30, 2015).

Exhibit 4 lists the stations to be funded in the FFY 2015 Agreement. The total cost of the Agreement will not exceed $717,381. The Commission's share will not exceed $444,700.

Under the FFY 2015 Agreement, the USGS will collect basic hydrologic data and provide data summary reports on water resources throughout the State of Hawaii.

The table below summarizes the annual changes in funding requirements for this Agreement.

COST	FFY2013	FFY2014	FFY2015
Total Joint Funding Requirement	$699,760	$702,650	$717,381
Expected (full-year) CWRM cost-share not to exceed	$417,650	$433,218	$444,700
Percentage CWRM cost-share	59%	62%	62%
DOFAW Watershed Management Grant	$0	$0	$0
Waiahole Ditch Monitoring Fund	$39,850	$41,650	$41,650
Ground water well continuous monitoring	$6,090	$7,230	$7,015
Rain gage continuous recording	$9,670	$9,670	$9,370
Continuous recording stream gage	$20,150	$20,090	$20,900

OTHER

I. Chapter 343 – Environmental Assessment (EA) Compliance

Environmental Assessment ("EA") Triggers
Under Haw. Rev. Stat. §343-5(a), the use of state funds triggers the need for an EA.

EA Exemption
The proposed action is exempt from the requirement to prepare an EA based on HAR §11-200-8(a), basic data collection, research, experimental management and resource evaluation activities which do not result in a serious or major disturbance to an environmental resource.

RECOMMENDATIONS

Staff recommends that the Commission:

1) Authorize the Chairperson to enter into a Joint Funding Agreement with the U.S. Geological Survey for FFY 2015 to undertake the specified monitoring activities; and

2) Delegate authority to the Chairperson to modify the list of monitoring stations to delete stations from the Agreement if other cooperators can be found.

The terms of this Agreement are subject to the approval of the Attorney General's Office. Contract execution will be done in accordance with Haw. Rev. Stat. Chapter 103D and Hawaii Administrative Rules, Chapter 3-122,

Respectively,

WILLIAM M. TAM
Deputy Director

Exhibits:
1. Summary of Changes to the Cooperative Program: 2007-2015
2. Proposed Scope of Services
3. USGS Joint Funding Agreement for FFY 2015

APPROVED FOR SUBMITTAL:

WILLIAM J. AILA, JR.
Chairperson

EXHIBIT 1

SUMMARY OF CHANGES TO THE COOPERATIVE PROGRAM: 2006 to 2015

Federal Fiscal Year	No. of Stream Gages	No. of Wells Ground Water	No. of Rain Gages	CWRM Contribution $	Changes and Comments
2007	32	31	22	$459,020	1. USGS monitoring costs increased by 31% 2. Addition of $132,000 from the Watershed Management Grant Program 3. Waiahole Trust Fund provided $42,713 for Waiahole gages
2008	32	34	21	$526,600	1. Addition of $118,175 from the Watershed Management Grant Program 2. Waiahole Trust Fund provided $41,040 for Waiahole stations
2009	27	26	18	$504,000	1. Watershed Management Grant Program support was reduced to $48,896 2. Waiahole Trust Fund provided $48,000 for Waiahole stations
2010	25	17	14	$405,500	1. Quarterly implementation of the agreement 2. Watershed Management Grant Program withdraws support 3. Waiahole Trust Fund provided $50,500 for Waiahole stations
2011	28	20	14	$404,900	1. USGS cost share increases to 50% 2. Additional Federal match used to reinstate monitoring stations 3. Waiahole Trust Fund provided $35,495 for Waiahole stations
2012	27	18	14	Not to exceed $487,760	1. CWRM cost share increases to 57% 2. Waiahole Trust Fund to provide $41,850 for Waiahole stations 3. USGS monitoring costs increased by about 10%
2013	28	18	14	$417,650	1. Waiahole Trust Fund to provide $39,850 for Waiahole stations 2. Moanalua Stream station added to support Rain Follows the Forest Initiative
2014	25	14	15	$433,218	1. Waiahole Trust Fund to provide $41,650 for Waiahole stations
2015	26	14	16	$444,700	1. Mt. Waialeale Rain Gage added 2. South Fork Kaukonahua stream gage added 3. Waiahole Trust Fund to provide $41,650 for Waiahole stations

EXHIBIT 2

SCOPE OF SERVICES

1. This Joint Funding Agreement ("Agreement") is a continuation of the joint funding agreement for the collection of hydrological data in the State of Hawaii between the U.S. Geological Survey, United States Department of the Interior and the Commission on Water Resource Management, Department of Land and Natural Resources, State of Hawaii ("Commission").

2. The scope of services involves the collection and computation of data on water resources collected in multiple locations throughout the State of Hawaii.

3. U.S. Geological Survey shall collect data at an agreed upon list of surface water stations, ground water monitoring stations, and rainfall stations, as set forth in Exhibit 4 which is attached hereto and incorporated by reference.

4. U.S. Geological Survey shall provide data summary reports and review of historical data sets.

5. U.S. Geological Survey shall host the maps, data, and reports resulting from this program in a publicly-accessible website, and shall provide the Commission staff direct and easy access to acquire, download, or transfer the data and report from a USGS server. The parties shall use good faith efforts to resolve any disagreements in the scope and validation of data acquisition and the contents of the report.

6. U.S. Geological Survey shall provide a readable statement of cooperative relations and visually identifiable symbol of the Commission as a cooperator in print, digital, and online publications of the data and reports of the monitoring stations that are included in the current cooperative program, and as well as the stations that were historically supported and funded by the Commission.

7. At least quarterly and upon request by the Commission on Water Resource Management, the U.S. Geological Survey will update the Commission on the progress of its work on this Joint Funding Agreement.

8. The Commission on Water Resource Management shall assist the U.S. Geological Survey in its work under the Joint Funding Agreement to the extent feasible and practicable under existing resources of the Commission.

Scope of Investigations

EXHIBIT 3

Monitoring Stations to be operated as part of the cooperative water-resource monitoring program between the State of Hawaii Department of Land and Natural Resources Commission on Water Resource Management and the U.S. Geological Survey during the period October 1, 2014 to September 30, 2015.

[RT, real-time telemetry to make data accessible over the internet through the USGS National Water Information System]

USGS Station No.	Island	USGS Station Name	Station Type	Frequency	CWRM	USGS	Total
215607159344301	Kauai	2-5634-01 Hanapepe Ridge	Groundwater level	Quarterly	2,570	1,045	3,615
212154158015201	Oahu	3-2101-03 Honouliuli	Groundwater level	Quarterly	2,570	1,045	3,615
212738158034301	Oahu	3-2703-02 Kunia Basal Monitor Well	Groundwater level	Quarterly	2,570	1,045	3,615
213438158091101	Oahu	3-3409-16 Mokuleia	Groundwater level	Quarterly	2,570	1,045	3,615
211832157515501	Oahu	3-1851-19 Halekauwila Street, Pipe A	Groundwater level + Chloride	Quarterly	4,410	1,030	5,440
211832157515502	Oahu	3-1851-19 Halekauwila Street, Pipe B	Groundwater level + Chloride	Quarterly	4,410	1,030	5,440
212238157561101	Oahu	3-2256-10 Aiea US Navy, (187-B)	Groundwater level	7 times per year	3,369	821	4,190
210402156495801	Molokai	4-0449-01 Ualapue	Groundwater level	Quarterly	2,570	1,045	3,615
210825157004301	Molokai	4-0800-01 Kualapuu Deep Monitor Well	Salinity profile	2 times per year	2,730	1,280	4,010
205140156304501	Maui	6-5130-01 Waikapu 1	Groundwater level	Quarterly	2,570	1,045	3,615
205405156305401	Maui	6-5430-05 Waiehu Deep Monitor Well	Groundwater level	Continuous	4,825	2,190	7,015
194327156002301	Hawaii	8-4360-01 Kalaoa N Kona (W12-11)	Groundwater level	Continuous	4,825	2,190	7,015
190423155371501	Hawaii	8-0437-01 Waiohinu*	Groundwater level	Quarterly	1,420	350	1,770
200132155471101	Hawaii	8-6147-01 Kawaihae W-3	Groundwater level	Quarterly	2,570	1,045	3,615
220356159281401	Kauai	1051.0 N. Wailua Ditch near Lihue	Rainfall	Continuous - RT	6,270	3,100	9,370
220427159300291	Kauai	1047.0 Mt. Waialeale Rain Gage near Lihue	Rainfall	Continuous – RT	6,270	3,100	9,370
220713159361201	Kauai	1083.0 Mohihi Crossing near Waimea	Rainfall	Continuous - RT	6,270	3,100	9,370
220739159373001	Kauai	1082.0 Waiakoali near Waimea	Rainfall	Continuous - RT	6,270	3,100	9,370
220927159355001	Kauai	1084.0 Kilohana near Hanalei	Rainfall	Continuous - RT	6,270	3,100	9,370
220523159341201	Kauai	1042.0 Waialae near Waimea	Rainfall	Continuous - RT	6,270	3,100	9,370
212359157502601	Oahu	772.3 Moanalua No. 1 at alt. 1,000 ft	Rainfall	Continuous - RT	6,270	3,100	9,370
212855157504501	Oahu	837.0 Waiahole at Kamehameha Hwy.	Rainfall	Continuous - RT	6,270	3,100	9,370
213215157552800	Oahu	883.12 Poamoho No. 1, nr Wahiawa	Rainfall	Continuous - RT	6,270	3,100	9,370
213237157530701	Oahu	886.4 Kahana at alt. 95 ft.	Rainfall	Continuous - RT	6,270	3,100	9,370
213608158011101	Oahu	897.9 Pupukea at alt. 1,160 ft.	Rainfall	Continuous - RT	6,270	3,100	9,370
213732158010201	Oahu	897.11 Kamananui at alt. 720 ft.	Rainfall	Continuous - RT	6,270	3,100	9,370
203721156151601	Maui	255.0 Kepuni Gulch	Rainfall	Continuous - RT	6,070	3,100	9,370
194117155174801	Hawaii	83.0 Quarry at Saddle Road	Rainfall	Continuous - RT	6,270	3,100	9,370
194945155534402	Hawaii	92.5 Kiholo	Rainfall	Continuous - RT	6,270	3,100	9,370
200518155405801	Hawaii	185.7 Kawainui near Kamuela	Rainfall	Continuous - RT	6,270	3,100	9,370