

STATE OF HAWAII
REQUEST FOR SOLE SOURCE

TO: Chief Procurement Officer

STATE PROCUREMENT OFFICE
STATE OF HAWAII

FROM: Land and Natural Resources / Aquatic Resources
(Department/Division/Agency)

Pursuant to §103D-306, HRS, and Subchapter 9, Chapter 3-122, HAR, the Department requests sole source approval to purchase the following:

Description of goods, services, or construction:
The Bernice P. Bishop Museum, Dr. James Parham (PI), will design, develop and test the accuracy of a GIS-based rainfall runoff hydrological model aimed at providing an estimate of discharge quantities in streams with incomplete or non-existent flow records. The model will be calibrated on a group of watersheds and streams with long-term discharge records. The model then will be tested against another group of streams with long-term discharge records to determine the applicability of using the model on streams with short or non-existent discharge records to predict pre-diversion flow conditions. This effort seeks to quantify the accuracy of the model to predict an unknown hydrograph and to determine the most sensitive variables (topography, land cover, soils, etc.) in developing the rainfall-runoff relationship. The model will be built on a GIS platform so that once it can predict known conditions, it will be possible to add or remove water diversions to assess the amount of change in discharge as a result of the diversion. If successful, the rainfall-runoff model will be used together with GIS-based models of native fish habitat and instream distributions to allow pre-diversion conditions to be compared with current conditions.

Name of Vendor: Bernice P. Bishop Museum Address: 1525 Bernice Street Honolulu, Hawaii 96817	Cost: \$90,000
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Term of Contract:	From: May 1, 2005	To: May 30, 2006	Prior Sole Source Reference No.:
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The goods, services, or construction has the following unique features, characteristics, or capabilities:
This GIS-based hydrology (rainfall-runoff) model will be integrated with a GIS-based stream habitat model previously designed and developed by Dr. Parham. It will be used to provide a designation of "ecologically" important flows for the protection and maintenance of native fishes and invertebrates and provide an estimation of the habitat available with respect to discharge under various management scenarios. Dr. Parham has also helped in the design and development of DAR's stream database and the GIS hydrology model will be designed to work with the DAR database to further enhance its usefulness.

REQUEST FOR SOLE SOURCE (Cont.)

How the unique features, characteristics, or capabilities are essential for the agency to accomplish its work:

The Commission on Water and Resources Management is mandated by the Hawaii State Supreme Court (Waiahole Ditch Decision and Order 2000) with developing instream flow standards for State of Hawaii streams. It is also mandated to protect Public Trust water resources for future generations as well as provide for economic and social benefits to the current generation. The Division of Aquatic Resources is tasked with protecting and managing Hawaii's unique aquatic resources for these same purposes. The GIS hydrology model is expected to assist Hawaii State water resource managers (CWRM and DAR) in the areas of instream flow prediction, ecological data integration, and model confidence assessment. Ultimately, the combination of the hydrology and ecology models will allow the development of statewide in stream flow standards that are both ecologically appropriate and socially equitable.

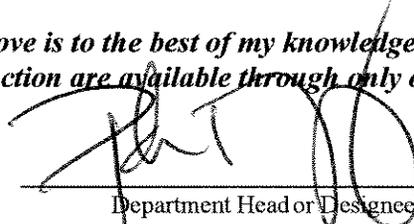
The following other possible sources for the goods, services, or construction were investigated but do not meet our needs because:

Other sources were not investigated as Dr. Parham previously designed and developed the GIS habitat model for CWRM and DAR that will be integrated with the GIS hydrology model in the development of statewide instream flow standards. The scientific community in Hawaii is very small and often works collaboratively; therefore, there are no entities in Hawaii with the required expertise, and knowledge in hydrological and ecological GIS modeling. Dr. Parham has also agreed to have the GIS hydrology model peer reviewed by experts in the fields of GIS models, statistics, and Hawaiian hydrology and ecology, to insure the final product is both useful and accurate for use by the State of Hawaii. No other person other than Dr. Parham is known to have the combination of skills necessary to address all aspects of this important issue.

Direct questions to: Glenn Higashi

Phone: 587-0112

I certify that the information provided above is to the best of my knowledge, true, correct and that the goods, services, or construction are available through only one source.



Department Head or Designee

2/15/2006

Date

Chairperson, Board of Land and Natural Resources
Title (If other than Department Head)

Chief Procurement Officer's comments:

This request does not justify why there is only one source for this purchase. However, if this is a situation where procurement by competitive means is not practicable or advantageous to DLNR due to a vendor's prior work experience, SPO Form 7 and 7A may be submitted for approval.

Please ensure adherence to applicable administrative and statutory requirements.

Expenditure may be processed through a purchase order: Yes No . If no, a contract must be executed and funds certified.

APPROVED

DISAPPROVED

Alan S. Fisher 2/23/05
Chief Procurement Officer Date