



2010 CAP – Category 4 – HIGICC Business Plan
Development for Framework Data Layer Inventory,
Assessment and Coordination – Priority Layer 1 - Imagery

**HIGICC 2010 CAP Category 4
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(0) Proposal Summary

(a) Project Title: 2010 CAP – Category 4 – HIGICC Business Plan Development for Framework Data Layer Inventory, Assessment and Coordination – Priority Layer 1 - Imagery

(b) Application Organization:

Hawaii Geographic Information Coordinating Council (HIGICC)
PO Box 10678
Honolulu, Hawaii
96816-0678

(c) Collaborating Organizations

The following collaborating organizations support the Council’s goals in this proposal and have committed their participation to the business planning process. Each organization funds, acquires and distributes imagery in Hawaii and has a vested interest in building an imagery data framework to support their constituency while also contributing to the NSDI. Each organization participated fully in HIGICC strategic planning sessions and at the 2009 Planning/GIS conference.

USGS Geospatial Liaison
NOAA Pacific Services Center
State of Hawaii GIS
County of Kauai
City and County of Honolulu
County of Hawaii
University of Hawaii

(d) Organization Internet Address: <http://www.higicc.org>

(e) Principal Investigator:

Arthur J. Buto, President, HIGICC
PO Box 10678
Honolulu, Hawaii
96816-0678
Telephone: 808-587-0423
Email: arthur (dot) j (dot) buto (at) hawaii (dot) gov

(f) Other key contact personnel

Henry Wolter
USGS Hawaii and Pacific Islands
NSDI Partnership Office
Geospatial Liaison

677 Ala Moana Blvd Suite 415
Honolulu, Hawaii 96813
808-587-2409
Hwolter (at) usgs dot gov

Craig Tasaka
State of Hawaii , Office of Planning
808-587-2894
Ctasaka (at) dbedt (dot)hawaii (dot) gov

Joan Delos Santos
State of Hawaii , Office of Planning
808-587-2895
Jdelos_santos (at) dbedt (dot)hawaii (dot) gov

Craig Clouet
ESRI, Pacific Islands Office
808-947-0993 x 5636
Cclouet (at) esri (dot) com

Susan Vogt
Geospatial Consulting Group International, LLC (GeoCGI)
808-228-5662
Svogt (at) geocgi (dot) com

Grant proposal project management provided by Ron Salz.

(g) Previous NSDI cooperative agreement participation (awarded or submitted but not awarded)

1. 2008 FGDC Category 3 CAP for Strategic and Business Plan Development – \$50,000 - awarded and completed.
2. 2007 – Application for FGDC Category 3 CAP – not awarded
3. 2001 - Don't Duck Metadata grant for metadata training - \$6,000 awarded and completed.
4. 2000 - Hawaii 's Metadata Clearinghouse and to support metadata training - \$16,220 awarded and completed.
5. 1998 – FGDC grant to State of Hawaii GIS program to facilitate formation of Council.

(h) Project Description

This project will address the Strategic Plan programmatic goal, "Facilitating Data Acquisition and Development of Data Standards" with a focus on imagery resources. Formulating a

comprehensive business plan will require bringing together stakeholders from across the state and across sectors to establish a common set of standards and explore potential funding strategies for acquiring and distributing ortho-imagery. Implementing the plan will further solidify HIGICC's position as a promulgator and promoter of geospatial coordination and collaboration. The results will have wide-ranging impacts and will benefit a multitude of users statewide.

(1) Project Scope

Status of Hawaii's strategic and business planning activities:

The Hawaii Geographic Information Coordinating Council (HIGICC) published the "Geographic Information System Strategic Plan" and the "Business Plan to Codify the Operational Structure of the Council" in September 2009. The statewide effort was funded through a combination of a 2008 NSDI Cooperative Agreement Program Category 3: Fifty State Initiative award and local in-kind funding and participation. Stakeholders from all sectors in the geospatial community across the state worked together to update the mission of the Council and prioritize its programmatic goals. The plans and implementation schedules were presented at the HCPO/HIGICC conference in September 2009 (<http://www.resilientcommunitieshawaii.org/>). All documents, including the final report can be found at <http://www.fgdc.gov/grants/2008CAP/projects/08HQAG0009>.

The Strategic Plan defines the following programmatic goals:

1. Complete the Plan – Ensure that HIGICC completes the Strategic Plan (SP) to set an agenda for the next five years that is aligned with the expressed needs of the HIGICC membership and the Hawaii geospatial community at this 10th anniversary of the Council.
2. Improve Outreach and Communication - Develop an outreach and communications strategy that targets constituencies throughout the state, reaches underserved portions of the community, and increases membership, participation, and collaboration with activities.
3. Facilitate Data Acquisition and Development of Data Standards - Develop a strategy for assisting data acquisition projects and developing geospatial data standards that cross geographic and administrative boundaries.
4. Identify and Implement Funding Strategies – Develop a funding strategy that maintains Council fiscal viability, enhances the ability of HIGICC to apply, compete, receive and administer grants and expands the Council's ability to identify funding opportunities that support the Council and stakeholders across the state.

Completion of the SP in September 2009 (Goal 1) underscored the Board's resolve that the process started in earnest in 2008 would result in a tangible document and an actionable plan laying out a course of action for the Council for the near- and long-term. Furthermore, the Board

recognized that in order to successfully achieve the other, mission-focused programmatic goals of the SP (Goals 2, 3, and 4), the Council needed to be better organized and to better utilize its best resource, the HIGICC membership.

Not surprisingly the initial Business Plan (BP) to emerge from the SP called for creating a number of Standing Committees actively engaging Board and non-Board members in the work of the Council. That plan is currently being implemented with the involvement of all fourteen Board members and an equal number of non-Board members, with some committees soliciting participation from members as needs and talents intersect. In particular the Data Inventory and Assessment Committee (DIAC), with many of its members having a stake in imagery for the state is actively involved in preparing this application.

In addition to DIAC, committees have been formed to address finance, education and outreach, membership, information technology, and policy.

HIGICC is an all volunteer, private nonprofit 501(c)3 geographic council, with most activities funded by revenue raised through nominal membership fees and grant administration. The Council faces human and fiscal constraints and is dependent upon on volunteer leadership and participation. The additional funds provided by FGDC's CAP 3 program enabled the statewide planning process. A CAP4 award would immediately stimulate geographic information coordination built to support local needs and in alignment with the National Spatial Data Infrastructure. And the experience gained here will be applied to develop and carry out additional framework data business plans.

Proposed business plan development and implementation:

- Advancing geospatial coordination and collaboration:

This project will address the Strategic Plan programmatic goal, "Facilitating Data Acquisition and Development of Data Standards" with a focus on imagery resources. We seek to develop and implement a plan to inventory current aerial and satellite imagery for the state, as well as establish standards and develop acquisition strategies for future imagery collection. This effort fits in well with FGDC's *Imagery for the Nation* (IFTN) initiative, which aims to develop a "sustainable and flexible digital imagery program" and "improve coordinated acquisition of imagery and optimize public investment in these data." This project will also provide a much needed partial update to HIGICC's 2003 I-Plan for Hawaii, a comprehensive inventory of geospatial data for Hawaii (<http://higicc.camp8.org/iplan>).

Formulating a comprehensive business plan will require bringing together stakeholders from across the state and across sectors to establish a common set of standards and explore potential funding strategies for acquiring and distributing ortho-imagery. HIGICC is uniquely positioned to bring together stakeholders from its federal, state, county and private sector members, as it has

done several times in its 10 year history. This proposal builds on our most recent collaborative effort, a 2008 CAP Grant project to develop a Strategic Plan for the Council, which actively involved these same stakeholder groups.

Implementing the plan will further solidify HIGICC's position as a promulgator and promoter of geospatial coordination and collaboration. The results will have wide-ranging impacts and will benefit a multitude of users statewide.

- **Federal agency involvement in project:**

The CAP 4 proposal is being developed in collaboration with the Henry Wolter, USGS Geospatial Liaison, Hawaii and Pacific Basin Islands. Henry is working closely with Anthony Kimmet, GIS Analyst/Cartographer for the National Cartography and Geospatial Center of USDA-NRCS to acquire imagery in Hawaii and the Pacific. The business plan for imagery will be a roadmap to follow for new collections. Henry's and Tony's active participation, along with Adam Stein's, the Coastal Hazards/Spatial Technology Program Coordinator for the NOAA Pacific Service Center, is crucial to implementing the project in that they have funding sources unavailable to state or county government. In addition, each of these federal agency partners has committed to participating actively by both attending workshops and providing expertise during the project planning and writing phases.

- **Advancing Hawaii's strategic plan:**

An ortho-imagery business plan is the next step in implementing the programmatic goals established in the HIGICC Strategic Plan. The first Business Plan focused internally to strengthen the organization. The proposed Business Plan will get to the core of HIGICC's mission – geographic information coordination -- and lay the groundwork for future initiatives. Identifying and assessing current imagery holdings and how they're being used, and planning for future acquisitions will advance the work of interested parties in numerous geospatial initiatives. Although this plan is limited to ortho-imagery, development of future business plans for priority framework layers will follow the process template established in this effort.

- **Linking the geospatial community to the State CIO's office:**

The State's GIS Program Director is a current member of HIGICC and will be actively participating in this project. He has a working relationship with the State CIO who is in the Department of Accounting and General Services. HIGICC presently has no direct relationship with the State CIO. It is anticipated that meeting with key decision makers and funding officials will include the State CIO.

- **Improving NSDI's goals in Hawaii:**

The project will further the goals of the NSDI in Hawaii by defining a process model that can be used to develop and implement business plans for other priority framework data layers. The current proposal will bring together key stakeholders in working groups specializing in certain imagery or analytic approaches in order to develop data standards, as well as to establish process standards for imagery acquisition projects and align local requirements with funding sources. The involvement of key federal agencies will ensure that the activities of the DIAC working groups are aligned with the goals of the NSDI. Furthermore, the project will provide guidance and standards for local stakeholders and will facilitate and encourage a planned and coordinated growth of the SSDI.

(2) Skills and Capabilities:

HIGICC is well positioned to manage this project. The Principal Investigator, Arthur J. Buto, is the President of the Council. Arthur is the GIS Coordinator for the State Department of Land and Natural Resources and manager of the State Land Information Management System (SLIMS), and is skilled in project management, IT and Data Implementation and knowledgeable about governmental structures, budgets and funding sources. As Vice President of the Council, Arthur worked with Ron Salz, HIGICC Past President and Principal Investigator, to bring the HIGICC Strategic and Business Plan to completion. Joan Delos Santos, Treasurer, works for the Hawaii State GIS Program as an IT Specialist, and manages the State GIS database. As HIGICC Treasurer, she also worked on the Strategic and Business Plans, and used the US Department of Health and Human Services Payment Management System to manage the finances for the SP/BP and the USGS Indigenous Names grants (mentioned below). In addition, Joan has represented the State of Hawaii at the 2007 and 2009 NSGIC Annual Meetings.

HIGICC has administered a series of grants over the last three years, including 2 Indigenous Names grants from USGS and one from the Group 70 Foundation, as well as the 2007 CAP 3 for Strategic and Business Planning. In each case, the Council Officers have worked with contractors to satisfy the scope, reporting requirements and deadlines of the grant. This was a learning process that has built capacity for the Council

The newly formed Data Inventory and Assessment Committee (DIAC) is working with subject matter experts and responsible parties across the State in the development of this proposal and its implementation. Many of these same individuals and organizations participated in the formulation of the HIGICC Strategic and Business Plans through on-line surveys, state-wide in-person meetings and individual interviews. The DIAC was formalized in the first HIGICC Business Plan: "To Codify the Organizational Structure of the Council."

There is continued interest across the state to see this next step in establishing a more involved Council in activities that improve local conditions while contributing to the NSDI. The goodwill

established during the SP/BP will assist the Principal Investigator, contractor and participants in bringing this project to completion within the time frame.

(3) Commitment to Effort:

The HIGICC has been in existence as an organization since 1998. To formalize its status, HIGICC applied for 501(c)(3) non-profit status in 2001, received approval in 2002, and has operated as a non-profit organization since that time. The HIGICC holds meetings every seven weeks, has completed the Hawaii I-Plan, has hosted GISDAY activities including collaborating on a geospatial curriculum to extend GISDAY to a year round opportunity for students, maintains a web page and contact management software suite, hosts lunch speakers and has held a number of data sharing meetings. In September, 2009 HIGICC co-sponsored the 2009 Planning and statewide GIS conference as well as completing all requirements for the CAP 3 Strategic and Business Planning process. Starting before the establishment of HIGICC and continuing to the present day, all HIGICC activities have been managed by volunteers.

HIGICC has a history of supporting statewide geospatial data initiatives, including imagery consortia, LIDAR, DRG updating, and the State Board of Geographic Names. There was statewide support for the HIGICC CAP3 Strategic and Business Plan, as evidenced by participation in and completion of the project. The current HIGICC Board, membership and other stakeholders are supportive of the project to develop an HIGICC Business Plan to inventory, assess and plan for acquiring imagery that satisfies local needs and contributes to the NSDI. The process will also be used to refine the Business Plan process for addressing additional priority framework data layers described in the Strategic Plan.

A wide range of partner organizations have formally offered their support of the HIGICC application for CAP 4, including federal, state and local government agencies as well as private and non-profit organizations. A complete listing of the partner organizations offering support can be found in Table B.

(4) Project Plan and Managerial Capacity:

Project Plan:

If funded, HIGICC proposes to develop and begin implementing a business plan following the NSGIC process and according to the FGDC "Business Plan Guidelines: Fifty States Initiative (May 2009)." Focused on the programmatic goal established in the HIGICC Strategic Plan (2009) to "facilitate data acquisition and the development of data standards," an ortho-imagery business plan will also establish a process for future business plan initiatives for priority framework data layers.

The business planning process will engage multiple stakeholders representing the diverse community of ortho-imagery data developers, providers and consumers in Hawaii , as well as key decision makers and funding officials. The goal is to assess current resources and articulate a shared strategy for imagery standards, acquisition, storage and availability.

To accomplish this, HIGICC, working with a contractor funded by the CAP program, proposes a four-fold approach to engage participants. First, conduct an online survey of the community to identify imagery holdings, needs, sources and possible acquisition plans. Second, conduct a workshop in Honolulu to assess, discuss and plan for imagery acquisition, inviting the significant imagery stakeholders from across the state. The meeting should include an opportunity for others to attend via tele- or videoconference. Third, conduct informational briefings for decision makers and those who approve and fund geospatial data acquisitions of the process and the resulting strategies to increase their understanding of the issues, and to solicit their participation if deemed appropriate. Finally, conduct individual interviews with participants who want additional input or clarification on the business plan.

The workshop will engage multiple stakeholders in the HIGICC business planning process. The State of Hawaii , three counties and numerous other organizations have agreed to participate in this process. The CAP funding will help pay for travel and lodging for critical stakeholders to gather in Honolulu. Unlike the statewide strategic planning workshops, we foresee a smaller number of participants for the first framework layer business plan. As such, it is more cost effective to bring people to Honolulu for an ortho-imagery workshop than it is to travel to each island to meet with their stakeholders.

The Business Plan is the tangible end result product of the process. But the key measure of effectiveness is implementation. The details will depend on the strategies described in the plan. In preparation and a product of the first Business Plan, the Council has created the Data Inventory and Assessment Committee (DIAC). The DIAC will take the lead in the follow-up efforts. Two DIAC working groups – “Standards& Metadata” and “Imagery” – are already being formed. The Council and DIAC assume that many of the workshop participants or their designated representatives will work to implement the Business Plan’s strategies.

The project schedule includes: select a contractor within 2 months of award; initiate the project within 1 month of the selection of the contractor; complete on-line surveys within 1 month of project initiation; hold workshop within 2 months of survey completion and summary; prepare the business plan document within 1-2 months of the workshop; complete final review and acceptance of strategy by stakeholders within 1-2 months of document completion; produce FGDC reports and an analysis of how to use the process for additional business plans within 1 month of business plan completion; and initiate implementation efforts through the DIAC coincident with analysis of the process.

The survey, workshop and interviews will enable HIGICC to understand stakeholder data needs and to solicit their recommendations. The result will be a Business Plan reflecting an overall vision for ortho-imagery coordination that members and other stakeholders can align with and that enhances Hawaii 's participation in the National Spatial Data Infrastructure, tailored to our circumstances. HIGICC through its DIAC and using the BP as its road map can then work with stakeholders to establish local standards and develop shared acquisition strategies that are consistent with the NSDI.

In contrast to states that have a government agency that provides overall coordination or councils that were created by the executive or legislative branches, HIGICC is an all-volunteer organization supported through membership. HIGICC members and others across the state of Hawaii recognize the importance of maintaining momentum following the development of a successful strategic plan. The first HIGICC Business Plan was internally focused, codifying the Council's organizational structure. The Business Plan in this proposal, focused on community data needs, will enhance the coordination capacity of the Council and satisfy requirements defined in the Strategic Plan and first Business Plan.

Managerial Capacity:

Many members of the HIGICC Board of Directors and individual members have direct responsibility in their respective organizations for geospatial data and systems coordination and management. (See Table C for list of current membership). There is agreement from the Board, the members and many cooperating individuals and organizations to participate in the business planning process. HIGICC will hire a contractor with experience in developing Geographic Council business plans to facilitate the workshops, conduct the individual interviews, and complete draft and final documents. The HIGICC Principal Investigator and members of the Board will provide oversight and collaborative writing.

The Council's capacity to effectively accomplish and manage funded activities is most recently evidenced by completion of the CAP 3 project for Strategic and Business Planning and co-hosting the 2009 HCPO/HIGICC Joint Conference "Building Resilient Communities" held from Sept 23-25, 2009 (<http://resilientcommunitieshawaii.org/>).

The fact is that HIGICC and our colleagues throughout the state are prepared to engage in the Fifty States Initiative business planning process. There will be constant interaction between all parties, and a clear understanding of roles and responsibilities. The time is right, the need is great and there is agreement to initiate and complete this process. We have a record of success. We are confident that with paid, professional assistance we will succeed again.

Table A: Project Budget

2010 NSDI Cooperative Agreements Program
 Applicant: Hawaii Geographic Information Coordinating Council
 Proposal Short Title: 2010 CAP Cat 4: HIGICC Imagery BP

Budget Category	Federal Funding "Requested"	Matching Funds "Proposed"	Notes:
1. SALARIES:			
Personnel		\$7,500	Arthur J. Buto - HIGICC President - 75 hours @ \$100 / hour
		\$3,750	Craig Clouet - ESRI GIS Analyst - 37.5 hours @ \$100 / hour
		\$3,750	Susan Vogt - GeoCGI GIS Analyst - 37.5 hours @ \$100 / hour
Total Salaries:	\$0	\$15,000	
2. FRINGE BENEFITS:			
Personnel		\$0	
Total Fringe:	\$0	\$0	
3. FIELD EXPENSES:			
Airfare	\$1,500		10 ppl x 1 neighbor island round trip @ \$150/pp
Per Diem	\$0		
Lodging Cost	\$1,200		10 rooms @ \$120/night
Vehicle Cost	\$0		
Total Field Expenses:	\$2,700	\$0	
4. OTHER DIRECT COSTS:			
NSGIC Mid-Year Travel	\$3,000		Estimate: \$425 registration, \$1500 air, \$850 hotel, \$125 meals, \$100 taxi
Workshop Catering	\$750		\$10 cont. bfst x 30 pax, \$15 box lunch for 30 pax
Workshop Room Rental	\$250		
Communications Costs	\$50		Webex for additional neighbor island participants
Miscellaneous Costs	1050		Equipment Rental, Videographer, Supplies, Misc.
Consultant Services	\$19,500		To conduct stakeholder workshop, develop plan(s)
Total Other Direct Costs:	\$24,600	\$0	
Total Direct Costs:	\$27,300	\$15,000	
Indirect Cost (9.9%)	\$2,700	\$0	
	\$30,000	\$15,000	

Table B: Collaborating Organizations

The following partner organizations have committed to participating in the process and have submitted formal letters of support for the HIGICC application for CAP 4.

- USGS Geospatial Liaison
- National Park Service, Pacific Islands Network
- National Oceanic and Atmospheric Administration, Pacific Services Center
- U.S. Army Corps of Engineers, Honolulu District
- State of Hawaii , Department of Business and Economic Development & Tourism, Office of Planning
- State of Hawaii , Department of Land and Natural Resources
- The University of Hawaii at Manoa Library
- City and County of Honolulu
- County of Hawaii
- County of Kauai
- Kamehameha Schools
- Malama Maunalua
- ESRI (member of DIAC)

In addition, the following partners have verbally committed their support.

- USGS Hawaii and Pacific Islands NSDI Partnership Office, Geospatial Liaison
- Pacific Basin Information Node (PBIN), NBII
- City and County of Honolulu
- Pacific Disaster Center
- Geospatial Consulting Group International (member of DIAC)

Table C: Hawaii Geographic Information Coordinating Council Member List FY 2010

Board of Directors

Arthur Buto *President*
Carol Kennedy *Vice President*
Joan Delos Santos *Treasurer*
G. Salim Mohammed *Secretary*
Alexa Jacroux Biggs
Adrian Fitzgerald
Mark Harrington
Garrett Johnson
Royce Jones
Sandy Margriter
Derek Masaki
Ron Salz *Ex officio, Immediate Past President*
Adam Stein *Ex officio, NOAA Liaison*
Henry Wolter *Ex officio, USGS Liaison*

Federal

Linda Akers Smith *US Census Bureau*
Bobbie Arruda *USGS*
David Askov *Pacific Disaster Center*
Matthew Barbee *NOAA*
Paul Berkowitz *USGS-BRD Kiluaea Field Station*
Todd Bosse *Pacific Disaster Center*
Jamie Carter *NOAA/PSC*
Chris Chiesa *Pacific Disaster Center*
Benton Ching *U.S. Army Corps of Engineers*
Pam Cowher *Pacific Disaster Center*
Annette DesRochers *NOAA Pacific Islands Fisheries Science Center*
Ayman El-Swaify *NAVFAC Pacific*
Tom Fake *National Park Service*
Sarah Falzarano *U.S. Army Corps of Engineers*
Christine Feinholz *NOAA/PSC*
Pete Fornek *USARPAC / L-3 COMM*
Frank Hays *National Park Service*
Jessie Huat *NOAA/PSC*
Lesley Jantz *NOAA Fisheries*
Carrie Kotoshirodo *NAVFAC Pacific*
Melia Lane-Kamahele *National Park Service*
Peter Len *NAVFAC Hawaii*
Kimberly Maison *NOAA Fisheries*
Sandy Margriter* *National Park Service*

Federal (cont'd)

Derek Masaki* *USGS PBIN*
Matt McBride *NOAA/PSC*
Timothy McMonagle *US Census Bureau*
Santiago Mor *U.S. Army Corps of Engineers*
Rich Nezelek *Pacific Disaster Center*
Robert O'Conner *NOAA Fisheries*
Michael Parke *NOAA Fisheries*
Kevin Pien *U.S. Army Corps of Engineers*
Justin Pummel *U.S. Army Corps of Engineers*
Adrian Ramirez *NOAA Fisheries*
Pat Shade *USDA/NRCS*
Adam Stein* *NOAA/PSC*
Frank Trusdell *USGS*
Henry Wolter* *USGS NGPO*

State

Shriram Bhutada *University of Hawaii, Center on the Family*
Arthur Buto* *Land and Natural Resources, Land Division*
Ronald Cannarella *Land and Natural Resources, Forestry and
Wildlife*
Maria Chan *Transportation, Airports Division*
Joan Delos Santos* *Business, Economic Development and Tourism,
Office of Planning*
Glen Fukunaga *Health, Environmental Health Administration*
Ingrid Kunimura *Land and Natural Resources, Commission on
Water Resource Management*
Steven Matsuda *Health, Environmental Health Administration*
Andy Matsumoto *Health, Environmental Health Administration*
Tomoaki Miura *University of Hawaii at Manoa*
Darren Miwa *Transportation, Airports Division*
G. Salim Mohammed* *University of Hawaii at Manoa, Hamilton
Library*
Michael Murphy *Transportation, Statewide Transportation
Planning Office*
Neal Nagata *Transportation, Airports Division*
Amy Saito *Transportation, Airports Division*
Valerie Sasuga *Transportation, Airports Division*
Goro Sulijoadikusumo *Transportation*
Craig Tasaka *Business, Economic Development and Tourism,
Office of Planning*
Ronnie Torres *Defense, Civil Defense*

County

Adrian Fitzgerald* *City and County of Honolulu*
Peter Graves *County of Maui, Department of Planning*
Chris Hardenbrook *County of Hawaii, Planning Department*
Garrett Johnson* *County of Kauai*
Mark King *County of Maui, Department of Planning*
Jon Lewis *City and County of Honolulu*
Dan McNulty-Huffman *County of Maui, Department of Planning*
David Michaelson *County of Maui, Department of Planning*
Mike Napier *County of Maui, Department of Planning*
Gregg Onuma *City and County of Honolulu – ENV*
Ivy Pescador *City and County of Honolulu – ENV*
Ken Schmidt *City and County of Honolulu*
Dennis Tsuruda *City and County of Honolulu – ENV*

Private

Craig Araki *EDAW/AECOM*
Joe Breman *Alimeka, LLC*
Larry Brower *EKNA Services, Inc*
Gary Chock *Martin & Chock, Inc*
Craig Clouet *ESRI*
Gene Dashiell *Environmental Planning Services*
Jean Fujikawa *Oahu Invasive Species Committee*
Shawn Gahler *Kamehameha Schools*
Kerry Halford *TEC Inc*
Darrell Hamamura *Kamehameha Schools*
Mark Harrington* *Group 70 International*
Alexa Jacroux Biggs* *Belt Collins Hawaii*
Rob James *Helber Hastert & Fee, Planners*
Royce Jones* *ESRI*
Karen Kemp
Carol Kennedy* *Maui Electric Company, Ltd*
Steve Lettau *Onyx Group*
Jonathan Levy *Oceanit*
Brian Loomis *HiTech Urban Solutions Hawaii*
Renee Louis *Pacific Data Digitizing*
Rod Low *ESRI*
Tomoaki Mitsunaga *Fukunaga Engineers*
Karyn Nolan *Pacific GPS*
Harley Parks *HiTech Urban Solutions Hawaii*
Lara Payne *Pacific Disaster Center*

Private (cont'd)

Shilo Rohlman *Critigen*
Ron Salz* *GeoCGI*
Joe Silver *Belt Collins*
Ryan Taira *SWCA Environmental Consultants*
Stephanie Tom *The Nature Conservancy*
David Tomita *Hokulele Imaging and Mapping*
Mary Tomonaga *Group 70 International*
John Vogler *Research Corporation of the University of Hawaii*
Diana Papini Warren *Maui Economic Development Board, Women in
Technology*
Chyn Yu *Kamehameha Schools*

* *2009-2010 Board Member*