STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT
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HONOLULU, HAWAII 96809

COMMISSION ON WATER RESOURCE MANAGEMENT

January 22, 2014

STAFF SUBMITTAL

Authorize the Chairperson to Enter into Contract(s) to Conduct Ground Water Use Reporting Outreach, Verification, and Compliance on Hawaii, Maui, Molokai, Lanai, and Kauai

SUMMARY OF REQUEST:

That the Commission on Water Resource Management ("CWRM") authorize the Chairperson to enter into contract(s) with consultant(s) to conduct ground water use reporting outreach, field verification, and compliance on Hawaii, Maui, Molokai, Lanai, and Kauai (excluding Niihau). The outreach will aid CWRM staff in contacting and helping owners of approximately 2,417 wells on these islands report their use and determine the status of their ground water sources, which is necessary to assess and protect public trust water resources.

BACKGROUND:

Across the State of Hawaii, there are currently 4,163 well sources (see Exhibit 1) that can either pump or be used as observation wells. All of these wells should be reporting well data as required by law. Haw. Admin. Rule §13-168-7 Report of water use. Data reporting requirements include pumping, chloride concentration (or conductivity), water-levels, and/or temperature.

Since 1989, staff has continually attempted to secure voluntary reporting. All landowners who registered their existing wells in 1988 were sent notices and forms on September 23, 1991 and March 24, 1992 to comply the reporting requirements in Haw. Admin. Rule §13-168-7. All well permits issued since 1987 have standard conditions requiring reporting. Standard ground water use reporting forms were attached to accepted and certified well completion documents.

In addition, since 1997, the Commission's Hawaii Well Construction and Pump Installation Standards required all non-saltwater wells to install meters to measure pumping. In 2009, a consultant completed the 20-year review of water use permits for ground water management areas. This helped update contacts for water use reporting in critical areas. Until 2013, reporting

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was done on paper forms (hard copy) which were recorded and submitted manually. The staff compiled and transferred the data manually. Since January 2013, the CWRM staff has been working to implement online reporting through the Water Resource Information System ("WRIMS").

At the January 2013 Joint Water Conference, and May 2013 Hawaii Water Works Association, the staff presented the WRIMS online reporting system and proposed milestones:

1. Complete beta testing with county municipal purveyors - May 2013
2. All large municipal purveyors reporting - May 2013
3. All water management areas reporting - July 2013
4. Complete the remainder of the State - Sept. 2013

ANALYSIS / ISSUES:

To effectively manage the State's potable water resources, it is imperative that all well owners and water use reporters submit their water use on a monthly basis. This includes wells that are not currently pumped (to avoid the uncertainty associated with blank entry). If the well is not currently pumped, then "non-use" (0 gallons) also needs to be reported. The task of tracking 4,163 production and observation wells on a monthly basis is daunting. Online reporting through the new WRIMS system is essential to make reporting work in any meaningful manner.

WRIMS is a qualitative improvement over the prior manual reporting. WRIMS eliminates repetitive staff data entry by allowing well reporters to directly submit their data into the CWRM's ground water database repository securely over the web. This is more efficient. It saves an enormous amount of staff time. It reduces data re-entry errors. It provides better reporting analysis tools for the users and staff. The automatic email notification in WRIMS identifies late reporting. WRIMS helps to keep actual well ownership and reporters current and accurate when ownership changes. Old well owners/reporters will be encouraged to notify staff of changes. Owners will receive email notification of late reporting and possible fines until the accounts are brought current.

The staff has undertaken a major effort to contact, educate, and motivate water users to report their monthly water usage via the WRIMS online reporting. Staff completed beta testing and reconciliation of reporting requirements with the large municipal purveyors. Currently, the staff is reaching out directly by phone to identify the persons responsible for reporting, setting up login accounts for them, and helping them provide missing historical pumping. In some instances, staff made site visits to help identify well sites and provide information about the online reporting. Generally, well owners have been receptive to signing up and using the online reporting. However, only about 45% of the 102 login accounts covering 941 wells are consistently current with monthly reporting through WRIMS.

Staff is concentrating on ground water management areas and other recent hotspots, (such as the Keauhou Aquifer System Area, Kona, Island of Hawaii). More work needs to be done in the

existing ground water management areas to improve compliance for wells with allocations and individual domestic, observation, or unused wells that do not require ground water use permits (see Exhibit 2). Staff plans to focus on full compliance in ground water management areas before shifting resources to non-management areas. This has delayed the implementation schedule by several months. We are not yet at milestone targets for Items 3 and 4.

There is only one CWRM staff member devoted full-time to signing up well reporters. Five other staff come across new and existing wells when dealing with related permitting issues. More resources are needed to achieve better ground water reporting compliance, especially on the neighbor islands.

Presently, there are 2,417 existing wells on Hawaii, Maui, Molokai, Lanai, and Kauai (excluding Niihau). There are 1,719 wells on Oahu. Making direct contact with well owners is time consuming. However, there is a side benefit in direct contact. It helps establish a working relationship and helps owners actually set up their online reporting accounts. Staff will continue with ground water management areas.

The lack of direct staff contact on neighbor islands is what slows down efforts to enroll landowners on neighbor islands.

Staff proposes to contract with neighbor island consultant(s) who will provide direct contact with water users. This will save staff time and money (travel costs for site visits). It will speed up the creation and use of online WRIMS accounts. The work will focus on the 2,417 existing wells on Hawaii, Maui, Molokai, Lanai, and Kauai (excluding Niihau).

Water users will be contacted to inform them of their responsibility, confirm their water use, and explain how the WRIMS system works. Once confirmed, the water user will be helped to enroll online.

To maintain an organized and systematic process, the consultant for each island will be provided with a list of wells, the name of the current well owner, the water user, and contact information. The list of wells for each island will be subdivided into geographic and aquifer system areas and prioritized.

The consultants will:

(1) Contact each non-reporting water use reporter, or well owner, to verify or determine a) the correct well owner and water use reporter, and contact information; b) the status of the well; and c) the method of measuring the pumpage; and d) the ability of the reporter to report use on-line.

(2) Where water use reporters have problems accurately measuring their use, the consultant will visit the site, assess what steps (e.g., install or repair an appropriate water meter)

need to be taken to bring water usage monitoring in line with accepted practices, and make appropriate recommendations.

(3) Consultant(s) will provide CWRM staff with status reports on a regular basis that include the numbers of reporters successfully contacted, issues resolved, issues unresolved, and number of successful water use reporting.

FUNDING:

Staff requests that the Commission authorize up to $250,000 to contract with one or more consultant(s) to conduct the ground water use reporting outreach, verification, and compliance on Maui, Hawaii Island, Molokai, Lanai, and Kauai. Funds will be provided through the Commission's general fund, special fund, or a combination of both, subject to available funding balances.

RECOMMENDATION:

Staff recommends:

1. That the Commission authorize the Chairperson to enter into contract(s), not to exceed $250,000, to conduct the ground water use reporting outreach and compliance on Hawaii island, Maui, Molokai, Lanai, and Kauai (excluding Niihau).

2. Authorize the Chairperson to make such further amendments or modifications of the contract (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.

The agreements will be subject to the approval of the Chairperson and the Attorney General.

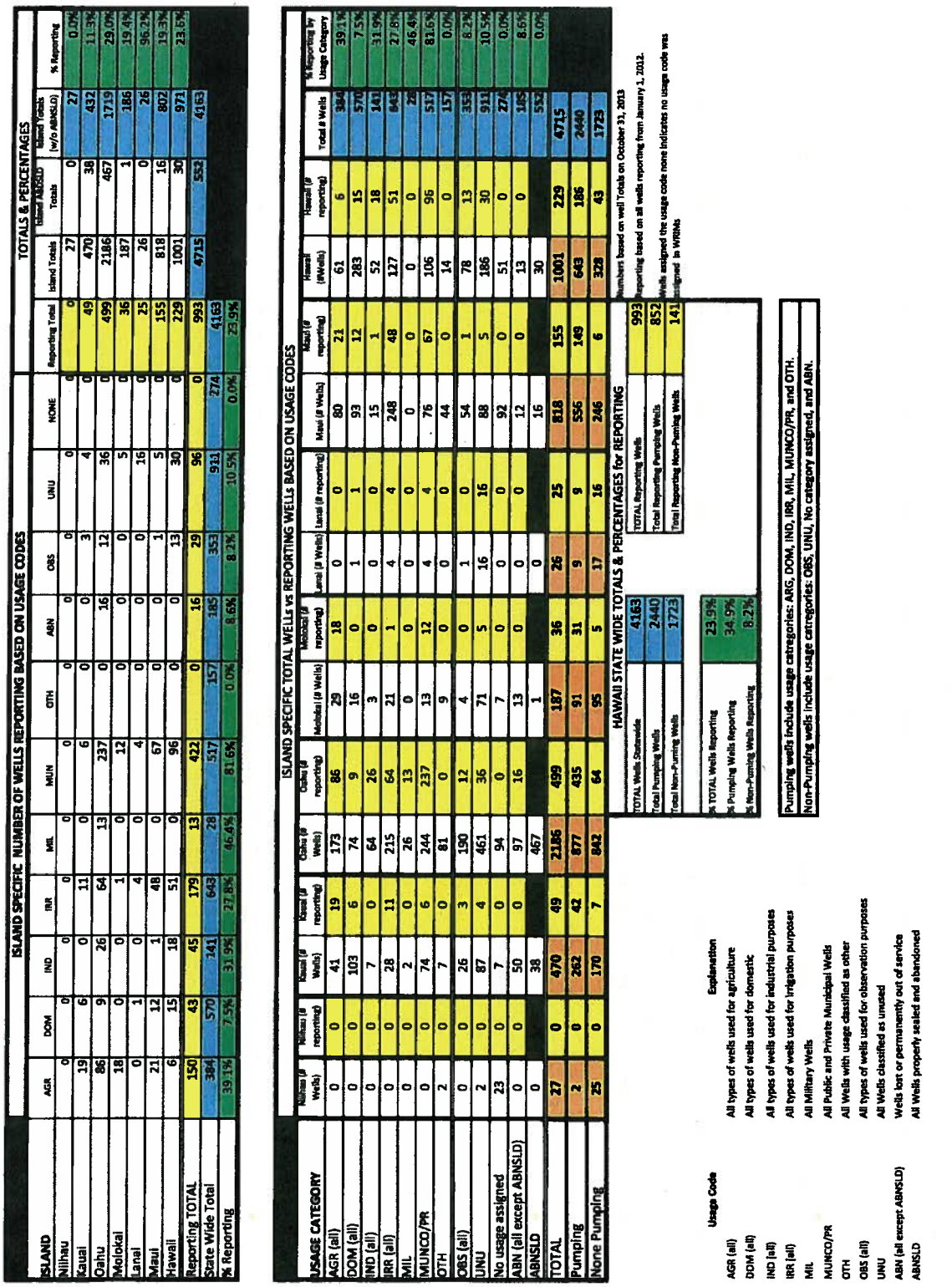
Respectfully submitted,

WILLIAM M. TAM
Deputy Director

APPROVED FOR SUBMITTAL:

WILLIAM J. AILA, JR.,
Chairperson

Exhibits: 1. Statewide statistics of water use reporting as of January 1, 2012
2. Ground Water Management Area statistics of water use reporting



ISLAND SPECIFIC NUMBER OF WELLS REPORTING BASED ON USAGE CODES

ISLAND	AGR	DOM	IND	IRR	MIL	MUN	OTH	ABN	OBS	UNU	NONE	Reporting Total	Island Totals	Island ABNSLD Totals	Island Totals (w/o ABNSLD)	% Reporting
Niihau	0	0	0	0	0	0	0	0	0	0	0	0	27	0	27	0.0%
Kauai	19	6	0	11	0	6	0	0	3	4	0	49	470	38	432	11.3%
Oahu	86	9	26	64	13	237	0	16	12	36	0	499	2186	467	1719	29.0%
Molokai	18	0	0	1	0	12	0	0	0	5	0	36	187	1	186	19.4%
Lanai	0	1	0	4	0	4	0	0	0	16	0	25	26	0	26	96.2%
Maui	21	12	1	48	0	67	0	0	1	5	0	155	818	16	802	19.3%
Hawaii	6	15	18	51	0	96	0	0	13	30	0	229	1001	30	971	23.6%
Reporting TOTAL	150	43	45	179	13	422	0	16	29	96	0	993	4715	553	4163	
State Wide Total	384	570	141	643	28	517	157	185	353	911	274	4163				
% Reporting	39.1%	7.5%	31.9%	27.8%	46.4%	81.6%	0.0%	8.6%	8.2%	10.5%	0.0%	23.9%				

ISLAND SPECIFIC TOTAL WELLS vs REPORTING WELLS BASED ON USAGE CODES

USAGE CATEGORY	Niihau (# Wells)	Niihau (# reporting)	Kauai (# Wells)	Kauai (# reporting)	Oahu (# Wells)	Oahu (# reporting)	Molokai (# Wells)	Molokai (# reporting)	Lanai (# Wells)	Lanai (# reporting)	Maui (# Wells)	Maui (# reporting)	Hawaii (#Wells)	Hawaii (# reporting)	Total # Wells	% Reporting by Usage Category
AGR (all)	0	0	41	19	173	86	29	18	0	0	80	21	61	6	384	39.1%
DOM (all)	0	0	103	6	74	9	16	0	1	1	93	12	283	15	570	7.5%
IND (all)	0	0	7	0	64	26	3	0	0	0	15	1	52	18	141	31.9%
IRR (all)	0	0	28	11	215	64	21	1	4	4	248	48	127	51	643	27.8%
MIL	0	0	2	0	26	13	0	0	0	0	0	0	0	0	28	46.4%
MUNCO/PR	0	0	74	6	244	237	13	12	4	4	76	67	106	96	517	81.6%
OTH	2	0	7	0	81	0	9	0	0	0	44	0	14	0	157	0.0%
OBS (all)	0	0	26	3	190	12	4	0	1	0	54	1	78	13	353	8.2%
UNU	2	0	87	4	461	36	71	5	16	16	88	5	186	30	911	10.5%
No usage assigned	23	0	7	0	94	0	7	0	0	0	92	0	51	0	274	0.0%
ABN (all except ABNSLD)	0	0	50	0	97	16	13	0	0	0	12	0	13	0	185	8.6%
ABNSLD	0		38		467		1		0		16		30		552	0.0%
TOTAL	27	0	470	49	2186	499	187	36	26	25	818	155	1001	229	4715	
Pumping	2	0	262	42	877	435	91	31	9	9	556	149	643	186	2440	
None Pumping	25	0	170	7	842	64	95	5	17	16	246	6	328	43	1723	

Numbers based on well Totals on October 31, 2013

HAWAII STATE WIDE TOTALS & PERCENTAGES for REPORTING

TOTAL Wells Statewide	4163	TOTAL Reporting Wells: 993
Total Pumping Wells	2440	Total Reporting Pumping Wells: 852
Total Non-Pumping Wells	1723	Total Reporting Non-Pumping Wells: 141
% TOTAL Wells Reporting	23.9%	
% Pumping Wells Reporting	34.9%	
% Non-Pumping Wells Reporting	8.2%	

Reporting based on all wells reporting from January 1, 2012.

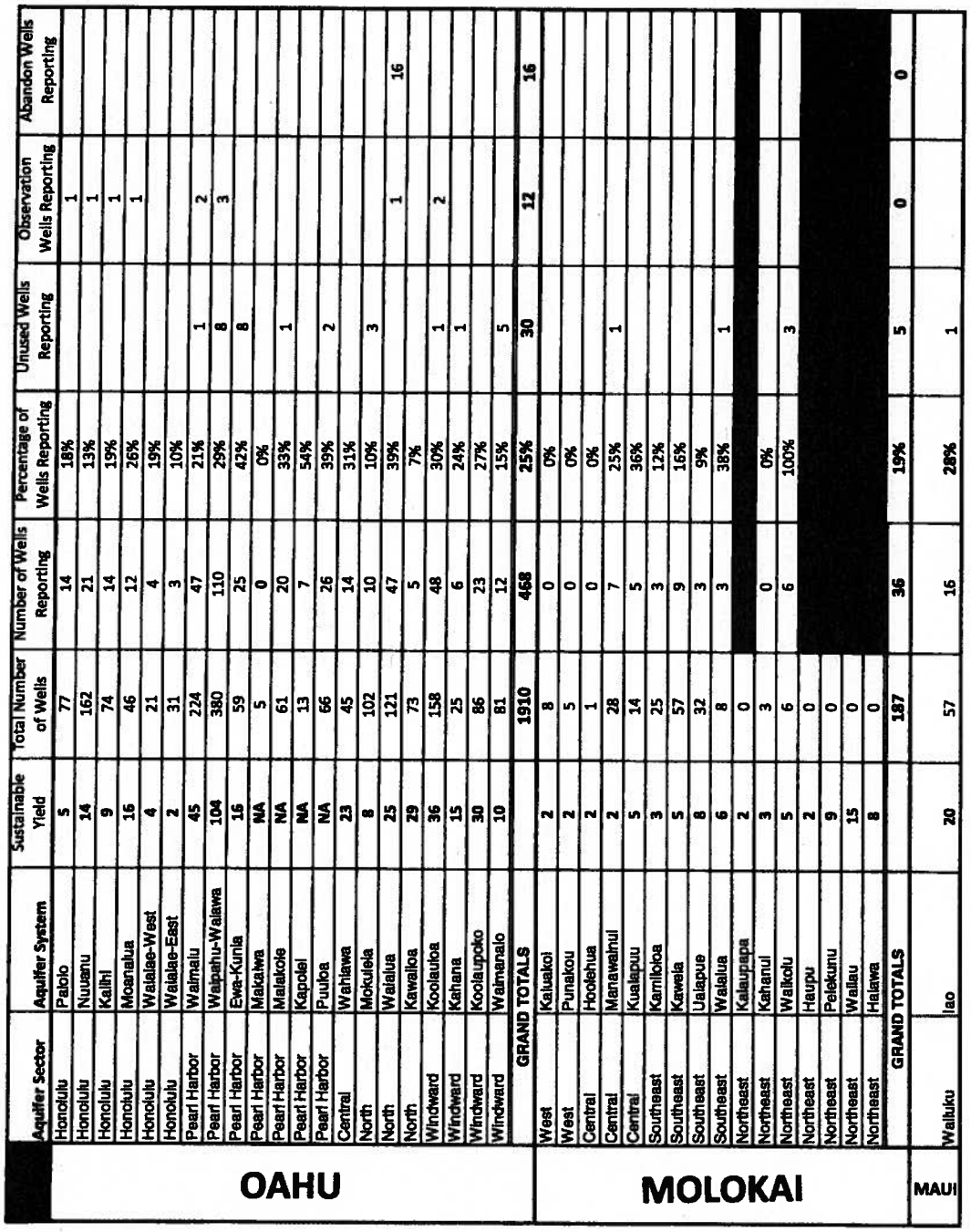
Wells assigned the usage code none indicates no usage code was assigned in WRMs

Pumping wells include usage catregories: AGR, DOM, IND, IRR, MIL, MUNCO/PR, and OTH.

Non-Pumping wells include usage catregories: OBS, UNU, No category assigned, and ABN.

Usage Code	Explanation
AGR (all)	All types of wells used for agriculture
DOM (all)	All types of wells used for domestic
IND (all)	All types of wells used for industrial purposes
IRR (all)	All types of wells used for irrigation purposes
MIL	All Military Wells
MUNCO/PR	All Public and Private Municipal Wells
OTH	All Wells with usage classified as other
OBS (all)	All types of wells used for observation purposes
UNU	All Wells classified as unused
ABN (all except ABNSLD)	Wells lost or permanently out of service
ABNSLD	All Wells properly sealed and abandoned

EXHIBIT 1



	Aquifer Sector	Aquifer System	Sustainable Yield	Total Number of Wells	Number of Wells Reporting	Percentage of Wells Reporting	Unused Wells Reporting	Observation Wells Reporting	Abandon Wells Reporting
OAHU	Honolulu	Pabilo	5	77	14	18%		1	
	Honolulu	Nuuanu	14	162	21	13%		1	
	Honolulu	Kalihi	9	74	14	19%		1	
	Honolulu	Moanalua	16	46	12	26%		1	
	Honolulu	Waialae-West	4	21	4	19%			
	Honolulu	Waialae-East	2	31	3	10%			
	Pearl Harbor	Waimalu	45	224	47	21%	1	2	
	Pearl Harbor	Waipahu-Waiawa	104	380	110	29%	8	3	
	Pearl Harbor	Ewa-Kunia	16	59	25	42%	8		
	Pearl Harbor	Makaiwa	NA	5	0	0%			
	Pearl Harbor	Malakole	NA	61	20	33%	1		
	Pearl Harbor	Kapolei	NA	13	7	54%			
	Pearl Harbor	Puuloa	NA	66	26	39%	2		
	Central	Wahiawa	23	45	14	31%			
	North	Mokuleia	8	102	10	10%	3		
	North	Waialua	25	121	47	39%		1	16
	North	Kawailoa	29	73	5	7%			
	Windward	Koolauloa	36	158	48	30%	1	2	
	Windward	Kahana	15	25	6	24%	1		
	Windward	Koolaupoko	30	86	23	27%			
	Windward	Waimanalo	10	81	12	15%	5		
	GRAND TOTALS			1910	468	25%	30	12	16
MOLOKAI	West	Kaluakoi	2	8	0	0%			
	West	Punakou	2	5	0	0%			
	Central	Hoolehua	2	1	0	0%			
	Central	Manawainui	2	28	7	25%	1		
	Central	Kualapuu	5	14	5	36%			
	Southeast	Kamiloloa	3	25	3	12%			
	Southeast	Kawela	5	57	9	16%			
	Southeast	Ualapue	8	32	3	9%			
	Southeast	Walalua	6	8	3	38%	1		
	Northeast	Kalaupapa	2	0					
	Northeast	Kahanui	3	3	0	0%			
	Northeast	Waikolu	5	6	6	100%	3		
	Northeast	Haupu	2	0					
	Northeast	Pelekunu	9	0					
	Northeast	Wailau	15	0					
	Northeast	Halawa	8	0					
	GRAND TOTALS			187	36	19%	5	0	0
MAUI	Wailuku	Iao	20	57	16	28%	1		

EXHIBIT 2