

**SURFACE WATER USE PERMIT APPLICATION
EXISTING USE (NA WAI EHA, MAUI)**

TABLE 1: 12-MONTH AVERAGE DAILY USE
Measured or Calculated Use of Water at the Source: (Check one) Stream Ditch Auwai
As of the Effective Date of Designation, April 30, 2008

MONTH / YEAR	AVERAGE DAILY USE FOR THE MONTH IN GALLONS PER DAY (GPD)	Check one item per box				OTHER Please describe
		METERED	ESTIMATED	ACTIVE BUT UNKNOWN	INACTIVE	
May 2007		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.11 ft.
June 2007		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.85
July 2007		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.86
August 2007		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.69
September 2007		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.39
October 2007		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2.91
November 2007		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2.14
December 2007		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.86
January 2008		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.99
February 2008		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.58
March 2008		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.69
April 2008		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.10
SUM OF AVERAGE DAILY USE FOR THE MONTH						
AVERAGE DAILY USE (Average of the above)						

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TABLE 2: LAND USE CONSISTENCY/EFFICIENCY (Attach additional copies of Table 2 if necessary)

LAND USE CONSISTENCY						EFFICIENCY OF USE				
1. PURPOSE / WATER USE CATEGORY	2. USE TMK ATTACH THE FOLLOWING: • Property tax map, showing use location in reference to established property boundaries • Photograph of the area of use	3. STATE LAND USE DISTRICT	4. CDUP REQ'D Enter either: Yes and Date approved, or Yes and not acquired, or No	5. COUNTY ZONING CODE	6. SMAP REQ'D Enter either: Yes and Date approved, or Yes and not acquired, or No	7. REQUESTED QUANTITY OF USE Gallons per Day (GPD)	8. SUB-METERED? (Yes or No)	9. UNITS OR NET ACREAGE	10. APPLICANT'S JUSTIFICATION FOR REQUESTED QUANTITY OF USE FOR ITEM 7. If applicable, attach sheets to show how this number was calculated. For irrigation uses, fill in Table 3.	
Uses that require potable (drinking) water										
	____ - ____ - ____ : ____ Zone Sector Plat Parcel									
	____ - ____ - ____ : ____ Zone Sector Plat Parcel									
	____ - ____ - ____ : ____ Zone Sector Plat Parcel									
	____ - ____ - ____ : ____ Zone Sector Plat Parcel									
TOTAL POTABLE USE							GPD			
Uses that do not require potable water										
	____ - ____ - ____ : ____ Zone Sector Plat Parcel								Refuge's land use is not identified under the categories provided	
	____ - ____ - ____ : ____ Zone Sector Plat Parcel									
	____ - ____ - ____ : ____ Zone Sector Plat Parcel									
	____ - ____ - ____ : ____ Zone Sector Plat Parcel									
TOTAL NON-POTABLE USE							GPD			
TOTAL USE REQUESTED (Sum of Total Potable Use and Total Non-Potable Use above) =							GPD			
If total use requested is not equal to the total monthly average in Table 1, please explain.										
In accordance with §174C-51(5), please explain if there are any limitations (legal, contractual, etc.) on the use(s) of water described above.										

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TABLE 3: IRRIGATION INFORMATION

List all crops as separate line items and include landscape and golf course irrigation, grown in the 12 months prior to April 30, 2008. Attach additional copies of Table 3 if necessary.

1. USE TAX MAP KEY (TMK) Attach map outlining area and photo.	2. CROP	3. TOTAL ACREAGE	4. NET IRRIGATED ACREAGE	5. BEGIN ROWTH PERIOD (Month)	6. END GROWTH PERIOD (Month)	7. IRRIGATION SYSTEM (Refer to instructions.)	8. IRRIGATION PRACTICE (Refer to instructions.)
_____-_____-_____-_____ Zone Sector Plat Parcel							
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TABLE 4: ALTERNATIVES ANALYSIS

	Potable Alternatives Attach additional sheets if necessary.	Non-Potable Alternatives Attach additional sheets if necessary.
Municipal sources		
Wastewater reuse		
Ditch system		
Desalinization		
Ground water		Ground water wells are available. See Attachment 1 for explanations.
Other (specify)		

PUBLIC INTEREST

§174C-2(c) states that: *The state water code shall be liberally interpreted to obtain maximum beneficial use of the waters of the State for purposes such as domestic uses, aquaculture uses, irrigation and other agricultural uses, power development, and commercial and industrial uses. However, adequate provision shall be made for the protection of traditional and customary Hawaiian rights, the protection and procreation of fish and wildlife, the maintenance of proper ecological balance and scenic beauty, and the preservation and enhancement of waters of the State for municipal uses, public recreation, public water supply, agriculture, and navigation. Such objectives are declared to be in the public interest.*

Explain below how the uses in your application are consistent with the public interest as described above. Attach additional sheets if necessary.

Keālia Pond National Wildlife Refuge (691 acres) was established in 1992 under the authority of the Endangered Species Act with the purpose "...to conserve (a) fish or wildlife which are listed as endangered species or threatened species, or (B) plants..." (16 u.S.C. 1534, Endangered Species Act of 1973. Kealia Pond is a seasonal wetland that relies primarily on the drainage from the upper watershed (Waikapu) to fill in winter months and sustain decreasing water level during summer-fall. In protecting and managing the habitat for endangered Hawaiian waterbirds (Hawaiian stilt and Hawaiian coot) the refuge requires adequate water from the streams to provide foraging and nesting habitat for endangered waterbirds. The refuge does not divert water from streams to accomplish this but is applying as an existing use because we depend on the surface water that is not diverted. This is consistent with the public interest by protecting and procreating fish and wildlife and maintaining a balanced ecological system.

**US Fish and Wildlife Service, Keālia Pond National Wildlife Refuge
Additional Information for Surface Water Use Permit (Na Wai Eha)**

Item # 4a) The tax map key is for Keālia Pond National Wildlife Refuge, into which the Waikapū Stream flows.

Item # 5) U.S. Fish and Wildlife Service (USFWS) does not have an actual diversion on Waikapū stream. The stream flows directly into Keālia Pond, which is the terminus of the stream. Waikapū Stream is the main surface water source to the pond but it is not the only surface water source. Pohakea Stream and Paleaahu Stream (which may be connected with Waihe'e Ditch) also flow into and terminate at the pond. Occasionally, we use groundwater pumping to augment pond levels for endangered Hawaiian waterbirds.

Item # 6) We collected periodic flow measurements of Waikapū Stream from 2002 to 2006 at the point where it flows onto the refuge. A few of these measurements were made using a current meter and standard USGS measurement techniques but most of the measurements were visual estimates of flow. The stream channel is often dry at this location so when we made a visual estimate of flow, we first noted whether stream was flowing or not and, if it was, we made visual estimates of velocity, depth, and width, then computed an estimate of flow.

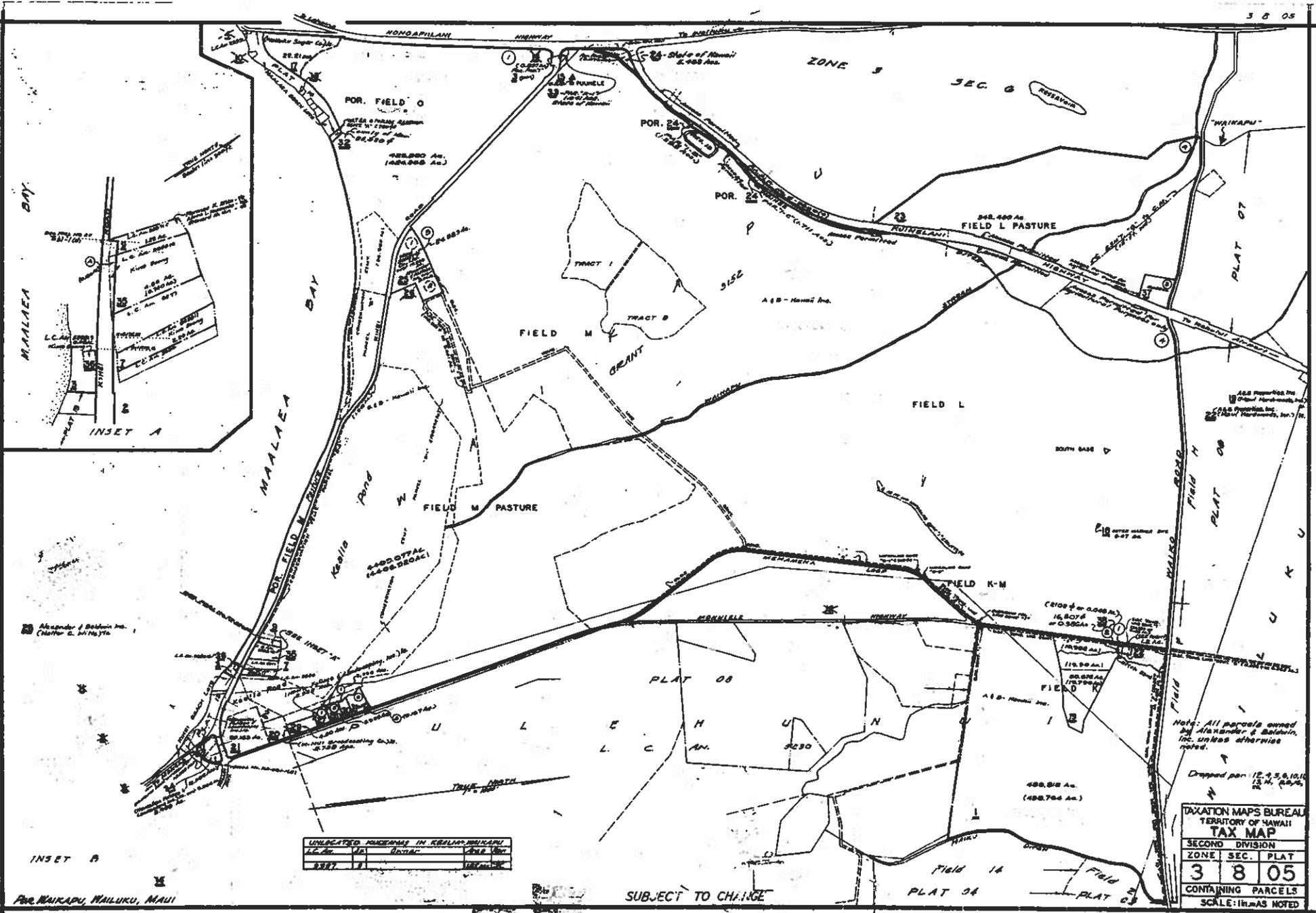
Table 1 – The numbers in the “Other” column in this table are the monthly median water level elevations (MLLW in feet) for the years 2002 to 2006. We did not include the months indicated (May 2007-April 2008) because that was an exceptionally dry winter and does not represent the levels required to sustain habitat for endangered waterbirds. The water levels reported are based on hourly continuous water level data collected for that same period. The refuge has received water in sufficient quantities from rainfall, groundwater seepage and pumping, and all three tributary streams (including Waikapū Stream) to meet evaporation needs, seepage losses, and occasional surface outflows and sustain these water levels. We would like to continue to be able to do so in the future. Since the water supplying the refuge is from multiple sources, it is difficult to state what quantity of water is required from Waikapū Stream itself. We are willing to work with the state to develop a more exact estimate of the quantity of water necessary to continue to maintain these levels.

Table 2 – The particular land use at the refuge is not identified in the categories provided. The refuge was established for the protection and conservation of endangered waterbirds, including Hawaiian coot and Hawaiian stilt, and the land use reflects this purpose.

Table 4 – Brackish groundwater wells are available for augmenting the water supply to Keālia Pond. However, groundwater, in and of itself, is not adequate to supply the entire pond throughout the year and is usually only used at very low water levels.

USFWS, Kealia Pond National Wildlife Refuge, Maui, Hawaii
 Application for Surface Water Use Permit for Existing Use in the Na Wai Eha, Maui, SW Management Area

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 of 24827
 Source: U.S. Geological Survey, 1980

UNREGISTERED PARCELS IN KEALIA-POND NATIONAL WILDLIFE REFUGE	LC No.	Ac.	Owner	Area
1	2287	1	ALEXANDER & BOLDWIN, INC.	1.00

TAXATION MAPS BUREAU		
TERRITORY OF HAWAII		
TAX MAP		
ZONE	SEC.	PLAT
3	8	05
CONTAINING PARCELS		
SCALE: 1 in. = 1/4 MILES NOTED		

**USFWS, Kealia Pond National Wildlife Refuge, Maui, Hawaii
Application for Surface Water Use Permit for Existing Use in the Na Wai Eha, Maui, SW Management Area**

