

# HAWAI'I DAIRY FARMS

## FINAL ENVIRONMENTAL IMPACT STATEMENT

### VOLUME 3

### AGENCIES AND ORGANIZATIONS COMMENT LETTERS AND RESPONSES

This environmental document is prepared pursuant to Hawai'i Revised Statutes, Chapter 343, Environmental Impact Statement Law and Chapter 200 of Title 11, Administrative Rules, Department of Health, Environmental Impact Statement Rules.

**SUBMITTED BY:**



**Hawai'i Dairy Farms**  
MAHA'ULEPU, KAUAI

**JANUARY 2017**



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MAHA'ULEPU, KAUAI

#### PREPARED BY:



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**FINAL ENVIRONMENTAL IMPACT STATEMENT  
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## HAWAI'I DAIRY FARMS

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<b>Consulted Parties</b>					
<b>Respondents and Distribution</b>	<b>Early or Ongoing Consultation, Presentation, or Notification</b>	<b>Comments Received EISPN</b>	<b>Received DEIS</b>	<b>Comments Received DEIS</b>	<b>Received FEIS</b>
<b>A. Federal Agencies or Affiliates</b>					
Environmental Protection Agency Region IX Pacific Islands			X		
Department of Agriculture Natural Resources Conservation Service	X		X		
Department of Commerce National Marine Fisheries Service			X		
Department of Homeland Security Coast Guard 14 <sup>th</sup> District			X		
Department of Transportation Federal Aviation Administration			X		
Department of Transportation Federal Transit Administration			X		
Department of Transportation Federal Highways Administration			X		
Department of the Navy			X		
National Oceanic and Atmospheric Administration Fisheries Pacific Island Regional Office	X	X	X	X	X
U.S. Army Corps of Engineers, Honolulu District	X		X	X	X
U.S. Department of the Interior Fish and Wildlife Service, Pacific Islands	X	X	X	X	X
Department of Interior, Geological Survey, Pacific Islands Water Science Center			X	X	X
Department of the Interior National Parks Service, Pacific Islands			X		
<b>B. State Agencies</b>					
Department of Accounting and General Services	X		X	X	X
Department of Agriculture	X	X	X		X
Department of Business, Economic Development & Tourism (DBEDT)	X		X		
DBEDT, Office of Planning	X		X	X	X
DBEDT, Strategic Industries Division	X		X		
Department of Defense			X	X	X
Department of Hawaiian Home Lands			X		X
Department of Land and Natural Resources (DLNR)	X	X	X		X
DLNR, CWRM	X	X	X		X
DLNR, Engineering Division	X	X	X	X	X

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DLNR, Historic Preservation Division	X	X	X	X	X
Kaua'i/Ni'ihau Island Burial Council	X	X	X		X
DLNR, Land Division, Kaua'i District	X	X	X	X	X
DLNR, Soil and Water Conservation District, West Kaua'i	X		X		
Department of Health (DOH) via Environmental Planning Office	X	X	X	X	X
DOH, Clean Air Branch	X	X	X		X
DOH, Clean Water Branch	X	X	X		X
DOH, Communications Office					X
DOH, Compliance Assistance Office					X
DOH, Environmental Health Services Division (EHSD)					X
DOH, EHSD – Food & Drug Branch – Indoor & Radiological Health Branch					X
DOH, EHSD – Food & Drug Branch – Sanitation Branch					X
DOH, EHSD – Vector Control Branch					X
DOH, Environmental Management Division					X
DOH, Environmental Resources Office					X
DOH, Hazard Evaluation and Emergency Response Office					X
DOH, Health Resources Administration					X
DOH, Kaua'i District Health Office					X
DOH, Planning, Policy, and Program Development Office					X
DOH, Safe Drinking Water Branch					X
DOH, Sanitation	X	X	X		X
DOH, Solid & Hazardous Waste Branch					X
DOH, State Laboratories Division					X
DOH, Wastewater Branch	X	X	X		X
Department of Transportation (DOT)	X	X	X		X
Kaua'i/Ni'ihau Island Burial Council	X		X		
Office of Environmental Quality Control			X		X

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Office of Hawaiian Affairs	X	X	X		X
University of Hawai'i, Environmental Center			X		X
University of Hawai'i, Water Resources Research Center			X		
<b>C. County of Kaua'i</b>					
Department of Parks and Recreation	X		X		
Department of Planning	X		X		X
Department of Public Works	X	X	X		X
Department of Water	X	X	X		X
Fire Department	X		X		
Office of Economic Development	X		X		
Office of the County Clerk	X	X	X		
Police Department	X		X		
Transportation Agency	X		X		
<b>E. Elected Officials</b>					
U.S. Senator Brian Schatz			X		X
U.S. Senator Mazie Hirono			X		X
(former) U.S. Representative Mark Takai 1 <sup>st</sup> District			X		
U.S. Representative Colleen Hanabusa 1 <sup>st</sup> District					X
U.S. Representative Tulsi Gabbard, 2 <sup>nd</sup> District			X		X
Council Chair, Mel Rapozo	X		X	X	X
Council Vice Chair, Ross Kagawa	X		X	X	X
Councilmember, Arryl Kaneshiro	X		X		
Councilmember, Gary L Hooser	X	X	X	X	X
Councilmember, JoAnn A. Yukimura	X		X	X	X
Councilmember, KipuKai Kualii'i	X		X		
Councilmember, Mason K. Chock	X		X	X	X
Honorable Mayor Bernard P. Carvalho, Jr.	X		X		
Representative Dee Morikawa, House District 16	X		X		
Representative Councilmember,	X		X	X	X

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Derek S.K. Kawakami House District 14					
Representative James K. Tokioka, House District 15	X		X		
Senator Ronald D. Kouchi, Senate District 8	X		X		
<b>F. Media</b>					
Honolulu Star Advertiser			X		X
Hawai'i Tribune Herald			X		X
West Hawai'i Today			X		X
The Garden Island	X		X		X
Maui News			X		X
Moloka'i Dispatch			X		X
Honolulu Civil Beat			X		X
<b>H. Libraries</b>					
Department of Education Hawai'i State Library Hawai'i Documents Center			X		X
Hawai'i Kai Regional Library			X		X
Hilo Regional Library			X		X
Kahului Regional Library			X		X
Kaimuki Regional Library			X		X
Kāne'ohe Regional Library			X		X
Legislative Reference Bureau			X		X
Library of the Department of Business, Economic Development, and Tourism			X		
Līhu'e Regional Library	X		X		X
Hanapepe Public Library			X		X
Kapa'a Public Library			X		X
Kōloa Public and School Library			X		X
Princeville Public Library			X		X
Waimea Public Library			X		X
Pearl City Regional Library			X		X
University of Hawai'i Hamilton Library			X		X

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University of Hawai'i at Hilo Edwin H. Mo'okini Library			X		X
University of Hawai'i Kaua'i Community College Library	X		X		X
University of Hawai'i, Maui College Library			X		X
<b>I. Community Interest Groups and Individuals</b>					
Aha Moku Advisory Committee				X	X
Center for Biological Diversity				X	X
Center for Food Safety				X	X
Contractors Association Kaua'i	X		X	X	X
Friends of Māhā'ulepū	X	X	X	X	X
Grove Farm	X	X	X	X	X
Hawaii Cattlemen's Council, Inc.				X	X
Hawai'i Chapter of the Sierra Club Kaua'i Group	X	X	X	X	X
Kaua'i Chamber of Commerce	X		X	X	X
Kaua'i County Farm Bureau	X		X	X	X
Kaua'i Economic Development Board	X		X		
Kaua'i Filipino Chamber of Commerce	X		X		
Kaua'i Planning and Action Alliance	X		X		
Kaua'i Visitors Bureau	X		X		
Kawailoa Development	X	X	X	X	X
Kohola Leo				X	X
Kōloa Community Association	X		X		
Kōloa Landing	X		X		
Malama Kōloa	X		X		
Malama Māhā'ulepū	X	X	X	X	X
Maui School Garden Network				X	X
Po'ipū Bay Golf Course				X	X
Po'ipū Beach Resort Association	X		X	X	X
Po'ipū Crater Homeowners' Association	X	X	X		X
Po'ipū Kai	X		X		

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Rotary Club of Po'ipū Beach	X		X		
Surfrider Foundation, Kaua'i Chapter	X	X	X	X	X
Whalers Cove Resort	X		X		
<b>J. Individuals</b>					
Albert, Martin, M.D.	X	X	X		X
Albert, Phyllis	X	X	X		X
Albrecht, Arnold and Jane	X	X	X		X
Alexander, Mary				X	X
Amsterdam, Jo	X	X	X		X
Anderson, Gary R.	X	X	X		X
Andrade, Mac				X	X
Anthony, John				X	X
Aqui, Emeline				X	X
Ascuena, Jodi	X	X	X	X	X
Ascuena, Victor				X	X
Ashkenazy, Janet	X	X	X		X
Baldwin, Peter				X	X
Bandsma, Gloria				X	X
Barich, Terese	X	X	X		X
Barnard, Bill	X	X	X		X
Baron, Chris	X	X	X		X
Bartlett, Tom and Mary	X	X	X	X	X
Basile, Jude	X	X	X		X
Basler, Sabra	X	X	X	X	X
Bator, Bonnie P.	X	X	X	X	X
Bay, Greg & Shelley	X	X	X	X	X
Beall, Allan				X	X
Beall, Charlotte				X	X
Beall, Charlotte and Allen	X	X	X		X
Beam, Craig	X	X	X		X
Bedwell, Curtis J.	X	X	X	X	X

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Bell, Betty	X	X	X	X	X
Bell, Masai	X	X	X		X
Beuttell, Jack				X	X
Blaich, Beryl	X	X	X	X	X
Bishop, Roger	X	X	X	X	X
Blessing, Alison K. & Breckenridge, Robert L.	X	X	X		X
Blessing, Phillip L. and Kathleen L.	X	X	X		X
Boll, Sharon	X	X	X		X
Boyd, Carylee	X	X	X		X
Boyle, Cornelia	X	X	X	X	X
Brendel, Judith E.	X	X	X		X
Britzmann, Katy	X	X	X	X	X
Brockett, Kyle				X	X
Brockett, Sonja				X	X
Bronzino, Edna				X	X
Brouchoud, Bob & Kathy				X	X
Bulder, Liedeke & Wright, Dick	X	X	X		X
Burkhardt, Joanne	X	X	X		X
Burnham, Deborah				X	X
Burns, Mrs. Robert E.	X	X	X		X
Calipjo, Lester				X	X
Carrick, Donna			X	X	X
Carrick, George			X	X	X
Carrick, George and Donna	X	X	X		X
Cassidy, Andrea			X	X	X
Cassidy, Michael and Andrea	X	X	X		X
Caylor, Carolyn	X	X	X		X
Cerioni, Lee	X	X	X		X
Clark, Kat				X	X
Clune, Constance A.				X	X
Coe, Charlie				X	X

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Collison, David H. V.	X	X	X		X
Coon, Michael M.	X	X	X		X
Coon-Waymen, Michael & Jenica			X	X	X
Cowden, Felicia	X	X	X	X	X
Cox, Carroll				X	X
Crawford, Brenda S.	X	X	X		X
Curtis, Mya				X	X
Dalton, Judy	X	X	X		X
Davis, Amy Boudreau				X	X
Davis, Eric				X	X
Davis-Briant, Carol Ann	X	X	X		X
Decker, Lori	X	X	X	X	X
DeMarco, Richard				X	X
DeMichiel, Catherine	X	X	X		X
DeMichiel, Robert P.	X	X	X		X
deVries, Diane	X	X	X	X	X
Deyden, Myra VanOrnum				X	X
DeZerega, David	X	X	X		X
DeZerega, Sara	X	X	X		X
Di Pietro, Jeri	X	X	X		X
Diamant, Michael	X	X	X		X
Dorrance, Jay	X	X	X		X
Ebata, Ellen	X	X	X	X	X
Eckberg, Ronalee and Eric	X	X	X		X
EerNisse, Errol P.				X	X
Ellul, Beverley and Joseph	X	X	X		X
Erichsen, Andrew				X	X
Faraldi, Russell	X	X	X		X
Farias, Bronwyn				X	X
Farias, Robert				X	X
Farrell, Cheryl Ann	X	X	X		X

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Faye, Alan	X	X	X		X
Fehring, Bruce				X	X
Feldmeir, Matthew & Susan				X	X
Ferguson, James & Susan	X	X	X	X	X
Fleming, Collin and Factor, Kim	X	X	X		X
Forbes, Micha				X	X
Forer, Karl	X	X	X		X
Freeman, Margery	X	X	X	X	X
Fry, Robert				X	X
Garcia, Shawn				X	X
George, Heather				X	X
Gia, Debborrah				X	X
Gipson, Farouz				X	X
Goeggel, Cathy				X	X
Goodwin, Sharon	X	X	X		X
Gottlieb, Alan				X	X
Grace, Yojana	X	X	X	X	X
Grant, Amy	X	X	X		X
Gudoy, Gina				X	X
Hadwin, Jim	X	X	X	X	X
Hadwin, Kathleen	X	X	X		X
Hagan, Beth	X	X	X		X
Hagan, Pat	X	X	X		X
Hagensen, Julie M.	X	X	X		X
Hager, Vivian	X	X	X		X
Halliday, John & Terri	X	X	X	X	X
Hammerquist, Bridget	X	X	X	X	X
Hanohano, Kalanikumai Ka Maka 'uli 'uli 'O Na Ali'i	X	X	X		X
Hartman, Diann				X	X
Hartman, Lisa	X	X	X		X

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Hashimoto, Danny				X	X
Hayden, Chris & Diana				X	X
Hayes, Terrie and Kaohelauli'i, Billy	X	X	X	X	X
Heacock, Donald E.	X	X	X	X	X
Healy, John T.	X	X	X		X
Hee, Stephen	X	X	X		X
Heinen, Gary and Jackie	X	X	X		X
Heller, Larry	X	X	X		X
Hennessy, Tom and Ann	X	X	X		X
Herndon, Herb	X	X	X		X
Herndon, Joyce	X	X	X		X
Hibbitt, Mindy				X	X
Hiraoka, Joy				X	X
Hoff, John R.	X	X	X	X	X
Hokupaa				X	X
Holl, Sherrie				X	X
Holt, Howard & Maureen	X	X	X	X	X
Horak, Joe				X	X
Houby, Jens	X	X	X		X
Howell, David & Linda	X	X	X	X	X
Hubner, Andy				X	X
Hurley, Marisa	X	X	X		X
Ito, Y. Marvin				X	X
James, Michael				X	X
Janai, Kapua	X	X	X	X	X
Jarrett, Nancee				X	X
Jerdal, Larry and Karen	X	X	X		X
John, Ronald O.	X	X	X	X	X
Jones, Ruthann				X	X
Jones, Vince and Fran	X	X	X		X
Jorgens, Gayle and Wai, Stanley	X	X	X		X

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Judd, David	X	X	X		X
Kalanikumai Ka Makauliuli O Na Alii Hanohano				X	X
Kallai, Hope				X	X
Kanna, Jacqueline K.				X	X
Kashiwaeda, Suzanne	X	X	X	X	X
Kauai, Trinette				X	X
Kawahara, Dawn Fraser	X	X	X		X
Kawahara, Delano H.	X	X	X		X
Kawahara, Lani	X	X	X		X
Kaye, Melanie				X	X
Keamoai, Hoku				X	X
Kechloian, Eileen	X	X	X	X	X
Kechloian, John (Jay)	X	X	X	X	X
Kelley, MaryLu	X	X	X		X
Kelly, Frank and Marilyn	X	X	X		X
Ken (no last name)	X	X	X		X
Khalsa, Dr. H.S.S.				X	X
Kinsey, Sinclair W.	X	X	X		X
Kroll, Jean				X	X
Kuala, Marty	X	X	X		X
Lauryn, Steven	X	X	X		X
Lawrence, Jr., Delton				X	X
Lee-Jackson, Debra	X	X	X		X
Leining, Susan	X	X	X		X
Levy, Joan	X	X	X		X
Lo, Karl & Catherine	X	X	X		X
Lott, Jacquelynn K.				X	X
Low, Kristen				X	X
Lucas, Paul	X	X	X		X
Lynam, Christina	X	X	X		X

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Macdougall, Sandy	X	X	X		X
Malapit, Lon				X	X
Maple, Stuart & Lynne	X	X	X		X
Martin, Marianne	X	X	X		X
Masters, Jeff and Deborah	X	X	X		X
Matsumura, Lynne				X	X
McCaslin, Candace	X	X	X		X
McCoubrey, Sharon	X	X	X	X	X
Meboe, Ellen F.	X	X	X	X	X
Meboe, Joe	X	X	X	X	X
Meyer, Ira & Rayme	X	X	X	X	X
Mikaila, Taressa				X	X
Miller, John W.	X	X	X		X
Mills, Mary P.	X	X	X		X
Miner, Imogene	X	X	X		X
Mizumoto, Lance C.	X	X	X		X
Mizuo, Kenneth & Lynette				X	X
Montgomery, Yuri	X	X	X		X
Morey, Lee	X	X	X		X
Mukai, Richard & Victoria				X	X
Muller, Jan	X	X	X	X	X
Muller, John T. Jr.	X	X	X	X	X
Murguia, Kathleen	X	X	X		X
Muzik, Katherine				X	X
Neudorffer, Mary	X	X	X	X	X
Nishek, Jerry				X	X
Nishimura, Randall				X	X
Norman, Rita	X	X	X		X
O'Connor, Tim	X	X	X		X
Oliver, Polli C.	X	X	X		X
Olry, Michele	X	X	X		X

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Olson, Dick and Maria	X	X	X		X
Osterer, Lorraine	X	X	X	X	X
Oxford, Patty	X	X	X		X
Oyama, Mark				X	X
Patterson, John	X	X	X		X
Perez, Kymry	X	X	X		X
Pescaia, Carol	X	X	X		X
Petersen, Greg	X	X	X		X
Pilaria, Rowland	X	X	X	X	X
Pilaria, Shari	X	X	X	X	X
Pilaria, Val	X	X	X		X
Pinzon, Crystal				X	X
Plotkins, Pierra A.	X	X	X		X
Poindexter, James M.	X	X	X		X
Pollock, Sherry				X	X
Powers, Eve	X	X	X		X
Purdy, Ken				X	X
Purdy, Susie				X	X
R, Liz				X	X
Rachap, Allan	X	X	X	X	X
Rachap, Judith	X	X	X	X	X
Ray, Robert	X	X	X		X
Rees, Gerald and Hannah	X	X	X	X	X
Riley, Mark and Simpson, Ann	X	X	X		X
Rogers, Puanani				X	X
Rose, Mike and Laurie	X	X	X		X
Rosen, Gail C.	X	X	X		X
Rosen, Henry and Sara	X	X	X	X	X
Rosener, Matt	X	X	X	X	X
Rowe, Rupert				X	X
Rozelle, Linda M.	X	X	X		X

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Ruchaber, Krista				X	X
Rullman, Charles	X	X	X		X
Russell, Richard	X	X	X	X	X
Saiki, Michael				X	X
Salazar, Tiffany L.				X	X
Santos, Ivy				X	X
Sauve, Joe	X	X	X		X
Scamahorn, Elizabeth				X	X
Schimmelfennig, William	X	X	X		X
Schwartz, Ken and Stephanie	X	X	X	X	X
Shablow, Janette	X	X	X		X
Shaffer, Jamie H.	X	X	X		X
Sheffield, Kathy				X	X
Sherman, Dr. Irene & Douglas	X	X	X	X	X
Simms, Shelby				X	X
Sindt, Ed	X	X	X	X	X
Smith, Annick				X	X
Smith, Sarah				X	X
Smith, Stephen E.	X	X	X		X
Snyder, Eleanor	X	X	X	X	X
Sparks, Norma Doctor	X	X	X		X
Sparks, Stephen A.	X	X	X		X
Stecher, Steven & Igarashi, Portia	X	X	X		X
Stein, Jerry and Wendy	X	X	X	X	X
Steinhagen, James & Susan	X	X	X		X
Sterns, Nancy	X	X	X		X
Stone, Mary Isabella	X	X	X		X
Stone, Rebecca	X	X	X		X
Street, Nicole				X	X
Sullivan, Don	X	X	X		X
Sullivan, James	X	X	X	X	X

**HAWAI'I DAIRY FARMS**

Final Environmental Impact Statement

<b>Consulted Parties</b>					
<b>Respondents and Distribution</b>	<b>Early or Ongoing Consultation, Presentation, or Notification</b>	<b>Comments Received EISPN</b>	<b>Received DEIS</b>	<b>Comments Received DEIS</b>	<b>Received FEIS</b>
Summerfield, Yvonne	X	X	X		X
Sussman, Jay	X	X	X		X
Suzie				X	X
Swanson, Ashley	X	X	X		X
Swanson, William	X	X	X	X	X
Sweeney, Sean Keoki				X	X
Sylvester, Linda				X	X
Talaber, Cynthia & Dave	X	X	X	X	X
Taylor, Gabriela				X	X
Taylor, Ken	X	X	X		X
Taylor, Terry	X	X	X		X
Thompson, Tayemi Susan	X	X	X	X	X
Thurston, Anne	X	X	X		X
Tilley, Karen	X	X	X		X
Trapp, Max	X	X	X		X
Trentlage, Sheri & Dave	X	X	X		X
Trevino, Luis	X	X	X	X	X
Valentini, George & Littlefield, Pam	X	X	X	X	X
Valenziano, Beth	X	X	X	X	X
Varnel, Deborah				X	X
Vernon, Ian				X	X
Viluan, Tia				X	X
Vlach, Robert	X	X	X		X
Walden, Diane	X	X	X		X
Walden, Terry	X	X	X		X
Waldrop, Mark	X	X	X		X
Waldrop, Mary	X	X	X	X	X
Waybright, Liz				X	X
Weil, Martin	X	X	X		X
Weiner, Jill				X	X
Wolti, Cynthia	X	X	X		X

**HAWAI'I DAIRY FARMS**

Final Environmental Impact Statement

<b>Consulted Parties</b>					
<b>Respondents and Distribution</b>	<b>Early or Ongoing Consultation, Presentation, or Notification</b>	<b>Comments Received EISPN</b>	<b>Received DEIS</b>	<b>Comments Received DEIS</b>	<b>Received FEIS</b>
Werner, Mariah				X	X
Wesland, Coni	X	X	X		X
White, Allan B.	X	X	X		X
Whitney, William	X	X	X		X
Wiener, Susan	X	X	X		X
Wilcox, Mark	X	X	X		X
Wildman, Kelly	X	X	X		X
Wildman, Randall	X	X	X		X
Williams, Bob				X	X
Williams, Bob and Jeanette	X	X	X		X
Williams, Carol	X	X	X		X
Williams, Jeanette				X	X
Williams, Laura	X	X	X		X
Wollin, Pearl	X	X	X		X
Wolny, Kerry	X	X	X		X
Wolny, Pam	X	X	X	X	X
Wry, Diane				X	X
Wyeth, Hau'onalani	X	X	X	X	X
Yamada, Debbie				X	X
Yamamoto, James				X	X
Yamasaki, Morton				X	X
Yatsuoka, Vanessa				X	X
Yeo, Gwen	X	X	X		X
Zelkovsky, Robert	X	X	X	X	X
Zepeda, Joy				X	X
Zimmerman, Jack	X	X	X		X

**AGENCIES**



Drainage and Storm Water Runoff - NMFS commented that existing and future drainage conditions should be considered and measures developed to avoid or minimize runoff and discharge.

*Response - Gutters, curbs and swales would be used within the dairy facility, and runoff from the buildings will be directed to ground level and directly into grass surrounding the buildings. Run-off from the 1.75 acre area grounds would be routed to storage ponds. Cultivation of a grass thatch for complete vegetative cover throughout the dairy paddock would capture rainfall. Fences would be erected along the setbacks to prevent cows from accessing those areas.*

Water Supply - NMFS commented that the changes in the hydrology (more accurately, the hydrological cycle) of the local marine environment may occur due to water usage and discharge from the dairy operation, and that these changes should be analyzed.

*Response - Once fully operational, the dairy would use 30000 gallons of groundwater/day for a herd size of 699 cows, and 84800 gallons/day for herd size of 2000 cows. Existing on site wells produce 3,000,000 gallons/day. All potable water used as wash water will be re-applied to pasture lands. The shallower groundwater aquifer underlying the dairy is a separate waterbody in clay alluvium deposits and is not connected to the deep water aquifer in unweathered volcanic rock.*

NMFS is satisfied with the responses and the measures that the Hawaii Dairy Farms intends to implement with regards to the Environmental Settings categories listed in the EISPN, except for the response under Surface Water Resources. NMFS is concerned that the possible addition of 10000 pounds of nitrogen and 900 pounds of phosphorus annually from run-off could lead to increased algae growth along the Poipu shoreline, which in turn could result in overwhelming corals along the shoreline. As pointed out in the response, the amount of nitrogen and phosphorus entering the Poipu shoreline is considerably higher already, but an increase of over 25 % in nitrogen and nearly 75 % in phosphorus is significant. The proposed 35 foot setback from the boundary of the farm will help to reduce the run-off, but NMFS believes additional measures may be necessary, especially given the proposed increase in the herd size to 2000 cows, which we assume would necessitate the use of more fertilizer to increase the grass to be used to feed the herd.

NMFS realizes that the Hawaii Dairy Farms is not responsible for the current level of nutrients entering the Poipu shoreline, but we would ask that the Hawaii Dairy Farms consider implementing additional measures to reduce the flow of nutrients to the shoreline. These measures might include planting additional vegetation or to develop additional drainage measures in the area to be used as setback to further reduce runoff, or to research alternative ways to grow the grass needed for feed without having to use so much fertilizer.

NMFS would be happy to meet to discuss ways that the Hawaii Dairy Farms can reduce the flow of nutrients to the marine environment. If interested, the Hawaii Dairy Farms can contact me to arrange those meetings. Thank you for the opportunity to review and provide comments on this project. If our continued involvement will help to facilitate the project going forward, please feel free to contact us at your convenience.

Richard Hall  
Fishery Policy Analyst  
Pacific Islands Regional Office  
NOAA Inouye Regional Center  
1845 Wasp Blvd., Building 176  
Honolulu, HI 96818  
808-725-5018

**From:** Richard Hall - NOAA Federal [mailto:richard.hall@noaa.gov]  
**Sent:** Monday, August 01, 2016 9:47 AM  
**To:** McIntyre, Laura <Laura.McIntyre@doh.hawaii.gov>  
**Cc:** Danielle Jayewardene - NOAA Affiliate <danielle.jayewardene@noaa.gov>; Gerry Davis - NOAA Federal <gerry.davis@noaa.gov>; Samantha Brooke <samantha.brooke@noaa.gov>  
**Subject:** Re: Aloha - HDF DEIS comments ok?

Laura,

On January 27, 2015, the National Marine Fisheries Service (NMFS) Pacific Islands Regional Office received a copy of the draft Hawai'i Dairy Farms Environmental Impact Statement Preparation Notice (EISPN); from the project planning group, Group 70 International, Inc. and the approving agency, the State of Hawaii Department of Health, asking for our office's review and comment. The project calls for development and operation of a zero-discharge, grass fed dairy, utilizing a sustainable, pasture-based rotational grazing system on 578 acres of agricultural zoned land on the Island of Kauai. The initial herd size is projected to be under 700 cows, but the herd could grow in size to 2000 when the dairy is under full-scale operation.

On January 30, 2015, NMFS forwarded our comments after a review of the draft EISPN. Our comments were offered under four headings used in the EISPN as environmental settings- Surface Water Resources, Roadway and Traffic, Drainage and Storm Water Runoff, and Water Supply. Responses to our comments were offered by Group 70. The following is a paraphrasing of NMFS comments, and the responses made by

Surface Water Resources - NMFS commented that the project could result in an increase in nutrient load to the marine environment, and the proponent should develop mitigation/avoidance measures to prevent it.

*Response - Naturally growing grass will provide 70 % of the diet for the dairy farm herd. Nutrient requirements for the pasture grass will be greater than that provided by cattle manure and effluent from the milking parlor. To supplement this nutrient deficiency, fertilizers would be applied. Based on conservative analysis up to 2 percent of total nitrogen and one percent of phosphorus may pass through the soils and end up in the marine environment, resulting in 10000 pounds of nitrogen and 900 pounds of phosphorus introduced into nearshore marine waters annually. By comparison, the current nitrogen input from sources along the Poipu shoreline are 38510 pounds, while phosphorus input stands at 1260 pounds. To mitigate the nutrient input, the proponent proposes to establish 35 foot setbacks from the top of drainage ways where cows would be excluded.*

Roadway and Traffic - NMFS commented that the project could result in an increase in impermeable surfaces, resulting in greater runoff and sedimentation, and the proponent should include management measures to avoid or minimize it.

*Response - The dairy farm facilities will occupy approximately 10 acres (of the nearly 600 acre farm) on the western boundary of the site. The developed area will result in minimal impermeable surfaces.*



To protect water quality of surface water and downstream areas, two types of setbacks will be established. A physical setback to exclude cows from waterways and drainages will be created with paddock fencing set 35 feet back from the top of bank of drainage ways on site. Existing vegetation within the setbacks will be managed or restored to reduce erosion, improve stability of ditch banks, increase net carbon storage, and improve and maintain water quality (Figure 3.5-2). The second type of setback restricts liquid effluent application near water sources: 50 feet from the top of the bank on either side of a waterway; and 1,000 feet from the nearest County drinking water well, Kōloa F (EIS Section 3.5, Pasture Management).

The Hydrologic Assessment for the Pasture Areas for Hawai'i Dairy Farms (Group 70, 2016), contained in EIS Volume 2 Appendix K, identifies both existing and proposed conditions related to stormwater runoff and drainage. Estimated Peak Flow where flows combine south of the site will be reduced. Proposed conditions include roughly 80 acres of maintained drainageways, vegetated setbacks, cow walkways topped with soft, crushed, permeable limestone, and farm roads, and a thick grass ground cover over the majority of the farm: nearly 470 acres of the 557-acre site. With organic matter from manure, the predominately kikuyu grass crop will improve surface infiltration of rainfall and irrigation (Vost, 2016, EIS Appendix 5-A).

Calculations in the Hydrologic Assessment show the projected reduction by storm event. For the 10-year storm event, peak flow leaving the project site will be reduced by 257 cubic feet per second (cfs), for the 25-year storm event, reduced by 283 cfs; and for the 50-year storm event, reduced by nearly 300 cfs.

As for the marine environment, a marine water quality report is included in Appendix F of the EIS. A supplemental report in this appendix includes a November 2016 assessment of the nearshore marine biological community. This report states the nearshore receiving environment is an area typified by extreme energy during all seasons. Such extreme energy, primarily in the form of waves and currents, serves to rapidly disperse input from stream discharge. Hence, the time that the marine environment is exposed to episodic inputs of storm runoff is very short, and the limited marine species that occupy the area are capable of withstanding such impacts. There is also a large body of scientific literature documenting that reef corals do not require low nutrient water. For example, a multitude of corals from around the Pacific Basin growing at the Waikiki Aquarium live in high nutrient marine groundwater and have higher linear growth rates than corals in the wild. Hence, there is no reason to expect that a short-term exposure of elevated nutrients by this limited benthic community will result in any negative impacts to corals and associated marine life in the mixing zone of Waipili Ditch and the ocean.

HDF has established baseline water quality monitoring with the initially compiled data set included in the EIS Volume 2, Appendix F: *Baseline Conditions and an Assessment of the Effect of the Proposed Hawai'i Dairy Farms on Surface Water Chemistry* by Marine Research Consultants, Inc. (MRCI). MRCI established 12 surface water quality monitoring stations in and around the HDF site, as well as four ocean sampling transects down gradient of the site, to provide for regular water quality monitoring (see EIS Section 4.17). The monitoring program and methods are designed to meet the Hawai'i State Department of Health (DOH) Clean Water Branch (CWB) quality assurance/quality control requirements, and results will be made available to DOH CWB, dairy neighbors and the local Kaua'i community.

Your comment, along with this response, will become part of the public record and will be published in the Final EIS. A copy of the Final EIS is included on a compact disc with this letter. When published, the Final EIS will be available on the OEQC website which you can access using the following URL, and search "Hawai'i Dairy Farms": <http://tinyurl.com/OEQCKAUAI>.

Thank you for your participation in the environmental review process.

Sincerely,

GROUP 70 INTERNATIONAL, INC.



Jeffrey H. Overton, AICP, LEED AP  
Principal Planner

cc: Hawai'i Dairy Farms  
Hawai'i State Department of Health,  
Environmental Planning Office



DEPARTMENT OF THE ARMY  
HONOLULU DISTRICT, U.S. ARMY CORPS OF ENGINEERS  
FORT SHAFTER, HAWAII 96858-5440

October 22, 2014

SUBJECT: Clean Water Act Exemption for Proposed Maintenance of Existing  
Drainage Ditches of the Hawaii Dairy Farm in Mahaulepu, Island of Kauai, Hawaii

Mr. Ryan Char, PE  
Group 70 International  
925 Bethel Street, 5<sup>th</sup> Floor  
Honolulu, Hawaii 96813-4307

Dear Mr. Char:

We have received your letter dated June 24, 2014, requesting a determination of permitting requirements for the proposed maintenance of existing drainage ditches on an existing farm located at the proposed Hawaii Dairy Farm location in Mahaulepu, Island of Kauai, Hawaii. We have assigned your request Department of the Army (DA) file number **POH-2014-00128**. Please reference this number in all future correspondence concerning this project.

We have reviewed your submittal pursuant to Section 10 of the Rivers and Harbors Act of 1899 (Section 10) and Section 404 of the Clean Water Act (Section 404). Section 10 requires that a DA permit be obtained for certain structures or work in or affecting navigable waters of the United States, prior to conducting the work (33 U.S.C. 403). Section 404 requires that a DA permit be obtained for the discharge of dredged and/or fill material into waters of the U.S., including wetlands and navigable waters of the U.S., prior to conducting the work (33 U.S.C. 1344).

Based on our review of the information you furnished, and assuming your project is conducted only as set forth in the information provided, this office has determined that although your proposed activity may result in the discharge of dredged or fill material in a water of the U.S., the resulting discharges you have described are not prohibited by or otherwise subject to regulation under Section 404 in accordance with 33 CFR Part 323.4. Therefore, a **DA permit will not be required**.

Although a permit is not required from this office, we recommend use of Best Management Practices to avoid and minimize adverse impacts to the aquatic resource. It is your responsibility to ensure that your project complies with all other Federal, State, or local statutes, ordinances and regulations.

Additionally, by subsequent email correspondence dated September 5, 2014, you indicated that additional activities may occur on site which could affect the drainage

From: "Koskelo, Vera B POH" <Vera.B.Koskelo@usace.army.mil>

Date: July 18, 2016 at 11:07:24 AM HST

To: Jeff Overton <jeff@group70intl.com>

Subject: Corps response to May 2016 DEIS - POH-2014-00128(Request for Confirmation for USACE Requirements Sec 404 CWA, Development of a Hawaii Dairy Farm, Mahaulepu, Kauai) (UNCLASSIFIED)

CLASSIFICATION: UNCLASSIFIED

Good morning Jeff,

I received your letter requesting comments on the May 2016 draft EIS for Hawaii Dairy Farms, dated 03 June 2016. Based on the information provided May 2016 DEIS, the Corps response is the same as in our 10-22-14 letter, attached.

Thank you,

Vera Koskelo  
Biologist  
Regulatory Specialist  
USACE-Honolulu District  
Building 230  
Fort Shafter, Hawaii 96858-5440  
808-835-4310  
[Vera.B.Koskelo@usace.army.mil](mailto:Vera.B.Koskelo@usace.army.mil)

CLASSIFICATION: UNCLASSIFIED

ditches or other aquatic resources such as the construction of farm roads, animal walkways, stream crossings, etc. At this time, you have not requested the Honolulu District Corps of Engineers Regulatory Office to determine if these activities are also exempt from the need to obtain a permit under Section 404. Please be aware that if it were determined that the proposed discharges of dredged and/or fill material are associated with normal farming, silviculture, or ranching activities and, in accordance with the March 25, 2014, Interpretive Rule, these activities would also be exempt from Section 404, provided the establishment that the activities in question are part of an ongoing operation. As recently explained in the Interpretive Rule, activities that are implemented in accordance with one or more of the 56 specific Natural Resources Conservation Service (NRCS) national conservation practice standards are considered exempt under Clean Water Act section 404(f)(1)(A) and a Section 404 permit is not required.

You may find the 56 specifically exempted conservation practice standards at: <http://water.epa.gov/lawsregs/guidance/wetlands/agriculture.cfm>. Information regarding NRCS's conservation practices in general may be found at:

[http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/home/?cid=nrcs143\\_026849](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/home/?cid=nrcs143_026849)

If technical assistance is needed to better understand a conservation practice, you should contact your local NRCS office by using the site locator at:

<http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/contact/local/>. Of course, information requests or questions about Clean Water Act jurisdiction under section 404 should be addressed to our project manager.

Thank you for your cooperation with the Honolulu District Regulatory Program. Should you have any questions related to this determination, please contact the Regulatory Office at 808-835-4303 or via e-mail at [CEPOH-RO@usace.army.mil](mailto:CEPOH-RO@usace.army.mil). You are encouraged to provide comments on your experience with the Honolulu District Regulatory Office by accessing our web-based customer survey form at [http://corpsmapu.usace.army.mil/cm\\_apex/f?p=136:4:0](http://corpsmapu.usace.army.mil/cm_apex/f?p=136:4:0).

Sincerely,



Michelle R. Lynch  
Chief, Regulatory Office



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January 3, 2017

Vera Koskelo  
Biologist  
Regulatory Specialist  
USACE - Honolulu District  
Building 230  
Fort Shafter, Hawaii 96856-5440

**Subject:** Hawaii Dairy Farms Final Environmental Impact Statement (EIS)  
Maha'ulepi, Koloa District, Kaua'i, Hawaii  
Response to Comment on Draft EIS

Dear Ms. Koskelo:

Thank you for your input dated July 18, 2016 on the Hawaii Dairy Farms Draft EIS. We acknowledge the Corps response is the same as the previously received October 22, 2014 letter that stated a Department of the Army (DA) permit will not be required, as the project is not subject to regulation under Section 404 in accordance with 33 CFR Part 323.4.

Your comment, along with this response, will become part of the public record and will be published in the Final EIS. A copy of the Final EIS is included on a compact disc with this letter. When published, the Final EIS will be available on the OEQC website which you can access using the following URL, and search "Hawaii Dairy Farms": <http://tinyurl.com/OEQCKAUAI>.

Thank you for your participation in the environmental review process.

Sincerely,

GROUP 70 INTERNATIONAL, INC.



Jeffrey H. Overton, AICP, LEED AP  
Principal Planner

cc: Hawaii Dairy Farms  
Hawaii State Department of Health,  
Environmental Planning Office



## United States Department of the Interior

FISH AND WILDLIFE SERVICE  
Pacific Islands Fish and Wildlife Office  
300 Ala Moana Boulevard, Room 3-122  
Honolulu, Hawaii 96850



In Reply Refer To:  
01EPIF00-2016-TA-0434

Mr. Jeffrey H. Overton  
Group 70 International, Inc.  
925 Bethel Street, Fifth Floor  
Honolulu, Hawaii 96813



JUL 25 2016

Subject: Technical Assistance for the Proposed Hawaii Dairy Farms, Kauai

Dear Mr. Overton:

The U.S. Fish and Wildlife Service (Service) received your letter, dated May 26, 2016, regarding the proposed Hawaii Dairy Farms on the island of Kauai. Hawaii Dairy Farms, L.L.C. (HDF) proposes to establish and operate a grass-fed dairy, capable of supporting 2,000 dairy cows, including commercial dairy facilities and pastures managed for Kikuyu and Kikuyu-Guinea grasses. The proposed dairy facilities consist of barn and milking parlor, cow walkways, farm roads, effluent settling and storage ponds, water distribution system and tanks, operations buildings, and associated infrastructure (electrical power, wastewater, and communications). The pasture design will include approximately 118 fenced paddocks (4-5 to 5.0 acres each). The development will be located on approximately 578 acres consisting of portions of three larger parcels (TMK (4) 2-9-003-001 and 006 portion; TMK (4) 2-9-001-001) adjacent to Mahalepua Road, east of Kolou town.

We provided comments during early development of the Environmental Impact Statement (EIS) in February 2015 (Service File: 2015-TA-0138). In our letter, we recommended measures to avoid and minimize impacts to the following federally listed species and species proposed for listing: the endangered Hawaiian black-necked stilt (*Himantopus mexicanus knudseni*), Hawaiian moohoe (*Gallinula chloropus sandwicensis*), Hawaiian coot (*Fulica alai*), Hawaiian duck (*Anas wyvilliana*) (hereafter collectively referred to as Hawaiian waterbirds); the endangered Hawaiian goose (*Branta sandwicensis*); the endangered Hawaiian heary but (*Larus cinereus semotis*); and the endangered Hawaiian petrel (*Pterodroma sandwichensis*), the threatened Newell's shearwater (*Puffinus auricularis newelli*), and a species proposed for listing the band-rumped storm-petrel (*Oceanodroma castro*) (hereafter collectively referred to as seabirds). The Service also recommended the draft EIS address all potential impacts to these species, outline measures to minimize these impacts, and address any potential disturbance to designated critical habitat for the following species: two endangered arthropods, the Kauai cave wolf spider (*Adelphocoris anaps*) and the Kauai cave amphipod (*Speleorchestia kobanaui*) (hereafter collectively referred to as arthropods); and an endangered plant, ohia (*Scaevola tomentosa*).

Mr. Jeffrey H. Overton

In your recent letter, you provide responses to our comments on EIS Preparation Notice and notify us of availability of the draft EIS. We offer the following comments to assist you in preparation of a thorough and comprehensive final EIS. Our comments are provided under the authorities of the Endangered Species Act of 1973 (ESA), as amended (16 U.S.C. 1531 *et seq.*).

### Hawaiian Waterbirds and Hawaiian Goose

The draft EIS states that a 15 mile per hour speed limit will be posted and enforced on all roads at the project site. The Service recommends installation of walls or vegetated trellis barriers where roads run adjacent to and/or cross ditches (drain lines) to reduce opportunities for birds to walk on to roads from ditches and minimize Hawaiian waterbird and Hawaiian goose (geese) collisions with vehicles.

Hawaiian waterbirds and Hawaiian geese may be attracted to the effluent settling and storage ponds as well as managed pastures. Your letter states that effluent ponds will be surrounded by non-vegetated surfaces, and that should birds be attracted to the effluent ponds, the ponds will be covered. Although occurrence is minimal, Hawaiian geese have been known to nest in non-vegetated surfaces (e.g., gravel and sand).

The draft EIS states the operation of dairy may attract higher densities of mammalian predators such as cats, dogs, and rats. We acknowledge the draft EIS also states that traps will be maintained to capture feral cats or rats that may harm Hawaiian waterbirds or Hawaiian geese transiting or using the HDF site. Additional information on the predator control program is necessary to determine its effectiveness in minimizing predation of Hawaiian waterbirds and Hawaiian geese using the site. We recommend you work with our office to develop a comprehensive predator control program.

Construction activities such as clearing and grubbing have the potential to disturb nesting waterbirds and geese, nests, eggs, and young. The Service acknowledges that the draft EIS states that construction activity will be halted if nesting activity is identified within 100 feet of construction until nesting activity has ended. We also acknowledge conservation fencing will be used to protect geese from being impacted in specified areas.

Additionally, operations including pasture and herd management pose similar potential impacts to Hawaiian waterbirds and Hawaiian geese. The Service understands that HDF plans to develop an Avian Species Protection Plan (ASPP), following build-out and start of dairy operations. We recommend that HDF develop the ASPP prior to the start of dairy operations. We request to receive a copy of the draft ASPP once it is available for release. Although implementation of an ASPP may minimize impacts to Hawaiian waterbirds and Hawaiian geese, nests, eggs, and young, we are concerned that adverse effects may not be avoided due to long-term pasture and herd management.

In your letter, you state that HDF will implement measures that include recognition of field conditions that could promote avian botulism and methods to counteract such conditions. In addition, The Service recommends HDF integrate regular bird monitoring for early detection of avian botulism and response protocols. We recommend you contact our office so that we may assist you with development of early detection and response protocols.

*Hawaiian Hoary Bat*

The Service acknowledges that the draft EIS states that very few mature trees are present on the proposed dairy farm site. We recommend clearing or trimming of the mature trees greater than 15 feet be timed to avoid disturbance to Hawaiian hoary bats birthing and pup rearing season (June 1 through September 15). In addition, we acknowledge that the barbed wire used for fencing will be located at ground level.

*Seabirds*

Your letter states that outside lights used at night will be shielded to minimize attraction of seabirds to artificially-lighted areas. To avoid collisions, we acknowledge that construction cranes will be lowered at night, and that tall structures and fencing will be marked with white visibility poly-tape. The Service understands the HDF site is located in a relatively dark area of southern coast line, and seabird fallout has occurred in the vicinity of the project at lighted buildings. Additional details regarding the number, location, intensity, and operational use of the lighting is necessary to assess the potential impacts to seabirds. We acknowledge that HDF will install solar photovoltaic to generate power onsite and electrical lines extended to the dairy will be undergrounded along the access road.

*Arthropods*

In your letter, you state that the Koloa Lava Tube System which provides habitat for the arthropods is located several miles from the proposed dairy farm property. Based on our measurements using GIS, habitat occupied by both arthropods is located approximately 0.75 miles from the southern end of the property boundary (critical habitat Unit 13). The habitat consists of the only known occupied limestone cave and surrounding mesocaverns. The cave is occupied by both arthropods and is one of only seven verified locations of the amphipod, and one of six verified locations of the spider. Although the limestone bearing rock surrounding the cave and mesocaverns to the north has not been surveyed, the area is less likely to contain suitable habitat for the arthropods.

At issue is the potential impact on the arthropods due to surface water runoff from the proposed dairy farm, conveyed downstream by water courses. Based on site visits by Service biologists and debris found in the entrance of the cave, we understand the cave floods during heavy rainfall events from a watercourse, which is connected to ditches upstream at the proposed dairy farm property.

Soil erosion and suspended sediment runoff to drainages may impact the sensitive cave ecosystem during heavy rainfall events. Sedimentation and filling of the subterranean spaces, where cave arthropods occur, has likely contributed to habitat loss in the area. We understand the proposed project includes 35-foot wide vegetation buffers along ditches that run through the property. In addition, Appendix E of the draft EIS states that HDF operations would add approximately seven- and eight- fold increases of nitrogen and phosphorous, respectively, into the marine environment compared to the present contribution from and through the HDF site. The EIS should analyze 1) the potential effects to arthropods from suspended sediment runoff and increased nitrogen and phosphorous which could enter the arthropod habitat and 2) ways to minimize potential disturbance to the sensitive cave ecosystem.

*Scabania tomentosa*

We acknowledge the draft EA states that the project will not disturb critical habitat for *Scabania tomentosa* which occurs on the coast located southeast of the proposed dairy farm site.

The final EIS should address all potential impacts to listed species and species proposed for listing and outline conservation measures to minimize these impacts. In addition, the Service acknowledges that many relevant measures to avoid and minimize impacts to water resources are incorporated in the draft EIS. We acknowledge that the draft EIS states that a Stormwater Pollution Prevention Plan has been developed for submission as part of the National Pollutant Discharge Elimination System – Construction Stormwater General Permit.

Additionally, we offer the following comments to assist you with ESA compliance. Based on information available to us, the Service understands that site preparation and construction performed between February 2014 and April 2015 included the following: installation of irrigation infrastructure; drilling and installation of wells; clearing and discing of approximately 485 acres (which included woody trees); establishment of Kikuyu grass (*Pennisetum clandestinum*) on approximately 80 acres of prepared soils; and mowing of established Kikuyu grass to 7-8 inches tall. In our February 2015 letter, we provided the definition of “take” under the ESA, provided recommended measures to avoid and minimize impacts, and recommended you contact us as soon as additional information on your project description becomes available. To date, other than your response letter, there has been no consultation with our office.

Your correspondence to the West Kaula Soil and Water Conservation District, dated July 17, 2015, states that HDF does not contemplate the use of any Federal funds and does not require any Federal approvals. The draft EIS states that HDF received confirmation of exemption for maintenance of existing drainage ditches from the Honolulu District, U.S. Army Corps of Engineers in 2013. Based on this information, the Service understands no Federal agency is involved with the funding, authorizing, or permitting of the proposed project.

The Service is concerned that construction and operations of the proposed dairy farm may adversely affect listed species. The draft EIS acknowledges that there could be short-term impacts to Hawaiian waterbirds, Hawaiian geese, and seabirds during construction period and long-term impacts to these species from proposed dairy operations. While we appreciate that HDF has committed to adopt many relevant measures to minimize impacts to listed species, implementation of such measures may not completely avoid adverse effects. Pasture and herd management may disturb nesting Hawaiian waterbirds and Hawaiian geese, nests, eggs, and/or young, resulting in injury or mortality to birds and reduced breeding success. Vehicles usage of roadways may result in injury or mortality of Hawaiian waterbirds and Hawaiian geese due to collisions with vehicles. Therefore, we recommend that Hawaii Dairy Farms, LLC and/or project proponents prepare an application for an incidental take permit under section 10(a)(1)(B) of the ESA, addressing potential impacts to listed species occurring and/or transiting through the project area due to construction and operation of the proposed dairy farm. We recommend you incorporate information from the draft ASPP into a habitat conservation plan (included in a section 10 permit application) that identifies the effects of the action on listed species, and their habitats, and defines measures to minimize and mitigate those adverse effects.

Mr. Jeffrey H. Overton

5

We would like to schedule a meeting with you to discuss the 1) incidental take permit application process, 2) additional details regarding avoidance and minimization measures for listed species, and 3) information necessary to estimate the amount of adverse effects to listed species anticipated from the proposed project.

We appreciate your efforts to conserve protected species. If you have questions regarding this letter, please contact Adam Griesemer, Endangered Species Biologist (phone: 808-285-8261).

Sincerely,



Aaron Nadig  
Island Team Manager  
Oahu, Kauai, North Western Hawaiian  
Islands, and American Samoa

cc: Laura McIntyre, HDOH  
Katherine Cullison, DLNR-DOFAW



## United States Department of the Interior

FISH AND WILDLIFE SERVICE  
Pacific Islands Fish and Wildlife Office  
300 Ala Moana Boulevard, Room 3-122  
Honolulu, Hawaii 96850



In Reply Refer To:  
01EPF00-2016-TA-0434

Mr. Jeffrey H. Overton  
Group 70 International, Inc.  
925 Bethel Street, Fifth Floor  
Honolulu, Hawaii 96813



JUL 25 2016

Subject: Technical Assistance for the Proposed Hawaii Dairy Farms, Kauai

Dear Mr. Overton:

The U.S. Fish and Wildlife Service (Service) received your letter, dated May 26, 2016, regarding the proposed Hawaii Dairy Farms on the island of Kauai. Hawaii Dairy Farms, L.L.C. (HDF) proposes to establish and operate a grass-fed dairy, capable of supporting 2,000 dairy cows, including commercial dairy facilities and pastures managed for Kikuyu and Kikuyu-Guinea grasses. The proposed dairy facilities consist of barn and milking parlor, cow walkways, farm roads, effluent settling and storage ponds, water distribution system and tanks, operations buildings, and associated infrastructure (electrical power, wastewater, and communications). The pasture design will include approximately 118 fenced paddocks (~4.5 to 5.0 acres each). The development will be located on approximately 578 acres consisting of portions of three larger parcels (TMK (4) 2-9-003:001 and 006 portion; TMK (4) 2-9-001:001) adjacent to Mahaulupu Road, east of Kolou town.

We provided comments during early development of the Environmental Impact Statement (EIS) in February 2015 (Service File: 2015-TA-0138). In our letter, we recommended measures to avoid and minimize impacts to the following federally listed species and species proposed for listing: the endangered Hawaiian black-necked stilt (*Himantopus mexicanus knudseni*), Hawaiian moother (*Gallinula chloropus sandwicensis*), Hawaiian coot (*Fulica alai*), Hawaiian duck (*Anas wyvilliana*) (hereafter collectively referred to as Hawaiian waterbirds); the endangered Hawaiian goose (*Branta sandwicensis*); the endangered Hawaiian honey bee (*Lasiurus cinereus semotus*); and the endangered Hawaiian petrel (*Pterodroma sandwichensis*), the threatened Newell's shearwater (*Puffinus auricularis newelli*), and a species proposed for listing the band-rumped storm-petrel (*Oceanodroma castro*) (hereafter collectively referred to as seabirds). The Service also recommended the draft EIS address all potential impacts to these species, outline measures to minimize these impacts, and address any potential disturbance to designated critical habitat for the following species: two endangered arthropods, the Kauai cave wolf spider (*Adelphocora anops*) and the Kauai cave amphipod (*Speleoborchestia kobanae*) (hereafter collectively referred to as arthropods); and an endangered plant, ohai (*Sesbania tomentosa*).

In your recent letter, you provide responses to our comments on EIS Preparation Notice and notify us of availability of the draft EIS. We offer the following comments to assist you in preparation of a thorough and comprehensive final EIS. Our comments are provided under the authorities of the Endangered Species Act of 1973 (ESA), as amended (16 U.S.C. 1531 *et seq.*).

#### *Hawaiian Waterbirds and Hawaiian Goose*

The draft EIS states that a 15 mile per hour speed limit will be posted and enforced on all roads at the project site. The Service recommends installation of walls or vegetated berms where roads run adjacent to and/or cross ditches (drain lines) to reduce opportunities for birds to walk on to roads from ditches and minimize Hawaiian waterbird and Hawaiian goose (geese) collisions with vehicles.

Hawaiian waterbirds and Hawaiian geese may be attracted to the effluent settling and storage ponds as well as managed pastures. Your letter states that effluent ponds will be surrounded by non-vegetated surfaces, and that should birds be attracted to the effluent ponds, the ponds will be covered. Although occurrence is minimal, Hawaiian geese have been known to nest in non-vegetated surfaces (e.g., gravel and sand).

The draft EIS states the operation of dairy may attract higher densities of mammalian predators such as cats, dogs, and rats. We acknowledge the draft EIS also states that traps will be maintained to capture feral cats or rats that may harm Hawaiian waterbirds or Hawaiian geese transiting or using the HDF site. Additional information on the predator control program is necessary to determine its effectiveness in minimizing predation of Hawaiian waterbirds and Hawaiian geese using the site. We recommend you work with our office to develop a comprehensive predator control program.

Construction activities such as clearing and grubbing have the potential to disturb nesting waterbirds and geese, nests, eggs, and young. The Service acknowledges that the draft EIS states that construction activity will be halted if nesting activity is identified within 100 feet of construction until nesting activity has ended. We also acknowledge conservation fencing will be used to protect geese from being impacted in specified areas.

Additionally, operations including pasture and herd management pose similar potential impacts to Hawaiian waterbirds and Hawaiian geese. The Service understands that HDF plans to develop an Avian Species Protection Plan (ASPP), following build-out and start of dairy operations. We recommend that HDF develop the ASPP prior to the start of dairy operations. We request to receive a copy of the draft ASPP once it is available for release. Although implementation of an ASPP may minimize impacts to Hawaiian waterbirds and Hawaiian geese, nests, eggs, and young, we are concerned that adverse effects may not be avoided due to long-term pasture and herd management.

In your letter, you state that HDF will implement measures that include recognition of field conditions that could promote avian botulism and methods to counteract such conditions. In addition, the Service recommends HDF integrate regular bird monitoring for early detection of avian botulism and response protocols. We recommend you contact our office so that we may assist you with development of early detection and response protocols.

#### *Hawaiian Hoary Bat*

The Service acknowledges that the draft EIS states that very few mature trees are present on the proposed dairy farm site. We recommend clearing or trimming of the mature trees greater than 15 feet be timed to avoid disturbance to Hawaiian hoary bats birthing and pup rearing season (June 1 through September 15). In addition, we acknowledge that the barbed wire used for fencing will be located at ground level.

#### *Seabirds*

Your letter states that outside lights used at night will be shielded to minimize attraction of seabirds to artificially-lighted areas. To avoid collisions, we acknowledge that construction cranes will be lowered at night, and that tall structures and fencing will be marked with white visibility poly-tape. The Service understands the HDF site is located in a relatively dark area of southern coast line, and seabird fallout has occurred in the vicinity of the project at lighted buildings. Additional details regarding the number, location, intensity, and operational use of the lighting is necessary to assess the potential impacts to seabirds. We acknowledge that HDF will install solar photovoltaic to generate power onsite and electrical lines extended to the dairy will be undergrounded along the access road.

#### *Arthropods*

In your letter, you state that the Koloa Lava Tube System which provides habitat for the arthropods is located several miles from the proposed dairy farm property. Based on our measurements using GIS, habitat occupied by both arthropods is located approximately 0.75 miles from the southern end of the property boundary (critical habitat Unit 13). The habitat consists of the only known occupied limestone cave and surrounding mesocaverns. The cave is occupied by both arthropods and is one of only seven verified locations of the amphipod, and one of six verified locations of the spider. Although the limestone bearing rock surrounding the cave and mesocaverns to the north has not been surveyed, the area is less likely to contain suitable habitat for the arthropods.

An issue is the potential impact on the arthropods due to surface water runoff from the proposed dairy farm, conveyed downstream by water courses. Based on site visits by Service biologists and debris found in the entrance of the cave, we understand the cave floods during heavy rainfall events from a watercourse, which is connected to ditches upstream at the proposed dairy farm property.

Soil erosion and suspended sediment runoff to drainages may impact the sensitive cave ecosystem during heavy rainfall events. Sedimentation and filling of the subterranean spaces, where cave arthropods occur, has likely contributed to habitat loss in the area. We understand the proposed project includes 35-foot wide vegetation buffers along ditches that run through the property. In addition, Appendix E of the draft EIS states that HDF operations would add approximately seven- and eight- fold increases of nitrogen and phosphorous, respectively, into the marine environment compared to the present contribution from and through the HDF site. The EIS should analyze 1) the potential effects to arthropods from suspended sediment runoff and increased nitrogen and phosphorous which could enter the arthropod habitat and 2) ways to minimize potential disturbance to the sensitive cave ecosystem.

Mr. Jeffrey H. Overton

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*Sebania tomentosa*

We acknowledge the draft EA states that the project will not disturb critical habitat for *Sebania tomentosa* which occurs on the coast located southeast of the proposed dairy farm site.

The final EIS should address all potential impacts to listed species and species proposed for listing and outline conservation measures to minimize these impacts. In addition, the Service acknowledges that many relevant measures to avoid and minimize impacts to water resources are incorporated in the draft EIS. We acknowledge that the draft EIS states that a Stormwater Pollution Prevention Plan has been developed for submission as part of the National Pollutant Discharge Elimination System – Construction Stormwater General Permit.

Additionally, we offer the following comments to assist you with ESA compliance. Based on information available to us, the Service understands that site preparation and construction performed between February 2014 and April 2015 included the following: installation of irrigation infrastructure; drilling and installation of wells; clearing and discing of approximately 485 acres (which included woody trees); establishment of Kikuyu grass (*Pennisetum clandestinum*) on approximately 80 acres of prepared soils; and mowing of established Kikuyu grass to 7-8 inches tall. In our February 2015 letter, we provided the definition of “take” under the ESA, provided recommended measures to avoid and minimize impacts, and recommended you contact us as soon as additional information on your project description becomes available. To date, other than your response letter, there has been no consultation with our office.

Your correspondence to the West Kaula Soil and Water Conservation District, dated July 17, 2015, states that HDF does not contemplate the use of any Federal funds and does not require any Federal approvals. The draft EIS states that HDF received confirmation of exemption for maintenance of existing drainage ditches from the Honolulu District, U.S. Army Corps of Engineers in 2013. Based on this information, the Service understands no Federal agency is involved with the funding, authorizing, or permitting of the proposed project.

The Service is concerned that construction and operations of the proposed dairy farm may adversely affect listed species. The draft EIS acknowledges that there could be short-term impacts to Hawaiian waterbirds, Hawaiian geese, and seabirds during construction period and long-term impacts to these species from proposed dairy operations. While we appreciate that HDF has committed to adopt many relevant measures to minimize impacts to listed species, implementation of such measures may not completely avoid adverse effects. Pasture and herd management may disturb nesting Hawaiian waterbirds and Hawaiian geese, nests, eggs, and/or young, resulting in injury or mortality to birds and reduced breeding success. Vehicles usage of roadways may result in injury or mortality of Hawaiian waterbirds and Hawaiian geese due to collisions with vehicles. Therefore, we recommend that Hawaï Dairy Farms, LLC and/or project proponents prepare an application for an incidental take permit under section 10(a)(1)(B) of the ESA addressing potential impacts to listed species occurring and/or transiting through the project area due to construction and operation of the proposed dairy farm. We recommend you incorporate information from the draft ASPP into a habitat conservation plan (included in a section 10 permit application) that identifies the effects of the action on listed species and their habitats, and defines measures to minimize and mitigate those adverse effects.

Mr. Jeffrey H. Overton

5

We would like to schedule a meeting with you to discuss the 1) incidental take permit application process, 2) additional details regarding avoidance and minimization measures for listed species, and 3) information necessary to estimate the amount of adverse effects to listed species anticipated from the proposed project.

We appreciate your efforts to conserve protected species. If you have questions regarding this letter, please contact Adam Griesemer, Endangered Species Biologist (phone: 808-285-8261).

Sincerely,



Aaron Nading  
Island Team Manager  
Oahu, Kauai, North Western Hawaiian  
Islands, and American Samoa

cc: Laura McMyre, HDOH  
Katherine Cullison, DLNR-DOFAW



January 3, 2017

Mr. Aaron Nadig  
Island Team Manager  
Oahu, Kauai North Western Hawaiian Islands, and American Samoa  
United States Department of the Interior  
Fish and Wildlife Service  
Pacific Islands Fish and Wildlife Office  
300 Ala Moana Boulevard, Room 3-122  
Honolulu, Hawaii 96850

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OF COUNSEL

Ralph E. Portmore, FACIP

Hiroshi Hidb, AIA

Mr. Aaron Nadig  
Island Team Manager, United States Department of the Interior  
Fish and Wildlife Service  
Hawaii Dairy Farms Environmental Impact Statement  
January 3, 2017  
Page 2 of 4

HDF will monitor for the presence of endangered birds and potential seasonal nesting, and will provide protection to any nests by excluding cows and equipment from the area for the required duration of time. Monitoring for avian botulism within the pond area, and the actions to be implemented should any be detected, will be detailed in the ESAPP.

HDF will work with USFWS and DOFAW to identify a comprehensive predator control program to minimize predation of Hawaiian waterbirds and nēnē using the site.

**Hawaiian Hoary Bat**

There are almost no suitable roost trees within the dairy site for the Hawaiian hoary bat, however, the Final EIS, Section 4.10.2 *Probable Impacts and Mitigation Measures* – Fauna states the HDF commitment to not disturb, remove or trim woody plants greater than 15 feet tall during the Hawaiian hoary bat pupping season. No affect to bats is expected from activities and operations of the dairy farm.

**Seabirds**

The Final EIS, Section 3.3.1.7 *Utilities* describes existing overhead Kauai Island Utility Cooperative (KIUC) to the site, with electrical lines to the dairy facilities to be run in a concrete-encased conduit routed underneath the access road. As described in the EIS, Section 4.10.2 *Probable Impacts and Mitigation Measures* – Fauna, outside lights used at night will utilize shades to protect against uplighting and be “dark sky compliant” to prevent possible disorientation of seabirds that may overfly the site.

**Arthropods**

We concur with USFWS’s statement that approximately 0.75 mile from the closest point to the dairy farm is one of fourteen units included as critical habitat and contains the endangered cave arthropods. This distance is documented in the Final EIS Section 4.11.1 *Existing Conditions – Invertebrate Species and Pest Insects*. The majority of the critical habitat documented in the USFWS 2003 *Designation of Critical Habitat for the Kauai Cave Wolf Spider and Kauai Cave Amphipod Final Rule* is several miles away in the Kōloa region. Neither the botanical and faunal survey nor the invertebrate survey revealed any evidence of lava tubes or caves on the property, and no such features have been reported for the area in the near surrounds of the HDF site. Section 4.16.1 *Hydrology*, and Figure 4.16-1 *Geology of Māhā‘ūlepi and Vicinity*, illustrate the significantly different geologic features of the valley which is filled with alluvium that generally extends about 60 feet under the surface and is underlain by highly weathered lava at a shallow depth by secondary eruptions of the Kōloa series.

With regards to the issue of potential impact on the arthropods due to surface water runoff from the proposed dairy farm, conveyed downstream by watercourses, HDF reiterates the multiple best management practices to be employed in the dairy’s design and operations (EIS Section 3.5.1 *Paddocks, Fencing and Setbacks*): To protect water quality of surface water and downstream areas, two types of setbacks will be established. A physical setback to exclude cows from waterways and drainages will be created with paddock fencing set 35 feet back from the top of bank of drainage ways on site. Existing vegetation within the setbacks will be managed or restored to reduce erosion, improve stability of ditch banks, increase net carbon storage, and improve and maintain water quality. Additional setbacks restrict liquid effluent application within 50 feet of waterways; additional setbacks from other water sources are listed in Section 3.5.4.2 *Nutrient Balance*.

**Subject:** Hawaii Dairy Farms Final Environmental Impact Statement (EIS)  
Māhā‘ūlepi, Kōloa District, Kauai, Hawaii  
Response to Comment on Draft EIS

Dear Mr. Nadig:

Thank you for your input dated July 25, 2016 on the Hawaii Dairy Farms (HDF) Draft EIS. The following responses are offered to your comments:

HDF has met with your office and the State Division of Forestry and Wildlife to follow up on issues of interest to the agencies. HDF is committed to operations that pose no adverse impacts to endangered species and has agreed to prepare and finalize an Endangered Species Awareness and Protection Plan (ESAPP), with input from the agencies, prior to development and operation of the dairy. In our meetings, HDF and U.S. Fish and Wildlife Service (USFWS) discussed facility design and operations as well as minimization measures for the eight endangered species that may occur on or overfly the site (four waterbirds, the Hawaiian goose, two seabirds that overfly the greater Kōloa/Pōipū area seasonally, and the Hawaiian hoary bat). The Final EIS Section 4.10, Fauna, has been refined to clarify elements of the ESAPP as well as to incorporate USFWS comments.

**Hawaiian Waterbirds and Hawaiian Goose (Nēnē)**

The Final EIS documents the minimization methods that will be further detailed in the ESAPP. A speed limit of 15 miles per hour on roadways within the HDF site will be enforced, and HDF will emphasize the importance of endangered species awareness and protection through a training module that will be conducted periodically with contractors and others accessing HDF on a regular basis.

Per the discussion with Kauai-based USFWS personnel, fencing will vary throughout the site dependent on the resource to be protected. HDF notes the USFWS comment regarding possible attraction to the non-vegetated surfaces around the effluent settling and storage ponds, and to the managed pastures. The effluent ponds will be surrounded by woven wire fence with approximately five-inch rectangular spacing at the top that diminishes in size towards the ground to prevent waterbirds from wandering in to the area. All perimeter and interior fencing will not utilize barbed wire to reduce the risk that birds or bats may be harmed by interaction with the barbs on that type of wire. In place of barbed wire on the top and bottom of the fences – tensioned fence wire will be used and electric fence strands used in certain locations.

Mr. Aaron Nadig  
Island Team Manager, United States Department of the Interior  
Fish and Wildlife Service  
Hawai'i Dairy Farms Environmental Impact Statement  
January 3, 2017  
Page 3 of 4

Further, HDF's invertebrate consultant, Steven Lee Montgomery, Ph.D., provided the following response to potential effects of runoff:

Recognizing that the food supply of the wholly saprophagic amphipod is organic matter derived from roots and other decaying plant debris, and since nitrogenous and phosphoric nutrients will promote plant growth, their effects, if anything at all, can be expected to expand the food supply in this oligotrophic subterranean ecosystem.

The dairy operation is not expected to impact any endangered invertebrate populations.

*Sesbania tomentosa*

The USFWS comment letter to the Draft EIS acknowledges the statement that the project will not disturb critical habitat for this endangered coastal plant. Further information has been included in the Final EIS, Section 4.9.1 *Existing Conditions – Flora*, to clarify:

The primary remaining natural population of 'ohai on Kaua'i is within Polihale State Park, with a single individual plant recently identified in a coastal area south-east of Polihale (USFWS, 2015). According to the National Park Service Māhā'ulepū, Island of Kaua'i Reconnaissance Survey (2008), the U.S. Fish and Wildlife Service has designated Critical Habitat along the entire Māhā'ulepū shoreline for the endangered 'ohai. No suitable habitat for the 'ohai plant exists on the dairy site. The plant is successfully cultivated from seed, and has been out-planted at appropriate sites throughout the state, including Makauwahi Cave Reserve (USFWS, 2010). So while the coastal area of Māhā'ulepū could provide appropriate habitat for this endangered plant, no naturally occurring population of the species is currently known to exist in the area. Regardless, activities of HDF will occur over a mile inland of the coastal area, and thus will not affect the critical habitat established for this rare, native plant.

The September 2016 USFWS listing of 49 species statewide, consisting of 10 animal and 39 plant species, occur on or in the near vicinity of the HDF site.

HDF appreciates the on-going communication with your agency and the State DOFAW to finalize a document detailing all minimization measures in an ESAPP prior to project construction and operations.

Mr. Aaron Nadig  
Island Team Manager, United States Department of the Interior  
Fish and Wildlife Service  
Hawai'i Dairy Farms Environmental Impact Statement  
January 3, 2017  
Page 4 of 4

Your comment, along with this response, will become part of the public record and will be published in the Final EIS. A copy of the Final EIS is included on a compact disc with this letter. When published, the Final EIS will be available on the OEQC website which you can access using the following URL, and search "Hawai'i Dairy Farms": <http://tinyurl.com/OEQCKAUAI>.

Thank you for your guidance and participation during the environmental review process.

Sincerely,

GROUP 70 INTERNATIONAL, INC.



Jeffrey H. Overton, AICP, LEED AP  
Principal Planner

cc: Hawai'i Dairy Farms  
Hawai'i State Department of Health,  
Environmental Planning Office



United States Department of the Interior

U.S. GEOLOGICAL SURVEY  
Pacific Islands Water Science Center  
1845 Wasp Boulevard, Building 176  
Honolulu, Hawaii 96818

Phone: (808) 690-9600/Fax: (808) 690-9599

June 21, 2016



Mr. Jeffrey H. Overton, AICP, LEED AP  
Principal Planner  
Group 70 International  
925 Bethel Street, 5<sup>th</sup> Floor  
Honolulu, Hawaii 96813-4307

Dear Mr. Overton:

Subject: Hawaii'i Dairy Farms  
Draft Environmental Impact Statement  
Māhā'uilepti Road  
Kaua'i, Hawaii'i  
TMK: (4) 2-9-003:001 portion and 006 portion  
(4) 2-9-001:001 portion

Thank you for forwarding the subject Draft EIS for review and comment by staff of the U.S. Geological Survey Pacific Islands Water Science Center. We regret however, that due to prior commitments and lack of available staff, we are unable to review this document.

We appreciate the opportunity to participate in the review process.

Sincerely,

*Ronald L. Rickman*  
Ronald L. Rickman  
Acting Center Director



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January 3, 2017

Mr. Ronald L. Rickman  
Acting Center Director  
U.S. Geological Survey  
Pacific Islands Water Science Center  
1845 Wasp Boulevard, Building 176  
Honolulu, Hawaii'i 96818

**Subject:** Hawaii'i Dairy Farms Final Environmental Impact Statement (EIS)  
Māhā'uilepti, Kōloa District, Kaua'i, Hawaii'i  
Response to Comment on Draft EIS

Dear Mr. Rickman:

Thank you for your input dated June 20, 2016 on the Hawaii'i Dairy Farms Draft EIS. We acknowledge you are unable to review this document at this time.

Your comment, along with this response, will become part of the public record and will be published in the Final EIS. A copy of the Final EIS is included on a compact disc with this letter. When published, the Final EIS will be available on the OEQC website which you can access using the following URL, and search "Hawaii'i Dairy Farms": <http://tinyurl.com/OEQCKAUAI>.

Thank you for your participation in the environmental review process.

Sincerely,

GROUP 70 INTERNATIONAL, INC.

*Jeffrey H. Overton*

Jeffrey H. Overton, AICP, LEED AP  
Principal Planner

cc: Hawaii'i Dairy Farms  
Hawaii'i State Department of Health,  
Environmental Planning Office

DAVID Y. IGE  
GOVERNOR



DOUGLAS MURDOCK  
COMPTROLLER  
ANDREY HIDANO  
DEPUTY COMPTROLLER

STATE OF HAWAII  
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES

P.O. BOX 119, HONOLULU, HAWAII 96810-0119

JUL 26 2016

(P)1219.6



Mr. Jeffrey H. Overton, AICP, LEED AP  
Principal Planner  
Group 70 International, Inc.  
925 Bethel Street, 5th Floor  
Honolulu, Hawaii 96813-4307

Dear Mr. Overton:

Subject: Draft Environmental Impact Statement for Hawaii Dairy Farms  
Mahaulepu Road, Kauai, Hawaii  
TMK: (4) 2-9-003: 001 (por) and 006 (por)  
(4) 2-9-001: 001 (por)

Thank you for the opportunity to comment on the subject project. We have no comments to offer at this time as the proposed project does not impact any of the Department of Accounting and General Services' projects or existing facilities.

If you have any questions, your staff may contact Ms. Gayle Takasaki of the Public Works Division at 586-0584.

Sincerely,

DOUGLAS MURDOCK  
Comptroller

c: Mr. Eric Agena, DAGS-KDO



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January 3, 2017

Mr. Douglas Murdock  
Comptroller  
State of Hawaii  
Department of Accounting and General Services  
Post Office Box 119  
Honolulu, Hawaii 96810-0119

**Subject:** Hawaii Dairy Farms Final Environmental Impact Statement (EIS)  
Mahaulepu, Koloa District, Kauai, Hawaii  
Response to Comment on Draft EIS

Dear Mr. Murdock:

Thank you for your input dated July 26, 2016 on the Hawaii Dairy Farms Draft Environmental Impact Statement (EIS). We acknowledge you have no comments at this time.

Your comment, along with this response, will become part of the public record and will be published in the Final EIS. A copy of the Final EIS is included on a compact disc with this letter. When published, the Final EIS will be available on the OEQC website which you can access using the following URL, and search "Hawaii Dairy Farms": <http://tinyurl.com/OEQCKAUAL>.

Thank you for your participation in the environmental review process.

Sincerely,

GROUP 70 INTERNATIONAL, INC.

Jeffrey H. Overton, AICP, LEED AP  
Principal Planner

cc: Hawaii Dairy Farms  
Hawaii State Department of Health,  
Environmental Planning Office



**OFFICE OF PLANNING  
STATE OF HAWAII**

235 South Beretania Street, 6th Floor, Honolulu, Hawaii 96813  
Mailing Address: P. O. Box 2359, Honolulu, Hawaii 96804

DAVID Y. ISE  
GOVERNOR

LEO R. ASUNCION  
OFFICE OF PLANNING

Telephone: (808) 587-2846  
Fax: (808) 587-2824  
Web: <http://planning.hawaii.gov/>

Ref. No. P-15246

July 25, 2016



To: Virginia Pressler, M.D., Director  
Department of Health

From: Leo R. Asuncion, Director

Attention: Laura McIntyre, Environmental Planning Office

Subject: Draft Environmental Impact Statement – Hawaii Dairy Farms, Mahaulepu Road, Island of Kauai, Hawaii;  
TMK: (4) 2-9-003: 001 portion and 006 (por.); (4) 2-9-001: 001 (por.)

Thank you for the opportunity to provide comments on the Draft Environmental Impact Statement (Draft EIS) for the proposed Hawaii Dairy Farms project, Koloa, Island of Kauai. The Draft EIS review material was transmitted to our office via letter dated June 3, 2016.

It is our understanding that this project seeks to establish a sustainable, pastoral grazing dairy farm in Mahaulepu Valley in Koloa. These dairy farms will increase local milk production, bolster the State's milk industry, and reduce the State's reliance on imported dairy products.

Pasture grass will be cultivated with an innovative approach by using a sustainable rotational grazing system. This grass feed promises to provide a sustainable locally produced food source appropriate for cow health and quality milk production. This grass feed will be free of pesticides, harmful chemicals, and will provide milking cows with a healthy grass diet. Furthermore, the proposed dairy farm will provide local farming employment and strengthen the State's agricultural economy sector.

The Office of Planning (OP) has reviewed the transmitted material and has the following comments to offer:

1. OP appreciates that the project diversifies and promotes agriculture on Important Agricultural Lands with a sustainable pastoral rotational-grazing dairy farm on the island of Kauai. The proposal will reinvigorate the dairy industry in Hawaii, which has seen a

Ms. Virginia Pressler, M.D. Director  
July 25, 2016  
Page 2

serious decline in recent years. The proposed dairy will further the State's plans and goals for increasing food security and food self-sufficiency.

2. The Draft EIS addresses a number of our comments made in a previous pre-consultation letter dated February 18, 2015 (Reference Number P-14653). The Draft EIS:
  - a. Section 5.3, pages 5-4 to 5-23, contains a complete analysis of the project's consistency to the Hawaii State Plan, as listed in Hawaii Revised Statutes (HRS) Chapter 226. The Draft EIS includes an analysis on the goals, objectives, policies, and priority guidelines of the Hawaii State Plan;
  - b. Section 5.4, page 5-23 examines the project's consistency to the 2010 Comprehensive Economic Development Strategy on Increased Food Security and Food Self-Sufficiency Strategy. This project will promote the local dairy industry by providing a homegrown source for milk for local consumers;
  - c. Section 5.9, pages 5-30 to 5-31 examine the goals and objectives of the Hawaii Coastal Zone Management program as listed in HRS § 205A-2; and
  - d. Confirms that this project is outside of the Special Management Area.
3. The Draft EIS examines the issue of flooding, drainage, effluent water mitigation, surface water resources, and nearshore marine resources.
  - a. Section 3.3.2.3, page 3-14 appraise drainage standards and stormwater infrastructure planned for this project site. Hawaii Dairy Farms will employ surface modifications such as swales, sediment basins, surface drainage, and soil/sediment control methods to mitigate against excessive runoff flowing from the property to neighboring parcels, adjacent surface waterbodies, and shoreline resources.
  - b. Section 3.3.2.4, pages 3-14 to 3-18 evaluate the use of effluent ponds. Design guidance for effluent storage requires sizing of the pond to contain all wastewater, manure, clean water, solids accumulation, surface rainfall/runoff, and the direct precipitation sized for a 25-year, 24-hour rainfall event.
  - c. Section 4.3, pages 4-7 to 4-13 consider the soils present on site. The Draft EIS concludes that the soil types on the project site are classified as poorly drained and depleted of nutrients. It states that in soil loss during construction will be minimized through the various best management practices and soil erosion controls. Soil loss is expected to be within permitted thresholds and that no significant impacts will result. In the long-term, the Draft EIS states that the poorly permeable soils allow little movement of groundwater, and the soils will provide ample time for denitrification and for biological organisms in the soil to make nutrients available for plants. The dairy's focus on robust and healthy grass growth will build organic matter in soils through use of manure as a natural fertilizer.

- d. Section 4.17, pages 4-60 to 4-68 assess the project's impact on the nearshore environment and water quality on surface water resources. The surface water and nearshore marine environment issues examined in this section include:
- i. Soil erosion and suspended sediments, page 4-66. This section states that over the long-term, the surface water quality in the agricultural ditches and Waioipili Ditch will be improved by active management of the dairy site. Cultivation of a grass thatch for complete vegetative cover throughout the dairy paddocks will minimize currently exposed soils within the site.
  - ii. Nutrients from effluent irrigation and commercial fertilizer application, page 4-66. The Draft EIS states that the project's Conservation Plan include setbacks to minimize impacts to waterways. For effluent application, the setback is 50 feet from drainageways. Irrigation and nutrients application will maintain sufficient pasture grazing grasses for the herd. Non-potable irrigation water from Waita Reservoir will be applied through the central pivot system, and can be mixed with nutrient-enriched water from the effluent ponds as fertilizer.
  - iii. Nearshore marine environment impacts, page 4-66. During the rainfall and runoff events, the dairy's nutrient contributions would be further diluted by additional volume of surface runoff and ditch flows. The terminus of Waioipili Ditch is a deep, muddy basin that joins the ocean through a channel cut through beach sand.
  - iv. Vegetated buffers to mitigate against stormwater runoff, page 4-67. The Draft EIS states that vegetative buffers totaling 70 feet in width – 35 feet on either side measured from the top of the agricultural ditches – will be established in keeping with the Livestock Waste Management Guidelines to improve and maintain water quality and reduce erosion. Fences will be erected along the 35-foot setbacks to exclude cows from the buffer areas; vegetation along the buffer will trap soil particles and organic debris in order to minimize inputs to stormwater runoff. Vegetation in and adjacent to the ditches will be maintained to control overgrowth and minimize ditch bank soil erosion.
  - v. Ocean water quality monitoring activities, page 4-68. The Draft EIS states that long-term ocean water quality monitoring has been instituted in conjunction with the surface water quality monitoring, to regularly sample and analyze nutrient and chemical constituent levels in the nearshore marine waters. The ongoing testing program will provide feedback to the dairy management team regarding changes in water quality. Data from the nearshore water monitoring program will be shared with the Department of

Health, Clean water Branch, dairy neighbors and the local Kanai community.

- c. Section 4.23.2, Probable Impacts and Mitigation Measures, page 4-90 includes a discussion on the Stormwater Pollution Prevention Plan (SWPPP). The SWPPP has been developed for the site to document controls and best management practices to avoid, control, and trap potential erosion associated with construction activities. The SWPPP is required as part of the application for the National Pollution Discharge Elimination System – Construction Stormwater General Permit, and describes any discharge in compliance with relevant regulations.

We have no further comments at this time. If you have any questions regarding this comment letter, please contact Joshua Hekeka of our Coastal Zone Management Program at (808) 587-2845 or Lorene Maki of our Land Use Division at (808) 587-2888.

c:  Jeffrey H. Overton, Group 70 International



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January 3, 2017

Leo R. Asuncion

Director

State of Hawai'i

Office of Planning

235 South Beretania Street, 6th Floor

Honolulu, Hawai'i 96813

**Subject:** Hawai'i Dairy Farms Final Environmental Impact Statement (EIS)

Māhā ūlepi, Kōloa District, Kaua'i, Hawai'i

Response to Comment on Draft EIS

Dear Director Asuncion:

Thank you for your input dated July 25, 2016 on the Hawai'i Dairy Farms (HDF) Draft EIS. We acknowledge you have received and read the EIS and have noted that the project goals are consistent with the Hawai'i State Plan and in support of the 2010 Comprehensive Economic Development Strategy on Increased Food Security and Food Self-Sufficiency Strategy.

Your letter notes the environmental analysis in the EIS examines various issues related to surface water and the nearshore marine environment, and that the Office of Planning has no further comments.

Your letter, along with this response, will become part of the public record and will be published in the Final EIS. A copy of the Final EIS is included on a compact disc with this letter. When published, the Final EIS will be available on the OEQC website which you can access using the following URL, and search "Hawai'i Dairy Farms": <http://tinyurl.com/OEQCKAUAI>.

Thank you for your participation in the environmental review process.

Sincerely,

GROUP 70 INTERNATIONAL, INC.

Jeffrey H. Overton, AICP, LEED AP  
Principal Planner

cc: Hawai'i Dairy Farms  
Hawai'i State Department of Health,  
Environmental Planning Office

DAVID Y. IGE  
GOVERNOR



STATE OF HAWAII  
DEPARTMENT OF DEFENSE  
OFFICE OF THE ADJUTANT GENERAL  
3949 DIAMOND HEAD ROAD  
HONOLULU, HAWAII 96816-4495

JUN 22 2016



Group 70 International  
925 Bethel Street, 5th Floor  
Honolulu, Hawaii 96813-4307

Attn.: Mr. Jeffrey H. Overton, AICP, LEED AP

Subject: Hawaii Dairy Farms, Draft Environmental Impact Statement, Mahalepu Road, Kauai, Hawaii, TMK: (4) 2-9-003: 001 portion and 006 portion; (4) 2-9-001: 001 portion

Dear Mr. Overton:

Thank you for the opportunity to comment on the above project. The State of Hawaii Department of Defense has no additional comments to offer relative to the project.

Should you have any questions, please contact Mr. Lloyd Maki, Assistant Chief Engineering Officer at (808) 733-4250.

Sincerely,

NEAL S. MITSUYOSHI, P.E.  
Colonel  
Hawaii National Guard  
Chief Engineering Officer

c: Ms. Havinne Okamura, Hawaii Emergency Management Agency

ARTHUR J. LOGAN  
MAJOR GENERAL  
ADJUTANT GENERAL

KENNETH S. HARA  
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January 3, 2017

Colonel Neal S. Mitsuyoshi, P.E.
Chief Engineering Officer
Hawai'i National Guard
State of Hawai'i
Department of Defense
3949 Diamond Head Road
Honolulu, Hawai'i 96816-4495

Subject: Hawai'i Dairy Farms Final Environmental Impact Statement (EIS)
Māhā ūlepi, Kōloa District, Kaua'i, Hawai'i
Response to Comment on Draft EIS

Dear Colonel Mitsuyoshi:

Thank you for your input dated June 22, 2016 on the Hawai'i Dairy Farms Draft EIS. We acknowledge you have no comments at this time.

Your comment, along with this response, will become part of the public record and will be published in the Final EIS. A copy of the Final EIS is included on a compact disc with this letter. When published, the Final EIS will be available on the OEQC website which you can access using the following URL, and search "Hawai'i Dairy Farms": http://tinyurl.com/OEQCKAUAL.

Thank you for your participation in the environmental review process.

Sincerely,

GROUP 70 INTERNATIONAL, INC.

[Handwritten signature]

Jeffrey H. Overton, AICP, LEED AP
Principal Planner

cc: Hawai'i Dairy Farms
Hawai'i State Department of Health,
Environmental Planning Office

DAVID Y. ODE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF HEALTH
Environmental Planning Office
P. O. BOX 3378
HONOLULU, HI 96801-3378

July 25, 2016

Mr. Jeff Overton,
Principal Planner
Group 70 International
925 Bethel Street, Fifth Floor
Honolulu, Hawaii 96813-4398
HDF@Group70int.com

Dear Mr. Overton:

SUBJECT: Draft Environmental Impact Statement (DEIS) for Hawaii Dairy Farms (HDF)
Mahaulepu Valley, Kauai
TMK: (4) 2-9-003: 001 portion and 006 portion, (4) 2-9-001: 001 portion

The Department of Health (DOH), Environmental Planning Office (EPO), would like to acknowledge receipt of the subject DEIS on June 6, 2016 and would like to take this opportunity to provide comments. For your convenience, we have consolidated the comments from our programs into this letter.

CLEAN WATER ISSUES:

1. Any project and its potential impacts to State waters must meet the following criteria:

- a. Anti-degradation policy (HAR, Section 11-54-1.1), which requires that the existing uses and the level of water quality necessary to protect the existing uses of the receiving State water be maintained and protected.
b. Designated uses (HAR, Section 11-54-3), as determined by the classification of the receiving State waters.
c. Water quality criteria (HAR, Sections 11-54-4 through 11-54-8).

2. HDF may be required to obtain National Pollutant Discharge Elimination System (NPDES) permit coverage for discharges of wastewater, including storm water runoff, into State surface waters (HAR, Chapter 11-55). For NPDES general permit coverage, a Notice of Intent (NOI) form must be submitted at least 30 calendar days before the commencement of the discharge. An application for an NPDES individual permit must be submitted at least 180 calendar days before the commencement of the discharge. To request NPDES permit coverage, the applicant must submit the appropriate form ("CWB Individual NPDES Form" or "CWB NOI Form") through the e-Permitting Portal and the hard copy certification statement with the respective filing fee (\$1,000 for an individual NPDES permit or \$500 for a Notice of General Permit Coverage).

The e-Permitting Portal website is located at: <https://eha-cloud.doh.hawaii.gov/epemitt>. The applicant will be asked to do a one-time registration to obtain a login and password. After registering, the applicant should click on the Application Finder tool, locate the appropriate form, and follow the instructions to complete and submit the form.

3. If the project involves work in, over, or under waters of the United States, it is highly recommended that HFD contact the Army Corp of Engineers, Regulatory Branch (Tel: 835-4303) regarding their permitting requirements.

Pursuant to Federal Water Pollution Control Act (commonly known as the "Clean Water Act" (CWA)), Paragraph 401(a)(1), a Section 401 Water Quality Certification (WQC) is required for "[a]ny applicant for Federal license or permit to conduct any activity including, but not limited to, the construction or operation of facilities, which may result in any discharge into the navigable waters..." (emphasis added). The term "discharge" is defined in CWA, Subsections 502(16), 502(12), and 502(6), Title 40 of the Code of Federal Regulations, Section 122.2, and HAR, Chapter 11-54.

4. Please note that all discharges related to the project construction or operation activities, whether or not NPDES permit coverage and/or Section 401 WQC are required, must comply with the State's Water Quality Standards. Noncompliance with water quality requirements contained in HAR, Chapter 11-54, and/or permitting requirements, specified in HAR, Chapter 11-35, may be subject to penalties of \$25,000 per day per violation.

5. It is the State's position that all projects must reduce, reuse, and recycle to protect, restore, and sustain water quality and beneficial uses of State waters. Project planning should:

- a. Treat storm water as a resource to be protected by integrating it into project planning and permitting. Storm water has long been recognized as a source of irrigation that will not deplete potable water resources. What is often overlooked is that storm water recharges ground water supplies and feeds streams and estuaries; to ensure that these water cycles are not disrupted, storm water cannot be relegated as a waste product of impervious surfaces. Any project planning must recognize storm water as an asset that sustains and protects natural ecosystems and traditional beneficial uses of State waters, like community beautification, beach going, swimming, and fishing. The approaches necessary to do so, including low impact development methods or ecological bio-engineering of drainage ways must be identified in the planning stages to allow designers opportunity to include those approaches up front, prior to seeking zoning, construction, or building permits.
- b. Clearly articulate the State's position on water quality and the beneficial uses of State waters. The plan should include statements regarding the implementation of methods to conserve natural resources (e.g., minimizing potable water for irrigation, gray water re-use options, energy conservation through smart design) and improve water quality.
- c. Consider storm water Best Management Practice (BMP) approaches that minimize the use of potable water for irrigation through storm water storage and reuse, percolate storm water to recharge groundwater to revitalize natural hydrology, and treat storm water which is to be discharged.
- d. Consider the use of green building practices, such as pervious pavement and landscaping with native vegetation to improve water quality by reducing excessive runoff and the need for excessive fertilization, respectively.

- e. Identify opportunities for retrofitting or bio-engineering existing storm water infrastructure to restore ecological function while maintaining, or even enhancing, hydraulic capacity. Particular consideration should be given to areas prone to flooding, or where the infrastructure is aged and will need to be rehabilitated.

If you have any questions, please visit the Clean Water Branch (CWB) website at: <http://health.hawaii.gov/cwb>, or contact the Engineering Section, CWB, at (808) 586-4309.

#### SAFE DRINKING WATER ISSUES:

#### Engineering

1. Page 3-12, Section 3.3.1.7, Utilities, should clearly state the number of dairy employees that will be needed at the dairy farm for the various herd size(s) being considered. The number of employees, visitors, etc. is important for designing both the drinking water system and domestic wastewater systems as well as determining the applicability of various administrative rules.
2. The estimate is that 11 direct and indirect full-time equivalent jobs would be created by the facility. Federal and State regulations (Hawaii Administrative Rules, Title 11, Chapter 20, entitled "Rules Related to Public Water Systems") define a public water system as a system that serves 25 or more individuals at least 60 days per year or has at least 15 service connections. If the population served by the drinking water system is expected to exceed 25 or more individuals, please inform the Safe Drinking Water Branch to discuss the applicable regulations.
3. Please refer to the Private Water Wells information sheet, available at: <http://health.hawaii.gov/sdwb/files/2013/06/Private-Wells.pdf>
4. The last sentence of the second paragraph under Section 3.3.1.7, Utilities, Potable Water, on page 3-12 indicates that the drinking water well has been tested and is of acceptable quality. These water quality test results for the drinking water well should be included as part of the EIS. It should be noted that Appendix E only provides pump test data.
5. The first sentence under "Groundwater Source Protection" on Page 4-56 incorrectly references the State of Hawaii, Department of Health, Clean Water Branch (CWB). The correct reference is the State of Hawaii, Department of Health, Safe Drinking Water Branch (SDWB). Please revise as necessary.
6. The DEIS indicates that the proposed farm will have a dual water system. The drinking and irrigation water systems must be carefully designed and operated to prevent cross-connections and backflow conditions. The two systems must be clearly labeled and physically separated by air gaps or reduced pressure principle backflow preventers to avoid contaminating the drinking water supply. In addition, all irrigation spigots and irrigated areas should be clearly labeled with warning signs to prevent the inadvertent consumption of irrigation water from the Waia Reservoir and the effluent ponds.  
Hawaii Dairy Farms should develop a dual water system management plan detailing the quality of the irrigation water, who will be responsible for and how the drinking and irrigation water systems will be operated and actively monitored to maintain the separation and prevent cross connections between the two systems.

Underground Injection Control (UIC)

1. The project site is located above the UIC line. Areas above the UIC line are considered to overlie underground sources of drinking water.
2. The construction and operation of a new industrial wastewater injection well to dispose of wastewater from manufacturing or processing operations is prohibited above the UIC line. DOH acknowledges HDF's proposed off-site milk processing operations that will address this restriction.
3. The construction and operation of a new sewage wastewater injection well that receives greater than 1,000 gallons per day (gpd) is prohibited above the UIC line or within 1/4 mile of a drinking water source. DOH acknowledges HDF's proposed use of a septic tank treatment system to manage approximately 700 gpd of domestic wastewater. DOH recommends the use of a leachfield in lieu of a seepage pit for wastewater disposal.
4. The construction and operation of a new drainage injection well may be allowed for storm water runoff management above the UIC line but not within 1/4 mile of a drinking water source. DOH acknowledges HDF's proposed use of open land areas and storage ponds for stormwater management. If the construction and operation of a drainage injection well becomes necessary, the requirements of Hawaii Administrative Rules, Title 11, Chapter 23, Underground Injection Control will become applicable. More UIC information can be found at the following website: <http://health.hawaii.gov/sdwb/underground-injection-control-program>

Source Water Assessment Program (SWAP)

1. The only public drinking water sources in the area are the County of Kauai, Koloa Wells. These are groundwater sources and grazing is not considered a potentially contaminating activity (PCA) for groundwater sources. Should the animal density increase enough to meet the definition of a Confined Animal Feeding Operation (CAFO), then the PCA Status would have to be re-evaluated since this type of activity is listed as having a very high contamination risk potential for areas within a two-year or less time of travel to a drinking water well, and a high contamination risk potential for areas with two-to ten-year time of travel to a drinking water well. Animal waste detention facilities should also be located outside of the two- and ten-year time of travel capture zones for the Koloa Wells (Note: Figure 3.3-5 indicates the effluent ponds are outside of the well capture zones). We encourage Hawaii Dairy Farms to request the capture zone delineations from the Kauai Dept. of Water (KDOW). With concurrence of the KDOW, these zones can be provided in GIS format for farm management planning from the SWAP.
2. Figure 3.3-5 Effluent Pond Siting, page 3-15 - We are pleased that Monitoring Well 4 is appropriately located to act as a sentinel well for any changes in water quality that may affect the Koloa municipal wells. The separation distance between the Hawaii Dairy Farm's drinking water well(s) (Mahaulepu 14) and the effluent ponds should be noted on this figure. The legend should also be revised from "Potable/Irrigation Wells" to simply "Drinking Water Wells" as the DEIS indicates that the project's irrigation water will be obtained from the Waia Reservoir and the effluent ponds.
3. Section 3.3.2.4 Effluent Ponds, Pages 3-14 through 3-18 - We are further pleased that the effluent ponds are lined and equipped with a sensor system to detect leaks.

4. Section 3.4 Herd Management, Pages 3-18 to 3-19 - It appears that some of the herd management will meet the criteria of a CAFO as defined by the SWAP. A CAFO is defined by the SWAP as having more than 25 animals per acre. The calf management appears to exceed 25 animals per acre. We have no objections as long as the holding pens are outside of the delineated Koloa Wells capture zones.
5. Section 4.16.2 Potable Water, Pages 4-56 to 4-58; and Figure 4.16-2, Page 4-57 - This map shows that the two- and ten-year capture zones for the Koloa Wells extend into the southwest portion of the project area. We encourage Hawaii Dairy Farms to obtain the well capture zone GIS files from the KDOW and treat the zones as special management areas. The increased management would include ensuring that no CAFO activities occur with the delineated area, no animal wastes are stockpiled with these zones, or no other activities identified as being PCAs as defined by the SWAP occur or are limited with these areas. The list of SWAP PCAs can be obtained through a request to the Department of Health, Safe Drinking Water Branch. The last paragraph on page 4-56 states that the Clean Water Branch sanitary survey report demonstrates a complete separation between the deep aquifer captured by the Koloa Wells and the project area.
- This is not quite accurate. Although the particle tracks run on a revised SWAP model do not intersect the project area, the two- and ten-year capture zones previously delineated are still the current management zones for the Koloa Wells. These delineated zones appear to have no impact on the currently planned activities, but we request that they be utilized when planning future activities.

6. In addition to the monitoring wells, which we acknowledge is a very proactive measure, we would encourage a soil sampling program to confirm the conclusions of the soil and nutrient balance studies.

7. Page 4-56, Groundwater Source Protection. The SWAP was initiated by the Safe Drinking Water Branch of DOH, not the Clean Water Branch.

General Safe Drinking Water Comments

1. Section 1.2, Proposed Project, paragraph on Irrigation, Page 1-10 and Section 3.5.4.1, Irrigation, Page 3-25, fifth or last paragraph -  
"The pivot system uses GPS tracking and automation to ensure the ditches and buffer zones do not receive irrigation water."  
According to Figure 3.3-5, Effluent Pond Siting, and Figure 3.5-4, Irrigated Pasture Area, it would appear that Mahaulepu 14 (Hawaii Dairy Farms drinking water well), monitoring wells 1, 2, and possibly 3, fall within the pivot irrigation areas and may be exposed to pond effluent. As a precaution, the pivot irrigation system should also be programmed with adequate buffer space to avoid both drinking water and monitoring wells.
2. Section 3.3.2.2, Livestock Water Distribution System, Page 3-14, second paragraph - The referenced sections (4-16.2 and 4.23.1) do not appear to address the total drinking water demand.
3. Section 4.16.1, Hydrology, Existing Conditions - Hydrology, Hydrologic Connectivity of Waterbodies within Mahaulepu, Page 4-53, second paragraph - The term "µS/cm" appears without being defined in the text or the table of Abbreviations and Acronyms.

4. Section 4.16.3, Probable Impacts and Mitigation Measures – Groundwater Resources, Groundwater Monitoring Wells, Page 4-58 - The term "uM" appears in the second paragraph without being defined in the text or the table of Abbreviations and Acronyms.
- The last paragraph states, "One of the three usable wells in Mahaulepu 14 battery will be utilized as needed for deep water quality monitoring." We strongly recommend that the drinking water well, in the deep aquifer, be fitted with a sampling tap and routinely tested along with the four monitoring wells in the shallow groundwater in the alluvium as part of the long term monitoring program. It should also be noted that the DEIS appears to be lacking in providing specific or detailed information on the long term groundwater monitoring program.
5. Section 4.16.3, Probable Impacts and Mitigation Measures – Groundwater Resources, Long-term Impacts and Mitigation – Groundwater Resources, third or last paragraph -

*Four water monitoring wells installed by HDF into the shallow water aquifer within the alluvium will allow long-term water quality monitoring. Monitoring and analysis of nutrient and chemical constituent levels over time will identify any change in composition of shallow groundwater in the alluvium. Results from the monitoring program will be shared with DOH, dairy neighbors and the local Kauai community.*

As noted previously, the drinking water well, in the deep aquifer, needs to be routinely tested along with the four monitoring wells in the shallow groundwater in the alluvium as part of the long term monitoring program. Again, the DEIS appears to be lacking in providing specific or detailed information on the long term groundwater monitoring program.

It is also important to note that Section 4.17.4, Probable Impacts and Mitigation Measures (page 4-68), clearly states that the long-term surface water quality monitoring programs for agricultural ditches, Waioapi Ditch, and the ocean, have already been instituted. Similarly, the long-term groundwater monitoring program should also have been instituted to regularly sample the nutrient and chemical constituent levels in both the shallow and deep groundwater aquifers. All of these monitoring and testing programs will provide feedback to Hawaii Dairy Farms and determine the project's impact, if any, on water quality.

If you have any questions regarding the Safe Drinking Water Branch, please contact Ms. Jennifer Nikaido for the Engineering Section comments, Mr. Norris Uehara for the UIC-Program comments, and Mr. Robert Whittier for the SWAP comments at (808) 586-4258.

#### WASTEWATER ISSUES

1. On page 1-7, the document should indicate the number of employees and visitors upon which the design of the septic tank system is based.
2. On page 1-9, the document should clarify whether the area for paddocks is 478.5 acres or 469.9 acres and whether there will be 122 paddocks or 119 paddocks as provided in the Updates to the Waste Management Plan (WMP).

3. On page 1-10, the document should indicate that irrigated pasture area is 346.5 acres as noted in the Updates to the WMP. The document should also indicate that water source that will be used with gun irrigators will be from Waitia Reservoir and not from the effluent from the wastewater ponds.
4. On page 1-16, expansion beyond 689 milking cows may require issuance of a CAFONPDES permit by the State Department of Health if the facility will discharge or will propose to discharge to State waters.
5. On page 2-9, dairy operations with 700 or more mature cows, may require additional regulatory review and permitting.
6. On page 3-9, under section 3.3.1. Buildings, should indicate the number of people that are expected to be onsite at any time.
7. On page 3-10, under section 3.3.1.3 Calf Sheds, should indicate the maximum number of calves that will be housed in the sheds. The appendix mentions that the sheds will be able to accommodate 200 calves.
8. On page 3-16, the U.H. Waste Management Guidelines (2010) should be renamed as the Department of Health's Guidelines for Livestock Management, dated January 19, 2010. This reference should be changed throughout the EIS document. The University of Hawaii, Cooperative Extension Service, College of Tropical Agriculture and Human Resources, assisted with preparing the Guidelines for DOH.
9. The final document should provide more clarity regarding the impacts of both the 689 and the potential 2,000 mature cows. The Waste Management Plan presented to DOH Wastewater Branch (WWB) only covered the 689 mature cows. The impacts of the potential 2,000 mature cows was not provided in the WMP.

If you have any questions regarding WWB comments please call (808) 586-4294.

#### DOH STANDARD PLANNING REVIEW COMMENTS:

In addition to the specific comments above, DOH has standard planning review comments provided at: <http://health.hawaii.gov/epo/landuse>

These standard comments are intended to help the public, applicants, consultants and agencies understand DOH's role.

Mahalo nui loa,



Laura McIntyre  
Environmental Planning Office

c: Group 70 International, Inc., Jeff Overton, Principal Planner, via hard and soft copy: [HDF@Group70int.com](mailto:HDF@Group70int.com)  
Hawaii Dairy Farms, LLC, Amy Hennessey, via hard and soft copy: [info@hawaiidairyfarms.com](mailto:info@hawaiidairyfarms.com)



January 3, 2017

Ms. Laura McIntyre, AICP  
Program Manager, State of Hawai'i  
Department of Health Environmental Planning Office  
P.O. Box 3378  
Honolulu, Hawai'i 96801

**Subject:** Hawai'i Dairy Farms Final Environmental Impact Statement (EIS)  
Māhā'ulepū, Kōloa District, Kaua'i, Hawai'i  
Response to Comment on Draft EIS

Dear Ms. McIntyre:

Thank you for your input dated July 25, 2016 on the Hawai'i Dairy Farms (HDF) Draft EIS. The following responses are offered to your comments:

**Clean Water Issues:**

1. State waters and criteria:
  - a. HDF has designed the project to comply with applicable State of Hawai'i Water Policies, including those stated in Hawai'i Administrative Rules (HAR) §11-54-1.1, §11-54-3, and §11-54-4 through §11-54-8.
  - b. Designated uses per HAR section §11-54-3 and the classification of waters in and around the HDF site are identified in the EIS Chapter 4, Section 4.17 *Surface Water Resources and Nearshore Marine Environment* and Chapter 5, *Table 5.8 State of Hawai'i Water Policies*. Flowing inland waters within the Māhā'ulepū watershed fall into Class 2, and the open coastal waters downgradient of the project are Class A, as waters in the area are not classified for special protection.
2. HDF has established baseline water quality monitoring with the initially compiled data set included in the EIS Volume 2, Appendix F: *Baseline Conditions and an Assessment of the Effect of the Proposed Hawai'i Dairy Farms on Surface Water and Marine Water Chemistry* by Marine Research Consultants, Inc. (MRCI). MRCI established 12 surface water quality monitoring stations in and around the HDF site, as well as four ocean sampling transects down gradient of the site, to provide for regular water quality monitoring (see EIS Section 4.17). The monitoring program and methods are designed to meet the Hawai'i State Department of Health (DOH) Clean Water Branch quality assurance/quality control requirements, and results will be made available to DOH CWB, dairy neighbors and the local Kaua'i community.

3. HDF understands it is responsible for complying with National Pollutant Discharge Elimination System (NPDES) permit coverage under HAR §11-55, Water Pollution Control. In March 2014, HDF met with DOH to determine construction activities that would require an NPDES permit and was advised that only the construction of the dairy facilities themselves would require the permit. Construction activities for the sole purpose of growing crops do not require an NPDES permit per HAR §11-55, Appendix C. Once HDF is in operation, per 40 CFR 122, it is excluded from NPDES requirements as a non-point source agricultural activity as defined in 40 CFR 122.2.
4. HDF has consulted with the U.S. Army Corps of Engineers (USACE) which confirmed, in a letter dated October 22, 2014, that maintenance of existing drainage ditches on an existing farm at the HDF site are not prohibited by or otherwise subject to regulation under Section 404 in accordance with 33 CFR Part 323.4. USACE recommended use of Best Management Practices (BMPs) to avoid and minimize impacts to the aquatic resource. Additional practices are anticipated to fall under the exemption for construction or maintenance of existing or new animal walkways, stream crossings, and farm roads with application of BMPs.  
Following USACE review of the Draft EIS, the agency reiterated its response of October 22, 2014 that a Department of the Army permit will not be required; the email and attachment is included in EIS Volume 3 under Agency Comment Letters.
5. EIS Section 4.17 *Surface Water Resources and Nearshore Marine Environment* describes BMPs to be followed by HDF to avoid and minimize impacts to the aquatic resource. These include both management controls and structural controls to be implemented in the short-term for construction. Management controls will include: minimizing exposure of disturbed surfaces; monitoring and repair of structural controls; prohibiting leaking or poorly-maintained construction equipment and machinery; and keeping adjacent public, paved streets free of dirt and mud. Structural controls to be utilized during construction will include: silt fence installed in key locations; sand bags barriers in swales; and geotextile filter fabric and sediment logs around drain inlets.  
Over the long-term, the surface water quality in the agricultural ditches and Waipoli Ditch will be improved by active management of the dairy site. Cultivation of a grass thatch for complete vegetative cover throughout the dairy paddocks will minimize currently exposed soils within the site. A Conservation Plan for HDF prepared with input from the U.S. Department of Agriculture Natural Resources Conservation Service (NRCS) and "approved" by the West Kauai Soil and Water Conservation District in December 2013, identifies the conservation practices and BMPs in accordance with NRCS technical guidance. These practices and BMPs are the foundation of the minimization measures described throughout the EIS.  
To protect water quality of surface water and downstream areas, two types of setbacks will be established. A physical setback to exclude cows from waterways and drainages will be created with paddock fencing set 35 feet back from the top of bank of drainage ways on site. Existing vegetation within the setbacks will be enhanced to act as filter strips to trap soil particles and organic debris that may be carried by surface flow towards drainageways thus minimizing inputs to stormwater runoff. The vegetated setbacks will reduce erosion, improve stability of ditch banks, increase net carbon storage, and improve and maintain water quality (Figure 3.5-2). The second type of setback restricts liquid effluent application near water sources: 50 feet from the top of the bank on either side of a waterway; and 1,000 feet from the nearest County drinking water well, Kōloa F (EIS Section 3.5, *Posture Management*).

**PRINCIPALS**

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6. The HDF project purpose is to establish a sustainable, pastoral rotational-grazing dairy farm that will increase current local milk production, bolster Hawai'i's declining dairy industry, and reduce reliance on imported milk from the mainland United States. The rotational-grazing dairy system utilizes 100 percent of all manure on-site as natural fertilizer to grow grass. This cost-effective method reduces imported fertilizer and feed, and minimizes potential impacts to the environment.

Between 1984 and 2015, importation of milk to Hawai'i rose from 0 to 90 percent. The local dairy industry has been reduced to just two dairies on the Big Island, and with a recent cut of 23 percent in price paid to those dairies by the processor, local milk production is in jeopardy. Conventional feedlot dairy operations face management challenges including costs of imported feed which fluctuate with grain and fuel prices, and the need to store manure in waste impoundment lagoons as a waste product. Without a need to utilize manure as a nutrient for growing crops, options for utilizing manure produced are limited to drying manure for sale, spreading on lands that can tolerate the nutrients, utilizing dried manure solids as bedding for dairy cows in confinement, or generating energy, which ultimately requires treatment and disposal. The pasture-based dairy model is a clean, cost-effective, and sustainable method. Sustainable is defined in the EIS as:

*Meeting the needs of the present without compromising the ability of future generations to meet their own needs.*

- a. **Treatment of storm water:** Design of the facility is described in the EIS Chapter 3, Description of the Proposed Action. Gutters, curbs and swales will be used within the dairy facility to direct surface sheet flow as a part of the overall site stormwater management plan. Metal roofing material on dairy buildings will be sloped to adequately sized gutters and downspouts.  
**Run-off from a 1.75-acre area within the facility, primarily uncovered areas with the potential for manure to be present, will be captured in the effluent storage ponds. Effluent from the ponds will be used to irrigate the grass crop, the primary forage and feedstock for the cows.**
- b. **Implementation of methods to conserve water:** Potable water will be sourced from an onsite well established a century ago to serve the sugarcane plantation. The battery of wells produced 3 MGD during use for sugarcane irrigation (see EIS Section 4.16.2 *Potable Water*). The majority of the estimated 12,163 - 34,800 gallons per day used within the milking parlor, depending on the herd size, will be captured in the ponds and used for irrigation (EIS Table 4.16-2 and 4.22-1, *Water Demand for HDF Operations*).
- c. **Stormwater re-use:** Agricultural infrastructure from prior sugarcane cultivation will be maintained, or restored where needed, to improve stormwater runoff conveyance capacities. Within the dairy facility, which will occupy roughly 2 percent of the total farm area, roof run-off from the implement shed, milking parlor, and covered section of the holding yard will be discharged at ground level directly to grass surrounding the buildings.
- d. **Reduce excessive runoff and need for fertilization:** NRCS conservation practices will be used to improve surface drainage and protect water quality. Practices include establishing riparian herbaceous cover, grassed waterways and sediment basins (EIS Section 3.2). Manure in a conventional feedlot dairy operation may be waste, but in the pasture-based system, 100 percent of the manure is used a resource with its constituent components providing nutrients needed for the forage crop.

As such, nutrient management is fundamental to the HDF operation and is discussed throughout the EIS and emphasized in Section 3.5.4.2 *Nutrient Balance* and based on the *Nutrient Balance Analysis* contained in EIS Volume 2, Appendix D. Application of nutrients will correspond with

forage uptake, soil properties and weather conditions, which will all be monitored in the field and tracked using advanced technology to apply the right amounts in the right place and at the right time for optimal forage growth.

**Enhance hydraulic capacity:** The *Hydrologic Assessment for the Pasture Areas for Hawai'i Dairy Farms* (Group 70, 2016), contained in EIS Volume 2 Appendix K, identifies both existing and proposed conditions related to stormwater runoff and drainage. Estimated Peak Flow where flows combine south of the site will be reduced. Proposed conditions include roughly 80 acres of maintained drainageways, vegetated setbacks, cow walkways topped with soft, crushed, permeable limestone, and farm roads, and a thick grass ground cover over the majority of the farm; nearly 470 acres of the 557-acre site. With organic matter from manure, the predominately kikuyu grass crop will improve surface infiltration of rainfall and irrigation (Yost, 2016, in EIS Appendix 5-A).

Calculations in the Hydrologic Assessment show the projected reduction by storm event. For the 10-year storm event, peak flow leaving the project site will be reduced by 257 cubic feet per second (cfs); for the 25-year storm event, reduced by 283 cfs; and for the 50-year storm event, reduced by nearly 300 cfs.

#### **Safe Drinking Water Issues:**

1. The number of dairy employees will range from 5 to 10 fulltime employees, as stated in EIS Sections 4.15 and 4.21. The number of employees has also been added to the description of the proposed action in the EIS, Section 3.3.1.7 *Utilities* under "Domestic Wastewater".
2. The drinking water system is not expected to exceed 25 or more individuals at least 60 days per year, nor will it have 15 service connections. Therefore, the well to be used by HDF will be considered a private well. HDF understands its responsibility for ensuring the water is safe for consumption.
3. Additionally, to satisfy the DOH Milk Rules, potable water used for milk production - in the milking parlor and for milking operations - must be demonstrated to be from an approved supply that is properly located, protected, and operated in a sanitary manner.
4. HDF can make its current water quality testing results available to DOH, and anticipates cooperating in regular water testing under the Milk Rules. Water will be tested from the plumbed source within the dairy facility once employees are on site.
5. The reference on page 4-56 has been corrected to State of Hawai'i, Department of Health, Safe Drinking Water Branch (SDWB).
6. As described in the EIS Section 3.3.1.7 *Utilities*: "Potable Water," potable water will be provided to the milking parlor and adjacent buildings, as well as to water troughs in paddocks, from the Maha'ulepu 14 well on site. EIS Section 3.5.4.1 *Irrigation* describes the irrigation water, to be sourced from Waita Reservoir, as filtered and pumped to the various irrigation components on the farm. Thus the proposed dairy will not have a dual water system, but rather two completely separate systems.

#### **Underground Injection Control (UIC)**

1. HDF acknowledges EPO's comments regarding the UIC line. Above the UIC line, construction and operation of new industrial wastewater from manufacturing or processing operations is prohibited.
2. HDF does not propose to conduct any processing on site, or to install a wastewater injection well.
3. HDF has received approval for its individual wastewater system sized at 700 gpd, which includes an absorption bed (IWS file #51486).
4. HDF does not propose construction or operation of a new drainage injection for storm water purposes.

#### **Source Water Assessment Program (SWAP)**

1. The minimum setback distance from public drinking water sources for the application of effluent is 50 feet per the DOH *Guidelines for Livestock Management* (2010). However, HDF has agreed to increase this setback to 1,000 feet following consultation with the County of Kauai Department of Water. Within this setback, no effluent will be applied and no animals will deposit manure as the area will not be used for grazing (EIS Section 3.5.4 *Irrigation and Nutrient Balance*).
- Please see number 5, following, regarding the capture zone delineations from the Kauai Department of Water (KDOW).
- Figure 3.3-5 *Effluent Pond Siting* has been revised as suggested, to identify "Drinking Water Wells" and to specify the separation distance from the Māhā'ulepū 14 well.
- The four groundwater monitoring wells created by HDF will allow nutrient and bacteriological monitoring of the shallow groundwater in alluvial layers on the valley floor. Per the results of the hydrologic assessment prepared for HDF, the shallow groundwater is completely separate from the source of the Kōloa F well, an aquifer in the deep unweathered volcanic series.
- While not required, HDF has elected to construct the effluent ponds to include a flexible membrane liner, as well as to place the ponds within a secondary containment berm.
- The potential contaminating activities (PCA) defined in the Source Water Assessment Program (SWAP) defines a confined animal feeding facility as greater than 25 head per acre of dairy cattle. The stocking rate proposed by HDF at the committed herd size of 699 mature dairy cows utilizing 470 acres of pasture is less than 1.5 animals per acre; at the contemplated herd size of up to 2,000 mature dairy cows utilizing 470 acres, the stocking rate is approximately 4.25 animals per acre. Thus the density of the pasture-based rotational grazing dairy does not meet the definition of a PCA. Additionally, the SWAP program acknowledges that site-specific practices including BMPs may mitigate contamination and would be acknowledged in any PCA assessment.
- Section 3.4 *Herd Management* identifies approximately 150 calves that may be on site at any given time, with roughly 50 of those housed within the calf sheds. Manure from the calf sheds will be transferred to the effluent ponds. The 100 calves near the calf sheds will be on pasture in paddocks that total about 2.5 acres. For the contemplated herd size, calf numbers are estimated to increase to up to 500 calves, with approximately 167 in the calf sheds and the remaining on pasture (Section 3.8 *Contemplated Herd Size*).
- Per your recommendation, Group 70 contacted the KDOW on behalf of HDF, and requested the GIS data for two- and ten-year time of travel related to the Kōloa drinking water Well F and Well C. The response provided was "GIS Data: Not available from the Department of Water." However, the two- and ten-year time of travel zones shown in the redacted reports that were provided are consistent with the EIS Figure 4.16-3 *County Well Head Capture Zone Delineation*, and the effluent ponds are outside of the well capture zones.
- The last paragraph on page 4-56 of the Draft EIS, now pages 4-60 4-61 of the Final EIS, have been revised to clarify which information can be attributed to the cited CWB publication, and which is attributed to the groundwater engineer contracted by HDF.
- A soil sampling program is part of the nutrient balance analysis which is foundational to the rotational grazing dairy model (see 5d under Clean Water Issues, above). HDF is committed to adaptive management of the site to maintain nutrient balance for the health of the cows, the success of the dairy and for protection of the environment.
- The SWAP program has been corrected to be attributed to the SDWB.

#### **General Safe Drinking Water Comments**

1. The pivot irrigation system will be programmed to prevent application to the on-site potable water well and the monitoring wells.
  2. The livestock water distribution system in Section 3.3.2.2 has been corrected; the correct sections in Chapter 4 that document livestock water demand are 4.16.3 and 4.22.2.
  3. The abbreviation  $\mu\text{S/cm}$  has been defined in the text and was added to the abbreviations list.
  4. The abbreviation  $\mu\text{M}$  has been defined in the text and was added to the abbreviations list.
  5. HDF will have a sampling tap to allow testing of water quality from the potable water well. Testing frequency will be determined under DOH Hawaii Administrative Rules §11-15 Milk, which we understand to require testing by the Department of Sanitation every six months.
- Initial data on shallow groundwater constituents from sampling of the HDF-installed monitoring wells is included in EIS Appendix E *Estimates of the Potential Impact on Groundwater and Surface Water by Hawaii Dairy Farms in Mahā'ulepū, Kauai* (TINWRE, 2016).

#### **Wastewater Issues**

1. The number of dairy employees will range from 5 to 10 fulltime employees, as stated in EIS Sections 4.15 and 4.21.
2. The FEIS introduction has been corrected to clarify the total paddock area is 469.9 acres and the number of paddocks is 119.
3. The FEIS introduction has been corrected to identify the amount of irrigated pasture – 346.5 acres.
4. HDF acknowledges your comment that an expansion beyond 699 mature dairy cows may require the issuance of a CAFO/NPDES permit by the State DOH.
5. HDF acknowledges your comment that daily operations with 700 or more mature dairy cows may require additional regulatory review and permitting.
6. The maximum number of people expected to be onsite at any time could be up to 20; the typical number of people expected onsite at any one time would be approximately 4 people in addition to dairy employees.
7. Section 3.4 *Herd Management* identifies the number of calves anticipated within the calf sheds to be approximately 50 calves at the committed herd size. Section 3.8 *Contemplated Herd Size* of the EIS notes the number of calves to be housed in the sheds at any one time could increase to approximately 167 calves. The estimated number of additional calves on pasture is also included in those EIS sections.
8. The Department of Health Guidelines for Livestock Management reference has been revised to correctly cite the reference.
9. The WMP submitted to WWB covers the 699 mature dairy cow herd size (referred to as the "committed" herd size in the EIS). Should HDF contemplate possible expansion of the herd following proven success of the rotational-grazing system for local milk production, additional regulatory permits, such as a WMP for the larger herd size, may be required. The EIS provides a side-by-side summary of the impacts disclosed throughout the EIS in Table 4.27-1 *Summary of Impacts from the Committed and Contemplated Herd Size*.

Laura McIntyre  
Hawaii Dairy Farms Environmental Impact Statement  
January 3, 2017  
Page 7 of 7

Your comment, along with this response, will become part of the public record and will be published in the Final EIS. A copy of the Final EIS is included on a compact disc with this letter. When published, the Final EIS will be available on the OEQC website which you can access using the following URL, and search "Hawaii Dairy Farms": <http://tinyurl.com/OEQCKAUAI>.

Thank you for your participation in the environmental review process.

Sincerely,

GROUP 70 INTERNATIONAL, INC.



Jeffrey H. Overton, AICP, LEED AP  
Principal Planner

cc: Hawaii Dairy Farms  
Hawaii State Department of Health,  
Environmental Planning Office

DAVID Y. IRE  
GOVERNOR OF HAWAII



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES

STATE HISTORIC PRESERVATION DIVISION  
KAKUHIHEWA BUILDING  
601 KAPOLEI BLVD., STE. 355  
KAPOLEI, HAWAII 96707

STAVANED, CASE  
BOARD OF LAND AND NATURAL RESOURCES  
COMMISSIONER OF WATER RESOURCES MANAGEMENT

KEKOA KALIHIWA

HERBERT F. PETERSON  
DEPUTY DIRECTOR, WATER

AQUATIC RESOURCES  
BOATING AND OCEAN RECREATION  
COMMISSION ON WATER RESOURCES MANAGEMENT  
COMMISSION ON LAND AND NATURAL RESOURCES  
CONSERVATION AND RESOURCES ENFORCEMENT  
FORESTRY AND WILDLIFE  
HAWAIIAN ISLAND RESERVE COMMISSION  
STATE PARKS

July 18, 2016

Lydia Morikawa  
Land Division  
[Lydia.M.Morikawa@hawaii.gov](mailto:Lydia.M.Morikawa@hawaii.gov)

LOG NO: 2016.01377  
DOC NO: 1607MN05  
Archaeology

SUBJECT: Chapter 6E-8 Historic Preservation Review -  
EIS Notice for Hawaii Dairy Farms  
Māhā'ulepū Ahupua'a, Koloa District, Island of Kaua'i  
TMK: (4) 2-9-001:001 por and (4) 2-9-003:001 por. and 006 por.

Thank you for requesting our review of the draft Environmental Impact Statement (EIS) for Hawaii Dairy Farms (HDF), which we received in our Kapolei office from Land Division on June 13, 2016. We recently received and reviewed a revised draft of the archaeological inventory survey report for the project entitled "Archaeological Inventory Survey of 380-Acres in Māhā'ulepū Ahupua'a, Koloa District, Kaua'i Island, Hawaii" (TMK: (4) 2-9-003:001 por. and 006 por.; 2-9-001:001 por.) J. Puasi, J. Powell, M.Ching, M. Degea, Ph.D May 2016. The original submission was received in the Honolulu office September 25, 2014 and reviewed by the State Historic Preservation Division (SHPD) in a letter dated December 3, 2014 (Log No. 2014.04405, Doc No. 1410MN02). We received the revised copy February 20, 2015 and reviewed it in a letter dated April 13, 2015 (Log No. 2015.01404, Doc No. 1504MN05). We received the third draft in our Kapolei office on June 1, 2016.

We have requested additional revisions to the report pursuant to HAR§13-276. At this time, the State Historic Preservation Division is unable to assess potential impacts to historic properties. Once we receive an acceptable archaeological inventory survey (AIS) report, we will be prepared to make recommendations regarding preservation or potential mitigations to minimize effects to historic properties. Please contact Kaua'i archaeologist Mary Jane Naone at (808) 271-4940 or [Maryjane.naone@hawaii.gov](mailto:Maryjane.naone@hawaii.gov) if you have any questions regarding this letter.

Aloha,



Mary Jane Naone  
Kaua'i Lead Archaeologist  
State Historic Preservation Division

cc: Jeff Overton, Group 70, [jeff@group70int.com](mailto:jeff@group70int.com)



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
LAND DIVISION

POST OFFICE BOX 621  
HONOLULU, HAWAII 96809

July 22, 2016

Group 70 International, Inc.  
Attention: Mr. Jeffrey H. Overton  
925 Bethel Street, 5th Floor  
Honolulu, Hawaii 96813-4307

Dear Mr. Overton:

**SUBJECT:** Environmental Impact Statement Preparation Notice for Hawaii Dairy Farms

Thank you for the opportunity to review and comment on the subject matter. The Department of Land and Natural Resources (DLNR) Land Division distributed or made available a copy of your report pertaining to the subject matter to DLNR Divisions for their review and comments.

At this time, enclosed are comments from the (a) Engineering Division, (b) State Historic Preservation Division, and (c) Land Division - Kauai District on the subject matter. Should you have any questions, please feel free to call Lydia Morikawa at 587-0410. Thank you.

Sincerely,

Russell Y. Tsuji  
Land Administrator

Enclosure(s)  
cc: Central Files



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
LAND DIVISION

POST OFFICE BOX 621  
HONOLULU, HAWAII 96809

June 9, 2016

MEMORANDUM

- DLNR Agencies:**
- Div. of Aquatic Resources
  - Div. of Boating & Ocean Recreation
  - Engineering Division**
  - Div. of Forestry & Wildlife
  - Div. of State Parks
  - Commission on Water Resource Management
  - Office of Conservation & Coastal Lands
  - Land Division - Kauai District
  - Historic Preservation

**TO:** Russell Y. Tsuji, Land Administrator  
**FROM:** Environmental Impact Statement Preparation Notice for Hawaii Dairy Farms  
**SUBJECT:** Koloa, Island of Kauai; TMK: (4) 2-9-003:001 (por.) and 006 (por.), and (4) 2-9-001:001 (por.)  
**LOCATION:** Hawaii Dairy Farms  
**APPLICANT:** Hawaii Dairy Farms

Transmitted for your review and comment is information on the above-referenced project. We would appreciate your comments on this project. Please submit any comments by **July 21, 2016**.

The DEA can be found on-line at: <http://health.hawaii.gov/oeac/> (Click on the Current Environmental Notice under Quick Links on the right.)

If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Lydia Morikawa at 587-0410. Thank you.

Attachments

- We have no objections.
- We have no comments.
- Comments are attached.

Signed:   
Print Name: Cathy S. Chang, Chief Engineer  
Date: 7/1/16

cc: Central Files

RECEIVED  
LAND DIVISION

2016 JUL 12 AM 8:11

DEPT. OF LAND &  
NATURAL RESOURCES  
STATE OF HAWAII

DEPARTMENT OF LAND AND NATURAL RESOURCES  
ENGINEERING DIVISION

To: Land Division  
Ref: EIS Hawaii Dairy Farms Koloa, Kauai

COMMENTS

The rules and regulations of the National Flood Insurance Program (NFIP), Title 44 of the Code of Federal Regulations (44CFR), are in effect when development falls within a designated Flood Hazard.

The owner or the project property and/or their representative is responsible to research the Flood Hazard Zone designation for the project. Flood Hazard Zone designations can be found using the Flood Insurance Rate Map (FIRM), which can be accessed through the Flood Hazard Assessment Tool (FHAT) (<http://gis.hawaii.nrip.org/FHAT>).

National Flood Insurance Program establishes the rules and regulations of the NFIP - Title 44 of the Code of Federal Regulations (44CFR). The NFIP Zone X is a designation where there is no perceived flood impact. Therefore, the NFIP does not regulate any development within a Zone X designation.

Be advised that 44CFR reflects the minimum standards as set forth by the NFIP. Local community flood ordinances may take precedence over the NFIP standards as local designations prove to be more restrictive. If there are questions regarding the local flood ordinances, please contact the applicable County NFIP Coordinators below:

- o Oahu: City and County of Honolulu, Department of Planning and Permitting (808) 768-8098.
- o Hawaii Island: County of Hawaii, Department of Public Works (808) 961-8327.
- o Maui/Molokai/Lanai County of Maui, Department of Planning (808) 270-7253.
- o Kauai: County of Kauai, Department of Public Works (808) 241-4846.

Signed: Carty S. Chang  
CARTY S. CHANG CHIEF ENGINEER

Date: 7/18/16

DAVID Y. ICE  
GOVERNOR OF HAWAII



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES

STATE HISTORIC PRESERVATION DIVISION  
KAPOLEI FIELD OFFICE  
60 KANOEKI BLVD, STE 555  
KAPOLEI, HAWAII 96707

July 18, 2016

Lydia Morikawa  
Land Division  
Lydia.M.Morikawa@hawaii.gov

SZAVANN D. CASE  
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COMMISSION ON WATER RESOURCE MANAGEMENT

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JEFFREY T. PARSON  
EXECUTIVE DIRECTOR  
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BOARD OF LAND AND NATURAL RESOURCES  
COMMISSION ON WATER RESOURCE MANAGEMENT

STATE HISTORIC PRESERVATION DIVISION  
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RECEIVED  
AND DIVISION

JUL 18 PM 1:43  
DEPT. OF LAND AND NATURAL RESOURCES  
STATE OF HAWAII

LOG NO: 2016.013723  
DOC NO: 1607MND5  
Archaeology

SUBJECT: Chapter 6E-8 Historic Preservation Review -  
EIS Notice for Hawaii Dairy Farms  
Maha'ulepu Ahupua'a, Koloa District, Island of Kaua'i  
TMK: (4) 2-9-001:001 por and (4) 2-9-003:001 por. and 006 por.

Thank you for requesting our review of the draft Environmental Impact Statement (EIS) for Hawaii Dairy Farms (HDF), which we received in our Kapolei office from Land Division on June 13, 2016. We recently received and reviewed a revised draft of the archaeological inventory survey report for the project entitled "Archaeological Inventory Survey of 580-Acres in Maha'ulepu Ahupua'a, Koloa District, Kaua'i Island, Hawaii" (TMK: (4) 2-9-003:001 por. and 006 por.; 2-9-001:001 por.) J. Putsi, J. Powell, M.Ching, M. Dega, Ph.D May 2016. The original submittal was received in the Honolulu office September 25, 2014 and reviewed by the State Historic Preservation Division (SHPD) in a letter dated December 3, 2014 (Log No. 2014 04405; Doc No. 1410MND2). We received the revised copy February 20, 2015 and reviewed it in a letter dated April 13, 2015 (Log No. 2015.01404; Doc No. 1504MND5). We received the third draft in our Kapolei office on June 1, 2016.

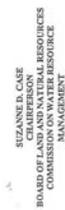
We have requested additional revisions to the report pursuant to HAR§13-276. At this time, the State Historic Preservation Division is unable to assess potential impacts to historic properties. Once we receive an acceptable archaeological inventory survey (AIS) report, we will be prepared to make recommendations regarding preservation or potential mitigations to minimize effects to historic properties. Please contact Kaua'i archaeologist Mary Jane Naone at (808) 271-4940 or [Maryjane.naone@hawaii.gov](mailto:Maryjane.naone@hawaii.gov) if you have any questions regarding this letter.

Aloha,

*Mary Jane Naone*

Mary Jane Naone  
Kaua'i Lead Archaeologist  
State Historic Preservation Division

CC: Jeff Overton, Group 70, [jeff@group70int.com](mailto:jeff@group70int.com)



DAVID Y. IGE  
GOVERNOR OF HAWAII

STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
LAND DIVISION



POST OFFICE BOX 621  
HONOLULU, HAWAII 96809

June 9, 2016

MEMORANDUM

TO:

- DLNR Agencies:**
- Div. of Aquatic Resources
  - Div. of Boating & Ocean Recreation
  - Engineering Division
  - Div. of Forestry & Wildlife
  - Div. of State Parks
  - Commission on Water Resource Management
  - Office of Conservation & Coastal Lands
  - Land Division - Kauai District
  - Historic Preservation

FROM: Russell Y. Tsuji, Land Administrator

SUBJECT: Environmental Impact Statement Preparation Notice for Hawaii Dairy Farms

LOCATION: Koloa, Island of Kauai; TMK: (4) 2-9-003:001 (por.) and 006 (por.), and (4) 2-9-001:001 (por.)

APPLICANT: Hawaii Dairy Farms

Transmitted for your review and comment is information on the above-referenced project. We would appreciate your comments on this project. Please submit any comments by **July 21, 2016**.

The DEA can be found on-line at: <http://health.hawaii.gov/oeqc/> (Click on the Current Environmental Notice under Quick Links on the right.)

If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Lydia Morikawa at 587-0410. Thank you.

Attachments

- We have no objections.
- We have no comments.
- Comments are attached.

Signed: Lydia Morikawa

Print Name: Lydia Morikawa

Date: June 15, 2016

cc: Central Files

DLNR-KOLOA-PCVD



- PRINCIPALS
- Francis S. Oddy, Arch.D., FAIA, AIA, LEED AP
  - Norman G.Y. Hong, AIA
  - Sheryl B. Seaman, AIA, ASIO, LEED AP
  - Roy H. Nihei, AIA, CSI, LEED AP
  - James I. Nishimoto, AIA
  - Stephen Yuan, AIA
  - Linda C. Miki, AIA
  - Charles Y. Kaneshiro, AIA, LEED AP
  - Jeffrey H. Overton, AIA, LEED AP
  - Christine Mendes Ruotola, AIA, LEED AP
  - James L. Stone, Arch.D., AIA, LEED AP
  - Katherine M. MacNeill, AIA, LEED AP
  - Tom Young, MBA, AIA
  - Paul T. Matsuda, PE, LEED AP
  - Ms. Ry Kim, MBA, AIA
  - Craig Takahata, AIA
- OF COUNSEL
- Ralph E. Portmore, FAIA, AIA
  - Hiroshi Hidu, AIA

January 3, 2017

Susan Lebo, PhD  
Archaeology Branch Chief  
State of Hawaii  
Department of Land and Natural Resources  
State Historic Preservation Division  
601 Kamokila Blvd, Suite 555  
Kapolei, Hawaii 96707

**Subject:** Hawaii Dairy Farms Final Environmental Impact Statement (EIS)  
Māhā'ulepti, Kōloa District, Kaua'i, Hawaii  
Response to Comment on Draft EIS

Dear Dr. Lebo:

We received a State Historic Preservation Division (SHPD) letter from Mary Jane Naone, Kaua'i Lead Archaeologist, dated July 18, 2016, regarding the Hawaii Dairy Farms Draft EIS.

After subsequent coordination with your office, we have since received your letter of acceptance of the AIS dated December 19, 2016. Your letter states that no further work is recommended for the fourteen plantation era sites within the project area. Your letter further states that the current proposed project will not affect two sites outside the Project Area assessed as significant under Criterion d (information potential) and e (cultural value), and no further mitigation is recommended for the project. Future proposed projects outside the current project area shall require consultation with SHPD.

Your comment, along with this response, will become part of the public record and will be published in the Final EIS. A copy of the Final EIS is included on a compact disc with this letter. When published, the Final EIS will be available on the OEQC website which you can access using the following URL, and search "Hawaii Dairy Farms": <http://tinyurl.com/OEQCKAUAI>.

Thank you for your participation in the environmental review process.

Sincerely,

GROUP 70 INTERNATIONAL, INC.

Jeffrey H. Overton, AICP, LEED AP  
Principal Planner

cc: Hawaii Dairy Farms  
Hawaii State Department of Health,  
Environmental Planning Office



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
LAND DIVISION

POST OFFICE BOX 621  
HONOLULU, HAWAII 96809

July 22, 2016

Group 70 International, Inc.  
Attention: Mr. Jeffrey H. Overton  
925 Bethel Street, 5th Floor  
Honolulu, Hawaii 96813-4307

Dear Mr. Overton:

**SUBJECT:** Environmental Impact Statement Preparation Notice for Hawaii Dairy Farms

Thank you for the opportunity to review and comment on the subject matter. The Department of Land and Natural Resources (DLNR) Land Division distributed or made available a copy of your report pertaining to the subject matter to DLNR Divisions for their review and comments.

At this time, enclosed are comments from the (a) Engineering Division, (b) State Historic Preservation Division, and (c) Land Division - Kauai District on the subject matter. Should you have any questions, please feel free to call Lydia Morikawa at 587-0410. Thank you.

Sincerely,

Russell Y. Tsuji  
Land Administrator

Enclosure(s)  
cc: Central Files



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
LAND DIVISION

POST OFFICE BOX 621  
HONOLULU, HAWAII 96809

June 9, 2016

MEMORANDUM

- DLNR Agencies:**
- Div. of Aquatic Resources
  - Div. of Boating & Ocean Recreation
  - Engineering Division**
  - Div. of Forestry & Wildlife
  - Div. of State Parks
  - Commission on Water Resource Management
  - Office of Conservation & Coastal Lands
  - Land Division - Kauai District
  - Historic Preservation

**TO:** Russell Y. Tsuji, Land Administrator  
**FROM:** Environmental Impact Statement Preparation Notice for Hawaii Dairy Farms  
**SUBJECT:** Koloa, Island of Kauai; TMK: (4) 2-9-003:001 (por.) and 006 (por.), and (4) 2-9-001:001 (por.)  
**LOCATION:** Hawaii Dairy Farms  
**APPLICANT:** Hawaii Dairy Farms

Transmitted for your review and comment is information on the above-referenced project. We would appreciate your comments on this project. Please submit any comments by **July 21, 2016**.

The DEA can be found on-line at: <http://health.hawaii.gov/oeac/> (Click on the Current Environmental Notice under Quick Links on the right.)

If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Lydia Morikawa at 587-0410. Thank you.

Attachments

- We have no objections.
- We have no comments.
- Comments are attached.

Signed:   
Print Name: Cathy S. Chang, Chief Engineer  
Date: 7/1/16

cc: Central Files

RECEIVED  
LAND DIVISION

2016 JUL 12 AM 8:11

DEPT. OF LAND &  
NATURAL RESOURCES  
STATE OF HAWAII

DEPARTMENT OF LAND AND NATURAL RESOURCES  
ENGINEERING DIVISION

To: Land Division  
Ref: EIS Hawaii Dairy Farms Koloa, Kauai

COMMENTS

The rules and regulations of the National Flood Insurance Program (NFIP), Title 44 of the Code of Federal Regulations (44CFR), are in effect when development falls within a designated Flood Hazard.

The owner or the project property and/or their representative is responsible to research the Flood Hazard Zone designation for the project. Flood Hazard Zone designations can be found using the Flood Insurance Rate Map (FIRM), which can be accessed through the Flood Hazard Assessment Tool (FHAT) (<http://gis.hawaii.nfip.org/FHAT>).

National Flood Insurance Program establishes the rules and regulations of the NFIP - Title 44 of the Code of Federal Regulations (44CFR). The NFIP Zone X is a designation where there is no perceived flood impact. Therefore, the NFIP does not regulate any development within a Zone X designation.

Be advised that 44CFR reflects the minimum standards as set forth by the NFIP. Local community flood ordinances may take precedence over the NFIP standards as local designations prove to be more restrictive. If there are questions regarding the local flood ordinances, please contact the applicable County NFIP Coordinators below:

- o Oahu: City and County of Honolulu, Department of Planning and Permitting (808) 768-8098.
- o Hawaii Island: County of Hawaii, Department of Public Works (808) 961-8327.
- o Maui/Molokai/Lanai County of Maui, Department of Planning (808) 270-7253.
- o Kauai: County of Kauai, Department of Public Works (808) 241-4846.

Signed:  CARY S. CHANG CHIEF ENGINEER

Date: 7/11/16



PRINCIPALS

Francis S. Oda, Arch.D.,  
FAA, AICP, LEED AP

Norman G.Y. Hong  
AIA

Sheryl B. Seaman  
AIA, ASIO, LEED AP

Roy H. Nihei  
AIA, CSI, LEED AP

James I. Nishimoto  
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Stephen Yuen  
AIA

Linda C. Miki  
AIA

Charles Y. Kaneshiro  
AIA, LEED AP

Jeffrey H. Overton  
AICP, LEED AP

Christine Mendes Ruotola  
AICP, LEED AP

James L. Stone, Arch.D.,  
AIA, LEED AP

Katherine M. MacNeill  
AIA, LEED AP

Tom Young, MBA  
AIA

Paul T. Matsuda  
PE, LEED AP

Ma Pu Kim  
RIBA, AIB

Craig Takahata  
AIA

OF COUNSEL

Ralph E. Portmore  
FACIP

Hiroshi Hida  
AIA

January 3, 2017

Carty S. Chang, PE  
Chief Engineer  
State of Hawaii  
Department of Land and Natural Resources  
Engineering Division  
Post Office Box 621  
Honolulu, Hawaii 96809

**Subject:** Hawaii Dairy Farms Final Environmental Impact Statement (EIS)  
Māhā'ulepū, Kōloa District, Kaua'i, Hawaii  
Response to Comment on Draft EIS

Dear Mr. Chang:

Thank you for your input dated July 7, 2016 on the Hawaii Dairy Farms Draft EIS. We acknowledge the Engineering Division's comments regarding the rules and regulations of the National Flood Insurance Program (NFIP), as well as the Flood Hazard Zone X in which the Hawaii Dairy Farms project is located. We acknowledge your comment that the NFIP does not regulate any development within a Zone X designation.

Your comment, along with this response, will become part of the public record and will be published in the Final EIS. A copy of the Final EIS is included on a compact disc with this letter. When published, the Final EIS will be available on the OEQC website which you can access using the following URL, and search "Hawaii Dairy Farms": <http://tinyurl.com/OEQCKAUAI>.

Thank you for your participation in the environmental review process.

Sincerely,

GROUP 70 INTERNATIONAL, INC.



Jeffrey H. Overton, AICP, LEED AP  
Principal Planner

cc: Hawaii Dairy Farms  
Hawaii State Department of Health,  
Environmental Planning Office



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
LAND DIVISION

POST OFFICE BOX 621  
HONOLULU, HAWAII 96809

June 9, 2016

MEMORANDUM

- TO:
- DLNR Agencies:
    - Div. of Aquatic Resources
    - Div. of Boating & Ocean Recreation
    - Engineering Division
    - Div. of Forestry & Wildlife
    - Div. of State Parks
    - Commission on Water Resource Management
    - Office of Conservation & Coastal Lands
    - Land Division - Kauai District
    - Historic Preservation

FROM: Russell Y. Tsuji, Land Administrator  
SUBJECT: Environmental Impact Statement Preparation Notice for Hawaii Dairy Farms  
LOCATION: Koloa, Island of Kauai; TMK: (4) 2-9-003:001 (por.) and 006 (por.), and (4) 2-9-001:001 (por.)  
APPLICANT: Hawaii Dairy Farms

Transmitted for your review and comment is information on the above-referenced project. We would appreciate your comments on this project. Please submit any comments by **July 21, 2016**.

The DEA can be found on-line at: <http://health.hawaii.gov/oeqc/> (Click on the Current Environmental Notice under Quick Links on the right.)

If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Lydia Morikawa at 587-0410. Thank you.

Attachments

( ) We have no objections.  
(X) We have no comments.  
( ) Comments are attached.

Signed: Lydia Morikawa JUN 13 11:16 AM '16  
Print Name: LYDIA MORIKAWA  
Date: JUNE 15, 2016

DLNR-KOLOA-PCVJ



PRINCIPALS

Francis S. Oda, Arch.D.  
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PE, LEED AP

Ms. Ky Kim  
RIBA, AIA

Craig Takahata  
AIA

OF COUNSEL

Ralph E. Portmore  
FACIP

Hiroshi Hida  
AIA



DAVID Y. IGE  
GOVERNOR OF HAWAII

January 3, 2017

Marvin Mikasa  
Land Agent  
State of Hawaii  
Department of Land and Natural Resources  
Land Division - Kauai District  
Post Office Box 621  
Honolulu, Hawaii 96809

**Subject:** Hawaii Dairy Farms Final Environmental Impact Statement (EIS)  
Mahaulepu, Koloa District, Kauai, Hawaii  
Response to Comment on Draft EIS

Dear Mr. Mikasa:

Thank you for your input dated June 15, 2016 on the Hawaii Dairy Farms Draft EIS. We acknowledge the Land Division - Kauai District has no comments at this time.

Your comment, along with this response, will become part of the public record and will be published in the Final EIS. A copy of the Final EIS is included on a compact disc with this letter. When published, the Final EIS will be available on the OEQC website which you can access using the following URL, and search "Hawaii Dairy Farms": <http://tinyurl.com/OEQCKAUAL>.

Thank you for your participation in the environmental review process.

Sincerely,  
GROUP 70 INTERNATIONAL, INC.

Jeffrey H. Overton, AICP, LEED AP  
Principal Planner

cc: Hawaii Dairy Farms  
Hawaii State Department of Health,  
Environmental Planning Office

**COUNTY COUNCIL**  
 Mel Rapozo, Chair  
 Ross Kagawa, Vice Chair  
 Mason K. Chock  
 Gary L. Hooser  
 Atryl Kaneshiro  
 Kipukai Kouali'i  
 JoAnn A. Yukimura



**OFFICE OF THE COUNTY CLERK**

Jade K. Fountain-Tamigawa, County Clerk  
 Scott K. Sato, Deputy County Clerk

Telephone (808) 241-4188  
 Fax (808) 241-6349  
 Email cokcouncil@kauai.gov

**Council Services Division**  
 4396 Rice Street, Suite 209  
 Lihue, Kauai, Hawaii 96766

July 15, 2016

*Aloha,*

I am writing to you today to express my support for Hawaii Dairy Farms' Draft Environmental Impact Statement (DEIS). As the Chairperson of the Kauai County Council and a member of the Budget and Finance Committee as well as an ex-officio member of the Economic Development and Intergovernmental Relations Committee, I am committed to assuring that our County has good, viable projects that diversify our economy and lend to Kauai's sustainability and food security.

I have kept abreast of the Hawaii Dairy Farms project since the beginning. In my experience, Hawaii Dairy Farms has consistently been open and communicative with the people of Kauai over the past several years as they have pursued their plans. Conducting a voluntary EIS shows that they were willing to go above and beyond their regulatory requirements to prove the efficacy of their project. The positive results of the DEIS have clearly shown, through credible, scientific study and documentation, that the dairy will protect the environment and be a viable agricultural business that can stimulate the economy, support local people, and feed local families.

I was born and raised on Kauai and have witnessed first-hand how Kauai has lost many agricultural operations in the past few decades. Hawaii Dairy Farms presents a new opportunity that is responsible, more sustainable than dairies of the past, uses state-of-the-art technology to increase food security, provides a fresh, local food source for our people, diversifies agriculture, and utilizes Important Agricultural Lands.

The results of the DEIS show that the dairy is well-suited for its proposed location, and will specifically improve soil on the farm, protect water resources, minimize fly population, and will not negatively affect home values. Odor from the farm will not impact nearby visitors or residents. This is clearly a project that will be good for Kauai as a whole.

Hawaii Dairy Farms would be a positive addition to Kauai's economy and community, and I fully support its DEIS.

*Mel Rapozo*  
**MEL RAPOZO**  
 Chairperson, Kauai County Council

MR:lc

AN EQUAL OPPORTUNITY EMPLOYER



**PRINCIPALS**

Francis S. Oda, Arch.D.  
 AIA, ACP, LEED AP

Norman G.Y. Hong  
 AIA

Sheryl B. Seaman  
 AIA, ASD, LEED AP

Roy H. Nihei  
 AIA, CSI, LEED AP

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 PE, LEED AP

Ms. Ry Kim  
 BBA, AIB

Craig Takahata  
 AIA

OF COUNSEL

Ralph E. Portmore  
 FACIP

Hiroshi Hida  
 AIA

January 3, 2017

Mr. Mel Rapozo  
 Chairperson, Kauai County Council  
 County of Kauai  
 Council Services Division  
 4396 Rice Street, Suite 209  
 Lihue, Kauai, Hawaii 96766

**Subject:** Hawaii Dairy Farms Final Environmental Impact Statement (EIS)  
 Maha'ulepi, Koloa District, Kauai, Hawaii  
 Response to Comment on Draft EIS

Dear Councilmember Rapozo:

Thank you for your input dated July 15, 2016 on the Hawaii Dairy Farms (HDF) Draft EIS. We acknowledge your comments in support of the HDF EIS.

Your comment, along with this response, will become part of the public record and will be published in the Final EIS. A copy of the Final EIS is included on a compact disc with this letter. When published, the Final EIS will be available on the OEQC website which you can access using the following URL, and search "Hawaii Dairy Farms": <http://tinyurl.com/OEQCKAUAI>.

Thank you for your participation in the environmental review process.

Sincerely,

GROUP 70 INTERNATIONAL, INC.

Jeffrey H. Overton, AICP, LEED AP  
 Principal Planner

cc: Hawaii Dairy Farms  
 Hawaii State Department of Health,  
 Environmental Planning Office

**COUNTY COUNCIL**  
Mel Rapozo, Chair  
Ross Kagawa, Vice Chair  
Mason K. Chock  
Gary L. Hooser  
Aryl Kaneshiro  
Kipukai Kualii  
JoAnn A. Yukimura



**OFFICE OF THE COUNTY CLERK**  
Jade K. Fountain-Tanigawa, County Clerk  
Scott K. Sato, Deputy County Clerk

Telephone (808) 241-4188  
Fax (808) 241-6349  
Email: cokcouncil@kauai.gov

**Council Services Division**  
4396 Rice Street, Suite 209  
Lihue, Kauai, Hawaii 96766

July 1, 2016

Group 70 International  
Attn: Jeff Overton/Hawaii Dairy Farms  
Via E-mail: HDF@Group70int.com

Dear Mr. Overton:

Thank you for the opportunity to submit comments in support of the Hawaii Dairy Farms' Draft Environmental Impact Statement (EIS). I am writing today as an individual Councilmember on the Kauai County Council and am currently the Council's Vice Chair and Chair of the Council's Public Works / Parks & Recreation Committee.

I would like to acknowledge Hawaii Dairy Farms for being open and communicative with the people of Kauai over the past several years as they pursued their plans. Conducting a voluntary EIS goes above and beyond their regulatory requirements, and I am appreciative of this gesture to ensure our community that the dairy will protect the environment.

Growing up on Kauai's west side, I witnessed first-hand how agriculture can stimulate the economy, support local people, and feed families. We have lost a lot of agricultural operations in the past few decades. Hawaii Dairy Farms presents a new opportunity that is responsible, more sustainable than dairies of the past, and uses state-of-the-art technology to increase food security, provide a fresh, local food source for our people, diversify agriculture, and utilize Important Agricultural Lands.

The results of the Draft EIS show that the dairy is well-suited for Mahaulepu Valley, and specifically will improve soil on the farm, protect water resources, minimize fly population, and not negatively affect home values. Odor from the dairy will not impact nearby visitors or residents.

Hawaii Dairy Farms would be a positive addition to Kauai's economy and community, and I fully support its Draft EIS. Thank you for allowing me to provide comments in support of Hawaii Dairy Farms. Should you have any questions, please feel free to contact me or Council Services Staff at (808) 241-4188.

Sincerely,

  
ROSS KAGAWA  
Council Vice Chair, Kauai County Council

AN EQUAL OPPORTUNITY EMPLOYER



**PRINCIPALS**

Francis S. Oda, Arch.D.  
AIA, ACP, LEED AP

Norman G.Y. Hong  
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AIA

Paul T. Matsuda  
PE, LEED AP

Ma Ry Kim  
IBA, AIB

Craig Takahata  
AIA

OF COUNSEL

Ralph E. Portmore  
FACIP

Hiroshi Hida  
AIA

January 3, 2017

Mr. Ross Kagawa  
Council Vice Chair, Kauai County Council  
County of Kauai  
Council Services Division  
4396 Rice Street, Suite 209  
Lihue, Kauai, Hawaii 96766

**Subject:** Hawaii Dairy Farms Final Environmental Impact Statement (EIS)  
Mahaulepu, Koloa District, Kauai, Hawaii  
Response to Comment on Draft EIS

Dear Councilmember Kagawa:

Thank you for your input dated July 1, 2016 on the Hawaii Dairy Farms (HDF) Draft EIS. We acknowledge your comments in support of the HDF EIS.

Your comment, along with this response, will become part of the public record and will be published in the Final EIS. A copy of the Final EIS is included on a compact disc with this letter. When published, the Final EIS will be available on the OEQC website which you can access using the following URL, and search "Hawaii Dairy Farms": <http://tinyurl.com/OEQCKAUAI>.

Thank you for your participation in the environmental review process.

Sincerely,

GROUP 70 INTERNATIONAL, INC.



Jeffrey H. Overton, AICP, LEED AP  
Principal Planner

cc: Hawaii Dairy Farms  
Hawaii State Department of Health,  
Environmental Planning Office

**COUNTY COUNCIL**  
Mel Rapozo, Chair  
Ross Kagawa, Vice Chair  
Mason K. Chock  
Gary L. Hooser  
Arryl Kaneshiro  
Kipuka Kai Kuai'i  
JoAnn A. Yukimura



Council Services Division  
4396 Rice Street, Suite 209  
Lihue, Kauai, Hawaii 96766

**OFFICE OF THE COUNTY CLERK**  
Jade K. Fountain-Tunigawa, County Clerk  
Scott K. Sato, Deputy County Clerk

Telephone (808) 241-4188  
Fax (808) 241-6349  
Email cokcouncil@kauai.gov

July 5, 2016

Sina Pruder, P.E.  
Wastewater Branch  
Department of Health  
919 Ala Moana Boulevard, Room 312  
Honolulu, Hawaii 96814

Dear Ms. Pruder:

**RE: HAWAII DAIRY FARMS DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS) MAHA'ULEPU ROAD, KAUAI, HAWAII**

The Friends of Maha'ulepu (FOM) have organized a meeting and invited everyone in the public who are concerned with and/or would like more information regarding the proposed dairy farm operation on lands in Maha'ulepu, Koloa, Kauai. This meeting is scheduled for July 14, 2016 at the Koloa Neighborhood Center beginning at 4:00 p.m.

I have been informed that Hawaii Dairy Farms (HDF) filed 27 revisions to their Waste Management Plan with the Wastewater Branch of the Department of Health (DOH) and did not disclose or give the public any notice of these changes. FOM has been providing comment based on HDF's original plan that was submitted to the DOH in July 2014. HDF only realized that revisions were filed because of statements made by farm manager Jim Garmatz during a deposition on June 14, 2016. The 45-day comment period for the DEIS ends on July 25, 2016 and does not provide FOM and other interested members of the public the statutorily required time to research and understand the changes filed by HDF in order to form an opinion and submit relevant comments regarding the plan.

I am asking that the 45-day comment period be extended because of the circumstances involved and in the interest of right process to allow everyone sufficient time to provide comment on the modified DEIS.

AN EQUAL OPPORTUNITY EMPLOYER

Sina Pruder, P.E.  
Re: Hawaii Dairy Farms DEIS Maha'ulepu Road  
July 5, 2016  
Page 2

Thank you for your attention to this very important issue to the residents of Kauai.

Sincerely,

MASON K. CHOCK  
Councilmember, Kauai County Council

AMK:lc

cc: Hawaii Dairy Farms c/o Amy Hennessey, Director of Communications  
(Via E-mail: amy@ulupono.com)  
Jeffrey H. Overton, Group 70 International Inc.  
(Via E-mail: HDF@Group70int.com)  
Laura McIntyre, Program Manager, Department of Health Environmental Planning Office (Via E-mail: (Laura.McIntyre@doh.hawaii.gov)  
Scott Glenn, Director, Office of Environmental Quality Control  
(Via E-mail: oeqchawaii@doh.hawaii.gov)  
Bridget Hammerquist, Friends of Maha'ulepu  
(Via E-mail: bridgethammerquist@hawaiiantel.net)  
Andrea Cassidy (Via E-mail: 2berk2@sbcglobal.net)



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January 3, 2017

Mr. Mason K. Chock  
Councilmember, Kaua'i County Council  
County of Kaua'i  
Council Services Division  
4396 Rice Street, Suite 209  
Lihue, Kaua'i, Hawaii 96766

**Subject:** Hawaii Dairy Farms Final Environmental Impact Statement (EIS)  
Maha'ulepehi, Koloa District, Kaua'i, Hawaii  
Response to Comment on Draft EIS

Dear Councilmember Chock:

Thank you for your input to the State Department of Health dated July 5, 2016 on the Hawaii Dairy Farms (HDF) Draft EIS. As the consultant for the project, Group 70 International offers the following responses to your comments:

Review of a Waste Management Plan (WMP) is a function of the Wastewater Branch of the Department of Health (DOH) in accordance with the DOH *Guidelines for Waste Management* (2010). The WMP review process is not part of the EIS process or subject to public review and comment.

HDF updated the WMP to reflect refinements identified during the planning process. HDF operations as documented in the original and revised WMP are reflected in the EIS, and are consistent with the disclosed Appendix D, *Nutrient Balance Analysis for Hawaii Dairy Farm*.

While an agricultural project on agricultural lands implemented and operated with private funds does not require environmental disclosure, HDF responded to community concerns by agreeing to prepare an EIS. The EIS is a disclosure document that analyzes the effects of a proposed project or program on the environment including direct, indirect and cumulative impacts, discusses alternative methods or designs to the proposed action, and formulates minimization and mitigation measures to eliminate, reduce, or rectify adverse impacts of the proposed action. This EIS was prepared in accordance with Hawaii Administrative Rules Title 11 Chapter 200, implementing Hawaii Revised Statutes (HRS) Chapter 343. Upon publication by the Office of Environmental Quality Control in the Environmental Notice issue of June 8, 2016, the Draft EIS underwent a 45-day agency and public review.

Mr. Mason K. Chock  
Councilmember, Kaua'i County Council  
Hawaii Dairy Farms Environmental Impact Statement  
January 3, 2017  
Page 2 of 2

Your comment, along with this response, will become part of the public record and will be published in the Final EIS. A copy of the Final EIS is included on a compact disc with this letter. When published, the Final EIS will be available on the OEQC website which you can access using the following URL, and search "Hawaii Dairy Farms": <http://tinyurl.com/OEQCKAUAI>.

Thank you for your participation in the environmental review process.

Sincerely,  
GROUP 70 INTERNATIONAL, INC.

Jeffrey H. Overton, AICP, LEED AP  
Principal Planner

cc: Hawaii Dairy Farms  
Hawaii State Department of Health,  
Environmental Planning Office

**COUNTY COUNCIL**  
Mel Rapozo, Chair  
Ross Kigawa, Vice Chair  
Mason K. Chock  
Gary L. Hooser  
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Kipukai Kualii  
JoAnn A. Yukimura



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**OFFICE OF THE COUNTY CLERK**  
Jade K. Fountain-Tanigawa, County Clerk  
Scott K. Sato, Deputy County Clerk

July 25, 2016

Dr. Virginia Pressler  
Director  
Department of Health  
1250 Punchbowl Street  
Honolulu, Hawaii 96813

Dear Dr. Pressler:

**RE: HAWAII DAIRY FARMS  
DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS)  
MAHA'ULEPU ROAD, KAUAI, HAWAII**

After careful review I have found the proposed Draft EIS for the Hawaii Dairy Farms project located at TMK: (4) 2-9-003 insufficient based on its review and findings pertaining to three (3) particular areas of concern: Impacts of ground water and nearshore coastal resources, impacts from odor and flies, and impacts on property values in nearby resort and residential areas.

While the data contained within the Draft EIS appears at first glance to be thorough and comprehensive, a close review finds it fails to take in secondary and cumulative impacts as required under Hawaii Revised Statutes (HRS) 343. There appears to be no comprehensive analysis specifically of the long-term cumulative impacts of this operation combined with the projected growth of the general population of the adjacent resort and residential areas.

I found the following reference especially troubling and frankly not believable:

*"Results of technical studies and the findings of the EIS show no unmitigated nuisances that would affect property values as a result of dairy implementation or operations. No noticeable odors, flies, noise, waste or water discharges will reach resort or residential areas. As such, the dairy will not adversely affect residents, nearby recreational activities, guests..."*

AN EQUAL OPPORTUNITY EMPLOYER

Dr. Virginia Pressler, Director  
Re: Hawaii Dairy Farms, Draft Environmental Impact Statement (DEIS),  
Maha'ulepu Road, Kauai, Hawaii  
July 25, 2016  
Page 2

In addition to serving on the Kauai County Council and formerly serving as the Director of the Office of Environmental Quality Control, I am presently an inactive real estate broker. However, as a result of my past twenty (20) years of experience in this field and in recent discussions with local real estate professionals, it is clear that property values have already been negatively impacted in both resort and residential sectors.

Thus, the review and conclusions pertaining to real property values, including the impacts on projected revenue loss to Kauai County, must be conducted and included in any final EIS.

A review of impacts on local streams and coastal resources from the dairy operation must also be expanded and recent findings of the Surfrider Foundation incorporated, which illustrate that streams and drainage areas in the area are already heavily contaminated. Again, while at first this area appears to have been reviewed, I find that review superficial in nature and lacking in as to the potential secondary and cumulative impacts to both ground water and nearshore coastal resources.

While I also have further concerns and comments, the above represents those that I believe deserve urgent and comprehensive attention.

Sincerely,

GARY L. HOOSER  
Councilmember, Kauai County Council

AMK:cy

cc: Hawaii Dairy Farms c/o Amy Hennessey, Director of Communications  
(Via E-mail Only: [amy@ulupo.com](mailto:amy@ulupo.com))  
Jeffrey H. Overton, Group 70 International Inc.  
(Via E-mail Only: [HDF@Group70int.com](mailto:HDF@Group70int.com))  
Laura McIntyre, Program Manager, Department of Health Environmental Planning Office (Via E-mail Only: [Laura.McIntyre@doh.hawaii.gov](mailto:Laura.McIntyre@doh.hawaii.gov))  
Bridget Hammerquist, Friends of Maha'ulepu  
(Via E-mail Only: [bridgethammerquist@hawaiiintel.net](mailto:bridgethammerquist@hawaiiintel.net))  
Scott Glenn, Director, Office of Environmental Quality Control  
(Via E-mail Only: [oegchawaii@doh.hawaii.gov](mailto:oegchawaii@doh.hawaii.gov))



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January 3, 2017

Mr. Gary L. Hooser  
Councilmember, Kaua'i County Council  
County of Kaua'i  
Council Services Division  
4396 Rice Street, Suite 209  
Lihue, Kaua'i, Hawaii 96766

**Subject:** Hawaii'i Dairy Farms Final Environmental Impact Statement (EIS)  
Maha'ulepu, Koloa District, Kaua'i, Hawaii'i  
Response to Comment on Draft EIS

Dear Councilmember Hooser:

Thank you for your input to the State Department of Health dated July 25, 2016 on the Hawaii'i Dairy Farms Draft EIS. The following responses are offered to your comments:

Section 4 of the Final EIS (FEIS) presents the existing conditions and probable future conditions for the issues of concern noted in your comments: Section 4.11 *Invertebrates Species and Pest Insects*; Section 4.16 *Groundwater Resources*; Section 4.17 *Surface Water Resources & Nearshore Marine Environment*; Section 4.19 *Air Quality, Odor and Greenhouse Gases*.

The secondary and cumulative analysis of probable HDF impacts with the conditions in the adjacent Kōloa-Pōipū region and its projected growth is discussed in Section 4.20 and 4.26.

Results of technical studies and the findings of this EIS show no unmitigated nuisances that could affect property values as a result of dairy implementation or operation. No noticeable odors, flies, noise, waste or water discharges will impact resort or residential areas. Noticeable nuisance impacts outside the Dairy will be limited to the adjacent farm and ranch lands owned by Mahaulepu Farm LLC, the lessor of the dairy site. As such, the dairy will not adversely affect residents, nearby recreational activities, guests in nearby resorts, or diminish property sales or property values in the area.

Opponents to the dairy have contradicted findings of HDF's Hawaii'i-based expert consultants by using wildly different assumptions and, in several cases, incorrect data. In most cases, the assumptions are based on poorly managed conventional feedlot dairy operations on the mainland, which vary greatly from the proposed pasture-based rotational grazing operation. HDF stands by the environmental analyses conducted for the EIS, which uses reasonable and diligent processes to disclose all probable impacts and demonstrates the dairy will not create nuisance impacts downstream or beyond surrounding agricultural lands.

Mr. Gary L. Hooser  
Councilmember, Kaua'i County Council  
Hawaii'i Dairy Farms Environmental Impact Statement  
January 3, 2017  
Page 2 of 2

The potential impacts of HDF to the existing economy were evaluated in the EIS, including a fiscal impact assessment report completed in April, 2016 by Plasch Economics Pacific. EIS Section 4.15 addresses demographic and economic factors, with the complete report in Appendix J.

Your comment, along with this response, will become part of the public record and will be published in the Final EIS. A copy of the Final EIS is included on a compact disc with this letter. When published, the Final EIS will be available on the OEQC website which you can access using the following URL, and search "Hawaii'i Dairy Farms": <http://tinyurl.com/OEQCKAUAI>.

Thank you for your participation in the environmental review process.

Sincerely,

GROUP 70 INTERNATIONAL, INC.

Jeffrey H. Overton, AICP, LEED AP  
Principal Planner

cc: Hawaii'i Dairy Farms  
Hawaii'i State Department of Health,  
Environmental Planning Office

**COUNTY COUNCIL**  
Mel Rapozo, Chair  
Ross Kigawa, Vice Chair  
Mason K. Chock  
Gary L. Hooser  
Aryll Kaneshiro  
Kipukai Kualii  
JoAnn A. Yukimura



**Council Services Division**  
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**OFFICE OF THE COUNTY CLERK**

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Email [cokcouncil@kawaii.gov](mailto:cokcouncil@kawaii.gov)

Sina Pruder, P.E.  
Re: Hawaii Dairy Farms Draft Environmental Impact Statement (DEIS)  
Māhā'ulepū Road, Kauai, Hawaii  
July 1, 2016  
Page 2

right process and in the interest of all members of the public who may want more time to comment on the modified DEIS.

Thank you for your attention to this very important issue to the residents of Kauai.

Sincerely,

JOANN A. YUKIMURA  
Councilmember, Kauai County Council

Sina Pruder, P.E.  
Wastewater Branch  
Department of Health  
919 Ala Moana Boulevard, Room 312  
Honolulu, Hawaii 96814

Dear Ms. Pruder:

**RE: HAWAII DAIRY FARMS DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS)-MĀHĀ'ULEPŪ ROAD, KAUAI, HAWAII**

I am following up on a concern brought to my attention regarding plans submitted by Hawaii Dairy Farms (HDF) regarding their proposed operation on lands located in Māhā'ulepū, Kauai, and for which public comments were solicited. It has been brought to my attention that HDF filed 27 revisions to their Waste Management Plan with the Wastewater Branch of the Department of Health (DOH) and did not disclose or give the public any notice of these changes. The public has been providing comment based on HDF's original plan that was submitted to DOH in July 2014.

It was during the June 14, 2016 deposition of farm manager Jim Garmatz that the Friends of Māhā'ulepū (FOM) realized that their focus was on the original plan submitted by HDF, and that they needed to research and understand the changes filed by HDF before they could provide meaningful comment. The 45-day comment period for the DEIS ends on July 25, 2016. This timetable does not provide FOM or other interested members of the public the statutorily required time to respond to the changes made by HDF, given that they only learned of the 27 revisions on June 14, 2016.

I am asking that you consider extending the 45-day comment period to take into account notice given by HDF to the public and agencies of their revised plans. This would certainly be less onerous than requiring a new EIS be published as was recently required by the Department of Land and Natural Resources in a case involving an application for one of its permits. I make this request in the interest of

Hawaii Dairy Farms c/o Amy Hennessey, Director of Communications  
(Via E-mail: [amy@ulupono.com](mailto:amy@ulupono.com))  
Jeffrey H. Overton, Group 70 International Inc.  
(Via E-mail: [HDF@Group70int.com](mailto:HDF@Group70int.com))  
Laura McIntyre, Program Manager, Department of Health Environmental Planning Office (Via E-mail: [Laura.McIntyre@doh.hawaii.gov](mailto:Laura.McIntyre@doh.hawaii.gov))  
Scott Glenn, Director, Office of Environmental Quality Control  
(Via E-mail: [toeqhawaii@doh-hawaii.gov](mailto:toeqhawaii@doh-hawaii.gov))  
Bridget Hammerquist, Friends of Māhā'ulepū  
(Via E-mail: [bridgethammerquist@hawaiiintel.net](mailto:bridgethammerquist@hawaiiintel.net))  
Andrea Cassiday (Via E-mail: [2berk2@sbcglobal.net](mailto:2berk2@sbcglobal.net))



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Hiroshi Hida  
AIA

January 3, 2017

Ms. Joann A. Yukimura  
Councilmember, Kaua'i County Council  
County of Kaua'i  
Council Services Division  
4396 Rice Street, Suite 209  
Lihu'e, Kaua'i, Hawaii 96766

**Subject:** Hawaii Dairy Farms Final Environmental Impact Statement (EIS)  
Maha'ulepu, Koloa District, Kaua'i, Hawaii  
Response to Comment on Draft EIS

Dear Councilmember Yukimura:

Thank you for your input dated July 1, 2016 on the Hawaii Dairy Farms (HDF) Draft EIS. The following responses are offered to your comments:

Review of a Waste Management Plan (WMP) is a function of the Wastewater Branch of the Department of Health (DOH) in accordance with the *DOH Guidelines for Waste Management* (2010). The WMP review process is not part of the EIS process or subject to public review and comment.

HDF updated the WMP to reflect refinements identified during the planning process. HDF operations as documented in the original and revised WMP are reflected in the EIS, and are consistent with the disclosed Appendix D, *Nutrient Balance Analysis for Hawaii Dairy Farm*.

While an agricultural project on agricultural lands implemented and operated with private funds does not require environmental disclosure, HDF responded to community concerns by agreeing to prepare an EIS. The EIS is a disclosure document that analyzes the effects of a proposed project or program on the environment including direct, indirect and cumulative impacts, discusses alternative methods or designs to the proposed action, and formulates minimization and mitigation measures to eliminate, reduce, or rectify adverse impacts of the proposed action. This EIS was prepared in accordance with Hawaii Administrative Rules Title 11 Chapter 200, implementing Hawaii Revised Statutes (HRS) Chapter 343. Upon publication by the Office of Environmental Quality Control in the Environmental Notice issue of June 8, 2016, the Draft EIS underwent a 45-day agency and public review.

Ms. Joann A. Yukimura  
Councilmember, Kaua'i County Council  
Hawaii Dairy Farms Environmental Impact Statement  
January 3, 2017  
Page 2 of 2

Your comment, along with this response, will become part of the public record and will be published in the Final EIS. A copy of the Final EIS is included on a compact disc with this letter. When published, the Final EIS will be available on the OEQC website which you can access using the following URL, and search "Hawaii Dairy Farms": <http://tinyurl.com/OEQCKAUAI>.

Thank you for your participation in the environmental review process.

Sincerely,

GROUP 70 INTERNATIONAL, INC.

Jeffrey H. Overton, AICP, LEED AP  
Principal Planner

cc: Hawaii Dairy Farms  
Hawaii State Department of Health,  
Environmental Planning Office

## **ORGANIZATIONS**





**AHA MOKU ADVISORY COMMITTEE**

P.O. Box 6213  
Honolulu, HI 96813

**Members**

**Lestie Kuloiolo, Chair**  
*Po'o, Moku O Kanaloa (Kahe'olawe)*

**Pili'ani Kaawaloa, Po'o**  
*Moku O Keawe (Hawaii')*

**Kyle Nakamelua, Po'o**  
*Moku O Pihani (Maui)*

**Winifred Basques, Po'o**  
*Nana'i Kaui (Lana'i)*

**Karen Poepee, Po'o**  
*Moloka'i Pule O'o (Moloka'i)*

**Leialoha (Rocky) Kaluhiwa**  
*Po'o, Moku O Kakuhihewa (O'ahu)*

**Thomas Hashimoto, Po'o**  
*Manakalanipo (Kauai')*

**Keith Robinson, Kanohiki**  
*Ka Aina O Kawelanolakala (Ni'ihau)*

**Leimana DaMate**  
*Executive Director*

*Aha Moku is attached administratively to the Hawaii State Department of Land and Natural Resources through Act 288, Hawaii Session Laws 2012*

July 20, 2016

Laura McIntyre  
State of Hawaii, Department of Health  
1250 Punchbowl Street  
Honolulu, HI 96813

Amy Hennessey  
Hawaii Dairy Farms, LLC  
P.O. Box 1690  
Koloa, HI 96756-1690

Jeff Overton, Principal Planner  
Group 70 International, Inc.  
925 Bethel Street, 5<sup>th</sup> Floor  
Honolulu, HI 96813

Re: Hawaii Dairy Farms Draft EIS – Comments  
TMK: (4) 2-9-003: 001 portion and 006 portion and (4) 2-9-001:001 portion  
Koloa District, Kauai

Aloha Ms. McIntyre, Ms. Hennessey and Mr. Overton:

The Aha Moku System was formally recognized, along with the Aha Moku Advisory Committee (AMAC) created in 2012 by the Hawaii State Legislature through Act 288. The purpose of the Act "is to formally recognize the Aha Moku System and to establish the Aha Moku Advisory Committee within the Hawaii State Department of Land and Natural Resources (DLNR), which may serve in an advisory capacity to the chairperson of board of land and natural resources on issues related to land and natural resources management through the Aha Moku System, a system of best management practices of moku (regional) boundaries, which acknowledges the natural contours of land, the specific resources located within those areas, and the methodology necessary to sustain resources and the community. The Aha Moku System will foster understanding and practical knowledge, including native Hawaiian methodology and expertise to assure responsible stewardship and awareness of the interconnections of the clouds, forest, valleys, land, stream, fishponds, and sea." (§171.4-5)

On behalf of AMAC Po'o Thomas Hashimoto, the committee member representing the Island of Kauai, who was confirmed by the Hawaii State Senate in 2012, and Kalanikūma'i Harmony, the Moku Representative and lineal descendant of Maha'ulepu we believe that the DEIS as submitted is flawed and has not adequately addressed the concerns of the Aha Moku community that is intimately attached to the Ahupua'a of Mahaulepu. This community encompasses members of the Public Trust, as well as Native Hawaiians.

In section 4.8 of your DEIS, Cultural Practices and Resources, a Cultural Impact Assessment (CIA) of the dairy farm and vicinity was completed by Scientific Consultant Services, Inc. and sought to assess traditional cultural practices as well as resources pertaining to the project area within the Maha'ulepu ahupua'a. Their summary as listed was incomplete and erroneous.

The Traditional Hawaiian background, the first heading under 4.8.1 – Existing Conditions – Cultural Practices and historic Resources contains information that is easily gotten from history books on Hawaii which were generally written by scholars who were not from Kauai, much less from Maha'ulepu. There is no real traditional historic background on Maha'ulepu listed in the CIS portion of the DEIS – no information on the true wealth of the ahupua'a – its rich soil, clean water, clean streams, thriving fisheries and thriving agricultural practices that once defined the wealth of Maha'ulepu and of Koloa, the moku or district that contained the ahupua'a of Maha'ulepu.

DEIS, Hawaii Dairy Farm  
Page Two

Your document does not list the kupuna and generational families of Maha'ulepu whose ancestors were responsible for the sustainability of the natural and cultural resources of that land. These generational families still exist and do practice different Hawaiian disciplines on the land, in the streams and on the coastal lands fronting the Maha'ulepu ahupua'a and its near-shore fisheries – all which will be adversely impacted by the dairy.

The Traditional and Historic Land Tenure and Use heading again lists information easily received from common knowledge in books. It does not show that any of the generational families with ties to this place were interviewed. And while it is true that there was sugarcane cultivation, there is no history of the place listed that is prior to the mid-1800. We are not saying that this information is not unreachable. It is widely known among the local communities of Koloa that Kalanikūma'i Ka Maku'ū'ūli O Na Ali'i Hanohano still resides in Maha'ulepu and is a Native Hawaiian lineal descendant of the aboriginal stewards of the Koloa Moku.

The CIS does not indicate the destruction to the clean water that comes down Maha'ulepu from the mauka regions through the stream that empties into the near-shore fisheries. Ophi, limu, he'e, loli and various species of indigenous fish that spawn along the Maha'ulepu coast will be adversely impacted. The CIS does not list any of these practices or state that they continue today – which they do.

Endemic flora and fauna are in danger of being destroyed by the high volumes of nitrate rich untreated solid waste and urine affecting the clean water and environment.

We do not believe adequate time and attention was given to the important dynamic of the local communities who still preserve and protect Maha'ulepu and their partnerships with communities in neighboring ahupua'a, who also maintain and protect the existing natural and cultural resources of Koloa. These communities include local families connected through lineage from the ahupua'a of Pa'a, Weiwei, Koloa, Aepo, Lawai, Kalahao, Wahiawa and Poipu.

In summary, we believe that the DEIS and its accompanying CIS is flawed, incomplete and must be redone. It unfairly paints a picture in Section 4.8.2 – Probable impacts and mitigation measures – cultural practices and historic resources that no significant impact to cultural resources would happen if the project were to go through. However, that assertion cannot be made when no true cultural impact statement has been done.

Within your short-term impacts and mitigation section, it is truthfully stated that information received from the community indicates that Maha'ulepu ahupua'a has been and is currently used for traditional cultural purposes. However, the dairy project area has not been included in these activities. What dairy project area activities have been done? And where? It is also stated that gathering of plants and marine resources are outside the project area. Activities in the project area will definitely and adversely impact Native Hawaiian gathering and fishing rights, rights that are protected under Hawaii State Constitutional Law in Article XII. The health of the marine resources of Maha'ulepu is directly connected to the health of the project area.

Aha Moku is not adverse to development. But we are concerned that this development will forever adversely impact a once unspoiled place that has taken years to recover from the sugar cane industry. It was the diligence and care of the Maha'ulepu communities that brought the resources back to life. We ask that this project be developed elsewhere to a more appropriate location.

Respectfully yours,

*Leimana DaMate*

Leimana DaMate, Executive Director  
State of Hawaii  
Aha Moku Advisory Committee  
1151 Punchbowl Street  
Honolulu, HI 96813

Phone: 808-587-1498  
Email: Leimana.DaMate@hawaii.gov



Your comment, along with this response, will become part of the public record and will be published in the Final EIS. A copy of the Final EIS is included on a compact disc with this letter. When published, the Final EIS will be available on the OEQC website which you can access using the following URL, and search "Hawaii Dairy Farms": <http://tinyurl.com/OEQCKAUAI>.

Thank you for your participation in the environmental review process.  
Sincerely,

GROUP 70 INTERNATIONAL, INC.



Jeffrey H. Overton, AICP, LEED AP  
Principal Planner

cc: Hawaii Dairy Farms  
Hawaii State Department of Health,  
Environmental Planning Office



CENTER for BIOLOGICAL DIVERSITY

Because life is good.

July XX, 2016

Group 70 International  
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Honolulu HI 96813  
[HDF@Group70int.com](mailto:HDF@Group70int.com)

Department of Health (DOH)  
ATTN: Laura McIntyre/Environmental Planning Office  
1250 Punchbowl Street  
Honolulu HI 96813

**Re: Comments on Hawaii Dairy Draft Environmental Impact Statement**

On behalf of the Center for Biological Diversity ("Center"), we would like to submit comments on the Hawaii Dairy Farms Draft Environmental Impact Statement ("DEIS"), which was prepared pursuant to Hawaii Revised Statutes, Chapter 343, Environmental Impact Statement Law.<sup>1</sup> The Center is concerned about several significant deficiencies in the DEIS and we are concerned that the proposed dairy farm's construction and operational activities are likely to result in unauthorized take of federally threatened and endangered species. We therefore recommend that the Hawaii Dairy seek to develop a Habitat Conservation Plan and obtain an Incidental Take Permit prior to the construction and operation of the Dairy in order to avoid violating the take prohibition under Section 9 of the Endangered Species Act ("ESA") and the to receive similar authorization under Section 195D-4 of the Hawaii Endangered Species Act ("HEIS").<sup>2</sup> The Center is a national, non-profit conservation organization supported by more than a million members and online activists. The Center and its members have a longstanding interest in the conservation of endangered and threatened species and their habitats in Hawaii and the remainder of the United States.

We are deeply concerned that DEIS dismisses the likely impacts to threatened and endangered species, by reviewing and disposing of these issues in a cursory manner. The DEIS ignores or fails entirely to address the concerns provided by U.S. Fish and Wildlife Service ("Service") in a letter to the Dairy in February 2015. Simple mitigation measures recommended by the Service do not appear to have been incorporated into the DEIS, making unauthorized take of listed species that much more likely. We also recommend that the Dairy seek a National Pollution Discharge Elimination System ("NPDES") permit rather than keeping the dairy herd exactly one cow below the legal limit as to where a facility must possess such a permit. Without meaningful

<sup>1</sup> Hawaii Dairy Farms 2016. *Hawaii Dairy Farms Draft Environmental Impact Statement* (hereafter "Dairy DEIS").

<sup>2</sup> 16 U.S.C. § 1538

restrictions on discharges, it is highly likely that the Dairy will contaminate surface and groundwater, resulting in harm to two highly endangered cave arthropods, degrade water quality along Kauai's southeast shoreline, and potentially degrade the critical habitat of the monk seal or injure the species outright through exposure to polluted water.

#### I. Impacts to Federally Threatened and Endangered Species

In a letter to the Dairy, the U.S. Fish and Wildlife Service recommended a suite of conservation measures to protect threatened and endangered species during both the construction phase and during operations to minimize potential take by the Dairy. These include:

- Implementing measures to minimize the waterbirds' attraction to ponds, such as installing covers or enclosures over waste lagoons;
- Implementing a predator control program to minimize the predation and/or reduced breeding success of waterbirds using pastures;
- Providing additional information about fencing choices so that USFWS may assess whether entanglement or collision risks exist, and disallowing the installation of electric or barbed-wire fencing;
- Installing signage near roadways warning drivers of the presence of birds in the area;
- Working with USFWS to develop measures to avoid fostering conditions that would promote avian botulism, including a monitoring plan for early detection and response;
- Working with a biological monitor to avoid and mitigate potential displacement and loss of nests during construction or operation;
- Avoiding site-clearing or other plant-disturbing activities during the Hawaiian hoary bat birthing and pup rearing season;
- Engaging in construction activities only during daylight hours so as to avoid use of artificial lighting, which may disorient seabirds;
- To the extent exterior lights cannot be eliminated, positioning exterior facility lights low to the ground with motion-triggers and other safety measures;
- Configuring and installing utility lines in such a way as to avoid posing a collision hazard;
- Minimizing disturbance to the sensitive cave habitat—which is hydrologically linked to the proposed HDF site—that houses the two arthropod species (which disturbance includes contamination from surface sources of chemicals, pesticides, and waste disposal which enters caves via streams or groundwater seepage);
- Minimizing disturbance to the critical habitat of the 'ohai (which disturbance includes habitat degradation caused by introduction of non-native plants, lack of adequate pollination, fire, destruction by off-road vehicles, storms, and human disturbances);
- Incorporating best management practices to avoid and minimize impacts to water resources.

We are concerned that many of these simple recommendations have been ignored in the DEIS, and that the risks to threatened and endangered species are being dismissed in a cursory manner.<sup>3</sup> For example, the waterbird conservation plan only contemplates basic training for personnel, but

<sup>33</sup> The Center supports the Dairy's decision to implement a predator control program at their facility.

does not include measures to minimize attraction of waterbirds to waste lagoons and other facilities at the dairy. More significantly, with respect to listed seabirds, the DEIS only states: “the endangered Hawaiian Petrel (*Pterodroma sandwichensis*), and the threatened endemic subspecies of the Newell's Shearwater (*Puffinus auricularis newelli*) have been recorded over-flying the general project area between April and the end of November each year”<sup>4</sup> and that “The principal potential impact that construction of the proposed dairy farms poses to protected seabirds is the increased threat that birds will be downed after becoming disoriented by lights associated with the project during the nesting season. The two main ways that outdoor lighting could pose a threat to these nocturnally flying seabirds is if, 1) during construction it is deemed expedient, or necessary to conduct nighttime construction activities, and 2) following build-out, the potential operation of streetlights or security lighting.”<sup>5</sup>

This information is not accurate and does not actually analyze the real risks to listed seabird species. A small number of Newell's Shearwaters continue to nest on Ha'upu ridge.<sup>6</sup> Placing a large agricultural facility directly below the ridge will actually create a significant hazard for both the adults that nest of Ha'upu and especially the young fledglings. Given the rural nature of the land around the proposed dairy, it is unlikely that any fallout birds will ever be recovered, and there is a high probability that if a bird is downed in a pasture area it will die from predation or exhaustion.

The Center is concerned that the DEIS continues to contemplate night-time construction at the Dairy, and is not heeding the Fish and Wildlife Service's recommendation to only conduct daytime construction, or even limiting night-time construction to the non-seabird season (December through April). Furthermore, the Service recommended that all lights “be positioned low to the ground, be motion triggered, and be shielded and/or full cut-off. Effective light shields should be completely opaque, sufficiently large, and positioned so that the bulb is only visible from below. The DEIS only states that lighting will be shielded, this is insufficient to ensure against take of listed seabirds. Finally, the DEIS also fails to consider the interaction of seabirds with utility lines for the dairy. Collisions with power lines pose a significant risk to listed seabirds, and the DEIS has ignored the Fish and Wildlife Service's recommendation that utility and power lines be undergrounded as much as possible.

With respect to the two endangered cave invertebrates, the Kaua'i Cave Wolf Spider and the Kaua'i Cave amphipod, the DEIS also provides a cursory discussion. The DEIS states that “This survey showed no evidence of lava tubes (caves) that would support the endangered Kaua'i cave wolf spider or cave amphipod”<sup>7</sup> and that “There is no federally designated Critical Habitat for any invertebrate species on or adjacent to the subject property. No anticipated actions related to the proposed project activity in the surveyed locations are expected to threaten entire species or entire invertebrate populations.”<sup>8</sup> Section 9 of the Endangered Species Act prohibits any person, including any federal agency, from “taking” any listed species without proper authorization

<sup>4</sup> DAIRY DEIS at 23.

<sup>5</sup> *Id.* at 26.

<sup>6</sup> Personal communication with Kauai Endangered Seabird Recovery Team. The Center strongly suggests that the Dairy contact the State Department of Forestry and Wildlife regarding current status of listed species in Hawaii rather than conducting an incomplete literature search.

<sup>7</sup> DAIRY DEIS at 2.

<sup>8</sup> *Id.* at 20.

through a valid incidental take permit.<sup>9</sup> The definition of "harm" has been defined broadly by regulation as "an act which actually kills or injures wildlife. Such act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering."<sup>10</sup> Courts have found federal agencies liable for unlawful take of listed species where agency-authorized activities resulted in the killing or harming individuals of such species.<sup>11</sup> The legal standard is not what the DEIS purports —threatening entire species or entire invertebrate populations — but rather harm to even a single individual of a listed species. The DEIS does not analyze whether the impacts of the Dairy downstream of the site will adversely affect either the Kāua'i cave amphipod or the Kāua'i Cave Wolf Spider. A significant section of the coastline has been designated as critical habitat for these two species, and these areas are directly downstream of the Dairy. If water pollution causes habitat modifications that impair the essential behavioral patterns of even just one individual of either of these species, such harm would represent a violation of the Endangered Species Act. Given that the DEIS has failed to discuss the impacts to the listed cave species, and has failed to include any mitigation to completely avoid take, any harm that occurs will represent a violation of Section 9 of the Act.

## II. Compliance with the Clean Water Act

The Hawai'i Dairy Farms (Dairy) should be designated as a concentrated animal feeding operation (CAFO), and should not be approved to operate, as described, without first acquiring an individual CAFO National Pollutant Discharge Elimination System (NPDES) permit.

As described in the DEIS, "[f]or dairy operations with 700 or more mature dairy cows, additional regulatory review and permitting by the State Department of Health is required. The application process for a [NPDES CAFO] permit includes public notification and input. At the discretion of HDF, management may choose to expand operations up to the carrying capacity of the land, which is estimated to be up to 2,000 productive milking dairy cows." DEIS at 2-9. However, what this statement fails to recognize is that the Department may, at its discretion, designate any dairy facility, even one operating at below 700 mature dairy cows – known as the "large" dairy CAFO threshold, as a CAFO subject to NPDES permitting. 40 C.F.R. § 122.23(c).

In this instance, where the facility is proposed to operate at a mere one cow below the large Clean Water Act CAFO threshold of 700 cows, and intends to expand its operation to upwards of 2,000 dairy cows (almost three times the large CAFO threshold) in the near-projected future, the only clear manner for the Department to support water quality goals and the objectives of the Clean Water Act would be to designate this operation as CAFO and require it to obtain an individual CAFO NPDES permit.

Further, in compliance with the NPDES permit, the Dairy should be constructed, operated, and maintained such that there it will no discharge of any pollutant (including any biological

pollutant, chemical pollutant - such as any pesticide or pharmaceutical residue, or any other agricultural waste) from the operation into any adjacent ground or surface waters. As it relates to the planned effluent "ponds," these impoundments must be designed to include impermeable linings and electronic effluent leakage monitoring, as further discussed in the DEIS at 3-16; the Department should require the Dairy to maintain and submit, at a minimum, quarterly reports detailing the condition of these impoundments, including bi-weekly recordings of the depths of the manure and process wastewater in the liquid impoundment; all spills and leaks from any waste impoundment; and all calibrations, readings, inspections, and reports from the impoundment sensor system. Further, because of the increasing severity of weather events, all effluent storage impoundments should be constructed to withstand at least a 100-year storm event, rather than the 25-year, 24 hour design currently proposed. See DEIS at 3-14.

The Department should additionally incorporate a robust monitoring plan into the Dairy's NPDES permit. Zero discharge limitations are good in theory, but are meaningless if the operation is not actively complying with the discharge limitation. The only way to meaningfully ensure full compliance is to require effective monitoring of all potential discharge points on the operation, including, but not limited to, any waterway on or through the property, and any ditch, tile drain, or other conveyance intended to transport liquids off of agricultural fields and pastures. See, e.g., DEIS at 3-14 ("Drainage improvements will consist of surface modifications to include swales (referred to as grassed waterway in NRCS Practice Codes), sediment basins, stream crossings, surface drainages, and water and sediment control basin. Much of the existing drainage infrastructure, installed and gused for sugarcane irrigation, will be restored where possible and reused or improved.") Indeed, the DEIS agrees with the utility of such a monitoring protocol, providing that: "[w]ith careful monitoring of the operations and the natural systems, including the soils, pasture grasses and water quality, the dairy scaling can be accomplished with sensitivity to the various indicators of carrying capacity." DEIS at 1-16. Such monitoring needs are especially apparent given the cumbersome and concerning fecal and urine loads that such a large herd will be consistently delivering to the operation's agricultural fields. The Department should require the Dairy to submit at least quarterly reports in compliance with this monitoring plan.

Finally, as currently proposed, the Dairy intends to utilize on-site burial for its management of mortalities. This type of mortality management can be extremely harmful to groundwater, and put other wildlife and other animals attracted to the mortalities at risk. The Department should require, at a minimum, that the Dairy utilize a composting or rendering service for its mortalities, and mandate that any mortality - before transport to a composting or rendering facility - be stored in a fully enclosed building, separated from all the other animals, that will ensure against leaching from the decomposition and putrefaction of the mortalities. And, again, the Department should require the Dairy to submit at least quarterly records of mortalities and management measures utilized.

Sincerely,

  
Brett Hartl

<sup>9</sup> 16 U.S.C. § 1538(a)(1)(B); 50 C.F.R. § 17.31(a) (extending the "take" prohibition to threatened species). The term "take" is statutorily defined broadly as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." 16 U.S.C. § 1532(19).

<sup>10</sup> 50 C.F.R. § 17.3; see also *Babbitt v. Sweet Home Ch. Of Communities for a Great Oregon*, 515 U.S. 687 (1995).

<sup>11</sup> See, e.g., *Defenders of Wildlife v. Envtl. Prot. Agency*, 882 F.2d 1294 (8th Cir. 1989).



January 3, 2017

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**Subject:** Hawai'i Dairy Farms Final Environmental Impact Statement (EIS)  
Māhā'ulepū, Kōloa District, Kaua'i, Hawai'i  
Response to Comment on Draft EIS

Dear Mr. Hartl:

Thank you for your input dated July 2016 on the Hawai'i Dairy Farms (HDF) Draft EIS. The following responses are offered to your comments:

We understand the Center for Biological Diversity is concerned that construction and operational activities of the proposed dairy farm will result in unauthorized take of federally threatened and endangered species. HDF has retained an avian biologist with deep knowledge of the unique avifauna of Hawai'i and with extensive experience advising Kaua'i landowners on minimization of impacts to endangered species of waterbirds, nēnē, and seabirds. HDF and its team are coordinating with the U.S. Fish and Wildlife Service (USFWS) and the State of Hawai'i Division of Forestry and Wildlife (DOFAW) to identify actions during construction and dairy operations to avoid adverse impacts.

**Federally-Threatened and Endangered Species**

Coordination with USFWS and DOFAW has further clarified the following specifics related to fences, lighting and other agricultural infrastructure. The Final EIS has been revised to reflect the refinements in sections 3.3.2 *Agricultural Infrastructure*, 3.5.1 *Paddocks, Fencing and Setbacks*, and 4.10 *Probable Impacts and Mitigation Measures - Fauna*:

- Fencing choices to avoid entanglement or other risk to native Hawaiian hoary bats that may pass through the area, and to nēnē and waterbirds;
- Underground routing of power to the dairy facility from the existing Kauai Island Utility Cooperative-provided power; and
- Exterior lighting will use fixtures that meet dark-sky standards and incorporate all relevant features to prevent any potential disorientation of seabirds that may fly over the site.

Additional specifics to minimize impacts will be detailed in an Endangered Species Awareness and Protection Plan (ESAPP), referred to as an Avian Species Protection Plan in the Draft EIS, which is being developed in coordination with the USFWS and DOFAW. Elements to be further detailed in the ESAPP include:

- Reducing waterbirds' attraction to the effluent ponds by installing a mesh fence and utilizing BMPs;
- Developing a comprehensive predator control program;
- Minimizing conditions in which avian botulism could potentially develop, and determine steps to implement in the event an outbreak occurs. Regular bird monitoring during dairy operations for early detection and response to avian botulism will also be incorporated; and
- Utilizing an on-site biological monitor during construction activities to identify and avoid any endangered species present or nesting on site.

The Final EIS has been clarified to note that HDF will not disturb, remove or trim woody plants greater than 15 feet tall during the Hawaiian hoary bat pupping season. No affect to bats is expected from activities and operations that of the dairy farm. (Section 4.10).

The USFWS response letter to the Draft EIS, included in Appendix 6 of the Final EIS, concurs with the EIS statement that the nearest section of the Kōloa Lava Tube System that provides habitat for rare and endangered cave arthropods is approximately 0.75 miles from the HDF site's southern property boundary (Section 4.1.1 *Existing Conditions – Invertebrate Species and Pest Insects*). The geology of Māhā'ulepū Valley differs significantly from the limestone caves and mesocaverns required for habitation by the Kāua'i Cave Wolf Spider and the Kāua'i Cave amphipod (see new Figure 4.16-1 included in the Final EIS). The entire HDF site lies on the poorly permeable alluvium which covers the floor of Māhā'ulepū Valley, and was deposited prior to the latter stage volcanics referred to as the Kōloa series volcanics. Three puu located to the southwest of the HDF site are remnants of this post-eruptional phase. How these volcanics in the area makal of the HDF site are interfingering with and/or displaced the previously deposited alluvium is not known (Nance, 2016).

The cave wolf spider is an opportunistic predator, feeding on whatever prey it can find, native or non-native. Harm is not predicted since this crustacean at the base of the cave food chain feeds on roots and organic debris from plants, and most plants are more productive of tissues with an increase in nutrients. More food for the base of the food chain means the apex predator, the spiders, should also have the same or more prey (Montgomery, 2016).

Physical setbacks and restriction of nutrient application near water sources are clarified in the Final EIS (Section 3.5.1 *Paddock, Fencing and Setbacks* and Section 3.5.4.2 *Nutrient Balance*); these setbacks are among the minimization and mitigation measures to prevent soil erosion and runoff downgradient of the dairy.

#### Newell Shearwater

As outlined earlier in this response, per the advisement of the U.S. Fish and Wildlife Service and the State Division of Forestry and Wildlife, HDF will follow best practices and operational procedures to protect any protected animal species. The dairy outdoor lighting will be designed to minimize effects on nocturnally flying seabirds which may nest on Ha'upu Ridge. All outdoor lights installed as part of the project will be shielded to reduce the potential for interactions of nocturnally flying seabirds with external lights and man-made structures.

An Endangered Species Awareness and Protection Plan will be completed in consultation with USFWS and DOFAW prior to dairy construction and operations, to ensure that dairy operations would not result in deleterious impacts to protected wildlife.

#### Compliance with the Clean Water Act

HDF will comply with all regulatory and permitting requirements for construction and operations. The Waste Management Plan for the committed herd size of up to 699 mature dairy cows has been reviewed with no further comments by the State Department of Health (DOH). Should HDF, at some time in the future, contemplate expanding the herd to the carrying capacity of the land, additional regulatory review and permitting by DOH will be undertaken as required. Record keeping and reporting will be conducted in fulfillment of both regulatory requirements. Additionally, HDF has voluntarily implemented surface, on-site groundwater, and nearshore marine water quality monitoring as described in EIS Section 4.17.4.

#### Animal Mortality Management

HDF has adequately planned its cemetery site and has incorporated Best Management Practices to protect water resources surrounding the HDF site. The animal cemetery is specifically located on the north side of the farm, in an area of relatively flat pasture. Site selection criteria for the cemetery paddock included protection from prevailing winds, and distance more than 100 feet away from any drainage way, 200 feet from any natural watercourse, 300 feet from any well, and more than 20 feet from any buildings. Within the cemetery paddock, pits will be sited based on soil suitability and slope. A containment berm will be created around the pit area to prevent both run-off on to, and from, the cemetery site. An area of approximately 5,000 square feet is needed for the animal cemetery at the contemplated herd size of up to 2,000 mature dairy cows, which is a fraction of a 3- to 5-acre paddock. Based on preliminary analysis, HDF does not anticipate encountering groundwater in the cemetery paddock area. Pits will be lined as needed in accordance with NRCS Conservation Practice Standard, Animal Mortality Facility Code 316, to protect groundwater quality.

A containment berm will be created around the pit area to prevent both run-off on to, and from, the cemetery site. Six (6) pits, approximately 20' x 40' overall and 8 to 10' deep, are designed to accommodate carcasses of up to 150 cows and 360 calves or stillborn animals at the contemplated herd size. Individual pits within the area will be a minimum of 2-feet wide with a length appropriate to bury the carcass. Pits will be lined in accordance with NRCS Conservation Practice Standard, Animal Mortality Facility Code 316, to protect groundwater quality. Each animal carcass will be dusted on all sides with ground limestone. The bottom of each pit will be also dusted. Pits can be reused every 18 to 24 months, which is the typical time for a carcass to decompose.

Pit bottoms will be level, and carcasses will be placed in a single layer and covered with at least 2 feet of organic material. Multiple layers may be created with subsequent burials, or additional area within the cemetery paddock may be used as needed. Based on preliminary analysis, HDF does not anticipate encountering groundwater in the cemetery paddock area when excavating the pits. The paddock area will not be grazed.

HDF may also consider procuring and installing an incinerator to use for managing mortality on the farm. The incinerator would meet the appropriate guidance from NRCS Conservation Practice Standard – Animal Mortality Code 316 as well as State and EPA emissions regulations, to ensure no adverse air quality impact from the incinerator operations.



Mr. Brett Hartl  
 Center for Biological Diversity  
 Hawai'i Dairy Farms Environmental Impact Statement  
 January 3, 2017  
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Your comment, along with this response, will become part of the public record and will be published in the Final EIS. A copy of the Final EIS is included on a compact disc with this letter. When published, the Final EIS will be available on the OEQC website which you can access using the following URL, and search "Hawai'i Dairy Farms": <http://tinyurl.com/OEQCKAUAI>.

Thank you for your participation in the environmental review process.

Sincerely,

GROUP 70 INTERNATIONAL, INC.

Jeffrey H. Overton, AICP, LEED AP  
 Principal Planner

cc: Hawai'i Dairy Farms  
 Hawai'i State Department of Health,  
 Environmental Planning Office

Center for Food Safety (CFS) is a non-profit membership organization that works to protect human health and the environment by curbing the proliferation of harmful food production technologies and by promoting organic and sustainable agriculture. Our membership has rapidly grown to include over 700,000 people across the country that support organic food and farming, grow organic food, and regularly purchase organic products.

As a partner of Hawai'i-based organizations for over a decade, Hawai'i Center for Food Safety (HCFS) is a high-performing public interest advocacy nonprofit that works to reduce the impacts of industrial agriculture while simultaneously promoting organic and sustainable agriculture. With 10,000 members, HCFS is actively building a powerful network of informed farming and food advocates to strengthen the local food movement. HCFS has become one of the largest membership-based food and environmental advocacy organizations in Hawai'i, utilizing legal actions, policy initiatives, grassroots coordination and capacity-building, scientific research, partnerships, and public education to achieve its mission.

The proposed Dairy on the island of Kauai has the potential to be a great resource for the economy and people of Hawaii, helping to advance the state's food self-sufficiency goals by providing more than 1,000,000 gallons of fresh, nutritious milk annually to Hawaiian families. After reviewing the EIS, however, that potential is reduced by the possibility of significant environmental impacts from the Dairy. The underlying purpose of preparing an EIS under Hawai'i's Environmental Policy Act (HEPA) is to enhance consciousness about environmental impacts. HAR §343-1. The statute encourages both cooperation and coordination. Based on this spirit of cooperation, CFS urges Hawai'i Dairy Farms to consider the following concerns we have identified with the Dairy as proposed and make changes that will mitigate the environmental risks presented below.

**The Use of Animal Drugs & Antibiotics**

The use of animal drugs poses serious risks upon the environment and human health. The EIS mentions that Hawai'i Dairy Farms will only use antibiotics as prescribed by a licensed veterinarian (EIS at 3-18); however, there is not even a preliminary estimate of the amount and type of animal drugs the dairy plans to use, undermining transparency and limiting the dairy's ability to accurately analyze its potential impacts on the environment. Even in the most minimal sense—and stated as much in the EIS—animal drugs have the capacity to accumulate in soil, water ways, and animal products. Because animals absorb only about 25% of the antibiotics they consume, the rest is excreted via their waste.<sup>1</sup> Through runoff, bioaccumulation, and soil uptake, antibiotics have the capacity to spread rapidly and widely. An EPA report on dairy farms

<sup>1</sup> Stella, C., & Harsh, C. (2015, September). *America's Secret Animal Drug Problem* (Rep.). Retrieved [http://www.centerforfoodsafety.org/files/animal\\_drug\\_10\\_26\\_77838.pdf](http://www.centerforfoodsafety.org/files/animal_drug_10_26_77838.pdf)

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in the Yakima Valley found the antibiotic Monensin in residential drinking wells downstream from those dairy farms.<sup>2</sup> Additionally, other antibiotics were detected in water wells, dairy waste lagoons, and wastewater treatment plant influent.<sup>3</sup> The results of this study were diverse and impactful: animal drugs, the use of synthetic fertilizers, and pesticides from dairy farms led to severe water contamination in the Yakima Valley.<sup>4</sup>

Researchers have paid particular attention to the effects animal drugs have on aquatic species.<sup>5</sup> Antibiotics have proven to be toxic to aquatic freshwater species and there are still unknowns of the potential effects on saltwater species.<sup>6</sup> The following studies all point to toxic effects on aquatic and terrestrial species due to antibiotics from animal waste: Scmitt et al. (2004), Wollenberger et al. (2000), and Fernández et al. (2004).<sup>7</sup> Seeing as this farm would be on an island with ample opportunity for runoff into surrounding fresh and saltwater sources, it is imperative that the Hawaii Dairy Farms reexamine their use of animal drugs. In addition to antibiotics, other categories of animal drugs like beta-agonists, steroid hormones, antioxidant feed additives, and coccidiostats are used in animal agriculture—some on dairies—with dangerous impacts on the environment and human health.<sup>8</sup> Center for Food Safety did an animal drug report on these very drugs that details the specific negative impacts each drug has.<sup>9</sup>

Animal drugs also impact the animals. Animal welfare is severely reduced by the use of these drugs as some cause reduced heart rate, metabolic conditions, and muscle tremors.<sup>10</sup> The list does not stop there. The conditions animals are put in due to these animal drugs are atrocious and unnecessary. If Hawaii Dairy Farms has intent of maintaining any sort of welfare standard for their cows, the use of animal drugs for anything other than therapeutic purposes must be eradicated.

Additionally, the use of antibiotics in animal agriculture has the potential to create gene resistance. In particular, the licensed veterinarians who administer these drugs are at a higher risk of exposure to these resistant genes.<sup>11</sup> These studies all discuss the negative impacts of

antibiotic-resistant strains of microorganisms that come from the use of antibiotics in animal agriculture: Sengeløv et al. (2003); Chee-Sanford et al. (2001); and Sengeløv, Halling-Sørensen, & Aarestrup (2003).<sup>12</sup> Many consumers submitted comments to Hawaii Dairy Farms with concerns over the use of animal drugs (EIS at Comments and Responses to the EISPN — Part A).

These concerns are a growing trend amongst U.S. consumers. The worries about antibiotic resistance, impacts of animal drugs on waterways, and animal welfare have prompted companies like Chipotle and Panera to eliminate or reduce their use of animal drugs.<sup>13</sup> With the help of market-based campaigns that reflected the apprehensions of consumers, drug manufacturers also withdrew products.<sup>14</sup> As more people understand and learn about the way most food in this country is grown, a desire to eliminate the use of animal drugs, like antibiotics, increases. It is necessary that Hawaii Dairy Farms take into consideration the impact animal antibiotics and other animal drugs could have on human health because of these antibiotic-resistant bacteria that have developed, as well as what consumers want from their food.

### The Use of Commercial Fertilizers

The EIS states commercial fertilizers will be used to assist growing the Kikuyu grass for forage (EIS at 1-10). Commercial fertilizers have a long-standing history of environmental contamination, especially nitrogen fertilizers. The same EPA report on the impacts of dairy farms in Yakima Valley shows high levels of nitrate contamination in water sources downstream from these dairy farms' usage of nitrogen fertilizers.<sup>15</sup> Nitrate contamination occurs from the widespread use of nitrogen fertilizers and can lead to serious health conditions such as blue baby syndrome, various forms of cancer, and reproductive issues.<sup>16</sup> Excess nitrogen can contribute to coastal dead zones and eutrophication, an issue that becomes more pertinent due to the location of this proposed dairy farm; groundwater pollution; contribution to global climate change; and nitrogen deposition.<sup>17</sup> Inorganic nitrogen fertilizers release their nutrients at a rate that is not compatible with the needs of the plant, causing nitrogen contamination in

<sup>2</sup> Sengeløv, G., et al. (2003). Bacterial antibiotic resistance levels in Danish farmland as a result of treatment with pig manure slurry. *Environment International*, 28(7), 587-595. doi:10.1016/S1616-0160(02)00084-3; Chee-Sanford, J. C., et al. (2001). Occurrence and Diversity of Tetracycline Resistance Genes in Lagoons and Groundwater Underlying Two Swine Production Facilities. *Applied and Environmental Microbiology*, 67(4), 1494-1502. doi:10.1128/aem.67.4.1494-1502.2001; Sengeløv, G., Halling-Sørensen, B., & Aarestrup, F. M. (2003). Susceptibility of *Escherichia coli* and *Enterococcus faecium* isolated from pigs and broiler chickens to tetracycline degradation products and distribution of tetracycline resistance determinants in *E. coli* from food animals. *Veterinary Microbiology*, 95(1-2), 91-101. doi:10.1016/S0378-1135(03)00123-8

<sup>3</sup> Stella & Harsh. (2015). op. cit.

<sup>4</sup> Stella & Harsh. (2015). op. cit.

<sup>5</sup> United States, Environmental Protection Agency. (2012). op. cit.

<sup>6</sup> Center for Food Safety. (2012, October 18). *Groups Poised To Sue Yakima Valley Factory Farms Responsible For Public Health Hazards* [Press Release]. News Room | Press Releases. Retrieved from <http://www.centerforfoodsafety.org/press-releases/732/groups-poised-to-sue-yakima-valley-factory-farms-responsible-for-public-health-hazards>

<sup>7</sup> United Nations, Environment Programme. (2014). *UNEP Year Book 2014 emerging issues update: Excess Nitrogen in the Environment*.

<sup>8</sup> United States, Environmental Protection Agency. (2012, September). *Relation Between Nitrate in Water Wells and Potential Sources in the Lower Yakima Valley, Washington*.

<sup>9</sup> Ibid.

<sup>10</sup> Ibid.

<sup>11</sup> Stella & Harsh. (2015). op. cit.

<sup>12</sup> Stella & Harsh. (2015). op. cit.

<sup>13</sup> Schmitt, H., et al. (2004). Pollution-Induced Community Tolerance of Soil Microbial Communities Caused by the Antibiotic Sulfachloropyridazine. *Environmental Science & Technology Environ. Sci. Technol.*, 38(4), 1148-1153. doi:10.1021/es034685p; Wollenberger, L., Halling-Sørensen, B., & Kusk, K. (2000). Acute and chronic toxicity of veterinary antibiotics to *Daphnia magna*. *Chemosphere*, 40(7), 723-730. doi:10.1016/S0045-6535(99)00443-9;

Fernández, C., et al. (2004). Ecotoxicological assessment of doxycycline in aged pig manure using multispecies soil systems. *Science of The Total Environment*, 323(1-3), 63-69. doi:10.1016/j.scitotenv.2003.10.015

<sup>14</sup> Stella & Harsh. (2015). op. cit.

<sup>15</sup> Stella & Harsh. (2015). op. cit.

<sup>16</sup> Stella & Harsh. (2015). op. cit.

<sup>17</sup> Stella & Harsh. (2015). op. cit.

the various forms mentioned previously,<sup>18</sup> “Nitrogen cascade” can occur as well, which is the rapid movement of nitrogen through various mediums: air, soil, and water.<sup>19</sup> If that isn’t monitored closely and correctly, nitrate contamination and the previously mentioned impacts of nitrogen fertilizer become increasingly more adverse.

The EIS indicates the use of buffers to mitigate runoff and pasture grass cover to control the nutrient loss (EIS at 1-15). That does not, however, control the amount of nitrous oxide released into the air when these fertilizers are applied. Nitrous oxide—more harmful than carbon dioxide—is a contributor to ozone depletion and global climate change.<sup>20</sup> The EIS also states that the levels of nitrogen and phosphorus from commercial fertilizers will be 330 and 840 times greater than the current levels, but justify that by saying this will mostly occur during periods of heavy rainfall (EIS at Surface Water Quality and Marine Assessment – pg. 12). While the EIS may say that this won’t be a continuous input of these extra elements, Kauai is a tropical island that experiences periods of heavy rainfall far more frequently than other locations. Even if the contribution of nitrogen and phosphorus to the environment is episodic, as is believed to be by this EIS, any more excess nitrogen and phosphorus to the current overabundance along the coast and throughout the island is unnecessary and still detrimental. Excess nitrogen in the environment is a global problem of grand magnitude and the Hawaii Dairy Farms’ analysis of their impacts to this problem is insufficient. Further work needs to be done to truly understand the long-term impacts commercial fertilizers will have on the environment and the health of the people of Kauai.

### The Use of Pesticides

The EIS mentioned the use of pesticides and the safe application of said pesticides but no mention of which pesticides or how much will be used (EIS at 4-42). With that being said, it is important to note the detrimental effects pesticides inflict upon both the environment and human health. According to the EPA report on the Yakima Valley dairy farms, the pesticides used on dairy farms are ‘mobile, persistent, or both’.<sup>21</sup> This report released findings that show water contamination from nitrogen, antibiotics, and other pollutants like pesticides.<sup>22</sup> The use of pesticides on dairy farms has the potential to cause long-term damage to the environment, and critically to the 48 number of threatened and endangered species on Kauai, and Hawaii Dairy Farms should have conducted a more thorough analysis of pesticide use and their impacts.<sup>23</sup>

Additionally, there has been a long history of pesticide use in Hawaii with very negative ramifications. Specifically, the pesticides used widely in Hawaii have been linked to contributing to the decline of native Hawaiian pollinators, raising serious concerns for the security of our food system.<sup>24</sup> With nearly 70% of Hawaii’s food crops dependent upon bees for pollination, the use of pesticides on this dairy farm could aid in bee population declines.<sup>25</sup> While the EIS states that the native, endangered, and threatened species on the island won’t be impacted by the construction and production of this dairy farm, Hawaii wildlife has been seriously impacted due to the widespread use of pesticides.<sup>26</sup> Therefore, to assume that this farm wouldn’t have similar impacts is shortsighted. Again, the EIS should have provided a more thorough analysis of what pesticides will be used and their potential impacts especially on threatened and endangered species as each pesticide formula has a unique and often detrimental impact.

A report on the effects of pesticide use in Hawaii states: “[s]tudies show that pesticides used heavily in GE operations in Hawai’i, including atrazine, chlorpyrifos, synthetic pyrethroids, and neonicotinoids, pose a serious threat to wildlife and degradation of natural habitats”.<sup>27</sup> One particular class of insecticides mentioned in the previous study, neonicotinoids, have caused particular damage to aquatic species because they are water soluble.<sup>28</sup> Neonicotinoids are approved to control pests on animal farming operations. See, e.g. Notice of Pesticide Products; Registration Applications, 75 Fed. Reg. 51,045 (Aug. 18, 2010).

Putting the environment aside, pesticides have the potential for serious risks to human health, especially to the applicators of these pesticides. A study by the American Academy of Pediatrics found that early on exposure to pesticides has been linked to childhood cancers, asthma, and other severe health issues.<sup>29</sup> Children and infants aren’t the only ones who face serious consequences from pesticide exposure; adult populations face illnesses like depression, NonHodgkin’s lymphoma, Parkinson’s disease, and others.<sup>30</sup> There is more than substantial evidence to indicate that the use of pesticides on this dairy farm would in fact cause serious damage.

<sup>24</sup> *Hawai’i Pollinators & Pesticides* (Rep.). (2016, April). Retrieved [http://www.centerforfoodsafety.org/files/pesticides-and-pollinators-fact-sheet\\_final\\_62716\\_40631.pdf](http://www.centerforfoodsafety.org/files/pesticides-and-pollinators-fact-sheet_final_62716_40631.pdf)

<sup>25</sup> *Ibid.*

<sup>26</sup> *Ibid.*

<sup>27</sup> Freese, B., Lukens, A., & Anjomshoaa, A. (2015, May). *Pesticides in Paradise: Hawai’i’s Health & Environment at Risk* (Rep.). Retrieved [http://www.centerforfoodsafety.org/files/pesticide-reportfull\\_86476.pdf](http://www.centerforfoodsafety.org/files/pesticide-reportfull_86476.pdf)

<sup>28</sup> Carnemark, M., Jenkins, P. T., & Walker, L. (2015, September). *Water Hazard: Aquatic Contamination by Neonicotinoid Insecticides in the United States* (Rep.). Retrieved [http://www.centerforfoodsafety.org/files/neonicotinoid-report-final-242016\\_web\\_33288.pdf](http://www.centerforfoodsafety.org/files/neonicotinoid-report-final-242016_web_33288.pdf)

<sup>29</sup> Freese, B., Lukens, A., & Anjomshoaa, A. (2015). op. dt.

<sup>30</sup> Freese, B., Lukens, A., & Anjomshoaa, A. (2015). op. dt.

<sup>18</sup> Center for Food Safety | Issues | Soil | The Nitrogen Cycle. (n.d.). Retrieved July 18, 2016, from <http://www.centerforfoodsafety.org/issues/3183/soil/the-nitrogen-cycle>

<sup>19</sup> United Nations, Environment Programme. (2014). op. cit.

<sup>20</sup> United Nations, Environment Programme. (2014). op. cit.

<sup>21</sup> United States, Environmental Protection Agency. (2012). op.cit.

<sup>22</sup> Center for Food Safety. (2012). op. cit.

<sup>23</sup> 48 species protected under the ESA - Pacific Islands Fish and Wildlife Office. (2012, September 20). Retrieved July

17, 2016, from <https://www.fws.gov/pacificislands/kauai48species.html>

### The Use of Grain Feed

While the EIS indicates that only 30% of the dairy cows' diets will be grain, there is no discussion of what will be the makeup of that grain (EIS at 3-9). There are many benefits of a grass-fed diet that point to the fact that even using 30% grain should not be considered. One study looked at dairy cows grazing on Kikuyu grass and what the impacts of adding in grain feed had on the dairy cattle. The study shows that any amount of concentrate that exceeds 29% of the cow's diet leads to unfavorable consequences for the cow.<sup>31</sup> Grass-feeding increases the concentration of the conjugated linoleic acid (CLA) of the cow.<sup>32</sup> CLAs are a group of fatty acids that have anticarcinogenic effects, positively impacting human health.<sup>33</sup> This same study states that the milk with the healthiest fatty acid profile was from cows that were grass fed.<sup>34</sup> Women who consume a diet with high levels of CLA, like dairy from cows who have higher profiles of it, are at lower risk of breast cancer.<sup>35</sup> This same health benefit cannot be achieved by dairy products generated from grain-fed dairy cows. A study by Daley et. al. (2010) goes into great detail of the health benefits of grass-fed beef over grain-fed and the impacts on human health, like lower risks of diabetes.<sup>36</sup>

Many sources of on-farm nitrogen come from the contents of grain feed and that nitrogen is then transferred via the manure back into the soil, potentially causing contamination.<sup>37</sup> Most grain for animal feeds are grown using synthetic nitrogen fertilizers that, as discussed at length previously, are detrimental to the environment.<sup>38</sup> Additionally, it is unknown whether or not the grain used would be GE grain. GE crops generally either promote pesticide use or produce pesticides. These crops have damaging environmental impacts such as encouraging the development of herbicide-resistant weeds and insecticide resistance pests. While this farm may not be growing the grain on site, contributing to the demand of GE grain for an animal that benefits from a grass-fed diet adds to the negative environmental impacts of this dairy farm.

<sup>31</sup> Fulkerson, W., et al. (2006). Effect of cereal-based concentrates on productivity of Holstein-Friesian cows grazing short-rotation ryegrass (*Lolium multiflorum*) or kikuyu (*Pennisetum clandestinum*) pastures. *Livestock Science*, 103(1-2), 85-94. doi:10.1016/j.livsci.2006.01.005

<sup>32</sup> Stockdale, C. R., et al. (2003). Influence of pasture and concentrates in the diet of grazing dairy cows on the fatty acid composition of milk. *Journal of Dairy Research*, 70(3), 267-276. doi:10.1017/S0022029903006009

<sup>33</sup> *Ibid.*

<sup>34</sup> *Ibid.*

<sup>35</sup> Aro, A., et al. (2000). Inverse Association Between Dietary and Serum Conjugated Linoleic Acid and Risk of Breast Cancer in Postmenopausal Women. *Nutrition and Cancer*, 38(2), 151-157. doi:10.1207/s15327914nc382\_2

<sup>36</sup> Daley, C. A., et al. (2010). A review of fatty acid profiles and antioxidant content in grass-fed and grain-fed beef. *Nutrition Journal Nutr J*, 9(1). doi:10.1186/1475-2891-9-10

<sup>37</sup> McKague, K. (2005). *Environmental impacts of nitrogen use in agriculture* (Canada). Guelph: Ontario, Ministry of Agriculture, Food and Rural Affairs. Retrieved from <http://www.omafra.gov.on.ca/english/engineer/facts/05-073.html>

<sup>38</sup> Donlon, D., & Riggs, P. (2014, March). *Food & Climate: Connecting the Dots, Choosing the Way Forward* (Rep.). Retrieved <https://soilsolution.org/wp-content/uploads/2016/03/food-and-climate-report.pdf>

### The Lack of Organic Certification

Nowhere in the EIS does it mention Hawaii Dairy Farms considered certifying this Dairy as organic, nor does it give an adequate explanation for why that alternative wasn't chosen. The Hawaii Environmental Policy Act requires that an EIS "discuss alternative methods and modes for implementing the proposed action, selecting the one with the least detrimental effect on the environment. Some alternatives to consider include: different sites; different facility configurations; or, different implementation methods." HAR §11-200-10(6). Despite the innumerable benefits of organic and the continuous questions of concerned citizens, the EIS does not even analyze the alternative. Indeed, the farm will not be a certified organic farm.

One study touches on the environmental benefits of organic dairy farms specifically and shows that animal welfare and milk quality are higher in comparison to non-organic dairy farms.<sup>39</sup> With that in mind, all the issues we presented in these comments would be greatly reduced if this was a certified organic dairy farm. Because organic regulations limit the use of these commercial fertilizers, pesticides, and animal drugs, the issues of water contamination, soil contamination, human health problems, and antibiotic resistance are minimized or completely eradicated.<sup>40</sup> Additionally, organic agriculture is on the rise with consumers demanding a higher quality product.<sup>41</sup> A certified organic dairy farm would greatly benefit the people and the environment of Hawaii by bringing in local milk that is fulfilling the needs and consumer desires of the people of Hawaii. The purpose of this farm is to return local milk production to the state of Hawaii, and with the desire for organic milk growing, it only makes sense that this would be a certified organic farm.

The International Federation of Organic Food Movements (IFOAM) has defined organic agriculture as "Organic agriculture is a production system that sustains the health of soils, ecosystems and people. It relies on ecological processes, biodiversity and cycles adapted to local conditions rather than the use of inputs with adverse effects. Organic agriculture combines tradition, innovation and science to benefit the share environment and promote fair relationships and a good quality of life for all involved."<sup>42</sup> This proposed dairy farm has the opportunity to hold these same values and standards that are recognized by 108 different countries while also greatly reducing negative environmental impacts.

### **CONCLUSION**

CFS and HCFS encourage Hawaii Dairy Farms to address the above issues—and those issues raised by other commenters—before issuing a final EIS and initiating the Dairy. A full analysis of

<sup>39</sup> Müller-Lindenlauf, M., Deittert, C., & Köpke, U. (2010). Assessment of environmental effects, animal welfare and milk quality among organic dairy farms. *Livestock Science*, 128(1-3), 140-148. doi:10.1016/j.livsci.2009.11.013

<sup>40</sup> Center for Food Safety | Issues | Organic & Beyond | What are the Benefits of Organic? (n.d.). Retrieved July 21, 2016, from <http://www.centerforfoodsafety.org/issues/306/organic-and-beyond/what-are-the-benefits-of-organic>

<sup>41</sup> *Ibid.*

<sup>42</sup> Center for Food Safety | Issues | Organic & Beyond | Meaning of Organic. (n.d.). Retrieved July 20, 2016, from <http://www.centerforfoodsafety.org/issues/306/organic-and-beyond/meaning-of-organic>



the potential impacts of animal drugs, pesticides, GE grain, nitrogen fertilizer, and the benefits of organic certification will greatly improve the quality of the EIS and, if mitigating measures are adopted, would reduce the environmental impact of the Dairy.

Respectfully Submitted,

*Paige Tomaselli*

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Senior Attorney

*Claire Jordan*

Claire Jordan  
Research Assistant

January 3, 2017

Ms. Paige Tomaselli  
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**Subject:** Hawai'i Dairy Farms Final Environmental Impact Statement (EIS)  
Māhā'ulepū, Kōloa District, Kaua'i, Hawai'i  
Response to Comment on Draft EIS

Dear Ms. Paige Tomaselli:

Thank you for your input received on July 25, 2016 on the Hawai'i Dairy Farms (HDF) Draft EIS. The following responses are offered to your comments:

Health of the herd is of primary importance as the success of a dairy relies on cows effectively producing quality milk. All cows will be treated with a high standard of care. Dairy managers and caretakers will be trained and competent in handling animals to minimize stress and ensure the herds' welfare. A licensed veterinarian may prescribe use of antibiotics approved by the Food & Drug Administration (FDA) for treatment of illnesses. Adherence to guidelines that prohibit milk from cows undergoing antibiotic treatment will ensure no adulteration of milk. Routine laboratory tests of milk for traces of antibiotic residue will be conducted. FDA-approved hormones may also be used as prescribed by a licensed veterinarian. HDF will not treat cows with bovine growth hormone, referred to as rBST or rBGH.

All vaccines, antibiotics, ionophores and hormone therapy will be prescribed via a veterinarian – client – patient – relationship (VCPR). The Animal Medicinal Drug Use Clarification Act (AMDUCA) provides veterinarians acting within the VCPR to provide options so that cows and calves can receive the medications and hormones they need when they need them. Animal History, disease incidence, disease risk, local prevalence, product cost, Federal Drug Administration (FDA) approval and route of administration all will be part of HDF-specific veterinary protocols to ensure best animal welfare with the least amount of pharmaceuticals. All vaccination and treatment protocols will follow FDA and AMDUCA guidelines.

Unlike traditional confined dairy operations, HDF cows will be on pasture up to 22 hours a day, which enhances overall health of the animals and further reduces risk of illness and the need for antibiotics. There will be no use of sub-therapeutic, preventative, or growth promoting use of antibiotics, ionophores or hormones (such as rBST). Antibiotics will only be used to treat individual animals with life threatening situations and only after prescribed by veterinarians following all guidelines of AMDUCA. Furthermore, HDF will follow the best animal welfare protocols, including vaccination protocols for all age classes to further prevent bacterial infection and to minimize the use of antibiotics on HDF. Antibiotics are costly, lead to wasted milk and mean a cow is unhealthy, which is not beneficial to the animals or operations. HDF will limit the use of antibiotics as much as possible.

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Ms. Paige Tomaselli, Senior Attorney, Center for Food Safety  
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The groundwater engineer consulting to HDF estimated the potential nutrients that could leave the site from HDF operations as two percent of nitrogen (totaling 10,000 pounds per year), and one percent of phosphorus (totaling 900 pounds per year). This would not occur as chronic daily releases, rather, contributions would be limited to periods of major rainfall events that exceed 0.8 inches. Such rainfall events are estimated to occur, on average, 10 days annually. No effluent application would be conducted two days prior to, during, and two days after such weather events per best management practice guidelines. The estimate of nutrients leaving the site is the same for both the committed herd size of 699 mature dairy cows and the contemplated herd size of up to 2,000 mature dairy cows.

To provide perspective, nutrient inputs from the adjacent Kōloa-Po'ipū region were also calculated. Nitrogen input to the marine environment in the Po'ipū region is calculated to be 38,510 pounds annually, or 3.5 times more than the estimate of potential nutrient throughput from HDF. Phosphorus for both domestic wastewater and landscape fertilization in the region is estimated to be 1,260 pounds annually, or 1.4 times greater than the potential discharge from HDF. The nutrient inputs from domestic uses in the Po'ipū region are constant throughout the year and no mitigation is applied to reduce the quantities.

Pesticides and herbicides can reduce populations of beneficial insects, which is why HDF will utilize an integrated pest management (IPM) approach. Essentially, IPM disrupts reproduction with appropriate means at key points in the pest's life cycle. Used in Hawai'i for decades, a number of invertebrates and a bird (the cattle egret) were introduced between 1898 and 1950 to reduce livestock-related insects. IPM utilizes knowledge of the ancient food web among species. An especially important insect to minimize fly breeding habitat in manure is the dung beetle, which can bury manure in one to three days and thereby incorporate organic matter into the soil. Disrupting and removing the dung interrupts the egg to fly lifecycle, which requires from 7 to 20 days depending on the type of fly. Populations of dung beetles found on Kaua'i and those species already in Māhā'ulepū Valley will expand with the growing manure food source, thus increasing and speeding breakdown of manure while preventing fly larvae from hatching. Fly minimization measures are further described in EIS Section 4.1.1.

HDF shares the concern of herbicide and pesticide impacts on the HDF site and surrounding environment. Insecticides and herbicides are non-discriminatory and kill beneficial as well as pest insects. Such control would only be used when needed by those qualified to apply chemicals, and in accordance with authorized procedures and regulatory labeling requirements. Safe application practices for any unavoidable herbicide or pesticide include specifically targeting the problem pest species without harming insects and animals in the area. IPM will be the preferred means to control pests; this method disrupts the reproduction potential of pests by appropriate means at key points in the life cycle.

Hawai'i Dairy Farms has chosen not to pursue organic certification at this time to allow for flexibility in operations. However, the farm will use many of the components of an organic farm in its operations, including developing soil fertility through active grazing management, controlling pests and disease through sanitation and plant and animal diversity, and stress reduction for the herd. It is important to note that with up to 699 mature dairy cows, the farm will not produce enough natural fertilizer to establish soil fertility needed for high quality forage production. Commercial fertilizer will help support the forage growth. Supplemental feed will also be needed to provide adequate nutrition for milk production. Hawai'i Dairy Farms plans to purchase locally grown feed as much as possible, but may have to rely on the importation of supplemental feeds to provide proper nutrition for the herd. Organic feeds will be considered based on market availability and pricing.

Ms. Paige Tomaselli, Senior Attorney, Center for Food Safety  
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Unlike conventional feedlot dairy operations that face management challenges related to the costs of imported feed (which fluctuate with grain and fuel prices), HDF will utilize a grain mixture which would initially constitute 30 percent of their dairy needs. The supplemental grain mixture complements the cows' main diet of grass and provides supplemental nutrients to support cow health and milk production. The ratio of grass vs. grain will be adjusted over time as pasture productivity increases with dairy operations.

Your comment, along with this response, will become part of the public record and will be published in the Final EIS. A copy of the Final EIS is included on a compact disc with this letter. When published, the Final EIS will be available on the OEQC website which you can access using the following URL, and search "Hawai'i Dairy Farms": <http://tinyurl.com/OEQCKAUAI>.

Thank you for your participation in the environmental review process.

Sincerely,

GROUP 70 INTERNATIONAL, INC.



Jeffrey H. Overton, AICP, LEED AP  
Principal Planner

cc: Hawai'i Dairy Farms  
Hawai'i State Department of Health,  
Environmental Planning Office

# CONTRACTORS ASSOCIATION OF KAUAI

4231 Ahukini Road • Lihue, Kauai, Hawaii 96786  
Phone: (808) 246-2662 • Fax: (808) 246-8642



July 19, 2016

Mr. Jeff Overton  
Group 70 International  
(Hawaii Dairy Farms)  
925 Bethel Street, 5th Floor  
Honolulu, HI 96813



Dear Mr. Overton:

The Contractors Association of Kauai's (CAK) Board of Directors appreciates the opportunity to provide comments on the Environmental Impact Statement (EIS) prepared for Hawaii Dairy Farms.

The CAK Board is mindful that first and foremost, this parcel of land is designated as Important Agricultural Lands (IAL), a designation the land owner sought after decades of opposition from a community that did not want development, especially resort development in Mahaulepu. Some in the community are now opposing the agricultural use of this property.

The land owner has a responsibility to its investors and shareholders to use this property to generate income. The landowner continues to use the land in a manner it has been used for decades-ranching, farming and agricultural use.

Hawaii Dairy Farms has taken the stewardship of this land very seriously, investing a lot of time and care to determine the best model available to farm this parcel, the best type of grass to grow to meet the farming model it wants to use and researched all the possible state-of-the-art equipment it could employ to be good stewards of the land. The Contractors Association of Kauai supports the business model, mission, and goal of this project: sustainability, so Hawaii residents can purchase fresher milk instead of ones in grocery stores that are at least four weeks old. Our children and community deserve fresh milk that is currently available.

The CAK Board would like to go on record and share concerns about EIS in general. The Board is concerned the precedent this EIS sets for future agricultural activity, especially with lands already zoned for agricultural use. The future of ranching and agricultural uses may be severely impacted in a negative manner because an EIS is quite costly and time consuming to do. CAK does not want to see this happen. We believe agriculture is a very important component of our rural community. It is what Kauai was built on and we would like to see this important industry continue to grow and thrive.

Hawaii Dairy Farms faces geographical challenges of a large scale commercial operation when doing business in Hawaii, let alone when proposing this sort of enterprise on a neighbor island. That said, Kauai and all of Hawaii should be proud to support responsible agricultural practices such as what is being proposed. We encourage all parties to approve this EIS so the project can move forward immediately.

Sincerely,  
CONTRACTORS ASSOCIATION OF KAUAI

Bryan Davidson, President



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January 3, 2017

Mr. Bryan Davidson  
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4231 Ahukini Road  
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**Subject:** Hawaii Dairy Farms Final Environmental Impact Statement (EIS)  
Mahaulepu, Koloa District, Kauai, Hawaii  
Response to Comment on Draft EIS

Dear Mr. Bryan Davidson:

Thank you for your letter dated July 19, 2016 regarding the Hawaii Dairy Farms (HDF) Draft EIS. We acknowledge your comments in support of the HDF EIS.

Your comment, along with this response, will become part of the public record and will be published in the Final EIS. A copy of the Final EIS is included on a compact disc with this letter. When published, the Final EIS will be available on the OEQC website which you can access using the following URL, and search "Hawaii Dairy Farms": <http://tinyurl.com/OEQCKAUAI>.

Thank you for your participation in the environmental review process.

Sincerely,

GROUP 70 INTERNATIONAL, INC.

Jeffrey H. Overton, AICP, LEED AP  
Principal Planner

cc: Hawaii Dairy Farms  
Hawaii State Department of Health,  
Environmental Planning Office



June 24, 2016

Jeffrey H. Overton, AICP, LEED AP  
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925 Bethel Street, Fifth Floor  
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Dear Mr. Overton:

We recently received a copy of Hawai'i Dairy Farms (HDF) Environmental Impact Statement (EIS).

Grove Farm is supportive of its findings. The lengthy process to analyze data, conduct numerous studies, track down historical information, and reach out to the community is commendable. The end result is a comprehensive EIS that is inclusive and well documented.

We are pleased that HDF is committed to demonstrating an economically and environmentally sustainable dairy model for Hawai'i. Moreover, by proactively responding to community concerns and voluntarily conducting an EIS, HDF has shown its dedication to ensuring the environmental health and safety for our Kaua'i community.

The planned improvements and operations at HDF are very compatible with and supportive of the long-range planning for diversified agricultural use of Maha'ulepu lands under the County of Kaua'i General Plan and the South Kaua'i Community Development Plan. It is important to note that the dairy farm will be located on lands that have been designated as Important Agricultural Lands (IAL).

As you are well aware, considerable and careful thought went into the site selection for HDF's lease location. It is justifying to see through the EIS process that water resources will be protected, home values and resort areas will not be negatively impacted, and soil quality will improve.

HDF has fulfilled its promise to prepare an EIS, not because they had to, but because it was the right thing to do. We strongly support HDF's efforts to answer community questions and share facts based on science versus speculation.

3-1850 Kaunualii Highway Lihue, HI 96766-8609  
808.245.3678 808.246.9470

[www.grovefarm.com](http://www.grovefarm.com)

Thank you for the hard work that went in to completing such a thorough EIS. If you have any questions, please contact us at 245-3678.

Sincerely,

*Warren H. Haruki*

Warren H. Haruki  
President & CEO

C: Amy Hennessey, Hawaii Dairy Farms  
Laura McIntyre, State of Hawaii Department of Health



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January 3, 2017

Mr. Warren H. Haruki  
President & CEO  
Grove Farm  
3-1850 Kaunualii Highway  
Lihue, Kauai, Hawaii 96766

**Subject:** Hawaii Dairy Farms Final Environmental Impact Statement (EIS)  
Maha'ulepū, Kōloa District, Kauai, Hawaii  
Response to Comment on Draft EIS

Dear Mr. Warren H. Haruki:

Thank you for your letter dated June 24, 2016 regarding the Hawaii Dairy Farms (HDF) Draft EIS. We acknowledge your comments in support of the HDF EIS.

Your comment, along with this response, will become part of the public record and will be published in the Final EIS. A copy of the Final EIS is included on a compact disc with this letter. When published, the Final EIS will be available on the OEQC website which you can access using the following URL, and search "Hawaii Dairy Farms": <http://tinyurl.com/OEQCKAUAI>.

Thank you for your participation in the environmental review process.

Sincerely,

GROUP 70 INTERNATIONAL, INC.

Jeffrey H. Overton, AICP, LEED AP  
Principal Planner

cc: Hawaii Dairy Farms  
Hawaii State Department of Health,  
Environmental Planning Office



July 21, 2016

**RE: Letter of Support – Hawaii Dairy Farms DEIS**

The Hawaii Cattlemen's Council, Inc. (HCC) is pleased to offer this letter of support regarding the Hawaii Dairy Farms DEIS.

HCC is the statewide umbrella organization comprised of the four county level Cattlemen's Associations. Our 150+ member ranchers represent over 60,000 head of beef cows; more than 75% of all the beef cows in the State. Ranchers are the stewards of approximately 25% of the State's total land mass.

The plans that have been outlined in Hawaii Dairy Farms EIS are very sound in their approach to environmental stewardship and cattle management. The location of the dairy is an area with a history in grazing and its zoning designation is Important Ag Lands. The dairy is situated in an area away from homes, resorts and the shore line preventing any potential impact of flies and/or odor from residents or guests.

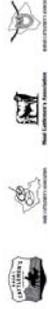
The plans also indicate the use of the latest technology to ensure cattle health and well-being while working with other ranchers in the area to provide exceptional care throughout the stages of dairy production. Their judicious use of water resources will protect this valuable resource and play a vital role in the improvement of soil conditions and quality after decades of depletion from sugar cane production.

The dairy industry in Hawaii has been in a steady decline in the past 30 years with only two currently operating. This industry is a critical need for our state and plays a vital role in the future of food sustainability in Hawaii. For these reasons, HCC is supportive of the Hawaii Dairy Farms DEIS and the future of the dairy industry in Hawaii.

Sincerely,

Christopher J. English  
President

Ed. Santos  
Managing Director





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January 3, 2017

Mr. Dale Sandlin  
Managing Director  
Hawai'i Cattlemen's Council  
P.O. Box 437199  
Kamuela, Hawai'i 96743

**Subject:** Hawai'i Dairy Farms Final Environmental Impact Statement (EIS)  
Māhā'ulepū, Kōloa District, Kaua'i, Hawai'i  
Response to Comment on Draft EIS

Dear Mr. Dale Sandlin:

Thank you for your letter dated July 21, 2016 regarding the Hawai'i Dairy Farms (HDF) Draft EIS. We acknowledge your comments in support of the HDF EIS.

Your comment, along with this response, will become part of the public record and will be published in the Final EIS. A copy of the Final EIS is included on a compact disc with this letter. When published, the Final EIS will be available on the OEQC website which you can access using the following URL, and search "Hawai'i Dairy Farms": <http://tinyurl.com/OEQCKAUAI>.

Thank you for your participation in the environmental review process.

Sincerely,

GROUP 70 INTERNATIONAL, INC.

Jeffrey H. Overton, AICP, LEED AP  
Principal Planner

cc: Hawai'i Dairy Farms  
Hawai'i State Department of Health,  
Environmental Planning Office

**Kauai County Farm Bureau**  
*Affiliated with Hawaii Farm Bureau Federation*  
P.O. Box 3895, Lihue HI 96766-6895  
808-855-5429  
[admin@kauaifarmbureau.org](mailto:admin@kauaifarmbureau.org)  
**The Voice of Kauai's Agriculture**



July 20, 2016

Group 70 International  
925 Bethel Street, 5th Floor  
Honolulu, HI 96813-4307

**Subject:** Hawaii Dairy Farms  
Draft Environmental Impact Statement of 3 June 2016

Thank you for the opportunity to review the above referenced Draft EIS. Kauai County Farm Bureau is aware of Kauai's former role in the production of fresh milk for local consumption and export. Dairying is a permitted and reasonable use of agriculturally classified land now lying fallow. Your Draft EIS addresses statutorily required issues and proposes mitigation measures for expected impacts. Inasmuch as Mahaulepu Farms, LLC. has land under Important Agricultural Lands (IAL) dedication and wishes to lease it to Hawaii Dairy Farms, and this is consistent with the State of Hawaii's goals and policies of promoting sustainable agriculture, the Kauai County Farm Bureau supports the proposed dairy.

Sincerely,

Laurie Ho, President

cc: Hawaii Dairy Farms

"Kauai County Farm Bureau (KCFB) cultivates a thriving and prosperous agricultural sector, firmly rooted in the community, by working collaboratively to build long term support and providing a respected voice for Agriculture on Kauai" adopted June 2012



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January 3, 2017

Ms. Laurie Ho  
President

Kauai County Farm Bureau  
P.O. Box 3895  
Lihu'e, Kauai, Hawaii 96766-6895

**Subject:** Hawaii Dairy Farms Final Environmental Impact Statement (EIS)  
Maha'ulepū, Kōloa District, Kauai, Hawaii  
Response to Comment on Draft EIS

Dear Ms. Laurie Ho:

Thank you for your letter dated July 20, 2016 regarding the Hawaii Dairy Farms (HDF) Draft EIS. We acknowledge your comments in support of the HDF EIS.

Your comment, along with this response, will become part of the public record and will be published in the Final EIS. A copy of the Final EIS is included on a compact disc with this letter. When published, the Final EIS will be available on the OEQC website which you can access using the following URL, and search "Hawaii Dairy Farms": <http://tinyurl.com/OEQCKAUAI>.

Thank you for your participation in the environmental review process.

Sincerely,

GROUP 70 INTERNATIONAL, INC.

Jeffrey H. Overton, AICP, LEED AP  
Principal Planner

cc: Hawaii Dairy Farms  
Hawaii State Department of Health,  
Environmental Planning Office

July 22, 2016



Aloha,

The Kauai Chamber of Commerce submits this letter in support of Hawaii Dairy Farms and its draft Environmental Impact Statement (DEIS).

The Chamber has been in continuous contact with representatives from Hawaii Dairy Farms for more than two years. They have provided us with farm tours and information, and have answered all of our questions. In our experience, Hawaii Dairy Farms has been an open, conscientious company that cares about being a responsible and contributing member of the Kauai business community.

The Chamber appreciates Hawaii Dairy Farms' willingness to conduct a voluntary EIS, and we are pleased with the DEIS findings. From an economic standpoint, the DEIS explains that Hawaii Dairy Farms will:

- Diversify Kauai's agriculture industry and provide the first large-scale commercial use of Important Agricultural Lands on the Garden Island.
- Revitalize the dairy industry by increasing local milk production by 50% and thereby increasing Hawaii's food security.
- Operate using a pasture-based model that provides cows with a 70% grass diet. This pasture-based model is more sustainable than traditional feedlot dairies of Kauai's past.
- Create up to 28 operational jobs as well as construction jobs and local supplier opportunities.
- Create \$6 million to \$9 million in annual operating expenditures, providing net tax Revenues to County and State governments.
- Utilize nearby Kauai ranchers to manage off-site herd management, thereby boosting revenues for these companies.
- Provide the opportunity in the future for local production of value-added dairy products, such as yogurt, butter, cheese, ice cream, etc., as well as the potential for agritourism.

Serving Kauai's diverse business community since 1913, the Kauai Chamber of Commerce boasts an active membership of more than 650 businesspeople representing 450 companies. Our mission is "to promote, develop and improve commerce, quality growth and economic stability in the County of Kauai." Hawaii Dairy Farms' pasture-based dairy is aligned with our mission, and we support its plans and DEIS.

Mahalo,

Mark Perriello  
President & CEO

P.O. Box 1969, Lihu'e, HI 96766 • Ph: (808) 245-7363 • Fax: (808) 245-8815  
email: [info@kauaichamber.org](mailto:info@kauaichamber.org) • [www.kauaichamber.org](http://www.kauaichamber.org)



January 3, 2017

Mr. Mark Perriello  
President & CEO  
Kaua'i Chamber of Commerce  
P.O. Box 1969  
Lihue, Kaua'i, Hawaii 96766

**Subject:** Hawai'i Dairy Farms Final Environmental Impact Statement (EIS)  
Maha'ulepū, Kōloa District, Kaua'i, Hawai'i  
Response to Comment on Draft EIS

Dear Mr. Mark Perriello:

Thank you for your letter dated July 22, 2016 regarding the Hawai'i Dairy Farms (HDF) Draft EIS. We acknowledge your comments in support of the HDF EIS.

Your comment, along with this response, will become part of the public record and will be published in the Final EIS. A copy of the Final EIS is included on a compact disc with this letter. When published, the Final EIS will be available on the OEQC website which you can access using the following URL, and search "Hawai'i Dairy Farms": <http://tinyurl.com/OEQCKAUAI>.

Thank you for your participation in the environmental review process.

Sincerely,

GROUP 70 INTERNATIONAL, INC.

Jeffrey H. Overton, AICP, LEED AP  
Principal Planner

cc: Hawai'i Dairy Farms  
Hawai'i State Department of Health,  
Environmental Planning Office

**Koholā Leo**  
PO Box 819  
Waimea, HI 96796



Group 70 International  
ATTN: Jeff Overton/Hawaii Dairy Farms  
925 Bethel Street 5th Floor  
Honolulu HI 96813

July 16, 2016

Dear Friends,

Thank you for the preparation of the draft environmental impact statement (DEIS) for the proposed "dairy farm" in the Maha'ulepu region of south Kaua'i.

Koholā Leo is a whale conservation group that is based on Kaua'i. One of the greatest threats to whales is marine pollution and marine degradation. For the last year and a half, our group has proposed and is working towards a marine protected area in the area offshore Maha'ulepu. This area has a healthy reef system and it is a charismatic sight on our island for tourists and locals alike. This coastline has a county designation for a special management area and for conservation. It is an

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important area.

This Draft EIS (DEIS) studies a proposed confined animal feeding operation (CAFO) in an area rich with tourism and beach recreation. The watershed of this proposed project drains into the Waioipili stream that is all ready quite polluted with bacteria of unknown origin. Our concern is for the marine environment that this stream empties in to. This watershed area has the potential for a great deal more pollution with the run off from this proposed CAFO.

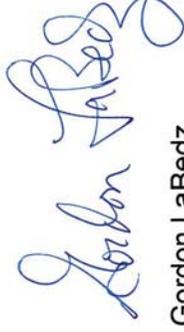
Mitigation for the large sewage input into this area should include an Dairy-independent stream water-quality-monitoring program that triggers a dairy farm shut down when certain pollution levels are noticed.

With the increased nitrate load into the ocean, there are bound to be environmental impacts on the marine ecosystem. The DEIS simply ignored the biota of the nearshore marine environment (corals, fishes etc.). This was a grave error. A coastal CAFO is bound to have impacts on the ocean.

The DEIS will need an addendum that analyzes the present health of the reef and marine life. There needs to be an endangered species inventory of the reef area noting endangered species on the reef, but also endangered seals and turtles on the beach and whales and other marine mammals in the nearshore

waters. Seals have died from toxoplasmosis infections and this area is designated a critical habitat for monk seals. The addendum needs to provide mitigation for any impacts that the cattle sewage will bring to the marine environment.

Thank You For Your Work On This,



Gordon LaBedz  
Chair, Koholā Leo



Mr. Gordon LaBedz, Chair, Koholā Leo  
Hawai'i Dairy Farms Environmental Impact Statement  
January 3, 2017  
Page 3 of 3

Long-term ocean water quality monitoring has been initiated to provide a baseline for the nearshore ocean waters. HDF will regularly sample and analyze nutrient and chemical constituent levels in the near-shore marine environment. Data from the nearshore water monitoring program will be made available to the DOH CWB, dairy neighbors and the local Kauai community, and will allow for evaluation of possible contamination sources.

Your comment, along with this response, will become part of the public record and will be published in the Final EIS. A copy of the Final EIS is included on a compact disc with this letter. When published, the Final EIS will be available on the OEQC website which you can access using the following URL, and search "Hawai'i Dairy Farms": <http://tinyurl.com/OEQCKAUAI>.

Thank you for your participation in the environmental review process.

Sincerely,

GROUP 70 INTERNATIONAL, INC.



Jeffrey H. Overton, AICP, LEED AP  
Principal Planner

cc: Hawai'i Dairy Farms  
Hawai'i State Department of Health,  
Environmental Planning Office



July 25, 2016

Laura McIntyre  
State of Hawaii, Department of Health  
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919 Ala Moana Blvd., Room 312  
Honolulu, HI 96814  
[doh.epo@doh.hawaii.gov](mailto:doh.epo@doh.hawaii.gov)

Jeff Overton  
Group 70 International  
925 Bethel St., 5th Floor  
Honolulu, HI 96813  
[HDF@Group70int.com](mailto:HDF@Group70int.com)

Submitted via E-mail to all parties.

**Subject: Consulted Party Comments on Draft Environmental Impact Statement (DEIS) for Hawai'i Dairy Farms' Proposed Dairy Operation**

Dear Ms. McIntyre and Mr. Overton,

On behalf of Malama Maha'ulepu, I would like to thank you for the opportunity to comment on the Draft Environmental Impact Statement (DEIS) for Hawai'i Dairy Farms' proposed dairy operation.

**Objectives:**

The DEIS augments the HDF project purpose (to "establish a sustainable, pastoral rotation grazing dairy farm that will increase current local milk production, etc. p. 1-3) with eight project objectives and four evaluation criteria.

Purpose #2 states "apply proven, sustainable pastoral rotation grazing system and state-of-the-art technology to reduce reliance on costly imported fertilizer and feed." This model

*Malama Maha'ulepu*  
*Comments on DEIS for Hawai'i Dairy Farms' Proposed Dairy Operation*

of dairy operation may be "proven somewhere in the nation or world." If so, where? Examples of this kind of technological dairying should be cited in the DEIS, especially when the pastoral New Zealand-based model has been proved to be flawed through the country, according to the New Zealand Ministry of Health.

Purpose # 8 is to "protect and enhance the area's natural, cultural, social and economic environment through sound agricultural planning, preservation of open space and sensitive resources, and development of economic benefit."

Nothing in the DEIS demonstrates how the area's natural and cultural environment will be enhanced by the project.

**Overview of the Proposed Project:**

The Overview of the Proposed Project (p. 1-4) says "possible expansion of the herd up to 2000 mature milking cows, following the proven success of the rotation grazing system for local milk production and better understanding the potential carrying capacity of the pasture." How will the carrying capacity and success of the project be defined and quantified/measured?

The Hydrological Assessment for Pasture Areas (Vol 2, Appendix K, Group 70) states that "HDF management may choose to expand operations up to the carrying capacity of the land, which is currently estimated to be up to 2,000 productive milking dairy cows." (p. 694-695)

How was this "estimated" capacity derived? In addition, a carrying capacity within the dairy boundary is not the same as carrying capacity of the area's surrounding land and waters. Grass might be growing with adequate yield to feed additional cows, but the nutrient loads in surface waters might be exceeding levels that are benign to marine resources.

**Unresolved Issues:**

"Resolution of the Dairy Size" must depend on more than grass yield and milk production levels. The DEIS recognizes the prevention of negative environmental impacts such as fly infestations and diminished air quality, including manure and urine smells. These factors have to be included as natural system indicators of the "carrying capacity" of the land.

**Groundwater Resources:**

The DEIS documents state that there are two distinct bodies of groundwater located under the proposed HDF site. The first is a shallow aquifer residing in the alluvium that fills the valley floor, and the second is a deep aquifer in unweathered volcanic rock. Several tests along with associated analyses were performed to determine that these two groundwater bodies are not hydrologically connected, meaning that water does not move freely from the shallow aquifer to the deep aquifer. Matt Rosener, principal of North Shore Hydrological Services reviewed the

information presented to reach this determination and concur with the interpretation that the 2 water bodies are separate, and leaching of pollutants to the deep aquifer is not likely due to the presence of low-permeability layers that act as an aquiclude.

The DEIS states that some groundwater discharge to the deep drainage ditches located near monitoring wells HDF-1 and HDF-2 will occur as the water table is relatively close to the water table in this area. The document also states that groundwater discharge to the drainage ditches is not expected in the lower part of the HDF property (near HDF-3 and HDF-4 monitoring wells). It should be noted, however, that during a very wet monitoring period in November 2015 the water level in the HDF-3 well peaked at 56.7 feet (MSL) while the ground elevation at this well site is only 57 feet (MSL), meaning the water table was essentially at the ground surface (i.e. saturation). It is unclear why drainage of groundwater into the ditches running through the lower portion of the HDF site would not occur during these commonly occurring conditions. The proposed pumping rate of approximately 30,000 GPD from the private Well 14 located on the proposed dairy site does not seem problematic as the pump was producing up to 3 MGD before the Koloa Sugar Mill closed, effectively ending the sugar plantation era at Maha Ulepu.

**Surface Water Resources and Nearshore Marine Environment:**

Water quality testing in the area of the proposed HDF dairy showed that agricultural ditches and intermittent streams in this watershed experience chronically degraded conditions for nutrients and pathogens, both pollutants that are associated with animal waste (as well as other sources). The recent DOH Sanitary Survey documented high levels of Enterococcus and Clostridium Perfringens (CP) fecal indicator bacteria (FIB) in Waiopili Ditch sediments. Additional water quality testing for the DEIS performed by Marine Resource Consultants, Inc. (MRCI) showed that FIB counts were generally high at most surface water sampling sites in the watershed but variable between sampling sites and sampling periods. A more detailed water quality evaluation for surface waters in the HDF site area was included in the DEIS in Appendix F. Nothing really stood out in this section other than the general observation that existing surface water quality is obviously already degraded in the Maha ulepu watershed to an extent and HDF is proposing an intensive land-use on approximately 20% of the watershed area that is already known for its water pollution potential.

Marine water quality testing was also performed by MRCI along several transects extending from the shoreline at Mahāulepū to roughly 200 meters offshore. Because water chemistry analyses showed only "small elevations of inorganic nutrients at the shoreline", MRCI interpreted this to mean that not much groundwater is being discharged along this coastal segment in general. The notable exception to this was in Transect 3, near the outlet of Waiopili Stream where several water quality parameters were substantially elevated close to shore, including dissolved nutrients, turbidity, and Chlorophyll a. These were interpreted to be the result of the stream discharging at this point and not groundwater discharge which seems reasonable. Steep gradients of nutrient concentrations, salinity, and turbidity observed in marine waters near the Waiopili Stream outlet led the authors to conclude that, "input from ditch water

is highly restricted in terms of effects to the marine environment". However, it should be noted that water quality sampling for this study presumably did not occur during periods of high streamflow when the impact zone in nearshore marine waters would be expected to be much larger.

This section of the DEIS does acknowledge that manure could run off into drainage ditches, even with the prescribed 35-foot buffer strips installed on both sides of all waterways at the HDF site. "Manure particles that do not settle out into the buffer area could be carried into ditch waters and downstream with stormwater flows" (p. 4-67). Also acknowledged is the potential of elevated nutrient levels in surface waters and groundwater due to the proposed dairy farm. "Increases in nutrients as a result of dairy establishment or operations can inform modification of the operation's nutrient management" (p. 4-66).

#### **Consistency with State of Hawai'i Water Policies:**

This section essentially states, with very little justification, that the proposed HDF project supports the State's Anti-degradation policy (HAR-11-54-1.1) for Inland Waters (Class 1 and 2) and Marine Waters (Class A). There is no acknowledgement of the likelihood for further water quality degradation to occur as a result of this project. Instead, the DEIS language reasons that during periods of heavy rainfall and runoff, the dairy's nutrient losses will be diluted by additional streamflow. As the document states repeatedly, these are the times when nutrients and other pollutants will be mobilized from the dairy farm site so both pollutant concentrations and loads are likely to increase during these periods, not decrease through dilution.

With regard to impacts on the marine environment, the DEIS language simply states that, "There will be no substantial effects to marine water quality from the HDF dairy", reasoning that vigorous mixing near the Waiopili Stream outlet will limit water quality degradation. This explanation is likely based on the limited water quality data collected in the nearshore performed for this study. Again, it is improbable that samples and/or data were collected during high rainfall/runoff events when the bulk of the pollutant loads are transported from coastal watersheds to the marine environment.

#### **Appendix E - Groundwater and Surface Water Analyses:**

It is interesting that data presented on the present water levels in Well 14 (private) and the Koloa F well (County) are several feet lower than their original levels. Recent measurements indicate that both of these wells have static levels between 22-26 feet above sea level (MSL), while their original levels at the time of installation were 30.0 feet MSL (Well 14) and 25.9 feet MSL (Koloa F Well). The Well 14 battery was installed in 1928, and the Koloa F well was installed in 1998 so the piezometric head for the deep aquifer underlying the HDF site may have decreased from 30.0 feet in 1928 to 25.9 feet in 1998 to 22-26 feet today. This isn't may not be relevant to the evaluation, but it is noteworthy. Also noteworthy is the estimated hydraulic gradient of the shallow aquifer water table, approximately 35 feet per mile, which would

probably result in considerable groundwater movement under the proposed HDF site if the alluvial soils weren't of such low permeability.

The report identifies 0.8" of 24-hour rainfall as the threshold for runoff production at the HDF site, with no analysis presented to support this. Also, the report presents some analysis of the 30-year rainfall record from the Maha'ulepu 941.1 rain gage located near the project site. The results indicate that daily rainfall of 0.8" occurs approximately 3% of the time, or 10 days a year on average, in the project area. The same analysis was performed with the same dataset and produced the same results. Note that the rainfall event depicted in this report on November 23, 2015 as 5.95 inches at the HDF site was recorded as 4.48 inches at the Maha'ulepu 941.1 rain gage station, and this was the 11th highest daily rainfall at this station in over 30 years of record. This amount of daily rainfall is exceeded only 0.15% of the time in this area.

In contrast to the use of non-potable surface water proposed for the project (average of 1.31 MGD from Waitā Reservoir), the potable water use of 30,000 GPD (from Well 14) seems relatively modest. Surface water flows moving through the project site are estimated to be 7 times larger than the amount of groundwater moving under the site in the shallow aquifer. Calculations made for the report resulted in estimates of average surface- and groundwater flow rates leaving the makai end of the HDF site as 1.81 MGD and 0.27 MGD, respectively. Of the 1.81 MGD average surface water flow rate, roughly 0.40 MGD is from flat lands in the valley bottom, and 1.41 MGD is from steep lands on the valley walls. Of the 0.40 MGD of surface water originating from the flat lands, approximately 0.31 MGD is sourced from the 557-acre HDF farm site.

To expand on the earlier discussion regarding nutrient load augmentation, Matt Roesener, P.E., performed computations using information provided in Appendix E. Based on the estimates presented in the report for N and P loads carried in groundwater and surface water as well as the projected new N and P subsidies from the dairy farm, we can calculate the expected increase in nutrient loading to local waterways. To do this, the report author computed the total N and P loads leaving the HDF site at the makai boundary based on several assumptions about groundwater flow, rainfall, runoff, and nutrient concentrations in surface- and groundwater. His approach was to estimate total nutrient loads moving downstream from the HDF property, then compare them to the new N and P subsidies. While this approach is defensible and results in useful information, there was no presentation of the increase in nutrient loading from the HDF property alone. The analysis presented in the report included surface- and groundwater flows from the upstream watershed area that drains through the HDF site which resulted in estimates of 6.6- and 8.4-fold increases in N and P, respectively, leaving the makai border of the HDF site. By subtracting the flows and nutrient contributions from the watershed area outside the HDF boundary, the analysis results in 20-fold increases (2000%) in both N and P loading from the HDF site only compared to existing conditions.

#### **Appendix F - Surface Water Quality and Marine Assessment:**

Results of the surface water chemistry testing showed that spatial distribution of dissolved nutrient concentrations essentially displayed the same trends, with the lowest values in the farthest upland (mauka) sample stations, elevated values in the middle stream/ditch reaches within the HDF site, and somewhat reduced values in the lower reaches near the stream mouth (but not as low as levels at the mauka stations). Increases in existing nutrient concentrations within the HDF site were attributed to leachate "subsidies" from ongoing or prior land use. The authors reason that because nutrient values near the stream outlet are similar to the values measured at the mauka stations, concentrations at the mauka stations are the same now as they would be without the nutrient leachate subsidy from the HDF site. This defies logic as a simple mass balance would suggest that if the subsidy is removed from the equation, downstream concentrations should be reduced.

Spatial trends in turbidity and Chlorophyll a levels were generally similar to those described above for inorganic nutrients (i.e. lowest at highest stations, elevated in middle HDF reach, lower at lowest stations). The report states that these parameter values returned to "baseline low levels" below the dairy site, but data presented in the report do not support this statement. The spatial trend observed for FIB levels was generally increasing counts moving closer to the shoreline. Many of the FIB samples yielded very high counts for both *Enterococcus* and *Clostridium Perfringens*. The higher values were some of the highest Rosener observed anywhere. Because of the notable absence of human residence in the watershed, the authors noted that it is clear that sources other than human presently contribute to the high FIB counts here, many well above the levels of DOH Water Quality Standards, and Rosener agrees although not with the unsubstantiated conclusion that "natural conditions" is the cause.

Marine water quality testing along four transects running perpendicular to the coastline was also completed. Notable results include Transect 3 (starting near Waiopi Stream mouth) exhibiting "substantially higher" values for all dissolved nutrients, turbidity, and Chlorophyll at the 5-meter (offshore) station compared to all other transects. This indicates water quality degradation near the stream mouth which is not surprising. However, values of these parameters were similar to those from the other transects at the 10-meter (offshore) station. The authors concluded that rapid mixing in the nearshore zone quickly brings elevated pollutants down to background levels. While this may be true under most conditions, it is unclear how far offshore this mixing zone extends during the area's frequent heavy rainfall/runoff events when the bulk of the pollutant load is expected to be mobilized and transported.

#### **Appendix K - Hydrologic Assessment:**

This report, produced by Group 70 for HDF, represents standard engineering/design hydrology analyses, and nothing contained in it was surprising or exceptional. The report essentially lays out the hydrologic design criteria for various drainage infrastructure and conservation practices to be installed and/or maintained at the proposed HDF property. Traditional design hydrology equations and models were used to compute design discharge values which are presented in the report. The SCS Curve Number method was used to simulate design storms, predicting

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peak runoff rates for various storm frequencies (2-year through 100-year). In comparing the pre-project and post-project hydrology using this model, the only significant change was in the curve number value to reflect a change from pasture grass conditions from "fair" to "good" following dairy establishment. While this may seem like a reasonable assumption, one wonders if to what extent any possible improvements in soil and grass conditions realized from the proposed irrigation and fertilization schedule will be offset by the trampling effect of hundreds of cows compacting soils and generating runoff. Soil compaction was not addressed in any of the DEIS sections or appendices that were reviewed.

The predicted post-project peak flows leaving the HDF site range from 1,723 cfs for a 2-year flood to 11,054 cfs for a 100-year flood. It is hard to imagine the drainage ditches running through the HDF site containing even the 2-year flood flow, and given the large volumes of runoff that can be generated at this site, there is concern about the potential for significant non-point source pollution occurring. Also notable are Figures 8 and 9 which show a small area in the upper, eastern portion of the HDF pasture draining to areas outside of the HDF site to an unnamed drainage ditch. Most of the pasture area appears to drain to the two central drains that run through the length of the farm property.

#### **Soils:**

Soils have been characterized appropriately in the context of the proposed action. The DEIS approaches soil management through the USDA NRCS' framework of soil health. Regardless of herd size, the dairy will be dependent on commercial fertilizers. This document should clarify what sources of commercial fertilizers will be used. Slow-release fertilizers, like compost, should be used to minimize the risk of nitrogen, phosphorus, and other nutrient losses. Synthetic chemical fertilizers are generally more labile, and pose a greater risk to being lost more readily to the atmosphere and water.

In section 4.1.2, the DEIS claims that the proposed action and expanded herd will not impact climate conditions at a regional or global scale. While it is technically true that one dairy alone will not alter the climate, it demonstrates a misguided understanding of climate science. In the same way that all cars, but not one car, contributes significantly to climate change, a single farm can contribute to climate change without being a single, large source of greenhouse gas emissions. The proposed action contains elements that may both contribute to climate change (e.g. enteric methane emissions, elevated soil nitrous oxide emissions) and help mitigate climate change (e.g. increasing soil carbon storage). Since high density rotational grazing has not been rigorously studied with respect to its climate impacts, it is unknown whether the dairy will be a net contributor of or solution to climate change.

#### **Appendix C – Hawaii Dairy Farms Soils Baseline Nutrient Status:**

Soil testing revealed two important results: (1) soil conditions are highly variable in space and (2) the soil in the proposed project area is nutrient poor due, in large part, to a history of

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intensive sugarcane production. These results are unsurprising but have important implications to future management. It is very likely that proper pasture management will improve soil conditions through the management of vegetation and manure inputs.

Hawaii Dairy Farms underwent two rounds of soil testing, once in 2014 and again in 2015. The more comprehensive testing in 2015 provides invaluable baseline data on soil nutrients that can be used to develop nutrient management plans as well as to compare changes over time with future soil testing.

Regular soil testing is essential to make the best informed decisions about nutrient management and to avoid excess fertilizer or manure application that could result in losses to the environment. While the DEIS emphasizes the importance of soil health, it does not explicitly outline the steps that will be taken routinely in the future to monitor soil nutrients. The authors of Appendix C note that the hydrologic report (TNRWE 2016) identified operating skills of the HDF personnel as a primary challenge to managing nutrients, and this point of caution should be taken into consideration. The authors of Appendix C also offer recommendations regarding nutrient management if the proposed action were to be implemented.

#### **Appendix D – Nutrient Balance Analysis:**

Waste management plans were prepared with best available local guidelines for livestock waste management. The DEIS plan is to follow best nutrient management practices, including improving the efficiency of nutrient applications through proper timing, placement, amount, and kind of fertilizers. As a framework, these considerations are absolutely critical for minimizing environmental risks from nutrient management. The DEIS reports the first approximation of nutrient mass balance, and promises to update the calculation with measured data annually. When will this annual measurement be taken and how will the reviewing agency ensure that the promise is kept by HDF, year over year?

#### **Roadways and Traffic:**

While there will be minimal impacts to public service such as police, fire, libraries, etc. there will be significant impacts due to increased truck traffic for raw milk transport as well as for calves and mature cows leaving and returning to the herd. The increase in vehicular trips is relatively small, but the number of large truck trips to the area and also using State and County roads is significant: 2 round trip truck trips daily to and from offsite ranches; two round trip milk deliveries daily, 4-5 round trip sand and feed truck deliveries monthly, fertilizer once per month and twice weekly milk deliveries to bargages. (p. 4-100)

#### **Cultural Practices and Resources:**

The Cultural Assessment was conducted by Scientific Consultants, Inc. (Volume 2, H)

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Mistakes in the history of the area include Captain Cook's journal entry and log in which he describes encountering natives off Maha ulepu the evening before he sailed to Waimea where he was able to anchor and land - this is not accurate.

The ahupua'a of Maha ulepu was not owned by the "Crown" until it was sold to Koloa Plantation. Princess Victoria Kamamalu sold it to a Hui of 49 native Hawaiians in 1882 for \$10,000. Hui members' shares were bought by the Plantation and when 2/3<sup>rd</sup> were acquired, the ahupua'a was partitioned with the remaining native Hawaiian owners holding land outside the valley, including ridges and Aweoweonui Valley (Kaua'i Historical Society Paper by Rev. John Lydgate).

As a group representing Native Hawaiian interests, it is dismaying that no public access is being provided to see, and, for practitioners, to utilize, the native Hawaiian archaeological sites in Maha ulepu Valley. Even extending the archaeological survey area only slightly beyond the dairy boundaries has revealed petroglyphs and an agricultural heiau.

One of Malama Maha ulepu's goals has been to reopen the valley to past recreational and cultural use through managed access agreements. Hopefully, this goal is still attainable. Any plans to provide school tours to the dairy operations do not balance nor mitigate the loss of future access to cultural places.

This section is meant to be a summary of the Cultural Impact Assessment (CIA) contained in Appendix H. However, there is no such summary. Instead, there is an overview of the Polynesian settlement in the Hawaiian Islands and Kauai, information that is general and has little to do with Maha ulepu. In all of two pages of writing, there is approximately one short paragraph of information that is relevant to Maha ulepu. The summary *should* contain a brief description of the CIA including what a CIA is, how many organizations and individuals were contacted for the CIA; how many individuals and who was interviewed for the CIA; a brief description of the methodology of conducting the CIA; a description of the cultural practices, cultural sites, etc... identified during the review of primary and secondary sources; a list and description of the cultural practices, cultural sites, etc... identified during the interview process; and an "analysis of the potential effect of any proposed physical alteration on cultural resources, practices or beliefs; the potential of the proposed action to isolate cultural resources, practices or beliefs from their setting; and the potential of the proposed action to introduce elements which may alter the setting in which cultural practices took place."

We recommend rewriting this section (pp.4-31-4-32) to clearly and adequately summarize the work and findings of the Cultural Impact Assessment and correct inaccurate information. Unfortunately, the CIA does not adequately state its own findings making the summary for the DEIS difficult.

#### *Probable Impacts*

The HDF consultant identifies two impacts related to cultural practices and resources in the CIA.

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- Isolation of cultural resources from their setting; and
- Introduction of elements that may alter the setting in which cultural practices take place.

What do these two impacts mean in the context of the CIA conducted? When listing the isolation of cultural resources from their setting, is consultant referring to access issues that are expressed repeatedly during interviews? When listing the introduction of elements, is consultant referring to the impact of contaminated surface and groundwater affecting springs, ponds, ditches, reefs, and marine resources—all cultural sites that directly affect cultural practices? We recommend that the analysis of cultural impacts speak directly to the issues and concerns voiced within the CIA. Although the consultant identified and interviewed some knowledgeable interviewees, they did not adequately identify and analyze the cultural impacts expressed by those community members.

We recommend explicitly listing all the cultural impacts in the context of the CIA conducted, including access and contaminated surface and groundwater as it impacts streams, ponds, springs, reefs, and marine resources

#### *Short-Term Cultural Impacts*

This section correctly states that Maha'ulepu ahupua'a has and is currently used for traditional cultural purposes, that the project area is not included in these cultural activities, and that there are no significant cultural sites in this area. However, the EIS fails to address the main issues expressed in the CIA which constitute both short-term and long-term impacts. The first is access. The CIA did not identify which are the access points; how do practitioners access the back of the valley, the plateau, the petroglyph rock? One cultural practitioner communicated that he was denied access to a heiau because of the lease with Hawaii Dairy Farms. This is a direct impingement on the right of a Native Hawaiian to freely practice his culture and constitutes an indirect impact. Though the heiau is not within the bounds of the proposed dairy, access to the heiau was denied based on a lease to the dairy.

We recommend spelling out clearly the indirect cultural impacts of the proposed project such as access. In addition, measures to mitigate each cultural impact should be included within this section of the EIS.

#### *Long-Term Cultural Impacts*

Again here, the DEIS fails to define what the impacts or mitigation are. The first paragraph states: "The perception of most community members interviewed was that the dairy may have indirect and direct negative impacts on the environment in the area." There is no effort here to list the indirect or direct negative impacts that community members have shared with the consultant. The objective of the CIA is to identify if there could be cultural impacts related to the HDF project and if so, what they are. Reading through the interviews in the CIA, it is clear that

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there are cultural impacts, however neither the CIA itself or the DEIS has made any effort to clearly define and address those impacts.

After stating in the first paragraph that the community members are concerned about indirect and direct negative impacts, the consultant concludes in the second paragraph that "the exercise of native Hawaiian rights or any ethnic group related to numerous traditional cultural practices will not be impacted by establishment of the dairy." In light of the first statement, the second statement does not make sense. How can you conclude that traditional cultural practices will not be impacted by establishment of the dairy when the community is telling you the opposite? There is no real effort here to identify, clearly state, and address the concerns of the community.

The CIA should clearly identify and list all direct or indirect impacts to traditional cultural practices as gleaned from historical sources and interviews. The CIA does not adequately do this (please see comments for the CIA). The DEIS does not clearly and adequately state the impacts. After including a list of the impacts, the DEIS should offer mitigation measures for each impact.

#### **Demographic and Economic Conditions:**

The basis of the DEIS economic analysis is Hawaii Dairy Farms: Socio-economic Conditions, Economic Impacts, and Fiscal Impacts, conducted by Plash Econ Pacific (PEP) Inc. May, 2016. Note the consultant's disclaimer that "As a general rule, economic and fiscal impact estimates in this report are accurate within about 25%" (p. 1.Vol 2, I-3)

The existing demographics (social and economic) of the Koloa-Poipu area are adequately covered in this study. The Economic Analysis does state that "if nuisance impacts were to occur, which is not expected – it could result in reduced tourism, sales, employment, salaries and wages, property values and personal wealth." (Vol 2, III-8) The enormous potential economic losses are not valued. Although it might only provide small compensation for impacts, HDF should carry a large environmental insurance policy. In addition, HDF could establish a social and environmental remediation endowment, partially funded by a portion of milk sales.

The economic analysis section of an EIS is required to provide a cost benefit analysis of a proposed project as the basis for determining economic and fiscal impacts. The economic and fiscal impacts of HDF's dairy cannot be determined because the EIS does not provide basic information.

What is the price per gallon that HDF expects to realize? The price, even a range of projected prices, at which HDF milk will be purchased by the wholesaler/processor is not disclosed in this "disclosure document." (Table III-3 Economic Impacts At Full Operations)

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The Total Sales for a herd of 699 of \$10,121,716 and the Total Profits \$1,012,172 cannot be substantiated when price is "not shown to avoid disclosure." ( Vol 2: Appendix J Part 3 Table 111-3) Using the information provided, the price of HDF milk is \$6.62 per gallon or \$3.31 per half gallon -6 gallon per day x 699 cows = 4,194 gallons of milk per day or 1,530,810 gallons per year divided into total sales of \$10,121,172.

Currently, at Big Save grocery store, Koloa, a gallon of mainland milk is being sold for \$4.99, while a half gallon of Meadow Gold milk is being sold for \$4.19. Both are on sale. While some portion of the Meadow Gold brand milk may have been "grown" on the Big Island, most of that milk is mainland milk that has been re-pasteurized on Oahu.

Price is certainly a factor in people purchasing milk from big box retailers such as Costco where a gallon of milk costs what a half gallon of Meadow Gold milk costs. Another segment of the market buys organic milk. HDF is not producing organic milk.

In the economic analysis there is no discussion of demand. Product demand is generally a part of economic analysis. Apparently no marketing study was conducted. Can HDF milk compete with imported mainland milk? What are Hawaii consumers willing to pay for the "local" milk grown at Maha ulepu? What is the demand for local, non organic milk? What is the trend in Hawaii regarding milk consumption?

Demand is not independent of price. Put another way, the market for the milk cannot be assumed to be a percentage of volume of milk presently imported, repasteurized, packaged and sold by Meadow Gold.

It appears that HDF does not have a milk purchase agreement in place. If HDF has to process and distribute its milk, the cost per gallon will increase. Even if the milk is not shipped to 'O'ahu, will the cost of HDF milk on Kaua'i be competitive? The following statement verifies the lack of milk purchase agreement: "Eventually, a milk processing plant might be built in an existing industrial area on Kaua'i or 'O'ahu if warranted. The plant would produce finished milk packaged for consumers, and possibly some milk-related products (e.g., yogurt and cheeses)." Vol. 2 Appendix J, I-8 (p. 622). The DEIS should be clear about what is being farmed.

HDF has been negotiating with Dean Foods owner of Meadow Gold Hawai'i. A Wisconsin Public Radio story of Friday, January 30, 2015, stated "Dean Foods is closing dairy plants across the US. "The company, which is based in Dallas has closed 12 dairy plants around the country in the last three years. Management stated that "Dean has to be smaller to be more efficient and stay profitable." Dean blames higher costs for raw milk and transportation."

The DEIS provided conflicting figures for how much milk *may* be produced. Volume 1 states that the supply of local milk will be increased by approximately 1.5 million gallons annually, a 50 percent increase in statewide milk production." (p. 4-50 ) The introduction to the DEIS says milk production will increase by more than 1 million gallons. Volume 2, the Hydrologic Assessment

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authored by Group 70, says that "At a steady state, production with 699 cows the dairy farm will produce roughly 1.2 million gallons annually." (p. 693) The Economic Study uses the highest figure for annual production for 699 (or 2000) cows when it forecasts anticipated profits.

The dairy will not increase statewide milk production by 50%. The 2015 Statewide Agricultural Land Inventory states that "Based on data provided in August 2015 by the DOA's Milk Control Program, Hawaii's dairies produce 3.3 million pounds of milk monthly or the equivalent of approximately 380,000 gallons per month." (p. 42) Hawaii's production is approximately 4,560,000 gallons per year (12 times 380,000). Therefore an added 1.5 million gallons would be a 33% increase at most. A million gallons would be an increase of 22%.

#### *Incomplete Cost Analysis*

Many of the costs of operating this dairy are not disclosed. The only expenditures disclosed in Tables III-2, 3, 4 and 5 are for construction, payroll and property taxes. The following expenses (even just estimated) are not stated:

- annual land lease, (does this lease include any charge for irrigation water or potable water?)
- cost of purchasing the initial cows,
- estimated cost of feed,
- cost of insemination of the heifers,
- cost of boarding "resting" heifers,
- estimated costs of auxiliary personnel such as veterinarians,
- cost of consultation for monitoring,
- cost of agricultural insurance

It is not possible to estimate dairy profits without a full picture of what it costs to operate. The rising cost of feed is acknowledged to be a factor in the closing of dairies, and feed cost will affect HDF too. On the Big Island, where there are two remaining dairies, 40% of feed is now being grown locally. (Statewide Agricultural Inventory, 2015) An environmental damage suit by a Kauai neighbor (due to dairy effluent flow into stream and ocean) against the Moloka'a landowner and Meadow Gold is another factor in the closing of the Moloka'a dairy.

#### *Job Benefits*

The number of full time new jobs that the dairy will generate is small. The primary job benefits - both direct and indirect - appear to be during the two year construction period when as many as 36 jobs (28 on Kauai) are posited to be created. However, it does not appear that many of these will be new jobs but design and construction trade work providing a period of employment for existing trade people and suppliers.

During operations, the dairy is posited to provide 5 farm jobs at herd size of 699 and 10 at herd size of 2000 and 6 indirect jobs, 3 on Kauai, 3 on Oahu. The five jobs will include "a farm

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manager, a marketing/community relations person, supervisors, skilled and semi-skill workers." Earnings proposed range from \$40,000 (not adequate to support a family on Kauai) to \$115,000 or more. The study does not state what these employees will do, their training levels, whether they work full or part time.

The revenue to the County and the State appear to be negligible. Those to the State are "offset" by the \$1 million tax credit for improvements on the land designated IAL. How long are these tax credits applicable? Will HDF realize tax benefits if it operates at a loss?

These unknowns greatly affect the immediate and long term viability of the dairy. Ulupono, owner of HDF, is a for profit business. Ulupono has been clear that they intend and expect to be financially successful while achieving the goal of increasing food self-sufficiency.

From the following statements, it appears that it will be many years before HDF is profitable: "At full operations, with herd size of 699 profits on direct and indirect sales are estimated at \$1 million per year and \$2.9 million per year for the 2000 Dairy." Furthermore, "This includes estimated profits of the Dairy, its subcontractors, companies supplying good and services to the Dairy and to the families of the Dairy workers." (p. III-5)

#### **Milk Processing by HDF:**

From the beginning, HDF's publicly shared information about the project included the statement that a milk purchase agreement with Meadow Gold (Dean Foods) was imminent. Two years later, does HDF have a milk buyer? Does HDF have a milk processor on any island? Will HDF have to establish its own processing plant on Kauai or elsewhere?

Each of these unanswered questions significantly affects the profitability of the dairy and the price of the milk to consumers. If HDF has to undertake milk processing itself, it will add substantially to overall operating costs. The price of the milk is a major factor in whether the dairy succeeds.

Milk Processing by HDF is considered both an "alternative" (1.7.4.) and "an unresolved issue." However, milk processing by HDF is not actually an alternative in the proposed location with the on-site operations of the dairy. If HDF has to process their milk, the processing plant - whether located on Kauai or Oahu - becomes part of HDF's operations and cannot be assumed to have "no environmental impacts." Assessment would be particularly needed for a Kauai processing plant because "County water, sewage" would be utilized. Nearby businesses and neighbors would be affected. Building permits, health inspections and, possibly, a County use permit would be needed.

#### **Air Quality and Odor Impacts:**

The following is not a negligible or insignificant impact: "For the contemplated herd size, odor may reach approximately 2,780 feet south of the HDF boundary in the worst-case meteorological conditions." (p. 4-109) What are worse-case conditions? Any day when the wind pattern is not regular trades of less than 10 mph? This can occur frequently depending on the time of year and atmospheric fluctuations. This indicates that within 1/2 mile of the dairy, which means at the Maha'ulepu coast itself and along the coastal trail and on the Golf course, the dairy smells will be experienced.

#### **Visual and Aesthetic Resources:**

The dairy site is visible from public vantage points. Maha'ulepu Valley, with its Ha'upu Mountain backdrop, can be seen by people in cars at the juncture of the coastal haul cane road and the Maha'ulepu Mill Road. Walkers view the valley from the trail at the Makuawahi Cave Reserve. The use of this trail is encouraged by two self-guided trail maps: the Poipu Beach Resort Maha'ulepu Heritage Trail Map and the Makuawahi Cave Reserve trail map. (p. 4-19)

One of the long term losses from the dairy as planned is the visual enjoyment of views from inside the valley. Those views include the ones depicted as View A,B,C,D, and E on page 4-20. These views are going to be transformed by the dairy buildings, "mobs" of cows, fences, irrigation pivots, roadways, cow paths etc. - the footprint of this intensive form of dairying.

Allowing the public managed access to walk, ride horses and non-motorized vehicles on the old cane roads around the valley perimeter would provide some residual visual pleasure and health benefits, as well as access to cultural sites.

#### **Flora and Fauna:**

The study done by Rana Biological Consulting is incorrect. There is federally designated critical habitat in two areas, both within a mile from the dairy site. The Makuawahi Cave is critical habitat for the endemic Koioa blind cave spider and blind cave amphipod. Over the ridge from the proposed dairy is the Pukamoi Headland which is also critical habitat for these cave species. The blind cave species of the Makuawahi Cave system are particularly vulnerable.

#### **Offsite Herd Management:**

The proposed dairy site in the DEIS is the primary, but not the only, location of the dairy system. Two auxiliary ranches, located in Kapa'a and Oma'o, as well as the processing plant, are all integral to this dairy operation. The acreage and current herd sizes of these ranches, their present and maximum herd capacities, are not disclosed. The number of animals that will be transported and at what frequency is not stated. The size of the cattle trucks/trailers should be clearly stated. While the privatized Maha'ulepu Mill road will be used for part of those trips, most of this transport will occur on County roads and the State highway. Male calves "will become

part of the of the beef cattle herd.” (p. 1-12) Is this crossbred dairy cow good eating? What will rancher Bobby Farias be charging per head?

**Burials:**

Many local residents, including Malama Maha`ulepu members, believe the burial of cows in Maha`ulepu Valley constitutes a cultural violation. The designated location for cow burial is the area that is closest to archaeological sites, both known and as yet not inventoried. It is repugnant to envision 699 cow burials in three to five years let alone the number of cows that would be buried with a larger herd over decades.

What are alternative disposal methods for livestock? Is incineration possible, perhaps at the Green Hawai`i facility in mauka Koloa? What are Hawaii’s animal disposal regulations? Arkansas, for instance, has loading and site limitations that preclude burying animals at the base of a hill. HDF intends to bury cows at the base of Mt. Ha`upu, the highest elevation of the dairy.

**Decommissioning Dairy Operation:**

Decommissioning of the project at the conclusion of its 20 year lease will necessitate considerable costs. A “sinking fund” should be established that will allow for either a complete decommissioning and for the removal of the wind farm, or the replacement of the existing wind towers. Without a proper fund being available, this infrastructure may remain as a permanent blight on the Maha`ulepu Valley landscape.

**Failure to Take a Hard Look at Impacts of Spills and Ruptures:**

One of the greatest environmental concerns associated with the project is the risk that HDF will inadvertently spill animal effluent into the Maha`ulepu Valley water resources. There is an associated concern that HDF and state agencies will fail to respond quickly and thoroughly to such a disaster. There have been a number of recent effluent spills that have devastated rivers and waterways in America and New Zealand. Each of these spills has had ruinous impacts on public health within communities nearby and environmental implications downstream of the spill location. However, HDF fails to provide a meaningful analysis, or make reasonable forecasts and projections, of the potential risks of spills of effluent derived from HDF’s operations. Accidents happen and plans should be in place for their eventuality.

**Mitigation Measures:**

HDF failed to Properly Analyze Mitigation Measures, or Consider Terms and Conditions to Protect the Environment. NEPA Requires Agencies to Consider Mitigation Measures. “[O]mission of a reasonably complete discussion of possible mitigation measures would undermine the ‘action-forcing’ function of NEPA. Without such a discussion, neither the agency

nor other interested groups and individuals can properly evaluate the severity of the adverse effects.”

Because Maha`ulepu is one of the last remaining open spaces on the south shore and is beloved by both residents and visitors it is important that binding mitigation measures be included in the final EIS. An environmental remediation bond, monitoring regimes with guaranteed community involvement, or even a “good neighbor agreement” are examples of mitigative measures that were ignored by HDF, most likely due to confidence in their existing monitoring methods.

**Alternatives:**

The alternatives analysis is inadequate because it is not a rigorous exploration and consideration of all reasonable alternatives. The Council of Environmental Quality regulations implementing NEPA require that an agency “rigorously explore and objectively evaluate all reasonable alternatives.” 40 C.F.R. §1502.14(a). While an agency need not consider an infinite range of alternatives, it must create a list of alternatives necessary to permit a reasoned choice.

Malama Maha`ulepu does not believe that HDF considered a sufficient range of alternatives in the DEIS. The similarity between and among the alternatives presented in the DEIS and the exclusion of several viable but unexamined alternatives ignore NEPA’s mandate that an EIS present decisionmakers and the public with an adequate “range” of alternatives. This failure prevents those groups from making an informed analysis and “reasoned choice.”

Malama Maha`ulepu further believes that the DEIS as currently drafted does not satisfy the regulatory requirements found at 40 C.F.R. §1502.14. Those regulations require an agency to present “the alternatives in comparative form, thus sharply defining the issues and providing a clear basis for choice among options by the decisionmaker and the public.” 40 C.F.R. § 1502.14. The agency must “devote substantial treatment to each alternative considered in detail including the proposed action so that reviewers may evaluate their comparative merits.” 40 C.F.R. § 1502.14(b).

Malama Maha`ulepu finds that the Alternatives analysis in the DEIS fails to meet the above requirements. In reviewing the matrix of impacts to multiple resources, there is very little variation from one alternative to the next, suggesting that either there is an insufficient range of alternatives or an inadequate analysis of impacts presented (or both).

In addition, the impacts analysis is inconsistent and attention to detail disparate among the various alternatives, preventing decisionmakers and the public from evaluating the comparative merits of alternatives A, B, and C. Such a cursory analysis is exceedingly unhelpful to the decisionmakers and to the members of the general public who are trying to discern the costs and benefits of the various alternatives.

*Non-Viable Alternative: Conservation Condemnation*

After conducting a natural, cultural, agricultural, historical and recreational inventory, Malama Maha'ulepu recognized that the entire undeveloped ahupua'a of Maha'ulepu comprises a cultural landscape. Agriculture is part of that history. Malama Maha'ulepu supported the IAL designation for the valley for that reason and because the Grove Farm Agricultural Master Plan proposed uses that were compatible with preservation of the other heritage resources and experiences. Malama Maha'ulepu failed to envision the use of the Valley lands for an intensive technological agricultural operation and considers this a misuse, incompatible with the Agricultural Master Plan intentions. The question of whether the dairy partially or entirely degrades the land, the stream and ocean waters, and the recreational experiences of the coastal area is the heart of our concern about the proposed project, not agricultural use per se.

Longtime community desire for preservation is discussed in the DEIS (p. 54) The State Legislature Resolution of 2001, referenced in the DEIS, only supported dialogue to explore options for conservation. It did not stipulate government ownership. Government ownership is one possibility, and, even in that event, land could not be "taken" without compensation.

No landowner's right to plan for land would be abrogated by discussions of possible future options for Maha'ulepu. Landowner's planning is always balanced by the public right to participate in commenting on any plans which require government review/permitting.

In addition, parks and preserves can be created in more ways than by eminent domain. Indeed, the federal government will not create any kind of national park if landowners are not willing sellers nor partners.

Conservation and business minded landowners can hold private ownership and allow public uses through conservation easements. (These are also used to perpetually protect agricultural lands.)

Parks also increase the economic value of surrounding lands. The National Park Service recently released a study showing that the value of America's national parks is 92 billion dollars. But all kinds of parks add value to communities by increasing visitor spending for accommodations and services nearby, by making people healthier mentally and physically, by increasing nearby property values, by offering educational experiences and engagement and in the case of a natural area park, allowing open land to sequester carbon, increase groundwater, and filter waste water.

*Cemetery:*

If removing the valley lands from the IAL designation were to be considered as a potential alternative, then another use for the valley would be as a green burial cemetery and sanctuary with memorial forests and orchards.

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Maha'ulepu is already a historic burial area, particularly in the coastal dunes and in caves. Some of the area's inherent power comes from that mana. Furthermore, people have scattered the ashes of family members along the coast and in the ocean. While not as costly as traditional burials, green burials are a business. Indeed, people would very likely pay for the opportunity to be buried at Maha'ulepu, to scatter family remains in the ocean or to commemorate loved ones with a fruit or forest tree.

*Agricultural Subdivision:*

The use of the valley for agricultural subdivision should have not even been posited because the land is designated IAL (Important Agricultural Lands). However, as depicted, 45 homes and 371 acres of diverse agricultural crops would likely generate more jobs than the dairy.

*Alternative Location for the Pasture-Based Dairy:*

This alternative location presented was an impossibility at the time the DEIS was being written. County real property tax records show that the alternative parcel (972 acres in Puni) was sold in 2013. To suggest it as an alternative site in the DEIS shows disrespect for the process. The DEIS failed to analyze several other parcels that could be seriously considered as alternatives and are owned by Grove Farm Co. or its subsidiaries, (Maha'ulepu Farms, Ha'upu Land Company, Visionary Lands).

Furthermore, sites not owned by Grove Farm could also have been considered. Nothing in the DEIS demonstrates a contract that obligates HDF to locate on Grove Farm Land. If there is such a financial commitment, it should be disclosed in the economic analysis because a non-revocable lease agreement constitutes a significant annual operational cost. Why was land exchanging not considered for state lands upcountry from Hanamaulu? Why were locations on other islands not considered? While these alternatives might mean short-term monetary losses for HDF and perhaps Grove Farm, long term relocation to a more suitable site could be cost saving and not present all of the negative impacts of the Maha'ulepu location. The Final EIS needs to take into consideration other reasonable locations both on Kauai and elsewhere in Hawaii that meet HDF's acreage and water access needs.

*No-Action Alternative*

This critical section of the EIS is self-serving. First, no agricultural alternatives to livestock grazing are considered. Landowner Grove Farm produced an agricultural master plan in 2008 which proposed significantly more kalo cultivation (300-400 acres) and leasing land for a variety of vegetable and fruit crops. Crop cultivation was to be directed by a "master farmer" and produce was to be packaged and distributed from the old Koloa Mill Site. Continuing to work to fulfill this plan is an equally valid status quo alternative to the dairy.

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Furthermore, the assumption that raising cattle would eliminate "special provisions for managing agricultural land use, cover crops and runoff" implies that Grove Farm, the landowner, would never embrace or require best management practices of ranchers. Avoiding NRCS standards would not be possible with an increased number of cattle in the valley.

#### *Smaller Herd Size*

Another important alternative is the implementation of a smaller herd size. It may be that the site cannot responsibly support the 699 cows. The amount of milk that several alternative herd sizes would produce should have been included, as well as the longer period the project would have to attain profitability.

#### *Conventional Feedlot:*

The conventional feedlot dairy alternative is highly improbable. This type of operation is currently struggling on the Big Island and elsewhere. On the other hand, since any dairy operation would achieve the stated purpose of increasing local milk production, a dairy herd of any size including a small feedlot operation with various manure management techniques such as methane digestion, would be an equally possible alternative.

#### **Revised Draft EIS**

It has come to the attention of community members and Maha'uiepu stakeholder groups that HDF has modified the DEIS before and during the 45 day public comment review period in response to feedback from the reviewing agency. This creates a moving target for review as it is impossible to ascertain what components of the DEIS have been modified and thereby decreasing the usefulness of public comments.

HDF must prepare a Revised Draft EIS to allow reviewers to comment on an un-modified draft. Although an EIS is prepared in two phases (i.e., a draft and final phase), the draft EIS must fulfill and satisfy, to the fullest extent possible, the requirements established for an FEIS. 40 C.F.R. § 1502.9(a). NEPA regulations mandate that "[i]f a draft statement is so inadequate as to preclude meaningful analysis, the agency shall prepare and circulate a revised draft of the appropriate portion." Id. The DEIS modifications prior and during the public comment period effectively undermines "the twin goals of environmental statements: informed decisionmaking and full disclosure" by depriving the public and decisionmakers of the chance to understand those impacts, and to review and comment on an analysis of those impacts. These EIS Rules are codified under chapter 200 of the Hawaii Administrative Rules.

#### **Conclusion:**

Malama Maha'uiepu believes that deficiencies in the DEIS, along with ongoing modifications to the draft, frustrate informed public discourse about the impacts of the proposed dairy operation,

*Malama Maha'uiepu*

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prevent decisionmakers from considering an adequate range of alternatives and making an informed choice among alternatives, and thus violate the mandates of NEPA.

We request that DOH remedy the deficiencies described and allow the public to provide comments on the DEIS before making any decisions about the dairy operation.

Malama Maha'uiepu requests that the reviewing authorities find this DEIS incomplete and premature. Without including changes made to the document prior and during the public review, the project is not in compliance with the environmental review laws of the State of Hawaii. We request that the DEIS be resubmitted when the missing information can be included and when the above-mentioned inconsistencies, omissions, misstatements, inaccuracies, and other comments have been adequately addressed.

Community participation is key to developing a comprehensive EIS and we appreciate this opportunity to share our remarks. We look forward to providing thoughtful review and scrutiny to the revised DEIS document.

With Aloha,

Greg Peters  
Executive Director,

Malama Maha'uiepu  
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*Malama Maha'uiepu*

*Comments on DEIS for Hawaii Dairy Farms' Proposed Dairy Operation*



January 3, 2017

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The development and long-term operation of HDF will be in full compliance with its agricultural State Land Use District designation, ALISH classifications, and County zoning. The dairy farm will embody the intent of the IAL designation per the Hawai'i State Constitution, by using these protected lands for the intended purpose of diversified agriculture, food production and agricultural self-sufficiency. HDF development of a dairy also supports the "secondary intent" for lands in the Agriculture land designation, to provide an opportunity for Kaua'i citizens to reside in an agricultural community. This is in contrast to the described "agricultural subdivisions" that have changed parts of Kaua'i intended for a rural landscape, with development as quasi-suburban landscapes dotted with residences on large lots.

#### Dairy Herd Size

HDF is committed to establishing a herd of up to 699 mature dairy cows to demonstrate the pasture-based system as an economically and environmentally sustainable model for Hawai'i. Precision agricultural technology that monitors cows' health, grass productivity, and effluent management will be used to ensure environmental health and safety, as well as best management practices, and help determine the ultimate carrying capacity of the land.

Carrying capacity is determined by nutrient inputs and outputs. HDF operations will follow the practice standards of the Natural Resources Conservation Service (NRCS). A Technical Service Provider knowledgeable in NRCS Conservation Practices was retained to work with HDF technical advisors in determining a nutrient balance for the Maha'ulepu site. Application of manure can benefit soils by improving organic matter which helps to increase water infiltration and improves the soils' ability to support pasture growth and root establishment. Components of a Nutrient Management Plan developed for HDF is described in the EIS Section 3.5.4.2 *Nutrient Balance* and are included in the *Nutrient Balance Analysis for Hawai'i Dairy Farms* attached to the EIS as Appendix D.

With proven success at a herd size of 699, HDF will contemplate the possibility of expanding the herd in the future. For dairy operations with 700 or more mature dairy cows, regardless if the operation is feedlot or pasture-based, additional regulatory review and permitting by the State Department of Health would be required. The application process for a National Pollutant Discharge Elimination System (NPDES) Concentrated Animal Feeding Operation (CAFO) permit includes public notification and input. At the discretion of HDF, management may choose to submit an application to expand operations up to the carrying capacity of the land, which is estimated to be up to 2,000 productive milking dairy cows. Permit process compliance would be followed at such time HDF may decide to pursue an expanded operation.

#### Groundwater

The depth to groundwater within the alluvial layer is varied. The relatively shallow groundwater within the alluvial material (highly weathered lava composed of silty clay) is hydrologically separated from deep groundwater (the source of the County drinking water wells) that lies within unweathered volcanic material. Wells drilled into the shallow alluvial groundwater bodies to facilitate water quality monitoring reveal that the depth to groundwater ranges from 8 feet below surface to 24 feet below surface. In general, groundwater in the alluvium slopes downward in the mauka to makai direction, but not at the same gradient as the land surface. Depths to groundwater will not be the same across the site. Groundwater levels in the alluvial layer are 30-feet to more than 50-feet higher than the piezometric head of the groundwater in the confined underlying volcanic series, which is the source of drinking water. Sections 4.1.6 *Hydrology* and 4.1.7 *Surface Water Resources & Nearshore Marine Environment* and Appendices E and F contain further information on the analyses.

#### **Subject:** Hawai'i Dairy Farms Final Environmental Impact Statement (EIS)

Maha'ulepu, Kōloa District, Kaua'i, Hawai'i

Response to Comment on Draft EIS

Dear Mr. Peters:

Thank you for your input dated July 25, 2016 on the Hawai'i Dairy Farms (HDF) Draft EIS. The following responses are offered to your comments.

#### Pastoral Rotational Grazing Dairy Examples

Successful pastoral dairies exist at numerous locations in New Zealand, as well as suitable farming regions in the United States. Several rotational grazing dairy operations located in Florida and Georgia operate successfully, with farms containing over 2,000 animals. Successful rotational grazing dairies also exist in Maryland, North Carolina, and Missouri. Numerous articles and publications on rotational grazing dairies are cited in *Progressive Dairyman* and other industry news sources.

#### Natural/Cultural Environment

The natural environment of Kaua'i is embodied by active farming on lands intended for agriculture. The EIS addresses the existing visual and aesthetic resources of the dairy site, and the potential impacts of Hawai'i Dairy Farms. EIS Section 4.5 addresses potential effects to public scenic views. The County of Kaua'i General Plan identifies the HDF site as agricultural land in a region consisting of open space, parks, and conservation lands in the mountains and along the coast. The important visual landforms identified in the surrounding region are Pu'u Huihui Crater to the southwest, the scenic roadway corridor of Ala Kioiki Road, and the Hā'upu Mountains that surround the project area to the northeast.

The dairy site is not visible from public vantage points along public roadways and areas along the coastline. Vegetation and topography screen public views of the Maha'ulepu Valley lowlands. Dairy farm structures will conform to County height limits for agricultural zoned land. These items are in keeping with the agricultural character of the area, and would be expected to have minimal to no impact on public views of the Pu'u Huihui crater, views from the Ala Kioiki Road corridor, or the views of the Hā'upu Mountains surrounding the project.

#### Surface Water and Nearshore Marine Water Quality

There will be ongoing natural inputs to Waipili Ditch contributed from the overall watershed and the agricultural lands bordering the ditch downstream of the dairy. With the measures being taken by the dairy to actively manage surface runoff, nutrients and suspended sediments, concerns about the potential effects of dairy operations to ocean beach recreation are not anticipated.

Complaints from the public citing the high levels of enterococcus in Waipili Ditch and public concerns about the proposed dairy prompted the Hawai'i State Department of Health (DOH) Clean Water Branch (CWB) to conduct a "Sanitary Survey" of the Māhā'ulepū sub-watershed and the adjacent Waikomo watersheds. DOH CWB conducted water sampling within the Waipili Ditch and areas upstream, and initiated a series of investigations into water quality issues. The Sanitary Survey findings resulted in an expression of concern by DOH CWB that the number of injection wells and cesspools in the adjacent Waikomo watershed, which includes Kōloa and Po'ipū, are impacting the waters of the Waipili Ditch.

The geological and hydrological composition of the highly urbanized Po'ipū/Kōloa watershed differs from Māhā'ulepū sub-watershed, resulting in different rates of groundwater movement. Groundwater velocity under the proposed HDF site is on the order of 1.2 feet per day, while the groundwater under the Po'ipū-Kōloa watershed area averages 10 feet per day. The faster movement of groundwater reduces the attenuation period of bacteria, viruses, and nutrients that occurs with movement through soils.

The Part 1 Sanitary Survey found no significant impact to the ditch from any activity that could be attributed to the dairy. Feral animal waste, decaying organic debris and inputs from existing agricultural operations may all be contributing factors to the fecal indicator bacteria (FIB) levels in ditches running through Māhā'ulepū Valley. CWB noted that Waipili Ditch is a man-made drainage ditch on private property, and is not an inviting recreational body of water utilized by people. Further testing is needed to more clearly identify whether the source(s) of FIB is human or animals, and DOH CWB has partnered with a University of California laboratory to more definitively determine the source of the fecal contamination in Waipili Ditch. Results will be published as Part 2 of the Waipili Ditch Sanitary Survey. The Waipili Ditch Sanitary Survey, Kauai Part 1 can be accessed on the DOH Clean Water Branch website under "Library" (<http://health.hawaii.gov/cwb>).

Long-term ocean water quality monitoring has been initiated to provide a baseline for the nearshore ocean waters. HDF will regularly sample and analyze nutrient and chemical constituent levels in the near-shore marine environment. Data from the nearshore water monitoring program will be made available to the DOH CWB, dairy neighbors and the local Kauai community, and will allow for evaluation of possible contamination sources.

#### State Water Policies

With the management measures in place, the limited effects of the dairy operations will be consistent with State Water quality policies. The minor contributions of nutrients from episodic rainfall anticipated to occur just 10 days annually from dairy operations will not adversely affect ocean water quality and the marine environment. The nearshore area is a highly mixed environment which actively disperses inputs within several meters from shore. Comparing nutrient constituents in surface water samples taken from the HDF site and the agricultural ditches down gradient to nutrients sampled in the nearshore ocean water revealed that indicator bacteria were substantially lower in the ocean than in the ditch. The rapid decrease is likely a result of both physical mixing of water masses and toxicity from saline water. In any event, the

elevated levels of indicator bacteria do not extend beyond the shoreline. Baseline water quality data and the surface and marine water impact report is included in the EIS as Appendix F.

#### Technical Appendices Comments

Your comments address several of the EIS technical reports included in the appendix. This response addresses each of your comments. We further direct you to the responses to EIS comments on the EIS technical studies, which are included as addendum memoranda attached to the relevant study.

#### Appendix E - Groundwater and Surface Water Analyses

Groundwater levels are addressed in the groundwater study by TNWRE (EIS Appendix E). Rainfall rates and use of non-potable surface water is addressed in the Nutrient Balance Assessment. The study addresses groundwater and surface water flows through the property.

HDF notes in its NBA that it will not irrigate within 2 days and after 2 days of a significant rain event, allowing the pasture to dry. The soils will not be saturated on a regular basis with irrigation as effluent and irrigation will be applied not to exceed the agronomic need of the crop. Runoff will be attenuated by the thick kikuyu thatch created by the establishment of "good" pasture conditions.

In terms of nutrient loading, HDF will not apply nutrients past the plant uptake requirements and agronomic need. In both the 699 mature dairy cow and 2,000 mature dairy cow scenarios, at a grass yield of 16.3 tons of DM per acre per year, there is simply not enough nitrogen nutrient from manure sources (as-excreted, liquid effluent, slurry applied) and a slight excess of phosphorus. HDF will not apply excess phosphorus because the herd size would be increased incrementally, to ensure no over-application of nutrients. Ultimately, commercial fertilizers will still be required. Nutrients are broken down quickly and absorbed by the crop. Cows are rotated so over-application of nutrients does not occur.

#### Appendix F - Surface Water Quality and Marine Assessment

Surface water chemistry results by MRCI are presented in EIS Appendix F. The EIS documents the existing conditions of the nearshore marine environment, including a characterization of the biotic environment where water flows to the ocean through Waipili Ditch. Comparing the characterization of nutrients and biological constituents from surface water samples to those water samples taken in the nearshore marine area reveal that indicator bacteria were substantially lower in the ocean than in the ditch. The rapid decrease is a result of physical mixing of water masses. The water sampling results show that elevated levels of indicator bacteria do not extend beyond the shoreline. See EIS Section 4.17.3 *Nearshore Marine Waters*, and Appendix F. Ocean water quality sampling and analysis demonstrates the reduction of terrigenous inputs from the Waipili Ditch discharge, due to the substantial physical mixing conditions in the nearshore ocean regime. High precipitation periods typically generate larger runoff events resulting in a greater extent for dispersion of the ditch runoff inputs into the nearshore waters.

#### Appendix K - Hydrologic Assessment

As you note, the hydrologic analysis by G70 provides a reasonable analysis of the storm runoff flows at the dairy farm. The rotational grazing operation will avoid excessive soils compaction in the paddocks. HDF intends to include best management practices to protect water quality within the man-made and natural portions of Waipili Ditch, as well as the coastal waters and beach. Such practices included installation of 35-foot wide vegetated buffers and filter strips, 50-foot setbacks with effluent irrigation, on-site retention

areas adjacent to the raised raceways, and development of the Kikuyu thatch which will attenuate surface runoff and prevent pollutants from reaching the on-site water ways.

If the off-site cutoff ditches are maintained as planned (and as agreed by the landowner), run-on towards the site will be significantly reduced (as it will be diverted along the valley walls and downstream of the HDF site), and therefore the potential for surface runoff through and from the paddocks is significantly reduced. This will reduce the amount of potential nutrient discharge through surface runoff, which is why the estimation of nutrient loss through surface runoff, utilized in the water quality assessments in the DEIS, is minimal from the farm site. Most of the rainfall will remain on-site and percolate for use by the crop.

#### Soils

As cited in your comments, the soils have been characterized properly in the EIS.

#### Climate Impacts

There are no State or Federal regulations for greenhouse gas emissions from farm operations or small businesses. However, livestock and agriculture as an industry contributes to greenhouse gas emissions, so HDF engaged a technical expert to model potential greenhouse gas (GHG) emissions based on the 2006 Intergovernmental Panel on Climate Change (IPCC) Guidelines for National Greenhouse Gas Inventories, as no dairy is currently in operation. The GHG emissions included methane and nitrous, converted to carbon dioxide equivalents (CO<sub>2</sub>e) using the IPCC's AR3 global warming potential (GWP) that relates the GHG to CO<sub>2</sub>. The IPCC Parameters for Oceanic dairy cattle in warm climates were selected as most applicable to the rotational-grazed dairy operation and conditions at HDF. See the EIS Sections 4.19 and 4.26, and Appendix I for complete information.

The emissions potential for GHG at HDF with the committed herd size of 699 mature dairy cows was estimated as 2,693 CO<sub>2</sub>e metric tons (2,969 U.S. tons) per year. This is equivalent to the GHG generated by 170 4-person households. Potential GHG emissions from the contemplated future herd size of up to 2,000 mature dairy cows was estimated at 7,705 CO<sub>2</sub>e metric tons (8,493 U.S. tons) which is equivalent to 485 4-person households. GHG estimates for household energy consumption includes home energy use, transportation and waste.

While the presence of cows may increase GHG, a long-term beneficial impact of the grazing fields is the sequestration of carbon as CO<sub>2</sub> captured by the process of photosynthesis by the grass. According to recent studies in the Soil Science Society of America Journal, converting formerly tilled cropland to grazed pasture can drive substantial accumulation of organic carbons in soil, which enhances soil quality, grass production, and has the potential to offset up to one-third the annual increase in CO<sub>2</sub> production of an area.

Operational practices to protect air quality by reducing nitrogen emissions will come from guidance in NRCS Conservation Practice Standard 590, Nutrient Management. Application of nutrients must be adjusted to minimize negative impacts of GHG release to the environment through adjustments to the source, timing, amounts, and placement of nutrients. Specific practices to be utilized at HDF include: slow release fertilizers; nutrient enhancement technologies; and stabilized nitrogen fertilizers.

#### Appendix C – Hawaii Dairy Farms Baseline Nutrient Status

We acknowledge your statements that HDF plans for proper pasture management will improve soil conditions through the management of vegetation and manure inputs. Soil nutrients will be tested and monitored on a regular basis.

#### Appendix D – Nutrient Balance Analysis

Annual monitoring of nutrient application is part of the requirements of HDF compliance with State DOH rules. The dairy will file regular compliance reports.

#### Roadways and Traffic

Truck transport of calves and mature cows to and from off-site ranches is accounted in the traffic projections for the EIS. EIS Sections 4.18 and 4.25 include an evaluation of roadways and traffic conditions, along with potential impacts of the dairy farm construction and operation. Traffic operations along Māhā'ulepū Road and the surrounding County roads are expected to continue to operate at acceptable levels of service during peak hours of traffic. HDF-related traffic would add less than one percent additional trips. These additional trips would have a minimal effect on traffic conditions at County roadways in the surrounding area. Delivery trucks and milk tanker trucks will be in compliance with State and County size and weight limits; no oversized vehicles will be used for ongoing operations.

#### Cultural Practices and Resources

As part of the EIS process, the HDF project is subject to a historic preservation review by the State Historic Preservation Division under Hawai'i Revised Statute Chapter 6E and Chapter 13-284. An Archaeological Inventory Survey and a Cultural Impact Assessment were conducted by Scientific Consultant Services for the proposed project. Members of the cultural community on Kauai were interviewed as part of the CIA. Sections 4.7 and 4.8 of the EIS provide an evaluation of archaeology and cultural resources, with the full reports in Volume 2, Appendices G and H. This included communication with organizations having knowledge of the project area, its cultural resources, and its practices and beliefs. Letters were sent to generally engage with the cultural community, with follow up telephone inquiries and referrals. Outreach meetings included individual and small group discussions, site visits, and a large group meeting held in February 2015. Once interview candidates were identified, in-depth personal meetings were held with individuals willing to share such knowledge.

Traditional and historic use of the Māhā'ulepū area includes intensive sugarcane cultivation throughout the entire valley (including the project area), as evidenced by the infrastructure in the valley. Early 20th century maps also document the extent of the fields throughout the Kōloa area, showing the entirety of the current project area consisted of sugarcane lands. Based on the research and comments received from the community, it is reasonable to conclude that, pursuant to Act 50, the exercise of native Hawaiian rights or any ethnic group related to numerous traditional cultural practices will not be impacted by establishment of the dairy.

The State Historic Preservation Division accepted the AIS December 19, 2016 (Appendix G). SHPD concurs with the significance assessments and mitigation recommendations in the AIS, which identifies the 14 plantation-era sites within the project area as significant only under Criterion d (information potential). The letter states no further work is recommended for these sites (50-30-10-2251 through 2262). Two sites outside the Project Area, an enclosure (Site-2250) and a petroglyph complex (Site-3094), were assessed as

significant under Criterion d (information potential) and e (cultural value). The SHPD letter states that the current proposed project will not affect these two sites, and no further mitigation is recommended for the project.

Based on the AIS and CIA technical reports, no significant cultural resources are located on the HDF property. Access to adjacent properties will continue to be the responsibility of the land owner, Mahalepu Farm, LLC.

#### Demographic and Economic Conditions

EIS Section 4.15 addresses demographic and economic factors, with the complete report in Appendix J. Results of technical studies and the findings of this EIS show no unmitigated nuisances that could affect property values as a result of dairy construction or operations. No noticeable odors, flies, noise, waste or water discharges will impact resort or residential areas. Noticeable nuisance impacts outside the Dairy will be limited to adjacent farm and ranch lands owned by Maha'ulepu Farm, lessor of the Dairy property. As such, the dairy will not adversely affect residents, nearby recreational activities, guests in nearby resorts, or diminish property sales or property values in the area. Nuisance and footprints of typical dairies found on the mainland are not the same as HDF, which will be a modern facility that utilizes rotational pasture-grazing.

The review of property values adjacent to beef cattle operations in the Koloa region reveals newer homes with large square footage in a luxury residential community with 2016 assessed values of \$1,297,450 per lot, to \$2,893,100 per lot with a home. The proposed dairy will not adversely affect residents, nearby recreational activities, guests in nearby resorts, or diminish property sales or property values in the area.

#### Milk Business and Processing

HDF business agreements are proprietary and will not be announced publicly. Permits associated with the operations of other businesses are not the responsibility of HDF.

#### Air Quality and Odors

Unlike a conventional feedlot dairy facility that must collect and store all manure produces until future disposal, the majority of manure from a pastoral-grazing operation will be deposited directly on the pasture where it will break down and be incorporated into the soil within a one- to three-day period.

Without a dairy in operation, computer-generated modeling was used to determine the potential impact. Results for the committed herd size of 699 mature dairy cows using typical effluent irrigation conditions show that odors may be detectable by 50 percent of the sensitive population once per 200 hours, or just 44 hours per year, within one-quarter of a mile south of the dairy farm boundary. For wet periods, odor could extend approximately 2.15 feet (less than one-half of a mile) beyond the southern boundary. The closest public use areas beyond the odor extent south of HDF are a stable and golf course, both approximately 0.5 miles further south, and the closest residential and resort units are 1.3 miles beyond the possible odor extent (EIS Figure 4.19-1).

HDF has elected to restrict slurry application to periods when wind speeds are between 9 and 20 mph. With application at the most impactful location, paddocks south of the taro farm, the odor from slurry application barely crosses the southern boundary. Due to wind speeds within this range occurring on

average 243 days of the year, the 99.5<sup>th</sup> percentile is reduced to potentially perceiving the odor just 29 hours per year.

For the potential future contemplated herd size of up to 2,000 mature dairy cows, during unusually wet periods, with application at the most impactful location – paddocks south of the taro farm – the odor from slurry application could extend approximately 1,580 feet, or less than one-third of a mile. The odor isopleth for the typical irrigation effluent extends beyond the dairy farm boundary approximately 3,070-feet (over one-half mile) which would not reach recreational or residential areas. The parameters used in the analysis were intentionally conservative, and the impacts shown assume an unlikely confluence of worst-case meteorological data irrigation location, and grazing location. Actual offsite odor impacts are likely to be much lower and/or less frequent than shown.

Under either herd size, odors would not reach recreational or residential areas. Sections 4.19.2 and 4.25.2 of the EIS include graphics of the potential odor isopleths. The full odor report can be found in Appendix I. The comment regarding methane production is addressed earlier in this response under the climate subject.

#### Visual and Aesthetic Resources

The EIS addresses the existing visual and aesthetic resources of the dairy site, and the potential impacts of Hawai'i Dairy Farms. EIS Section 4.5 addresses potential effects to public scenic views.

The County of Kaua'i General Plan identifies the HDF site as agricultural land in a region consisting of open space, parks, and conservation lands in the mountains and along the coast. The majority of the project area has gentle topography, with no evident physical features standing out within this broad agricultural valley. The dairy site is not visible from public vantage points along public roadways and areas along the coastline. Vegetation and topography screen public views of the Maha'ulepu Valley lowlands. Dairy farm structures will conform to County height limits for agricultural zoned land, and would be expected to have minimal to no impact on public views of the Pu'u Humihuni crater, views from the Ala Kinoiki Road corridor, or the views of the Ha'upu Mountains surrounding the project.

#### Flora and Fauna

There are no known caves or lava tubes found at or adjacent to the dairy farm property. The nearest cave of the Koloa Lava Tube System, which provides habitat for two endemic cave species, the Kaua'i Cave Wolf Spider and the Kaua'i Cave amphipod, is located .75 miles from the dairy farm property. There is no evidence of lava tubes or caves on the property, and no such features have been reported for the area near the HDF site. No cave invertebrate species will be affected by the dairy farm.

Based on hydrological knowledge derived from all drilled wells analyzed by Nance, the downslope movement of ground water from below the pastures toward the habitats of listed arthropods will not reach into the referenced habitats. Recognizing that the food supply of the wholly saprophagous amphipod is organic matter derived from roots and other decaying plant debris, and since nitrogenous and phosphoric nutrients will promote plant growth, their effects, if anything at all, can be expected to expand the food supply in this oligotrophic subterranean ecosystem.

#### Offsite Herd Management

Cattle ranching on Kana'i spans generations, and ranchers are stewards of the lands; healthy lands raise healthy beef cattle. Ranchers are experienced in animal welfare, and can collaborate with HDF to care for dairy cows during annual rest cycles and to raise calves until old enough to join the dairy herd. The availability of calves from a dairy such as HDF provides new animals to maintain or expand a beef herd.

Management of the calves and dry cows is discussed in EIS Sections 3.7 *Offsite Herd Management by Kana'i Ranchers* and Section 3.8 *Contemplated Herd Size*. Section 4.26.2 *Potential Secondary Effects* notes that HDF will provide a source of calves for the local ranching industry, possibly allowing ranches to replace their existing cow-calf operations and instead procure live calves. Each ranch will make decisions based on business and operational goals.

Section 4.20.2 *Potential Secondary Effects* documents anticipated offsite transportation as up to one truck trips per day for herd management to transport cows between HDF and the offsite ranches. For the contemplated herd size, Section 4.26.2 *Potential Secondary Effects* (Contemplated Herd Size) identifies two truck trips daily to transport cows between HDF and the offsite ranches.

#### Burial of Cows

HDF has adequately planned its cemetery site and incorporated Best Management Practices required to protect water resources surrounding the HDF site. The anticipated animal mortality rate for HDF is typically less than 2 percent for productive cows, with higher rates in young and stillborn calves, for a total of less than 5 percent for the herd. The animal cemetery is specifically located on the uphill side of the farm, in an area of relatively flat pasture. Site selection criteria for the cemetery paddock included protection from prevailing winds, and distanced more than 100 feet away from any drainageway, 200 feet from any natural watercourse, 300 feet from any well, and more than 20 feet from any buildings. Within the cemetery paddock, pits will be sited based on soil suitability and slope. An area of approximately 5,000 square feet is needed for the animal cemetery at the contemplated herd size of up to 2,000 mature dairy cows, which is a fraction of a 3- to 5-acre paddock.

A containment berm will be created around the pit area to prevent both run-off on to, and from, the cemetery site. Six (6) pits, approximately 20' x 40' overall and 8 to 10' deep, are designed to accommodate carcasses of up to 150 cows and 360 calves or stillborn animals at the contemplated herd size. Individual pits within the area will be a minimum of 2-feet wide with a length appropriate to bury the carcass. Pits will be lined in accordance with NRCS Conservation Practice Standard, Animal Mortality Facility Code 316, to protect groundwater quality. Each animal carcass will be dusted on all sides with ground limestone. The bottom of each pit will be also dusted. Pits can be reused every 18 to 24 months, which is the typical time for a carcass to decompose.

Pit bottoms will be level, and carcasses will be placed in a single layer and covered with at least 2 feet of organic material. Multiple layers may be created with subsequent burials, or additional area within the cemetery paddock may be used as needed. Based on preliminary analysis, HDF does not anticipate encountering groundwater in the cemetery paddock area when excavating the pits. The paddock area will not be grazed.

HDF may also consider procuring and installing an incinerator to use for managing mortality on the farm. The incinerator would meet the appropriate guidance from NRCS Conservation Practice Standard – Animal Mortality Code 316 as well as State and EPA emissions regulations, to ensure no adverse air quality impact from the incinerator operations.

#### Dairy Decommissioning

In the event of a future closure of the dairy operations, the owners would conduct decommissioning actions as required in compliance with the terms of the agricultural lease with Mahaulepu Farms, LLC. Your comment addresses decommissioning a potential wind farm, which is not relevant to the proposed action.

#### Effluent Storage Pond

HDF will comply with all regulatory requirements for siting of the effluent storage ponds. The EIS specifies the regulatory requirements in Section 3.3.2.4 *Effluent Storage Ponds*, and Figure 3.3-5 displays the 3,420-foot distance between the ponds and the public drinking water resources, and the 125-foot distance to the nearest on-site drainage ditch. Further, while the ponds' distances from water resources exceed the State of Hawai'i Department of Health *Guidelines for Livestock Management*, HDF has elected to line the ponds to protect against seepage into surrounding soil; the liner will meet the standards of the NRCS Practice Code 313.

The United States Department of Agriculture (USDA), NRCS, State of Hawaii Department of Health, and other published guidelines for agricultural practices within the United States agree that the 25-year, 24-hour event is the design standard for waste storage systems. Planning and designing for events greater than this is simply not required by regulators and unreasonable.

HDF has provided additional storage capacity beyond the 25-year, 24-hour storm event in the form of extra storage within the effluent ponds, as well as a secondary containment berm, which exceeds regulatory guidelines. The secondary containment area and berm essentially provides an additional 30 days of effluent storage, or nearly 50% more volume than the storage pond provides in the 2,000 cow scenario, enough to hold another two – 25-year, 24 hour storms.

#### Mitigation Measures

Pursuant to HRS Ch 343 and Title 11-200 HAR, Section 4.0 of the HDF EIS includes the presentation and discussion of mitigation measures to minimize or avoid potential impacts. Substantial mitigation actions are included in the planned design and operation of the dairy. As appropriate, significant mitigation measures will be implemented to minimize or avoid adverse effects to the natural and human environment.

#### Alternatives

As a part of the EIS, alternatives were evaluated that could attain the objectives of the action's purpose and need, and were compared with environmental benefits, costs, and risks of each reasonable alternative against those of the proposed dairy project. Further discussion of alternatives can be found in EIS Section 6. Of all the alternative actions and locations considered, the planned agricultural operations of Hawai'i Dairy Farm is the only approach that achieves project objectives and meets each of the five Evaluation Criteria described in EIS Section 2.3.4.

The suggested alternative for conservation condemnation/easement would not satisfy the project objectives and evaluation criteria. Further, we are not aware of any serious proposal or offer for conservation easement being made to the landowner. Another suggested alternative for cemetery operation would not satisfy the project objectives and evaluation criteria. These options would preclude the food production capacity of this important agricultural land, as designated by the County and State.

Alternative dairy locations were carefully evaluated in the EIS, with specific consideration of achieving the project objectives and meeting each of the five Evaluation Criteria. The selected site represents the best option among those considered. The alternative location studied in the EIS is a valid representation of other siting options available. Preliminary site screening found other locational options to have unsuitable or less desirable conditions for the dairy in terms of land control, IAL status, soils, slopes, climate, water courses, neighboring uses, access and other factors.

To provide a meaningful analysis, the EIS evaluation of other alternatives (no action, agricultural subdivision, conventional feedlot) each included quantitative estimates of potential uses and associated impacts.

#### Draft EIS Content

The publication of the Draft EIS included information necessary to meet the content and submittal requirements pursuant to HRS Ch 343 and Title 11-200 HAR. All reviewers of the Draft EIS were provided the same information on the same date.

The modifications to the 2014 Waste Management Plan were submitted to the Department of Health "shortly before" the Draft EIS was published two weeks later. The Draft EIS analyzed the project elements, including those summarized in the letter to DOH. The Waste Management Plan is a technical document that is not part of the EIS or subject to public review and comment. However, all of the nutrient information is addressed in the EIS as part of the Nutrient Balance Analysis.

Your comment, along with this response, will become part of the public record and will be published in the Final EIS. A copy of the Final EIS is included on a compact disc with this letter. When published, the Final EIS will be available on the DEQC website which you can access using the following URL, and search "Hawai'i Dairy Farms": <http://tinyurl.com/OEQCKAUAI>.

Thank you for your participation in the environmental review process.

Sincerely,

GROUP 70 INTERNATIONAL, INC.



Jeffrey H. Overton, AICP, LEED AP  
Principal Planner

cc: Hawai'i Dairy Farms  
Hawai'i State Department of Health,  
Environmental Planning Office



July 24, 2016

Dr. Laura McIntyre  
Hawaii Department of Health  
1250 Punchbowl St.  
Honolulu, Hawaii 96713

Dear Dr. McIntyre:

The Hawaii'i Farm to School and School Garden Hui which includes over 168 school gardens, 21,577 students, 830 teachers, and 30 acres of land, was first established in the fall of 2010 and currently includes the islands of Kaua'i, Oahu, Maui, Lāna'i, Moloka'i, and Hawai'i.

HFSSGH's commitment to our K-12 youth includes providing access to increasing sources of local foods including milk since locally grown foods are much less likely to lose their nutritional value before being consumed by our residents than imported foods.

Maui's last dairy, Haleakala Dairy, owned by the Baldwin family, was purchased by Meadow Gold's Southern Foods Corporation centered in Dallas, Texas in 1998 due mainly to increasing costs of feed for the cows and price competition from the mainland, thus leaving only one local dairy left in the state of Hawaii. With the reduction in access to milk produced locally, island residents have held the wish that eventually a model could be presented to us that would return dairy farming to our islands at a cost that would make the industry profitable to run and affordable for distribution to our schools and our supermarkets. We understand that Kaua'i was found to be the optimal location for a second local dairy and Maha'ulepu valley was selected due to its Agricultural Land designation, growing conditions, and access to required operational inputs.

The proposed Hawaii'i Dairy Farms for Kaua'i offers a model Hawaii'i residents need. Cows will be fed on grass, thus reducing costs of imported feed considerably. As grass-fed cattle, they will rotate through various paddocks thus assuring soil nutrients are applied evenly and the grass is able to grow and be maintained as a feed source. Attention to the movement of the cattle and proper distribution of manure are integral to this model. In addition, the "offsite processing element would significantly reduce the overall time for milk and milk products to get from farm to table." Thus, the model responds to questions of cost, nutrition, job creation, and increase in the potential for our children to see farm related careers as a viable means for establishing their own homes here in the islands and raising a family. The findings of the EIS demonstrate that Hawaii Dairy Farms will be protective of the environment and serve as a model for sustainable agriculture in the islands. Please help to support the Hawaii'i Dairy Farms' initiative which will assist us in meeting the nutritional needs of all our residents by expanding access to local milk and milk products.

Sincerely,  
Ms. LeAnn Huff, Director  
Maui School Garden Network  
PO Box 458, Haiku, Hawaii 96708  
[www.mauischoolgardennetwork.org](http://www.mauischoolgardennetwork.org)  
(808) 250-8323  
[mshgn@hawaii.rr.com](mailto:mshgn@hawaii.rr.com)



January 3, 2017

Ms. Lehn Huff

Director  
Maui School Garden Network  
P.O. Box 458  
Haiku, Hawaii 96708

**Subject:** Hawaii Dairy Farms Final Environmental Impact Statement (EIS)  
Māhā'ulepū, Kōloa District, Kaua'i, Hawaii  
Response to Comment on Draft EIS

Dear Ms. Lehn Huff:

Thank you for your letter dated July 24, 2016 regarding the Hawaii Dairy Farms (HDF) Draft EIS. We acknowledge your comments in support of the HDF EIS.

Your comment, along with this response, will become part of the public record and will be published in the Final EIS. A copy of the Final EIS is included on a compact disc with this letter. When published, the Final EIS will be available on the OEQC website which you can access using the following URL, and search "Hawaii Dairy Farms": <http://tinyurl.com/OEQCKAUAI>.

Thank you for your participation in the environmental review process.

Sincerely,

GROUP 70 INTERNATIONAL, INC.

Jeffrey H. Overton, AICP, LEED AP  
Principal Planner

cc: Hawaii Dairy Farms  
Hawaii State Department of Health,  
Environmental Planning Office

Sincerely,

Thank you for considering my concerns and meticulously analyzing the Dairy's plan and the risks it poses both environmentally and economically.

Aloha,

I am a Kauai resident and am employed on the Southshore and am concerned about the proposed dairy Hawaii Dairy Farms has planned in Mahaulepu Valley.

Reasons for potential concern:

- From a simple Risk/Reward viewpoint, the dairy is creating 5 direct jobs and 6 indirect jobs. The dairy puts at risk the thousands of jobs of those employed in the Koloa/Poipu area. The dairy will produce \$60,000 in tax revenues for the State and \$51,000 in revenues for the County and will put at risk the livelihood and property values of residences and businesses in Koloa/Poipu which currently generate over \$28,000,000 in property taxes alone, not to mention reduced GET, TAT, employment and income taxes.
- Section 4-4 (p.96) of the Draft EIS, table 4.1-1 is a chart of monthly rainfall data for the area dated from 1904-1983. Making a statement on the average rainfall in the area using data ending more than 33 years ago seems wrong and brings into question why they would use such data.
- We don't want to be a test center, the Dairy plan is very experimental with no other successful examples cited in the world of a rotational grazing operation in a tropical climate with the number of cows planned. Much less one less than two miles upstream from the ocean.
- The Draft EIS states that due to Kauai's rural nature, most homes are within one mile of some agricultural activity, which may be true but not within one mile of an industrial animal operation. Most cattle ranging currently are in much lower densities. We have seen the problems caused and remember the smell from the Anahola dairy.
- It is just difficult to believe that "The dairy will not adversely affect residents, recreational activities, guests at nearby resorts, or diminish property sales or values in the area." And that "no noticeable odors, flies, discharge or waste will reach resort or residential areas".
- The projected odor detection map figure 4.19-1 indicates that in a worst case scenario the odor will travel no more than 1 mile yet experts, other than those hired by HDF for the Draft EIS, have determined that it has the potential to travel across the virtually all of Koloa/Poipu.

PRINCIPALS

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Sincerely,



## Impacts from Hawaii Dairy Farms

- Milk from the dairy does not stay on Kauai, it will be shipped to Oahu for processing and sold statewide which is not a case for food sustainability as HDF claims.
- The Grand Hyatt Kauai is the largest private employer on Kauai with nearly 1,000 employees. In contrast, the dairy will create only 5 farm jobs.
- In interviews conducted in 2015, 46% of Grand Hyatt Kauai guests indicated they may not return if there is a dairy. Decreased visitors means significant job loss potential, vendor reductions and tax revenue declines at the hotel.
- Virtually all businesses in Poipu would be affected. Only 51% of guests surveyed indicated they would return to Poipu if the dairy is built due to odor and flies. Biting flies and odors can travel miles, with a reach across most of Koloa/Poipu.
- Each cow will produce 122 pounds of manure per day. 699 cows will produce 85,278 pounds of manure each day totaling over 31 million pounds per year. If they later expand to their desired size of 2,000 cows, that will mean 244,000 pounds per day and over 89 million pounds per year of manure. The amount of manure just for the first phase (699 cows) would be equal to a human population of 98,000, 40% larger than the current population of Kauai. They will be spraying dried manure back onto the pastures as "fertilizer".
- Only 70% of the diet of the dairy herd will be from pasture grazing (not 100% as originally stated). The remainder will be feed shipped in.
- The dairy proposes dung beetles as the answer to manure and flies. This is not an effective solution as dung beetle activity is seasonal while manure will be produced year-round and flies will continue to breed in that manure.
- Hawaii Dairy Farms now admits that they will not be a zero-discharge operation. There will be discharges to the Waiopili Stream/Ditch which goes to the ocean in 1.7 miles. Manure particles will be carried in to the ditches and downstream into the ocean with storm water flows. Simply calling raw, untreated manure fertilizer does not mean it will not foul the air, streams and ocean.

The Draft EIS can be downloaded at

[http://oedc.doh.hawaii.gov/Shared%20Documents/EA\\_and\\_EIS\\_Online\\_Library/Kauai/2010s/2016-06-08-KA-5E-DEIS-Hawaii-Dairy-Farms.pdf](http://oedc.doh.hawaii.gov/Shared%20Documents/EA_and_EIS_Online_Library/Kauai/2010s/2016-06-08-KA-5E-DEIS-Hawaii-Dairy-Farms.pdf)

- Comments on the Draft EIS are due by **JULY 25, 2016**. If you have concerns about the dairy send written comments to the following addresses (via email or mail):

Laura McIntyre  
Environmental Planning Office  
Hawaii State Department of  
Health  
1250 Punchbowl Street  
Honolulu, HI 96813  
DOH.epo@doh.hawaii.gov

Jeff Overton  
Principal Planner  
Group 70 International, Inc.  
925 Bethel Street, 5<sup>th</sup> Floor  
Honolulu, Hawaii, 96813  
HDF@Group70Inc.com

Amy Hennessey  
Hawaii Dairy Farms, LLC  
PO Box 1690  
Koloa, HI 96756  
info@hawaiidairyfarms.com

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Thank you for considering my concerns and meticulously analyzing the Dairy's plan and the risks it poses both environmentally and economically.

Sincerely,





on-site will be used as natural fertilizer to grow grass. This cost-effective method reduces imported fertilizer and feed, and minimizes potential impacts to the environment.

The planned Hawai'i Dairy Farms ("HDF" or "Dairy") will be the first in Hawai'i to employ rotational pasture-grazing. Benefits of pasture grazing include, but are not limited to, improved grass growth, even deposits of manure for fertilization, improved soils, and reduced erosion and runoff. The Dairy will feature modern facilities and practices, and will comply with all applicable Federal and State environmental standards.

#### Residential Areas

The closest homes to the dairy site boundary are located about one mile away in a small agricultural subdivision along Ala Kinoiki, which adjoins active agricultural lands to the north and east. The distance to the center of the dairy operations from these homes is approaching two miles. Several criticisms of HDF are based on the erroneous equation of a conventional feedlot dairy being the same as the rotational pasture-grazing design to be used by HDF. Additionally, the opponents have conducted environmental assessments for various resources that contradict those of HDF. Each assertion of impact, including odors, flies, and polluted runoff, is based on wildly different assumptions and in some cases, incorrect data. These assertions are addressed throughout the EIS relevant to the resource evaluated. HDF stands by the environmental analyses conducted for this EIS, which shows the dairy will not create nuisance impacts that reach beyond surrounding agricultural lands.

#### Air Quality/Odors

Unlike a conventional feedlot dairy facility that must collect and store all manure produces until future disposal, the majority of manure from a pastoral-grazing operation will be deposited directly on the pasture where it will break down and be incorporated into the soil within a one- to three-day period.

Without a dairy in operation, computer-generated modeling was used to determine the potential impact. Results for the committed herd size of 699 mature dairy cows using typical effluent irrigation conditions show that odors may be detectable by 50 percent of the sensitive population once per 200 hours, or just 44 hours per year, within one-quarter of a mile south of the dairy farm boundary. For wet periods, odor could extend approximately 2,151 feet (less than one-half of a mile) beyond the southern boundary. The closest public use areas beyond the odor extent south of HDF are a stable and golf course, both approximately 0.5 miles further south, and the closest residential and resort units are 1.3 miles beyond the possible odor extent (EIS Figure 4.19-1).

HDF has elected to restrict slurry application to periods when wind speeds are between 9 and 20 mph. With application at the most impactful location, paddocks south of the taro farm, the odor from slurry application barely crosses the southern boundary. Due to wind speeds within this range occurring on average 243 days of the year, the 99.5<sup>th</sup> percentile is reduced to potentially perceiving the odor just 29 hours per year.

For the potential future contemplated herd size of up to 2,000 mature dairy cows, during unusually wet periods, with application at the most impactful location - paddocks south of the taro farm - the odor from slurry application could extend approximately 1,580 feet, or less than one-third of a mile. The odor isopleth for the typical irrigation effluent extends beyond the dairy farm boundary approximately 3,070-feet (over one-half mile) which would not reach recreational or residential areas. The parameters used in the analysis were intentionally conservative, and the impacts shown assume an unlikely confluence of worst-case meteorological data irrigation location, and grazing location. Actual offsite odor impacts are likely to be much lower and/or less frequent than shown.

Under either herd size, odors would not reach recreational or residential areas. Sections 4.19.2 and 4.25.2 of the EIS include graphics of the potential odor isopleths. The full odor report can be found in Appendix I. Your comment, along with this response, will become part of the public record and will be published in the Final EIS. A copy of the Final EIS is included on a compact disc with this letter. When published, the Final EIS will be available on the OEQC website which you can access using the following URL, and search "Hawai'i Dairy Farms": <http://hinyurl.com/OEQCKAUAI>.

Thank you for your participation in the environmental review process.

Sincerely,

GROUP 70 INTERNATIONAL, INC.



Jeffrey H. Overton, AICP, LEED AP  
Principal Planner

cc: Hawai'i Dairy Farms  
Hawai'i State Department of Health,  
Environmental Planning Office



July 20, 2016

Via email transmittal: [doh.eop@doh.hawaii.gov](mailto:doh.eop@doh.hawaii.gov)

Attention: Laura McIntyre  
State of Hawaii – Department of Health

Aloha Ms. McIntyre:

The Poipu Beach Resort Association (PBRA) is a member-based organization of nearly 100 businesses primarily located on the South Shore of Kauai. Our membership includes hotels, condominiums, vacation rentals, management firms, activity operators, shopping and dining establishments, services and other related firms and individuals, ranging from small, owner-operated businesses to some of the largest employers on the island. We are a 501(c)(6) organization whose primary mission is to the market the Poipu area as a world-class destination and to provide for the future of Poipu as a great place to live, work, visit and do business.

Poipu is recognized as one of the highest-rated resort destinations in the world. The PBRA is committed to ensuring that Poipu continues to offer our guests exceptional visitor experiences and our kama'aina with a quality place to live, work and play. We are issuing this statement of concern that the Hawaii Dairy Farm could have a negative impact on the businesses in the Poipu area, adversely affecting our thriving economic center and quality of life in Poipu.

Sincerely,  
  
Roy Thompson  
President

P.O. Box 730 | Poipu, Kauai, Hawaii 96756 | [info@poipubeach.org](mailto:info@poipubeach.org) | 808.742.7444



January 3, 2017

Roy Thompson, President  
Poipu Beach Resort Association  
P.O. Box 730  
Poipu, Hawaii 96756

**Subject:** Hawaii Dairy Farms Final Environmental Impact Statement (EIS)  
Māhā ūlepi, Kōloa District, Kauai, Hawaii  
Response to Comment on Draft EIS

Dear Mr. Thompson:

Thank you for your input dated July 20, 2016 on the Hawaii Dairy Farms (HDF) Draft EIS. The following responses are offered to your comments.

Results of technical studies and the findings of this EIS show no unmitigated nuisances that could affect property values as a result of dairy construction or operations. No noticeable odors, flies, noise, waste or water discharges will impact resort or residential areas. Odor is a nuisance impact that may reach beyond the dairy boundaries but will be limited to adjacent farm and ranch lands owned by Mahaulepu Farm, LLC, lessor of the dairy site, and would occur for limited and infrequent duration. As such, the dairy will not adversely affect residents, nearby recreational activities, guests in nearby resorts, or diminish property sales or property values in the area. EIS Section 4.15 addresses demographic and economic factors, with the complete report in Appendix J.

Your comment, along with this response, will become part of the public record and will be published in the Final EIS. A copy of the Final EIS is included on a compact disc with this letter. When published, the Final EIS will be available on the OEQC website which you can access using the following URL, and search "Hawaii Dairy Farms": <http://tinyurl.com/OEQCKAUAI>.

Thank you for your participation in the environmental review process.

Sincerely,  
GROUP 70 INTERNATIONAL, INC.



Jeffrey H. Overton, AICP, LEED AP  
Principal Planner

cc: Hawaii Dairy Farms  
Hawaii State Department of Health,  
Environmental Planning Office

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MALAMA I KA HONUA  
*Cherish the Earth*

July 25, 2016 [VIA email]

Jeff Overton (HDF@Group70int.com)  
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Laura McIntyre (doh.epo@doh.hawaii.gov)  
State of Hawaii, Department of Health  
Environmental Planning Office  
1250 Punchbowl Street  
Honolulu, HI 96813

RE: Comments on Draft Environmental Impact Statement (DEIS) for Hawaii Dairy Farms'  
Proposed Dairy Operation

Aloha:

Thank you for the opportunity to comments on the above referenced DEIS.

**Project Objective #2.** Please cite specific examples of “proven, sustainable pastoral grazing systems” that reduce reliance on fertilizer and feed. Since the New Zealand-based model is not successful, where are the successful models found?

**Carrying Capacity.** With regard to expanding operations from 699 to 2,000 milking cows, please provide data that addresses increased nutrient loads in surface waters and the likelihood of those levels impacting nearshore marine resources.

**Groundwater Discharge.** Please explain why drainage of groundwater into the ditches running through the lower portion of the HDF site would not occur during times of high rainfall.

**Surface Water Contamination.** The intermittent streams and agricultural ditches in this watershed contain high levels of animal waste pollutants. Since the surface water quality is already degraded, please explain how the proposed dairy will not have additional impacts.

Please provide additional data for marine water quality testing during periods of high streamflow of Waioipili Stream where it discharges into the ocean. The nearshore water testing data study was insufficient.

Despite 35-foot buffers around all waterways on site, with stormwater flows, manure particles could run off into drainage ditches and downstream.

During heavy rainfall and runoff events, please explain how pollutant concentrations and loads will not increase during these periods. Large volumes of runoff, raises concerns that significant non-point source pollution can occur.

**Climate Change.** Livestock, such as dairy cows, are a known, large source of greenhouse gas emissions (methane) and will contribute to climate change.

**Soils.** What steps will be taken on an ongoing basis, to monitor soil health and soil nutrients and implement actions for management that will minimize environmental risks?

**Cultural Impact Assessment (CIA).** The CIA does not provide adequate information related to the loss of future access to cultural places and cultural practices based on the concerns voiced by community members who were interviewed. What mitigation measures can be taken to address these impacts?

**Economic Impacts.** Nuisance impacts “could result in reduced tourism, sales, employment, salaries and wages, property values and personal wealth.” The significant potentials for economic losses and mitigation measures were inadequately addressed in the DEIS.

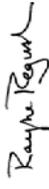
Please provide a detailed cost benefit analysis of the proposed project as the basis for determining economic and fiscal impacts. The analysis should address product demand and provide consistent figures for how much milk may be produced.

**Alternatives Analysis.** There are too few alternatives described in the DEIS despite NEPA’s mandate that a range of alternatives be provided for decision making. Furthermore, it was misleading to include the 972-acre Puhi parcel as an alternative location because Grove Farm sold the property in 2013. Please explain the omission of other potential locations for dairy operations.

**Draft EIS Not in Compliance.** Due to document modifications presented to reviewing agencies during the public comment period, the opportunity for meaningful and accurate public comments on the DEIS is undermined. The DOH should require HDF to resubmit an integrated and comprehensive WMP and DEIS wherein the Dairy Plan is consistent throughout. The comment period on the DEIS should not begin until HDF has resubmitted complete, consistent documents for review and the public has been notified.

Thank you in advance for your consideration.

Mahalo,



Rayne Regush  
Executive Committee Member  
On behalf of the Sierra Club Kaua'i Group

cc: Marti Townsend, Sierra Club Hawaii'i Chapter Director



January 3, 2017

Mr. Rayne Regush  
Executive Committee Member  
Sierra Club Kaua'i Group  
P.O. Box 3412  
Lihū'e, Hawaii'i 96796

**Subject:** Hawaii'i Dairy Farms Final Environmental Impact Statement (EIS)  
Māhā'ulepū, Kōloa District, Kaua'i, Hawaii'i  
Response to Comment on Draft EIS

Dear Mr. Regush:

Thank you for your input dated July 25, 2016 on the Hawaii'i Dairy Farms (HDF) Draft EIS. The following responses are offered to your comments.

**Pastoral Rotational Grazing Dairy Examples**

Successful pastoral dairies exist at numerous locations in New Zealand, as well as suitable farming regions in the United States. Several rotational grazing dairy operations located in Florida and Georgia operate successfully, with farms containing over 2,000 animals. Successful rotational dairies also exist in Maryland and North Carolina, along with Missouri. Numerous articles and publications on rotational grazing dairies are cited in Progressive Dairyman and other industry news sources.

**Dairy Herd Size**

For dairy operations with 700 or more mature dairy cows, additional regulatory review and permitting by the State Department of Health would be required. The application process for a National Pollutant Discharge Elimination System (NPDES) Concentrated Animal Feeding Operation (CAFO) permit includes public notification and input. At the discretion of HDF, management may choose to expand operations up to the carrying capacity of the land, which is estimated to be up to 2,000 productive milking dairy cows. Permit process compliance would be followed at such time HDF may decide to pursue an expanded operation.

The minor contributions of nutrients from episodic rainfall anticipated to occur just 10 days annually from dairy operations will not adversely affect ocean water quality and the marine environment. The nearshore area is a highly mixed environment which actively disperses inputs within several meters from shore. Comparing nutrient constituents in surface water samples taken from the HDF site and the agricultural ditches down gradient to nutrients sampled in the nearshore ocean water revealed that indicator bacteria were substantially lower in the ocean than in the ditch. The rapid decrease is likely a result of physical mixing of water masses and toxicity from saline water. In any event, the elevated levels of indicator bacteria do not extend beyond the shoreline. Baseline water quality data and the surface and marine water impact report is included in the EIS as Appendix F.

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FACIP

Hiroshi Hida  
AIA

There will be ongoing natural inputs to Waiopili Ditch contributed from the overall watershed and the agricultural lands bordering the ditch downstream of the dairy. With the measures being taken by the dairy to actively manage surface runoff, nutrients and suspended sediments, concerns about the potential effects of dairy operations to ocean beach recreation are not anticipated.

#### Groundwater Discharge

There has been no rainfall event that would exceed the capacity of the effluent ponds since rainfall has been recorded in Māhā'ulepū Valley. The effluent pond capacity has been designed to exceed the regulatory requirement of containing the 25-year, 24-hour rainfall event. Under the committed herd size of 699 mature dairy cows, the ponds could hold an additional 45 percent volume; under the contemplated herd size of up to 2,000 mature dairy cows, the ponds could hold an additional 12 percent volume. An emergency containment berm has also been added to the design, providing additional capacity equivalent to 30 days of effluent for the potential contemplated herd size up to 2,000 mature dairy cows. For additional information regarding rainfall and other natural hazards, see Draft EIS Section 4.6.

The groundwater engineer consulting to HDF estimated the potential nutrients that could leave the site from HDF operations as two percent of nitrogen (totaling 10,000 pounds per year), and one percent of phosphorus (totaling 900 pounds per year). This would not occur as chronic daily releases, rather, contributions would be limited to periods of major rainfall events that exceed 0.8 inches. Such rainfall events are estimated to occur, on average, 10 days annually. No effluent application would be conducted two days prior to, during, and two days after such weather events per best management practice guidelines. The estimate of nutrients leaving the site is the same for both the committed herd size of 699 mature dairy cows and the contemplated herd size of up to 2,000 mature dairy cows.

To provide perspective, nutrient inputs from the adjacent Kōloa-Po'ipū region were also calculated. Nitrogen input to the marine environment in the Po'ipū region is calculated to be 38,510 pounds annually, or 3.5 times more than the estimate of potential nutrient throughput from HDF. Phosphorus for both domestic wastewater and landscape fertilization in the region is estimated to be 1,260 pounds annually, or 1.4 times greater than the potential discharge from HDF. The nutrient inputs from domestic uses in the Po'ipū region are constant throughout the year and no mitigation is applied to reduce the quantities.

According to TNWRE (April 2016), toward the makai end of the HDF site, the groundwater level in the alluvium is substantially below the manmade channel invert. This means that groundwater discharge from the alluvium into the channels does not occur at the makai end of the HDF site.

#### Waiopili Ditch Water Quality

Complaints from the public citing the high levels of enterococcus in Waiopili Ditch and public concerns about the proposed dairy prompted CWB to conduct a "Sanitary Survey" of the Māhā'ulepū and adjacent watersheds. DOH conducted water sampling within the Waiopili Ditch and areas upstream, and initiated a series of investigations into water quality issues. The Sanitary Survey found no significant impact to the ditch from any activity that could be attributed to the dairy. Feral animal waste, decaying organic debris and inputs from existing agricultural operations may all be contributing factors in the indicator levels found in ditches running through Māhā'ulepū Valley. CWB noted that Waiopili Ditch is a man-made drainage on private property, and is not an inviting recreational body of water utilized by people. The Sanitary Survey can be accessed on the DOH Clean Water Branch website under "Library" (<http://health.hawaii.gov/cwb>).

Long-term ocean water quality monitoring has been initiated to provide a baseline for the nearshore ocean waters. HDF will regularly sample and analyze nutrient and chemical constituent levels in the near-shore

marine environment. Data from the nearshore water monitoring program will be made available to the DOH CWB, dairy neighbors and the local Kaua'i community, and will allow for evaluation of possible contamination sources.

#### Climate Change and Methane Emissions

There are no State or Federal regulations for greenhouse gas emissions from farm operations or small businesses. However, livestock and agriculture as an industry contributes to greenhouse gas emissions, so HDF engaged a technical expert to model potential greenhouse gas (GHG) emissions based on the 2006 Intergovernmental Panel on Climate Change (IPCC) Guidelines for National Greenhouse Gas Inventories, as no dairy is currently in operation. The GHG emissions included methane and nitrous, converted to carbon dioxide equivalents (CO<sub>2</sub>e) using the IPCC's AR3 global warming potential (GWP) that relates the GHG to CO<sub>2</sub>. The IPCC Parameters for Organic dairy cattle in warm climates were selected as most applicable to the rotational-grazed dairy operation and conditions at HDF. See the EIS Sections 4.19 and 4.26, and Appendix I for complete information.

The emissions potential for GHG at HDF with the committed herd size of 699 milking cows was estimated as 2,693 CO<sub>2</sub>e metric tons (2,969 U.S. tons) per year. This is equivalent to the GHG generated by 170 4-person households. Potential GHG emissions from the contemplated future herd size of up to 2,000 milking cows was estimated at 7,705 CO<sub>2</sub>e metric tons (8,493 U.S. tons) which is equivalent to 485 4-person households. GHG estimates for household energy consumption includes home energy use, transportation and waste.

While the presence of cows may increase GHG, a long-term beneficial impact of the grazing fields is the sequestration of carbon as CO<sub>2</sub> captured by the process of photosynthesis by the grass. According to recent studies in the Soil Science Society of America Journal, converting formerly tilled cropland to grazed pasture can drive substantial accumulation of organic carbons in soil, which enhances soil quality, grass production, and has the potential to offset up to one-third the annual increase in CO<sub>2</sub> production of an area.

Operational practices to protect air quality by reducing nitrogen emissions will come from guidance in NRCS Conservation Practice Standard 590, Nutrient Management. Application of nutrients must be adjusted to minimize negative impacts of GHG release to the environment through adjustments to the source, timing, amounts, and placement of nutrients. Specific practices to be utilized at HDF include: slow release fertilizers; nutrient enhancement technologies; and stabilized nitrogen fertilizers.

#### Soils Monitoring

Soils will be monitored through the process of nutrient management, the practice of managing the amount, rate, source, method of application, and timing of plant nutrients and soil amendments. The NRCS Conservation Practice Standard 590 (referred to as Standard 590), Nutrient Management, applies to commercial fertilizers, organic by-products, waste water, organic matter, and irrigation water. The timing and application of nutrients should correspond as closely as practical with plant uptake, soil properties and weather conditions. More information about NRCS Standard 590 can be found in Draft EIS Section 3.5.4.2.

A Technical Service Provider knowledgeable in NRCS Conservation Practices was retained to work with HDF technical advisors in determining a nutrient balance for the Māhā'ulepū site. Application of manure can be beneficial to soils by improving organic matter, increasing infiltration of water, and improving the soils' ability to support pasture growth and root establishment.

The Nutrient Management Plan (NMP) developed for HDF includes required components such as soil tests and other procedures to monitor, maintain, or improve the physical, chemical, and biological condition of

the soil. It is important to note that the NMP is an adaptive management tool. Sometimes described as a "living, breathing document," the nutrient conditions are constantly monitored and the NMP will be updated as conditions on the dairy mature. The results from soil testing, manure testing, and forage testing will be utilized to update and inform the nutrient management process for HDF.

#### Access to Cultural Places

Based on the AIS and CIA technical reports, no significant cultural resources are located on the HDF property. Access to adjacent properties will continue to be the responsibility of the land owner, Mahaulepu Farm, LLC.

#### Economic Study

Results of technical studies and the findings of this EIS show no unmitigated nuisances that could affect property values as a result of dairy construction or operations. No noticeable odors, flies, noise, waste or water discharges will impact resort or residential areas. Odor is a nuisance impact that may reach beyond the dairy boundaries but will be limited to adjacent farm and ranch lands owned by Mahaulepu Farm, LLC, lessor of the dairy site, and would occur for limited and infrequent duration. As such, the dairy will not adversely affect residents, nearby recreational activities, guests in nearby resorts, or diminish property sales or property values in the area. EIS Section 4.15 addresses demographic and economic factors, with the complete report in Appendix J.

#### Alternatives

As a part of the EIS, alternatives were evaluated that could attain the objectives of the action's purpose and need, and were compared with environmental benefits, costs, and risks of each reasonable alternative against those of the proposed dairy project. Further discussion of alternatives can be found in EIS Section 6.

Of all the alternative actions and locations considered, the planned agricultural operations of Hawai'i Dairy Farm is the only approach that achieves project objectives and meets each of the five Evaluation Criteria described in EIS Section 2.3.4.

#### Nutrient Balance Analysis

The modifications to the 2014 Waste Management Plan were submitted to the Department of Health "shortly before" the Draft EIS was published two weeks later. The Draft EIS analyzed the project elements, including those summarized in the letter to DOH. The Waste Management Plan is a technical document that is not part of the EIS or subject to public review and comment. However, all of the nutrient information is addressed in the EIS as part of the Nutrient Balance Analysis.

Your comment, along with this response, will become part of the public record and will be published in the Final EIS. A copy of the Final EIS is included on a compact disc with this letter. When published, the Final EIS will be available on the OEQC website which you can access using the following URL, and search "Hawai'i Dairy Farms": <http://tinyurl.com/OEQCKAUAI>.

Thank you for your participation in the environmental review process.

Sincerely,

GROUP 70 INTERNATIONAL, INC.



Jeffrey H. Overton, AICP, LEED AP  
Principal Planner

cc: Hawai'i Dairy Farms  
Hawai'i State Department of Health,  
Environmental Planning Office



July 25, 2016

Virginia Pressler, M.D.  
Director  
Hawai'i Department of Health  
1250 Punchbowl Street  
Honolulu, HI 96813

Laura McIntyre  
Environmental Planning Office, Program Manager  
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Via Email: [doh.epo@doh.hawaii.gov](mailto:doh.epo@doh.hawaii.gov) (Hard copy to follow, U.S. Mail)  
'cc: [info@hawaiidairyfarms.com](mailto:info@hawaiidairyfarms.com), [HDF@Group70hnt.com](mailto:HDF@Group70hnt.com)

**Re: Surfrider Foundation Comments on Draft Environmental Impact Statement for the proposed Hawaii Dairy Farm**

Dear Ms. Pressler and Ms. McIntyre,

On behalf of the Surfrider Foundation (Surfrider), we appreciate the opportunity to comment on the Draft Environmental Impact Statement (DEIS) for the proposed Hawaii Dairy Farm (HDF) on Kaua'i. Surfrider is a national non-profit 501(c)(3), grass roots organization dedicated to the protection and enjoyment of our world's ocean, waves and beaches. Surfrider maintains a large network of more than 250,000 supporters, 84 chapters and 50 academic clubs nationwide, including 5 chapters in the Hawaiian Islands. Our members come from all walks of life – surfers, wind surfers, paddlers, beach-goers, young families and retirees – that are united in their desire to ensure clean water, protect public access and to preserve healthy beaches and coastal ecosystems.

As such, we are alarmed by the proposed project for the HDF dairy farm operations in the Mahaulepu watershed. The DEIS for this project inappropriately dismisses the importance and danger of the current levels of pollution in the watershed of the proposed project, especially in downstream, recreationally-used coastal waters of the Waioipili Stream and the receiving ocean waters of Gillin's Beach. Data generated by both the Hawaii Department of Health (HDOH) and Surfrider Foundation Kaua'i Chapter's Blue Water Task Force (BWTF) water quality monitoring programs demonstrate exceedingly high fecal bacteria levels in the Waioipili Stream and at the adjacent beach and we strongly feel that this public health risk should be properly recognized and adequately resolved before any additional major sources of pollution are approved in this already impacted

watershed. Whether 699 or 2000 cows, the proposed dairy will be placing a huge fecal burden and public health risk on the near shore marine waters that provide important recreational opportunities for swimming, wading and subsistence fishing as well as critical habitat for endangered monk seals. Drinking water wells near the HDF property and coral reef ecosystems along the Mahaulepu coastline will also be unacceptably threatened by nutrient contamination from fecal matter and fertilizers applied to the HDF property to grow feed grasses.

**I. Brief Summary of Concerns**

The HDF Draft Environmental Impact Statement fails to address the documented fact that under existing conditions, prior to full development of the property by HDF and operation of the site as a dairy farm, the waters of Waioipili Stream and nearshore ocean waters at Gillin's Beach are polluted above Hawaii Administrative Rules (H.A.R.) standards for nutrients, bacteria, and turbidity. Testing by the HDOH and Marine Research Consultants Inc. (MRCI) at Site 10 where surface water leaves HDF property demonstrates that existing activities on HDF property and/or adjacent lands are polluting Waioipili stream (waters of the State), and because the stream discharges directly on to the beach and into the ocean, existing activities are also polluting waters of the United States protected by the Clean Water Act.

Extensive long-term testing by Surfrider Foundation's Blue Water Task Force (BWTF) of the estuarine waters at the mouth of the Waioipili Stream (Site 2) and the nearby ocean at Gillin's Beach (Site 1) document the chronic pollution of Waioipili stream (Table 1). This area is of high recreational value for both tourists and local residents for in-water bathing and subsistence fishing. The warm, shallow waters at the mouth of the stream are actually preferred by families with children as parents consider it 'safer' than the adjacent ocean water. The existing polluted conditions of Waioipili Stream and failure of authorities to recognize its recreational value also has environmental justice implications because of the harmful impact on subsistence fishing by Hawaiian communities. The HDF DEIS dismisses these impacts without any due diligence to properly assess current public use of these valuable coastal waters.

Due to these existing conditions, it is critical that the FEIS undertake proper consideration and analysis of the proposed project's cumulative effects on an already polluted environment, which is lacking in the DEIS. Further, the alternatives analysis of the DEIS is insufficient, as it only considered one alternative location on all of Kaua'i. Further alternatives must be explored.

Further, the DEIS also does not adequately address all of the serious adverse impacts the project will have on the surrounding environment, including the impacts of nutrient-laden stream discharges on the adjacent coral reef ecosystem; the impacts on "critical habitat" for federally-listed, highly-endangered cave fauna and species including the Hawaiian monk seal that rests and gives birth on the beaches of Mahaulepu; or the proposed project's foreseeable nutrient impacts on groundwater, drinking water wells, and resulting public health threats. Nor are the

mitigation measures discussed in the DEIS adequate to properly mitigate the project's foreseeable serious impacts on the environment and human health.

## II. Legal Mandates Under Hawaii Environmental Policy Act

This Draft Environmental Impact Statement (DEIS) was required to be prepared pursuant to the Hawaiian Environmental Policy Act (HEPA). HEPA was passed in part because of the legislature's acknowledgement that "the quality of humanity's environment is critical to humanity's well being," and because "humanity's activities have broad and profound effects upon the interrelations of all components of the environment." (H.R.S. §343-1).

Specifically, in order to sufficiently review those profound effects, the Hawaii Administrative Rules, Title 11, require that a DEIS include, but not be limited to, the following information: the significant beneficial and adverse impacts from the project (including cumulative impacts and secondary impacts); proposed mitigation measures; unresolved issues; and a discussion regarding the project's compatibility with land use plans and policies; and alternatives considered. (§11-200-17).

With respect to alternatives, a DEIS *shall* describe in a separate and distinct section alternatives which could attain the objectives of the action, *regardless of cost*, in sufficient detail to explain why they were rejected. The section shall include a *rigorous* exploration and objective evaluation of the environmental impacts of all such alternative actions. *Particular attention shall be given to alternatives that might enhance environmental quality or avoid, reduce, or minimize some or all of the adverse environmental effects, costs, and risks.*" (emphasis added) (§11-200-17(f)). Examples of alternatives include a "no action" alternative, and alternative locations for the project. (§11-200-17(f)(1)&(5)).

Further, a DEIS *shall* include a description of the environmental setting, including a description of the environment in the vicinity of the action, as it exists before commencement of the action, from both a local and regional perspective. (§11-200-17(g)). "Special emphasis shall be placed on environmental resources that are rare or unique to the region and the project site (including natural or human-made resources of historic, archaeological, or aesthetic significance)" (Id.) The DEIS shall also contain a list of necessary approvals, required for the action, from governmental agencies, boards, or commissions or other similar groups having jurisdiction. (§11-200-17(h)).

Additionally, a DEIS shall include a statement of the probable impact of the proposed action on the environment, and impacts of the natural or human environment on the project, which shall include consideration of all phases of the action and consideration of all consequences on the environment, including direct and indirect effects and cumulative environmental impacts. (§11-200-17(i))

A DEIS must also discuss how a project may narrow the range of beneficial uses, or pose long term risks to health and safety (§11-200-17(j)); and discuss all probable adverse environmental effects that cannot be avoided, and clearly set forth the

rationale for proceeding despite the environmental effects. Adverse impacts which must be considered include those relating to water pollution, and Hawaii's legal mandates under H.A.R. Chapter 342-D. (§11-200-17(i)).

Finally, in response to a project's impacts, a DEIS shall consider mitigation measures proposed to *avoid, minimize, rectify, or reduce impacts*. Description of any mitigation measures included in the action plan to reduce significant, unavoidable, adverse impacts to insignificant levels, and the basis for considering these levels acceptable shall be included. Where a particular mitigation measure has been chosen from among several alternatives, the measures shall be discussed and reasons given for the choice made. (§11-200-17(m)). Unresolved issues must also be addressed.

For the reasons that follow, Surfriider Foundation does not believe the DEIS sufficiently complies with these mandates in key respects, and believes that additional information and analysis regarding alternatives, adverse impacts, and mitigation, are required to be included and considered in the Final Environmental Impact Statement (FEIS).

## III. Alternatives

The DEIS alternatives analysis is inadequate. The DEIS purports to have found only one other potential alternative location and dismisses it claiming it would have greater adverse impacts than the proposed location. (DEIS, 1.7, 6.0) However, the DEIS indicates that only Grove Farm-owned lands were considered. A proper alternatives analysis should include alternative locations which are located further inland from the coast and ocean, and which would consequently cause fewer adverse impacts to waterways (which are already polluted) and coastal resources (which are already threatened by pollution), and must not be limited to land currently owned by Grove Farms. Additional locations must be considered in the FEIS.

## IV. Baseline Environmental Setting

### a. History and Regulatory Jurisdiction of Waipili Stream

As HEPA requires a description of the relevant environmental setting, including a description of the environment in the vicinity of the action, it is important to understand the nature of the area's natural features, including the primary waterway flowing through the proposed project area, Waipili Stream. It is also important to have a thorough and accurate understanding of these resources in order to analyze whether the project's impacts will run afoul of any other legal requirements, such as those relating to water quality standards from H.R.S. 342D and H.A.R. Chapter 11-54, pursuant to HEPA, §11-200-17(j).

With respect to Waipili Stream, it is important to note, this waterway has up until recently been known as a "stream" instead of Waipili Ditch as it is called in the DEIS and the Sanitary Survey released by HDOH in June, 2016. While modified sometime in the late 1800s or early 1900s for irrigation, Waipili Stream was

previously a fully natural course, fed by Waioipili Pond and Waioipili Spring. (See David Burney, *Ecological Monographs*, Vol. 71, No.4, p. 616-617, 623-624 available at [https://repository.si.edu/bitstream/handle/10088/6452/Kauai\\_paleoecology.pdf?sequence=1&isAllowed=y](https://repository.si.edu/bitstream/handle/10088/6452/Kauai_paleoecology.pdf?sequence=1&isAllowed=y); see also National Park Service U.S. Department of the Interior, Pacific West Region, Honolulu Office, February 2008, *Māhā'ulepū, Island of Kāua'i, Reconnaissance Survey*, pg. 29 [https://www.nps.gov/pwr/upload/mahaulepu\\_final.pdf](https://www.nps.gov/pwr/upload/mahaulepu_final.pdf)).

However, no matter whether it is called a ditch or a stream, Waioipili is a "state water" recognize, and the FEIS should recognize, that Waioipili is a jurisdictional "water of the U.S." subject to the Clean Water Act, because (1) it carries a relatively permanent flow of water, and (2) as a waterway that empties into the ocean at Mahaulepu Beach, it is subject to incoming waves and tides and has a significant nexus with the ocean, a traditional navigable waterway and the territorial seas.

Further, no matter whether called a ditch or stream, Waioipili is a "state water" subject to Hawaii's state water quality criteria. While the definition of "state waters" excludes certain kinds of ditches, Waioipili does not fall within this exclusion. See, definition of "state waters" at H.A.R. 11-54-1, which excludes: (1) ditches required as part of a water pollution control system, and (2) ditches used solely for irrigation and that do not overflow into or otherwise adversely affect the quality of any other State waters, unless such ditches are Waters of the U.S. as defined in 40 C.F.R. section 122.2. Additionally, the H.A.R. defines "streams" to include both seasonal and continuous waters, intermittent or perennial, and both natural and modified watercourses. Waioipili is a natural stream that was modified for irrigation purposes, not water pollution control, and flows into and adversely affects water quality where it meets the ocean at Mahaulepu Beach. Thus, even if Hawaii Dairy Farms calls Waioipili a ditch, it cannot ignore the fact that it is subject to protection under the Clean Water Act and Hawaii's State Water Quality Criteria.

**b. Classifications, Protected Uses, and Applicable Water Quality Criteria in the Project Area and Vicinity**

Specifically, at the stream mouth where it empties into the ocean at Mahaulepu Beach and Gillin's Beach (and up to approximately 100 meters inland), Waioipili Stream is a Class 1 stream or waterbody. (H.A.R. § 11-54-5.1; see also [http://health.hawaii.gov/cwb/files/2013/05/WQS\\_20140708\\_kauai.pdf](http://health.hawaii.gov/cwb/files/2013/05/WQS_20140708_kauai.pdf)) More specifically, it is Class 1a, as much of this area has been identified as critical habitat for numerous species, including the monk seal, for purposes of the Endangered Species Act. (H.A.R. § 11-54-5.1(a)(1)(A)(iv); see also [http://www.fpir.noaa.gov/Library/PRD/Hawaiian%20monk%20seal/Hawaiian\\_monk\\_seal\\_critical\\_habitat\\_Main\\_Hawaiian\\_Islands\\_Coastal\\_Habitat\\_Points.pdf](http://www.fpir.noaa.gov/Library/PRD/Hawaiian%20monk%20seal/Hawaiian_monk_seal_critical_habitat_Main_Hawaiian_Islands_Coastal_Habitat_Points.pdf)).

Further inland, Waioipili Stream is a Class 2 stream or waterbody, in the project area where runoff from the proposed Dairy Farm will discharge. (H.A.R. § 11-54-5.1; see also [http://health.hawaii.gov/cwb/files/2013/05/WQS\\_20140708\\_kauai.pdf](http://health.hawaii.gov/cwb/files/2013/05/WQS_20140708_kauai.pdf)) Meanwhile, the marine coastal water (i.e. ocean) where Waioipili empties into is a

Class A Marine Classification. (H.A.R. § 11-54-5.1; see also [http://health.hawaii.gov/cwb/files/2013/05/WQS\\_20140708\\_kauai.pdf](http://health.hawaii.gov/cwb/files/2013/05/WQS_20140708_kauai.pdf))

H.A.R. Section 11-54-3 sets forth the uses to be protected for the various classifications, for the purposes of applying the water quality standards established in the Chapter. The DEIS does not accurately present the classifications and protected uses of the stream and nearshore waters, which must be corrected in the FEIS.

- 11-54-3(b)(1): Class 1 waters are to remain in their natural state as nearly as possible with an *absolute minimum of pollution from any human-caused source*. To the extent possible, the wilderness character of these areas shall be protected. [...] Any conduct which results in a demonstrable increase in levels of point or nonpoint source contamination in class 1 waters is prohibited.
  - o Class 1a uses to be protected include scientific, educational, protection of native breeding stock; *compatible recreation*, aesthetic enjoyment, and other non-degrading uses compatible with the protection of the associated ecosystem.
- 11-54-3(b)(2): Class 2 waters must be protected for *recreational purposes*, support and propagation of aquatic life, agricultural and industrial water supplies, shipping, and navigation. Uses to be protected are all uses compatible with the protection and propagation of fish, shellfish, and wildlife, *and with recreation in and on these waters*. These waters shall not act as receiving waters for any discharge which has not received the best degree of treatment or control compatible with the criteria established for this class. No new treated sewage discharges shall be permitted within estuaries. No new industrial discharges shall be permitted within estuaries, subject to some exceptions.
- 11-54-3(c)(2): Marine Class A waters; the objective of class A waters is that their *use for recreational purposes and aesthetic enjoyment be protected*. Any other use shall be permitted as long as it is compatible with the protection and propagation of fish, shellfish, and wildlife, *and with recreation in and on these waters*. These waters shall not act as receiving waters for any discharge which has not received the best degree of treatment or control compatible with the criteria established for this class. No new sewage discharges will be permitted within embayments. No new industrial discharges shall be permitted within embayments, subject to some exceptions (e.g., NPDES discharges).

In summary, these uses must be protected in and along Waioipili Stream and its receiving coastal marine waters. The DEIS fails to demonstrate that the proposed project will not interfere with or diminish these beneficial uses, as required by H.A.R. § 11-200-17(1). Furthermore, taking these waterway classifications into consideration, the DEIS must consider and analyze impacts to water pollution, including the project's impact on whether water quality in these areas will meet the

relevant water quality criteria set forth in H.A.R. Chapter 11-54, including the recreational water quality criteria established in § 11-54-8.

As Surfrider Foundation has previously asserted, in previous stages of this environmental review process, to the Hawaii Department of Health, water quality monitoring data already currently indicate severe water quality exceedances at Mahaulepu Beach, at and in the vicinity of where Waioipili empties into the ocean. The DEIS fails to sufficiently demonstrate that the proposed dairy farm, with anticipated runoff from operations with 699 to 2,000 mature dairy cows (and even more calves), will not exacerbate the already polluted conditions in these protected waterways.

**c. Existing Conditions at Waioipili Stream and Downstream Coastal Waters**

The two studies that the DEIS relies on to assess existing water quality conditions, the HDOH Sanitary Survey and the study by MRCI, are insufficient to make accurate determinations of existing pollution levels in Waioipili stream and the near shore ocean waters of Mahaulepu Beach for fecal indicating bacteria, nutrient concentrations, turbidity, and total suspended solids.

As noted on page 4-62 of Volume 1 of the DEIS, the Kaua'i Surfrider Chapter provided all of its BWWF water quality data to the Hawaii Department of Health (HDOH). Although the samples were collected in a manner nearly identical to HDOH's, with QA/QC standards, Surfrider's EPA Quality Assurance Project Plan was outdated and therefore HDOH determined Surfrider data "could not be used for regulatory purposes". The data itself is valid nevertheless (Table 1) as the data trends are both consistent and predictable, and regardless, EPA advises HDOH to use all available data in its environmental reviews and Clean Water Act Section 303(d) listing processes. Surfrider has collected thirty-seven (37) samples at Gillin's Beach over a more than 2-year period and has analyzed the samples for enterococcus bacteria using EPA approved, IDEXX Enterolert/Quantitray technology. The geometric mean for those samples is 518 mpn/100 ml, fifteen times the HAR standard of 35 mpn, and samples exceed the Statistical Threshold Value (STV) of 130 mpn, used to determine when a water should be posted as polluted, 86.5% of the time (Table 1). Thirty eight (38) samples have been collected at the mouth of Waioipili stream during the same two year plus time period, and the bacteria results exceeded the STV 100% of the time with a geometric mean of 8,895 mpn, which is 254 times the state standard. These data show that the Waioipili stream, receiving water from HDF and Mahaulepu Farm LLC and adjacent upland properties is chronically polluted with fecal indicating enterococcus bacteria at extreme levels and is also contaminating nearshore waters at Gillin's Beach. Although the biological source (human and/or animal) of these bacteria has not yet been determined, it is clear that at these levels they indicate a heavy fecal load and high public health risk (Soller et al. 2010).

The HDOH also uses *Clostridium perfringens* as a secondary indicator of fecal indicating bacteria. *Clostridium* levels reported in the Sanitary Survey for water samples collected from Site 10 and downstream of HDF had geometric means far

above guidance in the literature (Viau et al. 2011), suggesting human fecal contamination. The Microbial Source Tracking data reported in Appendix 11 of the Sanitary Survey, showing the presences of both HF183 and BacHum human feces indicating markers and the extremely high cell count estimates, strongly suggests that the stream is polluted with feces and is therefore a human public health risk and a risk to endangered species within the stream and ocean, especially marine mammals.

**Table 1. (next page)**

Fecal Indicating Bacteria Counts at Mahaulepua				
Gillin's Beach	Date	Enterococcus	Waipili Stream	
1	03/07/14	3255	2	
1	04/12/14	5794	2	
1	05/10/14	14136	2	
1	05/10/14	8664	2	
1	06/22/14	8164	2	
1	06/29/14	9208	2	
1	07/06/14	10462	2	
1	07/13/14	12997	2	
1	07/20/14	24196	2	
1	07/27/14	7270	2	
1	08/06/14	6131	2	
1	08/10/14	5475	2	
1	08/25/14	5475	2	
1	09/14/14	8164	2	
1	11/08/14	14136	2b	
1	11/24/14	14136	2b	
1	12/13/14	4884	2b	
1	12/15/14	19863	2b	
1	01/10/15	4884	2b	
1	01/20/15	8164	2b	
1	02/14/15	2755	2b	
1	03/09/15	24196	2b	
1	04/11/15	15531	2b	
1	05/09/15	24196	2b	
1	06/13/15	11199	2b	
1	07/11/15	7701	2b	
1	08/08/15	3873	2b	
1	09/12/15	5794	2b	
1	10/10/15	10462	2b	
1	11/14/15	10462	2b	
1	12/12/15	8664	2b	
1	01/09/16	794	2b	
1	02/13/16	4884	2b	
1	03/12/16	5475	2b	
1	04/09/16	15561	2b	
1	05/07/16	9804	2b	
1	06/11/16	6867	2b	
1	07/09/16	8164	2b	
		8664	2b	
	# Samples	37	# Samples	38
	Geo Mean	518.3	Geo Mean	8,894.9
	% > STV	86.49%	% > STV	100.00%
	State Standard Geo Mean = 35		State Standard STV = 130	

The HDOH Sanitary Survey that is referred to in the DEIS to support the false conclusion that there are no existing significant water quality impairments or public health risk in Waipili Stream also fails to measure or report the high levels of nutrients in the stream that far exceed H.A.R. standards. MRCI does report (Appendix F) a few nutrient values for a low rainfall period. Appendix E of the DEIS selectively deletes some of that data to determine nutrient load concentrations. Surfriider's BWTF data, MRCI data and USGS data (Table 2), show that the stream

and estuarine waters at the mouth of Waipili stream definitely exceed State Standards. This is supported by data from the USGS survey (Table 3) and the MRCI study (Appendix F of DEIS) for Site 10 where the Waipili Stream leaves the HDF property.

Table 2. Nutrient Results for Waipili Stream Mouth Estuary									
Site #	Total Nitrogen mg/l	Nitrate + Nitrite mg/l	Total Phosphorus mg/l	Total Suspended Solids mg/l	Turbidity NTU	Ammonia mg/l	Salinity ppt		
HAR 11-54-5.2	Standards	0.200	0.008	0.025	1.5	0.006	Estuaries		
Surfrider Site #2	Waipili Estuary								
	07/13/14	0.410	0.086	0.044	5.4	0.140	0.30		
	08/10/14	0.780	0.250	0.066	55	104.0	0.13		
	09/14/14	0.490	0.052	0.089	32	27.4	0.097		
	01/20/15	0.400	<.04		15	47.6	0.130		
	03/09/15	0.470	0.069	0.062	8.6	46.2	<.10		
	Geometric Mean	0.494	0.095	0.063	16.5	42.1	0.100		
USGS Site #12	10/26/15	0.200	0.067	0.008		0.030			
Marine Res. Con.									
HDF Site #12	10/14/14	0.098	0.058	0.020		43.5	0.015		
	10/29/14	0.315	0.005	0.025		42.5	0.012		
	11/11/14	0.269	0.022	0.036		27.3	0.006		
	05/04/15	0.403	0.049	0.031		31.6	0.021		
	05/08/14	0.358	0.015	0.043		38.0	0.031		
	07/09/15	0.292	0.025	0.025		19.5	0.023		
	Geometric Mean	0.266	0.022	0.029		32.5	0.016		

Table 3. Nutrient Results for Waipili Stream leaving HDF at Site #10									
	Total Nitrogen mg/L	Nitrate + Nitrite mg/L	Total Phosphorus mg/L	Total Suspended Solids mg/L	Turbidity NTU	Ammonia Nitrogen mg/L	Salinity ppt		
HAR 11-54-5.2	Streams-Dry	0.18	0.03	0.03	10	2	na		
HAR 11-54-5.2	Streams-Wet	0.25	0.07	0.05	20	5	na		
	Waipili stream								
Marine Res. Con.	10/14/14-Dry	0.110	0.054	0.020		19.6	0.006		
	10/29/14-Dry	0.370	0.091	0.016		4.8	0.013		
	05/04/15-Dry	0.383	0.059	0.019		19.5	0.003		
	05/08/14-Dry	0.343	0.037	0.033		19.6	0.028		
	07/09/15-Dry	0.380	0.058	0.034		29.9	0.022		
	Geo Mean-Dry	0.290	0.057	0.023		16.1	0.011		
Marine Res. Con.	11/11/14-Wet	0.293	0.103	0.020		6.7	0.18		

The HDOH Sanitary Survey also fails to measure or report extremely high turbidity at Site 10, Site 12, or in the ocean as reported by MRCI in Appendix F of the DEIS and as measured by the BWTF (Table 2) for the stream estuary and ocean water at Gillin's beach. The geometric mean of 11 measurements taken by Surfriider at

Gillin's beach from 6/22/14 to 3/9/15 was 4.4 NTU, while the geometric mean of 14 measurements in the Waipili estuary, over the same period was 40.2 NTU. These values include the sub-set of data reported in Table 2, but also factor in a reading of 458 NTU measured after rainfall. The waters of Waipili stream discharge directly into the ocean at Gillin's beach, causing extremely high turbidity in stream water and killing stream fauna (documented on video) and in beach waters (Figure 1) These extremely high turbidities, occurring after site preparation operations began at HDF, show the inadequacy of HDF's Best Management Practices (BMPs) to control runoff, even before the introduction of cows.

Figure 1. Gillin's beach at mouth of Waipili stream 3/25/2016



Overall, the HDOH Sanitary Survey and the study by MRCI incorporated in the DEIS, are insufficient to make accurate determinations of existing pollution levels in Waipili stream and its effect on ocean waters for the following reasons:

1. Very few samples were taken.
2. Samples were taken over a very short time frame.
3. Samples did not include periods of rainfall.
4. Samples were not analyzed with an adequate level of precision, e.g. using only > 2005 values for enterococcus or >50 values for *C. perfringens*, to permit valid statistical analysis or accurate calculation of the levels of pollution.
5. The use of inappropriate statistics (e.g. means versus geometric means) and a lack of measurement of variance.
6. Data were omitted by HDOH in the Sanitary Survey which would have documented the extremely high values of enterococcus. Specifically, field-split samples taken on 11/24/2014 were analyzed for bacteria by both HDOH and the water quality lab of the City and County of Honolulu, with the later reporting 28,000 CPU for enterococcus. Samples from 8/6/2014 and 8/25/2014 were split and analyzed by HDOH and BWTF and also showed similar high levels for enterococcus for HDOH. Samples collected on 7/20/14

by BWTF and 7/23/14 by HDOH showed values of >24,196 for BWTF and >2005 for HDOH.

7. The Sanitary Survey did not measure for all of the other relevant parameters of pollution regulated by HAR 11-54 such as nutrient concentrations, turbidity, and total suspended solids.

## V. Environmental Impacts

### a. Impact on Beach Recreation

The DEIS grossly misrepresents the project's foreseeable impacts on recreational beneficial uses in the vicinity of the project area, as required by H.A.R. § 11-200-17(g)&(j). As illustrated below, along Waipili Stream, and Mahaulepu Beach, recreational uses are to be protected. The DEIS inaccurately claims that Waipili Stream "is not an inviting recreational body of water utilized by people." (DEIS, at 4-62.) However, this is plainly wrong. In particular, Surf rider Foundation members recreate and frequently see members of the public recreating at the beach where Waipili meets the ocean, and at nearby Gillin's Beach. Children are frequently observed playing in the waters of Waipili Stream.<sup>1</sup>

Figure 2. People Recreating at Gillin's beach at the mouth of Waipili stream.



<sup>1</sup> Due to serious concerns of the aforementioned water pollution in this area, Surf rider has been advocating for the Hawaii Department of Health to post water pollution notification signage at this site.



Furthermore, in accordance with the public trust doctrine, Hawaii's statewide beach access policies provide that the public has a right to access and use all beaches from the water up to the line of vegetation for free. (See <http://www.beachapedia.org/Beach-Access>) The Hawaii Supreme Court has strongly reaffirmed that the shoreline in Hawaii extends to "the highest reach of the highest wash of the waves[.]" (See *Diamond v. State Board of Land and Natural*

*Resources, Hawaii Supreme Court (2006)*) Additionally, Hawaii's policy of providing coastal recreational opportunities accessible to the public is codified in Haw. Rev. Stat. Chapter 205A.

Therefore, the FEIS cannot dismiss the fact that the public has beach access rights in the vicinity of – and literally downstream from – the project, at Mahaulepu Beach, at and near the Waiopili Stream outfall. The DEIS fails to demonstrate that its anticipated runoff from operations with 699 to 2,000 mature cows (and more calves), will not harm and pose health threats to those exercising their rights to recreate in these areas. In the FEIS, Table 5-6 must indicate that Recreational Resources impacts are "Not Supportive," and address this issue.

**b. Impacts to Critical Habitat & Endangered Species Act Compliance**

As mentioned briefly above, the coastal area where Waiopili empties into the ocean and the vicinity of that outfall are designated critical habitat for the Hawaiian monk seal. (See, e.g., [http://www.fpir.noaa.gov/Library/PRD/Hawaiian%20monk%20seal/Hawaiian\\_monk\\_seal\\_critical\\_habitat\\_Main\\_Hawaiian\\_Islands\\_Coastal\\_Habitat\\_Points.pdf](http://www.fpir.noaa.gov/Library/PRD/Hawaiian%20monk%20seal/Hawaiian_monk_seal_critical_habitat_Main_Hawaiian_Islands_Coastal_Habitat_Points.pdf); [http://www.fpir.noaa.gov/PRD/prd\\_critical\\_habitat.html](http://www.fpir.noaa.gov/PRD/prd_critical_habitat.html); and [http://www.fpir.noaa.gov/Library/PRD/Hawaiian%20monk%20seal/Cross-section\\_View\\_of\\_Critical\\_Habitat\\_HMS\\_Infographic\\_hi.pdf](http://www.fpir.noaa.gov/Library/PRD/Hawaiian%20monk%20seal/Cross-section_View_of_Critical_Habitat_HMS_Infographic_hi.pdf)) The Endangered Species Act (ESA) requires that federal agencies consult with the Secretary if an *endangered species or threatened species may be present in the area affected by the project*, and that implementation of the action *will affect such species*. (ESA § 7; 16 U.S.C. 1536) ESA requirements are triggered where a proposed project's runoff will cause foreseeable harm to endangered or threatened species or result in the destruction or adverse modification of critical habitat of that species (See, e.g., *Hawksbill Sea Turtle v. Federal Emergency Management Agency, D.Virgin Islands* (1998) 11 F.Supp.2d 529, where the District Court indicated that if endangered Hawksbill and Green Sea Turtles were present in and around a Bay and in the general vicinity of a nearby housing construction Project's marine environment, the runoff of which flowed into that marine environment, FEMA would have been required to engage in consultation under the ESA).

Here, the proposed farm and related construction will affect this Hawaiian monk seal critical habitat at Mahaulepu Beach, as runoff from construction activities and the dairy farm and pastures carrying nitrogen, phosphorous, sediment and fecal material, will enter Waiopili stream and be carried out to Mahaulepu beach and the ocean. The endangered Hawaiian monk seals are known to rest and pup on Mahaulepu Beach and swim in the near shore ocean water, and foreseeably will be harmed by the runoff and nutrients from the construction and subsequent operation of the dairy farm. The water quality of the critical habitat itself will be degraded as large loads of nitrogen and phosphorous admitted by HDF in the DEIS will unavoidably be discharged into the near shore waters of Mahaulepu. Consequently, consultation under ESA Section 7 is required, in addition to other ESA mandates, with respect to the Hawaiian monk seal. The DEIS fails to indicate whether these



**Table 4.**

Nutrient loading in Waiopili Stream Site 12											
Date	Flow	TN	TP								
	cfs	(mg/L)	(mg/L)	lbs/day	lbs/yr	lbs/day	lbs/day	lbs/day	lbs/day	lbs/day	lbs/yr
06/17/14	1.867										
06/22/14	2.067										
06/29/14	2.533										
07/06/14	2.596										
07/13/14	2.392	0.41	6E+06	9E-07	5.289			0.044			
07/20/14	6.265										
07/27/14	2.258										
08/10/14		0.78		2E-06				0.066			
08/25/14	3.199										
09/14/14	21.19	0.49		1E-06				0.089			
10/20/14	1.382	0.40	3E+06	9E-07	2.981			0.039			
03/09/15	0.322	0.47	8E+05	1E-06	0.815			0.062			
mean	4.188	0.51						0.060			
median	2.392	0.47						0.062			
geomean	2.519	0.49	6E+06	1E-06	6.713	2450	0.057	6E+06	1E-07	0.78	284.8
MRCI	2.519	0.266	6E+06	6E-07	3.613	1319	0.029	6E+06	6E-08	0.394	143.8

BWTF calculations yield a much greater 2450 lbs. nitrogen per year and 285 lbs. phosphorus for just surface waters leaving at the mouth of the estuary, not counting groundwater entering along the coastline. This is before the cows arrive.

There are also concerns that nutrients in manure and fertilizers, once applied to grow forage, will leach into the groundwater table, which is extremely high in parts of the project location and even intersects with the Waiopili ditch system in some places during precipitation events.

To summarize, nutrient pollution that will leave the HDF property by percolating into groundwater and through surface runoff appears to be greatly underestimated, and HDF needs to revisit their calculations with all available data and fully consider all relevant environmental conditions which will affect these calculations such as depth to groundwater, soil type and normal precipitation events.

**ii. Impacts of Nutrient Loading into Coastal Waters are not Fully Presented and Wrongly Dismissed**

In addition to low estimates reported for nutrient loading into the watershed, the DEIS's seeming disregard for the project's nutrient impacts is astounding. The described impacts to the waterways and marine environment are overwhelmingly insufficient and not supported by even the estimated nutrient loads (which we assert are low) that are presented in the DEIS. (See, e.g., the one paragraph dedicated to "Impacts to the Marine Environment" at DEIS, 4-67). The DEIS's

summarily purported "dilution" capabilities of the near shore marine environment (e.g., DEIS, 4-67) are not sufficient to justify the foreseeable and major adverse nutrient impacts from a dairy farm with a herd size of 699 to 2,000 mature cows, in a frequently rainy environment, located in close proximity to the ocean. It is well documented that excess nutrients introduced into near shore ocean waters from animal waste, sewage and application of fertilizers is a major cause of coral disease and coral bleaching. (See, e.g.,

<http://oregonstate.edu/ua/ncs/archives/2013/nov/large-study-shows-pollution-impact-coral-reefs---and-offers-solution>; and <http://www.sciencedirect.com/science/article/pii/S1877343513001917>)

Sediment runoff, exacerbating the already high Waiopili Stream and ocean turbidity, will surely only become more problematic once cows are brought on-site. This will impair water quality conditions for coral reef ecosystems as brown water moves along the coastline in ocean waters. Both sediment smothering of the corals and the blocking of light need by the coral's symbionts will occur and will cause coral die offs.

HDF estimates that dairy farm operations, regardless of whether there are 699 or 2000 cows kept on site, will discharge an annual load of 10,000 pounds of nitrogen and 900 pounds of phosphorus into surface waters (See DEIS page 4-84). This will be a significantly large loading of nutrients into an already impaired stream and a more pristine near shore marine habitat.

The DEIS should not dismiss the negative impacts on marine ecosystem by relying on dilution alone, but long-term monitoring of flora and fauna including the health of coral polyps and abundance of sensitive species needs to be conducted in order to accurately determine ecological impacts of pollution leaving the HDF dairy farm property.

The DEIS dismisses the impacts to the near shore waters because they compare the nutrient loading caused by the dairy farm with all of the other existing urban sources of sewage and lawn fertilizers in the adjacent Poipu watershed. This comparison is misleading and should be revisited to better illustrate the additional cumulative impact that the dairy farm will have on the Mahalepu watershed where the project is located and where discharge into the coastal environment will be from one point source, the mouth of the Waiopili Stream.

Of extreme importance is the recognized "annual load of nitrogen and phosphorus from groundwater in the alluvium leaving the makai end of the HDF Site under existing conditions" because the shallow groundwater will eventually penetrate into the deeper aquifer and potentially contaminate the drinking water supply for the entire Poipu area. According to the "Hawaii Source Water Assessment Program Report for the island of Kauai" the 4 wells of the County of Kauai are all within well-drained soils and the aquifer is unconfined, vulnerable, and irreplaceable. This is contrary to what is presented in the DEIS and because of the tremendous public health significance, must be addressed by more complete independent studies. For this reason the HDOH has recently required a 1000' buffer from pond effluent

spraying around the well closest to the HDF and an adequate monitoring program. The EIS must not be approved until concerns over drinking water contamination meet the concerns of the HDOH and the Kauai County Water Department.

Finally, the FEIS must clearly illustrate Hawaii Dairy Farms' compliance with the federal Confined Animal Feeding Operations (CAFO) National Pollutant Discharge Elimination System rules (40 § C.F.R. 122.23). With 699 mature dairy cows, the project is deemed a medium CAFO upon any discharge into the waters of the U.S. through a man-made ditch, or directly into the waters of the U.S. which originate outside of the project area or come into contact with confined animals. (40 § C.F.R. 122.23(b)(6)). Surfrider Foundation believes it is disingenuous, however, to conduct this DEIS for a proposed 699-cow operation, when Hawaii Dairy Farms anticipates expanding the herd size to 2,000 cows. Merely increasing the 699-cow operation by one cow will automatically render the operation a large CAFO (40 § C.F.R. 122.23(b)(4)), requiring NPDES coverage for any discharge or proposed discharge, and additional requirements with respect to record keeping and reporting. The FEIS must acknowledge the necessity and ability to comply with these requirements.

Given the foregoing concerns that not all of the manure and process wastewater will be absorbed by soil biota and plants upon land application, and that both precipitation related discharges and non-precipitation discharges are likely, Hawaii Dairy Farms would not be eligible for a no discharge certification, and will require an NPDES permit in either event. Given that the Clean Water Act only allows issuance of NPDES permits where those permits ensure that all discharges will comply with all effluent limitations and standards, in this situation, where we know the water is already impaired, permitting this project is exceedingly concerning. Along these lines, the Director of Hawaii's Department of Health is required to "prevent, control, and abate water pollution in the State," under H.R.S. 342D-4, and as such, may not allow the operation of any project which will contribute to pollution of state waters.

The FEIS requires more comprehensive consideration of construction and operation nutrient impacts and Hawaii Dairy Farms must meet its burden of considering "mitigation measures proposed to avoid, minimize, rectify, or reduce impacts. Description of any mitigation measures included in the action plan to reduce significant, unavoidable, adverse impacts to insignificant levels, and the basis for considering these levels acceptable shall be included."

## VI. Conclusion

In summary, the BMPs in place at HDF and Mahaulepu Farms LLC before cows are even introduced at the property appear to be insufficient to protect from surface and groundwater contamination. Even if the origin of the fecal load that is causing these polluted levels is not from the HDF property itself, grading and other alterations made by HDF to the Waiopili Stream and ditch system, as well as fertilizer application and pasture management activities have certainly exacerbated existing polluted conditions in the Stream and receiving Gillin's Beach. The addition

of even 699 cows would add a large fecal load into a watershed that is already severely polluted. Even the revised Waste Management Plan, which is not part of the DEIS, is fatally flawed. This is a public health and environmental health disaster in the making.

The Surfrider Foundation asserts that the Hawai'i Department of Health could not accept the DEIS without substantial revision reflected in the FEIS for the following reasons:

1. The DEIS alternatives analysis is inadequate. Additional locations must be considered.
2. Classifications and protected uses of the stream and nearshore waters are incorrect in the DEIS.
3. The DEIS fails to demonstrate that the proposed project will not interfere with or diminish recreation beneficial uses in Waiopili Stream and its receiving coastal marine waters, as required by H.A.R. § 11-200-17(I). It is unclear whether ESA mandates, with respect to designated critical habitat for the Hawaiian monk seal along the Mahaulepu coastline, are being followed.
5. The DEIS does not present accurate determinations of existing pollution levels in Waiopili stream and the near shore ocean waters of Mahaulepu Beach for fecal indicating bacteria, nutrient concentrations, turbidity, and total suspended solids as the two studies that it relies on to assess existing water quality conditions, the HDOH Sanitary Survey and the study by MRCI, are flawed and do not consider all available data.
6. The DEIS underestimates nutrient loading from the proposed project and resulting detrimental impacts to drinking water wells, stream fauna and coral reef ecosystems.
7. Finally, the DEIS does not illustrate Hawaii Dairy Farms' compliance with the federal Confined Animal Feeding Operations (CAFO) National Pollutant Discharge Elimination System rules (40 § C.F.R. 122.23).

Thank you for your consideration of Surfrider Foundation's concerns regarding the very serious shortcomings of this DEIS, and ill-conceived Hawaii Dairy Farm project, and for protecting public health on Kauai.

Sincerely,



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**Subject:** Hawai'i Dairy Farms Final Environmental Impact Statement (EIS)  
Māhā'ulepū, Kōloa District, Kauai, Hawai'i  
Response to Comment on Draft EIS

Dear Dr. Berg:

Thank you for your input dated July 25, 2016 on the Hawai'i Dairy Farms (HDF) Draft-EIS. The following responses are offered to your comments:

The project purpose is to establish a sustainable, pastoral rotational-grazing dairy farm to increase local milk production, bolster Hawai'i's declining dairy industry, and reduce reliance on imported milk from the mainland United States. The rotational-grazing dairy system utilizes 100 percent of all manure on-site as natural fertilizer to grow grass. This cost-effective method reduces imported fertilizer and feed, and minimizes potential impacts to the environment. The dairy farm utilizes a viable approach to use Important Agricultural Lands for agricultural self-sufficiency and food production. HDF represents a continued commitment by the landowner to support farming and local food production, and to aid in the resurrection of Hawai'i's dairy industry.

Opponents to the dairy have contradicted findings of HDF's Hawai'i-based expert consultants by using wildly different assumptions and, in several cases, incorrect data. In most cases, the assumptions are based on poorly-managed conventional feedlot dairy operations on the mainland. HDF stands by the environmental analyses conducted for the EIS, which uses reasonable and diligent processes to disclose all probable impacts and demonstrates the dairy will not create nuisance impacts downstream or beyond surrounding agricultural lands.

## I. Brief Response Summary

Waioipili Ditch receives runoff from the larger 2,700-acre Māhā'ulepū Valley sub-watershed, including the lands mauka and makai of the proposed dairy. The dairy site represents roughly 20 percent of the sub-watershed, occupying just 557 acres. With rainfall at slightly less than 50 inches annually in Māhā'ulepū Valley, this region is one of the drier areas of the island.

The dairy has been designed to minimize impacts to soil and water resources using best management practices from the Natural Resources Conservation Service (NRCS) and other technical guidance. NRCS provides extensive guidance for agricultural operations to meet stringent standards including those under the Clean Water Act. Nutrient management is a key tenet, and the standard for protection of waterways has been applied to the design of HDF paddocks using fencing to create large setbacks from drainages. Details of the setbacks and nutrient management are provided in the following sections of this response.

The shallow groundwater body in the alluvium of Māhā'ulepū Valley has been shown to be hydrologically disconnected from deep groundwater confined in unweathered volcanics. Thus nutrients added by the dairy operation will have no impacts to the County drinking water wells, the source of potable water within the deep volcanics.

As part of its on-going monitoring of recreational beaches, the State of Hawai'i Department of Health (DOH) Clean Water Branch (CWB) had not conducted water quality sampling for either nearshore recreation waters at the terminus of Waioipili Ditch, or of surface waters in the Māhā'ulepū Surface Water Hydrologic Unit, as the remote areas are on private lands. Priority for Hawai'i's nearshore water quality monitoring goes to public beaches where the general public recreates in numbers; areas accessed across private lands are typically not included due to limited funding.

## II. Legal Mandates under Hawai'i Revised Statutes Chapter 343

HDF has prepared an Environmental Impact Statement consistent with Hawai'i Revised Statutes, Chapter 343 (HRS 343), and Hawai'i Administrative Rules Chapter 200 of Title 11 (HAR §11-200), to disclose the potential for environmental impacts for the planned dairy farm at the earliest practicable time. HDF has fulfilled all requirements related to process and content, and has met both the intent and spirit of Hawai'i's Environmental Impact Statements statute (HRS 343) and guiding rules.

As stated previously, HDF has conscientiously designed the dairy to minimize impacts to soil and water resources using best management practices. Further detail is provided in the Environmental Impact Statement (EIS) for Hawai'i Dairy Farms and in the following response. HDF has collected initial baseline data on surface waters, nearshore marine waters, and shallow groundwater within the alluvium, focused on nutrient and chemical constituents. Periodic sampling will be ongoing. Results will provide feedback to the dairy management team regarding any potential changes to water quality.

Any detectable increases in nutrients can inform modification of the operation's nutrient management. Modifications to the timing and placement of effluent can be made; the rate of application can be changed; different crops can be utilized to increase uptake by plants; and the number of cows can be changed. Nutrient management is a dynamic process that is informed by monitoring a number of parameters; the ability to monitor nearby water bodies for changes in nutrients is an additional check that provides data that can be made available to the public.

The Final EIS reflects refinements based on comment to the Draft EIS. This includes a marine biotic assessment now contained in Appendix F of Volume 2; relevant findings from the assessment are contained in this response.

### III. Alternatives

As a part of the EIS, alternatives were evaluated that could attain the objectives of the action's purpose and need, and were compared with environmental benefits, costs, and risks of each reasonable alternative against those of the proposed dairy project. Further discussion of alternatives can be found in EIS Section 6.

A search for potential locations was conducted during the site selection process, with the evaluation based on location criteria established for the dairy, as well as trials to evaluate growth of grass at locations statewide. HDF coordinated with landowners of agriculturally-zoned lands in the State, as well as the Department of Agriculture, the Agribusiness Development Corporation, and the Trust for Public Land. The broader team identified, toured and evaluated six parcels of sufficient size: two on O'ahu; two on Hawai'i Island; and two on Kaua'i. Kaua'i was found to be the optimal location, as it met all the operational requirements for pasture-based dairy.

One specific alternative site on Kaua'i at Kipu was evaluated in the EIS. The potential site was further from the coast and ocean, however, the site was evaluated as having greater potential impacts in comparison to the Māhā'ulepū location, including: steeper slopes that would either require more site disturbance or to not be used by dairy cows; higher rainfall and lower sunlight produced lower grass growth rates in the statewide trials, thus requiring greater pasture area to support the herd; and 26 percent of the site lies in the State Conservation District and therefore is not zoned for agriculture. Further, since the initial evaluation, the land has been contracted for sale and is no longer available for use as a pasture-based dairy.

In response to comments on the Draft EIS, Ulupono Initiative again searched for agriculturally-zoned land with potential long-term availability that may have become available in the past few years. Available parcels on Kaua'i neighboring the HDF site recently vacated by Pioneer Seed Company are closer to resort and residential area and therefore provide no additional benefit. Maui lands being phased from sugarcane to diversified agriculture have uncertain water availability and therefore do not meet the operational criteria. Thus the recently conducted search for potential alternate locations did not identify any new property that meets the requirements for a pasture-based dairy.

Of all the alternative actions and locations considered, the planned agricultural operations of Hawai'i Dairy Farm is the only approach that achieves project objectives and meets each of the five Evaluation Criteria described in EIS Section 2.3.4.

### IV. Baseline Environmental Setting

Regulatory Jurisdiction: Section 4.17 of the EIS identifies the three primary regulatory definitions for the surface waters of Māhā'ulepū:

1. The Commission on Water Resource Management (CWERM) defines surface water hydrologic units to delineate and codify surface water resources in the State. As described in the EIS, the HDF site is located within the Māhā'ulepū Surface Water Hydrologic Unit, characterized as "relatively high precipitation with relatively low stream discharge". The HDF site is in the bottom-land of the upper Māhā'ulepū Valley, which is fed by several intermittent streams coming off the south slope of the Hā'upu Ridge. Intermittent streams in Hawai'i only flow during periods of significant rainfall that cause runoff. There are no perennial streams in the Māhā'ulepū watershed.
2. On the U.S. Geologic Survey quadrangle map, the main surface water that crosses the HDF site is not named.

3. The USFWS National Wetlands Inventory (NWI) assigned codes that describe the habitat type presumed by the Inventory (most information in the NWI was derived from aerial photographs and maps, not field investigations; USFWS, 2014). All of the water ditches on the property (and the *auwai* around the margin of the valley floor) are coded "R4SBCx", which represents: intermittent (seasonally flooded) flowing water, in an excavated channel.

There are no perennial streams in the Māhā'ulepū watershed, and no native aquatic fauna is associated with the ditch (Final EIS Volume 5, Appendix E-E). Native aquatic fauna are freshwater animals that spend their early larval stage in the ocean and migrate into perennial streams. Migrating into intermittent streams is a death sentence, as such streams do not provide sufficient habitat. As stated in the EIS, the stream is clearly intermittent in the upper reaches above the project area. Intermittent streams in Hawai'i flow when there is significant runoff (e.g. from rain storms). Analysis at the HDF site by the groundwater engineer demonstrates runoff occurs when rainfall reaches or exceeds 0.8 inches. Based on the 30-year rainfall record for the area, such rainfall events are estimated to occur approximately three percent of days, or an average of 10 days annually (EIS Section 4.17.4).

#### Classification Under State Water Policy

The Final EIS has been clarified to note that HAR §11-54 does not classify for protection any flowing inland waters within the Māhā'ulepū Watershed, thus the waters fall into Class 2 [HAR §11-54-5.1(a)(1)(C)]. "The objective of Class 2 waters is to protect their use for recreational purposes, the support and propagation of aquatic life, agricultural and industrial water supplies, shipping, and navigation....These waters shall not act as receiving waters for any discharge which has not received the best degree of treatment or control compatible with the criteria established for this class..." (EIS Section 4.17.2 *Surface Water Quality*). The HDF design incorporates the best degree of control to minimize impacts to water quality.

While coastal areas including the beaches of the Māhā'ulepū Watershed are included in critical habitat established by the U.S. Fish and Wildlife Service (USFWS) for endangered species, HAR §11-54-5.1(a)(iv) states: "All flowing waters which have been identified as a unique or critical habitat for threatened or endangered species by the U.S. Fish and Wildlife Service" (emphasis added). Monk seal critical habitat includes marine habitat defined as the bottom 10 meters from shore out to the 200 meter depth contour, and terrestrial habitat as 5 meters inland. Freshwaters are not specified for monk seal critical habitat.

Surfrider asserts that HDF will exacerbate the already polluted conditions of Waiopili Ditch, and ignores the technical findings of HDF's Hawai'i-based expert consultants. Among the findings provided in the Draft and Final EIS documents, it is important to note that estimated peak flow of stormwater runoff will be reduced (Final EIS Section 3.3.2.3 *Drainage Improvements*). Proposed conditions include roughly 80 acres of maintained drainageways, vegetated setbacks, cow walkways topped with soft, crushed, permeable limestone, and farm roads. A thick grass ground cover for the pasture area will constitute the majority of the farm: nearly 470 acres of the 557-acre site. With organic matter from manure, the predominately Kikuyu grass crop will improve surface infiltration of both rainfall and irrigation (EIS Volume 4, Appendix 5-A).

Existing and proposed conditions related to stormwater runoff and drainage are identified in the *Hydrologic Assessment for the Pasture Areas for Hawai'i Dairy Farms* (Group 70, 2016), contained in EIS Volume 2 Appendix K. Thus stormwater runoff down-gradient from the site will be reduced from dairy management of the HDF site.

Existing Conditions of Māhā'ulepū Watershed and Nearshore Marine Waters

The Kauai Chapter of the Surfrider Foundation Blue Water Task Force began collecting water samples in Waipili Ditch near Makauwahi Cave Reserve in April 2014. Complaints from the public citing the high levels of enterococcus in Waipili Ditch and concerns about the proposed dairy prompted the State of Hawai'i Department of Health (DOH) Clean Water Branch (CWB) to conduct a "Sanitary Survey" of the Māhā'ulepū and adjacent watersheds.

#### Research into Watershed Conditions by State of Hawai'i Department of Health Clean Water Branch

DOH CWB conducted water sampling within the Waipili Ditch and areas upstream on five dates from November 2014 through March 2015, and initiated a series of investigations into water quality issues. The Sanitary Survey findings resulted in an expression of concern by DOH CWB that the number of injection wells and cesspools in the adjacent Waikomo watershed, which includes Kōloa and Po'ipū, are impacting the waters of the Waipili Ditch.

The Sanitary Survey found no significant impact to the ditch from any activity that could be attributed to the dairy. Feral animal waste, decaying organic debris and inputs from existing agricultural operations may all be contributing factors in the indicator levels found in ditches running through Māhā'ulepū Valley.

#### Sampling Conducted for Hawai'i Dairy Farms

Marine Research Consultants, Inc. (MRCI) conducted water quality surveys of surface waters and the nearshore marine environment for the EIS and to establish a baseline of existing conditions. Working in conjunction with sampling by Tom Nance Water Resource Engineers (TNWRE) of groundwater in the area, baseline data was recorded on groundwater, surface water, and nearshore marine water quality. The rationale of the water quality assessment was to determine the contribution of groundwater to the marine environment down-gradient of the HDF site, and to provide a baseline of conditions prior to dairy activities. Combining this information with estimates of changes in groundwater and surface water flow rates and chemical composition that could result from the proposed project provided a basis from which to evaluate potential future effects to the marine environment. The technical reports prepared by MRCI and TNWRE are appendices E and F, respectively, of the EIS (Volume 2).

The State DOH Water Quality Standards specify "wet season" criteria for streams as November 1 through April 30 [HAR §11-54-5.2(b)]. Sampling was conducted during the wet season. However, during the 9-month period of the baseline data collection, no significant rainfall events occurred that resulted in observable flow to the ocean. This is consistent with research by the groundwater engineer that runoff from the site would be limited to periods of major rainfall events that exceed 0.8 inches. Based on the 30-year rainfall record for the area, such rainfall events are estimated to only occur approximately three percent of days, or an average of 10 days annually (EIS Section 4.17.4).

Twelve survey points were established in surface waters: two up-gradient of the HDF site; eight sites in ditches that traverse or bound the HDF site; and two below the site. Six separate sampling sessions were conducted from October 2014 to July 2015. Sampling focused on nutrient and chemical constituents identified in HAR §11-54-06 (b) of the State DOH Water Quality Standards for open coastal waters. Not all sites had water within the channel on some sampling dates; this is reflected as missing sample sites in data collected by MRCI and displayed in Tables 1 and 2 of the Baseline Conditions report (EIS Volume 2, Appendix F).

At the request of the DOH CWB, MRCI added sampling for bacteriological components on three dates during 2015. DOH CWB also conducted bacteriological testing on two dates sampled by MRCI, and on three additional dates.

#### Conclusions from Sampling by DOH and HDF

The CWB results of their bacteriological survey show a clear trend of an increasing enterococci concentration towards the stream mouth. The dense vegetation forms a canopy over the ditch segment where sampling sites 11 and 12 are located, blocking out a large portion of sunlight to the area. There is also a high degree of turbidity in the area. It is believed these serve as a protective barrier to the natural inactivation of the indicator bacteria by sunlight, thereby leading to elevated concentrations.

MRCI concluded that bacteriological sampling showed fecal indicator bacteria (FIB) such as *enterococcus*, *clostridium*, in surface water samples and near-shore marine samples showed no repetitive pattern: counts were high and variable within surface water sites and between times of sampling. As no dairy cow activities existed during the sampling, the high levels of indicator bacteria are the result of naturally occurring sources (feral animals), as well as other existing land uses.

It is important to note that human-related sewage poses the highest human health risk. There are limitations and issues surrounding use of FIB to determine human health risks to bathers. Correlations have not been established between FIB concentrations and gastro-intestinal (GI) illnesses at beaches characterized by non-point sources of FIB. Extra-enteric sources of FIB have been reported to multiply in environmental habitats (soil, sediments, sand, plants, algae) in tropical as well as temperate climates. It should be noted that since extra-enteric FIB multiplied in environmental habitats, such as soil rather than intestinal habitats of humans or animals, these bacteria are not indicators of fecal contamination. As a result, the numbers of extra-enteric FIB in environmental water samples are not related to degree of sewage contamination or degree of animal fecal contamination (Final EIS Volume 5, Appendix D-D).

#### **V. Environmental Impacts**

##### Beach Recreation

HDF acknowledges the photos submitted by you and others showing people walking near and wading the stream. The EIS states what is contained in the Sanitary Survey by DOH Clean Water Branch: "... that Waipili Ditch is a man-made drainage on private property, and is not an inviting recreational body of water...". The accompanying photos in the Sanitary Survey show the ditch in the vicinity of, and above, the bridge. Photos provided by commenters to the DEIS show people on the beach, as well as people crossing the channel on foot nearest the beach at a point also utilized by a commercial horse-back riding operation during its twice-daily trail rides. The stream itself is not utilized for recreational purposes; the beach is.

##### Impacts to Critical Habitat and Endangered Species

Your assertions that HDF will impact critical habitats in the vicinity, as noted above, ignore the HDF consultants' findings. Responses to your specific comments on nutrients follow, however it is important to highlight the findings of the *Hydrologic Assessment for the Pasture Areas for Hawai'i Dairy Farms* (Appendix K to the EIS) that show management of the HDF site will reduce estimated peak flow of stormwater runoff from the site. The Hydrologic Assessment show the calculated reduction in runoff from storm events, which was estimated in Māhā'ulepū Ditch immediately south of the project site where flows combine. For the 10-year storm event, peak flow leaving the project site will be reduced by 257 cubic feet per second (cfs); for the 25-year storm event, reduced by 283 cfs; and for the 50-year storm event, reduced by nearly 300 cfs (Final EIS Section 3.3.2.3 *Drainage Improvements*).

There are no known caves or lava tubes found at or adjacent to the dairy farm property. The nearest cave of the Kōloa Lava Tube System, which provides habitat for two endemic cave species, the Kauai Cave Wolf

Spider and the Kaua'i Cave amphipod, is located 0.75 miles from the dairy farm property. There is no evidence of lava tubes or caves on the property, and no such features have been reported for the area near the HDF site. No cave invertebrate species will be affected by the dairy farm.

As described in Chapter 3 and Section 4.17 Surface Water Resources and Nearshore Marine Environment, physical setbacks and vegetated filter strips will be used to minimize potential runoff and to maintain nutrients on site for growth of grass. It is important to recognize the food supply of the wholly saprophagous arthropods is organic matter derived from roots and other decaying plant debris. Nitrogenous and phosphoric nutrients will promote plant growth, so impacts of nutrients - if any at all - can be expected to expand the food supply in the oligotrophic subterranean ecosystem (Final EIS Volume 5, Appendix C-C).

Long-term ocean water quality monitoring has been initiated to provide a baseline for the nearshore ocean waters. HDF will regularly sample and analyze nutrient and chemical constituent levels in the near-shore marine environment. Data from the nearshore water monitoring program will be made available to the DOH CWB, dairy neighbors and the local Kaua'i community, and will allow for evaluation of possible contamination sources.

HDF is coordinating with the U.S. Fish and Wildlife Service and the State Department of Land and Natural Resources' Division of Forestry and Wildlife to employ management techniques so that farm operations will have no adverse impacts on any endangered species that may access the HDF site, especially Hawaiian waterbirds and nēnē. A Draft Endangered Species Awareness and Protection Plan (ESAPP) has been initiated in coordination with USFWS and DOFW prior to dairy construction and operations, to ensure that dairy operations would not result in deleterious impacts to protected wildlife. The ESAPP will be completed through further discussion with the agencies; the current draft is appended to the Final EIS in Volume 2, Appendix L.

#### Impacts for Dairy Cows and CAFO Compliance

Impacts evaluated in the EIS specifically address your concerns regarding application of manure as nutrients. The rotational-grazing dairy system utilizes 100 percent of all manure on-site as natural fertilizer to grow grass. This cost-effective method reduces imported fertilizer and feed, and minimizes potential impacts to the environment as it utilizes manure for the nutrient resources rather than stockpiling it as waste.

EIS Figure 4.16-1 *Geology of Māhā'ulepū and Vicinity* displays the volcanic geological history of the area. Māhā'ulepū Valley has a unique geology from the surrounding Kōloa-Po'ipū area. Rather than the permeable karst lavas of the Kōloa volcanic series to the west, the Māhā'ulepū Valley floor is filled with alluvial material which generally extends about 60 feet under the surface. This material is highly weathered lava composed of dark brown to black silty clay and clayey silt. Research by the groundwater engineer on wells drilled in the early 1900s identified records of sticky red, brown, and purple clay layers from 75- to 300-foot depth on the HDF site. These layers are essentially impermeable and function as an aquiclude to separate shallow groundwater in the alluvium from the groundwater confined within the underlying volcanics.

Further, the groundwater analyses contained in the EIS was conducted by HDF's consulting groundwater engineer, who has more than 50 years of experience in water quality research and water resource engineering in Hawai'i. The EIS summarizes the accompanying technical report by Tom Nance Water Resource Engineering (TNWRE) in Appendix E, which describes the four studies that demonstrate that there is complete hydrologic separation of the shallow groundwater in valley's alluvial material from the

confined groundwater in the underlying volcanics. Groundwater confined within the underlying volcanics is the source of drinking water.

Your characterization of the impacts to downstream water from manure and effluent irrigation ignores sections of the EIS that explain conversion of urine and manure from cows into nutrients used by both the thick Kikuyu thatch and attenuated in the "poorly drained" soils. Kikuyu grass forms an exceedingly thick thatch that is certain to attenuate, if not completely block, surface runoff. Further, as discussed in the soils and agronomic analysis included as EIS Section 4.3 *Soils*, the designation of "poorly drained" is not an indication of low or poor infiltration, which refers to the ability of water and effluents to enter the soil surface. Said another way, soil "drainage" refers to the movement of water within or through the soil profile rather than entry through the soil surface.

Soils classified as poorly drained often exhibit anaerobic conditions. Anaerobic conditions typically result in higher rates of denitrification, which is the conversion of nitrate and nitrite to gaseous forms. This essentially reduces the potential for nitrate impacts on waterbodies. With reduced movement of water through the soil profile, the mobility of nutrients such as potassium and phosphorus is also reduced. Soil types at the HDF site are known to adsorb and retain large amounts of phosphorus. In this way, "poorly drained" soils may represent less risk of nitrate and nitrite leaching to associated waterbodies than "well drained" soils (EIS Section 4.3.2 *Existing Conditions - Soils*).

Poorly drained soils typically have low hydraulic conductivity. The weathered alluvium of Māhā'ulepū Valley shows a hydraulic conductivity on the order of 10.5 - 50 feet per day. This represents the rate of groundwater travel through soil. This is much slower than the rate typical of more permeable volcanic soils, such as those in Kōloa-Po'ipū (Section 4.3.1 of the EIS). Slower groundwater travel allows greater time for the remedial properties of soil and associated bacteria to denitrify nitrates and render potential contaminants inert.

Regulators at the State and national level recognize the value of manure as a source of natural fertilizer, as well as the ability of manure to increase organic matter in soils and improve carbon sequestration (EIS Section 4.3.2 *Long-Term Impacts and Mitigation - Soils*). HDF will employ management practices specifically designed to minimize environmental risk while utilizing 100 percent of manure on-site to provide 70 percent or more of the herd's feedstock as locally-grown pasture grass.

The potential maximum herd size has consistently been represented as the number of cows that reflects the carrying capacity of the land as guided by the results of the nutrient analysis. HDF is committed to establishing a herd of up to 699 mature dairy cows to demonstrate the pasture-based system as an economically and environmentally sustainable model for Hawai'i. Precision agricultural technology that monitors cows' health, grass productivity, and effluent management will be used to ensure environmental health and safety, as well as best management practices, and help determine the ultimate carrying capacity of the land. With proven success at a herd size of 699, HDF will contemplate the possibility of expanding the herd in the future.

The distinction between the herd sizes and permit differences is explained in the EIS Section 2.4 *Planned Dairy Development on Māhā'ulepū Agricultural Lands*. During the public scoping meeting, participants expressed an interest in understanding impacts of the committed herd size of up to 699 mature dairy cows, and the EIS analyzes and presents impacts at both the committed and contemplated herd size. Hawai'i Administrative Rules (HAR) §11-200-7 explicitly states in part that a group of actions shall be treated as a single action when: . . . the actions in question are essentially identical and a single statement will adequately address the impacts of each individual action and those of the group of actions as a whole.

Therefore, the probable impacts of the potential contemplated herd size are also analyzed and clearly identified in the Draft and Final EIS.

#### Calculations of Nutrients

A significant portion of the EIS and its technical appendices are dedicated to explaining how nutrients are cycled through a pasture-based dairy. Nutrient management is the practice of managing the amount, rate, source, method of application, and timing of plant nutrients and soil amendments. The NRCS Conservation Practice Standard 590 (referred to as Standard 590), Nutrient Management, applies to commercial fertilizers, organic by-products, waste water, organic matter, and irrigation water. The timing and application of nutrients should correspond as closely as practical with plant uptake, soil properties and weather conditions.

The nutrient calculations used by the groundwater engineer to determine the potential quantity of nutrients that may leave the site are based on the nutrient mass balance for the farm included in his report (Appendix E). The mass balance was prepared by the HDF technical service provider and utilizes the Cornell Net Carbohydrate and Protein System (CNCPs) model, which accounts for farm specific animal, environmental and dietary inputs to determine its manure production and nutrient excretion estimates.

Surfrider's nutrient calculations do not account for the agronomic demand of the crop, the depleted soils, and the attenuation of nutrients in both the Kikuyu thatch and during movement through soils. The calculations do not acknowledge the physical setbacks at HDF, designed to exclude cows from waterways 35-feet from each bank, for a total of 70 feet. Whether the calculations acknowledge that runoff is generated with only rainfall in excess of 0.8 inches, averaging 10 events per year, is doubtful.

The experience of the groundwater engineer in Hawai'i was noted previously in this response. He is considered one of the foremost experts in the field, and his calculations employ his decades of dedication to Hawai'i's groundwater resources. HDF stands by the findings presented in the Final EIS and Appendix E.

#### Impacts of Nutrient Loading into Coastal Waters are not Fully Presented

To address the comments to the Draft EIS, HDF engaged MRCI to survey the marine biotic community structure and provide baseline documentation of existing conditions. The typical weather and sea conditions in the area are characterized as a high energy environment due to frequent tradewinds and long-period ocean swell, which rapidly mix the water column. This translates to rough water conditions considered dangerous for human recreation and during periods of exceptionally calm wind and waves. The survey was conducted during such a period in November 2016, to allow for safety as well as for visibility within the water.

The open coastal exposure to long-period south swells and tradewind-generated seas are reflected in the survey findings. There is essentially no biotic community structure in the area where the ditch water flow meets the ocean, as the flow mixes with ocean water consistently subjected to substantial wave action and current flow to the west. Physical forces of water movement are maximal, resulting in an environment too harsh for substantial reef development. A semi-embayment created seaward of a submerged basaltic shelf is bounded by distinct shallow dikes that focus wave energy. Within the central area of this semi-embayment are expansive sand flats. Biotopes - areas of uniform environmental conditions that provide a living place for a specific assemblage of plants and animals - were documented and described for the Māhāulepū area in a marine biotic assessment report and included in the Final EIS in Appendix F-1 (Volume 2).

The hardy pioneering coral *Pocillopora meandrina* occurs throughout the nearshore zone with a hard bottom. Areas with a hard bottom and sheltered from wave effects had a 10- to 20-percent cover consisting of additional common coral species (*Porites lobata* and *P. compressa*, and *Montipora patula* and *M. capitata*). A well-established coral community was identified in a small area sheltered from destructive waves by a protective lava extrusion approximately 0.3 miles south of the ditch terminus. The corals within this area are composed of the most common components of most Hawaiian reefs. Due to the distance from the discharge point (approximately 2,000 feet, or 0.3 mile), nutrient or biological inputs from the ditch would be diluted to background marine levels and create no impact.

Further, MRCI addresses the effect of elevated nutrients on corals in its report, included in *A Baseline Assessment of Marine Biotic Community Structure off Māhāulepū, Kauai, Hawaii* (Appendix F-1, Volume 2 of the EIS). MRCI reviewed published scientific research related to potential effect of nutrient subsidies on reef corals. MRCI notes Kinsey (1991) observed that it is incorrect to jump from the observation that coral reefs do well under low nutrient conditions to the conclusion that coral reefs require low nutrient environments. Atkinson and Falter (2003) states that "It is widely believed that any nutrient input to coral reefs is deleterious. This conclusion . . . is simply incorrect." Experiments at Waikī Aquarium and at the Great Barrier Reef in Australia show corals flourish in high nutrient environments. An empirical example that demonstrates the inaccuracy of the assumption that elevated nutrients always result in negative effects to corals is the coral colonization on the sewage discharge diffusers at outfalls on O'ahu. The outfalls are located in a mixed marine environment similar to that off Māhāulepū.

For dairy operations with 700 or more mature dairy cows, additional regulatory review and permitting by the State Department of Health would be required. The application process for a National Pollutant Discharge Elimination System (NPDES) Concentrated Animal Feeding Operation (CAFO) permit includes public notification and input. At the discretion of HDF, management may choose to submit an application to expand operations up to the carrying capacity of the land, which is estimated to be up to 2,000 productive mature dairy cows. Permit process compliance would be followed at such time HDF may decide to pursue an expanded operation.

#### **VI. Conclusion**

The source of high fecal indicator bacteria (enterococci) levels within Waiopili Stream has not been determined. Surfrider points to HDF; however, DOH CWB in its Sanitary Survey determined there is no significant impact to Waiopili Ditch from any activity that can be attributed to the proposed dairy. In fact, DOH CWB expressed concern that impacts could be from on-site disposal systems (OSDS) in the adjacent Waikomo watershed, which includes Kōloa and Po'ipoi: approximately 3 million gallons of wastewater daily are discharged from the 2,238 OSDS (including 1,600 cesspools that provide no treatment) and the 120 private wastewater treatment systems in the region. Sources of FIB may be due to extra-enteric sources. Additional testing is underway by DOH CWB with U.S. Geological Survey Pacific Island Water Science Center staff and by the University of California at Berkeley.

HDF has fully disclosed the potential impacts from construction and operations, and has detailed its minimization practices. Two types of setbacks will be established to protect water quality of surface water and downstream areas. A physical setback to keep cows and manure from ditches and drainageways will be created with paddock fencing set 35 feet back from the top of bank of drainage ways on site. Vegetation within the setbacks will act as filter strips on both sides of the drainageways to capture and retain nutrients for forage growth on the site. Additional setbacks restrict liquid effluent application within 50 feet of waterways. Additional setbacks to protect water resources include no effluent application or grazing within

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1,000 feet from the nearest County well, and 20 feet from the taro farm. HDF will follow all regulatory guidance.

HDF prepared the EIS to share the detailed and thoughtful planning put into designing a world-class, environmentally sound dairy suitable to our island environment. HDF's goal to further food self-sufficiency by reinventing the flagging dairy industry in Hawai'i through establishment of a financially and environmentally sustainable, pastoral rotational-grazing dairy will provide more than one-million gallons of fresh milk for Hawai'i's families.

Your comment, along with this response, will become part of the public record and will be published in the Final EIS. A copy of the Final EIS is included on a compact disc with this letter. When published, the Final EIS will be available on the DEQC website which you can access using the following URL, and search "Hawai'i Dairy Farms": <http://tinyurl.com/OEQCKAUAI>.

Thank you for your participation in the environmental review process.

Sincerely,

GROUP 70 INTERNATIONAL, INC.



Jeffrey H. Overton, AICP, LEED AP  
Principal Planner

cc: Hawai'i Dairy Farms  
Hawai'i State Department of Health,  
Environmental Planning Office