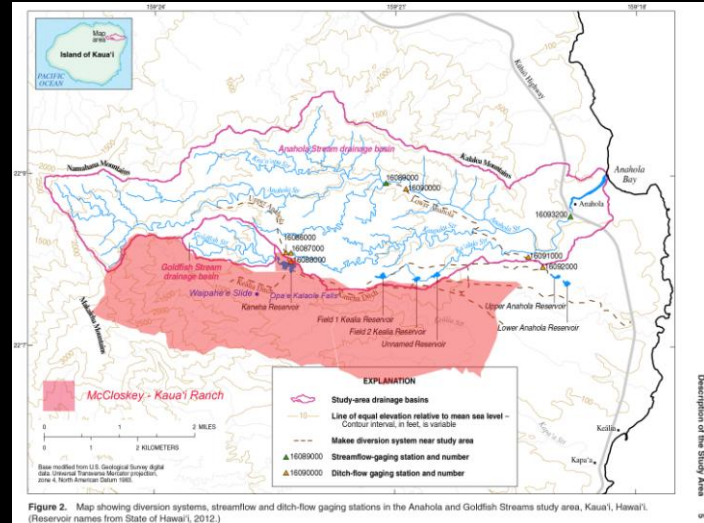


Anahola Watershed Research



Ho'okahua: Ahupua'a Based Leadership Project

by Anne Frederick

- Moku: Koolau
- Ahupua'a: Anahola/Anehola
- Project Description: Life-long Anahola residents and kupuna, describe a significant decrease in Anahola stream flows and aquatic life (o'opu), particularly after approx. 2004-5. My project seeks to understand these changes.

ANAHOLA/ANEHOLA

various meanings

Anahola – Measurement of time, time set aside, hourglass

ana – measurement; hola – time, hour

ana – to die; ola – life, health, heal or to grant life (possible silent or dropped “l” in “ihola” - directional particle

ana – cave or grotto

Anahola – Where the cave or grotto is located in time (reference to existing ali‘i burial cave on Mount Kalalea)

Anehola (original spelling from 5 different periodicals dating from 1835-1925)

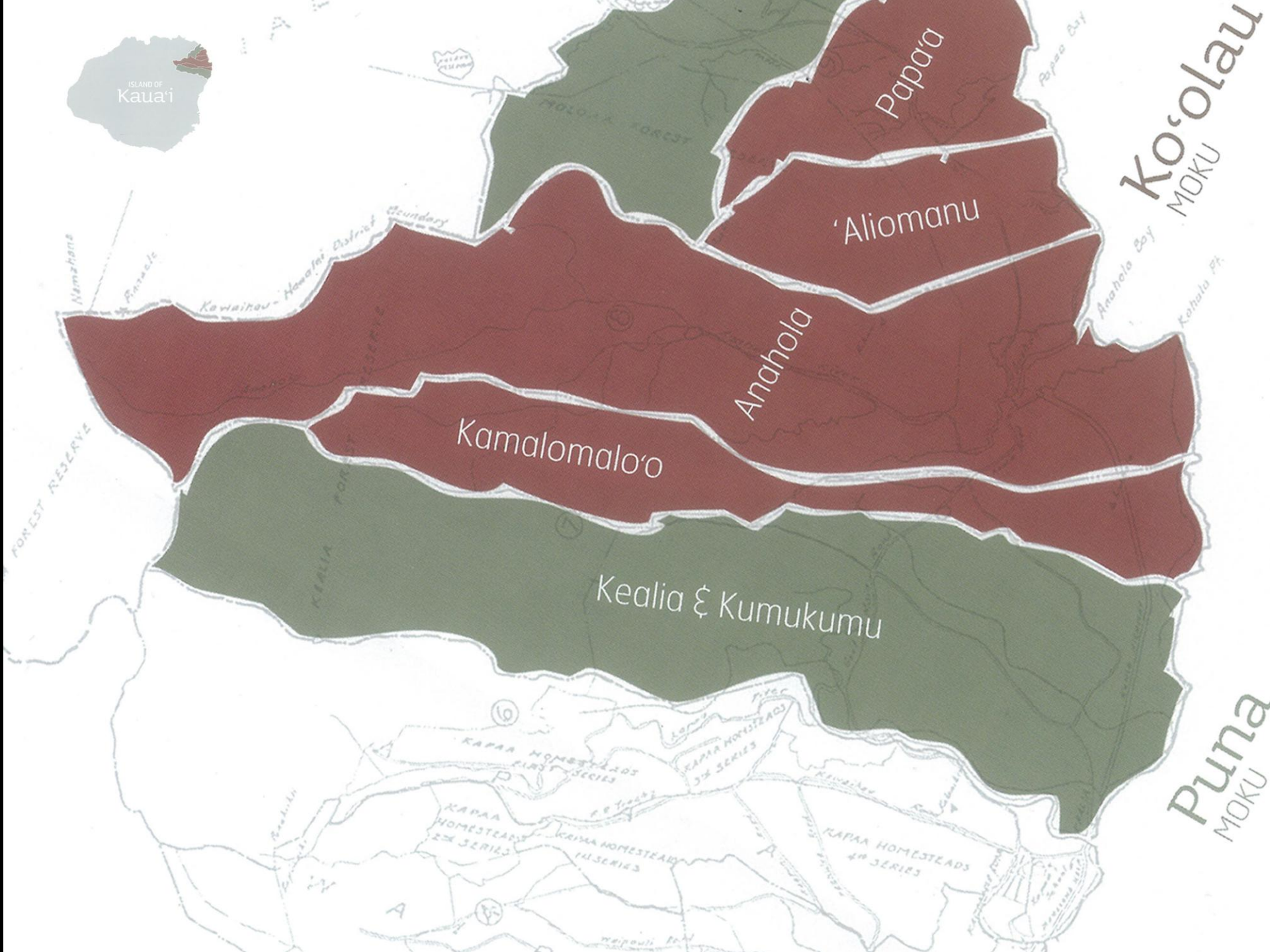
ane – breath of life; hola – time, hour

Anehola – the time/hour of the breath of life

source – “Anahola: Kaua‘i’s Mystic Hawaiian Village” by Agnes Keaolani Marti-Kini



ISLAND OF
Kauai



MOLOKA FOREST RESERVE

Papea

Papea Bay

Ko'olau
MOKU

'Aliomanu

Anahola Bay

Kohala Pt.

Anahola

Kamalomaloo

Kealia & Kumukumu

Puna
MOKU

KAPAA HOMESTEADS
1ST SERIES

KAPAA HOMESTEADS
3RD SERIES

KAPAA HOMESTEADS
2ND SERIES

KEAMA HOMESTEAD
1ST SERIES

KAPAA HOMESTEADS
4TH SERIES

FOREST RESERVE

Namahane

Anahola

Kawaihou - Hanalei District Boundary

Kealahou

Waiipuu Pt.

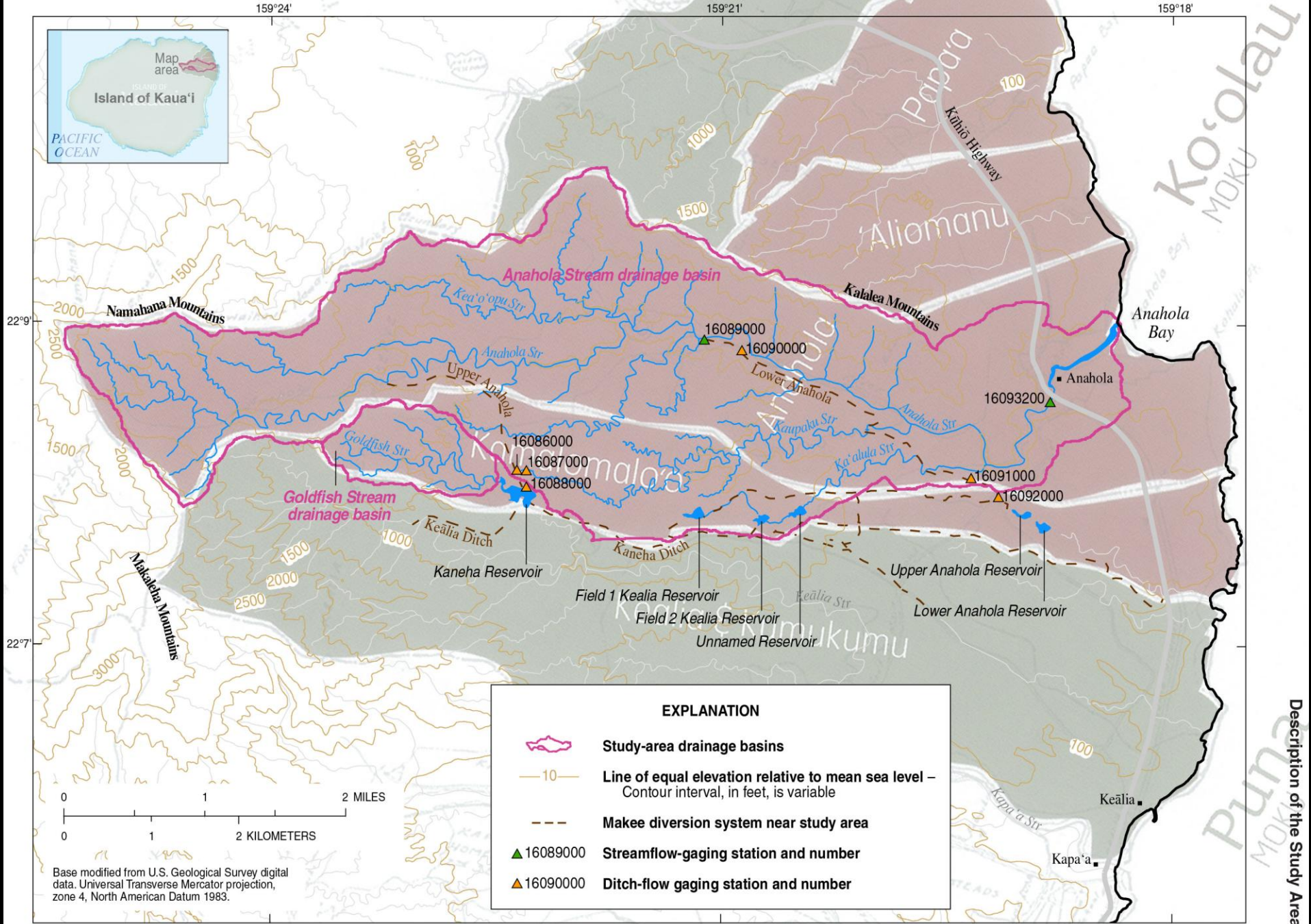


Figure 2. Map showing diversion systems, streamflow and ditch-flow gaging stations in the Anahola and Goldfish Streams study area, Kauai, Hawai'i. (Reservoir names from State of Hawai'i, 2012.)

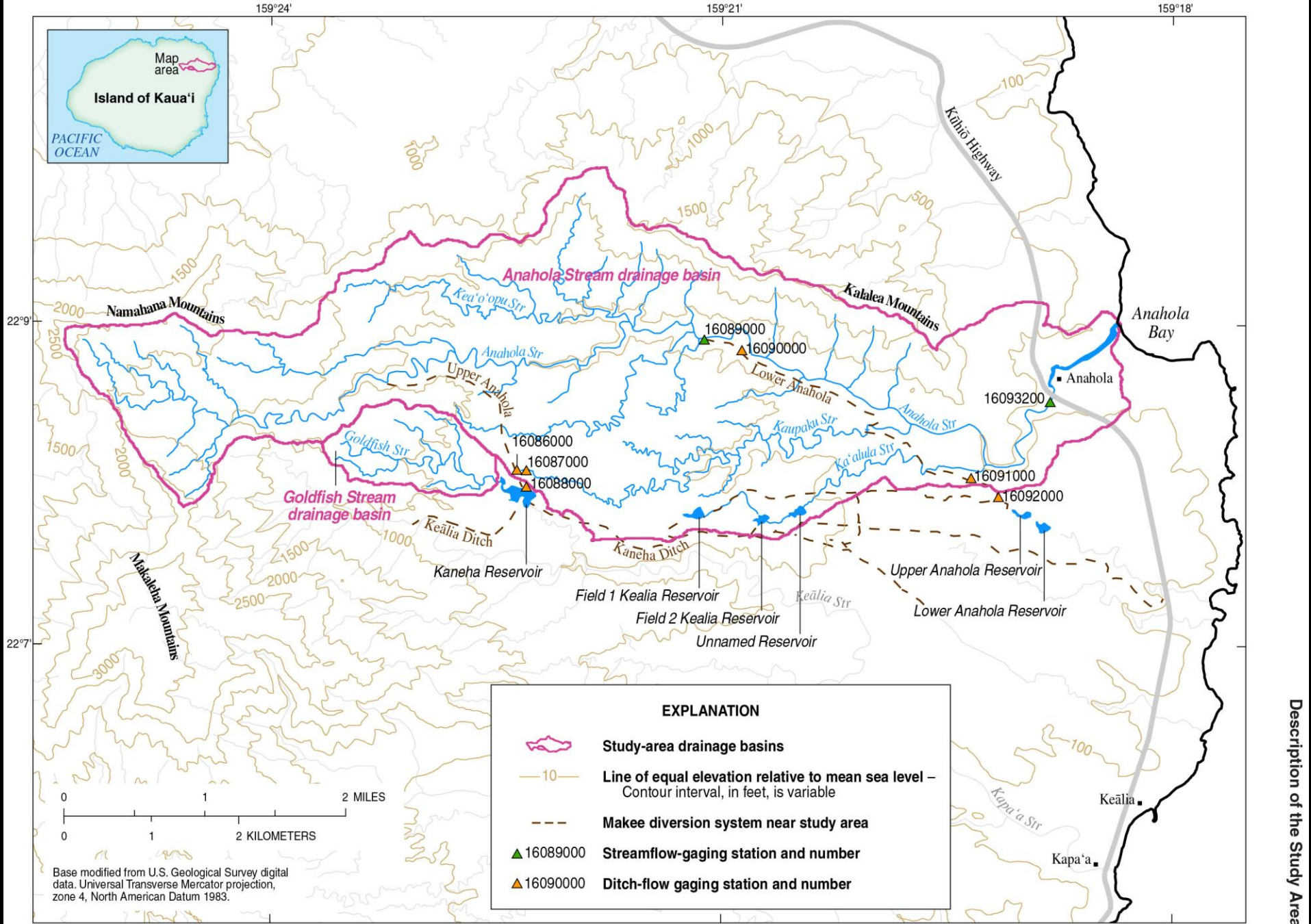


Figure 2. Map showing diversion systems, streamflow and ditch-flow gaging stations in the Anahola and Goldfish Streams study area, Kauai, Hawaii. (Reservoir names from State of Hawaii, 2012.)

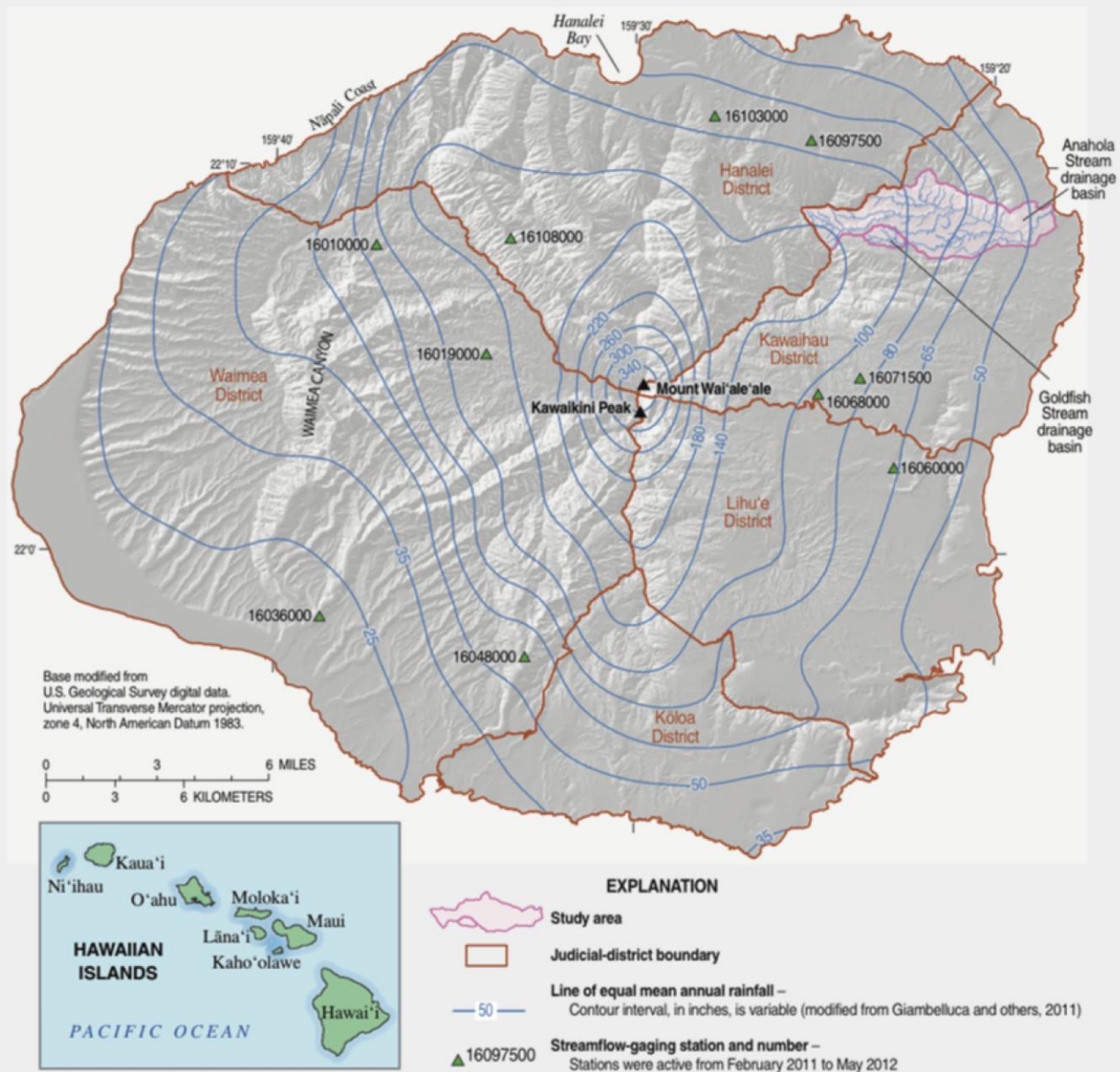


Figure 1. Map showing Anahola and Goldfish Streams study area, Kaua'i, Hawai'i.

ANAHOLA STREAM

“Anahola Stream is a perennial stream in northeast Kaua‘i, Hawai‘i, that supports agricultural, domestic, and cultural uses within its drainage basin.”

LAND USE HISTORY

“Anahola was designated by the Land Act of 1895, which allowed Crown lands to be leased or sold, for Native Hawaiian settlement to promote homestead farming as a means for preserving the Native Hawaiian culture (State of Hawai‘i Department of Hawaiian Home Lands, 2010).”

HISTORY OF STREAM DIVERSIONS:

Makee Sugar Company begins diverting surface water

“In the late 19th century, Makee Sugar Company began diverting surface water from Anahola Stream for the irrigation of sugarcane in the Keālia area.

The Makee Sugar Company’s surface-water collection system (hereafter referred to as the Makee diversion system) consisted of a network of ditches and reservoirs in the Anahola and Kapa‘a drainage basins, and depended primarily on Anahola and Keālia Streams for irrigation water.”

HISTORY OF DIVERSIONS:

Līhu'e Plantation Company acquires Makee

- By the early 1900s, the Makee diversion system delivered an average of 30 million gallons per day (Mgal/d) of water and included several reservoirs with a combined capacity of 700 million gallons (Mgal).
- When Makee Sugar Company was acquired by Līhu'e Plantation Company in 1933, they were cultivating 7,200 acres with an additional 2,200 acres cultivated primarily by homesteaders in the Anahola and Keālia areas (Wilcox, 1996, p. 73).
- Līhu'e Plantation ceased sugarcane cultivation in Anahola and Keālia in 1988—thereby abandoning some parts of the Makee diversion system (Souza and others, 1996).

INFORMAL DIVERSIONS:

“However, area residents have developed their own systems for diverting surface water from the lower reaches of Anahola Stream for agricultural, domestic, and cultural uses.

Anahola remains an important homestead area and has more Native Hawaiians than any other area on the Island of Kaua‘i (State of Hawai‘i Department of Hawaiian Home Lands, 2010).”

KAUA'I RANCH

- “In 2000 the McCloskey family purchased Kaua'i Ranch consisting of *the entire 6,500 acre ahupua'a, from Lihu'e Plantation Company*” – *from Kaua'i Ranch website*
- *“Kaua'i Ranch is 4,300 acres”*
- *NOTE: According to ahupua'a maps Kaua'i Ranch is not a full ahupua'a, but rather a portion of the Kealia ahupua'a*



CORNERSTONE TEAM

- >> Tom McCloskey - Chairman and CEO
- >> Neville Vere Nicoll - President
- >> Clark Lipscomb - President Real Estate
- >> John Ord - Chief Financial Officer
- >> Ryan Williams - Principal
- >> Michael Karpowicz - Principal



TOM McCLOSKEY | CHAIRMAN AND CEO

Tom McCloskey is the Chairman and CEO of Cornerstone Holdings, a private investment firm focused on real estate and direct investments, and Chairman of Urban Green Investments in San Francisco.

Investments include Magna Energy Services, Petro Cloud (oil and gas), and bMedia (outdoor advertising). Cornerstone actively owns, manages and develops real estate in several markets across the United States including Colorado, the San Francisco bay area, Hawaii, and New York State.

Mr. McCloskey served as chairman of Horizon Organic Holdings (HCOW) the world's largest organic dairy company from 1993 to 2004, and a director of Palmer Wireless (PWIR). He founded the McCloskey Business Plan Competition at the University of Notre Dame. He serves on the board of the Thacher School (Ojai, California), the Central American Leadership Initiative, and the National Board of the Smithsonian Institute in Washington, DC. He was an original member of the Better Angels Society which supports the efforts of documentary filmmaker, Ken Burns.

Tom received his BA from Notre Dame and, after serving as a Peace Corps volunteer in Malawi, his MBA from the Wharton School.

He and his wife, Bonnie, live in Aspen, Colorado – where she has served as a Trustee of the Aspen Institute since 2001 – and the Bay area. They have four children and six grandchildren.



NEVILLE VERE NICOLL | PRESIDENT

Neville Vere Nicoll joined Cornerstone in 1998. As President, he is responsible for the overall strategy of the company, as well as the group's direct investments. Neville has been involved in venture capital and direct investments for 30 years.

Mr. Vere Nicoll has a degree from the European Business School in Paris.

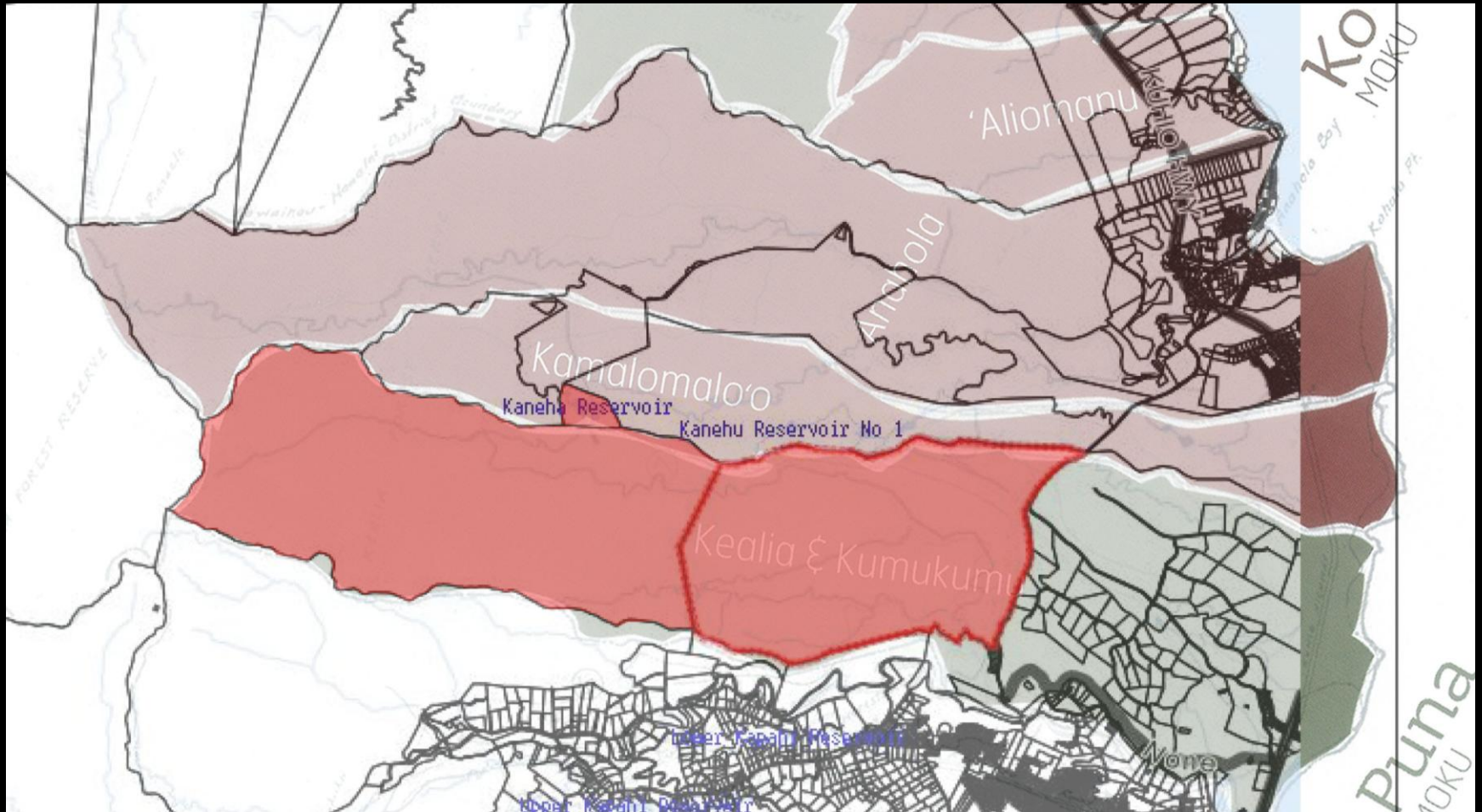
From the Kaua'i Ranch website:

“We have offered the following utility options in the past and look forward to working with you on your film’s unique challenges.”

- Helicopter landing site
- Large open areas for base camps
- Easy access for large equipment
- Easy access to trails
- **Current plantation ditch systems**
- Plenty of parking
- Existing improved dirt roads
- Staging area
- **Controlled waterfalls**
- **Small and large reservoirs**

KAUA'I RANCH

McCloskey/Cornerstone Condominiums/
Cornerstone Hawai'i Holdings



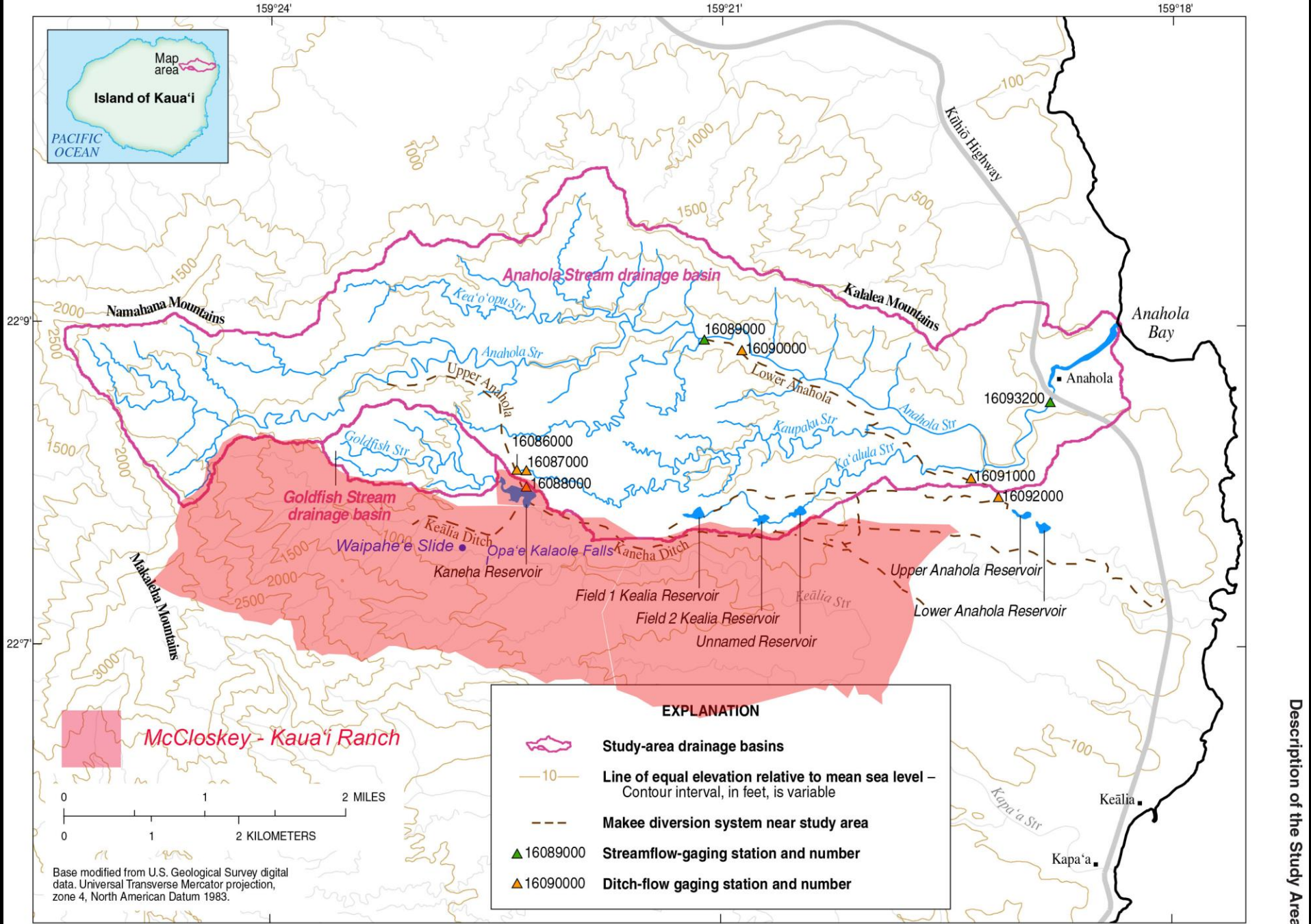


Figure 2. Map showing diversion systems, streamflow and ditch-flow gaging stations in the Anahola and Goldfish Streams study area, Kauai, Hawaii. (Reservoir names from State of Hawaii, 2012.)

POTENTIAL WATER DIVERSIONS?

- One large reservoir - Kaneha Reservoir, and two small reservoirs – Mimino & Waiawa Reservoirs fall within the tax & USGS map boundaries for Cornerstone Holdings. Yet the Kaua‘i Ranch website advertises “small and large reservoirs”, several photos of which are featured on the website.
- **Could additional reservoirs have been created on Kaua‘i Ranch?**

KAUA'I RANCH WATER "FEATURES"



KAUA'I RANCH

Privatization of Opa'e Falls



KAUA'I RANCH

Possibly Kaneha Reservoir



KAUA'I RANCH

Possibly Kaneha Reservoir



KAUA'I RANCH

Possibly Kaneha Reservoir



KAUA'I RANCH

Additional Waterfalls



KAUA'I RANCH

Water features



KAUA'I RANCH

Possibly Kaneha Reservoir(s)



KAUA'I RANCH



POTENTIAL WATER DIVERSIONS?

- The former sugarcane lands located in the center of Anahola Valley, currently owned by the DHHL, are under interim month to month leases and are used primarily for raising cattle.

NATIVE SPECIES

“Biological surveys of Anahola Stream were conducted as part of a study to determine the distribution of native and nonnative aquatic stream fauna.

Results of the biological surveys indicated the presence of the following native aquatic species in Anahola Stream:

‘o‘opu ‘akupa (Sandwich Island sleeper) and ‘o‘opu naniha (Tear-drop goby) in the lower stream reaches surveyed; and ‘o‘opu nākea (Pacific river goby), ‘o‘opu nōpili (Stimpson’s goby), and ‘ōpae kala‘ole (Mountain shrimp) in the middle and upper stream reaches surveyed.”

10 Availability and Distribution of Low Flow in Anahola Stream, Kaua'i, Hawai'i

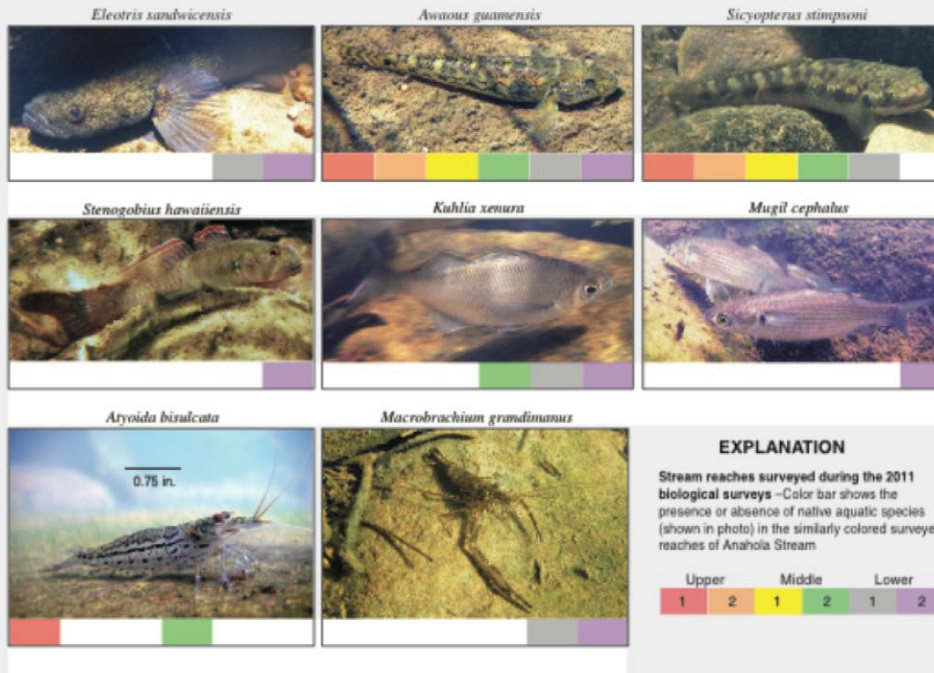
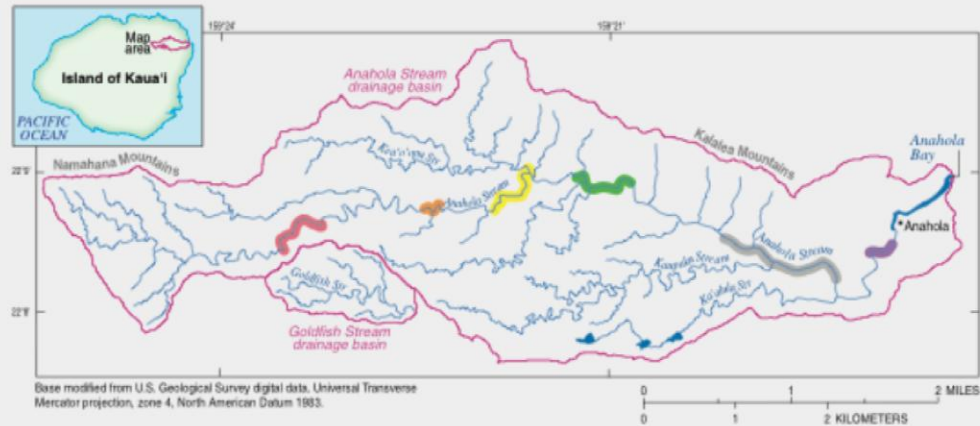


Figure 4. Map showing locations of stream reaches surveyed and the distribution of selected native aquatic species observed during the 2011 U.S. Geological Survey biological surveys in Anahola Stream, Kaua'i, Hawai'i. (Aquatic species shown in the photographs without a scale bar generally range from a few inches to one foot.)



Research Sources

- USGS/Quad Maps
- Availability and Distribution of Low Flow in Anahola Stream, Kauaʻi, Hawaiʻi - By Chui Ling Cheng and Reuben H. Wolff - 2012 (DHHL, USDO, USGS,)
- Kauaʻi Tax Maps
- Anahola: Kauai's Mystic Hawaiian Village, by Agnes Keaolani Marti-Kini

FUTURE PLANS

- Below Kuhio Highway and extending outside of the study-area boundary are residential lots; DHHL plans to develop additional residential and agricultural lots in this area (State of Hawai'i Department of Hawaiian Home Lands, 2010).