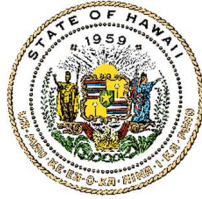


JOSH GREEN, M.D.
GOVERNOR | KE KIA 'ĀINA

SYLVIA LUKE
LIEUTENANT GOVERNOR | KA HOPE KIA 'ĀINA



STATE OF HAWAII | KA MOKU'ĀINA 'O HAWAI'I
DEPARTMENT OF LAND AND NATURAL RESOURCES
KA 'OIHANA KUMUWAIWAI 'ĀINA

P.O. BOX 621
HONOLULU, HAWAII 96809

DAWN N.S. CHANG
CHAIRPERSON
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MANAGEMENT
CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES
ENFORCEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

March 31, 2023

Scott Glenn, Interim Director
Office of Planning and Sustainable Development
Environmental Review Program
235 South Beretania Street, Room 702
Honolulu, Hawai'i 96813

Subject: Environmental Impact Statement Preparation Notice (EISPN) for the Proposed Department of Land and Natural Resources (DLNR) Management of Wailua Reservoir Dam and Diversion Project

Location: Wailua Reservoir, Kawaihau, Island of Kaua'i

Tax Map Keys: (4) 3-9-002:001, 029; (4) 4-2-001:001, 003, 004, 005, 006, 007, 008, 009, 010, 012; (4) 4-2-002:008, 114, 115, 130; (4) 4-2-007:014, 015, 016, 017, 018, 019

Dear Mr. Glenn:

DLNR has determined that an Environmental Impact Statement (EIS) is required for the proposed Management of Wailua Reservoir Dam and Diversion project. This determination was made in accordance with Hawai'i Revised Statutes (HRS) §343-5(b) and Hawai'i Administrative Rules (HAR) §11-200.1-14(d)(2), which state that an agency may choose to prepare an EIS, beginning with preparation of an EISPN, if through its judgment and experience determines that an EIS is likely to be required.

We hereby transmit this determination that an EIS is required and the EISPN for the Management of Wailua Reservoir Dam and Diversion proposed project. Attached to this letter is the required searchable PDF file of the EISPN provided via the online submission platform. DLNR respectfully requests publication of the EISPN for this project in the next edition of *The Environmental Notice* periodic bulletin.

Should you have any questions about this submittal, please contact Gary Hashiro, Engineer, Hawai'i DLNR at (808)-587-0235 or via email to gary.a.hashiro@hawaii.gov. You may also contact our consultant, Tamara Pearl of Gannett Fleming at (212)-884-2291 or via email to tpearl@gfnet.com.

Sincerely,

A handwritten signature in black ink, appearing to read "Dawn N.S. Chang".

Dawn N.S. Chang, Chairperson

RT

From: webmaster@hawaii.gov
To: [DBEDT OPSD Environmental Review Program](#)
Subject: New online submission for The Environmental Notice
Date: Friday, March 31, 2023 9:15:32 AM

Action Name

Management of Wailua Reservoir Dam and Diversion

Type of Document/Determination

Environmental impact statement preparation notice (EISPN)

HRS §343-5(a) Trigger(s)

- (1) Propose the use of state or county lands or the use of state or county funds
- (2) Propose any use within any land classified as a conservation district

Judicial district

Kawaihau, Kaua'i

Tax Map Key(s) (TMK(s))

(4) 3-9-002:001, 029; (4) 4-2-001:001, 003, 004, 005, 006, 007, 008, 009, 010, 012; (4) 4-2-002:008, 114, 115, 130; (4) 4-2-007:014, 015, 016, 017, 018, 019

Action type

Agency

Other required permits and approvals

To Be Determined

Proposing/determining agency

Hawai'i Department of Land and Natural Resources

Agency contact name

Gary Hashiro

Agency contact email (for info about the action)

gary.a.hashiro@hawaii.gov

Email address or URL for receiving comments

tpearl@gfnet.com

Agency contact phone

(808) 587-0235

Agency address

1151 Punchbowl Street
Honolulu, HI 96813
United States
[Map It](#)

Public Scoping Meeting information

4/26/2023, 6PM HST Virtual

Accepting authority

Office of the Governor

Accepting authority contact name

Governor Josh Green

Accepting authority contact email or URL

<https://governor.hawaii.gov/>

Accepting authority contact phone

(808) 586-0034

Accepting authority address

State Capitol
Honolulu, HI 96813
United States
[Map It](#)

Was this submittal prepared by a consultant?

Yes

Consultant

Gannett Fleming

Consultant contact name

Tamara Pearl

Consultant contact email

tpearl@gfnet.com

Consultant contact phone

(212) 884-2291

Consultant address

3838 North Central Avenue
Suite 1900
Phoenix, AZ 85012
United States
[Map It](#)

Action summary

The Hawai'i Department of Land and Natural Resources (DLNR) is proposing to evaluate alternatives for the future of the Wailua Reservoir Dam and the diversion from the North Fork Wailua River. The Proposed Action would consist of removing DLNR's responsibility for operation and maintenance of Wailua Reservoir Dam and Diversion. The Wailua Reservoir Dam was originally constructed to store water for large scale commercial agriculture irrigation, but due to this industry's decline, the reservoir no longer serves its original purpose. The dam is classified as high hazard and poses a public safety risk to the downstream population in the event of a dam breach. The project will evaluate alternatives remove DLNR from responsibility and costs for operation, maintenance, and dam safety requirements associated with the Wailua Reservoir Dam and Diversion.

Attached documents (signed agency letter & EA/EIS)

- [Wailua-Reservoir-EISPN-Cover-Letter_3-31-23.pdf](#)
- [Wailua-Reservoir-EISPN.pdf](#)

Action location map

- [Wailua-Action-Location-Boundary.zip](#)

Authorized individual

Tamara Pearl

Authorization

- The above named authorized individual hereby certifies that he/she has the authority to make this submission.

ENVIRONMENTAL IMPACT STATEMENT PREPARATION NOTICE

Notice of Preparation to Conduct Scoping and to Prepare an
Environmental Impact Statement for the Management of
Wailua Reservoir Dam and Diversion



Prepared by:



Gannett Fleming
3838 North Central Avenue
Suite 1900
Phoenix, AZ 85012-1957

Prepared for:



State of Hawai'i
Department of Land and Natural Resources
1151 Punchbowl St.
Honolulu, HI 96813

April 2023

ENVIRONMENTAL IMPACT STATEMENT PREPARATION NOTICE

Notice of Preparation to Conduct Scoping and to Prepare an
Environmental Impact Statement for the Management of
Wailua Reservoir Dam and Diversion

Island of Kaua'i, Hawai'i

April 2023

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List of Acronyms and Abbreviations

ACS	American Community Survey	GHG	Greenhouse Gas
amsl	Above mean sea level	HAR	Hawai'i Administrative Rules
APE	Area of Potential Effect	HEPA	Hawai'i Environmental Policy Act
CIA	Cultural Impact Assessment	HI	Hawai'i
CWA	Clean Water Act	HRS	Hawai'i Revised Statutes
CWRM	Commission on Water Resource Management	KIUC	Kaua'i Island Utility Cooperative
CZMA	Coastal Zone Management Act	LRFI	Literature Review and Field Inspection
DAR	Hawai'i DLNR Division of Aquatic Resources	mgd	Million gallons daily
DLNR	Department of Land and Natural Resources	NEPA	National Environmental Policy Act
DOA	Hawai'i Department of Agriculture	NHO	Native Hawaiian Organization
DOFAW	Hawai'i DLNR Division of Forestry and Wildlife	NHPA	National Historic Preservation Act
DOH	Hawai'i Department of Health	NRCS	National Resources Conservation Service
EA	Environmental Assessment	NWI	National Wetlands Inventory
EIS	Environmental Impact Statement	OCCL	Office of Conservation and Coastal Lands
EISPN	Environmental Impact Statement Preparation Notice	PMF	Probable maximum flood
EJ	Environmental Justice	SHPD	Hawai'i State Historic Preservation Division
EKIS	East Kaua'i Irrigation System	SLR	Sea Level Rise
EKWUC	East Kaua'i Water Users Cooperative	SLUC	State Land Use Commission
EO	Executive Order	SLUD	State Land Use District
EPA	U.S. Environmental Protection Agency	SMA	Special Management Area
FEMA	Federal Emergency Management Agency	TMK	Tax Map Key
FIRM	Flood Insurance Rate Map	USACE	U.S. Army Corps of Engineers
FIRMette	Official copy of a FIRM panel	USDA	U.S. Department of Agriculture
FONSI	Finding of No Significant Impact	USFWS	U.S. Fish and Wildlife Service

1. Introduction

1.1. Project Summary

Type of Document: Environmental Impact Statement Preparation Notice (EISPN)

Project Name: Management of Wailua Reservoir Dam and Diversion

Proposing Agency: Department of Land and Natural Resources
State of Hawai'i
1151 Punchbowl St.
Honolulu, HI 96813
Contact: Gary Hashiro, Engineer
Email: gary.a.hashiro@hawaii.gov
Phone: 808-587-0235

Consultant: Gannett Fleming
3838 North Central Avenue, Suite 1900
Phoenix, AZ 85012-1957
Contact: Tamara Pearl, Environmental Scientist
Email: tpearl@gfnet.com
Phone: 212-884-2291

Accepting Authority: Office of the Governor

Location: Wailua Reservoir (22° 03'48" N, 159° 24'01" W)
Island of Kaua'i, Hawai'i

State Land Use District: Conservation and Agriculture

Judicial District: Kawaihau District

Tax Map Keys: 4-3-9-002:001, 029
(Project Study Area) 4-4-2-001:001, 003, 004, 005, 006, 007, 008, 009, 010, 012
4-4-2-002:008, 114, 115, 130
4-4-2-007:014, 015, 016, 017, 018, 019

Project Study Area Size: 542.3 acres

Proposed Action: DLNR is proposing to evaluate alternatives for the future of the Wailua Reservoir Dam and the diversion from the North Fork Wailua River. The Proposed Action would consist of removing DLNR's responsibility for operation and maintenance of Wailua Reservoir Dam and diversion.

EIS Triggers:

- Use of state lands per Hawai'i Revised Statutes (HRS) Chapter 343-5(a)(1)
- Use of any land classified as Conservation District by the state land use commission under HRS Chapter 205, pursuant to HRS Chapter 343-5(a)(2)

1.2. Project Background

The Wailua Reservoir and Wailua Ditch Intake (a diversion from the North Fork Wailua River) were constructed as part of the East Kaua'i Irrigation System (EKIS) by the Līhu'e Plantation Company and the East Kaua'i Water Company in the 1920s to provide water for sugar cane operations. The source of the Wailua Reservoir is natural streamflow and water diverted from the North Fork Wailua River at the Wailua Ditch Intake (henceforth referenced as diversion). Under existing conditions, water flows from the diversion point through a ditch and tunnel system to the reservoir. There are two controlled outlets from the reservoir. One currently provides flow to an irrigation lateral that serves Kaua'i's Hindu Monastery, and one provides flow to a small stream. Both of these flows return to the North Fork Wailua River further downstream.

The extensive ditch system that previously flowed northeast from the reservoir is collectively referred to as the North Wailua Ditch and is a subset of the larger EKIS. The North Wailua Ditch historically included eight major laterals with additional minor laterals and connections to various reservoirs. The Wailua Ditch no longer conveys irrigation waters to the northeast from the reservoir due to deterioration of infrastructure and a lack of irrigation water users to generate demand. Water has not flowed northeast from the reservoir for a number of years.

With the conversion of farmland to residential development in the surrounding areas, some North Wailua Ditch laterals have been removed or covered in place. Additionally, the remaining ditches, laterals, and tunnels have become overgrown and dilapidated throughout much of the system due to a lack of routine maintenance and lack of flow through the system. The existing system is no longer viable without a substantial amount of maintenance and rehabilitation.

Wailua Reservoir Dam (State Dam ID KA-0060) is an earthen dam 40 feet in height and 1,080 feet in length, with a current storage capacity of 274 million gallons at the top of the dam. The normal pool of Wailua Reservoir is approximately 111 million gallons (DLNR, 2022). The dam is classified as high hazard potential, indicating that failure of the dam could result in loss of human life.

From 2001 to the end of 2019, Wailua Reservoir was managed by the East Kaua'i Water Users Cooperative (EKWUC), operating under a revocable permit from DLNR. In December 2019, EKWUC voted against continuation of the revocable permit; therefore, management and operation has reverted to DLNR. However, DLNR lacks the resources for continued operation of the dam, reservoir, and irrigation system.

Other entities have expressed limited interest in assuming ownership or management of the reservoir and diversion. The 2018 Kaua'i General Plan cites a conceptual plan for a dual-purpose

irrigation and hydroelectric project utilizing Wailua Reservoir, known as the Kalepa Water Project, that would be managed by the Kaua'i Island Utility Cooperative (KIUC).

The 2003 *Agricultural Water Use and Development Plan* issued by the Hawai'i Department of Agriculture (DOA) recommended that DOA rehabilitate and maintain the EKIS. In 2022, DOA initiated the EKIS Facilities Assessment Study to determine the number of system users, water demand, and extent and condition of irrigation facilities. DOA has not yet completed this study and, prior to the publishing of this EISPN, indicated that there are no definitive results from the study at this point. No public or private entity has currently pursued a transfer of ownership and operation of the reservoir and diversion from DLNR. In the absence of another state agency or private entity seeking to assume management and operation of the system, DLNR is considering the removal of the remaining facilities, and is moving forward in the preparation of an EIS. In the event that the DOA study is complete within the timeframe of this EIS, it will be considered in the EIS analysis.

1.3. Proposed Action

DLNR is proposing to evaluate alternatives for the future of the Wailua Reservoir Dam and the diversion from the North Fork Wailua River. The Proposed Action would consist of removing DLNR's responsibility for operation and maintenance of Wailua Reservoir Dam and diversion.

1.4. Purpose and Need

Wailua Reservoir Dam was originally constructed to store water for large scale commercial agriculture irrigation. Due to the decline in large scale commercial monocrop agriculture in the late twentieth century, the reservoir no longer serves its original purpose. The dam is classified as high hazard and poses a public safety risk to the population downstream of the reservoir in the case of an uncontrolled breach. Recent documented vandalism and trespassing have caused minor damage to the dam and spillway. As such, the dam poses a significant financial burden, requires continuous maintenance, poses a public safety risk to downstream populations, and is a liability for DLNR.

The purpose of the proposed project is to remove the Wailua Reservoir Dam and diversion from the oversight and management of DLNR Land Division or remove the dam and diversion from jurisdiction pursuant to Hawai'i Administrative Rules (HAR) Chapter 13-190.1.

The need for the project is to remove responsibility and costs for operation, maintenance, and other dam safety requirements from DLNR. Additionally, the project would remove the liability and risk of dam operation from DLNR.

1.5. HEPA Process and Agency Roles

The purpose of the Hawai'i Environmental Policy Act (HEPA) is to ensure that environmental impacts are given proper consideration in the decision-making process. The Proposed Action would take place on lands owned by the state and classified as Conservation District by the State Land Use Commission pursuant to HRS Chapter 205. Any action involving the use of state-owned lands or use of lands classified as Conservation District requires the preparation of an

environmental assessment (EA) or Environmental Impact Statement (EIS), pursuant to HRS Chapter 343-5(a)(1) and HRS Chapter 343-5(a)(2) respectively.

DLNR will serve as the lead proposing agency for the HEPA process and be responsible for fulfilling any requirements for State compliance associated with the proposed action. The Office of the Governor will be the approving agency.

Under HRS Chapter 343-5(b), an agency may determine that an EIS is necessary, based on judgment and experience, and proceed directly to the preparation of an EISPN rather than first preparing an EA, concurrent with HRS Chapter 343-5(b) and HAR Chapter 11-200.1-14(d).

Due to the potential for significant impacts, DLNR made an independent determination that an EIS will be necessary. Therefore, no EA will be prepared and this EISPN will begin the public scoping process for the Draft EIS. In this case, DLNR recognized that actions may have a significant impact on the environment in two possible ways; 1) the project could involve an irrevocable commitment to loss or destruction of any natural or cultural resource, and 2) implementation of the project could curtail the range of beneficial uses of the reservoir and future restoration of agricultural practices east of the reservoir.

In addition, the current project alternatives have the potential to require federal permitting pursuant to the Section 404 of the Clean Water Act through USACE. USACE would produce National Environmental Policy Act (NEPA) documentation during the Section 404 authorization process, if necessary. According to HRS Chapter 343-5(f), when an action is subject to both HEPA and NEPA requirements, the agencies will cooperate to the fullest extent possible. USACE will serve as the lead agency for the NEPA process, with DLNR acting as a cooperative agency, as necessary.

The Draft EIS will be prepared according to HEPA. According to HRS Chapter 343, an EISPN is prepared and published after the first step of the HEPA process, initial stakeholder coordination. The EISPN is intended to alert the general public of an agency's intent to prepare an EIS and begin public scoping. HEPA prioritizes public involvement in the form of public scoping meetings, public hearings, comments from the public at meetings, and comments from the public on proposed action and potential impacts. See Chapter 5 for details on the public scoping process.

1.6. Process for Undertaking the Proposed Action and Environmental Review

The process for undertaking the proposed action and environmental review includes a public scoping process, preparation of a Draft EIS, public comment, preparation of a Final EIS, and final approval. The public scoping process will include collecting and characterizing information, including public comments received in response to the EISPN, public scoping meeting(s), or any other stakeholder or agency response regarding the project. After preparation of a Draft EIS, there will be another public comment period to allow for further public review of the project. Comments received during the public comment period will be addressed during the preparation of the Final EIS. The Final EIS will be submitted to the Board of Land and Natural Resources for their review. If suitable, the Office of the Governor of Hawai'i will then have the opportunity to approve the project.

1.7. Required Permits and Approvals

DLNR will prepare the Draft EIS with input, analysis, and other environmental review requirements from local, state, and federal agencies. The Draft EIS will list all permits, approvals, or other authorizations necessary to implement the proposed action. A list of potential permits and approvals is provided below, organized by permit/approval type at the federal, state, and county levels. Further explanation of required permits and approvals can be found in appropriate sections in Chapter 3.

Agency	Permit or Approval
<i>Federal</i>	
U.S. Army Corps of Engineers	Section 404, Nationwide Permit or Individual Permit
U.S. Fish and Wildlife Service	Section 7 Endangered Species Act Consultation
Hawai'i State Historic Preservation Division	Section 106, National Historic Preservation Act
<i>State</i>	
Hawai'i DLNR, Division of Forestry and Wildlife	State Threatened and Engangered Species Coordination and Approval
Hawai'i DLNR, Engineering Division, Dam Safety	Dam Removal Approval Application
Hawai'i DLNR, Commission on Water Resource Management	Stream Channel Alteration Permit and/or Stream Diversion Works Permit
Hawai'i DLNR, Office of Conservation and Coastal Lands	Site Plan Approvals for Work within Conservation District
Hawai'i State Historic Preservation Division	HRS Chapter 6E-8
Hawai'i DOH, Clean Water Branch	National Pollution Discharge Elimination System (NPDES) Permit
Hawai'i Office of Planning and Sustainable Development	CZMA Federal Consistency Review
Hawai'i Department of Health (DOH), Clean Water Branch, Engineering Division	Section 401 Water Quality Certification
<i>County</i>	
Hawai'i DOH, Environmental Management Division, Indoor and Radiological Branch	Community Noise Permit
County of Kaua'i, Department of Public Works, Engineering	Grading / Grubbing / Stockpiling Permits
County of Kaua'i, Department of Public Works, Engineering	Floodplain Permits and Approvals

2. Project Description and Alternatives

2.1. Project Study Area Description

Wailua Reservoir Dam and diversion are located on the north side of Kuamo'o Road (State Route 580), north of Wailua Homesteads, in Kaua'i County, Hawai'i. Surrounding land uses include forested area, agricultural research, commercial/institutional property, paved roads, and dirt access roads. The dam is accessed from Kuamo'o Road, with lockable gates at both ends of the dam breast. See Figure 1 for a Topographic Location Map of the project study area. See Figure 2 for an Aerial Location Map of the project study area.

The ahupua'a is a traditional Hawaiian land division extending from mountains to sea, and generally encompasses one or more watersheds. The project study area is entirely within the Wailua ahupua'a, stretching from Mount Wai'ale'ale to the coast, and encompassing most of the small streams and tributaries to the Wailua River.

The reservoir was originally impounded to store water for irrigation for sugar cane plantation operations. Wailua Reservoir Dam impounds water diverted from the North Fork Wailua River and dam outlets reconnect to the river downstream. The reservoir still has the capability to divert water to irrigation ditches to the east and northeast of the reservoir, however, these irrigation ditches are no longer in service and have fallen into a state of disrepair. The reservoir also serves as a recreational fishery for largemouth bass, smallmouth bass, peacock bass, and tilapia.

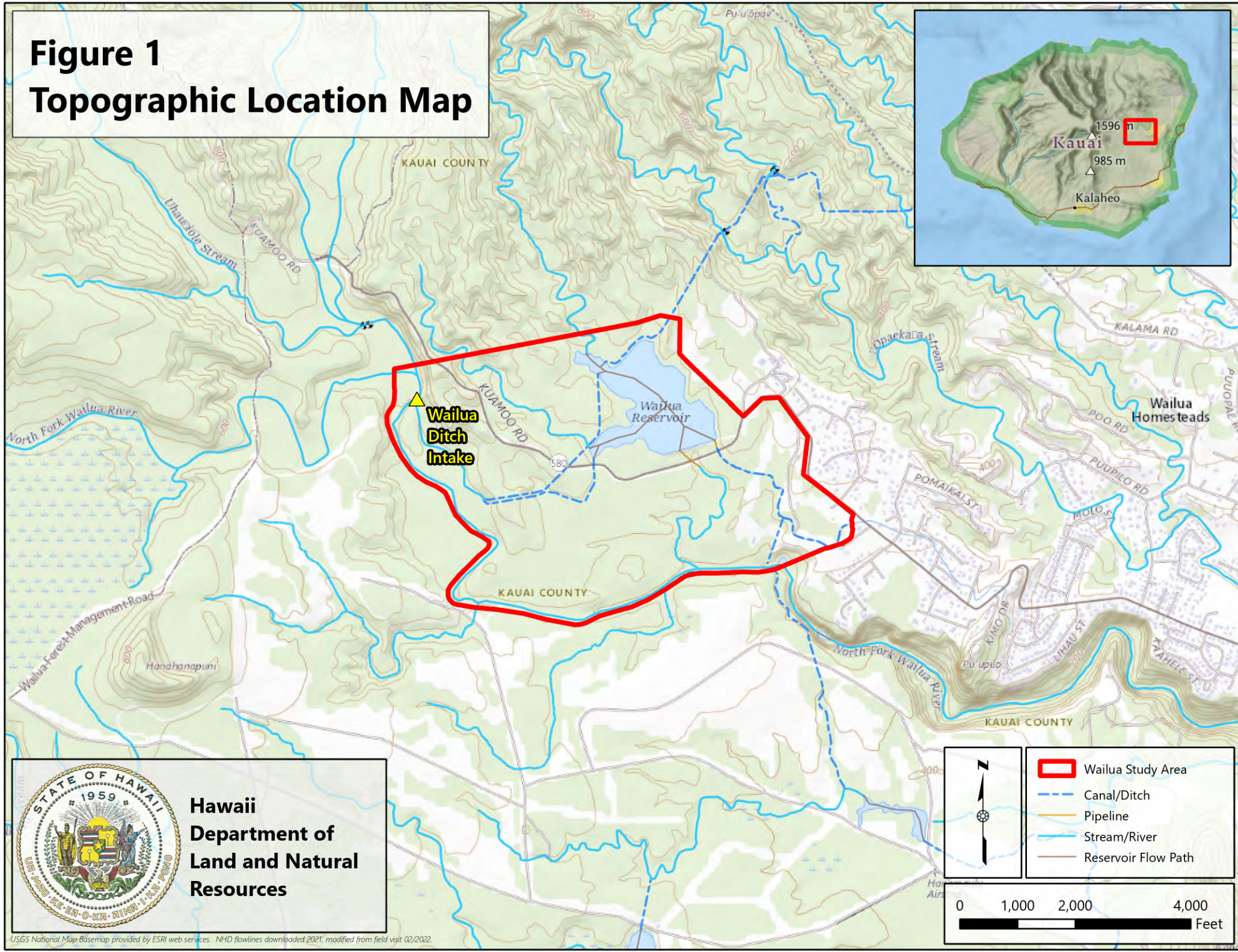
The diversion from the North Fork Wailua River is currently accessed via a footpath from Kuamo'o Road through a forested area. There is no access for vehicles to the diversion point currently. If construction or maintenance vehicles would need to access the diversion, an access road or path would need to be constructed. This would require vegetation removal and minor earthwork for construction of a stable access road.

The project study area includes the diversion from the North Fork Wailua River, the ditches from the diversion to the reservoir, Wailua Reservoir, the reservoir outlets, and the return points from the outlet channels to the North Fork Wailua River. According to the County of Kaua'i Parcel Information (County of Kaua'i, 2022), the following parcels are included within the project study area:

Tax Map Key (TMK)	Parcel Size (Acres)	Ownership
4-3-9-002:001	5813.9	State of Hawai'i – Agribusiness Development Corporation (ADC)
4-3-9-002:029	10.0	State of Hawai'i
4-4-2-001:001	668.4	State of Hawai'i
4-4-2-001:003	213.9	State of Hawai'i – ADC
4-4-2-001:004	61.5	State of Hawai'i
4-4-2-001:005	201.6	State of Hawai'i

Tax Map Key (TMK)	Parcel Size (Acres)	Ownership
4-4-2-001:006	0.25	State of Hawai'i
4-4-2-001:007	8.5	State of Hawai'i
4-4-2-001:008	34.1	State of Hawai'i
4-4-2-001:009	0.7	State of Hawai'i
4-4-2-001:010	42.1	State of Hawai'i
4-4-2-001:012	11.3	State of Hawai'i
4-4-2-002:008	38.0	Saiva Siddhanta Church
4-4-2-002:114	3.0	State of Hawai'i
4-4-2-002:115	3.6	State of Hawai'i
4-4-2-002:130	3.0	State of Hawai'i
4-4-2-007:014	3.8	Saiva Siddhanta Church
4-4-2-007:015	18.7	Saiva Siddhanta Church
4-4-2-007:016	0.6	Affordable Hawai'i Properties LLC
4-4-2-007:017	1.0	Kuamo'o Trust
4-4-2-007:018	0.6	State of Hawai'i
4-4-2-007:019	0.9	Saiva Siddhanta Church

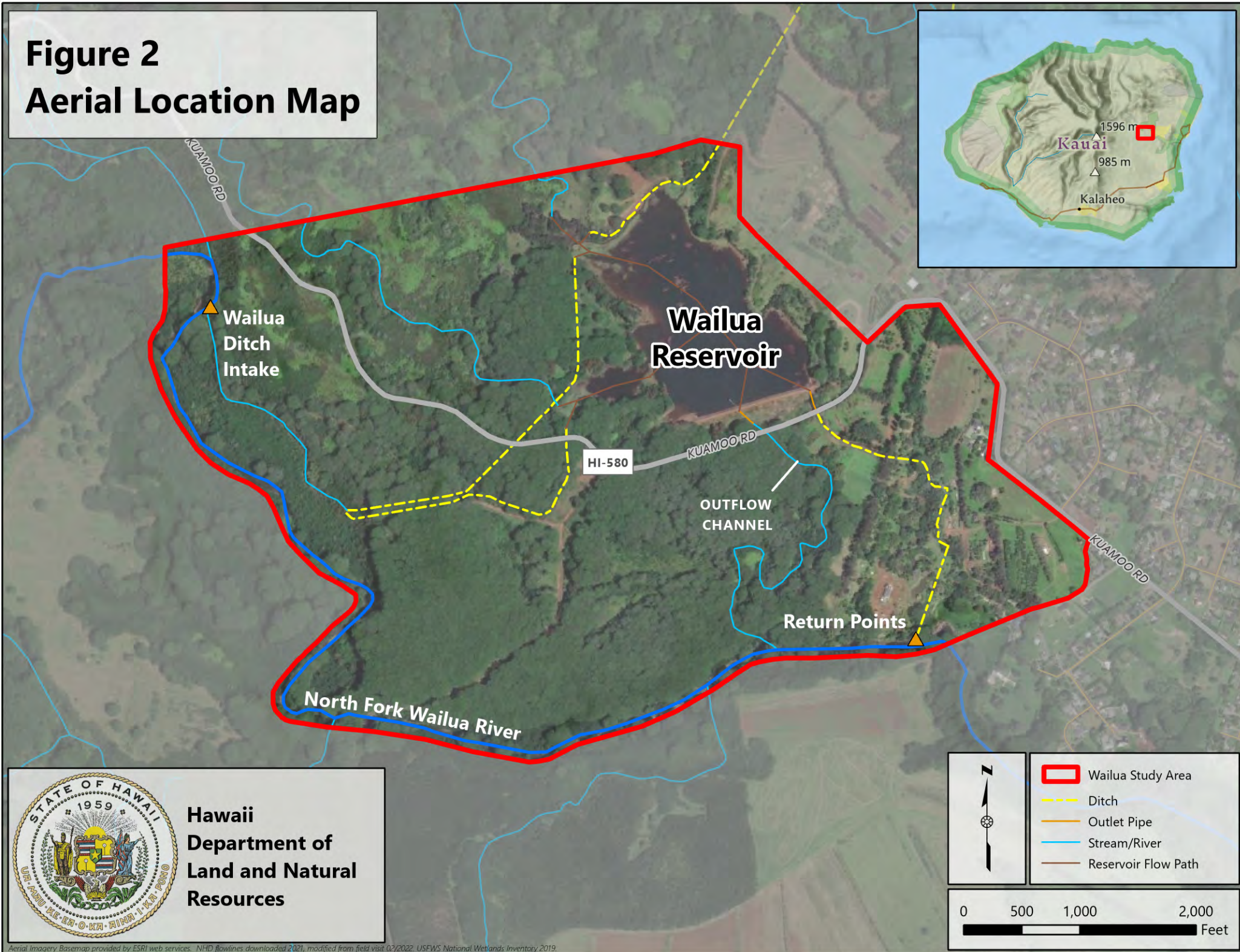
Figure 1 Topographic Location Map



Hawaii
Department of
Land and Natural
Resources

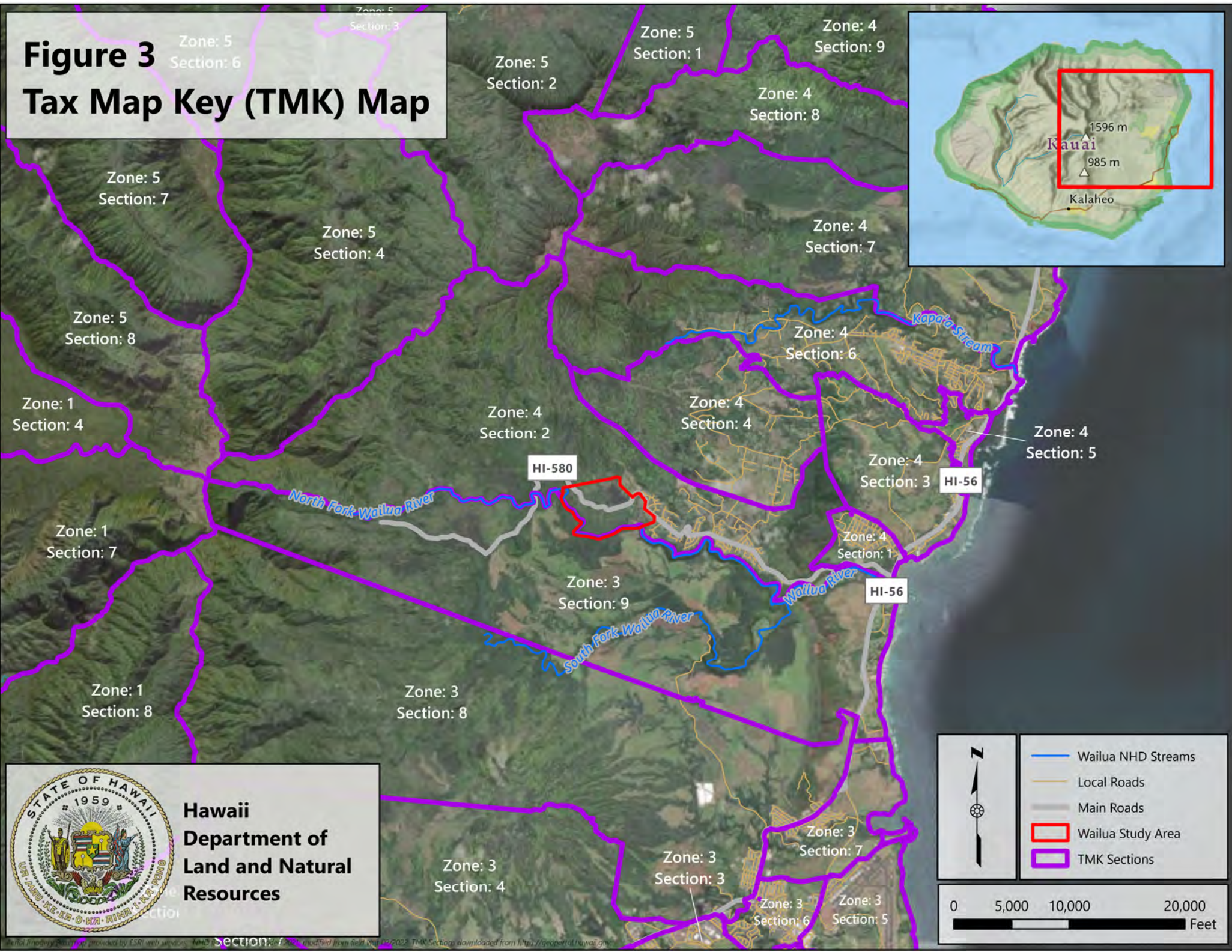
USGS National Map Base map provided by ESRI web services. NHD flowlines downloaded 2021, modified from field visit 02/2022.

Figure 2
Aerial Location Map



Aerial Imagery Basemap provided by ESRI web services. NHD flowlines downloaded 2/2021, modified from field visit 02/2022. USFWS National Wetlands Inventory 2019.

Figure 3 Tax Map Key (TMK) Map



- Wailua NHD Streams
- Local Roads
- Main Roads
- Wailua Study Area
- TMK Sections

0 5,000 10,000 20,000 Feet

Aerial Imagery: Esri, Inc. provided by ESRI web services. NHD: National Hydrography Dataset, modified from field data 12/2022. TMK Sections: downloaded from <https://geoportal.hawaii.gov>.

2.2. Alternatives Considered

The Draft EIS will evaluate feasible alternatives to implement the Proposed Action and describe the potential impacts to the surrounding environment. Preliminary alternatives under consideration are described below. Other feasible alternatives identified during the scoping process will be included for further evaluation in the Draft EIS.

2.2.1. Removal of Wailua Reservoir Dam and Diversion

The removal alternative would include a full breach of the Wailua Reservoir Dam. The full breach would remove the reservoir pool completely and allow the unnamed tributaries to the North Fork Wailua River to flow naturally to their confluence with the river. The diversion would be sealed and abandoned in place to restore natural flow within the North Fork Wailua River. This alternative would effectively remove the dam from jurisdiction pursuant to HAR Chapter 13-190.1, restore natural flow within the North Fork Wailua River, and meet the project purpose and need.

2.2.2. Partial Removal of Wailua Reservoir Dam

The partial removal alternative would include a partial breach of the Wailua Reservoir Dam to a level that would remove that dam from jurisdiction pursuant to HAR Chapter 13-190.1, while retaining a smaller reservoir pool. The partial breach would allow for a smaller pool collecting flow from unnamed tributaries to the North Fork Wailua River that naturally flow into the reservoir. The diversion would be sealed and abandoned in place to restore natural flow within the North Fork Wailua River. This alternative would effectively remove the dam from jurisdiction, restore natural flow within the North Fork Wailua River, and meet the project purpose and need. It should be noted that this alternative may not be feasible and is dependent upon engineering evaluations to determine if it is possible to maintain a reservoir pool and pass the probable maximum flood (PMF), while removing the dam from jurisdiction.

2.2.3. Identification of New Dam Operator and Manager

The identification of a new dam operator and manager would require another agency, organization, or private entity to take over responsibility of the Wailua Reservoir and diversion. Such an entity would be fully responsible for the ongoing requirements of a jurisdictional dam, including but not limited to routine inspections, operation and maintenance of the dam and diversion system, necessary repairs and rehabilitations, and additional reports and documentation. DLNR has continually pursued this alternative since 2019 with little progress towards a new dam operator.

2.2.4. No Action Alternative

The No Action Alternative will be included in the Draft EIS as a baseline for comparison of impacts from the proposed action. The No Action Alternative would consist of a continuation of existing conditions. No alteration to Wailua Reservoir Dam and diversion would occur, nor would operation and management responsibility be transferred to another entity. As such, the No Action Alternative would leave the high hazard dam in place, requiring DLNR operation and maintenance, and ongoing risk and financial liability. In addition, natural stream flow would not be restored within the study area.

3. Affected Environment

This chapter provides an overview of the existing conditions of resources within the project study area and surrounding areas. Further information, analysis, and discussion of existing conditions and potential impacts to these resources will be included in the Draft EIS. The Draft EIS will also include minimization and avoidance measures that should be taken to avoid significant impacts to resources as a result of the project.

3.1. Land Use and Zoning

The State Land Use District (SLUD) classification system was enacted in 1964 and categorizes land into four unique district classifications. The four SLUD categories are urban, rural, agricultural, and conservation (Figure 4). Wailua Reservoir and diversion are located on land designated as Conservation District, within the Resource subzone (DLNR, 2012). The project study area also includes Agricultural District land and is bordered by Rural District land.

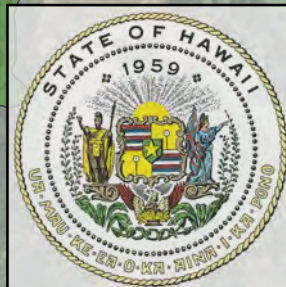
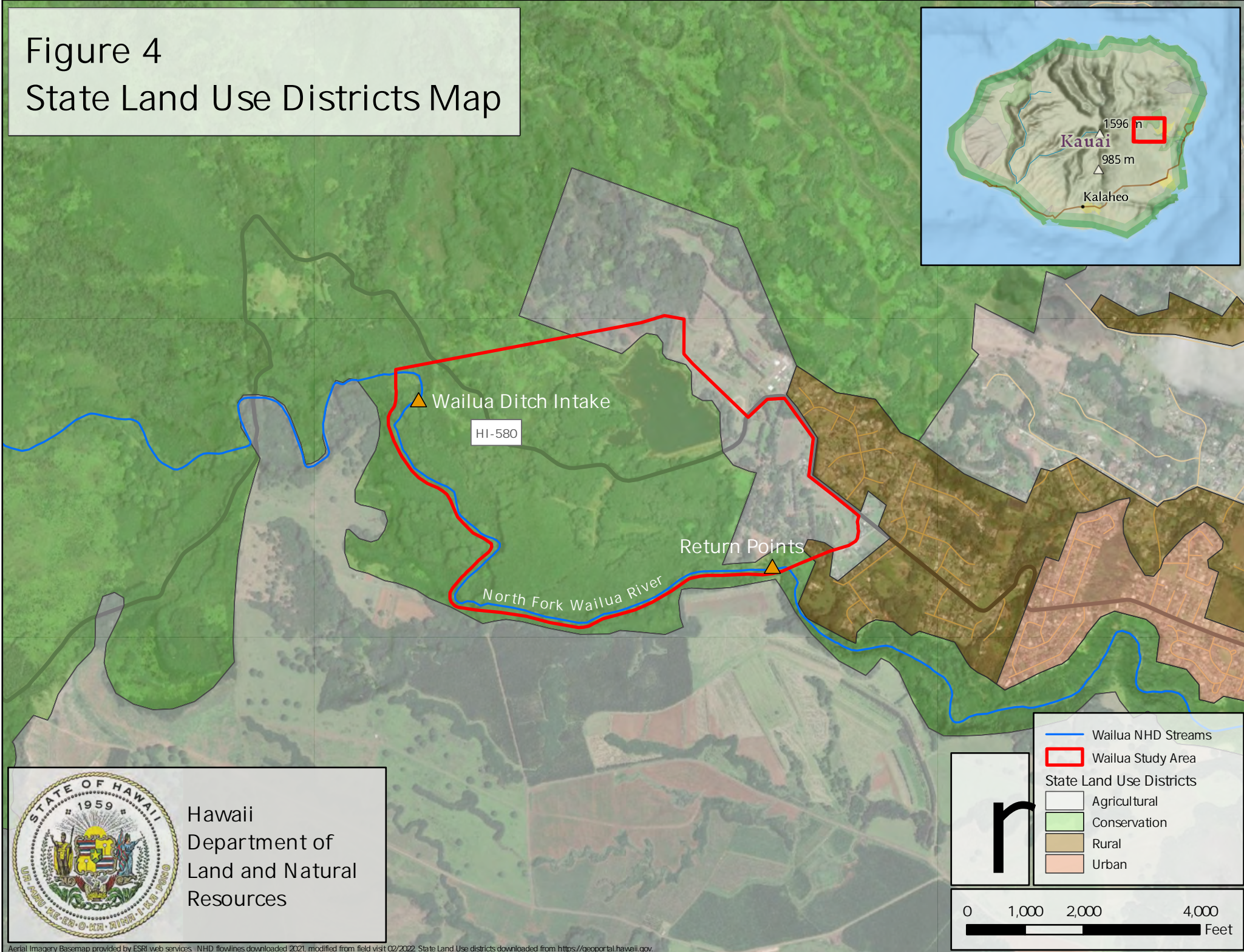
Due to the potential for work within Conservation District, the proposed project would need to obtain the necessary permits and approvals for any alterations to the dam or project study area from the DLNR Office of Conservation and Coastal Lands pursuant to HAR Chapter 13-5.

County of Kaua'i's Ordinance No. 935, Chapter 8 Comprehensive Zoning Ordinance, defines county zoning district types along with permitted land uses and constraints for each district. A small portion of the project study area falls within Residential Zoning District (R-2) (Figure 5). The majority of the project study area is not zoned under county zoning districts and follows SLUDs identified above.

According to Kaua'i's General Plan, the project study area is classified predominantly as Natural. In the eastern portion of the project study area, there is also land classified as Homestead. The project is bordered by land classified as Agricultural to the south and Residential Community to the east.

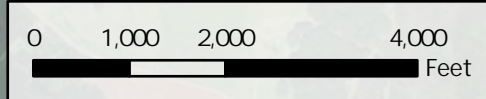
The Draft EIS will provide additional information and analyze potential impacts to study area existing and future land use, zoning, special designations, parcels and acreage, and consistency with community plans.

Figure 4
State Land Use Districts Map



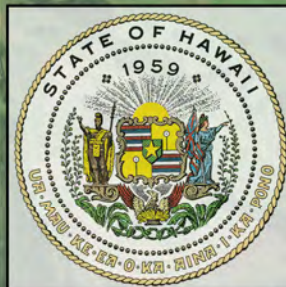
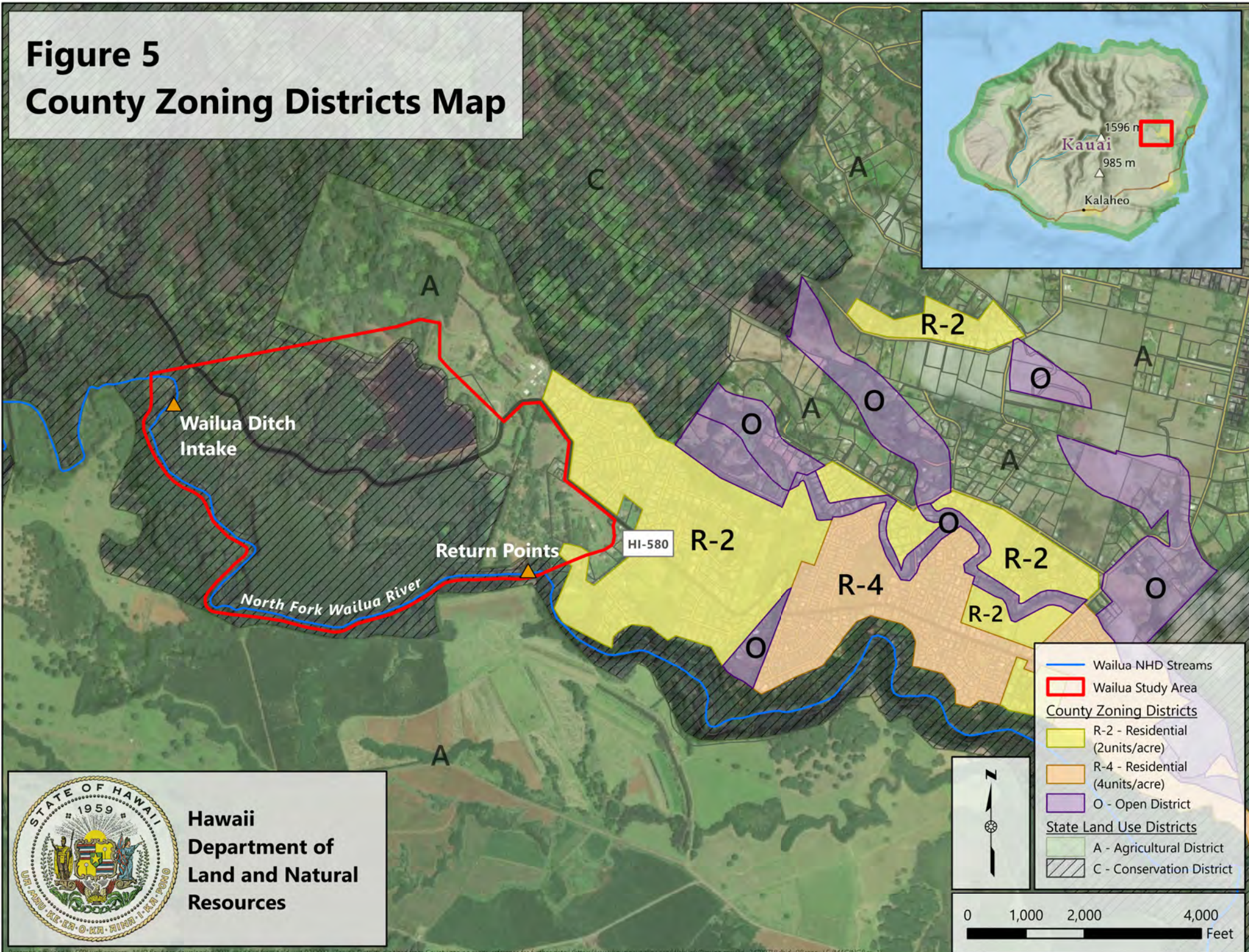
Hawaii
Department of
Land and Natural
Resources

- Wailua NHD Streams
- Wailua Study Area
- State Land Use Districts
- Agricultural
- Conservation
- Rural
- Urban



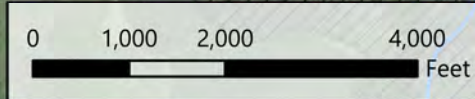
Aerial Imagery Basemap provided by ESRI web services. NHD flowlines downloaded 2021, modified from field visit 02/2022. State Land Use districts downloaded from <https://geoportal.hawaii.gov>.

Figure 5 County Zoning Districts Map



**Hawaii
Department of
Land and Natural
Resources**

- Wailua NHD Streams
- Wailua Study Area
- County Zoning Districts**
- R-2 - Residential (2units/acre)
- R-4 - Residential (4units/acre)
- O - Open District
- State Land Use Districts**
- A - Agricultural District
- C - Conservation District



Basemap provided by ESRI web services. NHD flowlines downloaded 2021, modified from field visit 02/2022. Zoning Districts digitized from County zoning maps, reference for further detail (<https://www.kauaigovonline.org/WebLink/Browse.aspx?id=247807&cbid=0&repo=LF-IMAGING&cr=1>)

3.2. Soils and Geology

The island of Kaua'i was formed by at least one shield volcano; however, there is some discrepancy between sources if the island was formed by a single volcano or two volcanoes. Kaua'i is one of the oldest islands of the Hawaiian island chain and is also the most structurally complex. According to the Geologic Map of the State of Hawai'i (Sherrod et. al, 2007), the project study area is located within the Lihu'e Basin and underlain by lava flows (QTKol) from Kōloa Volcanics of Pleistocene and Pilocene age.

The table below describes unique soil series and their properties identified in the project study area by the USDA Natural Resource Conservation Service Web Soil Survey (NRCS, 2019).

Map Unit Symbol	Map Unit Name	Properties
HfB	Halii gravelly silty clay, 3 to 8 percent slopes	Not prime farmland, well drained, more than 80 inches to restrictive feature and water table, not hydric
HfC	Halii gravelly silty clay, 8 to 15 percent slopes	Not prime farmland, well drained, more than 80 inches to restrictive feature and water table, not hydric
HfD2	Halii gravelly silty clay, 15 to 25 percent slopes, eroded	Not prime farmland, well drained, more than 80 inches to restrictive feature and water table, not hydric
HfE2	Halii gravelly silty clay, 25 to 40 percent slopes, eroded	Not prime farmland, well drained, more than 80 inches to restrictive feature and water table, not hydric
HsB	Hanamaulu silty clay, 3 to 8 percent slopes	All areas are prime farmland, well drained, more than 80 inches to restrictive feature and water table, not hydric
KkB	Kapa'a silty clay, 3 to 8 percent slopes	All areas are prime farmland, well drained, more than 80 inches to restrictive feature and water table, not hydric
KkC	Kapa'a silty clay, 8 to 15 percent slopes	All areas are prime farmland, well drained, more than 80 inches to restrictive feature and water table, not hydric
KkD	Kapa'a silty clay, 15 to 25 percent slopes	Not prime farmland, well drained, more than 80 inches to restrictive feature and water table, not hydric

Map Unit Symbol	Map Unit Name	Properties
KkE	Kapa'a silty clay, 25 to 40 percent slopes	Not prime farmland, well drained, more than 80 inches to restrictive feature and water table, not hydric
Kw	Kolokolo clay loam	Prime farmland if protected from flooding or not frequently flooded during the growing season, well drained, more than 80 inches to restrictive feature and water table, not hydric
MZ	Marsh	Not prime farmland, very poorly drained, more than 80 inches to restrictive feature, water table at surface, hydric soil
PIT	Pits	Not prime farmland
rRH	Riverwash	Not prime farmland, excessively drained, 0-24 inches to water table, 20% hydric soil inclusions
rRR	Rough broken land	Not prime farmland, well drained, very high runoff, 20 to 55 inches to paralithic bedrock, more than 80 inches to water table, not hydric

Topography in the project study area generally slopes from north to south, sloping from mauka (mountains) to makai (towards the ocean). The project study area also slopes towards the North Fork Wailua River that borders the western and southern extents of the project study area. Elevations in the project study area range from approximately 650 feet above mean sea level (amsl) east of the diversion to approximately 350 feet amsl near the outflow return to the North Fork Wailua River.

The Draft EIS will describe the affected environment and potential impacts to soils, geology, topography, and associated resources as a result of the project.

3.3. Water Resources

Water resources addressed in this section include surface waters, groundwater, floodplains, wetlands, and coastal resources. A delineation of these resources will be completed and presented with mapping in the Draft EIS.

Surface Waters

The project study area is within the Wailua River watershed (Hawai'i DLNR Division of Aquatic Resources [DAR] Watershed Code 22008) and includes the North Fork Wailua River, ditches associated with the reservoir and irrigation system, and several small unnamed tributaries to the

Wailua Reservoir. The Wailua River watershed drains a mountainous region and conveys flow from west to east towards the coast. Precipitation and surface flow within the project study area join the North Fork Wailua River along the western extent of the project study area.

The reach of the North Fork Wailua River within the project study area extends from the diversion to the return points of outflow channels from the reservoir. From the diversion, water flows through a series of ditches and tunnels into Wailua Reservoir. From Wailua Reservoir, water was previously able to flow northeast through the Wailua Ditch and laterals to provide irrigation water for agriculture; however, in recent years, these ditches and laterals have not been utilized. Water from the reservoir is controlled by two outflows that form two channels that return to the North Fork Wailua River.

There are multiple unnamed streams that also feed Wailua Reservoir, ranging from intermittent to perennial in flow regimes. Additional data on these streams will be collected during a detailed wetland and waterway delineation to be completed in association with the Draft EIS and state and federal permitting processes.

The Draft EIS will describe surface waters in further detail, with results from detailed studies performed pursuant to required state and federal permits. The Draft EIS will also analyze and discuss potential impacts to these resources.

Groundwater

The project study area is located within the Wailua groundwater hydrologic unit (Aquifer Code 20103). The Wailua unit has a sustainable yield of 51 million gallons daily (mgd) (CWRM, 2018). There is a well (Well ID 2-0323-00) located on a property adjacent to the project study area to the east registered to Gregory Smith (HGGRC, 2012). No additional wells are identified within or immediately adjacent to the project study area.

The Draft EIS will describe groundwater resources and wells within or immediately adjacent to the project study area in further detail and analyze and discuss potential impacts to these resources.

Floodplains

According to FEMA FIRMette 1500020185E (effective 9/16/2005), Wailua Reservoir and some surrounding areas are identified as Zone A indicating the area is subject to inundation by the 1-percent-annual-chance flood event. No other flood hazard areas are identified by FEMA FIRMette mapping within the project study area.

The Draft EIS will describe regulated floodways and floodplains within the project study area in further detail and analyze and discuss potential impacts to these resources.

Wetlands

According to the USFWS National Wetlands Inventory (NWI), the North Fork Wailua River is identified as a perennial, riverine resource. The Wailua Ditch from the diversion to the reservoir is identified as an excavated, intermittent, riverine resource. Wailua Reservoir is identified as an

impounded lake habitat. Four additional tributaries are identified flowing into the reservoir: three intermittent, riverine resources and one perennial, riverine resource. On the north side of the reservoir, where the tunnel and tributaries enter the reservoir pool, there are wetland resources identified as palustrine, aquatic bed, permanently flooded, diked/impounded (PABHh) and palustrine, emergent, persistent, seasonally flooded (PEM1C). The two outflows from the reservoir are identified as perennial, riverine resources. East of the reservoir, there are several features identified as freshwater ponds and palustrine, emergent wetland habitats.

The Draft EIS will describe wetlands within the project study area in further detail, with results from detailed studies performed pursuant to required state and federal permits. The Draft EIS will also analyze and discuss potential impacts to these resources.

Coastal Resources

In accordance with the Coastal Zone Management Act (CZMA), the Hawai'i Coastal Zone Management Area encompasses the entire state. Land to sea connection exists throughout the state due to the size of the islands and proximity to the coastline from all land within the state. Due to the federal nexus of an anticipated USACE permit, a federal consistency review will likely be necessary for the project to ensure adherence to all applicable coastal policies and regulations. The proposed project study area is not located within a Special Management Area (SMA) and therefore the selected alternative will not require an SMA Permit.

The Draft EIS will discuss coastal resources and their relation to the potential project. Any potential impacts to coastal resources will be analyzed and described within the Draft EIS.

3.4. Biological Resources

Biological resources discussed within this section include vegetation, protected species and habitat, and general wildlife and fisheries considerations for the proposed project. Special consideration will be given to state and federally protected species, critical habitats of these species, and native plants and wildlife.

Vegetation

Wailua Reservoir is downslope of the Līhu'e–Kōloa Forest Reserve and is surrounded by a secondary mesic forest, comprised primarily of naturalized plant species.

Invasive plant species are present throughout the project study area, especially in the canopy. Albizia (*Falcataria moluccana*), African tulip tree (*Spathodea campanulata*), and other invasive trees encompass a large portion of canopy cover. Additional naturalized and invasive herbs and shrubs make up the majority of the understory.

According to the threatened and endangered plants layer published by DOFAW (1992), the project study area is predominantly located within the “little to no threatened and endangered species” concentration zone. A small portion of the project study area, north of the reservoir, is located within the “low concentration of threatened and endangered species” zone.

Vegetation and vegetative communities will be described within the Draft EIS. Potential impacts and proposed minimization and avoidance measures will also be included within the Draft EIS, with special consideration for native and protected species. Detailed studies will be performed at the discretion of USFWS and DOFAW.

Wildlife and Fisheries

All four of the established alien Muridae found in Hawai'i – European house mouse (*Mus musculus*), roof rat (*Rattus rattus*), brown rat (*Rattus norvegicus*), and black rat (*Rattus exulans hawaiiensis*) – may occur and utilize resources within the project study area. Pig (*Sus scrofa*) and goat (*Capra hircus*) are also likely present, along with domestic cat and dog. With the exception of the endangered and endemic 'ōpe'ape'a, all terrestrial mammalian species found in the Hawaiian Islands are alien species and most are deleterious to native ecosystems.

Many endemic stream species of Hawai'i have amphidromous life-cycles, in which reproduction occurs in freshwater and larvae drift out into the ocean where they develop into juvenile stages before returning to freshwater streams (Ford and Kinzie, 1982; Kinzie, 1988). DLNR Division of Aquatic Resources stream survey data compiled in the Hawai'i Watershed Atlas reports the following endemic amphidromous animals as occurring in most reaches of the Wailua River: *Atyoida bisulcata*, *Macrobrachium grandimanus*, *Eleotris sandwicensis*, *Awaous stamineus*, and *Sicyopterus stimpsoni* (Parham et al., 2008). Only two endemic amphidromous species (*A. bisulcata* and *A. stamineus*), and one non-native amphidromous species (*Macrobrachidium lar*), were reported from the middle and upper reaches, and only the non-native *M. lar* was reported from the headwaters above 750 m ASL (Parham et al., 2008).

Wailua Reservoir is managed as a public fishing area (DLNR, 2007), and non-native bluegill (*Lepomis macrochirus*), largemouth bass (*Micropterus salmoides*), smallmouth bass (*Micropterus dolomieu*), and tucunare (*Cichla ocellaris*) are stocked. These predatory freshwater fish species, particularly the well-established population of smallmouth bass in Wailua River, reduce the likelihood for amphidromous stream animals to inhabit Wailua Reservoir. Despite these obstacles, a path remains for up- and down-stream migration of native amphidromous species through the reservoir.

General wildlife and fishery considerations will be discussed within the Draft EIS. Potential impacts to species and habitat will be described and analyzed, with special attention to native and endemic species.

Protected Species and Habitat

Coordination with USFWS and DOFAW has been initiated regarding threatened and endangered species and critical habitats. No critical habitat was identified by USFWS within the project study area. Further coordination with USFWS and DOFAW will be completed to minimize and avoid impacts to threatened and endangered species to the greatest extent feasible.

Protected Hawaiian waterbirds on Kaua'i include the endemic Hawaiian Duck (*Anas wyvilliana*), endemic Hawaiian Coot (*Fulica alai*), Hawaiian endemic subspecies of Common Gallinule

(*Gallinula galeata sandvicensis*), and Hawaiian endemic subspecies of Black-necked Stilt (*Himantopus mexicanus knudseni*). These waterbird species are protected under both state and federal endangered species statutes (DLNR, 2015; USFWS, 2022). Although technically not a waterbird, Hawaiian Goose or nēnē (*Branta sandvicensis*) is a federally-listed threatened and state-listed endangered species with breeding populations on Kaua'i. Black-crowned Night Heron (*Nycticorax nycticorax hoactli*) is an indigenous water-obligate species with healthy populations on most Hawaiian Islands and protected under the federal Migratory Bird Treaty Act. Given the existing waterbird habitat at Wailua Reservoir, all aforementioned avian species have the potential to occur in the project study area before, during, and after construction phases.

Protected night-flying seabirds in Hawai'i include Hawaiian Petrel (*Pterodroma sandwichensis*), Wedge-tailed Shearwater (*Ardenna pacifica*), Newell's Shearwater (*Puffinus newelli*), and Band-rumped Storm-petrel (*Hydrobates castro*). Hawaiian Petrel, Newell's Shearwater, and Band-rumped Storm-petrel form nesting colonies in high-elevation mountainous habitat and transition between mountain and ocean during the pre-dawn and post-sunset (twilight) hours. No seabirds were observed during initial site reconnaissance. No protected night-flying seabirds or seabird nesting habitats occur at Wailua Reservoir.

While not detected during initial field reconnaissance, it is likely that the endemic Hawaiian hoary bat or 'ōpe'ape'a (*Lasiurus cinereus semotus*) utilizes resources within Wailua Reservoir and vicinity. Foraging bats may be attracted to insects over the open water of the reservoir and may utilize tall woody vegetation adjacent the reservoir to roost and raise young.

Numerous protected plant species have the potential to occur within the project study area. An inventory of existing flora will be undertaken to determine if any plants listed as endangered or threatened under either federal or State of Hawai'i endangered species statutes (DLNR, 1998; USFWS, 2022) are present in the project study area. The inventory will be incorporated with the Draft EIS.

Federal and state ESA-listed Newcomb's snail (*Erinna newcombi*) is an aquatic snail found in fast-flowing stream waters in six watersheds on Kaua'i, including North Fork Wailua River (USFWS, 2006). Newcomb's snail is a freshwater obligate species that attaches eggs to submerged rocks or vegetation. The entire life cycle is tied to the stream system in which the adults live and unlike many other native stream species, larval stages do not disperse widely. The population found in North Fork Wailua River is in the middle and upper reaches of the stream and will not be impacted by the proposed project.

A biological survey for both flora and fauna will be conducted as part of the analysis of the Proposed Action. If requested by USFWS and DOFAW, additional detailed studies will be conducted as needed and directed. Federal and state-listed species will be discussed in detail in the Draft EIS. Potential impacts, minimization and avoidance measures, and coordination with USFWS and DOFAW will also be included within the Draft EIS.

3.5. Farmland and Agriculture

According to the Web Soil Survey (NRCS, 2019), soil series HsB, KkB, and KkC are identified as “all areas are prime farmland.” The soil series Kw is identified as “prime farmland if protected from flooding or not frequently flooded during the growing season.”

Based on the Land Study Bureau’s detailed agriculture land productivity ratings (1972), the project study area contains classifications C (55-69%), D (30-54%), and E (0-30%). The project study area is not located within Important Agricultural Lands based on State Land Use Commission (SLUC 2020).

Currently, all of the water diverted from the North Fork Wailua River enters the reservoir, flows through the outflows, and returns to the river downstream of Kaua’i’s Hindu Monastery. The North Wailua Ditch, with various laterals, has not provided water for agriculture for a number of years.

Despite the lack of use for irrigation in recent years, project stakeholders have expressed concern that future East Kaua’i agricultural opportunities are threatened by the removal of the reservoir and Wailua Ditch system.

The Draft EIS will provide detailed information on farmland, including prime farmland, farmland of statewide importance, or unique farmland, as well as potential impacts of the proposed project on agriculture and agricultural resources.

3.6. Natural Hazards

In accordance with HAR § 11-200.1-13, the sum of effects of a proposed action must be evaluated based on the significance of potential environmental effects. Actions are determined to have a significant effect on the environment if they meet one or more criteria listed in the HAR. The Wailua Reservoir Dam meets the criteria of an environmentally sensitive area, as it is located within a floodplain (FEMA Flood Zone A) and Hawai’i’s coastal zone. The reservoir and dam may potentially suffer damage during a natural disaster and consequently create adverse environmental effects in the area.

The Draft EIS will evaluate the sum of potential effects a natural hazard may have on the impacted environment surrounding the reservoir and dam for each retained alternative.

3.7. Cultural, Historical, and Archaeological Resources

Under Hawai’i State Constitution Article XII, Section 7, state agencies have an affirmative obligation to protect and preserve customarily and traditionally exercised rights of Native Hawaiians. In *Ka Pa’akai*, the Hawai’i Supreme Court provided further framework for government agencies to preserve and protect these traditional and customary rights to the extent feasible, while weighing and accommodating potentially conflicting interests.

Per HRS Chapter 343 and Act 50 enacted by the Hawai’i State Legislature, a Cultural Impact Assessment (CIA) will be prepared and included with the Draft EIS. The CIA will analyze

potential impacts to cultural resources, historical resources, archaeological resources, and traditional and customary practices as a result of the proposed project.

Research and information gathered will include archival documents, oral traditions, Hawaiian language sources, manuscripts, and other relevant documentation with a focus on identifying any archaeological or cultural resources that may be present within or immediately adjacent to the project study area. Interviews with cultural experts, area practitioners, and lineal and cultural descendants will be conducted and included within the CIA. The CIA will also identify areas of traditional importance including but not limited to landscapes, sacred sites, shrines, properties of traditional religious and cultural importance, prehistoric and historic archaeological sites, burial sites, landforms mentioned in oral traditions, etc.

Because of the anticipated need for Clean Water Act Section 401/404 authorizations for impacts to Waters of the US, and USACE involvement, a need for compliance with Section 106 of the National Historic Preservation Act (NHPA) is anticipated with USACE as the lead federal agency. Additionally, this is a state project needing review under HRS Chapter 6E-8 and HAR Chapter 13-275.

An archaeological literature review and field inspection (LRFI) study is currently being conducted to support the proposed project's historic preservation review by state and federal agencies, as well as any project-related historic preservation consultation with stakeholders, such as state and county agencies and interested Native Hawaiian Organizations (NHOs) and community groups.

No historic properties have been designated previously within a 0.62 mile (1 kilometer) of the Wailua Reservoir. Early initiation of Section 106 of the National Historic Preservation Act (NHPA) consultation with the SHPD is recommended with attention to defining the Area of Potential Effect (APE). The present LRFI supports an APE narrowly focused on the diversion, the Wailua Reservoir and dam and other immediately associated infrastructure on the grounds that any decision on the future of the Wailua Reservoir would have no effect on the former infrastructure of the North Wailua Ditch System to the northeast because the flow of water from the reservoir into that former system has long been ceased.

The Draft EIS will identify and describe cultural, historical, and archaeological resources in the project study area. HEPA places an emphasis on anthropogenic resources that are historically, archaeologically, or aesthetically important.

3.8. Community Resources and Recreation

The community resources and recreation section provides information on community, recreation, and scenic resources that may be impacted as a result of the proposed project. Community resources include schools, parks, places of worship/cemeteries, emergency service providers and other public buildings. Recreation resources provide opportunity for hunting, boating, fishing, camping, hiking, etc. within a location designated for such activities.

Community Resources

Kaua'i's Hindu Monastery (henceforth referred to as monastery) is located within the study area. It is a traditional South-Indian style monastery-temple complex that provides daily public visitation to tour, worship, and seek audience and darshan with the Guru Mahasannidhanam. The monastery is the only confirmed active user of the Wailua Ditch system. Water is released from the Wailua Reservoir and delivered under Kuamo'o Road and into the ditch on the south side of the road. Water is used for agricultural, aesthetic, and spiritual purposes at the monastery. Currently, the monastery has no plans for an alternative water source. The Rudraksha Forest, which is a part of the monastery, is the only Rudraksha grove in Hawai'i and is considered a sacred forest. It was established in 1984 and dedicated to pilgrims and all Kauaians. The forest is open daily to the public.

The Kaua'i Agricultural Research Center is partially located within the study area and is managed by the University of Hawai'i at Mānoa's College of Tropical Agriculture and Human Resources to conduct field and laboratory research. It was established in the early 1900's following the Hatch Act of 1887. The purpose of the Act was to provide funding to establish agricultural research programs in all 50 states. Research at the center is focused on protecting natural resources and ensuring a safe food supply.

Community resources will be discussed in the Draft EIS in further detail, including potential impacts to community resources associated with the proposed project.

Recreation

The Wailua Reservoir provides daytime public fishing access to individuals who possess a valid Freshwater Game Fishing License. Prevalent fish species include bluegill, largemouth bass, smallmouth bass, peacock bass and tilapia. Although public fishing is permitted, the reservoir does not have a high utilization rate. Birding is another popular recreation opportunity at the reservoir. No designated hiking trails are present around the reservoir. A road across the top of the dam provides access to both sides of the reservoir for those recreating. The Wailua Game Management Area is located partially within the study area and north of the reservoir. The Wailua Game Management Area is designated as a "Unit I" for Bird Hunting Only and provides additional hiking and horseback riding opportunities.

Recreation resources will be discussed in the Draft EIS in further detail, including potential impacts to recreation and resources associated with the proposed project.

Scenic Resources

Kaua'i's General Plan (2018) identifies preserving views and landforms vital to sustaining Kaua'i's uniqueness and identity. Additionally, preservation is an important aspect of maintaining the historic essence of Kaua'i over time, regardless of population growth, development, and other changes that will occur. The plan identifies a few notable scenic resources, none within visual range of the project study area. To date, a full inventory of scenic resources/views, view plans, visual resources and key landmarks has not been created. The Wailua Game Management Area

and Līhu'e-Kōloa Forest Reserve, both State-owned, provided scenic backdrops to the northeast and northwest of the project study area.

Scenic resources will be discussed in the Draft EIS in further detail, including potential impacts to these resources associated with the proposed project.

3.9. Socioeconomics and Environmental Justice

The socioeconomics and environmental justice section describes social factors, economic factors, population trends, and demographic information in relation to the project study area. Special consideration will be given to Native Hawaiians and surrounding communities with regard to environmental justice.

Socioeconomics

Socioeconomics is the relationship between social and economic factors such as population trends and economic activity. There are various factors that can be used to identify socioeconomic conditions within a specific geographic location. Some of those factors include, employment rate, median household income, education, housing data, and demographics. The U.S. Census Bureau is the leading agency within the United States that collects and publishes demographic and economic data that can be used to analysis socioeconomic trends.

The 2020 U.S. Census Bureau American Community five-year estimate was used for demographic analysis. The study area was defined as Census Tract 402.04 (study area).

Population Characteristics. In 2020, the estimated population within the study area was 5,576, representing less than 1% of the total state population. Over the past decade the population within the study area grew by 15.7%. The growth rate within the study area was higher than the state (6.4%) and county (9.9%) growth percentages over the same decade. The table below identifies population trends from 2010 to 2020.

Population Trends			
Location	2010	2020	Percent Change
State of Hawai'i	1,333,591	1,420,074	+6.4%
County of Kaua'i	65,460	71,949	+9.9%
Study Area (Census Tract 402.04)	4,817	5,576	+15.7%

Source: U.S. Census Bureau, 2020

Employment Characteristics. In 2020, approximately 3,311 individuals in the study area were in the labor force (69.7%). The study area had a higher proportion of residents in the labor force than the county (65.3%) and state (65.3%) but also a higher unemployment rate (5.5%). The table below identifies employment trends within the study area, county and state.

Employment Characteristics			
Employment Status	State of Hawai'i	County of Kaua'i	Study Area (Census Tract 402.04)
Population 16 years and over	1,148,836	57,999	4,751
In labor force	65.3%	65.3%	69.7%
Employed	58.7%	62.8%	65.9%
Unemployed	2.8%	2.3%	3.8%
Not in labor force	34.7%	34.7%	30.3%
Unemployment Rate	4.6%	3.5%	5.5%

Source: U.S. Census Bureau, 2020

The Draft EIS will analyze local socioeconomic trends. State and county data will be included to provide context to the project study area data analysis.

Environmental Justice

Title VI of the Civil Rights Act of 1964 states that no person in the U.S. shall, on the basis of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance.

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, directs federal agencies to identify and address disproportionately high and adverse environmental effects of federal agency actions on minority and low-income populations.

A minority population is defined as a readily identifiable group or groups of minority persons who live in geographic proximity. Minority persons include an individual who identifies as a Black or African American, Hispanic or Latino, Asian or Asian American, American Indian or Alaska Native, Native Hawaiian or Pacific Islander, or who identifies as a multiracial individual. Low-income populations are defined as a readily identifiable group of persons whose income is at or below the poverty level, as determined by the U.S. Census Bureau.

The majority of the project study area falls within Census Tract 402.04 Block Group 2; therefore, one block group was analyzed for Environmental Justice (EJ) populations using Environmental Protection Agency (EPA) EJSCREEN, an EJ screening and mapping tool.

Census data revealed that a lower percentage of minority persons (60%) resided within the block group than in the state overall (78%). In addition, a lower percentage of low-income persons (11%) reside within the block group than in the state overall (22%).

The Draft EIS will evaluate the potential for disproportionate impacts to EJ populations and how potential impacts would be avoided or mitigated. State and county data will be included to provide context to the study area data analysis.

3.10. Climate Change and Air Quality

The climate change section will discuss two areas of climate change; adaptation relating to Sea Level Rise (SLR); and potential greenhouse gas (GHG) emissions. These climate change topics are required by current HEPA rules adopted by the former Hawai'i Office Environmental Quality Control (now known as the Environmental Review Program) under HAR Chapter 11-200.1.

Potential vulnerability of the study area to SLR will be evaluated and illustrated in the Draft EIS using maps published by Pacific Islands Ocean Observing System. The current SLR maps indicate that the dam, reservoir, and diversion would not be affected by increases in sea level rise that are projected by available models.

Potential GHG emission and reduction will be addressed in the Draft EIS for construction phase and long-term future conditions. Draft EIS alternatives that have the potential to restore the forested watershed conditions within the footprint of the existing reservoir may produce a beneficial sequestration of carbon in the growing forest. The evaluation of GHG emissions in the Draft EIS will account for the age of the Wailua Reservoir limnetic system's net flux of carbon dioxide and methane with the watershed and atmosphere.

The Draft EIS will address the existing and future air quality conditions for each of the alternatives considered. Potential air quality impacts from diesel and/or gasoline powered construction equipment will be characterized, as well as fugitive dust emissions during construction.

3.11. Human Health and Safety

The Wailua Reservoir is classified as "intermediate" in size with a height of 40 feet and storage capacity of 274 million gallons. The Wailua Dam is classified as a High Hazard structure under the jurisdiction of the Hawai'i DLNR, Engineering Division, Dam Safety Program, due to the potential for loss of life should the dam fail. The dam presents risk to downstream residents in a dam failure event and high rain fall events. Flooding hazards would be most significant upstream of the confluence of the North and South Fork Wailua River; however, inundation mapping indicates that risk is mostly confined to the Wailua River floodplain and not within highly populated areas. Under the 100-year flood (1-percent chance) and PMF dam break scenarios, flooding would occur in populated areas within the floodplain located along the coast. Under the 1 percent and PMF scenarios, the difference between the with- and without dam failure would be the overall depth of the inundation rather than the inundation area (USACE, 2008).

In recent years, the dam has been maintained at approximately 111 million gallons, operating at about 40% capacity (DLNR, 2022). As a result, inundation depths would differ from the 2008 analysis and the percent of risk would be lower. The NRCS currently uses DamWatch, a web-based software program, as a monitoring tool to predict, identify, and prepare for potentially destructive environmental events.

Illegal vehicle trails have been identified crossing the dirt access road across the crest of the dam and spillway. The dam breast and spillway are utilized illegally by dirt bikes and trucks. This

misuse has created tire ruts and depressions on the dam breast and spillway surface and presents safety concerns.

In the event of an emergency the closest emergency services are located:

- Kapa'a Fire Station, 6.4 miles
- Kapa'a Police Station, 7.8 miles
- Mahelona Medical Center/ Emergency Room, 8.5 miles.

The Draft EIS will identify human health and safety concerns in regard to the proposed project. General human health and safety concerns could be triggered by dam failure, natural hazards, and illegal usage.

3.12. Noise

Temporary increases in ambient noise associated with construction would be anticipated due to the proposed project. Project activities (including, but not limited to demolition, renovation, construction, etc.), would be required to comply with HAR Chapter 11-45 “Community Noise Control,” in coordination with the DOH, Indoor & Radiological Health Branch. The proposed project would additionally comply with any federal, state, and local statutes regarding noise.

The Draft EIS will consider potential impacts to ambient noise and noise sensitive receptors associated with the proposed project.

3.13. Cumulative and Secondary Impacts

Pursuant to Title 11, Chapter 200.1, HAR, “cumulative impacts” are defined as: “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.”

According to Title 11, Chapter 200.1, HAR, “secondary impacts” (also known as “secondary effect”, “indirect impact”, or “indirect effect”) are defined as: “effects which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density, or growth rate, and related effects on air and water and other natural systems including ecosystems.”

The potential for cumulative and secondary impacts will be evaluated in the Draft EIS.

4. Parties Consulted for EISPN

According to HAR Chapter 11-200.1 23(b), a proposing agency is required to consult with “all appropriate agencies, including the county agency responsible for implementing the county's general plan for each county in which the proposed action is to occur and agencies having

jurisdiction or expertise, as well as those citizen groups, and concerned individuals that the accepting authority reasonably believes to be affected.”

Additionally, special consideration shall be given to cultural beliefs, practices, and resources of native Hawaiians and other groups in accordance with the Hawai'i Constitution, state laws, and courts of the state of Hawai'i. Pursuant to HRS Chapter 343, cultural resources including but not limited to traditional cultural properties, historic sites, submerged cultural resources, or other resources that support cultural practices or beliefs shall be considered and assessed during the EIS process. Consultation pursuant to HRS Chapter 6E-8 or 6E-42, and Section 106 of the NHPA will occur during the EIS process to ensure adherence to state and federal regulations and guidelines.

State, federal, and local agencies and organizations, as well as other public interest groups and stakeholders were contacted during the preparation of this EISPN and consultation will continue throughout the EIS process. The following parties were consulted during the preparation of this EISPN:

Federal Agencies

- U.S. Army Corps of Engineers (Honolulu District)
- U.S. Fish and Wildlife Service
- U.S. Department of Agriculture, Natural Resources Conservation Service

State Agencies

- Hawai'i Department of Agriculture
- Agribusiness Development Corporation
- Hawai'i Departments of Accounting and General Services
- Hawai'i Department of Business, Economic Development & Tourism
- Hawai'i State Energy Office
- Hawai'i Office of Planning and State Development
- Hawai'i Department of Hawaiian Homelands
- Hawai'i Department of Health, Clean Water Branch
- Hawai'i Department of Health, Clean Air Branch
- Hawai'i Department of Health, Indoor and Radiological Health Branch
- Hawai'i Department of Land and Natural Resources, Land Division
- Hawai'i Department of Land and Natural Resources, Division of Aquatic Resources
- Hawai'i Department of Land and Natural Resources, Division of Forestry and Wildlife
- Hawai'i Department of Land and Natural Resources, Engineering Division
- Hawai'i Department of Land and Natural Resources, Engineering Division, National Flood Insurance Program
- Hawai'i Department of Land and Natural Resources, Commission on Water Resources Management
- Hawai'i Department of Land and Natural Resources, Division of State Parks
- Hawai'i Department of Land and Natural Resources, State Historic Preservation Office

- Hawai'i Department of Transportation
- Hawai'i Farm Bureau Federation
- Office of Hawaiian Affairs

Elected Officials

- Hawai'i State Senator, District 8, Ronald D. Kouchi
- Hawai'i State Representative, District 15, James Kunane Tokioka
- Hawai'i State Representative, District 14, Nadine K. Nakamura
- U.S. Representative, District 2, Kaiali'i Kahele
- U.S. Senator, Mazie Hirono
- U.S. Senator, Brian Schatz
- Mayor Derek S.K. Kawakami
- Council Chair and Councilmembers of Kaua'i County

County Agencies

- Kaua'i County Office of Economic Development
- Kaua'i County Department of Parks and Recreation
- Kaua'i County Planning Department
- Kaua'i County Public Works Department
- Kaua'i County Farm Bureau
- Kaua'i Visitors Bureau
- Kaua'i Economic Development Board
- Kaua'i Chamber of Commerce
- Kaua'i Planning and Action Alliance

Community Organizations

- Kalepa Coalition
- Earthjustice
- Contractors Association of Kaua'i
- Sierra Club
- Kaua'i's Hindu Monastery
- Wailua-Kapa'a Business Association
- Wailua-Kapa'a Neighborhood Association
- Hawai'i Farmers Union United
- University of Hawai'i at Mānoa, Kaua'i Agricultural Research Center

5. Public Scoping Process

The scoping process provides for a public comment period and public and agency meetings. The objective of the scoping process is to engage with the public and stakeholders at an early stage, encapsulate a broad range of potential scoping items, encourage open communication, and minimize misinterpretation or misinformation regarding the project. This scoping process allows for public input from the surrounding community to address topics or resources of concern to be considered and analyzed during the EIS process.

HEPA requires an EISPN to notify the public that the EIS process and documentation will commence and affords the public an opportunity to participate in the scoping process. This EISPN has been prepared pursuant to HAR Chapter 11-200.1-23. A 30-day scoping period will follow the publication of this EISPN in the Environmental Review Program's *The Environmental Notice* to allow for public input, per HEPA requirements. Comments received during the scoping period in response to this EISPN will aid in the determination of issues to be considered and analyzed in the Draft EIS.

A variety of stakeholders are invited to participate in the public scoping process including federal agencies, state agencies, local agencies, public interest groups, Native Hawaiian organizations, and citizens. Information about the Proposed Action and details on public meetings will be provided by DLNR through the project website, www.wailuareservoir.com.

The first public meeting will be a virtual scoping meeting. Meeting details are available at the website link above. The scoping meeting will be a discussion of the proposed action and potential alternatives currently identified. This meeting will also allow an opportunity for input from the public and stakeholders and will include a portion reserved for oral public comments that will be audio recorded as per HAR § 11-200.1-23. Additional comments from the scoping meeting will be accepted in written format via mail, email, or on-line submittal. All written comments received during the scoping period will be addressed and responded to in accordance with HEPA requirements.

Pursuant to HRS Chapter 6E, HRS Chapter 343, and HAR Chapter 11-200.1, consultation will occur with cultural practitioners, Native Hawaiians and other stakeholders. This consultation is intended to allow for public and professional input on the proposed action and alternatives, potential impacts to cultural properties, potential impacts to cultural practices and/or beliefs, and other pertinent cultural considerations of Native Hawaiians and other ethnic groups. A Cultural Impact Assessment will be prepared during the EIS process detailing these discussions and considerations and will be included with the Draft EIS.

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