

## Issue 7: Hunting, Nature-Based Recreation and Tourism

### Overview

Protection of Hawaii's natural resources is essential for the quality of life of residents, the environment, and the future of Hawaii's visitor industry, which is the top revenue producing industry in the state. Hunting is a popular activity for residents and some visitors, and provides recreational opportunities, vital food source for many families, and helps to protect the environment by controlling the population of introduced feral ungulates. Table 7.1 illustrates the numbers of residents and visitors that participate in wildlife associated recreation.

**Table 7.1. Hawaii's Wildlife-Associated Recreation**

Activities	Resident	Non-resident	Total
<b>Fishing</b>			
Anglers	92,000	65,000	157,000
Days of fishing	1,300,000	171,000	1,471,000
Average days per angler	14	3	9
<b>Total Fishing expenditures*</b>	\$76,305,000	\$34,211,000	\$110,516,000
Average per angler	\$831	\$524	\$702
Average trip expenditure per day	\$33	\$177	\$49
<b>Hunting</b>			
Hunters	18,000	-	18,000
Days of hunting	418,000	-	420,000
Average days per hunter	23	-	23
<b>Total Hunting Expenditures*</b>	\$20,156,000	-	\$21,098,000
Average per hunter	\$1,110	-	\$1,136
Average trip expenditure per day	\$24		\$26
<b>Wildlife Watching</b>			
Wildlife-watching participant	155,000	107,000	262,000
Days of participating away from home	386,000	723,000	1,109,000
Average days of participation	8	7	7
<b>Total Wildlife Watching Expenditures*</b>	\$42,228,000	\$168,186,000	\$210,414,000
Average per participant	\$271	\$1,568	\$793
Average trip expenditure per day	\$49	\$230	\$167
Notes:			
* Includes trip-related, equipment, and other expenses			
- Sample size too small to report data reliably			

## Hunting

Public hunting is an essential tool in controlling game mammal populations on public and private lands, and well as a subsistence source of food for the last century. The Division of Forestry and Wildlife is the state agency responsible for managing native and non-native wildlife. Chapter 183D, Hawaii Revised Statutes (HRS), established The DLNR-DOFAW hunting program. The program is organized around participation in the federal Pittman-Robertson Wildlife Restoration Act, which defines activities and projects that qualify for federal funding from taxes on firearms and ammunition. Programs must facilitate hunting recreation by state wildlife agencies, within the constraints of other Division of Forestry and Wildlife goals and priorities.

Chapter 183D HRS also creates the Wildlife Revolving Fund, whereby monies collected from hunters, hunter education programs, and public shooting ranges are returned to those programs. Economic benefits of hunting have been relatively stable since 1985, with approximately \$20 million annually in direct expenditures, and over \$50 million in indirect benefits. Since World War II, hunting has become a major outdoor recreational activity in Hawaii, taking place on DOFAW managed lands, in Cooperative Game Management Areas (GMA's) managed by DOFAW, and on private lands, particularly on ranches. State-maintained trails and roads provide hunter access to some remote and pristine sites, thereby helping to control game mammal populations in those areas.<sup>1</sup> There are more than 60 separate public hunting areas in the state, constituting approximately 1.2 million acres of public hunting land.

### *Threats from Game Mammals*

Non-native feral ungulates introduced in the 18th century were largely responsible for the widespread deforestation and resulting water crisis of the 1860's. The Island of Kahoolawe provides us with an example of what would happen in Hawaii if populations of feral-ungulates were left unchecked.

Goats were introduced to Kahoolawe in the 1793. In 1858 the Hawaiian government issued the first of many leases for ranching on the island. From 1858-1941 the uncontrolled grazing of cattle, sheep and goats virtually denuded the island of all vegetation<sup>2</sup>. This led to the complete erosion of the island's fertile topsoil. Today, the island soils are depleted of nutrients and nearly impermeable to water infiltration. The streams have been filled in with silt and no longer flow and the reefs have been severely impacted from sediment due to erosion.<sup>3</sup>

Beginning in World War II In Kahoolawe was used by the U.S. military as a bombing range for training purposes. After decades of protests the Navy ended live-fire training on Kahoolawe in 1990, and in 1993 the last feral ungulates were removed from the island. In 1994 the island was transferred to the State of Hawaii. Because of decades of bombing, the island was covered with unexploded ordinance (UXO) and public access to the island was prohibited because of possibility of someone unwittingly causing UXO to explode. An effort to remove all UXO from

the island has not been entirely successful, and today there are only a few main corridors that have been sufficiently cleared to allow public access.

Currently, there is a comprehensive program managed by the Kahoolawe Island Reserve Commission to revegetate the island. Management activities are hampered because of the restricted access to large portions of the island due to UXO, but progress is being made and the island is slowly coming back to life.

Hunting and game management involve a number of potentially contradictory and conflicting issues.

- Game animals hunted include axis deer, black-tailed deer, mouflon sheep, feral sheep, feral goat, and feral pigs, all of which may be problematic in large numbers or in sensitive habitats. Game birds hunted include pheasant, francolin, quail, dove, chukar, and wild turkey, which are much less problematic in terms of environmental or watershed impacts.
- Game mammals are managed not only through the hunting program, but also through endangered species projects, Natural Area Reserve projects, watershed partnership activities, and many other efforts aimed at reducing or eliminating game mammal populations. Nonetheless, hunting and hunters serve as the first effort to control game mammal populations in sensitive areas. This is done through normal hunting activities, and special control permits granted to individual hunters to reduce game mammal numbers where or when necessary
- A continuing series of efforts have been made to resolve conflicts between hunters and conservation and protection advocates including state agencies, and most have had limited success at best. Currently, a game management plan is being completed for the island of Hawaii in an attempt to at least sharply focus some of the issues and problems, and identify activities that might benefit hunting without creating other problems.

### *Benefits of Hunting*

- Game mammals seriously impact native vegetation, watersheds, and threatened and endangered species. Hunting helps manage populations of feral ungulates while providing recreation and food. (*See Issue 1: Water Quality & Quantity and Issue 6: Conservation of Native Biodiversity for additional information.*)
- Many of the Game Management Program activities benefit and enhance endangered or threatened species. For example, predator control and water unit development for game birds also benefit the endemic Hawaiian Goose *nene* (*Branta sandvicensis*) in many areas.
- Public hunting provides direct and indirect economic benefits to state agencies and the state's economy: nature-based recreation.

### Priority Areas for Hunting in Public Hunting Areas

Priority areas for hunting in hunting areas managed by DOFAW are identified in DOFAW's Management Guidelines (Maps 7.1 and 7.2).

### Nature-Based Recreation and Tourism

Hawaii's favorable climate and environment offer year round opportunities for outdoor recreation for both residents and island visitors. With eight national parks/historic sites, ten national wildlife refuges, 55 state parks, 56 state forest reserves, 31 state harbors and boating facilities and hundreds of county park and recreation areas<sup>4</sup>, the opportunities for outdoor (terrestrial and marine) experiences can accommodate the young and old, as well as the thrill seeker or the sunbather. There are growing numbers of ocean recreation sports from windsurfing and para-surfing to paddleboarding and kayaking. Mountain and coastal trails are not only used for hiking, but have become popular venues for mountain-bikers, joggers, horseback riding (where permitted) and numerous extreme races. These and other outdoor recreation opportunities provide a chance for people to experience and interact with nature on lands managed by private, federal, state, and county agencies.

The tourism industry continues to play a significant role in Hawaii's economy. Hawaii attracts over six million visitors each year, and in 2007 tourism generated more than \$12.8 billion in visitor spending.<sup>5</sup> In addition, tourism generates state taxes through accommodation taxes, sales tax, and auto rental taxes. According to a 2001 Visitor Satisfaction Survey conducted by the Department of Business, Economic Development and Tourism (DBEDT), for the majority of visitors, vacation is the primary purpose of their trip. While on vacation, nature-based sightseeing and outdoor recreation opportunities are two of the main visitor attractions.

Hawaii's recreational environment is often divided into *mauka* (upland) and *makai* (seaward). Mauka recreation, often in forest and park settings, includes land and nature-based activities such as hiking, wilderness camping, picnicking and hunting. State recreation agencies most directly connected with mauka recreation include the Division of State Parks and the Division of Forestry and Wildlife, both under the Department of Land and Natural Resources. The following section primarily describes the benefits, threats and impacts in natural resources areas *mauka*, where recreation and tourism overlap; focusing on national, state, and county parks, and wildlife-associated recreation. The 2008 State Comprehensive Outdoor Recreation Plan and the Hawaii Tourism Authority Natural Resources Assessment provided much of this information.<sup>1,6</sup>

### *Benefits of Nature-Based Recreation and Tourism*

The greatest benefit of tourism in Hawaii is considered to be economic. The visitor population helps support maintenance of outdoor recreation programs and facilities through spending and taxes, with resultant tourism-related employment being quite high. A study by the National Parks Conservation Figure Association demonstrated that visitors to Hawaii's National Parks spent

# Priority Areas for Hunting on Public Land

Note: Priority areas on the island of Hawaii apply only to pigs. Please see note below.

NOTE: This map shows priority areas for hunting all game mammals and game birds on all islands, with the exception of the island of Hawaii. For the island of Hawaii this map shows priority areas for hunting pigs only.

Please refer to Map 7.2 "Priority Areas for Hunting Sheep, Goats and Game Birds, Island of Hawaii" for hunting those species on that island.

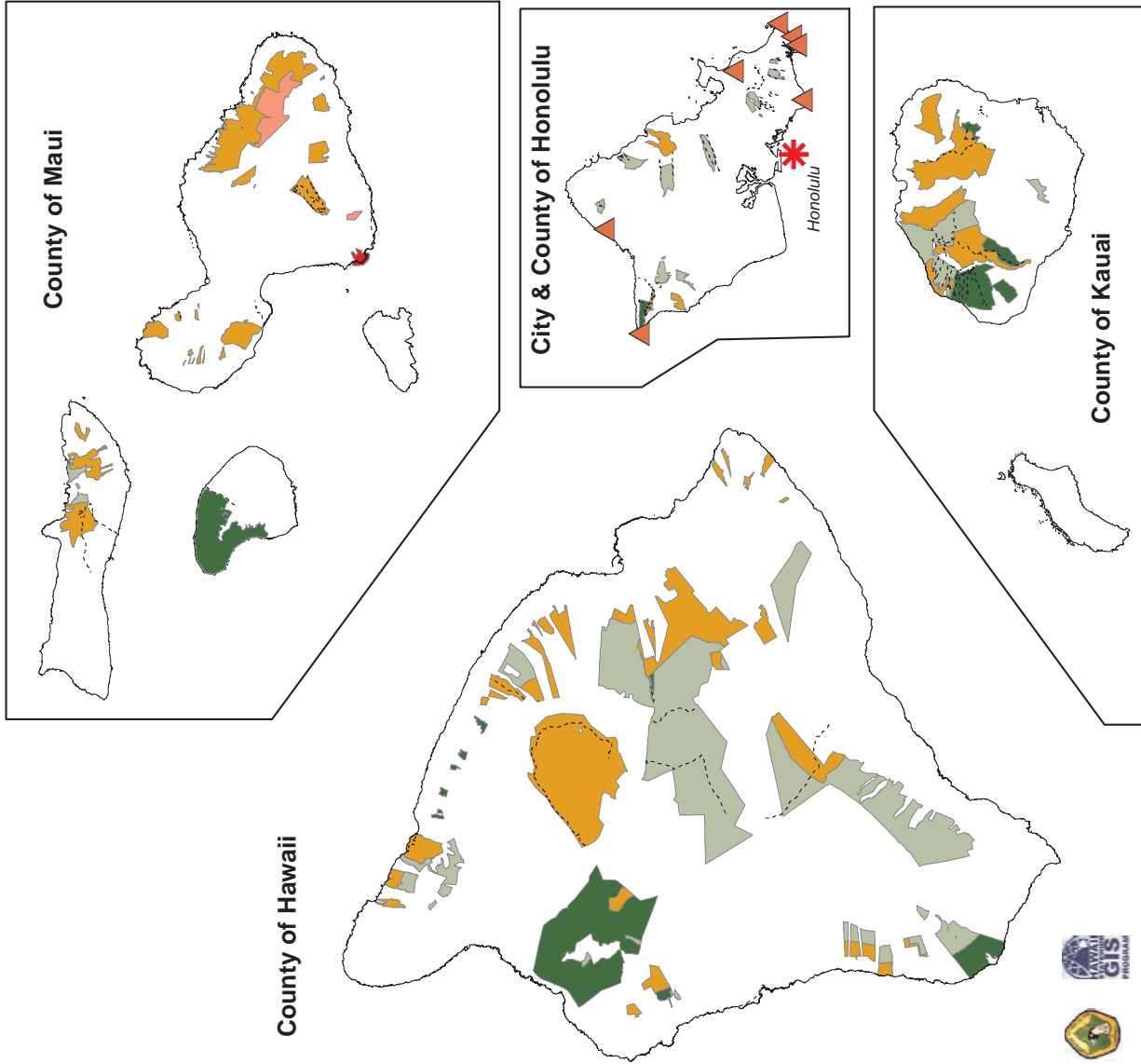
----- Na Ala Hele Hiking Trail  
**Game Hunting Priority Areas**

- Maximum Game Production
- Mixed Hunting and Other Uses
- Game Control by Public
- Game Control by Public and DOFAW

Data Source: State of Hawaii GIS, Division of Forestry and Wildlife Management Guidelines.  
 This map depicts priority areas hunting in public hunting areas only. Hunting is permitted on private lands at the discretion of the landowner.

**Main Hawaiian Islands**

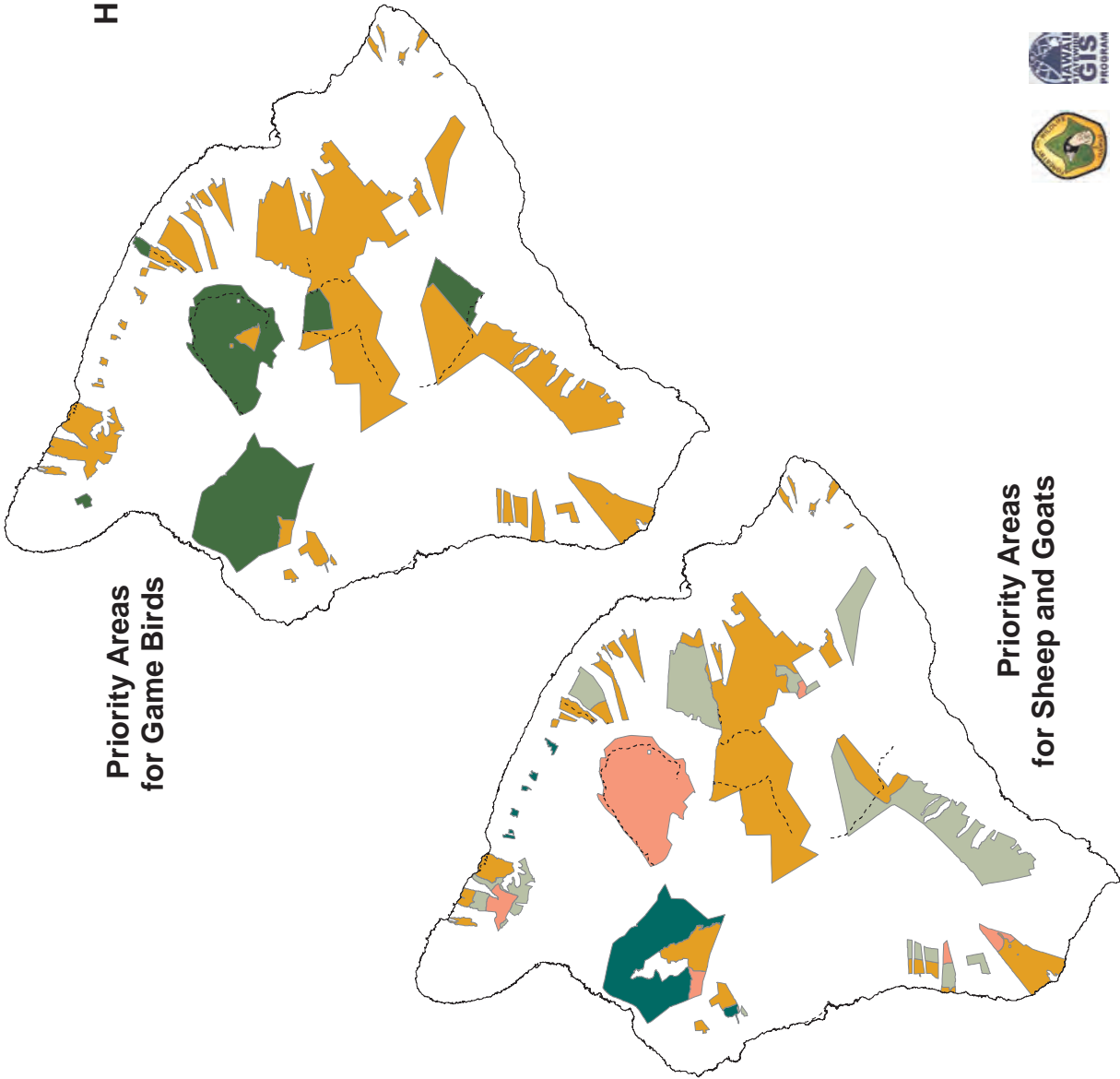
Data Source: State of Hawaii GIS  
 Date of Production: June 18, 2010  
 Contact: Ronald Camarella, Forester  
 Department of Land and Natural Resources



Map 7.1 Priority Areas for Hunting on Public Land.

**Priority Areas  
for  
Hunting Sheep, Goats and  
Game Birds  
Island of Hawaii**

Note: Game management objectives for sheep/goats and game birds are set differently for each hunting area on the Island of Hawaii as depicted in this map.



Map 7.2 Priority Areas for Hunting Sheep, Goats and Game Birds on the Island of Hawaii.



nearly \$240 million in 2001, which directly support 4,844 jobs.<sup>7</sup> The Hawaii Coral Reef Initiative Research Program (HCRI-RP) has estimated that coral reefs in Hawaii have an overall economic value of \$363.71 million, \$304.16 million of which is directly related to recreation and tourism.<sup>3</sup> Surveys of visitors conducted by DBEDT and HCRI-RP reveal that although many factors play impact a visitor's decision to plan a vacation to Hawaii, the state's unique natural resources and the range of outdoor activities available are often the primary attraction. Therefore, continued viability and growth in the tourism industry, and in turn Hawaii's economic future, strongly depend on the sustainability of natural environments and resources. While economic gains are considered the greatest benefit, there are also other environmental and community benefits specific to recreational activities.



Figure 7.1 Aeo, Hawaiian Stilt, one of six endemic waterbirds  
Photocredit: DOFAW Archives

### *Trends*

In Hawaii, as well as nationally, trends in population age show that those 65 years and older rose by 12% between the years of 2000 to 2007.<sup>8</sup> Aging population is attributed to declining birth rates and longer life expectancies, which in turn impact the preference for recreational opportunities. For example, an aging population is less likely to demand youth-oriented facilities such as little league ball fields or skate parks. Rather, they demand facilities that provide less strenuous activities such as walking, golfing, and fishing. Other trends include population growth projections contributing to overuse and overcrowding of recreational and nature areas, and an increase in sports tourism, cultural tourism and ecotourism.

### Cultural Tourism

The fundamental idea behind cultural tourism is to create activities, events and destinations that attract residents and visitors interested in learning about Hawaii's rich ethnic and cultural resources. Many believe cultural tourism will become a substantial part of the tourism industry.<sup>9</sup> In addition, cultural tourism fosters understanding, preservation, and appreciation for the history and heritage of the area.

The 2009 Hawaii Capital National Heritage Area Study (<http://www.hawaiicapitalculture.org>) examined the feasibility and suitability of National Heritage Area designation for central Honolulu and documented the areas cultural and heritage resources. This highly collaborative process involved the public, the support of state and city agencies, nonprofit and community organizations, educational institutions, and business owners. This study demonstrates that the proposed National Heritage Area meets all ten of the National Park Service criteria for evaluation of candidate areas, and that there is public support for such a designation.

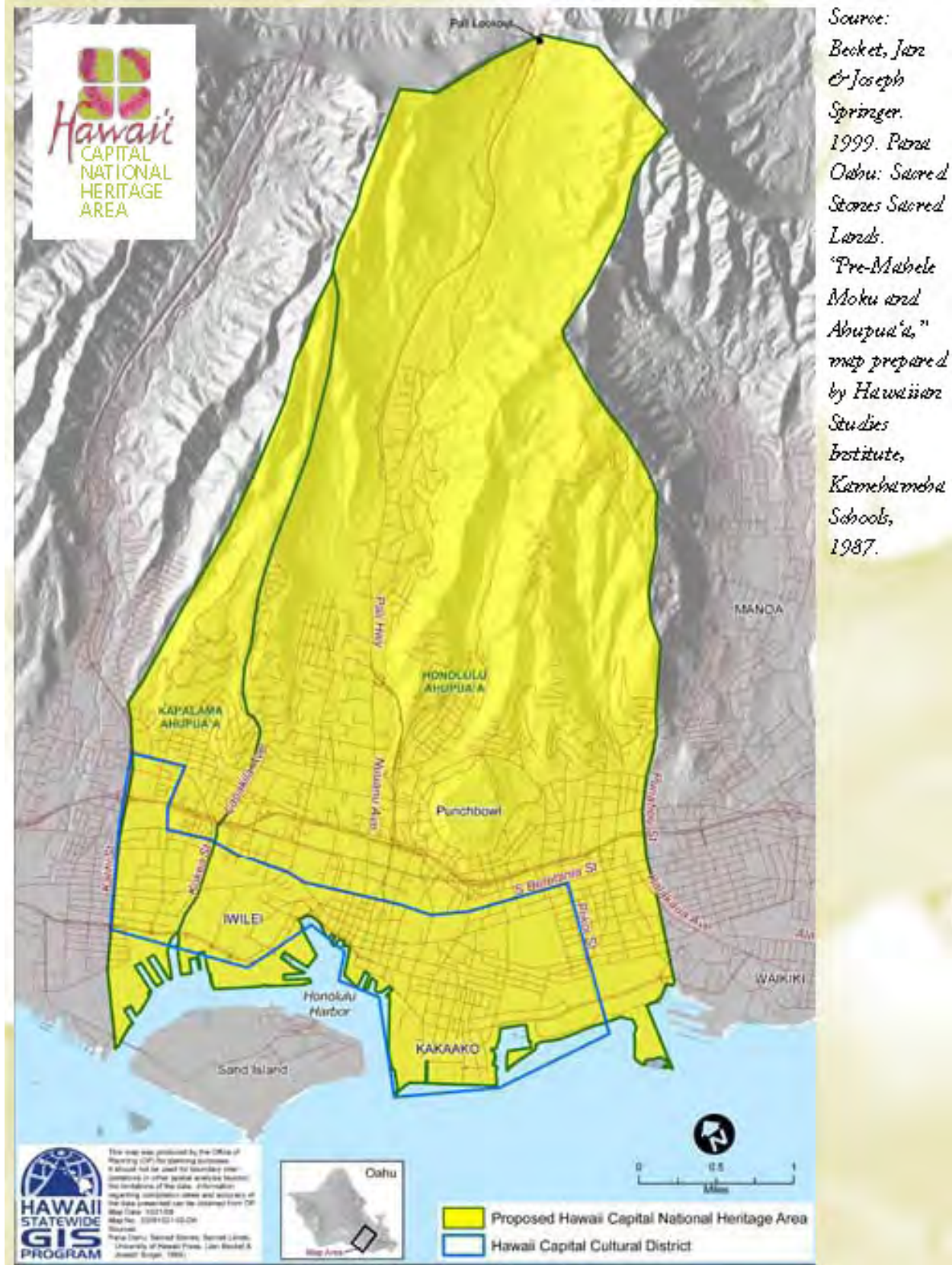


Figure 7.2. The entire ahupuaa of Honolulu is proposed for National Heritage Area designation.



The proposed boundaries are the ancient boundaries of the *ahupuaa* of Honolulu and Kapalama, covering the beautiful valley of Nuuanu, and adjacent coastal plains in the ancient and historic village of Kou, now the City of Honolulu, on the island of Oahu. According to the *mooolelo*, the storytelling oral tradition of native Hawaiians, this area has been an important region for thousands of years. Its rich cultural and natural history is written in the lands that reach from the heights and mountain ridges of the majestic Koolau Mountains, to the welcoming seas of the Pacific (See Figure 7.2).<sup>10</sup>

Ecotourism

Ecotourism is an emerging market in Hawaii. Many activities popular among visitors, such as enjoying scenic views, visiting museums, and photography are inherently “ecotourism” related, whether participants choose to label themselves as an “ecotourist” or not. A variety of people participate in ecotourism vacations or activities. On one end of the spectrum are environmentally aware travelers, who consciously choose to be ecotourists. They are largely motivated to participate in “eco-vacations” according to their environmental beliefs and values. These visitors are primarily concerned with wilderness, tropical forests, and wildlife. The other end of the spectrum include travelers who visit natural places easily accessible from a car or participate in a simple nature-based activity while on vacation, but may not consider themselves ecotourists or realize that they are participating in ecotourism activities.<sup>11</sup>

Ecotourist activities vary as widely as ecotourists themselves. In general, any nature-based outdoor activity in which visitors participate can be considered an ecotourist activity. The Ecotourism Society has

created a USA Ecotourism Statistical Factsheet, in which they rank the most popular nature-based activities.<sup>12</sup> Visiting parks and hiking were the most popular nature-based activities. (See Table 7.2)

*Threats and Concerns*

The state’s largest industry depends on scenic beach parks, coral reefs, fisheries, and unique mountain and coastal ecosystems. While lack of funding and the subsequent inadequate

<b>Rank</b>	<b>Activity</b>	<b>Incidence</b>
1	Visiting Parks	55.8%
2	Hiking	55.0%
3	Exploring a Preserved Area	47.8%
4	Wildlife Viewing (non-birds)	45.8%
5	Visiting Nature Trails in Ecosystems	37.1%
6	Visiting Unique Natural Places (sinkhole, dunes)	27.5%
7	Environmental Education	20.3%
8	Bird Watching	19.5%
9	Biking	18.7%
10	Freshwater Fishing	17.9%
11	Snorkeling or Scuba Diving	14.7%
12	Exploring a Major Protected Swamp, Marsh	12.0%
13	Mountain or Rock Climbing	11.6%
14	Canoeing or Kayaking	9.2%

maintenance of facilities are considered primary concerns, other issues, such as invasive species, have proven to be a serious threat to tourism and recreation. Certain species such as the imported red fire ant have the potential to cause extensive economic and environmental harm in Hawaii.<sup>13</sup> Projected impacts from climate change include higher sea levels, accelerated beach erosion, greater damage from sea surges and storms, and reduced freshwater supply. (See Issue 5: Climate Change/Sea Level Rise for additional information.) All of these could negatively impact coastal tourism, a mainstay of Hawaii’s economy. Table 7.3 provides an overview of threats and concerns to recreation and tourism in Hawaii.

**Table 7.3. Threats & Concerns: Recreation & Tourism**

Threats and Concerns	National Themes & Objectives
<b>Introduction of Invasive Species</b>	
Recreational hikers can unintentionally be vectors for invasive species.	2.2, 3.5
Overuse of trails and subsequent erosion can lead to opening up habitat for invasive species and landslide events.	1.2, 2.2, 3.5
Invasive species such as the red fire ant have the potential to cause extensive environmental and economic harm.	2.2, 3.5
Release of pets and animals in the park is a threat to native species.	2.2, 3.5
<b>Inadequate Funding</b>	
Inadequate funding and subsequent lack of proper maintenance of lands and facilities will cause a reduction in health of natural resources and subsequent reduction in use by residents and visitors.	1.1, 1.2, 2.2
<b>User Conflicts</b>	
User conflicts can occur with over-crowding, poor regulations and conflicting uses (e.g., hunters and hikers).	1.2
Game animals can harm threatened and endangered species and/or habitat.	1.2, 2.2
<b>Beach and Coastal Erosion</b>	
Over the last half-century, nearly one-quarter of Hawaii's beaches have been significantly degraded. Typical erosion rates throughout the state range between 0.5 and 1.0 feet per year.	1.1, 1.2, 2.2, 3.7
There are considerable concerns about the future condition of Hawaii's coastal ecosystems, particularly erosion & the health of coral reefs. Loss or damage of reefs and beaches is detrimental to overall coastal health, as well as recreational activities.	1.1, 1.2, 2.2, 3.1, 3.5, 3.7
<b>Pollution</b>	

**Table 7.3. Threats & Concerns: Recreation & Tourism**

Threats and Concerns	National Themes & Objectives
Visible pollution significantly damages the image of Hawaii as an unspoiled tropical destination.	1.1, 1.2, 2.2
Concentrated pollution in all forms from urbanization - air, water, and solid waste - particularly when the infrastructure necessary to accommodate growth is not in place.	1.1, 1.2, 2.2, 3.1, 3.2
<b>Overcrowding &amp; Population Growth</b>	
Overuse threatens resources. Projected growth in both resident and visitor population has the potential to negatively impact the health of the environment, as well as its accompanying "attractiveness" to visitors.	1.2, 2.2, 3.6
An increase in the number and size of urban areas will result in further encroachment into natural areas.	1.2, 2.2
An increase in the number of residents and visitors, combined with a decrease in the size of accessible natural resource areas may result in overcrowding at remaining resource based sites.	1.2, 2.2
<b>Aquatic Resources &amp; Marine Life</b>	
Numerous factors have the potential to negatively impact the quality of streams and estuaries that drain into the ocean and near shore ocean waters. The most significant impacts on marine waters are caused by siltation, turbidity, nutrients, organic enrichment, and pathogens from non-point sources, including agriculture and urban runoff.	1.1, 2.2, 3.1
Point source discharge into coastal waters by industrial facilities and wastewater treatment plants is also a serious concern.	1.1, 2.2, 3.1
Leptospirosis is a threat to water-based activities.	1.1, 2.2, 3.1

**Present Conditions**

Much of Hawaii’s popularity as a visitor destination is based on the range and extent of outdoor activities available. In 2002, the tourism sector provided one out of every five jobs and generated approximately 21 percent of total state and county tax revenues, as well as 16.5 percent of the Gross State Product.<sup>14</sup> It is for this reason that so much of the state’s resources and planning efforts are directed toward sustaining and promoting the visitor industry. In contrast, funding for natural resource protection and management at all levels of government continues to be drastically reduced during the past decade. For example, the 2003 budget DLNR, the agency primarily in charge of statewide natural resource protection and management, accounted for less

than one percent of the state's total budget, despite the fact that DLNR manages over one-fourth of the total land mass, as well as many coastal areas.

### **Tourism & Natural Resources**

In 2003, Hawaii Tourism Authority (HTA) commissioned a study of the inter-relationships between the health of Hawaii's natural resources and the health of Hawaii's visitor industry. The goal of the assessment was to develop strategies to enhance this relationship for the benefit of both the visitor industry and the natural environment. To accomplish this, the assessment included the identification of natural resource areas most commonly frequented by visitors, and an in depth assessment of each of the identified areas. The primary objective of this assessment, as directed by Act 250; SLH 2002, was to provide a long-term planning for improving heavily visited natural resource sites. It was also conducted to establish a baseline for the quality of natural resource sites in general throughout the state, as well as to identify specific sites in greatest need of improvements in order to prioritize future projects and initiatives.

One hundred and ten sites were selected based on a comprehensive review of travel guides and other sources of information used for vacation planning, meetings with HTA's Natural Resources Advisory Group (NRAG), consultation with various agencies and organizations responsible for recreational and natural resource management, and public input. The final list of sites assessed included: 30 sites on Oahu, 19 sites on Maui, 5 sites on Molokai, 6 sites on Lanai, 27 sites on Kauai, and 23 sites on the island of Hawaii.

It was found that in many cases, the quality of the experience may be negatively affected by aging facilities, deferred maintenance, vandalism, lack of parking, difficulty finding and accessing the site, and other issues. The assessments also revealed that in some instances, the poor quality of facilities has a negative impact on the



Figure 7.3. Visitors come to experience Hawaii's unique flora and fauna such as this rainforest on the island of Hawaii.

natural resources as well. As such, an effort to improve important natural resource areas in general will in turn improve the visitor experience and the resources themselves.

There were, of course, exceptions where the quality of the site and its facilities served as an excellent visitor experience and protected the natural and/or cultural resources of the site. Sites were then prioritized for improvements based on a number of indicators, including estimated volume of use, safety concerns, threats to natural resources, and economic potential. Preliminary cost estimates and project descriptions were prepared for each of the 23 priority sites (five each on Kauai, Maui, and Hawaii, six on Oahu, and one each on Lanai and Molokai).



Figure 7.4. An ancient Hawaiian trail paved smooth stones helped travelers cross rough a'ā lava.

### *Hawaii's Parks*

Hawaii's parks are situated in forested, coastal, mountainous and urban landscapes. An estimated 10.1 million people visit Hawaii state parks in a year. Of this total, two thirds are out-of-state visitors and one third are residents.<sup>15</sup> A large percentage of visitors engage in photography and general enjoyment of scenic views while visiting state parks. Almost three-fifths of out-of-state visitors to parks are repeat visitors.<sup>16</sup> Maintaining the natural beauty of the parks increases the likelihood that visiting state and national parks will continue to be a high priority for many Hawaii vacationers.

### **There are many benefits related to Hawaii's Parks:**

- By visiting state and national parks, residents and tourists develop an appreciation for Hawaii's natural and cultural resources, which in turn fosters respect and stewardship for these resources.
- Parks provide public access to natural areas for passive outdoor recreation and the enjoyment of nature.
- Parks preserve open space and scenic view corridors.
- Parks offer interpretation of cultural and historical sites increasing understanding and appreciation of Hawaii's unique culture and history.
- Parks conserve natural areas.



### National Parks

The Hawaiian Islands are famous for their volcanoes, beautiful landscapes and complex ecosystems, which offer unusual hiking and camping opportunities. The State of Hawaii contains eight national parks established to preserve native Hawaiian activities, history and culture.<sup>2</sup> The National Park Service manages two parks in forested regions; Hawaii Volcanoes National Park and Haleakala National Park, one in the urban realm; the Arizona Memorial, one Historic Trail; Ala Kahakai National Historic Trail, and four parks that preserve and interpret Hawaiian culture and history; Kalaupapa National Historical Park, Kaloko-Honokohau National Historical Park, Puuhonua O Honaunau National Historical Park, and Puukohola Heiau National Historic Site. Three of the eight National Parks in Hawaii charge an entrance or recreation fee, of which 80% is returned to the park and 20%, is given to parks that do not charge fees.<sup>17</sup>

### State Parks



Figure 7.5. Parks and trails provide important opportunities for education and recreation.

The Department of Land and Natural Resources Division of State Parks is responsible for the development and management of sites that have outdoor recreation and heritage value. The objective of the state parks program is “to provide opportunities and facilities for unorganized outdoor park recreation activities and to preserve and make available for appreciation and study these places of historical, cultural, scenic and natural significance”.<sup>18</sup> The hawaii state park system manages 53 parks on the five major islands encompassing over 30,000 acres. Historically, many of the early state parks were carved out of state forest reserves to enhance and promote the

recreational opportunities available to the public. The state park system includes beach parks, historical parks, state monuments, hiking trails, and mountain forest parks. Passive recreation available in state parks includes camping, picnicking, hiking, fishing, swimming, scenic viewing and photography. Among repeat visitors from out-of-state, it has been reported that the nature and scenery of the area is what brings them back to Hawaii.<sup>19</sup>

Visitors and residents continue to use state parks in growing numbers every year, while the resources to manage and maintain the parks and resources in them have decreased. Many state park facilities were built between 1960 and 1980, resulting in facilities that are in need of major repair and renovation. Some of this renovation has been accomplished through required federal compliance with the Americans with Disabilities Act (ADA) and conversion to large capacity wastewater systems.

Due to the recent economic downturn, the Division of State Parks has shifted emphasis to public health and safety, and repair and maintenance, rather than developing new facilities. To generate revenues to support the operation of the state park system, new fees are being implemented along with increases in the existing fee structure.

**Limited State Park funding is used primarily to:**

- Acquire new parks and expand existing parks.
- Manage natural resources such as beaches, forests, and trails.
- Manage cultural resources.
- Provide adequate security. Park personnel have maintenance responsibilities but are unable to enforce park rules. There are no full-time enforcement personnel in State parks.
- Provide visitor services and interpretive programs in the parks. In several parks, nonprofit organizations provide some of these services through management leases.

*City & County Parks*

Hawaii's residents and visitors enjoy the favorable year round climate and outdoor recreation activities that the islands have to offer. In addition to State Parks, there are hundreds of City and County parks, as well as recreational sites in Hawaii. For example, on the island of Kauai the County Department of Parks and Recreation manages nearly 500 acres of recreational sites, and Maui County has over 1,200 acres designated for recreational activities. Honolulu, the most populated city, has the greatest number of park facilities (See Table 7.3 for a summary of recreational facilities on the island of Oahu ).

*Na Ala Hele Trails & Access Program*

Na Ala Hele (NAH) is the State of Hawaii Trail and Access Program is administered through Department of Land and Natural Resources Division of Forestry and Wildlife (DOFAW). This program was established in 1988 (Chapter 198D, Hawaii Revised Statutes (HRS), in response to

**Table 7.3. Oahu Parks & Recreation Facilities Summary**

Facility	Description	Number	Area (acres)
Regional Parks	Serve entire island or region of island; include a variety of recreation types and facilities, natural and cultural sites.	11	2,054.69
Beach/Shoreline Parks	Areas/sites along shoreline; include facilities and support services for water activities, sunbathing, picnicking, and other passive activities.	69	1,078.66
Nature Parks/ Preserves	Areas maintained primarily to preserve or conserve unique natural features.	7	1,059.47
District Parks	Community-based park averaging 20 acres; intended to serve 25,000 people; includes playfields, playcourts, passive areas, gym/ recreation complex, swimming pool.	26	565.93
Community Parks	Community-based park averaging 10+ acres; intended to serve 10,000 people; includes playfields, playcourts, passive areas, recreation building.	52	444.09
Neighborhood Parks	Community-based parks averaging 6 acres; intended to serve 5,000 people; includes playfields, playcourts, passive areas, comfort station.	78	362.70
Mini-Parks	Small landscaped areas serving high-density neighborhoods as well as high-density business and industrial areas. Facilities may include benches, picnic tables, children's play area.	31	37.36
Urban Parks	Passive landscaped areas including squares and triangles usually located in residential or business areas.	17	45.09
Zoos	Honolulu Zoo	1	41.96
Botanical Gardens	Areas developed for the recreational and educational appreciation of specific types of plants and plant communities.	5	459.04
Public Golf Courses	Golf courses owned and managed by the City & County of Honolulu.	6	1,002.26
Malls	Any pedestrian promenade that is or has been established and is under the control, management, or ownership of the City.	7	4.84

public concern about the loss of public access to certain trails and the threat to historic trails from development pressure. The Program plans, develops, acquires land or rights for public use of land, constructs, and engages in coordination activities to implement a trail and access system. It also conducts environmental risk assessment and establishes methods to improve public safety by assessing trail and ancillary natural resource condition for specific hazards and executing

mitigation actions and applying warning signage along transit corridors.<sup>20</sup> NAH has become increasingly engaged in trail management and regulatory issues due to both public and commercial recreational activities and emerging legal issues.

Trails and unpaved access roads serve multiple functions. They are essential as access to recreational features and critical for resource management, trails provide access for:

- County search and rescue efforts.
- Watershed restoration.
- Monitoring and removal of invasive plant and animal species.
- Combating and controlling wildland fire as firebreaks and firefighter access routes.
- Experiencing, protecting and preserving Hawaiian culture.
- Recreating, hunting, hiking, bicycling, equestrian riding, off-highway vehicle riding.

The Commercial Trail Tour Activity (CTTA) program allows commercial tour operators to utilize NAH trails diversifying Hawaii’s economy via management and monitoring of commercial trail and access road tours. Table 7.4 reflects revenue brought in by the CTTA program since its inception in 2002, totaling over \$600,000 in eight years.

**Table 7.4 Revenues from Commercial Trail Tour Activity (CTTA)**

<b>CTTA Revenue</b>	<b>FY09</b>	<b>FY08</b>	<b>FY07</b>	<b>FY06</b>	<b>FY05</b>	<b>FY04</b>	<b>FY03</b>	<b>FY02</b>
<b>Kauai</b>	\$19,574	\$41,792	\$35,973	\$ 37,332	\$ 34,273	\$11,114	\$33,232	\$36,145
<b>Oahu</b>	\$43,597	\$30,622	\$32,260	\$ 38,356	\$ 37,442	\$18,884	\$ 6,119	\$ 2,154
<b>Maui</b>	\$55	\$1,012	\$836	\$1,348	\$1,644	\$336	\$640	\$ 3,436
<b>Hawaii</b>	\$6967	\$5,989	\$22 844	\$37,368	\$38,723	\$10,172	\$25,752	\$4,028
<b>Total</b>	<b>\$70,193</b>	<b>\$79,415</b>	<b>\$91,913</b>	<b>\$114,404</b>	<b>\$112,082</b>	<b>\$40,506</b>	<b>\$65,743</b>	<b>\$45,763</b>

Priority Areas & Issues for Nature-Based Recreation

Three agencies in addition to DOFAW identified priority landscapes, issues and goals relating to nature-based recreation and tourism in Hawaii. Documents referenced include: the 2008 Statewide Comprehensive Outdoor Recreation Plan (SCORP); DLNR Recreational Renaissance Plan B, the Hawaii Tourism Assessment of Natural Resources and Strategic Plan and DOFAW’s Management Guidelines. In addition, 10 areas were highlighted in “The Hawaii Watchable Wildlife Guide”<sup>21</sup>. The areas were carefully selected to help direct anyone interested in watching



wildlife find accessible locations for viewing wildlife. Our Priority Areas for nature-based recreation and tourism consist of all State and National Parks, the priority areas identified by these four agencies and the locations suggested in the “Hawaii Watchable Wildlife Guide”. Please refer to Map 7.3 for Hawaii’s Priority Areas for Hawaii’s Priority Areas for Nature Based Recreation.

The 2008 Statewide Comprehensive Outdoor Recreation Plan identified five priority issues:

- Protection of Natural and Cultural Resources
- Management of Recreation Resources and Facilities
- Meeting the Needs of Recreation Users
- Access to Recreation Resources
- Funding

DOFAW’s Management Guidelines identified priority areas for non-hunting recreational use in the State Forest Reserves, and also identified priority areas for hunting in State Forest Reserves and Game Management Areas.

DLNR Recreational Renaissance Plan B<sup>22</sup> focuses on two goals:

- Increase routine repair, maintenance and improved operations
- Start the longer-term process of raising new revenues from vacant urban lands

The Hawaii Tourism Authority identified 110 sites across the State in which visitor usage was high or growing. From the evaluation, a list of 23 key sites was identified for more intensive study. The key sites list represents sites with high visitor use that have critical needs and could generate economic benefits if the needs were to be addressed. The 23 sites are:

Kauai:

- Haena Beach County Park (and Maninihola Dry Cave)
- Haena State Park
- Kalalau Lookout (Kokee State Park)
- Opaekaa Falls (Wailua River State Park)
- Puu Hinahina Lookout (Waimea Canyon State Park)

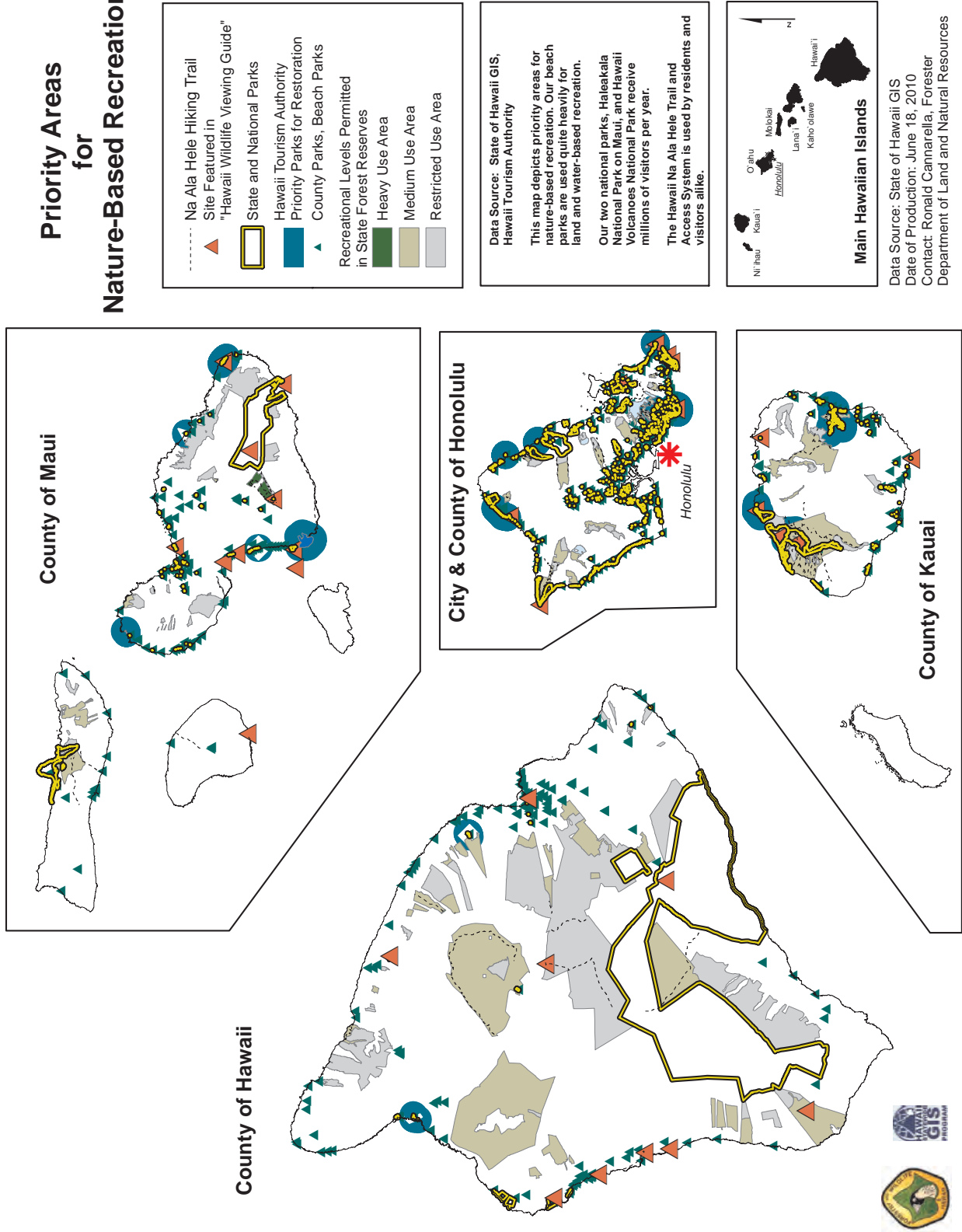
Oahu:

- Diamond Head Lighthouse Overlook
- Diamond Head State Monument
- Laie Point State Wayside
- Makapuu Point State Wayside
- Manoa Falls
- Pupukea Beach Park





# Priority Areas for Nature-Based Recreation



- - - Na Ala Hele Hiking Trail  
 ▲ Site Featured in "Hawaii Wildlife Viewing Guide"  
 □ State and National Parks  
 ■ Hawaii Tourism Authority Priority Parks for Restoration  
 ▲ County Parks, Beach Parks  
 Recreational Levels Permitted in State Forest Reserves  
 ■ Heavy Use Area  
 ■ Medium Use Area  
 ■ Restricted Use Area

**Data Source: State of Hawaii GIS, Hawaii Tourism Authority**  
 This map depicts priority areas for nature-based recreation. Our beach parks are used quite heavily for land and water-based recreation.  
 Our two national parks, Haleakala National Park on Maui, and Hawaii Volcanoes National Park receive millions of visitors per year.  
 The Hawaii Na Ala Hele Trail and Access System is used by residents and visitors alike.

Niihau Kauai Oahu Molokai  
 Honolulu  
 Lanai Kahooolawe  
 Hawaii I  
**Main Hawaiian Islands**

Data Source: State of Hawaii GIS  
 Date of Production: June 18, 2010  
 Contact: Ronald Cannarella, Forester  
 Department of Land and Natural Resources

Map 7.3: Priority Areas for Nature-Based Recreation

Maui County:

- Palaau State Park Lookout, Molokai
- Luahiwa Petroglyphs, Lanai
- Ahihi-Kinau Natural Area Reserve, Maui
- Honolua Bay and Mokuleia Bay (Marine Life Conservation District)
- Kamaole III Beach Park
- Kaumahina State Wayside
- Waianapanapa State Park

Hawaii Island:

- Akaka Falls State Park
- Hapuna Beach State Recreation Area
- Kealakekua Bay State Historical Park
- Punaluu Beach Park
- Waipio Lookout

Summary

According to the Hawaii State Parks Survey conducted in 2007, an estimated 10.1 million users visit State Parks each year, of which 67% are out-of-state visitors (6.7 million) and 33% are residents (3.4 million). While these statistics are for State Parks alone, a similar trend of increasing usage is also evident at other sites including less frequented resources such as Natural Area Reserves, Forest Reserves, botanic gardens and museums, difficult-to-access beaches, and hiking trails. In addition to usage, there are other factors such as signage, parking, accessibility and other amenities e.g., restrooms and concessions, that impact the overall quality and condition of each natural resource site in Hawaii. To continue to provide recreational areas for residents and visitors alike, natural resource sites need to be maintained, and in some cases, restored.

Interviews with recreation agencies and providers indicate that inadequate funding is one of the most critical problems. As departments struggle to maintain services and recreation programs in spite of staff reductions, natural resources will ultimately be negatively impacted. Potential problems include: not meeting the public's recreational needs, increased liability exposure if recreation areas are not maintained to assure public safety, park and trail closures, and resource degradation, all which will harm Hawaii's visitor industry.

In 2003, the Hawaii Tourism Authority commissioned a Natural Resources Assessment to focus on those natural resources important to tourism, particularly those vulnerable to tourism activity or overuse. The purpose of this study was to provide a long-term plan for the expenditure of monies set aside for improving natural resources. The study found that many physical improvements are required at nearly all of the various state and county natural resource sites. In many cases, the improvements recommended are needed to address either deferred maintenance and/or vandalism. Thus, while a restroom can be renovated, if maintenance is not performed regularly, or minor repairs made quickly, or if vandalism is frequent and destructive, then the improvements made are for naught. County, State, and Federal funding for outdoor recreation

and natural resource protection has remained drastically reduced throughout the 1990's and into this decade.

The majority of visitors choose Hawaii as a vacation destination based on the unique natural resources found here. The impact of a degraded environment in general would not only diminish Hawaii's attraction to visitors but also impact the lives of our resident population whose recreational, cultural, subsistence and physical health are often closely linked with the health of the land. Given the trend towards reducing State and County funding for natural resources and outdoor recreation, creative strategies must be implemented to ensure the proper maintenance of natural resource sites frequented by residents and visitors alike.



Figure Number One and Family. Visitors and residents alike enjoy Hawaii for its natural beauty, recreational opportunities, perfect weather and the *aloha* spirit of our people. Photo courtesy Associated Press.

### Data Gaps

Over the past few years, multiple mandates of the Na Ala Hele Trails have become particularly challenging due to the increased development actions affecting ancient and historic trails and responding at a rapid pace to development pressure, while also managing increased demand for

developing recreational trail opportunities such as managing the new off-highway vehicle riding. This challenge requires continuous evaluation and assessment.

*Trails & Access*

- There is a need for more research to be done on the impact of new and emerging recreational opportunities on trails and access lands, such as off-highway vehicle riding.
- Historic Trails require research, mapping and documentation.

*Wildlife Associated Recreation*

- Research on game mammal habitat areas

**Strategy Matrix for Issue 7: Hunting, Nature-Based Recreation and Tourism**

*Strategies for Issue 7: Hunting, Nature-Based Recreation and Tourism*

Residents and visitors alike engage in recreational opportunities enhanced by Hawaii's unique natural resources. The impact of a degraded environment in general would not only diminish Hawaii's attraction to visitors but also impact the lives of our resident population whose recreational, cultural, subsistence and physical health are often closely linked with the health of the land.

<b>Recreation and Tourism: Provide Public Access to Natural Areas</b>							
<b>Long Term Strategy</b>	<b>Priority Landscape Area(s)</b>	<b>Secondary Issues Addressed</b>	<b>Program Areas that Contribute</b>	<b>Key Stakeholders</b>	<b>Resources Available &amp; Implementing Partners</b>	<b>Measures of Success</b>	<b>Supports National Objectives</b>
1) Enhance, preserve and protect areas for nature-based recreation.	Officially designated hiking trails, federal, state and county parks, Forest Reserve areas designated for recreation in DOFAW Management Guidelines, areas identified in Hawaii Wildlife Viewing Guide, HTA Priority Parks for Restoration, and public-access easements through applicable private lands.	Reduced negative impact on sensitive resource areas, improved quality of life for residents, improved visitor experience.	Na Ala Hele, NARS, FRS, State & County Parks, DAR, NPS, FSP, FLP, LLCF, UCF, Hawaii Tourism Authority	All private residents/landowners and visitors, conservation organizations, advocates for nature-based recreation, visitor industry	NARF, various federal grants, TAT and HTA Natural Resources Grants Program, TNC, TPL, Land Trusts, HCA	Increase in number of people responsibly using recreation areas annually; Reduced user conflicts. Increased level of satisfaction in opinion surveys of residents and visitors.	3.6
2) Preserve open space and natural settings through public & private acquisitions, conservation easements, MOU's, Access Agreements, Cooperative Agreements.	Public recreation areas, targeted private lands.	Management buffers, new conservation lands, more carbon, Multi-State involvement.	State and County Planning offices, Federal - LWCF, CELCP, FLP, LLCF, RL/A, FRPP, UCF, FSCG	All private residents/landowners and visitors	Land Trusts, TPL, TNC, County "open space" funds, Private donations, HCA, NOAA	Increased acreage under public ownership or control & managed for recreation; Expansion of park systems.	3.3 3.6 2.2



Strategies for Issue 7: Hunting, Nature-Based Recreation and Tourism

3) Promote responsible behavior and preservation of natural and cultural resources through understanding and stewardship of these resources.	Public & private recreation areas, coastal areas	Awareness of invasive species impact on natural areas.	Government & Community partnerships, Volunteer programs, Eco-tourism Co's, Various Park Rangers, UCF	All private residents/landowners and visitors	TAT, HTA, State special funds, HISC, HCA, NOAA	Increase in interpretive materials available to visitors; Increase in public support for stewardship projects.	3.6
<b>Recreation and Tourism: Priority – Provide Recreational Opportunities and Manage Game Mammals</b>							
Long Term Strategy	Priority Landscape Area(s)	Secondary Issues Addressed	Program Areas that Contribute	Key Stakeholders	Resources Available & Implementing Partners	Measures of Success	Supports National Objectives
1) Comply with relevant State statutes (HRS 183D & 195D) and federal laws (Pitman-Robertson [PR] and Section 7 of the Endangered Species Act)	FRS, Private lands, Land locked State lands	Environmental Education, enhancement, Incipient invasive species identification.	Na Ala Hele, Conservation, Forest Stewardship, FSP, CREP, UCF	Recreationists, Hunters, Rural communities, Private landowners	Hunting fees, PR, Appropriate land parcels engaged, FSCG	Hunting licenses sold; Hunter days in the field; Game mammals harvested; New acres added/removed for hunting.	3.4 3.6
2) Increase the capacity to effectively manage game mammals through better research & monitoring.	Public hunting areas, private hunting lands, state leased lands	Env. Edu. enhancement, Incipient invasive species identification & control.	Wildlife Program, USGS-PIRG, UH-Manoa Dept. of Nat. Res. & Env. Mgmt., FLP, FSP, UCF, FSCG	Hunters, Rural communities, UH, Watershed Partnerships, Private Landowners	Fees from hunters, PR, Research capacity of State & Federal institutions, HCA	Number of areas & game spp. with population estimates; Number of plans & estimates of desirable game population #'s.	2.2 3.4 3.6
3) Increase effective communication between programs and the public, and among programs regarding resource problems, management and protection issues	Urban & Rural communities & institutions statewide	Env. Edu. enhancement, Incipient invasive spp. Id & control, targeted research.	HISC, Invasive Species Program (Wildlife), Forest Health, Watershed Partnerships, FRS, NARSFSP, CREP, UCF	Public & private landowners, Resource management agencies	HCA, Forestry & Wildlife Education & Outreach, HISC and CGAPS outreach staff, NOAA	Reduced conflict & increased cooperation in natural resource mgmt; Participation in management & protection initiatives,	2.2 3.4 3.6

Strategies for Issue 7: Hunting, Nature-Based Recreation and Tourism

Recreation and Tourism: Outreach and Education							
Long Term Strategy	Priority Landscape Area(s)	Secondary Issues Addressed	Program Areas that Contribute	Key Stakeholders	Resources Available & Implementing Partners	Measures of Success	Supports National Objectives
1) Children's Forest	State Forests and the Hawaii Experimental Tropical Forest	Multi-State / Island participation.	Conservation Education, FSP, FRS, NAPP, UCF, FSCG	All private residents/landowners and visitors	HCA, TPL, TNC, IPIF, Dryland Forest Alliance, Outdoor Circle, Parks	Number of children engaged; Broad Pacific Island involvement; Demonstration sites.	3.6
2) Maintain a relationship with the Hawaii Environmental Education Alliance (HEEA)	Statewide	Invasive spp., coastal area protection, water quality. & quantity.	Conservation Ed., UCF, FSP, FSCG, State & County Parks, FSP	Public & private landowners, resource management agencies	TNC, TPL, NOAA, NPS, Univ. Hawaii	More Coop. Agreements and MOU's; more research, political engagement in climate change issues.	3.3 3.6 3.7

**Acronyms Used:**

1. TAT = Transient Accommodation Tax administered by HTA, \$1m annually to State Parks and Trails.
2. HTA = Hawaii Tourism Authority
3. CELCP = Coastal Estuarine Land Conservation Program
4. PR - Pittman-Robertson Funds
5. NARS – Natural Area Reserve Fund
6. NARF – Natural Area Reserve System
7. FRS – Forest Reserve System
8. RLA – Recovery Land Acquisition Program – FWS
9. FRPP - Farm & Ranchland Program - NRCS
10. LLCF - Legacy Land Conservation Program
11. FLP – Forest Legacy Program – Forest Service
12. FSCG - Forest Service Competitive Grants
13. DAR - Division of Aquatic Resources
14. Na Ala Hele – State Na Ala Hele Trails & Access Program
15. HISC – Hawaii Invasive Species Council
16. FSP – Forest Stewardship Program
17. CGAPS – Committee Group on Alien Pest Species
18. NAPP - Natural Area Partnership Program
19. HCA – Hawaii Conservation Alliance
20. IPIF – Institute of Pacific Island Forestry
21. UCF – Urban & Community Forestry (Kaulunani)
22. NOAA – National Oceanographic and Atmospheric Administration

Section References

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- <sup>1</sup> State of Hawaii Department of Land and Natural Resources, Hawaii State Comprehensive Outdoor Recreation Plan (SCORP) 2008 Update. Honolulu, 2009, page 27.
- <sup>2</sup> Kahoolawe Island Reserve Commission. "Kahoolawe History." Kahoolawe Island Reserve Commission, State of Hawaii, <http://kahoolawe.hawaii.gov/history.shtml>.
- <sup>3</sup> (CRAMP), Coral Reef Assessment & Monitoring Program of Hawaii. "Cramp Study Sites: Island of Kaho‘Olawe." [http://cramp.wcc.hawaii.edu/LT\\_Monitoring\\_files/Lt\\_study\\_sites\\_Kahoolawe.htm](http://cramp.wcc.hawaii.edu/LT_Monitoring_files/Lt_study_sites_Kahoolawe.htm).
- <sup>4</sup> State of Hawaii Department of Land and Natural Resources. Hawaii State Comprehensive Outdoor Recreation Plan (SCORP) 2008 Update. Honolulu, 2009. Page 4.
- <sup>5</sup> State of Hawaii Department of Business, Economic Development and Tourism (DBEDT) Outlook for the Economy. Honolulu
- <sup>6</sup> Herman, Cesar, ‘Economic valuation of the coral reefs of Hawaii.’ University of Hawaii, Hawaii Coral Reef Initiative. December 2002 as quoted in State of Hawaii, Hawaii Tourism Authority, PBR Hawaii and Associates, Hawaii Tourism Authority Natural Resources Assessment Report. Honolulu, 2003. PDF. Page 1.
- <sup>7</sup> Stynes, Daniel, "Visitor Spending and Economic Impact Reports", University of Michigan <http://www.prr.msu.edu/mgm2/default.htm>.
- <sup>8</sup> State of Hawaii Data Book 2007, Table 1.21 as quoted in Department of Land and Natural Resources, Hawaii State Comprehensive Outdoor Recreation Plan (SCORP) 2008 Update. Honolulu, 2009, page 7.
- <sup>9</sup> Hawaii Capital Cultural Coalition, "Hawaii Capital National Heritage Area Suitability, Feasibility Study", Hawaii Tourism Authority. [www.hawaiicapitalculture.org](http://www.hawaiicapitalculture.org).
- <sup>10</sup> Hawaii Capital Cultural Coalition, "Hawaii Capital National Heritage Area Suitability, Feasibility Study", Hawaii Tourism Authority [www.hawaiicapitalculture.org](http://www.hawaiicapitalculture.org)
- <sup>11</sup> State of Hawaii, Hawaii Tourism Authority, PBR Hawaii and Associates. Hawaii Tourism Authority Natural Resources Assessment Report. Honolulu, 2003. PDF. Appendix D, Section D.3.
- <sup>12</sup> Ecotourism Statistical Fact Sheet, The International Ecotourism Society, (1999) as quoted in State of Hawaii, Hawaii Tourism Authority, PBR Hawaii and Associates, Hawaii Tourism Authority Natural Resources Assessment Report. Honolulu, 2003. PDF. Appendix D, Section D.3.
- <sup>13</sup> Gutrich, J., VanGelder, E., Loope, L. Potential Economic Impact of Introduction and Spread of the Red Imported Fire Ant, *Solenopsis invicta*, in Hawaii. Environmental Science & Policy, Volume 10, Issue 7, 2007. Pages 685-696.

- <sup>14</sup> State of Hawaii, Hawaii Tourism Authority, PBR Hawaii and Associates. Hawaii Tourism Authority Natural Resources Assessment Report. Volume 1, Honolulu, 2003. PDF. Page 1.
- <sup>15</sup> State of Hawaii, Hawaii Tourism Authority, OmniTrak Group Inc. Hawaii State Parks Survey Honolulu, 2007. Page 7.
- <sup>16</sup> State of Hawaii, Hawaii Tourism Authority, OmniTrak Group Inc. Hawaii State Parks Survey Honolulu, 2007. Page 61.
- <sup>17</sup> National Park Service. <http://www.nps.gov/state/HI/index.htm>
- <sup>18</sup> State of Hawaii Department of Land and Natural Resources, Hawaii State Comprehensive Outdoor Recreation Plan (SCORP) 2008 Update. Honolulu, 2009, page 24.
- <sup>19</sup> State of Hawaii, Hawaii Tourism Authority, OmniTrak Group Inc. Hawaii State Parks Survey Honolulu, 2007. Page 61.
- <sup>20</sup> Actions pursuant to Act 82 Session Laws of Hawaii (SLH), 2003.
- <sup>21</sup> Clark, Jeanne L. *Hawaii Wildlife Viewing Guide*: Watchable Wildlife, Inc, 2005.
- <sup>22</sup> State of Hawaii, Department of Natural Resources Recreation Renaissance Plan B "Back to Basics." <http://hawaii.gov/dlnr/recreate>.