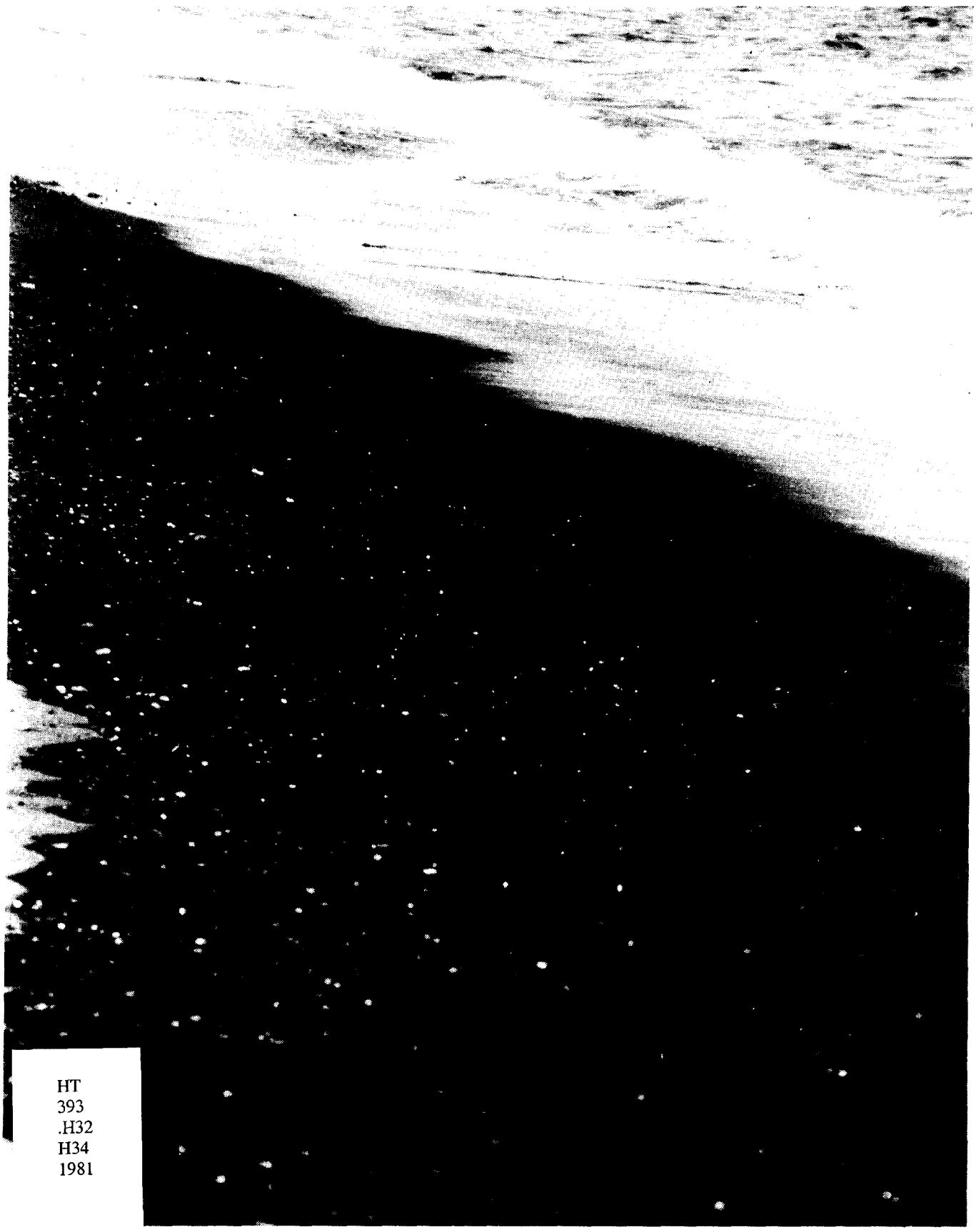

Guidelines & Standards for Public Access to the Shoreline
County of Hawaii

SHORELINE

PUBLIC ACCESS

GUIDELINES AND STANDARDS FOR
PUBLIC ACCESS TO THE SHORELINE

Prepared for:

County of Hawaii
Planning Department
April 1981

Prepared by:

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CHAPTER 1 INTRODUCTION

In response to the national need for the protection and effective development of coastal resources, the Federal Coastal Zone Management (CZM) Act was enacted by Congress in 1972. This act provided assistance and encouragement to participating coastal states to develop and implement localized management programs for their coastal zones.

The Hawaii Coastal Zone Management Program, approved in 1978 by the Federal Office of Coastal Zone Management, provides the basis for the State and the Counties to implement the overall intent of the national act. One of the primary goals of the State and Federal CZM Program is to make coastal recreational opportunities accessible to the public, and to assure that adequate public access is provided to beaches, recreation areas and natural reserves along the shoreline.

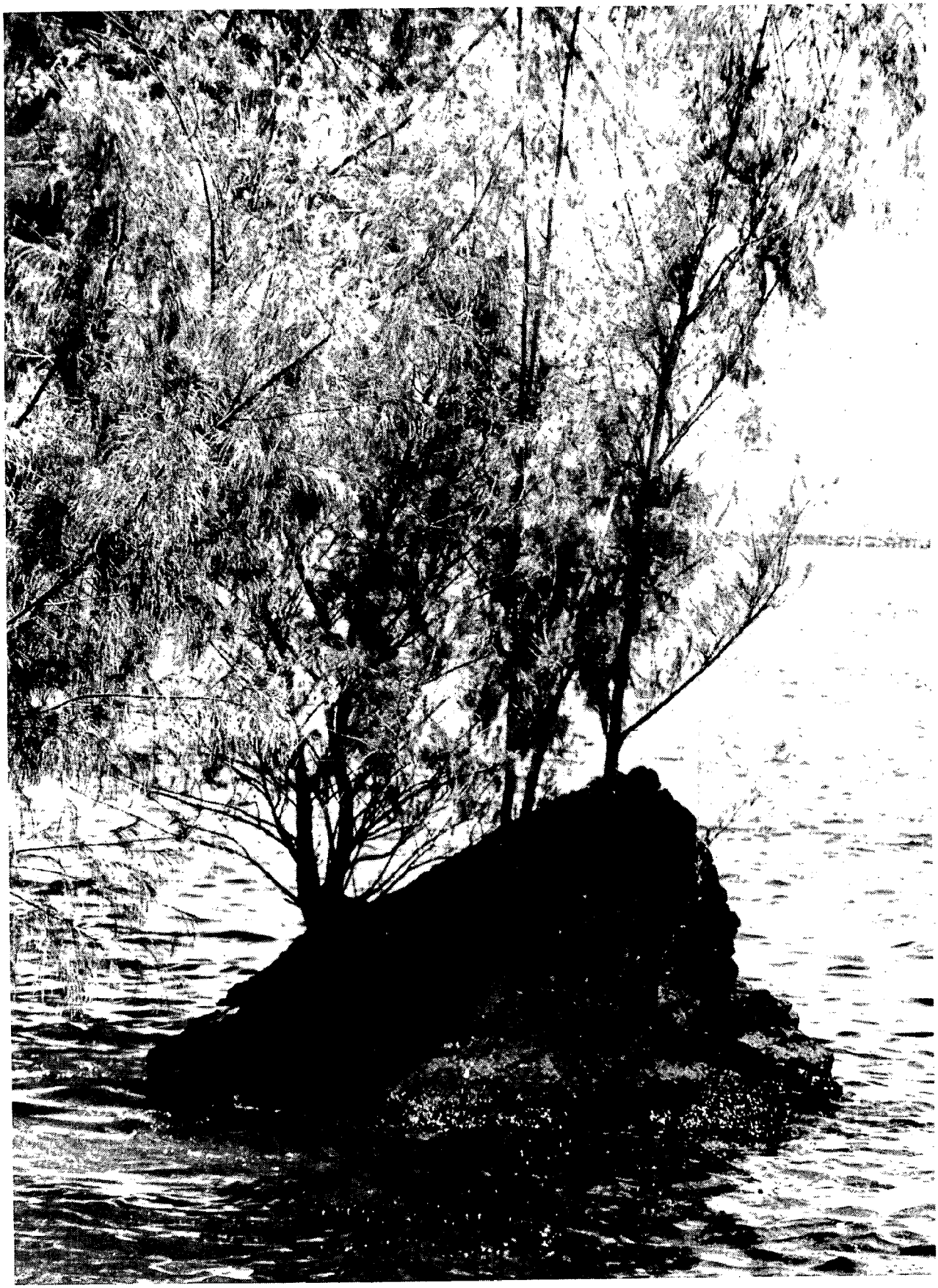
Consequently, to assure that adequate public access is provided in accordance with the legislative intent, the Planning Department, under the auspices of the HCZMP, initiated a public shoreline access program for the County in 1978.

The first phase of this program which was completed in September of 1979, involved the inventorying of existing public accesses to and along the shoreline, an inventory of the shoreline areas and nearshore waters of major recreational uses, and areas of major environmental aesthetic, and ecological importance. This inventory provides the baseline information in understanding current coastal conditions, accessibility, and resources.

The current phase involves the development of guidelines and standards for the identification of areas where additional public accesses are particularly necessary and/or desirable and for the design of public access systems.

The final phase of the County's shoreline access program will result in the development of a comprehensive management plan, incorporating the information provided under the first two phases as well as addressing specific legal questions regarding public access systems, and establishing specific acquisition and Capital Improvement Expenditure priorities.

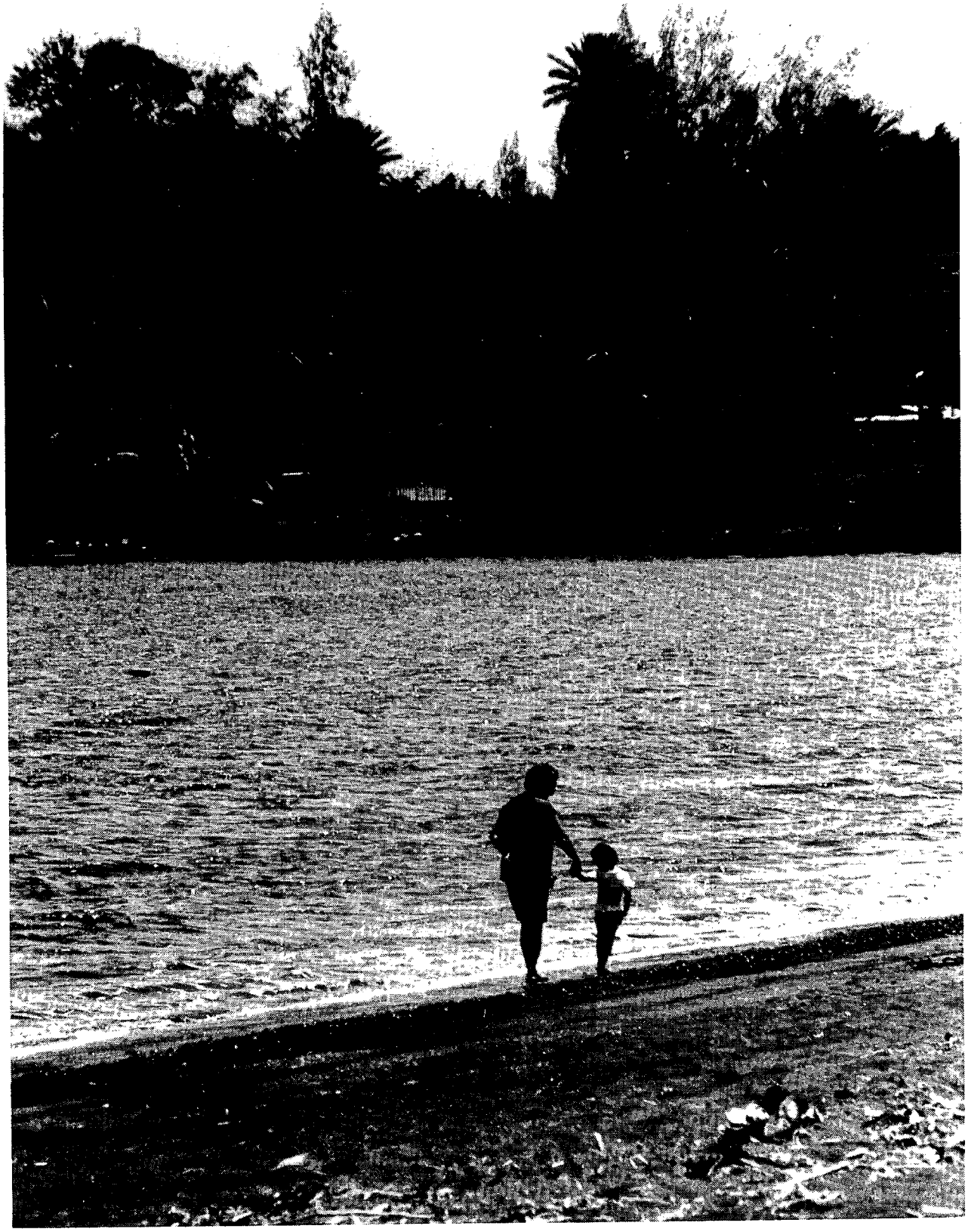
The completion of this phase will provide the County of Hawaii with an enforceable, implementable public shoreline access program for the entire island.



CHAPTER 2 DEFINITIONS

Certain terminology is used throughout the nation in trail guides and books. To facilitate common understanding of frequently used terms, the following definitions are offered:

1. Buffer or Protection Zone: The trail buffer zone is included within the corridor which is basically used to insulate the access from activities detrimental to the user's experience on the trail.
2. Corridor: The trail corridor is the "zone of trail influence." It is the total width, including the right-of-way and all the lands which make up the environment of the trail as viewed by the user. The corridor usually takes into consideration the intent of establishing the access, whether it be for scenic, recreation, or other purposes.
3. Destination: The shoreline with its distinctive features.
4. Horseshoe: A half-loop trail along a road. Usually the use can start at one end of a horseshoe as access to the shoreline and end at another trailhead along the road.
5. Line: The simplest and most common format, it connects two points from the roadside trailhead to the destination.
6. Loop: A trail in the shape of a loop. Looping provides variety for the user: it allows the user to return to the trailhead without retracing his steps.
7. Right-of-way: The area established by legal description or other means which delineates the trail width as it traverses over land. It can be established as a legal property entity or as an easement through someone's land.
8. Trail: This term describes the last leg of access to or along the shoreline. Travel over a trail is usually by walking, cycling, or horseback riding.
9. Trail system: Refers to the use of the different formats within a given area. It provides for an entire system of trails for different expectations.
10. Trailhead: The start of the last leg of access to or along the shoreline; usually located at a public roadside where parking is available or at the intersection of a trail to and along the shoreline.
11. Treadway: The surface upon which the user makes direct contact with the earth as he uses the trail.
12. Trunk line: A main long-distance trail on public land. For example, the ancient Hawaiian trail around the island can be called the trunk line trail.



CHAPTER 3 STATEMENT OF PURPOSE AND SCOPE OF WORK, PHASE II

The purpose of the Phase II study is a continuation of the County's objective of providing a Comprehensive Plan for Public Shoreline Access for the Island of Hawaii. The findings made in the Phase I Inventory portion of that study will be used in developing guidelines and standards for providing public shoreline access.

More specifically, the scope of work involved in Phase II is:

1. Identify and designate shoreline areas where public access is particularly necessary and desirable; including supporting rationale, assumptions, data and sources. Criteria for any guidelines and/or standards developed to achieve the above shall include, but not be limited to analysis of potential access area categories (urban, rural, open, resort, etc.); shoreline conditions, characteristics, or constraints; environmental, aesthetic and ecological considerations; recreational potential(s); land tenure or ownership patterns; inventories of historic or prehistoric accesses including traditional Hawaiian trails; and physical relationships from or between other existing or proposed shoreline access areas.
2. Develop guidelines and standards for the design and construction requirements for identified public access systems. Said guidelines and standards shall include but not be limited to provisions for landscaping; signage; coordination with other shoreline access systems; and other on-site and off-site improvements. Furthermore, said guidelines and standards shall take into consideration the character of the general area, existing and potential uses, and other applicable criteria.
3. Develop and implement a program for public participation in the preliminary identification of shoreline areas where public access is necessary and desirable, and in the development of the above-identified guidelines and standards. In addition, public involvement and awareness shall be emphasized in the selection of a uniform logo/signage program for the designation of public shoreline access rights-of-way and public shoreline areas.

CHAPTER 4 SUMMARY OF PHASE I FINDINGS

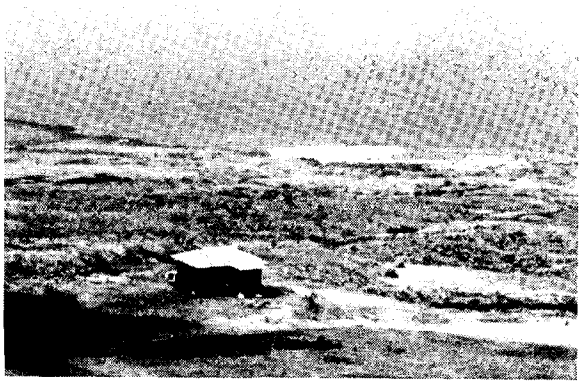
The Inventory of Public Shoreline Access, County of Hawaii, provides a comprehensive overview of the physical resources of the 360+ miles of the Island's shoreline areas. More specifically, this study includes an inventory of the shoreline areas and nearshore waters of major recreational uses, and areas of major environmental, aesthetic and ecological importance.

This inventory identifies public accesses by three categories: 1) improved roads capable of transporting two-wheel drive vehicles to the shoreline; 2) unimproved public roads which are either gravel roads or paper roads as shown in tax maps as public rights-of-way; and 3) pathways and trails including ancient trails, easements, and walkways designated for public use to reach the shoreline.

An important facet of this study included a survey of ancient Hawaiian trails which are still physically possible to be located along the shoreline. Although it is surmised that the ancient Hawaiian trails along the shoreline are public rights-of-way, only those segments which traverse through government land or are part of tax maps or old survey maps as public trails have been included.

Major areas of recreational and environmental importance along the shoreline have also been identified in this study. Such identification includes all existing and proposed public parks along the shoreline by their major usage and description of accessibility. In the delineation of all public lands along the shoreline, it was discovered that approximately 37 percent of the shoreline is in public lands. Public lands are lands under Federal, State, Hawaiian Homes and County jurisdiction.

The study further identifies shoreline conditions by the height of adjoining lands, by types of beaches, and by areas of environmental, ecological, or scenic importance. Approximately 35 percent of the shoreline is in high cliffs, about 28 percent is lands of medium height, and 37 percent in low-lying shores.



SUMMARY OF FINDINGS

Table 1: CONDITION OF SHORELINE
ISLAND OF HAWAII (In Miles and Percent of Total)

	High[1]	Medium[2]	Low[3]	Total
West Hawaii	20.4	52.1	74.5	147
East Hawaii	104.6	49.8	59.1	213.5
Total Island	125.0	101.9	133.6	360.5
Percent (%)	35%	28%	37%	100%

1) Over 20-foot high sea cliffs
2) Between 5 to 20-foot high cliffs
3) Low-lying area below 5 feet in land and height along shoreline

Table 2: CONDITION OF LOW-LYING SHORELINE
ISLAND OF HAWAII (In Miles)

	West Hawaii	East Hawaii	Total
Sandy[1]	11.9	4.2	16.1
Pebbles/Coral (ili'ili)[2]	7.4	0.5	7.9
Boulders/Others (ala)	55.2	54.4	109.6
Total	74.5	59.1	133.6

1) Beach are predominantly in sand. Can be either white, green or black sand.
2) Low-lying area predominantly in pebbles or coral.

Table 3: PUBLIC LANDS ALONG SHORELINE
ISLAND OF HAWAII (In Miles and Percent of Total)

	Total Shoreline	Federal (1)	State (2)	HH (3)	County (4)	Totals Public	Percent (%)
West Hawaii	147.0	3.1	42.8	1.0	1.1	48.0	33%
East Hawaii	213.5	31.7	36.7	9.9	7.8	86.1	40%
Total Island	360.5	34.8	79.5	10.9	8.9	134.1	36%

1) Federal land, including all National Park and lighthouse sites along shoreline.
2) State land, including those encumbered by private leases.
3) Hawaiian Homes land.
4) County land, including those under Executive Order from State or leased from private land owners.

Table 4: INVENTORY OF PUBLIC ACCESS TO SHORELINE
ISLAND OF HAWAII (By Points at Shoreline)[1]

	Improved Roads	Unimproved Roads	Trails/Paths/ Easements	Total
West Hawaii	24	18	40	82
East Hawaii	32	16	19	67
Total	56	34	59	149

1) Includes ancient mauka-makai trails which are found in old survey or U.S.G.S. maps or tax maps.

Table 5: DISTRIBUTION OF ACCESS TO SHORELINE
ISLAND OF HAWAII
(In Ratio of Number of Miles for Each Access Point)*

	Improved Roads	Unimproved Roads	Trails/Paths/ Easements	Total
West Hawaii	6:1	8:1	4:1	2:1
East Hawaii	7:1	13:1	11:1	3:1
Total	6:1	11:1	6:1	2.4:1

*Based on total mileage divided by access points to give ratio of number of miles to each access point.

Table 6: INVENTORY OF PUBLIC ACCESS ALONG SHORELINE
ISLAND OF HAWAII (In Miles)

	Improved Roads	Unimproved Roads	Trails/Paths/ Easements	Total
West Hawaii	21.8	2.9	74.8	99.5
East Hawaii	56.9	6.4	37.8	101.1
Total	78.7	9.3	112.6	200.6

1) Inventory of all public access along the shoreline which are within 1/4 miles from the shore.
2) Includes ancient trails as found on old survey and U.S.G.S. maps, over privately-owned lands.

Table 7: DISTRICT SUMMARIES

District	Length of Shoreline (in miles)	Point Access to Shoreline (No.of Access)			Access Along Shoreline (within 1/4 miles of shoreline) (Length in miles)				Public Lands Fronting Shoreline (Length in miles)			
		Improved	Unimproved	Trails/Path	Improved	Unimproved	Trails/Path	No Access	Federal - F	State - S	Hawaiian Homes - H	County - C
Puna	62.1	9	2	5	21.5	2.6	10.2		15.9	9.7	0.2	1.6
S. Hilo	32.4	18	8	7	20.5		2.7		0.2	5.4	3.1	5.4
N. Hilo	16.0	1			13.9	2.2			0.1	4.3		0.2
Hamakua	34.3		2	1		6.7	2.3			9.9	0.1	
N. Kohala	36.2	5	1	4	1.5	3.8	1.5		0.6	5.9		0.5
S. Kohala	17.9	6	16	9	8.0		13.6		0.4	5.5	0.8	0.6
N. Kona	45.6	7	1	16	5.9		21.4		0.4	17.3		0.3
S. Kona	40.3	5		6	5.6		23.1		1.6	6.7		0.2
Kau	75.7	5	4	11	1.8		37.1		15.6	14.8	6.7	0.5
Totals	360.5	56	34	59	78.7	9.3	112.6		34.8	79.5	10.9	8.9

CHAPTER 5 GOALS, OBJECTIVES, POLICIES

GOALS

To provide the maximum feasible amount of public shoreline access.

OBJECTIVE

To ensure adequate public access is provided, by dedication and other means, where such access is found to be necessary or desirable and appropriate.

POLICIES

- Take advantage of recreational capabilities such as fishing, sight-seeing or picnicking available on the shoreline.
- The maximum feasible access to and along the shoreline should be provided as an integral part of new development along or the redevelopment of shorefront areas, except in cases where public access is clearly inconsistent with the project because of public safety considerations, significant use conflicts, or environmental constraints.
- Provide appropriate controls for any access to or into areas with fragile ecosystems. (Consult appropriate agencies to determine location and type of access, if any).
- Access to sensitive areas shall consider the natural character and protection of the natural resources of the area.
- Identification, preservation, restoration and use of historic trails should be encouraged.
- Provide for protection and maintenance of valuable archaeological sites in the public access area or nearby.
- Continue to seek resolution to legal issues affecting public access including Native Hawaiian Rights.

OBJECTIVE

- To design and construct public shoreline access systems to maximize convenience to users while taking into consideration the general character of the areas, existing and future land uses, and environmental constraints.

POLICIES

- The public access system shall provide for the safe, efficient and pleasant movement of vehicles and people.
- The necessity of public access should be considered early in any project's design program so that it becomes an essential and integral part of the development.
- Provide basic public amenities such as benches, trash containers, restrooms, etc. where appropriate.
- Design public access so that the user has no doubt that it is a public area.
- Public accessways and systems should be sited and designed to

minimize alteration of natural landforms, conform to existing contours, where possible, and be compatible with the character of their setting.

- Seek resolution of both legal and administrative question/ problem with respect to the maintenance and liability of public accesses.
- Provide for easy site maintenance with durable materials, drought resistant and saline tolerant plant materials and similar measures.
- Provide public parking, where appropriate, to serve the site but keep parking areas small, away from the ocean, and adequately screened.
- A variety of modes of access shall be utilized to serve the diverse needs, land uses, shoreline conditions, climate.
- Private and public parking, restrooms and other amenities shall be incorporated as part of the system.
- Clearly delineate the public access areas by the use of signs, planting, fences, or elevational changes where private or conflicting uses may exist.

OBJECTIVE

- To provide continuity and coordination in the administration and implementation of existing and future public shoreline access systems.

POLICIES

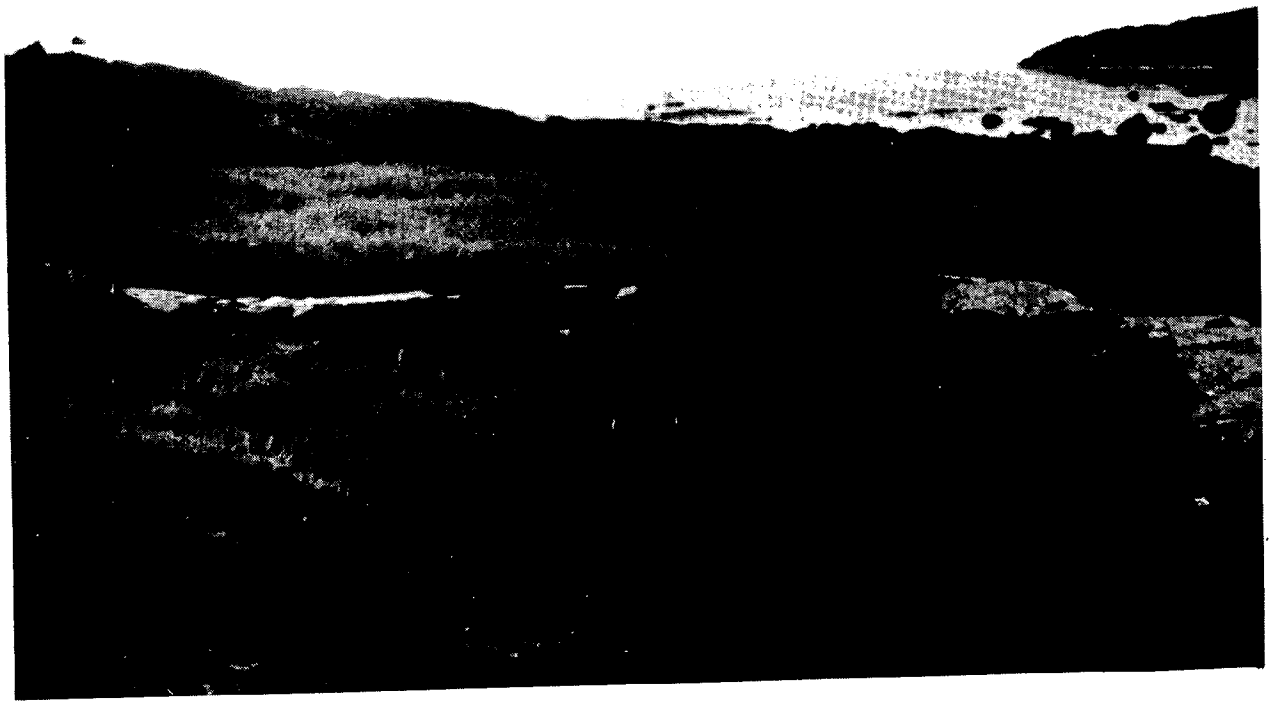
- The public access system shall be integrated at all levels of government and with private interests.
- Link public access with other public streets, parks, and open space along the shorefront areas.
- Coordinate the planning of public access with other involved agencies.

OBJECTIVE

- To encourage public awareness, use and responsibility of the shoreline access resource available to the general public.

POLICIES

- Make maps or literature available on public access.
- Provide educational opportunities for the user through identification of unique natural features or historic sites.
- Publicize safety instructions or information about hazardous segments of trails.
- Provide for observation, interpretation, research and education opportunities, where appropriate.



CHAPTER 6 CRITERIA AND GUIDELINES FOR THE LOCATION AND DISTRIBUTION OF PUBLIC SHORELINE ACCESS

In considering the necessity or desirability, the appropriateness, and ultimately, the design of shoreline accessways, the interrelationship of three factors must be considered. These factors are 1) the destination of the accessway or the reason to get to or along the shoreline; 2) the land uses across which the accessway must traverse, and 3) the natural resources in the general area.

The general criteria are intended to provide overall guidance as to the necessity or desirability and appropriateness of public accessways. The following guidelines provide more detailed specification for the location, distribution and design of accessways for particular access situation(s). These criteria and guidelines represent a comprehensive approach to coastal access which should be applied in a flexible manner to provide maximum coastal access opportunities.

CRITERIA

A. The Destination

The existence of a destination is the reason and purpose the public wants access to and along the shoreline. The destination can range from a limited, confined area to a very extensive one. A combination of shoreline conditions and characteristics at the destination-- sandy beaches, wave conditions for surfing, good weather, source of food, education or nature appreciation and other ammenities-- attracts the public to the shoreline and determines the demand for public access.

Shoreline destination areas are generally characterized as:

a. Areas used for recreation

1) Beach and shoreline parks featuring water and passive recreational activities
2) Marinas
3) Surfing sites
4) Camping sites
5) Hiking trails for sightseeing, education, exercise, photography, etc.

b. Areas used as source of food

Fishing, diving, gathering shellfish, limu, etc.

c. Areas with special features

Historic sites, natural beauty sites, primitive areas, scenic areas.

d. Environmentally and ecologically sensitive areas

Wildlife reserve/habitats, wetlands, marine life conservation districts, natural area reserve, etc.

Land Uses

Shoreline land uses have significantly affected public access. Uses that house or serve large numbers of people, such as residences, commercial and commercial/recreational uses, schools, and offices create a need for nearby public access to the shoreline. Land uses that may present hazards to the public, such as some water-related industries, are generally suitable for only limited public access. In any event,

the access ways and related improvements should be consistent with the intervening lands uses.

Natural Resources

The abundance of natural resources along the coastal area of Hawaii both enhance and constrain public access to and along the shoreline. The occurence of resources such as stands of native trees and plants, rock outcrops, or flocks of shorebirds enhances the public access experience. However, some natural areas, particularly wildlife habitats, are in some cases too fragile to withstand human intrusion. Natural factors such as steep slopes or high cliffs can also pose a hazard to the public.

B. Land Use Analysis Criteria

The following criteria can be used to analyze the compatibility and suitability of the various land uses for public access.

Population

Land uses that attract many people to a site such as commercial, commercial/recreation or institutional complexes including schools and government offices are usually suitable for shoreline public access. Residential areas in the vicinity of the shoreline, but set back from the shore itself so as to minimize privacy conflicts, are usually compatible with and in need of public access.

Minimum Development

Land uses involving a minimum of development are often suitable for public access. These sites are 1) desirable to people as a relief from the urban environment, and 2) suitable for access because shoreline visitors have a low likelihood of disturbing the existing use. Examples of such compatible land uses are open space and agricultural areas.

Hazard, Security

Land uses that may present hazards to the public, such as some industries, or uses that require security, such as some military sites, harbors, or airports may not be suitable for public access.

Privacy

Existing single-family residential developments have often been designed in such a way that public access along the shoreline cannot now be provided without adversely affecting homeowner's privacy. Multi-family residential complexes have a greater likelihood of providing shoreline access with minimal privacy conflicts.

Accessibility

The closer a site is to a public road, street, or the highway the higher is its suitability for public access.

Distribution of Existing Access

A major factor in the selection of an otherwise suitable shoreline area for priority public access should be that there is presently little or no existing shoreline access in the vicinity.

Continuity

A determining factor in the selection of a suitable shoreline area should be that it can link existing and/or proposed shoreline accesses into larger continuous units.

C. Natural Resources Analysis Criteria

The following criteria can be used to analyze the capability of shoreline sites to provide public access based on the positive and/or negative characteristics of the natural resources:

Accessibility

As stated in the land use analysis, the closer sites are to roads, streets, and highways, the higher is its suitability for public access.

Uniqueness/Interest

Those sites with unique natural resources, or resources that have a high interest value often are capable of providing public access, if the areas are not too fragile (See "Fragility"). Shoreline areas with stands of native vegetation, high populations of wildlife or interesting geologic outcrops are examples of such sites. These areas may also have educational and scientific value.

Fragility

Other shoreline sites have natural resources that are fragile and therefore are not capable of providing public access except under very controlled conditions. Wetlands, critical nesting areas, and rare and endangered species habitats are examples of sites that may be adversely affected by human use. Such sites may be acceptable for public access on a seasonal basis or with certain mitigative techniques.

Hazard

There are two distinct aspects to evaluation of "hazards" for public access:

1) Hazards to users occur at sites with steep slopes, high cliffs or unsafe geological characteristics. These areas have a low suitability for public access unless precautions are taken.

2) Hazards to development occur at sites that lie in active fault zones or are susceptible to floods, tsunamis, subsidence or landslides. Shorelines with such characteristics are often suitable for public access and open space because of their constraints on structures and developed facilities.

GUIDELINES

Once a destination is established and the existing and potential land uses with the natural resources of an area are identified, the location, distribution, and overall design of the access system to and along the shoreline area are still be determined.

The following criteria should be used to integrate and analyze the public access requirements of coastal accessways and related facilities:

Accessibility

The proposed accessway should be easily accessible from public or private (open) thoroughfares. Private (restricted) accesses should also be considered for future integration into the public or private (open) access system.

Relationship to Existing Accesses

Existing or proposed access distribution in the surrounding area; physical characteristics (type and length of trail, land tenure, destination purposes, potential linkages, etc.); continuity potential shall be considered in the development and implementation of specific applications.

Demand Requirements

User profiles (short term, long term; seasonal, non-seasonal); destination characteristics; transportation modes to proposed trailhead (vehicle, bicycle, motorcycle, pedestrian); and the capacity of the destination to sustain a specified intensity of use must be inventoried and analyzed.

Relationship to Existing and Potential Land Uses

Degree of development, proposed development, or non-development.
Impact to special area (traverses or situated adjacent to a unique, fragile, or hazard resource, etc.)
Surrounding property tenure (public, private).
Level of infrastructure (roads, water, etc.)

Type of Access to be Provided

Along Shoreline (Lateral)

Lateral accessways should be located along all beach front land to provide continuous and unimpeded access along the entire reach of a sandy area or other useable recreational shoreline.

To Shoreline (Mauka/Makai)

Accessways should be established to the shoreline areas to the maximum extent feasible. They provide access to on- and off-shore destination areas.

LAND USE CATEGORIES

Urban Areas

1. Water-related Industrial Facilities:

   Coastal Industrial developments should provide accessway(s) to the shoreline, where appropriate, for safe public shoreline use and where potential safety hazard and use conflict can be minimized.

   Other improvements, including parking, benches, paved walkways, signs, landscaping, etc. should be provded, appropriate to the project size, location and the amount of shoreline displaced by the industrial facility.

   Provide public access for fishing, wherever possible,on piers and breakwaters.

2. Commercial and Resort Areas:

   Commercial and resort areas along the shoreline should enhance the shoreline experience by providing the maximum feasible amount of highly improved public access.

   Public access improvements such as parking, paved walkways, benches, signs, trash containers, landscaping, lighting, restroom and drinking fountains should be incorporated as part of the overall development.

3. Residential Areas:

   Encourage the development of improved shoreline access or park-open space along the shoreline to serve the general public and area residents.

   Where single family development exists or is planned, accessways to the shoreline should be located where streets end at the shoreline, once every six residential parcels, or once every 500 feet. New multiple family residential projects of five dwelling units or more should provide sufficient open space within the project for accessway(s) to the shoreline and an adequate public parking area facility. Condominium conversions of existing multiple family development of five dwelling units or more should, where feasible, provide accessway(s) to the shoreline on-site, or offsite but within the same general area if such a facility cannot feasibly be provided within the project. The presence of a public shoreline recreational area with adequate access facilities nearby (within 1/4 mile) could reduce the needed frequency of accessway(s) to the shoreline in residential areas, as could alternative proposals from homeowners association to provide adequate public beach access opportunities.

   Provide unobstrusive paths to or along the shoreline that respect the residents' privacy by encouraging passive public use, where appropriate, as part of individual residences.

   Develop multi-family and multiple unit projects with all-weather paths, landscaping and other improvements that are appropriate for the anticipated demand, size, and location of the project. The public access system should generally provide continuous access along the shoreline with connection to other public areas or streets. Provide public parking if none exists in the area.

   Use elevational changes, planting, fences and signs to clearly differentiate the public access areas from the private residential areas.

4. Other Urban Uses:

   Provide maximum access along the shoreline which is adequately screened from incompatible uses.

Place improvements, such as landscaping, benches, paving, etc., that are appropriate for the anticipated demand, and size and location of the project.

5. Uses in or adjacent to Wetlands, Ponds, Wildlife Areas, or Ecologically fragile Non-urban Areas:

   Develop or provide public access in these areas, if appropriate, only in a way that respects and enhances the natural values.

   Provide point access (e.g. spur trails) or view areas rather than continuous shoreline paths. Provide controls to protect wildlife resources or other features for any access into these areas.

   Provide minimal improvements such as trash containers and signs which identify the area and interpret the resources.

   Encourage surpervised interpretive use of sensitive resource areas.

6. Agriculture/Open Areas:

   Where feasible, trailheads in these areas should be situated on public lands. Accessways should be of sufficient width and improvements to protect persons using the accessway and the adjacent agricultural area.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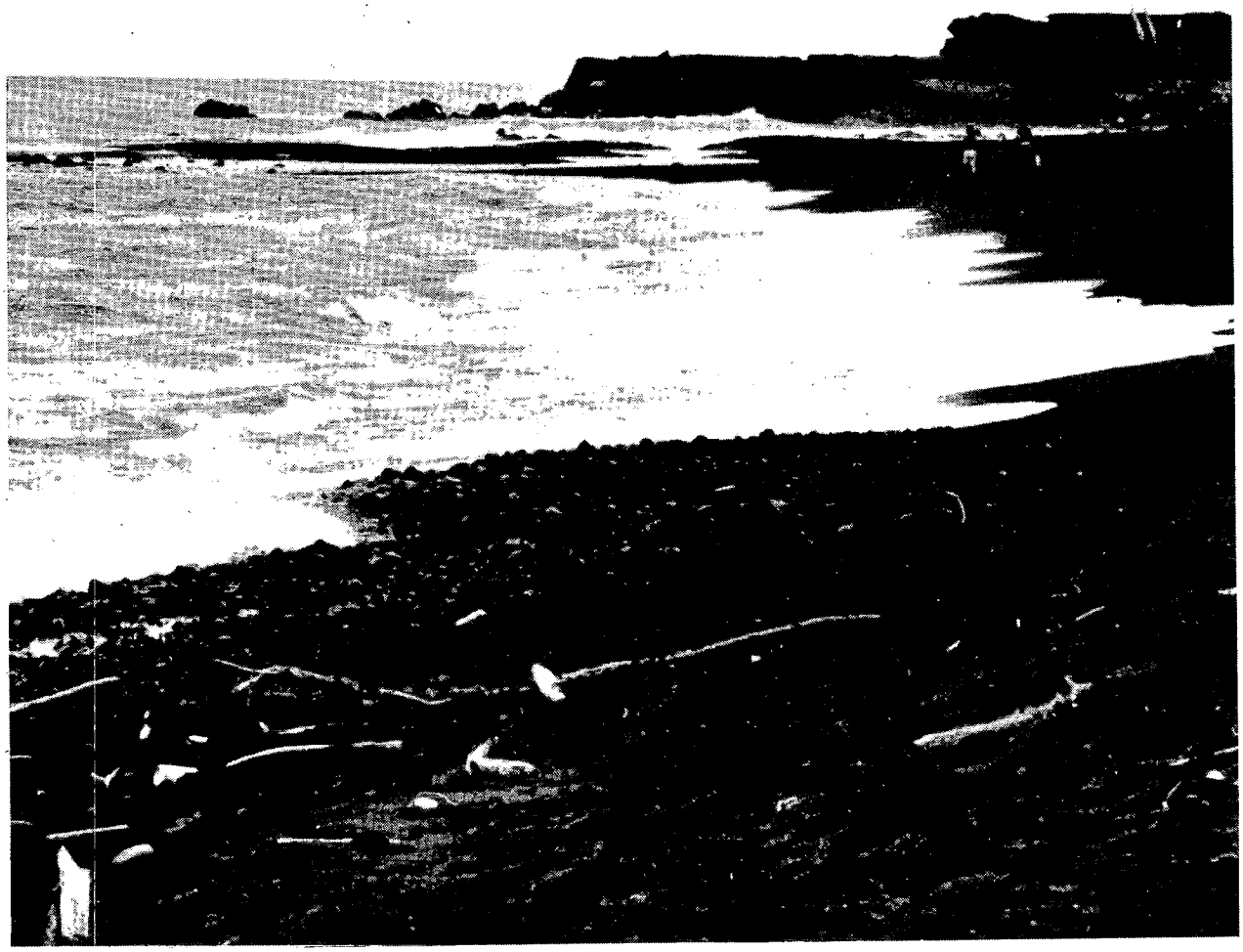


CHAPTER 7 DESIGN, CONSTRUCTION, AND MAINTENANCE GUIDELINES

DESIGN/CONSTRUCTION

In order to establish a uniform standard of right-of-way widths the trail type must be clearly delineated. Chapter 6 describes the necessity of providing access to and along the shoreline by interfacing destination criteria with land uses and physical characteristics. Table 8 correlates the land uses with the types of trails or access that should be provided.

Table 8: LAND USE AND CLASS OF ACCESS

Land Use	Class of Access
Government and Defense installation	I, II
Industrial and port use	I, II
Commercial Uses	I, II, III
Recreation Uses	I, II, III, IV, VI, VII
Resort developments	I, II, VII
Residential developments	I, II, III, VII
Uses in or adjacent to sensitive areas	V, VI, VII
Agricultural and open uses	I, II, III, IV, V, VI, VII

Establishing the Rights-of-Way:

Table 9 describes the minimum rights-of-way widths for the different classes of access referred to in Table 8.

Table 9: MINIMUM RIGHTS-OF-WAY BY CLASS

Class	Description	Right-of-Way Widths
I	Paved vehicular access for all types of vehicles	As established by existing County subdivision and zoning codes
II	Major paved pedestrian trails. For heavy traffic such as trails to major recreational areas.	15 feet minimum
III	Bicycle path on all-weather, dust-free surface	10 feet minimum
IV	Jeep trail (gravel surface)	15 feet minimum
V	Minor pedestrian trails with varying types of surface. Usually for hiking or low use trail to and along shoreline.	8 feet minimum
VI	Equestrian trail with soft or earth surface.	Variable
VII	Special use trail	Variable

Establishing the Treadway (Surface) of the Trail:

A review of existing standards of treadway width shows the following widths and types of surfacing to be applicable by categories:

Table 10: MINIMUM TREADWAY WIDTHS BY CLASS

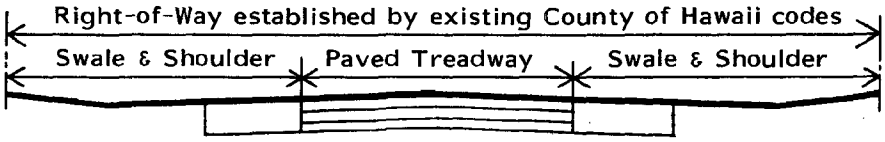
Class	Description	Treadway Widths	Type of Surfacing
I	Paved all-vehicular access	As established by zoning and Subdivision Codes.	
II	Major pedestrian trail	6' to 8'	Paved
III	Bicycle path	4' (one way)	Paved
IV	4-Wheel drive trail	8'	Gravel or natural surface
V	Minor pedestrian	3'	All types of surfacing depending on terrain and location.
VI	Equestrian	Varies, depending on location	Varies, depending on natural surface and location.
VII	Special use trails	Establish when evaluating use with surrounding environment.	

Establishing the Corridor of the Trail:

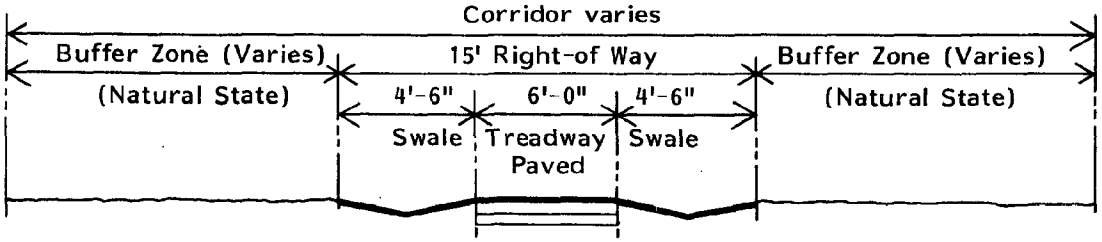
In important trail systems to or along the shoreline, the corridor takes on an added significance, especially to protect the area of special features such as historic and cultural sites, wildlife reserves, and other environmentally sensitive areas. Therefore, in defining a corridor width, the overall surrounding environment must be considered. For example, urban type uses adjoining the shoreline may not have an established corridor through them in order to reach the shoreline; however, the shoreline itself might be protected for its scenic, recreational, and other value through designating a lateral corridor.

CHAPTER 7 TYPICAL SECTION OF VARIOUS CLASSES OF ACCESSES TO SHORELINE - TREADWAYS (cont.)

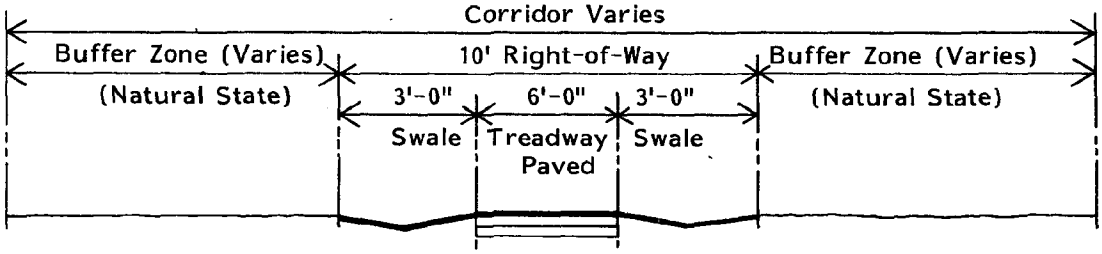
Class I - All vehicular access



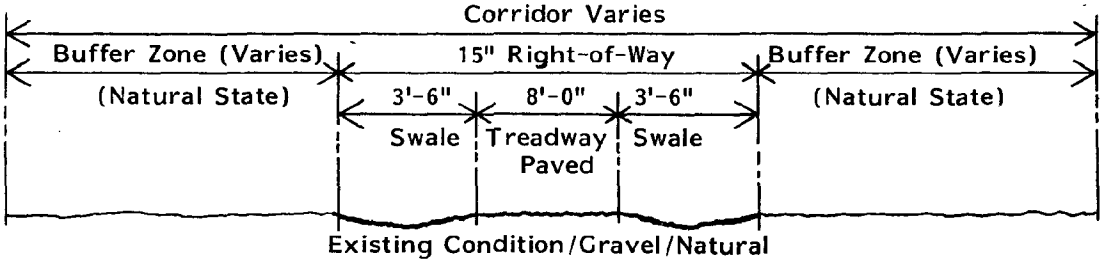
Class II - Major pedestrian trail



Class III - Bicycle paths



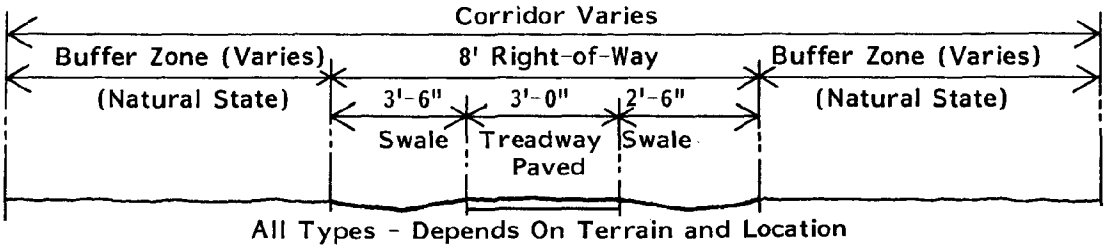
Class IV - 4-Wheel drive trail



Existing Condition/Gravel/Natural

NOTE: Usually kept in private ownership and only easement right to use as access to shoreline granted.

Class V - Minor pedestrian trail



All Types - Depends On Terrain and Location

Class VI & VII - Equestrian & Special Use Trails.

See Table 10

Table 11 reflects the recommended buffer zone criteria as determined by general land use:

Table 11: MINIMUM CORRIDOR WIDTHS BY LAND USE

Land Use Category	Along Shoreline	On Both Sides of Access to Shoreline
Urban Use	Minimum 40 feet	Minimum R.O.W. as determined by trail category
Recreational Use	Vary depending on surrounding use and shoreline condition	Minimum R.O.W. as determined by trail category
Uses in or Adjacent to sensitive areas	All of the sensitive areas	Minimum R.O.W. as determined by trail category
Non-Urban Use	Vary depending on surrounding land use and shoreline conditions.	Minimum R.O. W. as determined by trail category.

Establishing Parking Requirements:

The development of public access parking criteria is also determined through site specific analysis of public access baseline criteria: destination, land use and resource characteristics, and interaction with other access systems. For consistency, the specific parking stall dimensions and paving requirements of the zoning code shall be used for urban improvements for the purposes of this section.

Non-urban requirement (car storage areas, gravel surfacing, etc.) may be considered through site specific analysis. In most cases, parking provisions will usually occur at trailheads except where a trailhead is located at the intersection of a trail to and along the shoreline.

Along a public thoroughfare where the trailhead usually begins as final access to the shoreline, parking must be coordinated with the State Highway Department and/or other governmental agencies which control public roads for it is along these public roads that parking must be provided for users of the access to the shoreline. Off-site parking should also adhere to the standards and criteria developed in this section.

As a guide, this table suggests the parking requirements by destination type along the shoreline.

Table 12: PARKING REQUIREMENT AT TRAILHEADS BY DESTINATION

	PARKING REQUIREMENT / *User Volume	
Destination along shoreline	From 50 to 1,000 persons per day	Less than 50 persons per day
Active Recreation Swimming Surfing Fishing/Diving Boating Public Parks Passive Recreation Hiking Camping Food Gathering Picnicking Sun Bathing	Per Zoning Code for structural improvements; otherwise, minimum of ten [10] stalls per trailhead, and the minimum of one [1] handicapped stall for every fifteen [15] stalls provided depending upon travel conditions.	Per Zoning Code for structural improvements; otherwise, minimum of five [5] stalls per trailhead.

	PARKING REQUIREMENT / *User Volume	
Destination along shoreline	Over 50 persons per day	Less than 50 persons per day
Environmentally or Ecologically Sensitive Areas or Areas with Special Features Historic Natural area Resources Wetlands Wildlife reserve Scenic area	Minimum ten [10] stalls per trailhead.	Minimum five [5] stalls per trailhead.

*To be determined by specific areas.

LANDSCAPING

Landscaping is usually thought of as a means of enhancing the aesthetics of an area. It is provided as part of an overall development plan for a project and complements structural development. In addition to beautifying an area, landscaping serves a number of other functions. These include:

1. Demarcation of an area, system, or path: Landscaping can be used as a border, both physically and psychologically, to outline an area, a system, or path. This is often accomplished through planting strips and uniformity in the use of plants. Instead of using fences or other similar construction, plant material can be used for the same purposes.

2. Noise buffer: The use of plants, especially relative tall hedges and shrubs, can help to buffer noise originating on an access.

3. Shade: Trees will provide shade along an access system, especially in areas of intense sunlight and heat. They can be used, for example, in rest areas along an access.

4. Emphasize visual access: Properly planned and maintained landscaping can emphasize visual access for a public access system. This can be achieved through using landscaping to frame an access or by varying the type of plant material used to demarcate the access.

5. Reflect environmental conditions: The selection of proper and appropriate landscaping materials can reflect or highlight the general environmental conditions of an area. Certain types of plant material, for example, which are already existing in an area can be used in a landscaping plan rather than importing plants which are not suited to the particular environment.

6. Complement structural development: Landscaping is most often used to complement and soften the impact of structural development. For public access systems, landscaping can be used to soften surrounding development in an urbanized area as well as to balance the impact of pavement for a right-of-way or a parking area.

Considerations for the landscaping element of public access systems can be set forth as follows:

1. Landscaping needs to be blended with the existing vegetation of an area. This would provide a smooth transition rather than an abrupt departure from the character of the area. In addition, the existing vegetation of an area is usually best suited to the environmental conditions of the area, such as rainfall, insolation, and other similar factors.

2. Plant materials used to landscape public access systems should be suitable to the particular environment in which the systems are located. The use of inappropriate materials will result in a number of problems, such as growth problems and maintenance.

3. Plant materials for public access systems need to be low maintenance. In shoreline areas, for example, plants which are tolerant to salt and which have low water demands should be used. In addition, maintenance costs can be high. These costs can be alleviated by using plants which do not require constant attention or have rapid growth rates.

4. Care should be taken not to use poisonous or noxious plants to landscape public access systems. The use of oleander, for example, should be avoided. In addition, plants with thorns should be avoided unless they are to be used to prevent movement into certain areas.

5. The types of landscaping used should vary according to the type of access system. For certain types of systems shrubs may be appropriate, while in other types of systems trees would be better suited.

The guidelines and standards for landscaping can range from no landscaping in wilderness or primitive areas or totally new landscaping in urbanized areas or for projects such as park developments.

SIGNAGE

The use of signage is an important element in public access systems in that it identifies an area as well as facilities and amenities; it can convey messages such as adopted rules for use or prohibitions; it can identify hazards of the area; and it can tell a story, such as the history of an area.

Considerations for signage guidelines and standards are set forth as follows:

1. Signage needs to be readily identifiable and readable. Since signs are used to communicate, they should be uniform in terms of design and contain simple messages. Symbolization should be used whenever possible. Existing signage systems have established symbolization and this should be extended, if it is appropriate, to new signage.

2. The material used for signage needs to be vandal proof. The costs of vandalism are high, which makes the selection of material important. Signs should also be durable and difficult to remove.

3. Signage should relate to the character of the area and not be disruptive. This requires that design considerations be developed with care and understanding of the existing landscape.

The following table suggests the public signing program for the various types of accesses to the shoreline:

Table 13: SIGNING PROGRAM BY CLASSES OF ACCESSES TO THE SHORELINE

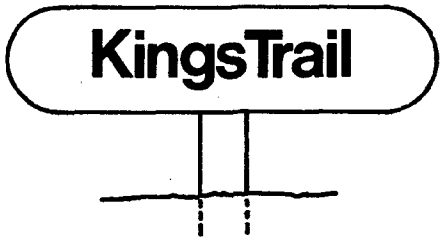
Class	Class Description	Material	Color	Size	Location	Type
I	All-vehicular roads	Metal	(1)	(2)	(2)	All types
II	Major pedestrian trail	Wooden	Muted	(2)	Trailhead	Identification Orientation Information
		Wooden	(1)	(2)	Road intersection	Warning
III	Bicycle path	Wooden	Muted	(2)	Trailhead	Identification Orientation Information
		Wooden/ metal	Muted		Road intersection	Warning and Stop Signs
IV	4-Wheel Drive	Wooden	Muted	(2)	Trailhead	Identification
		Metal	(1)	(2)	Road intersection	Warning and Stop Signs
V	Minor pedestrian trail	Wooden	Muted	(2)	Trailhead	Identification
		Metal	(1)	(2)	Road intersection	Warning and Stop Signs
VI	Equestrian trail	Wooden	Muted	(2)	Trailhead	Identification
		Metal	(1)	(2)	Road intersection	Warning and Stop Signs
VII	Other class: Special use	Wooden/ Metal	(1)	(2)	Case-by-case review	

1) Conform to existing County or State standards
2) Conform to existing sign code

SUGGESTED TYPESTYLE:
Helvetica Medium in upper and lower case. This typestyle is used extensively in major signage programs. The Hilo and Honolulu Airports utilizes this style of lettering.

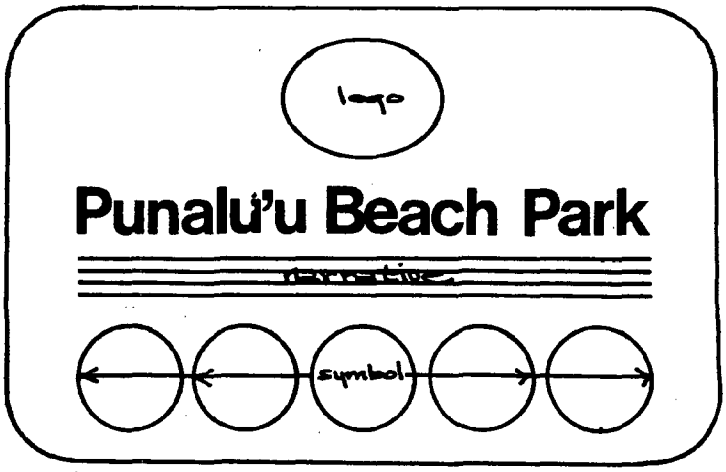
Helvetica Medium

TRAIL IDENTIFICATION:
The windward side should utilize metal components and the leeward side wood components for the signages. Corners should be radiused for the prevention of accidents. When replacements are necessary, they should be economical and quick.



USES OF SYMBOLS:
To assure effective communication between the signages and reader, symbols should be developed. With the use of symbols, narrative elimination will be possible. The Directional Arrow is an essential symbol for signages. The example illustrates the intergration of a symbol and the suggested typestyle; Helvetica Medium.

DIRECTORY:
This signage will identify the location, list the amenities of the area, and define the rules. The example incorporates the typestyle, Helvetica Medium in upper and lower case, a logo, and symbols representing the amenities. Short narrative explaining the area will be part of the signage.

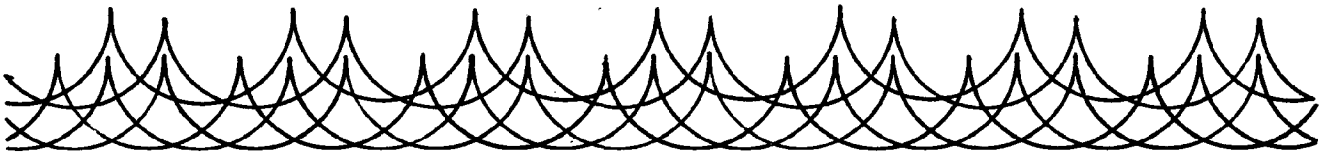


The Public Access to the Shoreline logo.

The essential elements of the logo are the water and the shoreline. Other components for the logo will communicate the public's accessibility to the shoreline.

SHORELINE

Where the Pacific Ocean touches our Island.



OCEAN WATER

Which brought and sustained life on our Island
will continue to be for all to utilize and enjoy forever.

Shoreline

PublicAccess

CONCEPT APPROACH FOR SHORELINE LOGO

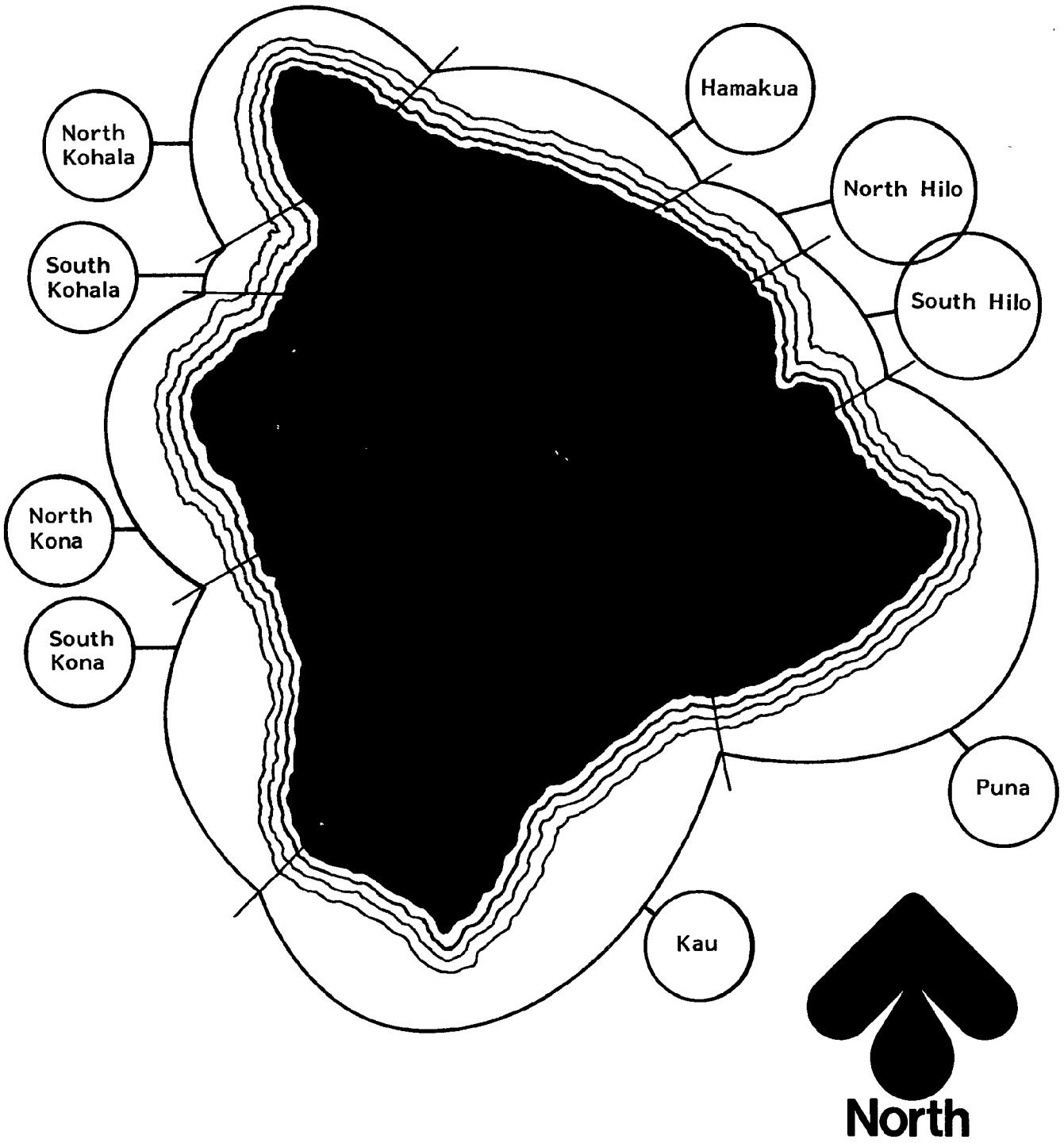
The word Shoreline is located above the wavy horizontal line and symbolizes our Island. The wavy horizontal line symbolizes the ocean water. The words Public Access beneath the wavy horizontal line symbolizes that the ocean water belongs to the people.

MAINTENANCE

Common trail maintenance problems and suggested prevention action measures include:

1. Littering: Provide secured waste-collecting containers. At least one litter container at trailhead. Provide signs with positive wordings.
2. Vandalism: Utilize materials which are durable and/or difficult to remove. Constant patrolling, prompt maintenance, and public education are on-going deterrents.
3. Provisions for fire protection: In fire-prone natural areas, provide fire breaks and fire lanes; insure access to fire-fighting forces and equipment at all times.

General safety maintenance such as falling coconuts, defective treadways, and washed-out portions of trails need to be immediately attended to.



Island of HAWAII

CHAPTER 8 DISTRICT PROFILES

PUNA DISTRICT

Puna is blessed with many existing and potential accesses to the shoreline inasmuch as most of the shore lands from the Hawaii Volcanoes National Park to Pohoiki are in government lands. State and Federal ownership of these lands encourages potential accessibility of the shoreline for fishing and recreational purposes. From Pohoiki to Keaau, most of the lands are under private ownership. However, because these shoreline areas are characterized by rugged cliffs and rough water, they may not have the heavy usage except for local fishing and small parks for the residents of many subdivisions scattered throughout this area. An exception is the Kapoho Beach area where preservation of the tidal pools and public use of the only protected bay along the Puna Coast seems necessary.

A summary of existing accesses to and along the shoreline for the Puna district and length of government lands is shown on the summary sheet.

Assessment of Access Needs

Puna district now contains some 11,700 people, double the number in the census count of 1970. This increase is a result of an influx of people into the relatively inexpensive subdivided lands created from the early 1950's and 1960's. Some 50,000 lots in large subdivisions for residential and agricultural uses have been created over the past twenty years. The growth in population is tremendous for Puna because of these vast vacant lands that are available for housing. Based on the increase in population during the past ten years, and still available subdivided lots, a potential for increasing population within the next twenty years exists.

This being the case, the shoreline areas become increasingly important for recreational or other pursuits. Also, potential tsunami inundation areas along the shoreline and a risk of possible lava flow restricts urban development along the shore. Designated regional parks such as the Hawaii Volcanoes National Park and the Kaimu Black Sand Beach further substantiate the need for an increase in accesses to the shoreline as many visitors other than residents are encouraged to come to the area.

COURSES OF ACTION FOR PUNA

P-1 Continue use of shoreline trails and campsites for hiking and fishing in the Hawaii Volcanoes National Park.

P-2 Provide trail systems that integrate preservation of historic sites, shoreline fishing, hiking and existing or proposed major recreational facilities.

P-3 Establish trail system along shoreline as part of the proposed Kapoho Tidepools State Park for fishing and interpretive trails on tidal pool environment.

P-4 Establish a beach park system along shoreline as access to shoreline from Nanawale Bay to Papai Bay are implemented.

P-5 Establish scenic corridors makai of Government Road along the entire Puna coastline.

SOUTH HILO DISTRICT

The district of South Hilo, located on the east side of the Big Island, stretches some 32.4 miles along the shoreline. The shoreline is characterized by rough surf with the exception of Hilo Bay, the only deep harbor port on the east side, which is protected by a breakwater. The city of Hilo, located in this district, is the largest urban center in East Hawaii.

Beginning from the Puna boundary to the south, the shoreline is composed of medium to low cliffs formed by layers of lava flows meeting the ocean. As one travels from Leleiwi Point to Hilo Bay, shoreline conditions change to low, rocky lava reefs. Then, from Wailuku River along the Hamakua Coast, the shoreline again changes to high cliffs interspersed with valleys and associated bays where inland streams meet the ocean.

Because this is the most urbanized district in East Hawaii, improved accesses along the shoreline exist for approximately two-thirds of the total shoreline (20.5 miles of 32.4 miles). Additionally, there are thirty-three access points to the shoreline at an average interval of one per mile but primarily centered on the low lying areas between Leleiwi and Wailuku River.

Assessments of Needs

The South Hilo District presently contains some 40,300 residents, an increase from 33,900 in 1970. Based on this rate of increase, and this district being the urban center of East Hawaii, it is foreseeable that the population in this area would greatly increase. For this reason, preservation of existing shoreline accesses and development of additional ones are imperative assuming that needs increase in direct proportion with population increase.

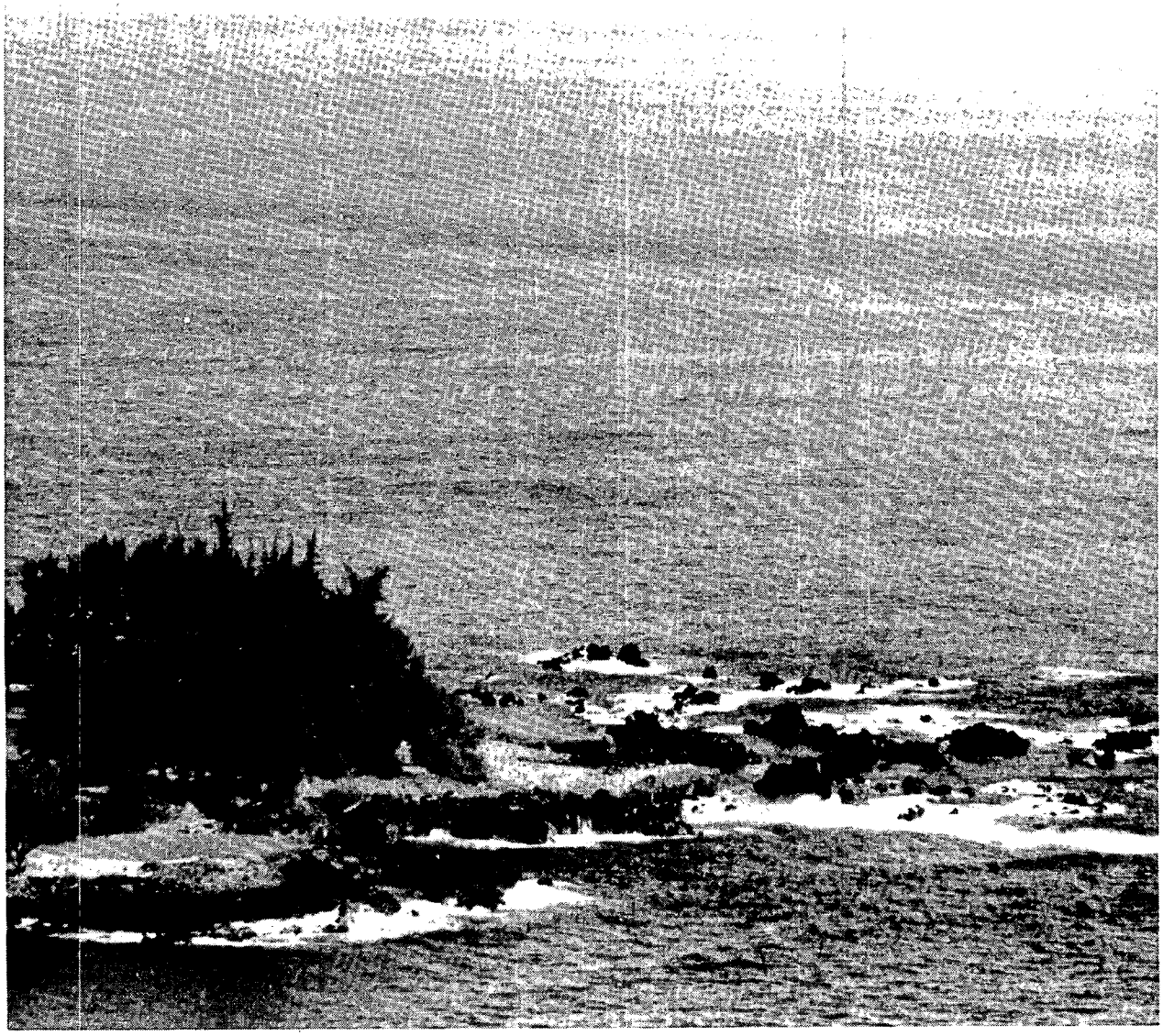
Because basic infrastructures such as improved roads, restroom facilities, and parking are already available along most of Hilo Coast, the most pressing need seems to be the upgrading of existing accesses.

COURSES OF ACTION FOR SOUTH HILO

SH-1 Develop Trail System to shoreline as Hawaiian Homes land becomes developed.

SH-2 Upgrade trail system within the Leleiwi Park, Onekahakaha Beach Park, Keokea Loop area, and Reed's Bay shoreline destination areas.

SH-3 Develop trailheads and trail system for fishing and recreation along the coast at Honolii Cove, Papaikou, Pepeekeo, Kolekole Beach Park, and Hakalau.



NORTH HILO DISTRICT

North Hilo District lies on the east coast of the Big Island between Hamakua and South Hilo. There are 16 miles of shoreline in this district with most of them in high cliffs. The only low areas are at Maulua Bay, Laupahoehoe Point, and at the mouth of Kaawalii Stream.

Most of the shoreline are under private ownership since these makai lands are used basically for growing sugar cane: About 4.6 miles are public lands which are either steep barren lands, beach parks, or lands leased for pasturing and sugar cane cultivation.

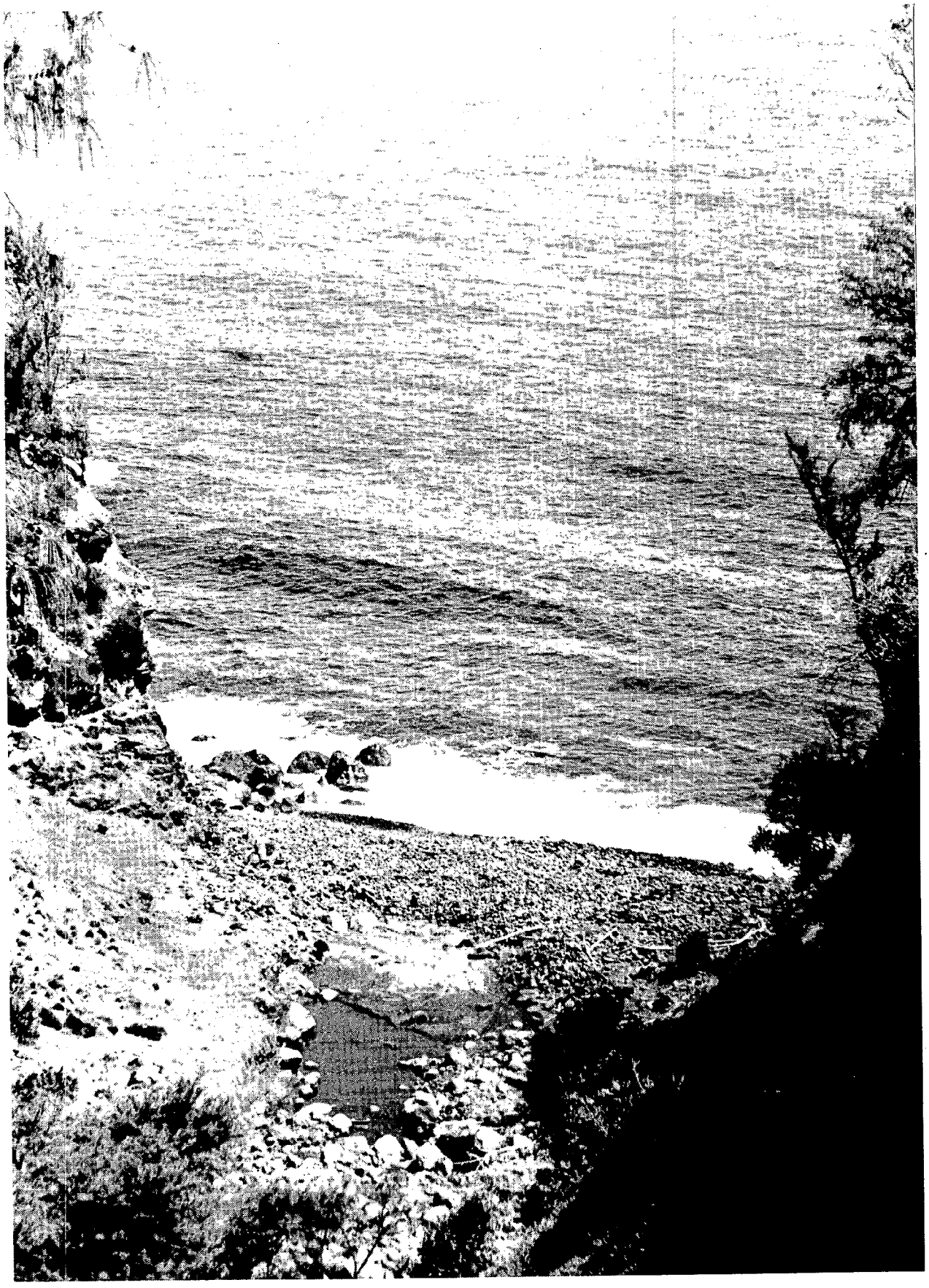
The main urban center is in the Laupahoehoe area where the latest census count shows about 800 residents. Population figures show a decrease from 1,881 residents in 1970 to 1,690 in 1980 for the district as a whole. No large increase in population is foreseeable in this district inasmuch as the largest employment base of the district, the sugar plantations, are redistributing employee housing into Pepeekeo in South Hilo District, Honokaa in Hamakua District, and around Laupahoehoe.

Assessment of Needs

Population in North Hilo will probably stabilize at the 1,700 to 1,800 level for the next twenty years since no large-scale urban development is anticipated. Additionally, because high cliffs, for the most part, limit the use of the entire North Hilo coast, the need for more accesses is small. The now accessible Laupahoehoe Point remains the focal recreational area for the district.

COURSES OF ACTION FOR NORTH HILO

NH-1 Encourage development of trail systems to the shoreline from roadways to the shoreline at Maulua and Kaawalii.



HAMAKUA DISTRICT

The Hamakua District is situated on the north coastline of East Hawaii. It encompasses 34.3 miles of shoreline, ten miles of which are in government lands. As in other districts in East Hawaii, the shoreline is characterized by high cliffs, interspersed with gulches or water falls where the mountain streams meet the ocean. The north end of the district includes Waipio, Waimanu, and Honopue valleys which are the only areas in the district with low shoreline areas.

The County General Plan designates most of the Hamakua coast as agriculture and open areas with the valleys in conservation and open. Paaūilo Sugar Mill is the only shoreline urban development within the district.

The present population is 5,200 persons as compared to 4,648 persons in 1970.

Along the coastline existing public accesses to the shoreline are through scattered government owned lands along the coast, and at the Waipio and Honopue Valleys. A basic problem is that along the coastline, areas were rendered inaccessible to the public by the non-usage of the public accesses and the agricultural uses of the coastlands. Also, the southern shoreline of this district of high cliffs and rough surf has limited use.

Assessment of Needs

Population in Hamakua District is estimated to be stabilized between 5,000 to 7,000 persons within the next twenty years. Needs for the area focuses on accesses for local fishing along the rugged coastline and trails in the Waipio- Honopue Valleys.

COURSES OF ACTION FOR HAMAKUA

Ha-1 Encourage the use and development of hiking trails which interconnect Waipio Valley to Honopue Valley, utilizing the existing trailhead at Waipio Valley.

Ha-2 Encourage development of access to coastal valleys between Kaula Gulch and Waipio Valley.

NORTH KOHALA DISTRICT

The north Kohala district is situated at the northern tip of the Big Island. The shoreline is situated on the leeward as well as the windward side of the island and stretches for approximately 36.2 miles.

The windward side starts from Awini Valley which is part of the chain of valleys situated on the slopes of Kohala Mountains. The shoreline on this side is characterized by deeply-incised valleys meeting the ocean at low sandy beaches, interspersed with high, steep cliffs. After Pololu Valley, the last in the chain, the shoreline is fairly uniform with high, steep cliffs and intermittent low spots of boulders. The lands above this shoreline were cultivated intensively for sugar cane during the last century but were phased out in the early 1970's. These agricultural lands are now in fallow or in pastures.

From Upolu Point, the North Kohala district shoreline continues south for some additional twenty miles. Here, the sea is much calmer than on the windward side, and the shoreline is characterized by high to low cliffs ranging from over twenty feet in height at Upolu to lower cliffs all along the leeward shoreline of this district.

The County General Plan foresees this district to remain primarily rural in character with urban centers in Hawi, Kapaau, Niulii, and Halaula. Population here has shown a slight decrease from 3,376 perons in 1970 to 3,250 in 1980.

Available public access is through shoreline trails in the Awini-Pololu Valleys; mauka-makai roads to Keokea Park, to the lighthouse at Kauhola Point, to Upolu Point, and to Kapaa Park; and through scattered State lands from Mahukona to Kawaihae. Past practice of Kohala Sugar Company allowing employees to traverse over private lands to get to favorite fishing areas in the valleys and along the Kohala Coast have been curtailed by the closing of the plantation. Therefore, present opportunities for the use of the shoreline are now restricted.

Assessment of Needs

The population of North Kohala is expected to increase from the 1980 census count. Urban areas from Niulii to Hawi are expected to be the areas of population growth as more employment opportunities become available.

The valleys on the windward side presently serve as attractions to hikers and campers. Because the bulk of these valleys is in private ownership, public access is now restricted unless the ancient Hawaiian trails which meander in the valleys and ridges are verified as public. Consideration must also be given to the near pristine condition of the valleys.

From Pololu Valley to Mahukona, there is a need to accomodate fishermen and other users of the shoreline and areas of historic significance, especially accesses through the privately owned lands from the lateral State highway. From Mahukona to Kawaihae, which is largely undeveloped, accesses from the Akoni Pule Highway will become important as the areas become developed.

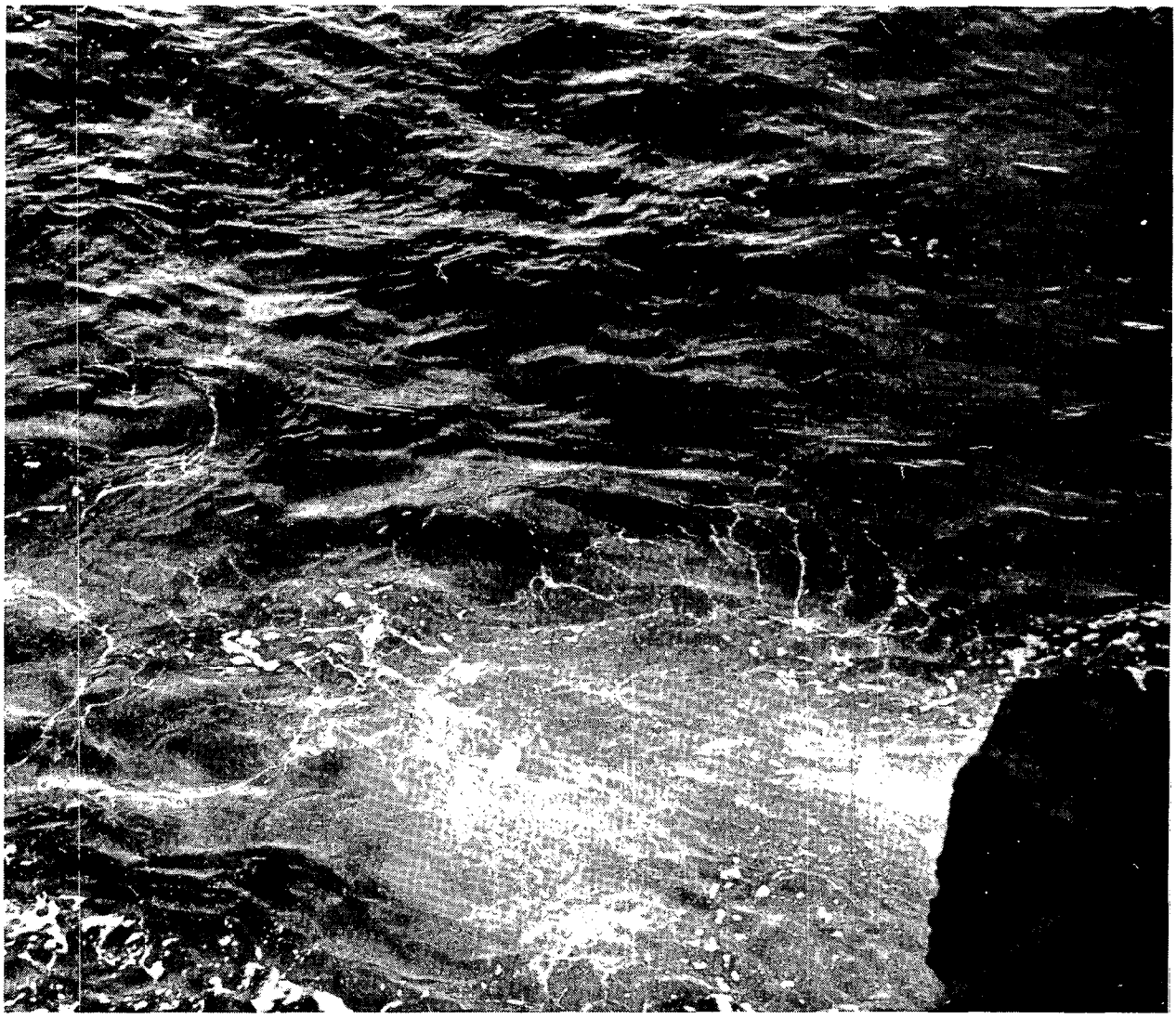
COURSES OF ACTION FOR NORTH KOHALA

NKh-1 Establish trailheads and trail system along shoreline from Pololu Valley to Mahukona. Existing and proposed government beach parks can serve as the major trailheads.

NKh-2 Incorporate the protection of historic sites such as the Lapakahi area and Kamehameha's birthplace in the planning of the shoreline trail system.

NKh-3 Designate the valleys as a sensitive area where existing ecosystems should be preserved.

NKh-4 Provide for a trail system along the entire stretch of coastline from Mahukona to Kawaihae.



SOUTH KOHALA DISTRICT

Among all the districts of the Big Island, the South Kohala district contains the smallest stretch of shoreline. Some 17.9 miles of shoreline from Kawaihae to Anaehoomalu Bay are in this district.

About 7 miles of the length of shoreline are under public ownership. Because of this large percentage of publicly owned lands fronting the ocean, there are may existing public accesses to the shoreline. Some 31 public access points are strung along the shoreline (See Table 7) or an average of 1 access for every 0.6 mile of shoreline. In addition, resort developments such as Mauna Lani Resorts, Mauna Kea Beach Hotel, and Waikoloa Beach Resorts are required to provide additional accesses to the beaches as an adjunct to their development.

The shoreline in this district is characterized by lowland areas where there are many sandy beaches and calm bays. Also situated here is the Kawaihae Small Boat Harbor.

The County General Plan designates almost the entire shore of this district for urban use, ranging from the industrial designation in Kawaihae to resort in Anaehoomalu. The population for this district increased from 2,300 persons to 4,600 within ten years.

Assessment of Needs

As indicated in the County General Plan, the South Kohala shoreline is committed to a large amount of urban uses. The many mixed uses along the entire stretch of this shoreline attract local residents as well as tourists. The Mauna Kea Beach Hotel and all other proposed hotels at Kalahuipuaa and Anaehoomalu will invariably attract many tourists to the shore. The attraction of the South Kohala shoreline is not only limited to the tourists as reflected by the heavy local use of the Spencer Beach Park. Therefore, there will be heavier demands for the use of the shoreline as the shoreline areas become further developed.

The Queen Kaahumanu Highway also has an impact in the development of the shoreline, as it opened up vast areas of undeveloped land to urban pressures. Guidelines to accesses through these lands, including historic and scenic consideration, must be made prior to their development.

COURSES OF ACTION FOR SOUTH KOHALA

SKh-1 Future shore developments should provide a system of trails and trailheads to the shoreline as set forth in the guidelines of this report.

SKh-2 A shoreline trail system should be established following the proposed Ala Kahakai System.

SKh-3 Encourage development of highly improved access as part of resort and other urban development in the coastal areas.

NORTH KONA DISTRICT

The North Kona district lies on the leeward side of the island. Calm seas, sandy beaches in bays and inlets and low, rocky shoreline are characteristic of the northern coastline of this district. From Anaehoomalu to Kailua lie 33 miles of largely undeveloped lands. South of Kailua, the majority of the shoreline is in urban use. Of the 45.6 miles of shoreline in this district, 18 miles or 39 percent are under public ownership.

There are 24 access points along the 45.6 mile stretch of shoreline or an average of 1 access for every 1.3 miles. Much of these public accesses are located from Kailua to Keauhou Bay where the shoreline is substantially developed. As in the South Kohala area, Queen Kaahumanu Highway has opened up vast areas of undeveloped lands and also has provided a lateral improved road to get to the shoreline.

The North Kona district has witnessed the largest increase in population in the past ten years. Today, there are about 13,800 persons in North Kona as compared to 4,800 in 1970.

The County General Plan designates the northern shoreline of North Kona as resort, regional recreational areas, conservation, open, and agriculture. From Kailua to Keauhou Bay, there are resort centers interspersed with residential and other urban uses along the shoreline. The strip between Keauhou Bay and the South Kona boundary near Kealakekua Bay is designated as conservation, open, and agricultural.

Assessment of Needs

The North Kona Area is foreseen to be the urban center of West Hawaii, where population conceivably can increase tremendously. The anticipated population increase, augmented by the many developments that are earmarked along the shoreline, dictate that proper accesses to and along the shoreline be provided. The Kona shoreline is extremely important to the well-being of residents and tourists alike as beaches and other shoreline attractions are a vital part of the Kona way-of-life.

The vast area from Anaehoomalu to Kailua should be provided with more access points to the shoreline--be it by public parks or trail system, but the historic, recreational, and scenic significance of the area must always be kept in mind.

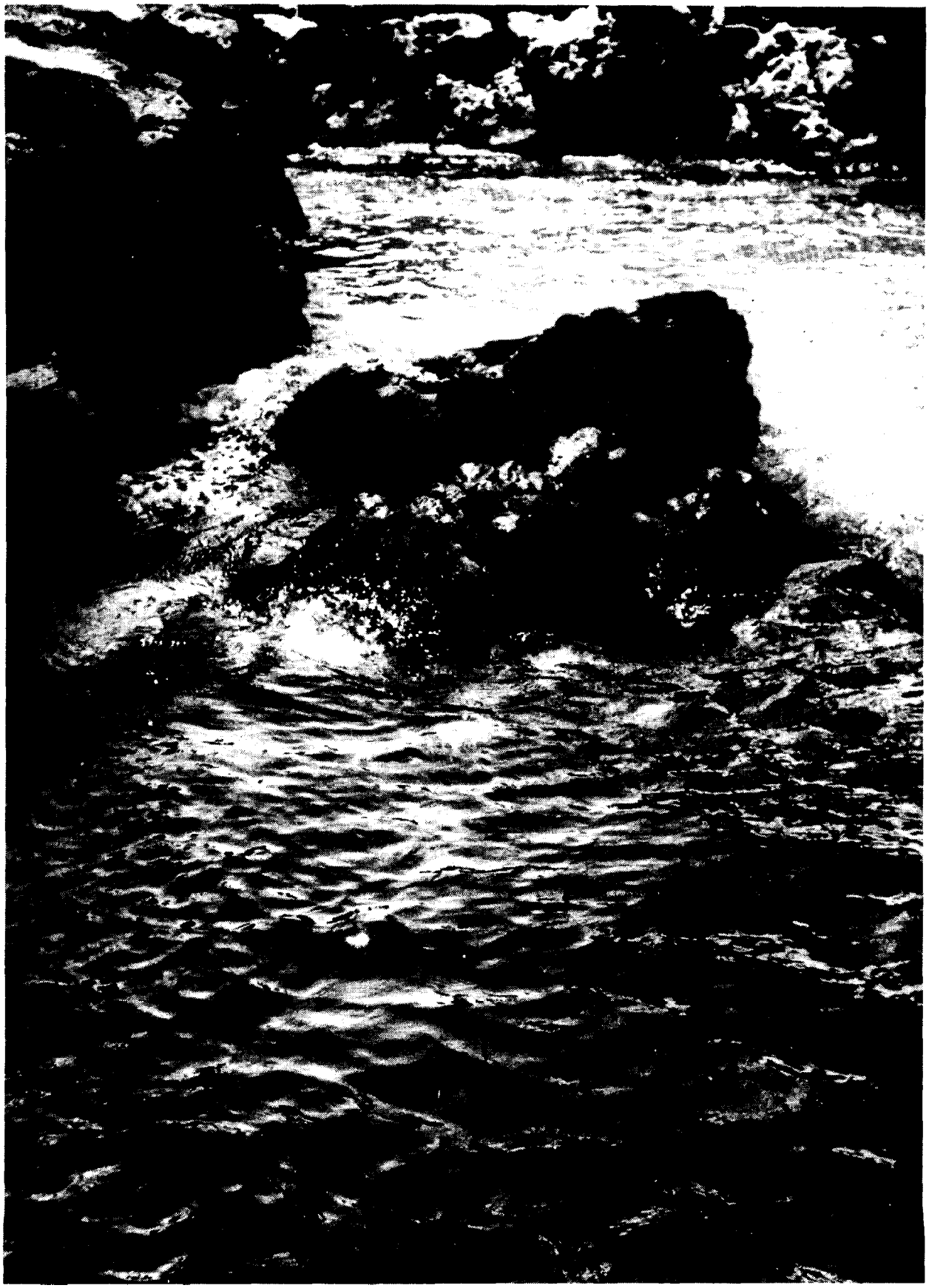
COURSES OF ACTION FOR NORTH KONA

NKo-1 Pursue the implementation of the Ala Kahakai (Trail by the Sea) concept along the shoreline from Kailua to Anaehoomalu in this district.

NKo-2 New shore developments should conform to the trail system standards as set forth in the guidelines.

NKo-3 Plan all trail systems to incorporate the scenic beauty and historic significance of the area.

NKo-4 Establish a shoreline trail system from Keauhou to Kealakekua Bay.



SOUTH KONA DISTRICT

The South Kona district contains some 40.3 miles of shoreline on the leeward side of the island. The shoreline is characterized by cliffs formed by lava flowing down the slopes of Mauna Loa.

The district has a population of 5,900 people, an increase of 1,900 persons over the past ten years. The shoreline has been designated in the County General Plan as conservation, open, and agriculture along the majority of the coast. Only the south side of Kealakekua Bay has been designated urban. About 1.6 miles of shoreline are under federal ownership mainly in the City of Refuge National Park at Honaunau Bay.

Other publicly owned shore lands are 6.7 miles of State lands and 0.2 miles of County land.

There are only 11 public access points along this 45.6 mile stretch of shoreline. Also, from Honaunau toward South Point, the nearest lateral public highway is significantly far away from the shore, thus limiting shoreline access opportunities.

Assessment of Needs

The South Kona district shoreline is rich in historic sites. Captain James Cook first landed in Hawaii near Kealakekua Bay; battle grounds of warring Hawaiian chiefs as well as the City of Refuge which was reconstructed by the federal government are still intact. Therefore, the continued need to preserve these significant historical sites is evident.

Population is expected to have only a gradual increase over the next twenty years. However, providing local residents with adequate accesses to the shoreline is a need inasmuch as most shore lands are under private ownership. Public lands are in Honaunau, Kipahoehoe, Milolii, and Kaulanamauna, comprising about one-fifth of the total shoreline.

Housing developments in the near vacant subdivisions from Kealia to Milolii would also increase the need for public accesses to the shoreline.

COURSES OF ACTION FOR SOUTH KONA

SKo-1 Coordinate shoreline accesses with the continued preservation of historic sites along the shoreline.

SKo-2 Establish trailheads and trail system to interconnect historically established destinations such as Kealakekua Bay to City of Refuge.

SKo-3 Future agricultural/urban subdivisions along the shoreline should have public accesses to and along the shoreline.

SKo-4 Develop a scenic and recreational corridor along the coastline from Palemano Point to Manuka Bay in coordination with private land owners.

SKo-5 Encourage the provision of access to the shoreline through public lands and provision of lateral access along the shoreline from trailheads.

KA'U DISTRICT

Among the districts of the island, this district has the longest stretch of shoreline located on both sides of South Point. About 76 miles of shoreline, extending from Manuka Bay on the leeward side to South Point to the Hawaii Volcanoes National Park on the windward side, are within the Ka'u district.

Much of the shoreline is characterized by rough, barren lava cliffs created by the many lava flows which spewed down the slopes of Mauna Loa. There are pockets of low lands along the sea, including the South Point area to Honuapo Bay and at Punalu'u. The entire Ka'u coastal land is in conservation, open and agriculture under the County General Plan, with the exception of Honuapo and Punalu'u which are designated as resort.

Much of the shore lands in this district are under public ownership, including eight miles of State lands along the Manuka ahupuaa coastline, about seven miles of Hawaiian Homes land at South Point, an additional seven miles of State land scattered along Honuapo to Punalu'u area, and fifteen miles of federal land in Hawaii Volcanoes National Park. These public shore lands offer the public freer use of the shore as compared to those under private ownership.

Population in the area stabilized to about 3,700 in the last ten years, and no large increase is foreseen within the next twenty years inasmuch as the entire district is rural in nature. However, there are many vacant lots in Hawaiian Ocean View Estates Subdivision and in the surrounding subdivisions. These subdivisions present a potential for a sudden increase in population. (See Table 7 for access inventory.)

Assessment of Needs

The leeward side of the Ka'u district is presently accessible for camping and fishing only by jeep or other four-wheel drive vehicles. Private lands are accessible by permission only. The basic need is the accessibility of this stretch of coastline from the public highway and the establishment of public accesses.

The South Point area is also used for camping and fishing by Ka'u residents as well as others. The continued accessibility of this area seems to be necessary. As the area is further developed such as for a small boat harbor, more facilities such as restrooms and paved parking areas will become necessary.

The windward side of South Point has potential areas for fishing and recreation. Limited access and private land ownership along the shoreline deter the public from free use of the shoreline.

COURSES OF ACTION FOR KA'U

Kau-1 Establish trail system from Mamalahoa Highway to shoreline.

Kau-2 Establish scenic and recreational corridor along the entire Ka'u shoreline.

Kau-3 Coordinate with Hawaiian Homes to establish trail system, including trailheads in South Point.

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