

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF STATE PARKS
Honolulu, Hawaii

July 13, 2012

Chairperson and Members
Board of Land and Natural Resources
Honolulu, Hawaii

SUBJECT: Request for Approval of the Design of a New Warning Sign, and Placement of Additional Warning Signs at Sacred Falls State Park, Oahu, and Opaekaa Falls, in Wailua River State Park, Kauai, Pursuant to Act 82, SLH 2003

On February 9, 2007, the Board of Land and Natural Resources (Board) approved the design of warning signs as recommended by the Risk Assessment Working Group (RAWG), consistent with Act 82, SLH 2003 (See attached Exhibit A). The approved signs include "WARNING" level signs for Falling Rocks, Hazardous Cliffs, and Flash Floods; and "DANGER" level signs for Falling Rocks, Flash Floods, and submerged objects (no Diving or Jumping). There is no approved "DANGER" sign for hazardous cliffs.

Per the Act 82 Administrative Rules, §13-8-2, Definitions, and §13-8-5, Hazard labels, the "DANGER" signal word is appropriate where the natural condition, if not monitored or avoided, could result in severe injury or death, or where a fatality has been documented.

As there have been fatalities as a result of people falling from certain cliff areas, design, review and approval of a DANGER hazardous cliff sign is appropriate. Attached as Exhibit B is a proposed DANGER hazardous cliff sign.

The text is:

DANGER!
Hazardous Cliff!
You could fall and be
Seriously injured or killed

Stay back from the edge

This sign is to be posted at parks and trails where fatalities have been documented. This sign will be used at entrance and site specific locations.

ITEM E-2

On August 22, 2008, the Board approved placement of Hazard Warning and Management Signs at several State Parks on Oahu and Kauai (Exhibit C). The Division of State Parks is proposing adding signs at two parks.

At Opaekaa Falls, Wailua River State Park, approval was granted for two Area Closed management signs. In addition to closing the areas, in order to insure that the public is warned of the specific hazard, State Parks is proposing installation of two DANGER hazardous cliff signs at the locations of the previously approved Area Closed signs. The use of DANGER signs is appropriate for this area as fatalities have occurred. (See Exhibit D)

At Sacred Falls State Park, approval was granted for three Area Closed management signs, and a DANGER Falling Rock, hazard warning sign. The park has been closed since 1999 following the falling rock incident which resulted in multiple injuries and fatalities. In addition, in order to provide warning of all known natural hazards, State Parks is proposing installation of a DANGER Flash Flood sign at the same location as the DANGER Falling Rock sign. Use of the DANGER level sign is appropriate as fatalities have occurred in the stream. The existing Area Closed and DANGER Falling Rock signs will remain. (See Exhibit E)

The Risk Assessment Working Group has been consulted, and concurs with the proposed new sign design and installation.

RECOMMENDATION:

That the Board approve:

- (1) Design of a new DANGER Hazardous Cliff sign;
- (2) Installation of two new DANGER Hazardous Cliff signs; at Opaekaa Falls, Wailua River State Park, and
- (3) Installation of one new DANGER Flash Flood sign at Sacred Falls State Park.

Respectfully submitted,



DANIEL S. QUINN
State Parks Administrator

APPROVED FOR SUBMITTAL:



WILLIAM J. AILA, JR., Chairperson

State of Hawaii
DEPARTMENT OF LAND AND NATURAL RESOURCES
Division of Forestry and Wildlife
Honolulu, Hawaii 96813

February 9, 2007

Chairperson and Members
Board of Land and Natural Resources
State of Hawaii
Honolulu, Hawaii

Land Board Members:

SUBJECT: Request for Approval of the Design and Placement of Warning Signs on Improved Public Lands. (Pursuant to Act 82, Session Laws Hawaii, 2003)

Act 82, 2003 Session Laws Hawaii, Relating to Public Land Liability, established a process for installing and maintaining warning signs on improved public lands, and provides the State and Counties with protection from liability for damages caused by the dangerous natural conditions that are identified through the signage. Improved public lands, as defined by Act 82, are designated as part of the DLNR State Park system, parks, and parkways under Chapter 184 HRS, or as part of a county's park system, and lands which are part of the Hawaii Statewide Trail and Access System (Na Ala Hele) under Chapter 198D HRS. Act 82 contained a provision for the promulgation of Hawaii Administrative Rules (HAR) to guide the Act 82 Risk Assessment Working Group (RAWG) and DLNR in the design and placement of warning signs. The signs have been designed and the locations identified pursuant to Chapter 8 of Title 13, Hawaii Administrative Rules (HAR), entitled "The Design and Placement of Warning Signs on Improved Public Lands" (Exhibit 1). The design guidelines embedded in Chapter 8, HAR are based substantially on the sign design guidelines of the American National Standards Institute (ANSI).

Pursuant to Act 82, the Board is to review and approve of the design and placement of these signs:

"Conclusive presumptions relating to duty of public entities to warn of dangers on improved public lands. (a) A sign or signs warning of dangerous natural conditions on improved public lands shall be conclusively presumed to be legally adequate warning of the dangerous natural conditions of which the sign or signs warn, if the State or a county posts a sign or signs warning of the dangerous natural conditions and the design and placement of the warning sign or signs are approved by the board. The board shall consult the risk assessment working group established by chapter 171, prior to approving the design and placement of a warning sign pursuant to this section."

The RAWG has approved the sign design and the conceptual placement as delineated in Chapter 8, HAR.

There are three types of signs for your review:

1. Trailhead or Park Area Entrance Hazard Signs

Pursuant to Chapter 8 HAR, these signs are to be located at the entrances to trails and park areas to alert the user that they will encounter a potentially dangerous natural condition along the trail or in the interior of the park area. These signs are based on the design guidelines, but due to the fact that they are located away from an actual hazard, the text simply reflects that the trail or park contains the hazard and the possibility of injury.

2. Site Specific Hazard Signs

Pursuant to Chapter 8 HAR, these signs are to be located as close as possible to the potentially dangerous natural condition and depict the hazard, the degree of injury, and means to avoid the hazard.

3. Site Specific Management Signs

These signs are not a component of Act 82. During the evaluation of public exposure to dangerous natural conditions along trails and in State Parks, it was determined that *uniform signage that directed public behavior away from a location or indicated a closure would be also necessary to either protect public safety or the natural or culture resources*. Management signs are intended to modify public behavior and attention, and have been designed pursuant to the ANSI criteria, but are not specifically included in the Chapter 8, HAR. However, staff determined that it would be effective to also create uniform management signs based upon the same national standards and criteria delineated in Chapter 8 HAR.

Staff has selected two priority locations and have prepared two prototype maps for your review and approval that delineate the placement of the warranted signage. If this method is clear and acceptable for determining the placement, these maps will be the prototype for future Board approval on the placement of signage pursuant to Chapter 8, HAR.

Sign Placement Criteria

The following guidelines have been used for determination of the placement of signage:

1. Traffic patterns and managed access points of people accessing the improved public lands shall be considered when placing signs. The type, frequency, and location of incidents or potential public exposure relating to specific dangerous natural conditions when known on the improved public lands shall be considered when placing signs.
2. The signs shall be placed at or near access points, along vehicle and pedestrian traffic corridors in clearly visible locations placed as close as possible to the potentially dangerous natural conditions on improved public lands and at managed and designated entrances where the signs will be seen as users enter improved public lands. View sheds, aesthetics, and feasibility of installation shall be considered in the placement of the signs. Signs shall be installed with consideration for the average adult line of sight but outside of the general path of travel to avoid physical contact with the signs. Signs may be attached to posts or by any other method of installation depending on the nature of the location and terrain

- 3. Sign dimensions at managed entrances to improved public land adjacent to parking areas and other locations accessible by vehicles shall be a minimum of eighteen inches by twenty-four inches. Sign dimensions at remote, interior locations and boundaries accessible by pedestrians of improved public land shall be a minimum of twelve inches by eighteen inches.

Types of Environmental Conditions and the Related Sign Design Identified

Site Specific Hazard Signs (These signs have ancillary Entrance signs)

Hazard Signs are intended to warn of potentially dangerous natural conditions and/or modify public behavior

- 1. **Warning**
Flash Flood!
Be alert, water may rise without warning.
Fast moving water may result in serious injury or death

This sign is to be posted along trails or access roads that cross streams where there is the potential for the water to rise quickly



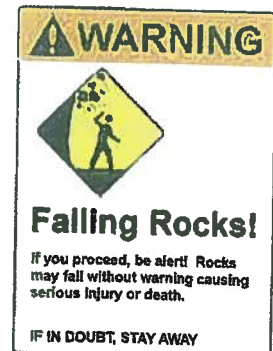
- 2. **Danger**
Flash Flood!
Be alert, water may rise without warning
Fast moving water in this stream has killed people

This sign is to be posted along streams where there is the potential for the water to rise quickly and there has been a documented fatality



- 3. **Warning**
Falling Rocks!
If you proceed, be alert! Rocks may fall without warning causing serious injury or death.
IF IN DOUBT, STAY AWAY

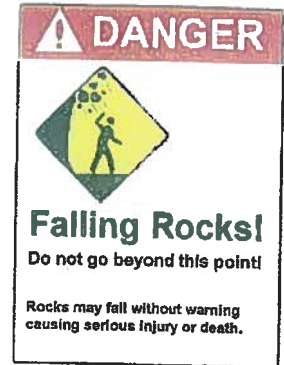
Trail or park area is open and the user is provided an informed choice There may be trail locations where observation indicates habitual rockfall, and a sign may be posted even though the user is generally in motion along the rockfall area



- 4. **Danger**
Falling Rocks!
 Do not go beyond this point
 Rocks may fall without warning causing serious injury or death

There has been an injury or exposure is severe at this location, use is restricted

These signs will be posted in areas where there is staff knowledge of rockfall, or where it is determined that exposure to potential rockfall is probable. Exposure to rockfall is greater when users are stationary - such as the base of waterfalls or viewpoints adjacent cliffs or road cuts.



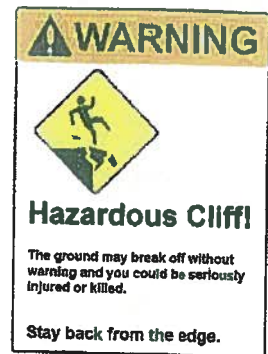
- 5. **Danger**
No Diving or Jumping!
 You may strike submerged objects
 and be seriously injured or killed.

This sign is to be posted in situations where there are known underwater hazards that are not visible to the user, and there have either been injuries or there is knowledge that the public engages in diving or jumping at the location



- 6. **Warning**
Hazardous Cliff!
 The ground may break off without warning
 and you could be seriously injured or killed
 Stay back from the edge

This sign is to be posted at trail and park situations that have steep cliffs, such as scenic lookouts and trail areas where there is narrow or unstable trail or cliff structure.



Site Specific Management Signs

Management signs are intended to convey information to modify and inform public behavior – not warn of specific dangerous conditions.

1. Notice

End of Trail!

Do not go beyond this sign — please turn back

This sign is intended to stop public access and is to be posted in situations that apply to either resource management or safety issues, where the end of the trail experience is to occur but there is knowledge that the public continues past a certain point. Practical examples include ridge trails that terminate at the summit but the public habitually continues laterally along the ridge



2. Caution

End of maintained trail!

Trail beyond this sign not maintained.

This sign is intended to notify the public that there is a change in the management standards for the trail. The public is not being discouraged from continuing, but due to the change in the condition of the trail they are being put on notice to adjust their level of expectation and be more vigilant of trail conditions. The sign implies that the trail may be more difficult or require greater skill to traverse.



3. Notice

Area Closed!

Do not go beyond this sign.

This sign is to be posted along areas where there is no authorized or established trail or access route, and where public access is prohibited for either resource management or safety issues and staff has knowledge that the public traverses the area. This sign was intended to delineate the end of managed park, arboreta or other types of public land management boundaries.



4. Notice
 End of Road!
 No motor vehicles beyond this sign

This sign is intended to stop vehicular public access due to poor access road conditions or to notify the user about the actual end of the road



RECOMMENDATION:

That the Board:

1. Approve the design of the signs for the : a) Entrance, b) Site Specific Hazard and c) Site Specific Management signs as shown on Exhibit 2
2. Approve the placement of the signs at Manoa Falls Trail and Kealakekua Bay State Park as depicted on the maps showing the placement of signs in Exhibits 3 and 4.

Respectfully submitted,

PAUL J. CONRY
 Administrator

Attachments:

- Exhibit 1: Chapter 8 of Title 13, Hawaii Administrative Rules, The Design and Placement of Warning Signs on Improved Public Lands.
- Exhibit 2 Entrance Hazards Signs, Site Specific Hazards Signs and Site Specific Management Signs (Contains the Codes for Identification of Sign Placement for Exhibits 3 and 4)
- Exhibit 3 Map depicting the placement of signs at Manoa Falls Trail.
- Exhibit 4 Map depicting the placement of signs at Kealakekua Bay State Park.

APPROVED FOR SUBMITTAL:

PETER T. YOUNG, Chairperson
 Board of Land & Natural Resources

DEPARTMENT OF LAND AND NATURAL REOSURCES

Adoption of Chapter 13-8
Hawaii Administrative Rules

November 18, 2005

1. Chapter 8 of Title 13, Hawaii Administrative Rules, entitled "The Design and Placement of Warning Signs on Improved Public Lands" is adopted to read as follows:

"HAWAII ADMINISTRATIVE RULES

TITLE 13

DEPARTMENT OF LAND AND NATURAL RESOURCES

SUBTITLE 1

CHAPTER 8

THE DESIGN AND PLACEMENT OF WARNING SIGNS ON IMPROVED
PUBLIC LANDS

Subchapter 1. General Provisions

- \$13-8-1 Purpose
- \$13-8-2 Definitions
- \$13-8-3 Severability

Subchapter 2. Standards for Sign Design

- \$13-8-4 American National Standards Institute
- \$13-8-5 Hazard labels
- \$13-8-6 Pictogram symbols
- \$13-8-7 Sign text
- \$13-8-8 Sign dimensions

Subchapter 3. Standards for Sign Placement

- \$13-8-9 Public use and exposure
- \$13-8-10 Placement
- \$13-8-11 Multiple signs

SUBCHAPTER 1

GENERAL PROVISIONS

\$13-8-1 Purpose. The purpose of these rules is to establish standards to guide the department of land and natural resources and the risk assessment working group in the general design and placement of signs warning of dangerous natural conditions on improved public lands.
[Eff. _____] (Auth: SLH 2003, Act 82, §2) (Imp: SLH 2003, Act 82, §2)

§13-8-2 Definitions. As used in this chapter, unless otherwise provided or required by context:

"Alert symbol" means the triangular symbol with an exclamation mark that appears to the left of the signal word.

"ANSI" means the American National Standards Institute.

"Board" means the board of land and natural resources.

"Caution", when used as a signal word on a hazard label, means the potential for encountering a natural condition which if not monitored, could result in a minor or moderate injury. This signal word is intended to alert the user to be more vigilant.

"Danger", when used as a signal word on a hazard label, means the potential for encountering a natural condition, which, if not monitored or avoided, could result in severe injury or death. This signal word is for the most extreme conditions or actions where foreseeable harm is severe or a fatality has been documented at a specific location due to the natural condition.

"Hazard label" means a specific label on the upper portion of the sign that uses the signal words "danger, warning, or caution" in conjunction with the "alert symbol".

"Improved public lands" means lands designated as part of the state park system, parks, and parkways under chapter 184, Hawaii Revised Statutes, or as part of a county's park system, and lands which are part of the Hawaii statewide trail and access system under chapter 198D, Hawaii Revised Statutes, excluding buildings and structures constructed upon such lands.

"Pictogram symbol" means a graphic symbol that illustrates the dangerous natural condition and its potential risk of harm.

"Risk assessment working group" means

- (1) The chairperson of the board, or designee;
- (2) The mayor of each county, or designee;
- (3) The administrators of the department's division of forestry and wildlife and the division of state parks, or their designees;
- (4) The attorney general, or designee; and
- (5) A person appointed by the chairperson of the board knowledgeable in warning sign design.

"Signal word" means the word located on a hazard label that calls attention to the sign and designates a degree or level of hazard seriousness.

"Warning", when used as a signal word on a hazard label, indicates the potential for encountering a natural condition, which, if not monitored or avoided, may result in a moderate to serious injury, or death.

[Eff. _____] (Auth: SLH 2003, Act 82, §2) (Imp: SLH 2003, Act 82, §2)

§13-8-3 Severability. If any provision of this chapter or the application thereof to any person or circumstance is held invalid, this invalidity shall not affect other provisions or applications of this chapter that can be given effect without the invalid provision or application, and to this end, the provisions of this chapter are severable. [Eff. _____] (Auth: SLH 2003, Act 82, §2) (Imp: SLH 2003, Act 82, §2)

SUBCHAPTER 2

STANDARDS FOR SIGN DESIGN

§13-8-4 American National Standard Institute. ANSI product safety sign and label standards for format, content, and font currently in effect shall be considered in the design of the warning signs. The board and the risk assessment working group, at their discretion and if consistent with the purposes of these rules and in the public interest, may deviate from these standards. [Eff. _____] (Auth: SLH 2003, Act 82, §2) (Imp: SLH 2003, Act 82, §2)

§13-8-5 Hazard labels. Appropriate hazard labels as defined in this chapter (e.g. caution, warning, or danger) shall be used on the top of the warning sign. A triangular alert symbol with an exclamation mark shall appear to the left of the hazard label. [Eff. _____] (Auth: SLH 2003, Act 82, §2) (Imp: SLH 2003, Act 82, §2)

§13-8-6 Pictogram symbols. Appropriate Pictogram symbols as defined in this chapter shall be used and placed under the hazard label. [Eff.]
(Auth: SLH 2003, Act 82, §2) (Imp: SLH 2003, Act 82, §2)

§13-8-7 Sign text. (a) Sign text shall be used to reinforce the hazard label and pictogram as follows:

- (1) Text shall be in a headline style that uses simple and direct words;
- (2) Active rather than passive verbs shall be used. Action oriented phrases shall be put at the beginning of the sentence and not in the middle or at the end;
- (3) Adverbs that are difficult to interpret shall be avoided. There shall be no more than one clause in a sentence;
- (4) Upper case and centered type shall be avoided whenever possible;
- (5) Arial/Helvetica, Arial/Helvetica Black, Folio Medium, Franklin Gothic, Futura, or a similar style of font shall be used for the sign text;
- (6) Colored background shall not be used for the text portion of warning signs; and
- (7) Agency identification and other agency markings shall not be placed on the front of the sign but may be placed on reverse side of sign.

(b) The board and the risk assessment working group, at their discretion and if consistent with the purposes of these rules and in the public interest may deviate from these standards. [Eff.] (Auth: SLH 2003, Act 82, §2) (Imp: SLH 2003, Act 82, §2)

§13-8-8 Sign dimensions. Sign dimensions at managed entrances to improved public land adjacent to parking areas and other locations accessible by vehicles shall be a minimum of eighteen inches by twenty four inches. Sign dimensions at remote, interior locations and boundaries accessible by pedestrians of improved public land shall be a minimum of twelve inches by eighteen inches. [Eff.] (Auth: SLH 2003, Act 82, §2) (Imp: SLH 2003, Act 82, §2)

SUBCHAPTER 3

STANDARDS FOR SIGN PLACEMENT

§13-8-9 Public use and exposure. (a) Traffic patterns and managed access points of people accessing the improved public lands shall be considered when placing signs. (b) The type, frequency, and location of incidents or potential public exposure relating to specific dangerous natural conditions when known on the improved public lands shall be considered when placing signs.
 [Eff.] (Auth: SLH 2003, Act 82, §2) (Imp: SLH 2003, Act 82, §2)

§13-8-10 Placement. Sign(s) shall be placed at or near access points; i.e., along vehicle and pedestrian traffic corridors in clearly visible locations placed as close as possible to the potentially dangerous natural conditions on improved public lands and at managed and designated entrances where the signs will be seen as users enter improved public lands. View sheds, aesthetics, and feasibility of installation shall be considered in the placement of the signs. Signs shall be installed with consideration for the average adult line of sight but outside of the general path of travel to avoid physical contact with the signs. Signs may be attached to posts or by any other method of installation depending on the nature of the location and terrain. [Eff.]
 (Auth: SLH 2003, Act 82, §2) (Imp: SLH 2003, Act 82, §2)

§13-8-11 Multiple signs. If multiple signs are installed they shall be on separate posts or in another manner that is rendered necessary due to the nature of the location and terrain. Whenever possible, installation shall attempt to minimize holes in the sign." [Eff.] (Auth: SLH 2003, Act 82, §2) (Imp: SLH 2003, Act 82, §2)

2. The adoption of chapter 13-8 Hawaii Administrative Rules, shall take effect ten days after filing with the Office of the Lieutenant Governor.

I certify that the foregoing copies of the rules drafted in the Ramseyer format, pursuant to the requirements of section 91-4.1, Hawaii Revised Statutes, which were adopted on November 18, 2005 and filed with the Office of the Lieutenant Governor.

Chairperson, Board of
Land and Natural Resources

APPROVED AS TO FORM:

Deputy Attorney General

Exhibit 2

Entrance Hazard Sign Codes



WFRE



WHCE



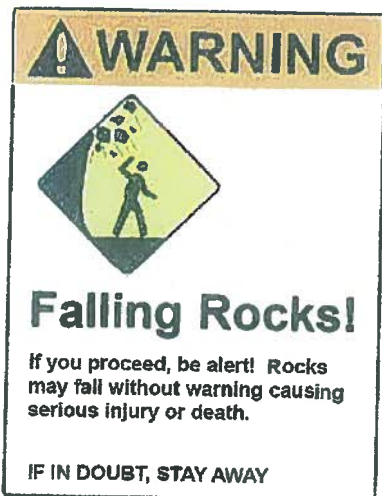
WFFE



DNDE

Exhibit 2

Site-Specific Hazard Sign Codes



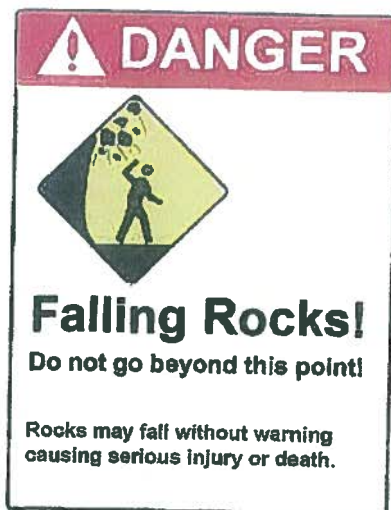
WFRS



WHCS



WFFS



DFRS



DNDS



DFFS

Exhibit 2

Site-Specific Management Sign Codes



NETS



NERs



NACS



CEMS

DLNR Division: DOFAW

Island: Oahu

Trail Name: Manoa Falls

Exposure to natural conditions: Stream crossings, falling rocks

Entrance Hazard Signs:

Station: OA00001

Warning-Falling Rocks

(WFRE)

Warning – Flash Floods

(WFFE)

Site Specific Hazard Signs:

Station: OA00002

Warning – Flash Floods

(WFFS)

Station: OA00003

Danger-Falling Rocks

(DFRS)

Site Specific Management

Signs:

Station: OA00003

End of Trail

(NETS)

Area Closed

(NACS)

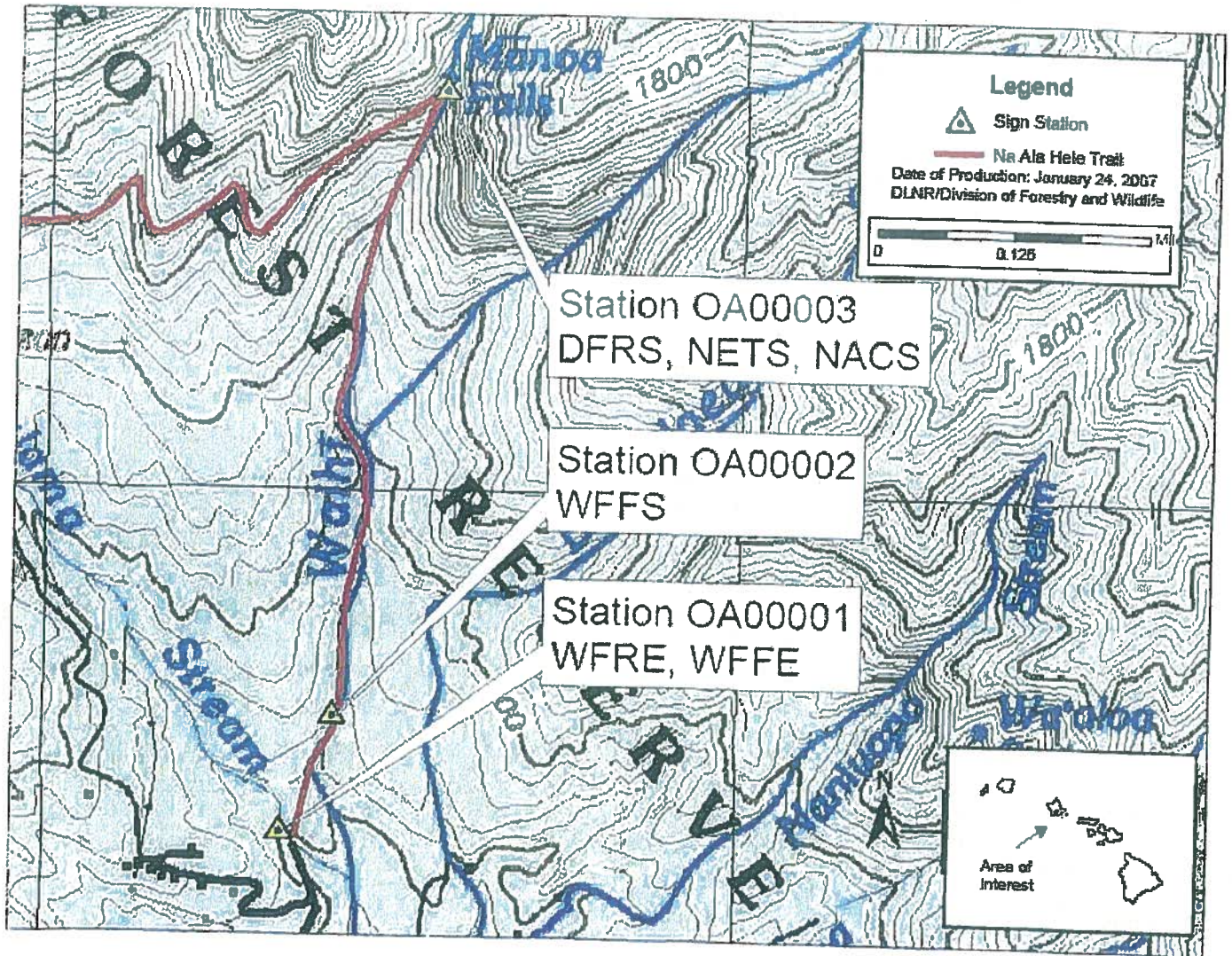


Exhibit 4

DLNR Division: State Parks

Island: Hawaii

**Park: Kealakekua Bay
State Historical Park**

Exposure to natural conditions: Falling rocks

Entrance Hazard Signs:

Station: HA00001

Warning-Falling Rocks

(WFRE)

Site Specific Hazard Signs:

Station: HA00002

Warning-Falling Rocks

(WFRS)

Station: HA00003

Warning-Falling Rocks

(WFRS)

Station: HA00004

Danger-Falling Rocks

(DFRS)

Station: HA00005

Danger-Falling Rocks

(DFRS)

Station: HA00006

Danger-Falling Rocks

(DFRS)

Station: HA00007

Danger-Falling Rocks

(DFRS)

Station: HA00008

Danger-Falling Rocks

(DFRS)

Station: HA00009

Danger-Falling Rocks

(DFRS)

Station: HA00010

Danger-Falling Rocks

(DFRS)

Station: HA00011

Danger-Falling Rocks

(DFRS)

Station: HA00012

Danger-Falling Rocks

(DFRS)

