

**GUIDANCE ON THE DEFINITION OF "STREAM" AND "STREAM CHANNEL"  
FOR THE DLNR COMMISSION ON WATER RESOURCES MANAGEMENT  
STREAM ALTERATION PERMIT**

The Department of Land and Natural Resources (DLNR) has provided the attached guidance on the definition of "stream" and "stream channel" for regulatory purposes. This definition is used by DLNR to determine whether a watercourse is regulated by the Commission on Water Resources Management. If a watercourse is determined to be a stream, any work within the stream channel requires a **Stream Channel Alteration Permit**.

As stated in the guidance, regulated streams and boundaries of the stream channels should have the following characteristics:

1. Natural source of fresh water
2. Aquatic resources
3. Definite bed and banks
4. Must qualify as an "instream use", not a "non-stream use"

It is important to note that aquatic life can thrive in streams that are dry for part of the year. **Seasonally dry streams with pools of water which support aquatic life should be considered as regulated streams.**

If you are unsure whether a specific watercourse is a stream, after reviewing the guidance, contact DLNR Commission on Water Resources Management (CWRM) at 587-0222. The current CWRM contact is David Higa at 587-0249.

### Guideline for Applying the Definitions of "Stream" and "Stream Channel"

A difficult aspect about administering the Water Code instream use program is in the interpretation of the definition of "Stream" and "Stream Channel". Without working definitions of these terms, it is difficult for applicants as well as the general public to understand the scope of the Commission's regulatory authority over streams.

The following guideline for applying these definitions is based on the analysis of the present language in Chapters 13-168, and 13-169, Hawaii Administrative Rules. It is intended to serve as guidelines for regulatory purposes, and will be proposed for rulemaking at a later date.

## Guidelines for Applying the Definitions of "Stream" and "Stream Channel"

Regulated streams and the boundaries of the stream channels should have the following characteristics:

1. Natural Source of Fresh Water
2. Aquatic Resources
3. Definite Bed and Banks
4. Must qualify as an "instream use", not a "non-instream use"

A more complete explanation of each characteristic and the regulatory context of the significant characteristics are discussed in the following text. The language of the rules from which the explanation is derived is appended.

1. **Must have a natural source of fresh water such as springs, seeps, and frequent or continuous rainfall.**

Fresh water is essential to support instream uses. The purpose of the State Water Code's Instream Use Program is to protect and enhance, where practicable, instream uses. Dry gulches which only convey runoff in insufficient quantities or frequencies to support instream uses are not considered to be regulated watercourses. Watercourses without a continuous source of fresh water such as man made drainage swales are not considered to be regulated watercourses.

2. **Must have aquatic resources in the form of fish, or aquatic plant communities from the point of alteration or diversion to its upstream source of water.**

- Many species of Hawaiian aquatic life spend part of their life cycle in the stream and part of their life cycle in the ocean (amphidromous). The definition of "continuous flowing water", addresses the need for aquatic species migration by incorporating language which includes seasonally dry streams "that could provide for the migration of and movement of aquatic life." Seasonally dry streams with pools of water which support aquatic life should be considered as regulated streams.

The stream permit review process must consider the impact of alterations and diversions impeding the migration of upstream aquatic life. Therefore, in making a determination as to whether a stream channel alteration/diversion permit is required, the determination should consider aquatic habitat from the point of alteration/diversion to the source of water.

The term "aquatic life" is not specifically defined in the rules. It is proposed that the term "aquatic life" include indicators of aquatic life such as aquatic plant communities, and perennial pools. These would support the definition of "continuous flowing water" in Section 13-169-2.

## Guidelines for Applying the Definitions of "Stream" and "Stream Channel"

### 3. Must have definite bed and banks.

The term "bed and banks" in the definition of "stream channel" in Section 11-169-2 is the primary basis of this discussion. The banks of the stream are the lateral boundaries to which channel alterations will be considered to be regulated. In proposing this guideline on the definition of the stream banks, an important consideration is to favor the use of commonly available maps, and aerial photos, or a simple site visit, as opposed to complex and expensive field surveys.

The approach used to delineate regulated "bed and banks" of the stream channel is based on the slope of the stream banks. The steeper the slopes of the stream banks the more likely channel alterations may affect instream uses.

Three categories of stream channel configurations are proposed -- "flood plain channels", "trapezoid channels" and "ravine channels". Stream channels are to be characterized at their points of alteration or diversion, and may be characterized as having one configuration on one bank and another configuration on the opposite bank, depending on its characteristics.

- a. **Flood Plain Channel:** These are channels without a distinct break in slope. If there is no distinct break in slope such as in a broad flood plain, the lesser of a fixed distance (100 feet) from the water line (designated as "A" in figure 1), or a 100 year flood plain boundary, is the stream channel boundary (designated as "B" in figure 1).

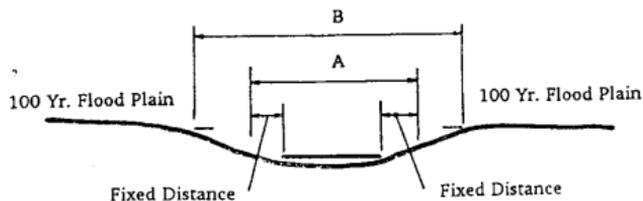


figure 1

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- b. Trapezoid Channel: These are characterized as channels with a distinct break in the slope. The channel boundary is the first break in slope + debris line due to normal flooding (designated as "C" in figure 2); if the debris line is less than the first break in slope then the first break in slope becomes the channel boundary (designated as "D" in figure 2).

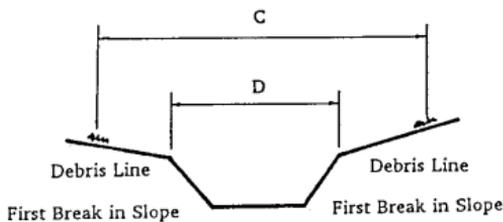


figure 2

- c. Ravine Channel: These are channels with the secondary bank greater than 45 degrees, in which case the channel boundary includes the entire secondary slope.

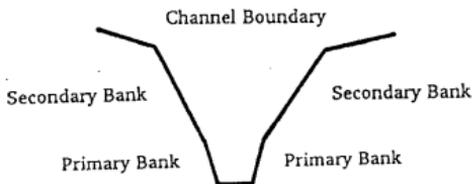


figure 3

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4. Must qualify as an "instream use", not a "non-instream use". The stream must qualify as an instream use as defined in Section 169-2, not "non-instream" use as defined. See Appendix.

Diverted water in man-made structures such as ditches, auwai, or pipelines intended for agricultural, domestic, and industrial uses are "non-instream uses" (13-169-2). Stream channel alteration permits are intended only to regulate "instream uses" (13-169-50), therefore diverted water is not subject to stream channel alteration or diversion works permits. However, modification of diversion structures in such a manner as to increase flow into the diversion beyond amounts allowed under existing permits, is considered to be a diversion modification, therefore subject to stream diversion works permits and flow standard amendment.

Principles and guidelines for instream use protection. The protection of instream uses statewide shall be guided by the following general principles:

- (1) The quality of the stream systems statewide shall be protected and enhanced where practicable. Accordingly, where practicable, streams should be maintained with water sufficient to preserve fish, wildlife, scenic, aesthetic, recreational, and other instream uses, and stream systems should be retained substantially in their natural condition.
- (2) A systematic program of baseline research is recognized as a vital part of the effort to describe and evaluate stream systems, to identify instream uses, and to provide for the protection and enhancement of such systems and uses.
- (3) Recognition shall be given to the natural interrelationship between surface and ground waters.
- (4) In determining flow requirements to protect instream uses or in assessing stream channel alterations, consideration should be given to the maintenance of existing non-instream uses of economic importance and the preservation of stream waters for potential non-instream uses of public benefit.
- (5) In order to avoid or minimize the impact on existing uses when preserving, enhancing, or restoring instream values, the Commission shall consider physical solutions, including water exchanges, modifications project operations, changes in points of diversion, changes in time and rate of diversion, uses of water from alternative sources, or any other solutions.
- (6) Expressions of the public interest should be sought in the implementation of this chapter.

Section 13-169-50

Permit required. (a) Stream channels shall be protected from alteration whenever practicable to provide for fishery, wildlife, recreational, aesthetic, scenic, and other beneficial instream uses. No stream channel shall be altered until an application for a permit to undertake the work has been filed and a permit is issued by the Commission; provided that routine streambed and drainageway maintenance activities and maintenance of existing facilities are exempt from obtaining a permit.

## APPENDIX

### Section 13-169-2

"Continuous flowing water" means a sufficient flow of water that could provide for migration and movement of aquatic life and includes those reaches of stream which, in their natural state, normally go dry seasonally at the location of the proposed alteration.

"Instream use" means beneficial uses of stream water for significant purposes which are located in the stream and which are achieved by leaving the water in the stream. Instream uses include, but are not limited to:

- (1) Maintenance of aquatic life and wildlife habitats;
- (2) Outdoor recreational activities;
- (3) Maintenance of ecosystems such as estuaries, wetlands, and stream vegetation;
- (4) Aesthetic values such as waterfalls and scenic waterways;
- (5) Navigation;
- (6) Instream hydropower generation;
- (7) Maintenance of water quality;
- (8) The conveyance of irrigation and domestic water supplies to downstream points of diversion; and
- (9) The protection of traditional and customary Hawaiian rights.

"Stream" means any river, creek, slough, or natural watercourse in which water usually flows in a defined bed or channel. It is not essential that the flow be uniform or uninterrupted. The fact that some parts of the bed or channel have been dredged or improved does not prevent the watercourse from being a stream.

"Stream Channel" means a natural or artificial watercourse with a definite bed and banks which periodically or continuously contains flowing water. The channel referred to is that which exists at the present time, regardless of where the channel may have been located at any time in the past.

"Non-instream use" means the use of stream water that is diverted or removed from its stream channel and includes the use of stream water outside of the channel for domestic, agricultural, and industrial purposes.