

TECHNICAL NOTE

USDA NATURAL RESOURCES CONSERVATION SERVICE PACIFIC ISLANDS AREA

Water Quality Technical Note No. 7

CANDIDATE STREAMS FOR PROTECTION

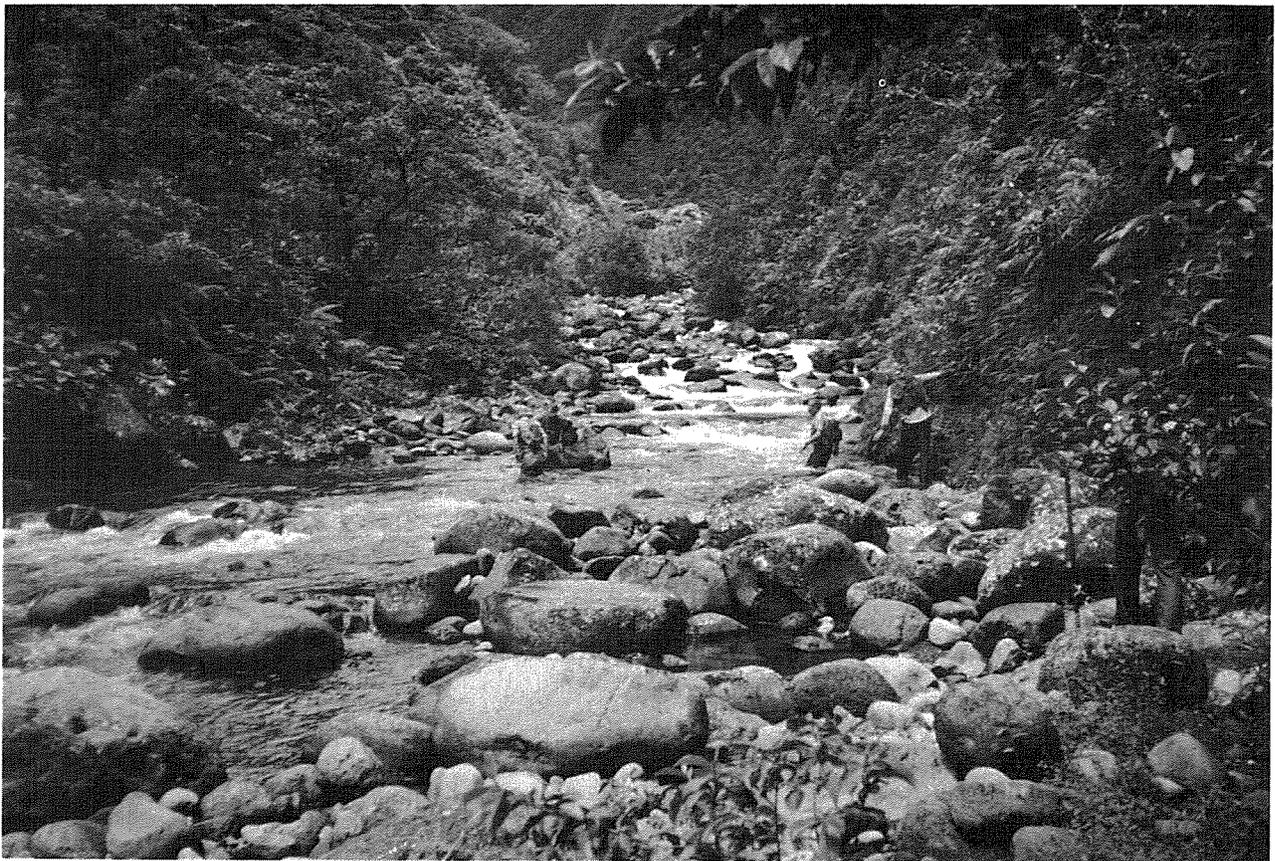
This coversheet transmits a copy of the Candidate Streams for Protection table which lists the streams on your island that met either the diversity of blue ribbon criteria, and thus has been designated a candidate stream for protection.

The table may be used as a reference to complete Water Quality Technical Note No. 1, Water Quality Risk Assessment or for other assessments.

The table came from the publication entitled "Hawaii Stream Assessment - A Preliminary Appraisal of Hawaii's Stream Resources," which was developed by the State of Hawaii, Commission on Water Resource Management and the National Park Service, Rivers and Trails Conservation Assistance Program.

Hawaii Stream Assessment

A Preliminary Appraisal of Hawaii's Stream Resources



A Cooperative Project

The State of Hawaii
Commission on Water Resource Management

The National Park Service
Rivers and Trails Conservation Assistance Program

Hawaii Stream Assessment

A Preliminary Appraisal of Hawaii's Stream Resources

Report R84

Prepared for

COMMISSION ON WATER RESOURCE MANAGEMENT
State of Hawaii

By

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Candidate Streams for Protection



Candidate Streams for Protection

Identification of streams eligible for preservation and protection is the primary mandate of the Hawaii Stream Assessment. There are various ways or combinations of ways to approach the selection of streams for a protection program. The six included here were developed by the study team and others and revised based on public comment.

Approach 1: All Streams with Outstanding Resources

The broadest approach to the selection of candidate streams for protection is to include all those ranked Outstanding in any resource area. This would result in almost half of Hawaii's streams being so identified. The results of this approach are listed in Table 40 Resource Assessment Summary.

Approach 2: Streams with Diverse or Blue Ribbon Resources

A more discriminating approach to the identification of streams for protection is to include streams that meet one of two criteria:

- Diversity of resources
- Blue Ribbon resources

Diversity of Resources

Presence of a diversity of resources as identified by the four resource assessments---Aquatic, Riparian, Cultural, Recreational---should be considered candidates for protection. Those streams which were ranked Outstanding (or, in the case of Recreation, regionally Outstanding) in at least three resource areas are considered high in diversity of resources (Table 40).

Blue Ribbon Resources

Blue ribbon resources stand out among the best in the resource area. The four resource committees generally defined Outstanding broadly, which resulted in a large number of streams ranked Outstanding. The study team further discriminated among these Outstanding streams by using the committee criteria in a more selective way. Although committee information was used, these blue ribbon criteria were not developed by the committee members.

Aquatic blue ribbon resources: The Aquatic Resource Committee considered a stream that met any one of five criteria outstanding: *Lentipes* at least common; spawning by selected native fish (NG1) observed; abundant populations of any one of the four NG1

aquatic species observed; all four NG1 species present; and good native species diversity and habitat. A stream which fulfills any three of these criteria was considered blue ribbon.

Riparian blue ribbon resources: Criteria used by the Riparian Resource Committee included threatened and endangered birds, waterbird recovery habitat, rare plants and communities, protected areas, wetlands and native forest. These resources were rated using a point system. Outstanding streams were those that received 6 or more points. A score of 7 or more was required for riparian blue ribbon stream status.

Cultural blue ribbon resources: Standards used for cultural blue ribbon streams are: very high archaeological sensitivity; over 50 acres of taro; or a combination of predictably high density and sensitivity, many known archaeological sites, taro and historic sites.

Recreational blue ribbon resources: The recreational assessment included camping, fishing, boating, nature study areas, parks, hiking, swimming, and scenic views. The Recreational Resources committee selected those 18 streams which it considered to be of statewide importance based on evaluation by regional committees on each island.

The results of the diversity and blue ribbon approach are shown in Table 1.

Approach 3: Streams with High Quality Natural Resources

Another approach to identifying candidate streams for protection is to consider only natural values, aquatic and riparian resources. Outstanding values in these two resource areas suggest that a stream may be relatively pristine. Eighteen streams meeting these "Kapu" criteria can be identified from Table 1. Since the HSA is based on existing information, exceptional streams with little documentation will be missed by this approach. For example, with further studies, Wailau, on Molokai, and Kahakuloa, on Maui, are likely to qualify as Kapu Streams.

Proposed criteria are:

- Outstanding for Riparian and Aquatic resources

OR

- Blue ribbon Aquatic Resources

Approach 4: Aquatic Resource Districts

There is some evidence that clusters of streams are biologically very important, and may provide values and habitats that single isolated streams do not. Protection of areas which have a high concentration of outstanding streams will provide a larger natural landscape; No attempt has been made to identify such districts.

Approach 5: Free Flowing Streams

Another approach to the identification of outstanding streams is to start with an inventory of free flowing (free of dams, diversions, or channelization) or stream segments (not identified) and protect those with the most outstanding values using any of the above approaches.

Approach 6: National Wild and Scenic Rivers

To be eligible for designation under the federal Wild and Scenic Rivers Act a stream must meet strict standards. Once designated, the streams are afforded substantial protection from federal actions that is not possible through state action alone. Hawaii's streams might be reviewed for eligibility and possible nomination.

Table 1 Candidate Streams for Protection

(Approach 2 Results: Streams that met either the diversity or blue ribbon criteria)

Code HSA Stream Code Island-Hydrographic Unit-Stream
Stream Stream Name

Diversity of resources: To meet diversity criteria a stream must be outstanding in 3 or more resource areas

Aq Aquatic
Cu Cultural
Rc Recreation
Rp Riparian

Blue Ribbon Resources: The few very best resources

Aq Aquatic: Met 3 out of 5 criteria for outstanding
Cu Cultural: Very high sensitivity, high density, predictability and sensitivity, or over 50 acres of taro cultivation.
Rc Recreation: Statewide outstanding streams
Rp Riparian: Met score of 7.

CODE	STREAM	DIVERSITY	BLUE RIBBON
Kauai			
2-1-04	Kalalau	AqCuRc	AqCu
2-1-07	Hanakoa	AqCuRc	
2-1-10	Hanakapiai	AqCuRc	AqCuRc
2-1-11	Maunapuloa	AqCu	AqCu
2-1-14	Wainiha	AqCuRc	Aq
2-1-15	Lumahai	AqRpCu	AqRp
2-1-18	Waioli	Rc	Rc
2-1-19	Hanalei	AqRpCuRc	AqRpCuRc
2-2-08s	Wailua S.	RpCuRc	RpCuRc
2-2-15	Huleia	AqRpRc	Rp
2-3-07	Hanapepe	RpCuRc	
2-4-04s	Waimea S.	RpCuRc	RpRc
2-5-16	Nuaololo	AqRpCuRc	Rp
Oahu			
3-1-18	Kahana	AqRpCuRc	CuRc
3-2-13	Maunawili	RpCuRc	Cu
3-4-02	Halawa	Cu	Cu
3-5-05	Kaupuni		Cu
3-6-04	Makalaha		Rp
3-6-06s	Kiikii S.		Rc
Molokai			
4-1-01	Waihanau	Cu	Cu
4-1-03	Waikolu	AqRc	Aq
4-1-09	Pelekunu	AqRpCuRc	AqCu

CODE	STREAM	DIVERSITY	BLUE RIBBON
4-1-15	Wailau	AqCuRc	CuRc
4-1-21	Halawa	AqCuRc	AqCuRc
4-2-04	Waialua	CuRc	Rc
Mau			
6-2-07	Waihee	AqCuRc	CuRc
6-2-08	Waiehu		Cu
6-2-09	Iao	Rc	Rc
6-2-10	Waikapu		Rp
6-4-11	Piinaau	AqRpRc	AqCu
6-4-18	Waiohue Gl.	RcAq	Aq
6-4-22	Hanawi	AqRpRc	AqRp
6-5-13	Oheo Gl.	AqRpRc	AqRc
6-5-24	Manawainui	AqCuRc	
Hawaii			
8-1-11	Halawa	Cu	Cu
8-1-15	Pololu	RpCuRc	RpCu
8-1-16	Honokane Nui	CuRc	Rc
8-1-35	Waimanu	RpCuRc	RpCuRc
8-1-44	Wailoa/Waipio	AqRpCuRc	RpCu
8-1-45	Lalakea	AqCu	CuRc
8-2-33	Kolekole	AqRc	Rc
8-2-56	Honolii	AqRpRc	Aq
8-2-60	Wailuku	RpRc	Rc
8-5-03	Waikoloa	Cu	Cu

Candidate Streams for Protection

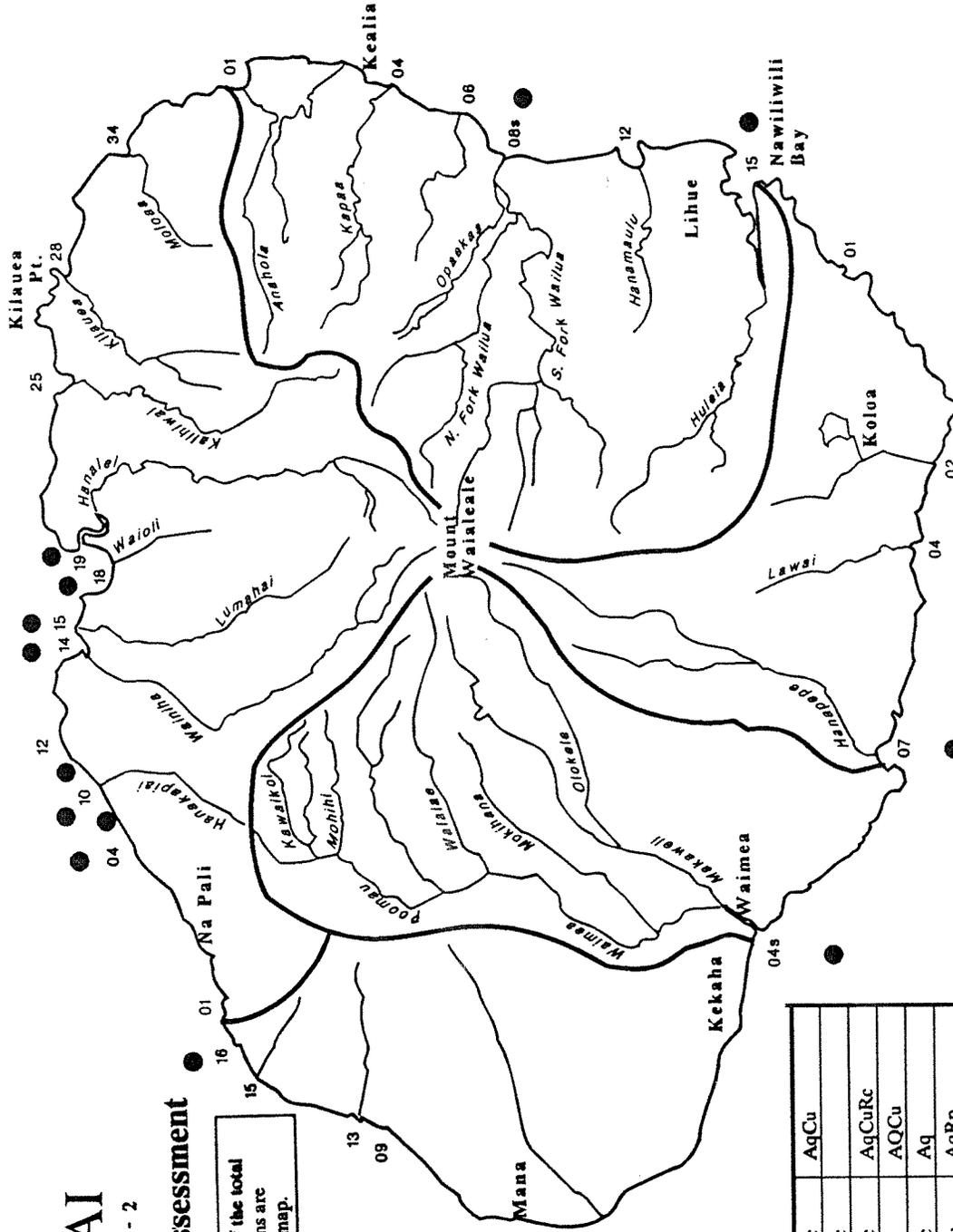
Map 8

KAUAI

Island Code - 2

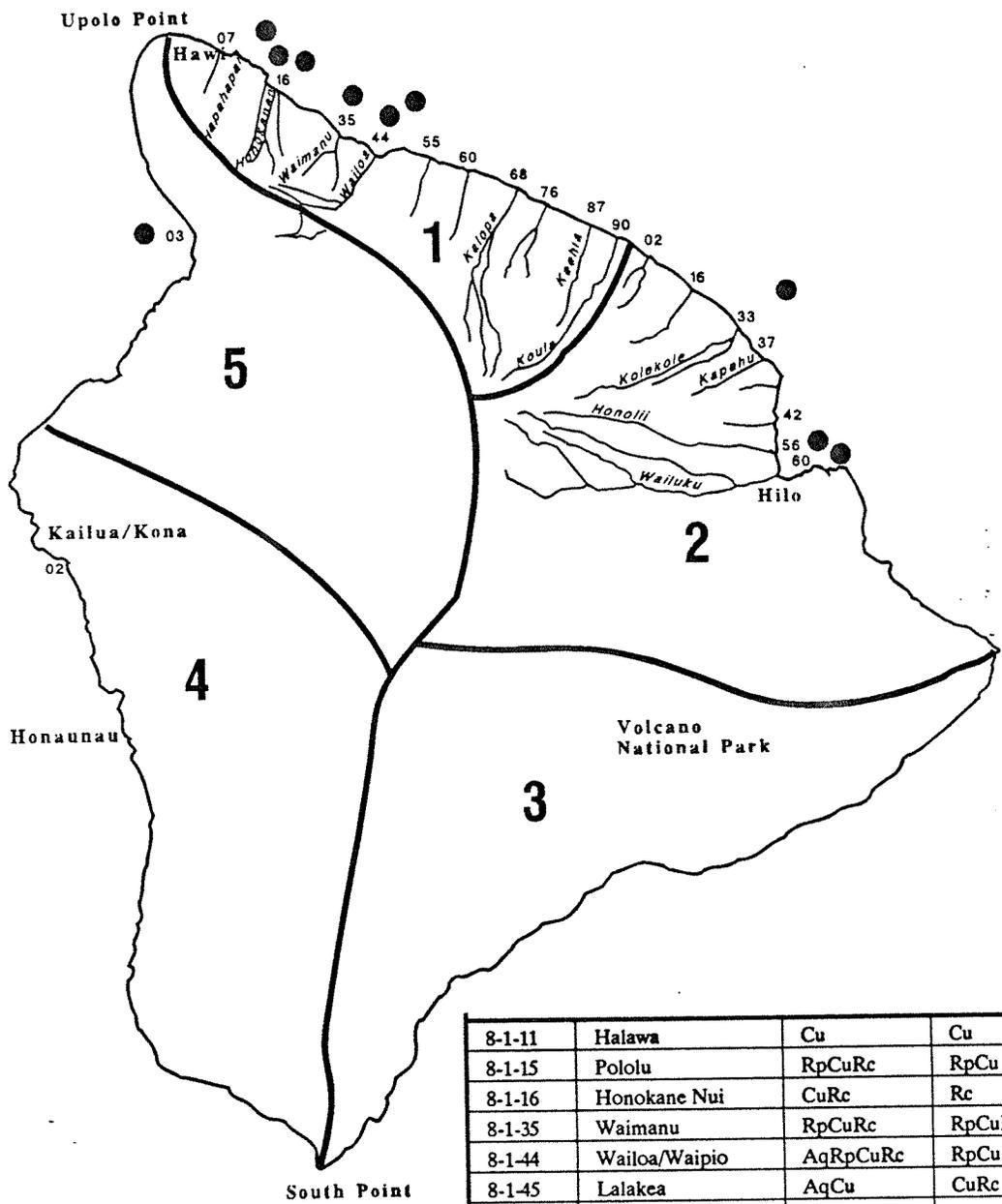
Hawaii Stream Assessment

Note: Only a portion of the total number of streams are depicted on this map.



2-1-04	Kalalau	AqCuRc	AqCu
2-1-07	Hanakoa	AqCuRc	AqCuRc
2-1-10	Hanakapiai	AqCuRc	AQCu
2-1-11	Maunapuloa	AqCu	Aq
2-1-14	Waihiha	AqRc	AqRp
2-1-15	Lumahai	Rc	Rc
2-1-18	Waioli	AqRc	AqRpCuRc
2-1-19	Hanalei	RpCuRc	RpCuRc
2-2-08s	Wailua S.	AqRpRc	Rp
2-2-15	Huleia	RpCuRc	RpRc
2-3-07	Hanapepe	RpCuRc	RpRc
2-4-04s	Waimea S.	AqRpCuRc	Rp
2-5-16	Nualolo		

Map 8 Candidate Streams for Protection



8-1-11	Halawa	Cu	Cu
8-1-15	Pololu	RpCuRc	RpCu
8-1-16	Honokane Nui	CuRc	Rc
8-1-35	Waimanu	RpCuRc	RpCuRc
8-1-44	Wailoa/Waipio	AqRpCuRc	RpCu
8-1-45	Lalakea	AqCu	CuRc
8-2-33	Kolekole	AqRc	Rc
8-2-56	Honolii	AqRpRc	Aq
8-2-60	Wailuku	RpRc	Rc
8-5-03	Waikoloa	Cu	Cu

HAWAII
Island Code - 8

Hawaii Stream Assessment

Note: Only a portion of the total number of streams are depicted on this map.