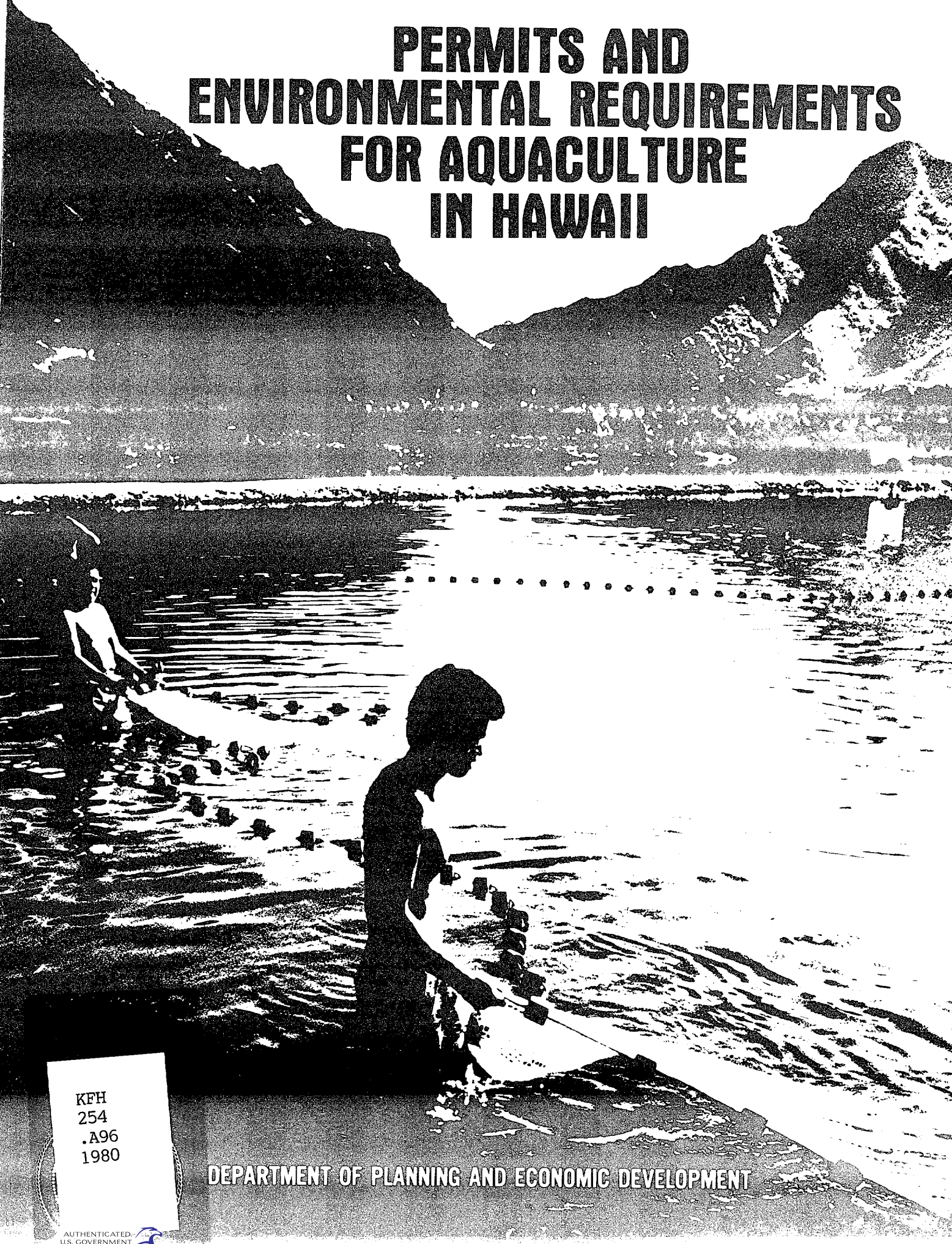
PERMITS AND ENVIRONMENTAL REQUIREMENTS FOR AQUACULTURE IN HAWAII



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DEPARTMENT OF PLANNING AND ECONOMIC DEVELOPMENT

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PERMITS AND ENVIRONMENTAL REQUIREMENTS FOR AQUACULTURE IN HAWAII

(REVISED JANUARY 1980)

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AQUACULTURE DEVELOPMENT PROGRAM
DEPARTMENT OF PLANNING AND ECONOMIC DEVELOPMENT
STATE OF HAWAII

This report has been catalogued as follows:

Brewer, William A.
Permits and environmental requirements for aquaculture in Hawaii. Rev. Honolulu: Aquaculture Planning Program, Dept. of Planning and Economic Development, Jan. 1980.

1. Aquaculture—Law and legislation-Hawaii. 2. Commercial law-Hawaii. I. Hawaii. Department of Planning and Economic Development. SH325.H3H28. 1980. (x fr. Hawaii. Aquaculture Planning Program)

RED TAPE VERSUS GREEN LIGHT

by Governor George R. Ariyoshi

It is often the complexity of today's society which discourages citizens from becoming entrepreneurs. It is not that we are incapable of hard work or of solving intricate problems, or of being innovative and creative. It's simply that very often the anticipated gains are simply not worth the cost in time and effort to overcome institutional barriers.

The growth in government red-tape—permits and approvals required, officials to see, hearings to be held, forms to be filled out, studies to be done, statements to be filed—has been discouraging to everyone who confronts the tangle. Red tape is often the result of society's laudable desire to protect its citizens and environment. We see a crime committed against the environment, and we pass strict laws or regulations to prevent similar crimes. In the process, we handcuff desirable activities.

The growth in governmental red-tape has been insidious. It has grown on every level—Federal, State, and County. The first step towards cutting red tape is recognition of the problem. *Permits and Environmental Requirements for Aquaculture in Hawaii*, published in June, 1977, provided just such recognition—recognition that has since encouraged initiation of major regulatory reforms at the State and County levels. Since the publication of this document, our Administration, County governments and the Legislature have worked together to streamline a number of permit and review procedures which once were an unnecessary and costly burden to aquaculture. In Hawaii, aquaculture has clearly been given the green light.

The revised volume encompasses a description of present (1980) permit, review and legal procedures, including recent regulatory changes or amendments which have, in many instances, placed aquaculture in a more favorable regulatory position. It also examines unresolved issues and proposed regulations whose implementation appears to be imminent and which may present additional constraints to aquaculture development initiatives.

Through State-supported research and development activities spanning nearly two decades, Hawaii has emerged as a national leader in aquaculture planning and development. The commitment of the State to aquaculture is no more clearly evident than in the scope and thoroughness of this 1980 revision to *Permits and Environmental Requirements for Aquaculture in Hawaii*. It is an excellent working document for government officials as well as private entrepreneurs and investors planning to enter Hawaii's youngest and fastest growing industry.

FOREWORD

This publication is a major revision of our Department's pioneering report, *Permits and Environmental Requirements for Aquaculture in Hawaii*, published in June, 1977. The new volume, like its predecessor, was compiled primarily for those wishing to establish aquaculture ventures in Hawaii.

The first report focused public attention on regulatory problems and subsequently produced positive actions that led to regulatory reforms. This new version provides a comprehensive background on the evolution of existing laws and regulations as they relate to regulatory controls in Hawaii today. The book also answers questions often posed by potential aquaculturists and gives them a practical working document to develop their projects.

Some government regulation is essential to protect the public and to prevent abuse of public trust in business enterprises. Such regulation—in moderation—is good for business as well as for the whole community. But when controls strangle enthusiasm for an honest profit in an honorable and environmentally compatible enterprise, there is something seriously wrong.

While we have made significant progress in simplifying the permit system, much red tape remains. The momentum generated by the original *Permits and Environmental Requirements for Aquaculture in Hawaii* must be maintained if Hawaii is to continue to offer new and diversified business opportunities, such as aquaculture, and encourage private investment in the State. By holding the spotlight on present permit and review requirements and outlining the process, we are better able to refine and reform the permit system. This new document is the logical next step in Hawaii's continuing efforts to encourage aquaculture development.

Hideto Kono, Director
State Department of Planning and
Economic Development

ACKNOWLEDGMENTS

This revised report was written by William A. Brewer, Aquaculture Specialist, Aquaculture Development Program, Department of Planning and Economic Development. Justin Rutka and Linden Burzell were the principal authors of the original 1977 publication; this revised edition is based on their good work.

Many persons in the public and private sectors graciously took time to review early drafts of the manuscript. John S. Corbin, Manager, Aquaculture Development Program, provided overall guidance. C. Richard Fassler, Steven Lee, and Howard Co offered constructive comments and suggestions. Jenny Quezon and Fay Yotsuji deserve special commendation for their patience and perseverance in manuscript typing and preparation.

PREFACE

Aquaculture is a new and dynamic growth industry. Its potential for reducing Hawaii's dependence on seafood imports and for expanding exports can add to and diversify the State's economic base. Expansion of the industry depends on a number of factors: identification and assessment of economic opportunities; solution of various technical problems; identification and availability of suitable sites; availability of necessary financing; establishment of accessory support goods and services; and perhaps most significantly, strengthening of the State government's support of aquaculture development and expansion.

Modern aquaculture in Hawaii is in its infancy, having a history of less than 17 years. As such, the relationships of government regulatory programs to aquaculture development have not been extensively studied and ascertained. A few previous reports, notably Gordon Trimble's *Legal and Administrative Aspects of an Aquaculture Policy for Hawaii, an Assessment* (1972), and John Corbin's *Aquaculture in Hawaii, An Assessment of Progress, Resources and Organization* (1976), identified and discussed a partial array of legal requirements for aquaculture endeavors.

Permits and Environmental Requirements for Aquaculture in Hawaii (1977), originally published by the Center for Science Policy and Technology Assessment, Department of Planning and Economic Development, provided an analysis of the often redundant and overlapping Federal, State and County laws applicable to aquaculture development in Hawaii. This document, the first of its kind in the State and perhaps the Nation, provided the impetus for a major regulatory reform movement in Hawaii that has vastly simplified certain permit and review procedures.

In recognizing the need for the preservation of coastal resources, while at the time assuring that coastal-dependent development can occur expeditiously, the Hawaii Coastal Zone Management Program published *A Register of Government Permits Required for Development* in December, 1977. The goal of this publication was to encourage government agencies and the public to consolidate and streamline the development-review process so that governmental red tape can be eliminated without compromising Hawaii's environmental quality.

Concurrent with State recognition of the importance of aquaculture as a major growth industry has been a growing national recognition of aquaculture as an economically viable activity and one compatible with environmental quality. This growing recognition at the Federal level has resulted in many recent regulatory changes which have clearly accelerated the growth of the industry in the United States. Among the major national actions is a study being administered by the President's Joint Subcommitte on Aquaculture to determine the regulations which apply to aquaculture activities, and to determine if these regulations can be streamlined. The State of Hawaii has been selected as one of 10 states to be used as case studies.

The purpose of this revised report is twofold. First, it is intended to inform prospective entrepreneurs of the number and cost of permits required for various types of commercial aquaculture. Second, to keep pace with regulatory changes, the report identifies certain issues which are affecting aquaculture development, and proposed regulations with the potential for affecting such development. Informed input into these issues and regulations from Hawaii's aquaculture community is essential to prevent new constraints to the development of the industry.

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CHAPTER I

MAJOR LEGAL BASES AND JURISDICTIONAL ARRANGEMENTS

Introduction

This chapter provides an overview of the major Federal and State laws and regulations that have a direct bearing on aquaculture uses of lands and waters. It is not a definitive treatment of the full body of laws covering all possible aquaculture activities and situations. Rather, it is a primer containing a description of the major laws on which government permits and review procedures over aquaculture projects are presently based. The relationships of the various laws to each other are discussed to provide an understanding of data requirements, bureaucratic review systems, and the occasionally redundant or overlapping Federal, State and County agency responsibilities and authorities. Special County and City ordinances dealing with building permits, structural standards, building codes, zoning requirements and other minor permits, inspections, or review procedures that are attendant with any type of residential or commercial development have been omitted.[1]

The seemingly lengthy web of legal and scientific complexities resulting from the various regulatory permits and review procedures discussed in this section should not be interpreted as representing the normal list of requirements or actions for entering the aquaculture industry in Hawaii. While regulatory actions for proposed aquaculture operations on submerged lands on lands immediately adjacent to the shoreline can be formidable, sound site selection guidelines, combined with preliminary discussions with County, State, and Federal officials, can greatly reduce the cost and time required. While future mariculture (saltwater aquaculture) operations may dictate proximity to coastal waters, most existing freshwater and brackish-water aquaculture operations, including those now under development, have been located away from sensitive coastal ecosystems and have been implemented with a minimum of regulatory red tape, time and financial outlays. Thus, careful project planning at the conceptual stages of project development can insure prompt and responsive agency actions and a minimum of project delay.

A. State Land Use Law (Chapter 205, Part I, HRS)

Jurisdiction

Hawaii adopted a landmark Land Use Law in 1961 which established the State Land Use Commission and charged the Commission with classifying all land, public and private, into one of four districts: Urban, Agricultural, Rural and Conservation. The law specified

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[1] Building permits are regulated by the respective Counties. County filing and review procedures are adopted by local ordinances but must be in compliance with appropriate Federal, State or County codes, regulations and ordinances. This permit system assures conformity with County General Plans and the County Comprehensive Zoning Code. A building permit is generally required to construct, enlarge, alter, repair, move, improve, remove, convert or construct any building or structure, and for most activities involving electrical work, plumbing, gas lines and water supply and drainage systems.

general requirements for land classification to guide the Commission in its land districting function. It gave the Counties power to enact stricter regulations and to zone land within the Urban, Agricultural and Rural districts. The State Department of Land and Natural Resources regulates uses in the Conservation districts.

In addition to the Land Use Commission and the Department of Land and Natural Resources, the Counties are greatly involved with the administration of the law. Land uses within Urban districts are administered solely by the Counties. In Agricultural and Rural districts, land uses are administered jointly by the Counties and the Land Use Commission. On request to the County Planning Commission of the County in question, certain "unusual reasonable uses" may be allowed in Rural and Agricultural districts, even though such uses may not be permitted by Land Use Commission regulations. However, approval of both the County Planning Commission and the Land Use Committee is required. The Land Use Commission can approve or deny, or approve with modifications, special uses within Agricultural and Rural Districts after they have been reviewed and recommended for implementation by County Planning Commissions.

Permitted Uses in Land Use Districts

Agricultural. Agricultural districts generally include lands with a high capacity for intensive cultivation. Agricultural lands are primarily used for cultivation of sugarcane, pineapple, diversified crops, for cattle grazing, and forestry. Uses compatible with the minimum requirements established by the Land Use Law are permitted. The minimum lot size in Agricultural districts is determined by each County through its zoning ordinance, agriculture land area regulations, or other lawful means, but the minimum lot size cannot be less than one acre. The raising of fish or other animal or aquatic life for economic or personal use is within the range of permissible uses for agricultural lands as specified by a 1976 amendment (Act 199) to the Land Use Law.

Rural. Rural districts were established to allow small, part-time farming and to include the occupant's residence. The minimum lot size for any low density residential use is one-half acre, and there can be but one dwelling on a lot. Low density residential uses, public or quasi-public utility facilities, and agricultural uses are permitted under the terms of the Land Use Law. Culturing of aquatic organisms is generally defined as a permissible use in Rural districts.

Conservation. Conservation districts were established primarily to protect watersheds and water supplies; preserve scenic and historic areas; provide parkland, wilderness and beach reserves; and conserve endemic forestry and related activities. Undeveloped areas subject to flooding, erosion, tsunami inundation, and other hazards are generally included within Conservation districts. Offshore submerged lands under State jurisdiction and near-shore lands beneath tidal waters are also included in the Conservation district land use classification.

Conservation district lands (and waters) are further divided into one of four different subzones, each with its attendant permitted uses and nonconforming uses as defined by the Department of Land and Natural Resources. The divisions include Protective (P), Limited (L), Resource (R) and General (G) subzones. The objective of the Protective (P) subzone is to protect valuable resources in such designated areas as restricted watersheds; fish, plant and wildlife sanctuaries; significant historic, archaeological, geological and volcanological features and sites; and other designated unique areas. Limited (L) subzones are defined as those areas where natural conditions (floods, tsunamis, erosion, etc.) suggest constraints on human activities. Resource (R) subzones are designated as those areas where with proper management, sustained use of natural resources of such areas can be

ensured. The objective of the General (G) subzone is to designate open space where specific conservation uses may not be defined, but where urban use would be premature. Regulation No. 4 of the Department of Land and Natural Resources, effective June 4, 1978, specifically identified aquaculture as a permitted use within both Resource (R) and General (G) subzones of Conservation districts.

Urban. Urban districts include lands presently in urban use with sufficient reserve areas of undeveloped land to accommodate foreseeable urban growth. Zoning for any use in Urban districts rests solely with the Counties. Permitted classes of use can range from preservation and diversified agriculture to concentrated urban and industrial development.

Summary of Jurisdictional Arrangements

The State Land Use Law gave the State Land Use Commission authority to establish district boundaries, assigned the Counties sole control over uses in the Urban districts, and gave the Counties and the State Land Use Commission shared control over deviation from permitted uses in Rural and Agricultural districts. The recently adopted Hawaii Coastal Zone Management Act, Chapter 205A, Hawaii Revised Statutes as amended (formerly the Shoreline Protection Act), has given the Counties land use control powers in the Special Management Areas (SMA's) abutting the shorelines. The Department of Land and Natural Resources has retained sole control over land uses inland of County SMA's and has shared control with the Counties over proposed uses in Conservation-zone Special Management Areas.

Boundaries. Boundaries of any of the four districts may be changed by the Land Use Commission through a petition and through a quasi-judicial public hearing process, giving consideration to the respective County General Plans. It is important to note that County general planning may, and does, extend beyond the Urban district boundaries.

County Zoning Ordinances

The Land Use Law, then, is a "broad-brush" zoning measure exercised at the State level of government. "Fine-brush" zoning is exercised at the County level. Land uses, other than in Conservation districts, as previously noted, are guided by the general plans of the respective Counties and are governed by their zoning ordinances. Discussion of County Comprehensive Zoning Ordinances falls beyond the scope of this report. Suffice it to say that County Planning and Land Utilization Departments have been helpful in providing zoning information to prospective aquaculturists.

This, then, is the general governing framework of land use control powers in Hawaii. Control over all land uses, including aquaculture, falls within this division of State and County authority. With the exception of the Hawaii Coastal Zone Management Act and Regulation No. 4 of the Department of Land and Natural Resources, specific reference to the term "aquaculture" is scarce in State Law and County general plans and ordinances.

Many aquaculture activities must, by their nature, be concentrated near the shoreline. It is here that the requirements governing land and water use are most complex.

B. Shoreline Setback Variance (Chapter 205, Part II, HRS)

Jurisdiction

The 1970 Shoreline Setback Law directed the State Land Use Commission to establish setbacks inland of the shorelines of not less than 20 feet and not more than 40 feet for the purpose of minimizing man-induced impacts on natural shoreline processes. This law allows the Counties to establish setbacks at a greater distance than that established by the Commission and to adopt rules and regulations to enforce the law's provisions. County planning departments on Kauai, Maui, and Hawaii, and the Department of Land Utilization on Oahu, are assigned responsibility to administer and enforce the law.

Variances

The law, in essence, prohibits commercial removal of sand and other beach materials and the placement of structures within the narrow setback zone. It does, however, provide a variance procedure whereby permission may be granted for a proposed structure, activity, or facility, provided that an applicant can demonstrate that (1) it is in the public interest, or (2) that hardship will be caused to the applicant by denial. Section 205-36, HRS, provides a general exemption for aquaculture or mariculture facilities within the Shoreline Setback Area. However, the Planning Commissions on the Neighbor Islands and the City Council on Oahu can approve, deny, or approve with condition(s), proposed uses within the setback area after a required public hearing.

Administration

There are several grey areas with respect to the administration of the law. The language of the stature does not exclude Conservation-zoned setback lands from the domain of County regulations, while the Land Use Law adopted earlier explicitly states that ". . . Conservation districts shall be governed by the Department of Land and Natural Resources. . . ." Therefore, in addition to securing a variance from the respective County authority, an applicant is required to obtain a Conservation district use permit from the State Department of Land and Natural Resources.

While the statute instructs the Counties to review the plans of "all applicants who propose any structure, activity, and facility which would otherwise be prohibited," the terms "structure," "activity," and "facility" are not defined. The implementing rules and regulations of the Counties clarify the scope of the statute by making a more extensive set of defined actions subject to County control. The language of the statute is general, thus leaving room for administrative interpretation.

Shoreline Area

The shoreline area to which County setback regulations apply is limited to 20 or 40 feet inland of the "shoreline," which is defined as meaning "the upper reaches of the wash of waves, other than storm and tidal waves, usually evidenced by the edge of vegetation growth, or the upper line of debris left by the wash of waves."

An aquaculture operation (facilities, structures, and activities) within the setback area could very likely extend seaward of the shoreline. Construction, improvements, dredging and filling, and other such aquaculture-related activities seaward of the shoreline are not subject to County setback rules and regulations. County jurisdiction stops at the shoreline. Thus, State and Federal agency approval must also be secured for any seaward

extension of an aquaculture project or activity. Similarly, activities or structures extending inland of the setback area could also require separate review by State agencies who may have jurisdiction in the landward domain. Finally, County review and approval over activities and structures confined solely within the setback area do not limit the authority of other agencies which may have jurisdiction therein.

C. State Permit for Work within Shores and Shorewaters (Chapter 266, HRS)

Jurisdiction

The Harbors Division of the State Department of Transportation has substantial authority over aquaculture-related activities within shores and shorewaters of the State. Dredging, filling, construction, placement of structures, and dumping of materials below the mean high watermark and in all navigable waters (including navigable portions of streams) are among classes of activities that are subject to permit regulation by the Department of Transportation.

Activities on shorelands above the mean high watermark, which are now or may in the future be encumbered by easements in favor of the public for bathing or for foot passage, are 'ikewise subject to control and management under the language of Chapter 266.

Some examples of structures necessary for salt and freshwater aquaculture are net enclosures, cages, rafts, and hardware for pumping water. Such structures can readily be interpreted as falling within the general language of the statute (Section 266-16, HRS) governing limitations of private use of shores and shorewaters.

D. Federal Permit for Work in Navigable Waters (Section 10 of the 1899 Rivers and Harbors Act [33 U.S.C. 403]; Clean Water Act of 1977 [33 U.S.C. 1344]–formerly the Federal Water Pollution Control Act of 1972, as Amended)

Jurisdiction

Dredging and filling, construction, extension of piers, wharves, and other works within coastal waters, and ocean dumping of dredged material are activities subject to the authority of the U.S. Army Corps of Engineers. A permit requirement applies to virtually any construction within navigable waters, or construction or operation of facilities which result in any discharge into waters that may affect the waters' navigability.

Navigable waters have traditionally been defined as coastal waters subject to inundation, up to the mean high tide line. Under Section 404 of the Federal Water Pollution Control Act of 1972, as amended (now the Clean Water Act of 1977), and under a series of Federal court decisions, the interpretation of navigability has been considerably broadened to include virtually all water areas. Thus, inland ponds, streams, marshes and other wetlands are considered to be technically navigable. Dredging and filling activities within such areas are regulated by the Corps of Engineers.

Permit

The standard mechanism employed by the Corps in its regulatory program is the permit. The District Engineer may authorize work by letters of permission, but only if

(1) the work is judged to be minor, (2) will not result in significant environmental impacts, and (3) does not encounter opposition. Letters of permission cannot be used to authorize the discharge of dredged or fill material into navigable waters or the transportation of dredged material for dumping into ocean waters. Actions generally subject to these categories require application for a formal permit, possibly requiring preparation of a Federal environmental impact statement, as well as a public hearing.

Additional Approvals

Diversion, impoundment, or modification of streams and wetlands are activities which can require consultation with the U.S. Fish and Wildlife Service (Department of the Interior), National Marine Fisheries Service (Department of Commerce), and the State Fish and Game Division (Department of Land and Natural Resources) as a condition precedent to granting of a Corps of Engineers' permit for such activities. Moreover, approval for dredging, filling, construction, and modification of navigable waters will not be granted by the Corps until all applicable local (State and County) permit and review requirements have been satisfied.

Thus, last-stop approval for aquaculture projects within or affecting U.S. navigable waters rests with the Corps of Engineers. The authority of the Corps over projects in the coastal zone can, however, be affected by the State's Coastal Zone Management Program. Projects subject to Federal licenses or permits will need State certification of "consistency" with the Hawaii Coastal Zone Management Act before issuance of a permit.

E. Conservation District Use Permit (Chapters 205, 171, and 183, HRS; and Regulation No. 4 of the Department of Land and Natural Resources)

Jurisdiction

Under State Land Use Commission regulations, the beach area seaward of the maximum inland line of wave action, marine waters, shoreline fishponds, and tidepools are included within the Conservation district. Submerged lands extending to the limit of the State's jurisdiction are also placed within the Conservation district. Aquaculture operations dependent on the use of salt water would clearly fall under the regulatory control of the Department of Land and Natural Resources (DLNR). Fresh and brackish water aquaculture operations falling within inland areas of the Conservation district are also subject to DLNR regulation.

Requirements

Aquaculturists proposing to use Conservation district lands and waters must apply to the Board of Land and Natural Resources in writing. Permitted uses within Conservation district subzones are governed by Regulation No. 4 of the Department of Land and Natural Resources. Applicants must submit maps identifying the site of proposed use, a sufficient description of the plan and a schedule of activities, environmental conditions of the property, and other information pertinent to project evaluation, including an environmental impact statement when project impacts are determined to have a significant effect on the environment. The Board of Land and Natural Resources can deny, approve, or approve with conditions, proposed uses within Conservation district lands and waters.

Aquaculturists proposing to make use of lands and waters in the Conservation district within the Special Management Areas (SMA's) of the Counties must first receive approval from the SMA authority of the respective County and then approval from the Board of Land and Natural Resources. Activities and impacts of an aquaculture project extending

seaward of the maximum advance of waves are subject to evaluation and approval by the U.S. Army Corps of Engineers, Department of Transportation, and the State Department of Health. As previously noted, the two former agencies have concurrent jurisdiction over navigable waters, and the latter has jurisdiction over water quality.

Since January 1, 1978, permit application procedures for Conservation District Use Permits and Department of Transportation permits (for work within shores or shorewaters of the State) have been integrated into a single permit system. Under the consolidated system, only a Conservation District Use Permit Application need be submitted to the Department of Land and Natural Resources for a proposed development in shorewaters.

Aquaculture activities in Conservation districts inland of the County-established Special Management Area are governed by the Department of Land and Natural Resources and are generally subject to the consistency provisions of the Hawaii Coastal Zone Management Act. However, as a matter of courtesy, the Board of Land and Natural Resources consults with the respective County planning departments to determine whether the proposed use is in conformity with the County General Plan.

F. State Environmental Quality Control (Chapter 343, HRS; and Environmental Quality Commission Regulations for Environmental Impact Statements)

Applicability

Prior to 1974, only State agency actions were subject to Environmental Impact Statement (EIS) requirements through Executive Order. With the adoption of the "Environmental Impact Statement Law" of 1974, EIS applicability was extended to include State, County, and private actions as well. Uses of lands and waters that require application for State and County permits are specifically subject to EIS requirements where proposed actions fall within the following categories (assuming significant effect on the environment): (1) all actions proposing the use of State or County lands or funds; (2) all actions proposing any use within any lands and waters classified as Conservation district, whether in public or private ownership; (3) all actions proposing any use within the shoreline setback area; (4) all actions proposing any use within any historic site listed in the *National Register of Historic Places* or the *Hawaii Register* (some fishponds fall into this category); and (5) all actions proposing any amendment to existing County general plans where such an amendment would result in designations other than agricultural, conservation, or preservation. Aquaculture projects falling within any of the above categories and having a significant effect on the environment will generally require preparation of an EIS.

Jurisdiction

State Environmental Quality Commission regulations grant decision-making authority concerning the necessity of an EIS to the first agency receiving a project approval application. The receiving agency has 30 days from the request date to make a determination. No time limits are set on the process of EIS preparation on the part of the applicant. A period of not greater than 60 days is allowed for EIS review by private interests and affected agencies, applicant response to review comments, and a decision on the part of the agency receiving the initial request for project approval on whether or not the EIS is acceptable. Agency acceptance of an EIS does not indicate that a proposed project will be approved. It merely means that foreseeable impacts have been identified and adequately studied.

If approval is simultaneously sought from more than one agency and the agencies involved are unable to determine which of them has the responsibility for complying with the law, the Environmental Quality Commission is directed to make such determination following consultation with agencies involved. An EIS that is required and approved with respect to a particular project precludes the possibility of separate EIS preparation at each permit request stage.

In the case of aquaculture proposals falling within Shoreline Setback Areas, EIS determination and acceptance rests with the authority of the respective County. With respect to aquaculture projects within Conservation district lands located inland of the County-established Special Management Areas, the decision on requiring an EIS, or issuing a negative declaration (an agency determination that an EIS is not required) is the responsibility of the Department of Land and Natural Resources. For aquaculture uses seaward of the shoreline, EIS determination is the responsibility of the first agency approached for a permit. This could be the Harbors Division of the Department of Transportation, the Department of Land and Natural Resources, or the Department of Health. For example, an EIS could be required to satisfy permit requirements of the Department of Health for aquaculture effluent discharges into navigable waters.

G. National Environmental Quality Control (National Environmental Policy Act of 1969 [NEPA], Public Law 91-190 [42 U.S.C. 4321 et seq.); Council on Environmental Quality Guidelines [40 C.F.R. 1500]; Executive Order 11514 of March 5, 1970, Protection and Enhancement of Environmental Quality, as Amended by Executive Order 11991 of May 24, 1977)

The National Environmental Policy Act

The National Environmental Policy Act of 1969 was implemented by Presidential Executive Order 11514 on March 5, 1970. NEPA declared a strong national policy directed to preservation of the natural environment and focused attention on implementation of programs designed to encourage environmental protection and enjoyable harmony between man and his environment.

Council on Environmental Quality

The Act also established a Council on Environmental Quality (CEQ) within the Executive Office of the President to promulgate guidelines on the preparation of environmental impact statements on proposals for legislation and other major Federal actions significantly affecting the quality of the human environment. For the purposes of the Act, an environmental impact statement was defined as "a report which identifies and analyzes in detail the environmental impacts of a proposed action and feasible alternatives." It also directed the CEQ to be "conscious of and responsive to the scientific, economic, social, aesthetic and cultural needs and interests of the nation; and to formulate and recommend national policies to promote the improvement of the quality of the environment."

Original NEPA guidelines promulgated by the CEQ attempted to ensure that environmental information was made available to public officials and citizens before decisions are made and before actions are taken. Unfortunately, CEQ Guidelines focused on the statutory requirements and scientific content of environmental impact statements and tended to ignore important provisions for agency planning and decision-making. Consequently, the EIS became an end in itself, rather than a means to making better and more informed decisions. Similarly, the EIS process often failed to establish the link between

what is learned through the NEPA process and how the information can contribute to decisions which further stated national environmental policies and goals.

Executive Order 11991

To correct these problems, the President issued Executive Order 11991 on May 24, 1977, which amended Executive Order 11514, directing the CEQ to issue regulations implementing the full intent of NEPA. In accordance with this directive, the CEQ issued Final Regulations which were published on November 29, 1978 (Federal Register Vol. 43, No. 230, 55978-56007) and became effective on July 30, 1979.

The final regulations are binding on all Federal agencies and provide uniform standards applicable throughout the Federal government for conducting environmental reviews (the new Regulations replaced some seventy different sets of agency regulations and encompassed over 340 separate amendments). The regulations also established formal guidance from the CEQ on the requirements of NEPA for use by the courts in interpreting the law. The new regulations address all nine subdivisions of Section 102(2) of NEPA, rather than just the EIS provisions covered by the former CEQ Guidelines. Perhaps most important, they are designed to streamline EIS preparation and review processes, reduce paperwork, minimize accumulation of extraneous background data, and emphasize the need to focus on real environmental issues and alternatives.

New NEPA EIS Provisions

The new NEPA Environmental Impact Statement regulations represent a timely and sorely needed revision which will alleviate a great deal of the cost, time, data requirements and bureaucratic delays associated with past EIS review procedures. Among the most significant of these are the following:

1. Plain language should be used.

2. The length of EIS's should be reduced.

3. There should be a clear format.

4. There should be allowances for preparation of EIS's jointly with States and local governments.

5. There should be simplified procedures for making minor changes or amendments to EIS's.

6. There should be time limits on NEPA review processes.

7. EIS requirements should be integrated with other environmental review requirements and permits at the Federal, State and local levels.

8. There should be allowances for swift and fair resolution of lead agency disputes.

9. There should be allowances for categorical exclusions for actions which do not individually or cumulatively have a significant effect on the human environment.

10. Actions with no significant effect on the quality of the environment may be excluded from EIS requirements.

Applicability

A Federal EIS is generally required whenever there is a Federal action involved. This is generally interpreted to mean any action proposing the use of Federal lands, funds, or permits and where such action (or actions) constitutes a significant impact on the environment. Among the aquaculture-related activities that may require a Federal EIS are the following:

1. Projects involving construction in or adjacent to inland or coastal waters, or projects affecting the navigability of waters (e.g., construction of intake or outfall structures, breakwaters, floating rafts, and most dredging or landfill actions).

2. Projects involving sites on, or eligible for listing in, the *National Register of Historic Places.*

3. Projects that may have an impact on the habitat, breeding or roosting areas of threatened or endangered species.

4. Projects that require the diversion of surface waters from streams and impoundment or modification of tidally influenced marshlands or other bodies of water under Federal jurisdiction.

5. Projects that would have effluent discharges into inland or coastal waters.

6. Projects involving direct or indirect Federal loans or loan guarantees.

7. Projects requiring issuance of a Federal permit (e.g., Corps of Engineers' permit).

H. Water Quality Control (Chapter 342, Part II, HRS; Chapters 37 and 37A of the State Public Health Regulations [1974]; and the Clean Water Act of 1977, Public Law 95-217 [33 U.S.C. 1344] – formerly the Federal Water Pollution Control Act of 1972, as Amended)

State Jurisdiction

The State Department of Health (DOH) is the agency empowered by the State and the Federal Environmental Protection Agency (EPA) to exercise authority over water pollution control and wastewater discharge in Hawaii. The regulation mode of the Department is that of a permit and variance system. The permit system is called the National Pollutant Discharge Elimination System (NPDES) and was so named by Congress in the Federal Water Pollution Control Act of 1972, as amended.

Applicability

The NPDES permit is designed to regulate the discharge of waste materials to the environment. A permit is required before any major discharge can be made from a fixed ("point") source to surface waters. This once included most effluent discharges from ponds, tanks or any type of aquaculture facility or operation. However, effective June 14, 1979, NPDES regulations re-defined what constituted a concentrated aquatic animal production facility. This action now exempts from permit requirements, on a case-by-case basis, aquaculture facilities (utilizing warmwater species) which produce less than 100,000 pounds of animals per year, or facilities which discharge less than 30 days per year.

The DOH uses an "effluent standard" concept in reducing the concentration of the discharge. It is recognized that natural processes of receiving waters lessen the impact of discharge by dilution and dispersion. The intent of the control program is to ensure that the established standards of receiving waters are not degraded by the discharge.

The contents of a proposed discharge must be adequately described by the applicant as a basis for determining the difference between the effluent and the quality of the receiving water. The cost of generating the necessary data is dependent on the type of discharge involved and the location-specific character of the receiving waters. Effluent monitoring is often a condition for such permits which are issued for a limited period of time, usually five years.

Federal Regulations

Aquaculture projects conducted *in* navigable waters and *receiving* industrial or domestic discharges are subject to special Federal permit requirements. The regulations[2] provide a means for beneficially utilizing nutrients and other specified "pollutants" for the growth of aquatic plants and animals used for human food or animal fodder. In contrast to discharges of effluents from land-based ponds, tanks, raceways, or other aquaculture structures which are subject to State administered NPDES permit requirements, permits for discharges of effluents into aquaculture projects situated in navigable waters are issued by the Environmental Protection Agency. Impacts of a proposed discharge on navigation, fish, shellfish, and wildlife resources are to be evaluated by Federal and State agencies before action on a permit application can be taken by the Environmental Protection Agency. However, specific exemptions from NPDES permit requirements are allowed for certain land-based aquaculture facilities that utilize domestic wastewaters from human or animal sources in the production system.

Shellfish

Directly related to the subject of water quality control is shellfish propagation. As such, the Department of Health, under the authority of Chapter 321-11 and Chapter 328-9, HRS, controls the production and processing of oysters, clams, and mussels grown in both natural and artificial environments.

Chapter 4A of the Hawaii Public Health Service Regulations (Shellfish Sanitation, adopted March 15, 1978) controls the production and processing of shellfish and is consistent with the National Shellfish Sanitation Program of the United States Public Health Service. A person wishing to engage in the growing, harvesting, shucking, packing, repackaging or re-shipping of fresh or frozen shellfish for sale to the public must hold a valid Shellfish Sanitation Certificate issued by the Department of Health.

Since contaminated shellfish may endanger the health of consumers, sanitary controls in the shellfish industry begin at the growing area and continue through all aspects of harvesting, processing and distributing. The Department of Health is able to provide advice at all stages of facility development. Applicants are advised to consult with the Department of Health early in the project planning stages so that any potential problems relating to construction details, water flows and sanitary requirements can be resolved prior to facility construction.

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[2] Requirements for Approval of Discharges, Aquaculture Projects, *Federal Register*, Vol. 42, No. 95, Part V, May 17, 1977.

I. Hawaii Coastal Zone Management Act (Chapter 205A, as Amended, HRS; Coastal Zone Management of 1972, Public Law 92-582, as Amended [16 U.S.C. 1451 et seq.])

The original 1975 Shoreline Protection Act established an interim special permit system to control developments along the shoreline. Previous statutes, County ordinances, and administrative procedures were judged as being insufficient in preventing permanent losses of valuable resources and foreclosure of management options.

Jurisdiction

The Act expanded the jurisdiction of the Counties, not only in the geographic extent of coverage, but also in the scope, range, and applicability of controls. It bestowed exclusive, first-stop project review and permit approval powers to County authorities in that, "no County or State department authorized to issue permits pertaining to any development within the Special Management Area shall authorize any development unless approval is first received from the authority. . . ."

The Act defined "development" rather broadly. The term included not only the construction of structures but also included: placement or erection of any solid or liquid waste material; grading, removing, dredging, or extraction of any materials; change in the intensity of the use of land and water; change in the ecology of a water body; and extensive removal of vegetation (except crops).

The Act also empowered the Counties to establish a Special Management Area (SMA) of not less than 100 yards from the shoreline. In some areas the inland boundary has been established at a coastal highway where the highway is more than 100 yards from the shore.

Unlike the earlier County-adopted shoreline setback regulations which were limited to controlling man-induced impacts on natural shoreline processes, County implementing rules stemming from the Shoreline Protection Act dealt with a much more pervasive set of environmental and humanistic attributes. Protection of public access to shorelines, protection of viewsheds, recreational values, and general enhancement of the overall quality of the coastal zone environment were stated objectives of the control program. Regulation of waste treatment and disposal systems to minimize adverse effects upon SMA resources were an integral part of the control program. Protection of shorelines from encroachment of structures and alterations was an additional but overlapping goal.

Requirements

The Counties have adopted an assessment procedure to determine whether a proposal will need an SMA permit. An applicant must file a document providing a legal description of the property, plans and drawings, a shoreline survey (if the project impinges on the shoreline setback area), and a written description of the affected environment which addresses the project's technical, economic, social, and environmental characteristics. Based on such information, the administrative agency assesses the proposal on the basis of the following criteria: (1) the total cost or fair market value of the project; (2) the significance of the potential effects; and (3) the nature of the development, whether structural or non-structural. The details of the criteria vary somewhat from County to County. The administrative agency, upon assessment, determines whether a project is exempt from SMA permit requirements, or issues a minor permit, or requires a SMA permit. To secure an SMA permit, an applicant must present sufficient data to demonstrate that the project will not have "any substantial adverse environmental or ecological effect, except as such

adverse effect is clearly outweighed by public health or safety." A public hearing before the County SMA authority is generally required.

Preparation of an EIS was not expressly required by the Shoreline Protection Act. However, projects which were proposed to be undertaken in areas specified by the State's EIS law would be assessed for EIS determination. Honolulu is the only County which has incorporated State EIS standards and procedures in its Shoreline Protection ordinance, thereby effectively extending EIS applicability to its SMA. Under the language of the Shoreline Protection statute, a hearing for an SMA permit shall, when possible, be held jointly and concurrently with an EIS hearing, should the latter be required.

Hawaii Coastal Zone Management Act

The 1977 Legislature passed the Coastal Zone Management bill (House Bill 122, Act 188) which continued the SMA permit system. Under this act, the Counties were required to review and amend their SMA boundaries to conform to the objectives and policies of the CZM bill. Development review guidelines enacted in the original Shoreline Protection Act were retained.

Additional guidelines were enacted by the 1979 Legislature which granted regulatory relief to aquaculture/mariculture facilities in the *defined* coastal zone (as distinguished from the broad and general meaning of coastal zone often applied indiscriminately to any coastal area). The Hawaii Coastal Zone Management Act, Chapter 205A, as Amended (adopted as House Bill 1642) encompassed a number of regulatory changes. Most important were those which specifically exempted aquaculture and mariculture facilities from the statutory definition of "development." However, recognizing the possibility of abuses in interpretation of these exclusions, County authorities, by legislative mandate, maintain review authority over all developments and allow each Counties' authority to disallow an exclusion "if it is or may become part of a larger project, the cumulative impact of which may have a significant environmental or ecological effect on the SMA." Therefore, all applicants should submit an application to the appropriate County authority to determine the type of actions required.

J. Introduction of Non-Indigenous Species (Lacey Act [18 U.S.C. 42], and implementing regulations [50 CFR 16]; Presidential Executive Order 11987, Exotic Organisms, May 24, 1977; Hawaii Plant Quarantine Law, Chapter 150A, HRS; Chapter 18, HRS, Plant Quarantine Regulation No. 2; Department of Agriculture Policy PI-8, Amended December 2, 1976)

Jurisdiction

Importation of species into Hawaii for research and commercial purposes is governed by State law and is administered by the Department of Agriculture. Prohibitions on importations and shipments of species are also subject to several Federal laws which supersede the laws or regulations of any State, County or municipal agency. Present restrictions being enforced at the Federal and State levels prohibit the introduction of a number of species which have demonstrated or potentially offer excellent aquaculture potential.

Purpose

The basic purpose of such laws and regulations is to prevent the deliberate or accidental introduction of terrestrial, marine or freshwater organisms which could potentially be injurious to man, or result in adverse social, public health, environmental or economic impacts.

While the purpose and intent of such laws and regulations is sound, inappropriate interpretation at the Federal and State levels can clearly present a major constraint to diversification of an emerging aquaculture industry. The constraints associated with importation of non-indigenous species, in particular, offer perhaps the greatest impediment to diversification of aquaculture opportunities in Hawaii.

While some of these restrictions make obvious sense, such as those barring the importation of the South American piranha, or the man-eating Nicaraguan freshwater shark, there is one Federal law which expressly prohibits the importation of Chinese catfish (*Clarias spp.*) into Hawaii. Though this species is reportedly a problem on the U.S. Mainland, this species has been "native" to freshwater lakes and streams in Hawaii for an estimated 100 years. The following paragraphs outline some of the various regulatory controls and conflicts associated with the importation or culture of non-indigenous species.

State Restrictions

The Hawaii Plant Quarantine Law, Chapter 150 A, and Regulation No. 2 of the Department of Agriculture govern the procedures and permits for the introduction, shipment, containment, inspection, and disposition of non-native (non-indigenous) plants and animals. Section 150A prohibits the importation of "any live snake, flying fox, fruit bat, Gila monster, injurious insects, or eels of the order *Anguilliformes*, or any other animal in any stage of development that is detrimental or potentially harmful to agriculture or horticulture or animal or public health, or natural resources including native biota or has an adverse effect on the environment. . . ." The chapter also specifies that the Board of Agriculture shall maintain either a list of animals and plants which may be imported into the State or a list of animals and plants which are prohibited entry into the State. Policy PI-8, "Animal Introductions," of the Department of Agriculture, is a list of species categorized on the basis of the following criteria: (1) approved for entry, (2) to be admitted under certain conditional requirements, (3) prohibits possession by private individuals, and (4) prohibited entry. Although the species restrictions in Policy PI-8 list only a few aquatic invertebrates or vertebrates of demonstrated or potential aquaculture value, all animals not included on the list are, by definition, considered prohibited for private individuals until entry is approved by the Board of Agriculture through a permit procedure.

Requirements

Present Department of Agriculture procedures require the applicant for an import permit to submit a completed import application (along with any supportive materials) to the Plant Quarantine Branch. The Plant Quarantine Branch then submits the application to members of the Advisory Subcommittee on Invertebrates and Aquatic Biota. The recommentations of the Subcommittee are then returned to the Department of Agriculture who, in turn, forwards the materials to the Advisory Committee on Plants and Animals. The recommendations of the Advisory Committee are then returned to the Department for action. The Department compiles the recommendations of both the Subcommittee and Committee, makes its own recommendation, and forwards same to the Board of Agriculture for action.

The Board of Agriculture may then act upon the permit application by approving or disapproving. The Board may also issue "conditional" permits which may allow introduction of a species on the basis of the applicant's meeting certain conditions or certain conditions or specifications imposed by the Board. These conditions may specify, for example, (1) the type of containment facility, (2) requisite effluent management, (3) disposition of dead or diseased specimens, and (4) point of origin of the shipment. The staff of the Plant Quarantine Branch is responsible for assuring that the applicant abides by the requirements of the Board.

Federal Restrictions

Although State import permit requirements may pose future constraints to the aquaculture industry in Hawaii, Federal restrictions offer a far more pervasive and conflicting set of rules and regulations which could severely limit entrepreneural initiatives for expansion or diversification into certain economically important species. Because of Hawaii's mid-Pacific insular nature, small size, and limited endemic freshwater and brackish water biota, Federal restrictions directed to the continental United States may place the State in a clearly unfair position.

In at least one case, Federal regulations were adopted by the U.S. Department of the Interior which did not recognize the State's insular fauna or ethnic heritage. In this case, Injurious Wildlife Regulations (50 CFR 16 of January 4, 1974) which implemented the Lacey Act (18 U.S.C. 42) prohibited the importation, transportation, or shipment of live fish or viable eggs of the family *Clariidae* (Chinese or Siamese walking catfish), despite the fact that at least one species (*Clarias fuscus*) now under cultivation has been "native" to freshwaters in the State for approximately 100 years.

The Lacey Act

An early regulatory proposal under the Federal Lacey Act (38 FR 34970 of December 20, 1973) contained a determination that at some time or place, all wildlife is, or could be, injurious to "designated interests" (defined as injurious to human beings, to the interests of agriculture, horticulture, forestry, wildlife, or to wildlife resources of the United States). The proposal prohibited the importation of all wildlife, except as authorized by permit for scientific, educational, zoological or medical purposes. In addition, this proposal also created a list of "low risk" species which the Secretary of Interior had identified as posing little risk of injury to the designated interests. This would have allowed the importation (without a Federal permit) of species listed as "low risk," with the prohibition applying only to those species not listed as "low risk."

This regulatory proposal, and a second proposal published in 1975 (40 FR 7935 of February 24, 1975), met with heavy criticism from researchers, zoos and aquaria, the pet industry, game bird breeders, aviculturists and aquaculturists. Aquaculture interests objected because certain species, including the Malaysian prawn, *Macrobrachium rosenbergii*, and brine shrimp (eggs) were not on the "low risk" list and thus automatically classified as "high risk." Because of the adverse comments received on the second proposal, a third proposal was drafted which incorporated a "high risk" list which included those species of wildlife which have been designated injurious and cannot be imported or shipped (Federal Register, Vol. 42, No. 44, March 7, 1977). Included among the designated "high risk" species were all tilapia (*Sarotherodon*) and the carps, *Aristichthys*, *Hypothalmichthys*, and *Ctenopharyngodon* (the latter two are both established in Hawaii). The existing ban on all clariids (family *Clariidae*) would continue.

It is interesting to note that culture research on various species of tilapia is proceeding at an unprecedented rate throughout the United States and in many lesser developed countries. Similarly, polyculture systems incorporating *Aristichthys*, *Hypothalmichthys* and *Ctenopharyngodon* have a history spanning a period of over 3,000 years in China and demonstrate excellent commercial aquaculture possibilities in Hawaii. Thus, promulgation of the regulation would not only have prohibited the importation of designated injurious wildlife into Hawaii, but would also have banned the shipment of living or dead cultured species—even if locally captured and cultured—between Hawaii and the continental United States. This, the third regulatory proposal, also met with heavy criticism and was not implemented.

Presidential Executive Order 11987

On May 24, 1977, Presidential Executive Order 11987, "Exotic Organisms," was issued in an attempt to resolve the regulatory issues pertaining to exotic species. The Order stated that "executive agencies shall, to the extent permitted by law, restrict the introduction of exotic species into natural ecosystems on lands and waters which they own, lease, or hold for purposes of administration; and shall encourage the States, local governments, and private citizens to prevent the introduction of exotic species into natural ecosystems of the United States." The Order also provided a definition of "exotic species" and "native species." Exotic species were defined as "all plants and animals not naturally occurring, either presently or historically, in any ecosystem of the United States." Native species were defined as "all species of plants and animals naturally occurring, either presently or historically, in any ecosystem of the United States." The Order does not place any restrictions on the importation of native species, but restricts the export of such species into ecosystems outside the United States (unless a determination is made that exportation will not have an adverse effect on natural ecosystems). Unfortunately, regulatory enforcement actions based upon U.S. Fish and Wildlife Service interpretation of what constitutes a "native species," for the purposes of the Mainland United States versus the State of Hawaii, has caused frustrations and financial loss to several of Hawaii's aquafarmers.

In summary, diversification of Hawaii's aquaculture industry through research development, demonstration, and ultimately commercialization of non-indigenous species appears prohibitive under the present regulatory environment. Furthermore, it is clear that Hawaii's insular nature and species introduction history are not being appropriately considered in promulgation of national legislation. Finally, local species introduction decisions should be based upon consideration of economic and social realities as well as environmental implications.

K. Floodplain Management (Presidential Executive Order 11296, Flood Hazard Evaluation, August 10, 1966; National Flood Insurance Act of 1968, as Amended [42 U.S.C. 4001 et seq.]; Flood Disaster Protection Act of 1973, Public Law 93-234 [87 Stat. 975]; Presidential Executive Order 11988, Floodplain Management, May 24, 1977)

Over the past 15 years, there has been a change in the controls over land uses on floodplains. The structural approaches that were taken to reduce flood losses (which have proven to be largely futile) have gradually given way to a recognition of the unique scientific, recreational, water resource, wildlife and generally beneficial values associated with the conservation of floodplains. The consequence has been a greater emphasis on regulating land uses in areas that are prone to flooding and, in the case of Hawaii, tsunami inundation.

Executive Orders

Executive Order 11296 (1966) reflected Presidential recognition that structural flood control measures alone were inadequate to stem rising flood losses. It was followed by the establishment of flood disaster assistance and related Federal programs. A decade later, annual flood losses were estimated to approach $3 billion and continuing to rise. This recognition resulted in Executive Order 11988 (1977) which represented a significant policy initiative integrating the need to protect lives and property with the need to restore and preserve natural and beneficial floodplain values.

The Order mandates that Federal agencies: (1) provide the lead in avoiding to the extent possible the long-term and short-term adverse impacts associated with the occupancy and modification of floodplains, and (2) avoid direct and indirect support of floodplain development wherever there is a practicable alternative.

U. S. Water Resources Council Guidelines

U.S. Water Resources Council guidelines were published in 1978 (Federal Register, Part VI, Vol. 43, No. 29, pages 6030-6055) under the authority of Executive Order 11988 to assist Federal agencies in preparation of their regulations and procedures for implementing the Order. The Order applies to all Federal agencies that: (1) acquire, manage, or dispose of Federal lands and facilities; (2) undertake, finance, or assist construction and improvements; and (3) conduct activities and programs affecting land use, including planning, regulating and licensing.

For the purposes of the Water Resources Council guidelines, floodplain has been defined as "the lowland and relatively flat areas adjoining inland and coastal waters and including at a minimum, that area subject to a one percent or greater chance of flooding in any given year." In Hawaii, the definition includes defined tsunami inundation zones and areas along or near rivers, streams, oceans, estuaries, wetlands, or related bodies of water.

The Flood Disaster Protection Act

The Flood Disaster Protection Act of 1973 was intended to make flood insurance available to commercial operations and private residences by means of a Federal subsidy. Moreover, State and local jurisdictions were required to enact land use controls designed to regulate the use of the floodplain as a condition for the availability of Federally subsidized flood insurance. Two of the most important provisions of the law (which apply directly or indirectly to aquaculture facilities) include: (1) the requirement that a State and its Counties, as a condition of future Federal assistance in flood zones, participate in the flood insurance program and adopt adequate floodplain ordinances consistent with Federal standards to reduce or avoid future flood losses, and (2) the requirements that property owners who are being assisted by Federal programs (or by Federally supervised, regulated, or insured agencies or institutions) purchase insurance.

Possible Effects

It is clear that the ramifications of the Flood Disaster Protection Act and the implementation of regulatory controls pursuant to Executive Order 11988 have the potential for significantly limiting development in lowland or flood-prone areas (areas often most conducive to aquaculture development) by imposing strict land use controls. In addition, these controls may add a substantial financial burden to aquafarmers who must comply with Federal structural "flood-proofing" standards. Thus, the standards and criteria of the

Floodplain Management Program are directed toward protection of structures and facilities and protection of existing development from the effects of new development.

Executive Order 11988 is based in part on the National Environmental Policy Act of 1969 (NEPA) and clearly adds new prominence to the environmental aspects of floodplain management which were not present in the old Executive Order. The new Order also incorporates Executive Order 11990, "Protection of Wetlands," which clearly spells out a policy of floodplain and wetland preservation to (1) prevent modification of the natural floodplain environment, (2) maintain it as closely as possible to its natural state, and (3) provide for restoration programs in which the natural functions of the floodplain can again operate. Pursuant to the spirit of NEPA, an environmental impact statement, or its equivalent, would be required for proposed actions on Federal lands or those involving Federal financial assistance, loan guarantees, or grants-in-aid.

The Water Resources Council Guidelines, while focusing on the maintenance of natural and beneficial floodplain values, recognizes that floodplains generally are excellent locations for public and private aquaculture operations. Moreover, while not exempting aquaculture development from adherence to the guidelines, it suggests that if properly managed, aquaculture operations can be compatible with the natural values of floodplains, and may offer opportunities for the restoration of damaged floodplain values.

The full regulatory impact of Executive Order 11988 on aquaculture development for Hawaii, including Federal, State and County agency data requirements, review authority and permit requirements, will not be fully known until programs are defined and floodplain maps are finalized by the Federal Insurance Administration. A Federally approved flood protection program is expected to be implemented by mid-1980.

Figure 1 portrays a comprehensive view of the laws dealing with the use of lands and waters in the State. It is an adaptation of a chart prepared by the County of Hawaii Planning Department depicting "Existing Control Powers Within the Coastal Zone." Permission to adapt the chart for this report is gratefully acknowledged. Table 1 lists the data requirements necessary for securing the permits and approvals identified in Figure 1.

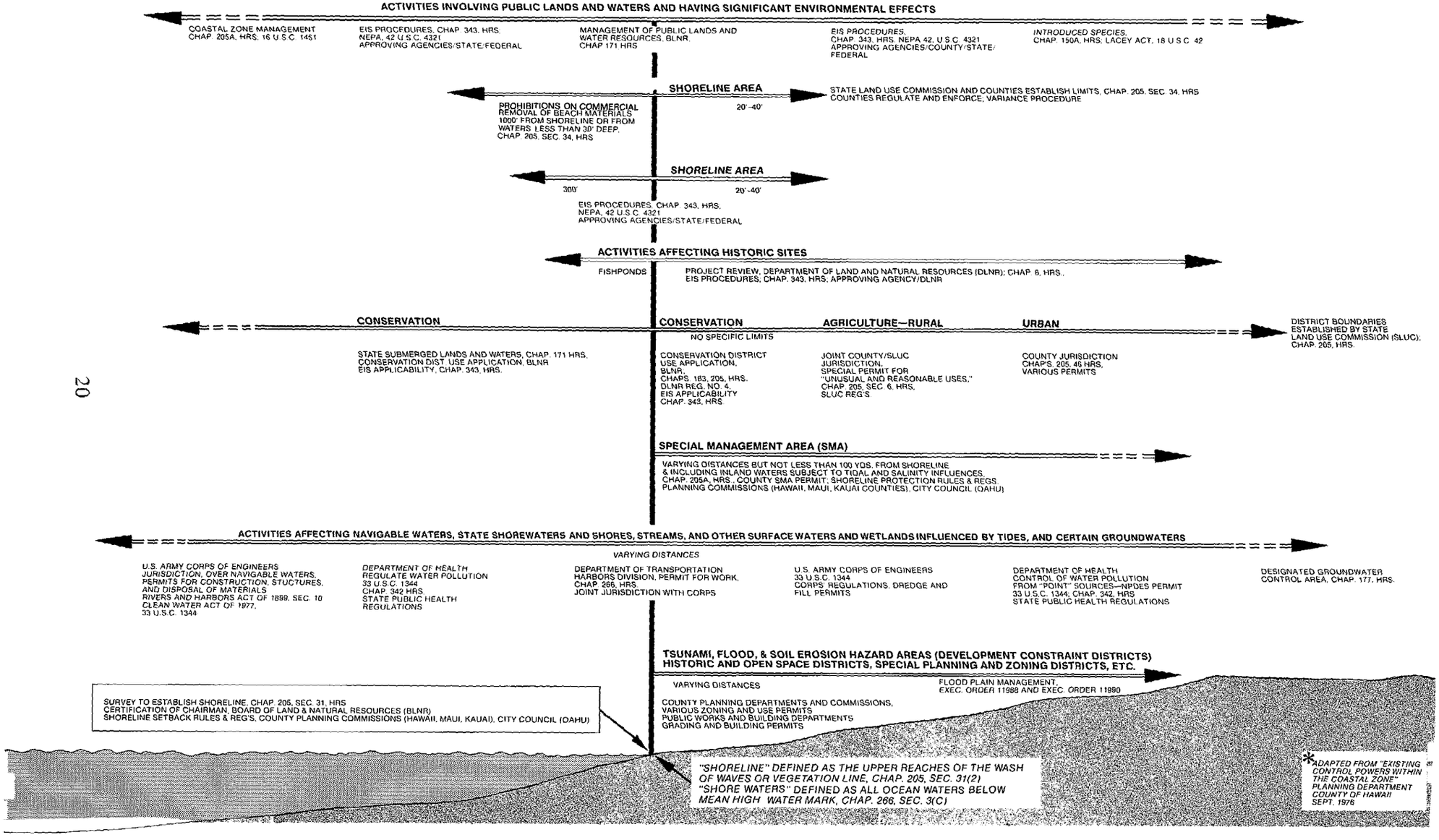
Table 1
COMMON DATA REQUIREMENTS FOR AQUACULTURE PROPOSALS

Permit or Procedure \ Possible Data Requirements	Basic Environmental Assessment Information	Water Quality Data	Soils Data	Archaeological Field Studies	Instrument Survey	Topographic Survey	Engineering Drawings
SMA Permit (County)	*	*	*	*	*	*	optional
Variance from Shoreline Setback Regulations (County)	*			*	*	*	*
Conservation District Use Permit (State)	*		*			*	optional
Historic Site Review (State)	*			*			
Permit for Works in State Shorewaters (State)	*	*			*		*
NPDES Effluent Discharge Permit (State)	*	*					*
State EIS (State or County)	*	*	*	*		*	optional
Corps of Engineers' Permit (Federal)	*	*	*		*		*
Federal EIS	*	*	*	*		*	optional
Well Permit (Honolulu County)		*	*				*
Grading Permit (County)			*			*	
[1]Floodplain Management (County/Federal)	*	*	*	*	*	*	*
Non-indigenous Species Introductions (State/Federal)	*	*				*	*
Hawaii Coastal Zone Management (State)	*	*	*	*		*	*
Shellfish Sanitation Certificate (State)	*	*					*
Designated Groundwater Control Area Use Permit (State)		*	*			*	*

[1] Tentative, to be implemented in 1980.

Fig. 1

MAJOR CONTROL POWERS OVER AQUACULTURE USES OF LANDS AND WATERS*



CHAPTER II

PERMITS AND ENVIRONMENTAL REQUIREMENTS BY PROJECT LOCATION AND ACTIVITY

Three Areas

Aquaculture activities in Hawaii can be categorized within three major geographical areas of government jurisdiction:

A. Activities located landward of shoreline Special Management Areas.

B. Activities located within the Special Management Areas that abut the shoreline.

C. Activities seaward of the shoreline.

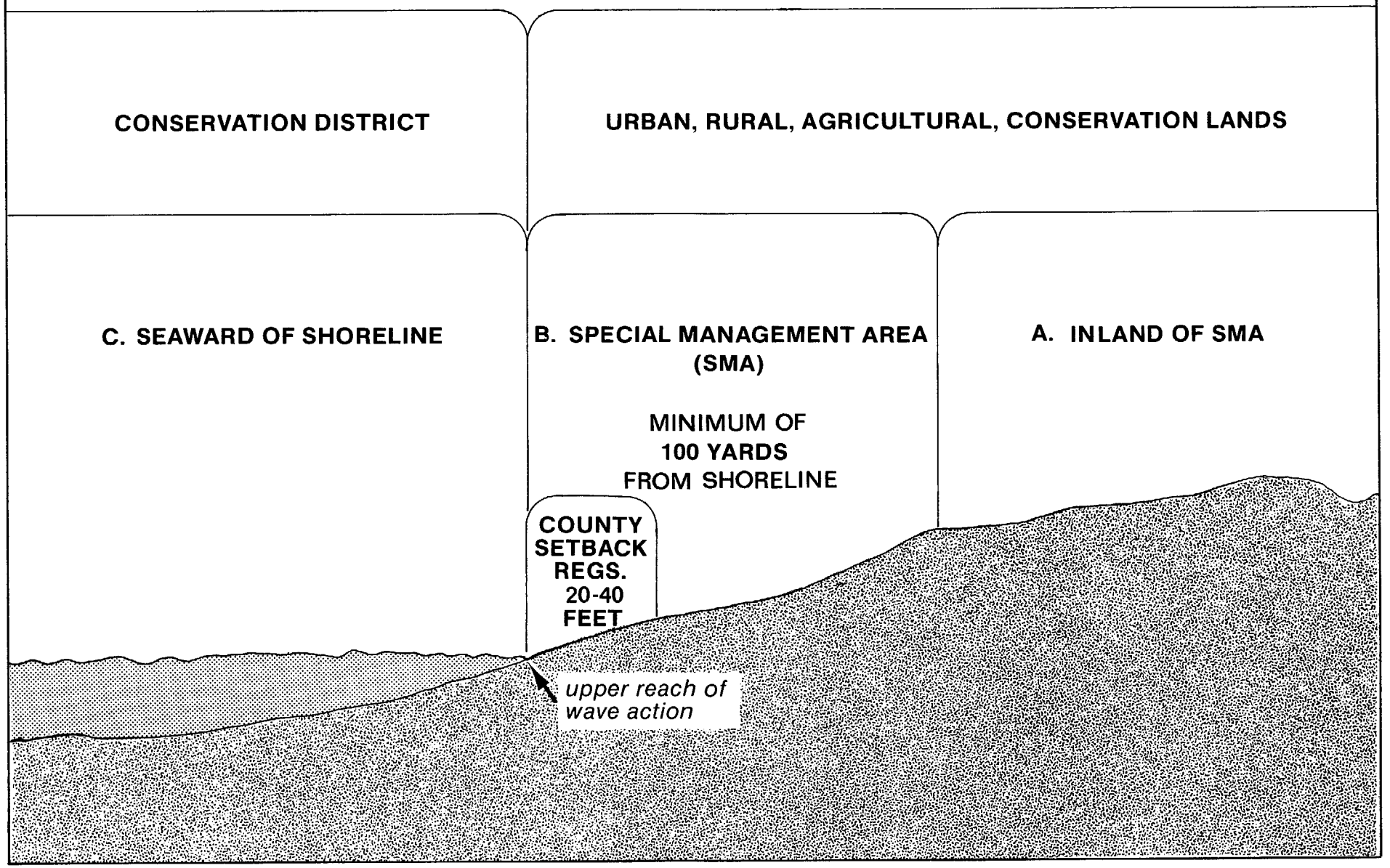
Figure 2 is a diagrammatic representation of these areas. Land and waters of the State are classified in either Urban, Rural, Agricultural or Conservation districts. Regulation of land and water uses in the Special Management Areas (SMA), and in Urban, Rural and Agriculture districts is primarily a function of the respective County governments. Submerged lands, marine waters, fishponds and tidepools are included in the Conservation district, unless designated otherwise. Uses seaward of the shoreline are regulated principally by State and Federal agencies. Land and water uses in Conservation district areas located landward of the SMA's are regulated by the State Board of Land and Natural Resources.

Encompassing the three geographic areas of government jurisdiction are the broad goals, objectives and policy statements of the Hawaii Coastal Zone Management Act, as Amended (Chapter 205A, HRS), which complies with the requirements of the national Coastal Zone Management Act of 1972, as Amended (Public Law 92-583).

The following sections list and briefly describe the permits and environmental review processes that are or may be applicable to aquaculture projects within each of the three major geographical areas of government jurisdiction. Since the laws governing land and water uses are broadly written, agency discretion is generally necessary for determining their applicability to specific aquaculture sites, facilities or operations. Similarly, aquaculture operations can take many forms as a function of the type of culture system, the location of the facility, water usage, proposed effluent management practices and overall environmental impact considerations. For these reasons, it is generally impossible to specify in advance the actual number of permits that may be required. In reviewing the following paragraphs, prospective aquaculturists should keep in mind that recent regulatory changes at the State and Federal levels have exempted or simplified permit requirements for many aquaculture activities or operations. However, many of these changes (such as those pertaining to aquaculture developments in Special Management Areas and effluent management practices under the NPDES permit program) do not represent categorical exemptions inclusive of all possible developmental activities or situations. As a general rule, the closer a proposed facility

Fig. 2

MAJOR JURISDICTIONAL AREAS FOR AQUACULTURE ACTIVITIES



or operation is to the coastline—the more lengthy and complex will be the permit requirements and environmental review process. There are probably few situations where all of the following permits or procedures would apply. However, they are presented here for the sake of completeness.

A. Activities Inland of the Special Management Areas (Reference "A", Figure 2)

Federal Level

- **Federal Environmental Impact Statement**

  A Federal EIS is required for projects involving the use of Federal lands, funds, loan guarantees and permits; placement of dredge and fill materials into navigable waters and wetlands; projects involving disturbances to designated national historic sites, threatened or endangered species, and critical wildlife habitats.

- **U.S. Department of the Army (Corps of Engineers) Permit**

  Required for projects producing significant environmental disturbances and involving dredging, filling, or placement of structures in navigable waters, inclusive of streams, wetlands (marshes, swamps and estuaries) and coastal waters.

Federal-State Level

- **National Pollutant Discharge Elimination System (NPDES) Permit**

  May be required for aquaculture projects proposing to discharge treated or untreated wastewaters from defined point sources into freshwater, estuarine or coastal environments.

- **Hawaii Coastal Zone Management Consistency Review**

  Applies only to direct Federal legislation or Federal agency actions (including permits) in the defined Coastal Zone Management Area of the State.

- **Floodplain Management Review**

  Will regulate proposed developments located on designated floodplains and tsunami inundation areas and may specify flood-proofing standards for commercial developments. To be implemented by mid-1980.

State Level

- **Hawaii Environmental Impact Statement**

  Required for major projects significantly affecting environmental quality; for actions involving the use of State or County lands or funds; for proposed developments in Conservation districts (lands or waters); and projects within designated historical or archaeological sites.

- **Conservation District Use Permit**

  Required for proposed projects within Conservation districts. Aquaculture is generally defined as a permissable use within Resource (R) and General (G) subzones of Conservation districts.

- **Designated Groundwater Control Area Use Permit**

  Required for use of groundwaters in Ewa and Wahiawa Districts of Oahu only.

- **Historic Site Review**

  Construction, alteration or improvements within designated historic sites, public or private, cannot be undertaken without notification and review by the Department of Land and Natural Resources.

County Level

- **County Grading, Grubbing, and Stockpiling Permits**

  Required for clearing, grading, grubbing and stockpiling operations that have potential for inducing erosion. Requirements differ from County to County.

- **Well Permit**

  Required for construction or modification to fresh, brackish or salt-water wells on Oahu only.

- **County Building Permit**

  Required for structural components of aquaculture operations.

- **Various Classes of County Zoning and Use Permits**

  Various permits may be required for activities in Urban, Rural and Agricultural districts. Formal County Planning Commission review is generally not needed if the proposed operation or activity conforms with County General Plan and zoning designations.

B. Activities within Special Management Areas (Reference "B", Figure 2)

Federal Level

- **Federal Environmental Impact Statement**

  A Federal EIS is required for projects involving Federal lands, funds, loan guarantees or permits; placement of dredge and fill materials into navigable waters, including wetlands and streams; projects involving disturbances to designated national historic sites, threatened or endangered species, and critical wildlife habitats.

- **U.S. Department of the Army (Corps of Engineers) Permit**

  Required for projects producing significant environmental disturbances and involving dredging, filling, or placement of structures in navigable waters.

Federal-State Level

- **National Pollutant Discharge Elimination System (NPDES) Permit**

  May be required for aquaculture projects proposing to discharge treated or untreated wastewaters from defined point sources into coastal estuarine or wetland environments. Recent amendments now provide a general exemption for discharges from warmwater aquaculture facilities producing up to 100,000 pounds of aquatic animals per year. System also encompasses a "zone of mixing" variance procedure for effluent discharges which may exceed established standards of the receiving waters.

- **Floodplain Management Review**

  Will regulate proposed developments located on designated floodplains and tsunami inundation areas and may specify flood-proofing standards for commercial developments. Full regulatory impact is not known at this time. To be implemented in mid-1980.

- **Hawaii Coastal Zone Management Review**

  Applies only to direct Federal legislation or Federal agency actions, including permits, in the defined Coastal Zone Management Area of the State.

State Level

- **Hawaii Environmental Impact Statement**

  An EIS is required for applicant-proposed actions (assuming County or State "approving agency" determination of significant environmental effects) for: projects involving use of Conservation district lands and waters; actions involving State or County land or funds; projects within designated historic sites; projects located in a Shoreline Setback Area; and for projects involving disturbances to threatened or endangered species. Recent amendments to the Special Management Area (SMA) regulations now exclude most aquaculture/mariculture facilities (located in the SMA) from the permit process and, as a result, from the EIS requirements that are usually part of the review process. However, these new regulations do not reflect a categorical exemption, but instead allow an exemption based upon a determination of overall project scope and environmental impact considerations.

- **Permit for Work in Shorewaters of the State**

  Similar to Federal Corps of Engineers permit in that this permit is required for filling, dredging or construction in shorewaters of the State.

- **Conservation District Use Permit**

  Required for aquaculture activities on shorelands or submerged lands, public or private, that are zoned as Conservation districts. Aquaculture and mariculture are defined as permissable uses within Resource (R) and General (G) subzones of Conservation districts. Effective January 1, 1978, permit applications for work in shorewaters of the State are now processed simultaneously with Conservation District Use Permit applications.

- **Historic Site Review**

  Allows for review of projects which may affect designated (or eligible for designation) State or Federal historic sites.

- **Designated Groundwater Control Area Use Permit**

  Required for use of groundwaters in Ewa and Wahiawa districts of Oahu only.

- **Special Management Area (SMA) Permit**

  This permit is required for land and water developments in the SMA. Recent amendments now exclude most aquaculture/mariculture facilities or activities in the SMA from the permit requirements, unless it is determined that the proposed actions would result in significant environmental impact.

- **Shoreline Setback Variance**

  Required for projects or project components involving disturbances to, or construction in, the shoreline zone beginning at the highest wash of the waves and extending 20 or 40 feet inland.

- **County Grading, Grubbing and Stockpiling Permits**

  Required for clearing, grading, grubbing and stockpiling operations that have potential for inducing erosion. Requirements differ from County to County.

- **Well Permit**

  Required for construction of, or modification to, fresh, brackish or saltwater wells on Oahu only.

- **Various Classes of County Zoning and Use Permits**

  Various permits may be required for activities in Urban, Rural and Agricultural districts. Formal County Planning Commission review is generally not needed if the proposed operation or activity conforms with County General Plan and zoning designations.

- **County Building Permit**

  Required for certain structural components of aquaculture projects.

C. Activities Seaward of the Shoreline (Reference "C", Figure 2)

Federal Level

- **Federal Environmental Impact Statement**

  A Federal EIS is required for projects involving the use of Federal lands, funds, loan guarantees and permits; placement of dredge and fill materials into navigable waters and wetlands; projects involving disturbances to designated national historic sites, threatened or endangered species, and critical wildlife habitats.

- **U.S. Department of the Army (Corps of Engineers) Permit**

  Required for all actions involving dredging, filling, construction, placement of structures, extension of piers, and dumping of dredged or fill materials into coastal waters. The issuance of a Corps of Engineers permit is often based upon approval of a Federal environmental impact statement.

Federal-State Level

- **National Pollutant Discharge Elimination System (NPDES) Permit**

  May be required for aquaculture projects proposing to discharge treated or untreated effluent waters from defined point sources into coastal or estuarine environments. System also encompasses a "zone of mixing" variance procedure for effluent discharges which may exceed established standards of the receiving waters. Warmwater aquaculture operations producing less than 100,000 pounds of aquatic animals per year are normally exempt from the permit requirements.

- **Floodplain Management Review**

  Will regulate proposed developments located on designated floodplains (such as coastal swamps and wetlands) and tsunami inundation areas and may specify flood-proofing standards for commercial developments. To be implemented in mid-1980.

- **Hawaii Coastal Zone Management Consistency Review**

  Applies only to direct Federal legislation or Federal agency actions, including permits, in the defined Coastal Zone Management Area of the State.

State Level

- **State Environmental Impact Statement**

  Required for actions involving State or County lands or funds; for projects involving use of Conservation district lands (submerged lands and coastal waters are in the Conservation district); for projects involving historic or archaeological sites (fishponds), and for most projects requiring State or County permits or review actions.

- **Permit for Work in Shorewaters of the State**

  Required for such activities as dredging, filling, construction, placement of structures, and dumping of materials below the mean high water mark.

- **Conservation District Use Permit**

  Required for aquaculture/mariculture-related activities in the Conservation district. Lands having an elevation below the maximum line of the zone of wave action, marine waters, fishponds, and tide pools of the State are in the Conservation district, unless designated otherwise.

- **Historic Site Review**

  Allows for review of projects which may affect designated (or eligible for designation) State or Federal historic sites. This review would pertain to projects affecting traditional Hawaiian fishponds or other submerged or partially submerged historic sites.

County permit authority normally does not extend seaward of the legally defined shoreline, except for restrictions on the commercial removal of sand within 1000 feet seaward of the shoreline or in ocean waters less than 30 feet in depth. Permit authority over aquaculture uses seaward of the shoreline is delegated to State and Federal agencies. However, as a matter of policy, State and Federal agencies forward project proposals to the respective County authorities to obtain input on a project's conformity to the General Plan of the County in question.

CHAPTER III

GENERAL SEQUENCE FOR FILING PERMIT APPLICATIONS AND SECURING ADMINISTRATIVE APPROVALS

Special Management Area (SMA) Permit

This chapter is intended to take the reader through the web of regulatory requirements for shoreline aquaculture activities. It is important to note that under the terms of the Hawaii Coastal Zone Management Act, a Special Management Area (SMA) permit must be obtained before any other type of government approval that may be necessary can be received. There is, however, no requirement that precludes an applicant for an SMA permit from simultaneously filing applications for other approvals. Action on them, however cannot be taken until the respective County SMA authority issues a permit. Similarly, as a matter of policy, the Corps of Engineers will not grant authorization for proposed work before local (State and County) authorizations are granted and the applicant has obtained a "certificate of consistency" pursuant to the goals and objectives of the Hawaii Coastal Zone Management Act.

Sequence

The following is a generalized sequence for filing permit applications for a hypothetical aquaculture enterprise located in the SMA, including project components within the 20 to 40 foot shoreline setback area, and with activities extending seaward of the shoreline. The sequence is as follows:

1. Applicant consults with the respective County SMA administrative agency and prepares an assessment form.

2. The administrative agency determines that the proposed project requires an SMA permit, a variance from shoreline setback regulations, and various zoning and use permits (Note: aquaculture/mariculture facilities or operations in the SMA are normally exempt from the SMA permit requirements, unless such development or activities may result in a significant environmental impact).

3. Applicant consults with all other agencies that have permit or review authority to determine the scope and degree of specificity in data requirements. For example:

   Permits:

   Conservation District Use Permit (DLNR)
   Designated Groundwater Control Area Use Permit (DLNR)
   Permit for Work in Shorewaters (DOT)
   NPDES and Zone of Mixing Permits (DOH)
   Shellfish Sanitation Certificate (DOH)
   County Well Permit (City and County of Honolulu)
   County Grading, Grubbing and Stockpiling Permits (County Public Works)
   Corps of Engineers (U.S. Department of the Army)

Permit/Review:

Historic Site Review (DLNR)
Coastal Zone Management Consistency Review (DPED)
Floodplain Management (County Planning Commission)

Consultations:

U.S. Fish and Wildlife Service (Department of the Interior)
National Marine Fisheries Service (Department of Commerce)
Division of Fish and Game (DLNR)

4. The proposal is assessed, and the applicant is told that an Environmental Impact Statement is required because of the expected significance of impacts.

5. Agency files an Environmental Impact Statement Preparation Notice (EISPN) with Environmental Quality Commission.

6. Environmental Quality Commission publishes notice of EIS preparation.

7. Applicant is informed that a Federal EIS is required as a condition of securing a Corps of Engineers permit.

8. Because of Federal (NEPA) regulations, the applicant must first prepare a draft EIS (Note: proposals not involving Federal permits or Federal agency actions do not require the submittal of a draft EIS).

9. Applicant arranges for professional services to generate necessary data for preparation of a draft EIS and required permits.

10. Applicant prepares draft EIS and files document with approving agency (SMA authority), the Corps of Engineers and the Coastal Zone Management Program.

11. Draft EIS is circulated to all relevant and interested parties for comment.

12. Applicant responds to comments and revises EIS (prepares Final EIS) or, if required, files Supplemental Statement.

13. Applicant files for applicable permits/review actions identified in Step 3.

14. Approving agency (SMA authority) determines that the Final EIS (or Supplemental Statement) is comprehensive and complete, and Final EIS is accepted.

15. Applicant files for SMA permit, variance from shoreline setback regulations, and for various zoning and use permits. Single public hearing (when possible) is scheduled.

16. Hearing is favorable and the authority issues SMA permit, variance from setback regulations, and various county zoning and use permits.

17. Public hearings are held (when required for permits identified in Step 3) and permits are granted.

18. Corps of Engineers grants permit (CZM certificate of consistency and other local authorizations have been secured).

19. Applicant commences work on the project subject to agency conditions and monitoring.

Time and Cost

The foregoing sequence may require a period of from one to two years and thousands of dollars to satisfy all permit requirements. Time periods for plan preparation, data gathering and analysis, and for agency review can vary widely depending on the complexity of the project, its locations, the type and magnitude of potential impacts, as well as the degree of controversy a project may be expected to generate. Cost and time requirements for aquaculture projects undertaken inland of Special Management Areas (SMA's) and shoreline setbacks and not involving historic sites, surface waters and environmentally sensitive areas can be reduced substantially. In all cases, early consultation with the Aquaculture Development Program, Department of Planning and Economic Development during the formative or conceptual stages of project development is encouraged to assist in facility site selection and in clarifying specific project data, permits and environmental requirements.

APPENDICES

A. FEDERAL PERMIT AND REVIEW ACTIONS

B. FEDERAL/STATE PERMIT AND REVIEW ACTIONS

C. STATE PERMIT AND REVIEW ACTIONS

D. COUNTY PERMIT AND REVIEW ACTIONS

APPENDIX A

FEDERAL PERMIT AND REVIEW ACTIONS

1. Federal Environmental Impact Statement
   National Environmental Policy Act of 1969 (NEPA)

2. U.S. Department of the Army Permit

1. FEDERAL ENVIRONMENTAL IMPACT STATEMENT NATIONAL ENVIRONMENTAL POLICY ACT OF 1969 (NEPA)

Legal Authority

National Environmental Policy Act of 1969 (NEPA), Public Law 91-190 (42 U.S.C. 4321 et seq.); Council on Environmental Quality Guidelines (40 CFR 1500); Executive Order 11514 of March 5, 1970, Protection and Enhancement of Environmental Quality, as amended by Executive Order 11991 of May 24, 1977.

Issuing Agency

An environmental impact statement (EIS) is theoretically prepared by the Federal agency to whom the applicant has applied. In practice, EIS preparation is the responsibility of the applicant. The agency most likely to be responsible for Hawaii aquaculture projects is the U.S. Army Corps of Engineers.

Purpose

The National Environmental Policy Act of 1969 declared a strong national policy to "encourage productive and enjoyable harmony between man and his environment; to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; to enrich the understanding of ecological systems and natural resources important to the nation." The Environmental Impact Statement (EIS) was created to ensure adherence to the policy.

An EIS is the vehicle by which proposals are evaluated for major Federal actions significantly affecting the quality of the human environment. Thus, an EIS is basically a disclosure document and a discussion of alternatives to proposed actions designed to insure that appropriate information is made available to decision-makers and the public. NEPA requires that all Federal agencies include in the decision-making process appropriate and careful consideration of all environmental impacts of proposed actions and proposed alternative actions to increase public understanding, avoid or minimize adverse effects, and restore and enhance environmental quality to the greatest extent possible.

Applicability

Aquaculture-related actions which may require a Federal EIS are:

- Effluent discharges from ponds, raceways or other facilities (generally those facilities producing in excess of 100,000 pounds of animals per year) into coastal or inland waters (e.g., lakes, rivers, streams, marshes and other wetlands).

- Projects involving sites listed or eligible for listing in the *National Register of Historic Places.*

- Projects involving construction in or adjacent to inland and coastal waters, such as intake and outfall structures, breakwaters, landfill, dredging, diversion or streams, placement of structures, etc.

- Projects involving the use of Federal lands or funds. Direct or indirect Federal participation in proposed actions on designated floodplains and wetlands.

- Projects involving real or potential (primary or secondary) impacts to designated critical habitat areas, or the territory, breeding or roosting areas of designated threatened or endangered species.

- Projects conducted in navigable waters and receiving or proposing to receive treated or untreated industrial or domestic wastewater discharges.

Data Required

An acceptable EIS must be a thorough, detailed evaluation of the environmental consequences of a proposed action. The document is to include sufficient detail so that responsible decision-makers and the public will have an accurate assessment of the possible effects of the project. Format requirements, submittal and review procedures, which are quite specific, are detailed in the regulations prepared by the National Council of Environmental Quality (40 CFR 1500).

An EIS must identify the full scope of the proposed action and consider the short-term and long-term effects, and primary and secondary impacts. Particular attention should be directed to changes in land-use patterns; changes in energy supply and demand; increased development in floodplains; significant changes in ambient air, water quality and noise levels; significant changes in groundwater or surface water quality or quantity; and encroachments on wetlands, coastal zones, fish and wildlife habitat (especially when threatened or endangered species may be involved). Actions involving potential disturbances to historic sites must also be considered.

Minor actions which may set a precedent for future major actions with significant adverse impacts, or a number of actions with individually insignificant but cumulatively significant impacts must also be identified.

Time from Filing to Final Action

The time required to complete the EIS review generally varies depending on the scope and magnitude of the proposed actions and the number of requisite Federal, State or County permits or approvals involved. For relatively minor, non-controversial projects, a period of 3-4 months may be involved. A period of at least one year is often required for major or especially controversial actions involving significant environmental impacts and one or more Federal permits.

Public Participation

Opportunity is provided for public review and comment during the EIS review process. Agency regulations generally provide the opportunity for public hearings if requested by the review agency, the public, or affected individuals.

Cost

Preparation costs are highly variable and generally depend on the cost and complexity of the project, as well as the amount of controversy surrounding the proposed action.

Projects where coastal waters and shorelines are involved are generally more costly and time-consuming than proposals involving inland waters and terrestrial environments. EIS preparation fees typically range from 2-6% of the total project cost.

Problem Areas

The following areas may present problems for the applicant:

- The procedures and requirements are time-consuming and complex, often necessitating professional assistance in order to meet the multiple requirements of NEPA.
- The EIS process generally involves field and library research; data compilation and analysis; preparation of preliminary, draft and final assessments or statements; public hearings; and Federal, State and County review.
- Action on requisite Federal permits cannot be taken until the review and approval process is complete at the State and County level.
- EIS data requirements generally require a full disclosure of system design, engineering and operational details.

Sources of Professional Assistance

Many local architectural/engineering and environmental consulting firms have expertise in preparation of EIS documents.

2. U.S. DEPARTMENT OF THE ARMY PERMIT

Legal Authority

Section 10 of the Rivers and Harbors Act of March 3, 1899 (33 U.S.C. 403); Section 103 of the Marine Protection Research and Sanctuaries Act of 1972 (33 U.S.C. 1413); Section 404 of the Clean Water Act (33 U.S.C. 1344)–formerly known as the Federal Water Pollution Control Act.

Issuing Agency

U.S. Army Corps of Engineers

Contact: Mr. Stanley T. Arakaki, P.E.
Chief, Operations Branch
U.S. Army Corps of Engineers
Pacific Ocean Division
Building 230
Fort Shafter, Hawaii 96858
808-438-9258

Purpose

The basic purpose of the permit is to insure that the navigational characteristics of the coastal waters of the United States are not impaired by construction activities of any kind. To achieve this purpose, Congress has charged the Corps of Engineers with the responsibility to review all proposed construction in tidally influenced waters and to issue permits when, in the Corps' judgement, such construction is justified.

This original purpose has been considerably expanded, so that the Corps is now charged with considering a number of types of impacts unrelated to navigation, specifically including a wide range of environmental and social factors. Further, the definition of "navigable waters" has been considerably broadened so that wetlands and the upper non-navigable reaches of many streams are now included within their jurisdiction.

Applicability

The permit requirement applies to any project that involves construction of any type within the navigable waters of the United States, generally defined to include any waters subject to tidal influence. Actually, as noted above, many aquatic environments which could not be considered navigable in a strict sense are included within the Corps' jurisdiction. Activities which are specifically subject to the requirements include construction of wharves, jetties, piers, breakwaters, intake and outfall structures, including both temporary and permanent facilities.

Data Required

Fundamentally, the Corps of Engineers requires that the proposed work be physically described in sufficient detail so that its potential impact on the affected environment can be fully evaluated. The Corps' evaluation extends considerably beyond the potential impact of the project on navigation and includes consideration of the following: conservation, economics, historic values, water quality, aesthetics, coastal zone management, recreation,

water supply, general environmental concerns, land use, energy needs, safety, food production, flood damage prevention, fish and wildlife values, and, in general, the needs and welfare of the people.

Both a narrative description and detailed plans and drawings are required. In the case of actions with significant potential environmental effects, an environmental impact statement is required.

Time from Filing to Final Action

Permit processing time varies depending on the scope and magnitude of the proposed project and ranges from about 60 days for minor, non-controversial projects to over one year for major significant projects requiring a Federal environmental impact statement.

Public Participation

A public notice soliciting comments on the permit application is issued within 15 days after receipt of a complete application and usually provides a 30-day comment period. A public hearing may be required to assist in making a decision on the permit application.

Cost

A permit application fee of $100.00 is charged for commercial or industrial projects and a $10.00 fee is required for non-commercial projects. Fees should not be submitted with the application, but will be collected prior to issuance of the permit.

Problem Areas

1. An environmental impact statement may be required before final action is taken, with the attendant costs and delays.

2. The application will take a minimum of 45-60 days to process and can be further delayed by objections to the proposed project.

3. The Corps will not issue permits when certifications or authorizations required by Federal, State and/or local laws have been denied; however, permits can be processed concurrently with other governmental approvals. A certificate of consistency with the State of Hawaii Coastal Zone Management Program is also required.

APPENDIX B

FEDERAL/STATE PERMIT AND REVIEW ACTIONS

1. National Pollutant Discharge Elimination System (NPDES) Permit
2. Floodplain Management
3. Hawaii Coastal Zone Management
4. Historic Site Review
5. Introduction of Non-Indigenous Species

1. NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT

Legal Authority

Clean Water Act of 1977 (33 U.S.C. 1344); Chapter 342, Part III, HRS.

Issuing Agency

Department of Health, State of Hawaii (subject to the review and concurrence of the Environmental Protection Agency)

Contact: Mr. Ralph Ukumoto
Branch Chief, Pollution Technical Review Branch
or
Mr. Denis R. Lau
Supervisor, NPDES Permit Section
Pollution Technical Review Branch
Environmental Protection and Health Services Division
Department of Health
1250 Punchbowl Street
Honolulu, Hawaii 96813
(808) 548-6410

Purpose

The NPDES permit system is designed to regulate the discharge of wastewaters from fixed point sources into surface waters (streams, lakes, swamps or coastal waters). The term "point source" means any discernible confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged. The term is also applied to effluent discharges from ponds, tanks, raceways or any other type of aquaculture operation which is discharging or proposes to discharge wastewaters into surface waters.

Applicability

Prior to June 14, 1979, an NPDES permit was generally required before any effluent discharge could be made into surface waters from aquaculture facilities (ponds, tanks, raceways) or any type of concentrated aquatic animal production facility. Under the former regulations, there was an exemption for facilities producing less than 20,000 pounds of aquatic animals per year and for operations which discharge less than 30 days per year. However, the exemption did not apply to facilities producing aquatic animals not native to the United States.

Under the new rules published in the Federal Register (Vol. 44(111): 32854-32956; June 7, 1979) a number of constraints relating to discharges from aquaculture facilities have been eliminated. The new regulations allow a general exemption (on a case-by-case basis) from NPDES permit requirements for concentrated aquatic animal production facilities (culturing warmwater species) that produce less than 100,000 pounds of aquatic animals per year and for facilities which discharge less than 30 days per year. The new regulations also lift the permit requirements for facilities culturing aquatic animals non-indigenous (non-native) to the United States.

Aquaculture projects conducted in navigable waters (as defined in the Clean Water Act of 1977) and receiving (or proposing to receive) industrial or domestic wastewater discharges are subject to special Federal NPDES permit requirements. The regulations provide a means for beneficially utilizing nutrients and other specified pollutants for the growth of aquatic animals and plants used for human food or animal fodder. In contrast to discharges of effluents from land-based ponds, tanks, or raceways, which require a State issued NPDES permit, permits for discharges into aquaculture facilities situated in navigable waters are issued directly by the U.S. Environmental Protection Agency.

Specific exemptions from NPDES permit requirements are allowed for certain land-based aquaculture facilities that utilize domestic wastewaters from human or animal sources in the production system (essentially limited to research facilities).

Data Required

Data requirements generally include a physical-chemical characterization of the proposed effluent, including pH, temperature, dissolved oxygen, nitrogen (nitrate and nitrite), phosphorus (all forms), chlorine and chlorine residual (if applicable) and other tests as determined by the State Department of Health. Similar tests on the quality of the receiving waters may also be required. Applicants may also be required to provide (1) quantitative data as to the nature and composition of aquatic, wetland, and marine species which might be affected by the proposed discharge, and (2) an analysis of the prevailing water currents, circulation and turnover rates.

Although an environmental impact statement or assessment is not specifically required, data requirements for permit applicants may involve preparation of a major report. However, since the placement of an outfall pipe, conduit, or similar structure in navigable waters of the United States generally falls under U.S. Army Corps of Engineers permit authority, an EIS or environmental assessment is usually required.

Time from Filing to Final Action

Permits issued by the Department of Health usually require a minimum of 3 to 4 months. However, controversial projects or projects requiring a U.S. Army Corps of Engineers permit may take considerably longer, especially those requiring submittal of an EIS or environmental assessment.

Public Participation

There is no mandatory public hearing. However, there is a requirement for public notification of the Department's intent to issue a permit and a hearing will be required if requested by the public.

Cost

A $100 filing fee must accompany all NPDES permit applications.

The cost of preparing an NPDES permit application is dependent upon generating the required physical, chemical, and biological data to adequately describe the composition of the proposed effluent discharge and the potential environmental impacts of such discharges.

NPDES permits generally specify certain mandatory effluent monitoring tests which must be performed on a continuous or intermittent (daily, weekly, or monthly) basis

during the life of the permit (generally 5 years). The permit may also specify monitoring of receiving waters. Costs for monitoring equipment can amount to a capital outlay of several thousand dollars. Contracting monitoring responsibilities to private water quality laboratories is also expensive.

Problem Areas

In certain cases, an environmental impact statement could be required as a condition preceding issuance of the permit.

The NPDES permit is issued for a limited period of time, usually five years, with no guarantee of renewal. It, therefore, adds a degree of uncertainty to the future of any project.

Preparation of an EIS (if required), and technical data development necessary for the permit application can represent a substantial cost. The costs for the monitoring program specified as a condition of the permit can be costly over the life of the permit.

Sources of Professional Assistance

There are several environmental consulting firms with experience in NPDES permit applications. Several civil/sanitary engineering firms and private laboratories offer a full water analysis capability and technical support services.

2. FLOODPLAIN MANAGEMENT

Legal Authority

National Flood Insurance Act of 1968, as amended (42 U.S.C. 4001 et seq.); Flood Disaster Protection Act of 1973, P.L. 93-234 (87 Stat. 975); Executive Order 11988, Floodplain Management, May 24, 1977 (43 FR 6030); State of Hawaii, Chapter 179 HRS, and County ordinances under HRS 62-34(18).

Issuing Agency

Contacts:

Department of Land Utilization
City and County of Honolulu
650 S. King Street
Honolulu, Hawaii 96813
(808) 523-4247

Planning Department
County of Hawaii
25 Aupuni Street
Hilo, Hawaii 96720
(808) 961-8288

Department of Planning
County of Maui
Wailuku, Maui 96793
(808) 244-7735

Planning Department
County of Kauai
4230 Rice Street
Lihue, Hawaii 96766
(808) 248-8919

Purpose

Hawaii's flood control program is based on a collection of Federal, State, and County laws and ordinances. Traditionally, programs for the management of flood-prone areas have relied on structural approaches. In recent years a greater sensitivity toward recognizing the diverse functions of natural floodplains has developed, which generally recognizes the futility of trying to contain extreme flood events by use of man-made structures. The consequence has been a greater emphasis on regulating land uses in areas that are prone to flooding or tsunami inundation and in designing structures in a manner which will reduce hazards to life and property.

Of special significance to Hawaii is the inclusion of coastal areas in the domain of the Act, because of their vulnerability to tsunami inundation. As a consequence, this program has the potential for significantly restricting development in coastal areas.

Applicability

Final drafts of Hawaii's Emergency Flood Insurance Maps are now in preparation by the Federal Insurance Administration (FIA) and are expected to be approved before the end of 1979. On Oahu, 100-year flood maps which depict stream flooding and tsunami inundation areas have been adopted by the City and County in Ordinance 2735. An approved Federal flood protection program is expected to be in operation in the State by mid-1980.

With respect to existing State programs, the Board of Land and Natural Resources has a coordinating and facilitating role under Chapter 179 throughout the State. Until an approved Federal program is implemented, the Counties generally retain the authority to regulate flood control. The following citations reflect the various County ordinances pertaining to developments in flood prone areas: Kauai Comprehensive Zoning Ordinances 5.041B; Maui Floodplain and Tsunami Inundation Ordinance No. 716; and Hawaii County Chapter, Article 2.

Data Required

The data requirements, review authority, flood zone maps and any or all permit requirements consistent with the Federal Flood Disaster Protection Act of 1973 are pending Federal Insurance Administration approval. Thus, the full regulatory ramifications of this new Federal program are presently not known. Presidential Executive Order 11988 specifically states that an environmental impact statement, or its equivalent, may be required for proposed actions on Federal lands or those involving Federal financial participation. State EIS review procedures and the Hawaii Coastal Zone Management Program have similar requirements. A determination of the beneficial uses of the proposed project, including alternatives, and flood mitigation measures for proposed developments on floodplains would have to be identified for activities (such as U.S. Department of the Army permits) involving Federal agency or Federal permit actions. A Federal permit would only be issued subject to the floodplain determination, submittal of a Federal EIS, and consistency with Federal, State, and County laws, regulations, and ordinances.

Time from Filing to Final Action

Presently undetermined.

Public Participation

Presently undetermined.

Cost

May necessitate a Federal Environmental Impact Statement for aquaculturists applying for Small Business Administration, Farmers Home Administration, or related Federal loans or loan guarantee programs. Facility siting and floodplain determination may necessitate the need for professional architectural, engineering and surveying services. The full cost ramifications for facility development, including specific design and construction parameters for floodplain developments are not known.

Problem Areas

Insurance requirements may pose as a substantial expense to aquafarmers. Design and construction costs for floodproofing facilities located on designated floodplains are likely to be substantially higher.

Sources of Professional Assistance

A number of engineering firms in the State can provide the requisite surveying and engineering services. Environmental impact statement preparation services are available through many environmental consulting firms.

3. HAWAII COASTAL ZONE MANAGEMENT ACT

Legal Authority

Coastal Zone Management Act of 1972, as Amended, Public Law 92-583, (16 U.S.C. 1451 et seq.); Hawaii Coastal Zone Management Act, as Amended, Section 205A, HRS.

Issuing (Review) Agency

Hawaii Coastal Zone Management Office

Contact: Hawaii Coastal Zone Management Office
Department of Planning and Economic Development
P.O. Box 2359
Honolulu, Hawaii 96804
(808) 548-3026

Purpose

To provide for the effective management, beneficial use, protection, and development of the coastal zone as applied to Federal legislation and Federal Agency actions which may effect the defined Coastal Zone Management Area (the waters from the shoreline to the seaward limit of the State's jurisdiction and other areas, including inland areas, designated for the purpose of administering the Coastal Zone Management Act). The Hawaii Coastal Zone Management Act provides a broad set of goals, objectives and policies, consistent with the Federal Act, dealing with protection management, development, restoration and enhancement of coastal zone recreational, historic, scenic, open space, economic and ecosystem resources.

Applicability

Coastal Zone Management (CZM) review generally applies only to Federal legislation and Federal agency actions, including permits, in the defined CZM area.

Data Required

Proposed Federal agency actions in the defined CZM area generally require submittal of an environmental assessment or environmental impact statement. Non-Federal applicants requiring a Corps of Engineers or a related Federal permit are required to submit an environmental assessment or impact statement, consistent with Federal and State environmental regulations. Federal permits will not be issued until a "certification of consistency" from the Hawaii CZM office is obtained.

Time from Filing to Final Action

Generally dependent on the scope and magnitude of the proposed action in the CZM area and the number of requisite Federal, State or County permits involved. For relatively minor, non-controversial projects, a period of 1-2 months may be involved.

Public Participation

Opportunity is provided for public review and comment during one or more stages of Federal, State or County review.

Cost

Obtaining a certificate of consistency from the CZM program does not involve any additional filing fees or data requirements beyond those normally required for other Federal or State agencies. However, review of applicable State CZM regulations is recommended for all projects which may effect the defined coastal zone management area.

Problem Areas

Action on required Federal permits cannot be taken until the CZM review and approval process is complete. EIS data requirements for CZM and Federal agency actions may require a full disclosure of system design, engineering and operational details.

Sources of Professional Assistance

Many local architectural/engineering and environmental consulting firms have expertise in preparation of environmental assessments/impact statements and related documents.

4. HISTORIC SITE REVIEW

Legal Authority

Chapter 6E, HRS, Historic Objects and Sites, Memorials; National Historic Preservation Act of 1966, as Amended (P.L. 89-665); Presidential Executive Order 11593, "Protection and Enhancement of the Cultural Environment" (May 13, 1977).

Issuing (Review) Agency

Department of Land and Natural Resources

Contact: Mr. Ralston Nagata
Historic Sites Program Director
Department of Land and Natural Resources
1151 Punchbowl Street
Honolulu, Hawaii 96813
(808) 548-7460

Purpose

The intent of the review procedure is to protect places of historic, cultural, or archaeologic importance to the State and the nation.

Chapter 6E, Part I, defines "historic property" as "any building, structure, object, districts, areas, and sites, including underwaters sites, significant in the history, architecture, archaeology, or culture of this State, its communities or the nation." The review procedure is designed to provide the State (and in many cases, the Federal government) with adequate advance notice before any construction, alteration or improvement of any nature is undertaken on a designated historic property by any person or agency.

Applicability

Any structure, facility or action which could effect designated historic properties on County, State, and private lands in the State are affected by the authority of Chapter 6E. Proposed actions on Federal lands or actions utilizing Federal funds must comply with appropriate national guidelines as well as State law. The list and locations of designated historic properties can be found in the *Hawaii Register of Historic Places* and in the *National Register of Historic Places.*

Although both documents are periodically revised to reflect new listings, persons wishing to develop any lands or submerged lands should consult with the Historic Sites Program office early in the project planning stages. In addition to designated historic places, properties or structures determined to be eligible for listing in the *National Register of Historic Places* are also extended similar protection when federal funding or permission is required.

Although the respective State and Federal laws and Executive Orders do not necessarily prohibit alteration or destruction of designated historic places (or sites eligible for designation), every effort is usually undertaken by Historic Sites Program officials to preserve and protect such resources to the extent permissable by law. Projects affecting historic properties, but judged to be in the best interests of the public, or projects which produce adverse effects to landowners or other affected parties,

may be allowed to proceed (following State review), provided the State has the opportunity to record, retrieve, or salvage historical data, information, or artifacts which would otherwise be lost.

Entrepreneurs wishing to utilize certain traditional Hawaiian fishponds listed on the *National Register* for commercial aquaculture purposes may be eligible to qualify for Federal matching funds assistance for restoration and preservation activities, provided such activities are under the guidance of professional archaeologists and further provided that such activities are consistent with State and Federal guidelines.

Data Required

The applicant must file a notice of his intention to work on the site 90 days in advance of the proposed starting date. The applicant must make clear the nature of the proposed construction and the precise location of such activities with respect to any historic site. Any efforts at preserving or stabilizing affected historic sites within the proposed project area should also be identified.

An environmental impact statement is generally required for projects or activities within any historic site as designated in the National or Hawaii *Register* or Chapter 6E of the Hawaii Revised Statutes. Consult Chapter 344, HRS.

Time from Filing to Final Action

After the expiration of the 90 day notification period, the Department must respond with one of three answers:

- The action may proceed unimpeded.
- The action may proceed subject to negotiated conditions.
- Condemnation proceedings must be initiated to take the property upon just compensation of the owner.

For certain Federal actions or activities for projects on Federally-held lands, or projects requiring a Federal permit, the applicant may be required to provide the results of a professional archaeological reconnaissance survey.

Public Participation

Since projects affecting designated historic properties generally require an environmental impact statement (EIS), a public hearing is generally mandated under the EIS requirements.

Problem Areas

- An archaeological reconnaissance survey may be required, and is generally costly.
- Although the Department of Land and Natural Resources must respond within 90 days of application, projects entailing Federal permits generally require a Federal EIS and all attendant public review periods mandated by Federal as well as State law.

- It could be difficult for an individual to determine whether or not a property is subject to Chapter 6E, HRS, since not all of the registered or eligible sites have been placed on tax maps, and the inventory of sites is incomplete.

5. INTRODUCTION OF NON-INDIGENOUS SPECIES

Legal Authority

Chapter 150A, HRS; Regulation No. 2 of the Division of Plant Industry; Department of Agriculture Policy PI-8, Amended December 2, 1976; Lacey Act (18 U.S.C. 42); Presidential Executive Order 11987 of May 24, 1977, Relating to Exotic Organisms.

Issuing Agency

Board of Agriculture
Department of Agriculture
State of Hawaii
P.O. Box 2520
Honolulu, Hawaii 96804

Contact: Mr. Bernard Shinbara
Chief
Plant Quarantine Branch
Department of Agriculture
P.O. Box 2520
Honolulu, Hawaii 96804
(808) 548-7175

Purpose

The purpose of Regulation 2 (as applied to aquaculture) is to prevent the introduction of potentially injurious species into Hawaiian freshwater, estuarine or marine ecosystems. The deliberate or accidental introduction of these species into the State could result in real or potentially adverse environmental, ecological, social or economic impacts and could potentially jeopardize certain rare, or unique endemic species of recognized social, economic or scientific interest. The Regulation also attempts to prevent the introduction of parasites, pathogenic microorganisms and viruses which might accompany a given host species and pose a risk to native species, domesticated animals or humans.

Applicability

A person wishing to import any species into Hawaiian freshwater or marine ecosystems must first obtain a permit from the Department of Agriculture, Plant Quarantine Branch. Policy PI-8 provides a list of species that fall into one of the following four categories: (1) approved for entry, (2) to be admitted under certain conditional requirements, (3) prohibited list for private individuals and (4) all those that are prohibited from entry.

Persons wishing to import any species for aquaculture purposes should consider the Department of Agriculture the first step in the planning phase of the project. The approval for admissability of any species is a function of the Board of Agriculture.

Other permits may be required for the shipment of non-native species between the islands in the Hawaiian chain. Board permits may also specify the type of containment facilities, disposition of diseased specimens, quarantine requirements, etc., as a function of the species and point of origin of the shipment.

Data Required

Permit applications must list both the common and accepted scientific name of the species, sex, size (mature or immature), quantity (weight or number), and any special treatment for endoparasites or ectoparasites, method of shipment, and the name and address of the shipper and importer.

Applicants should also provide a description of the facility in which the species is to be confined or cultured, proximity of the site to marine or freshwater habitats, and a description of methods or techniques to prevent escape into the wild.

Time from Filing to Final Action

The processing of permit applications for Board of Agriculture approval usually takes 2-3 months. Permit applications for species that are defined as "approved for entry" and certain species admissable on the basis of certain "conditional requirements" can be handled administratively within a period of generally less than one month.

Public Participation

There is no requirement for a public hearing, unless as provided by the Board of Agriculture.

Cost

Presently, there is no cost associated with filing an application or obtaining an import permit.

Problem Areas

Regulation No. 2 of the Division of Plant Industry is designed to protect Hawaii's freshwater and marine ecosystems from perturbations resulting from or incidental to any injurious species introduction.

Because of the State's limited endemic biota, efforts have been undertaken since the turn of the century to increase the diversity of aquatic species available for recreational fishing and other pursuits. These introductions, both planned and in some cases accidental, have resulted in the establishment of at least 36 non-indigenous aquatic animals in the State. Many of these exotics serve useful purposes and are important and generally welcome additions to the Hawaiian fauna. Others are of less importance and would probably not be missed if they could be eliminated. Considering the haphazard and indiscriminate nature of many of the earlier introductions, none appear to be seriously detrimental.

Despite these facts, the Board of Agriculture has restricted many species with demonstrated culture possibilities and local, national and international market potential.

Compounding the State's regulatory authority is the authority vested in Presidential Executive Order 11987 of May 24, 1977 and the Lacey Act (18 U.S.C. 42). Order 11987 grants broad discretionary authority to the Secretary of the Interior and the Secretary of Agriculture to "restrict the introduction of exotic species . . . encouraging the States, local governments, and private citizens to prevent the introduction of exotic species into natural ecosystems of the United States." Although the authority of the Executive Order places major emphasis on executive agencies and the lands and waters they hold

for purposes of administration, the order directs the DOI and DOA to develop appropriate rules and regulations for implementing the provisions of this order.

Existing Federal regulations (50 CFR 16) under the Lacey Act prohibit the importation of live fish or viable eggs of the family *Clariidae* into the United States, despite the fact that the Chinese catfish, *Clarias fuscus,* has been "native" to Hawaii for nearly 100 years.

It is clear from the growing technological base of international aquaculture research that unwarranted restrictions on the importation of non-indigenous species could potentially preclude Hawaii's full participation in the state-of-the-art of worldwide aquaculture development.

APPENDIX C

STATE PERMIT AND REVIEW ACTIONS

1. State Environmental Impact Statement
2. Conservation District Use Permit
3. Permit for Work in Shorewaters of the State
4. Designated Groundwater Control Area Use Permit
5. Shellfish Sanitation Certificate

1. STATE ENVIRONMENTAL IMPACT STATEMENT

Legal Authority

Chapter 343, HRS and Environmental Quality Commission–Environmental Impact Statement Regulations.

Issuing Agency

Environmental Quality Commission, State of Hawaii

Contact: Mr. Ken Takahashi
Executive Secretary
Environmental Quality Commission
550 Halekauwila Street, Room 301
Honolulu, Hawaii 96813
(808) 548-6915

Purpose

A State Environmental Impact Statement (EIS) is a document containing a detailed description of the proposed project and a definition of the real or potential environmental impacts which might ensue if the project is implemented. State EIS requirements are basically modeled after Federal EIS guidelines (National Environmental Policy Act of 1969) and are designed to assure that all relevant facts concerning the proposed project are identified in advance of granting State or County permits. An EIS is basically a decision-making document which enables government agencies, private organizations and the public to weight the consequences of and alternatives to proposed actions which may have an effect on the overall quality of the environment. The term "environment" includes not only aquatic, marine and terrestrial wildlife resources and ecosystems, but also encompasses the totality of man's physical, social, cultural, political and economic environment.

Applicability

Except for unusually small aquaculture projects or projects entailing an administratively determined "insignificant" environmental impact, an environmental assessment is required for actions which are proposed by State and County agencies, as well as actions proposed by the private sector and requires prior approval from an agency, and which fall within any of the following categories:

1. Actions proposing the use of State or County lands or funds.

2. Actions proposing any use within Conservation District Lands.

3. Actions proposing any use within any historic or archaeological site as designated in either the State or *National Register of Historic Places.*

4. Actions proposing any use within the shoreline area (the land area between the shoreline and the Shoreline Setback line), as defined in Chapter 205-31, HRS (Note: recent amendments to Chapter 205-36, HRS, now generally exempt improvements to aquaculture facilities from "variance" procedures, on a case-by-case basis).

5. Any action which proposes an amendment to a County General Plan where such an amendment would result in a designation other than Agriculture, Conservation or Preservation, except actions proposing any new County General Plan or amendments to any existing County General Plan initiated by a County.

6. Actions falling within any of these categories are assessed to determine the need for an environmental impact statement.

Actions involving disturbances to State-designated endangered species or the habitat of endangered species may also require an EIS, although a State EIS is not a regulatory requirement for impacts to endangered species under Chapter 343. The requirement for such is generally determined administratively by County agencies or the Department of Land and Natural Resources. The requirement for an EIS for projects involving real or potential impacts to endangered species is generally decided on a case-by-case basis. For actions requiring Federal permits, a Federal EIS is usually required for projects involving disturbances to Federally-designated endangered species or defined "critical habitats."

An EIS is generally required for projects which take place within the above described categories whenever agencies assess proposed actions and determine that such actions may have a significant effect on the environment. If impacts are judged to be insignificant, a Negative Declaration is filed with the State Environmental Quality Commission by the agency making such a determination.

Data Required

The Environmental Quality Commission (EQC) was directed by law to develop rules and regulations to guide EIS preparation. These rules outline a general EIS format through which the applicant must respond to a number of specific topic areas in sufficient detail to permit decision makers to fully anticipate the environmental consequences of the proposed action. The major categories of information called for by the EQC Regulations are as follows:

- Summary sheet.
- Project description.
- Description of the environmental setting.
- The relationship of the proposed action to land use plans, policies, and controls for the affected area.
- The probable impact of the proposed action on the environment.
- Any probable adverse environmental effects which cannot be avoided.
- Alternatives to the proposed action.
- The relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity.
- Mitigation measures proposed to minimize impact.
- Any irreversible and irretrievable commitments of resources.

- An indication of what other interests and considerations of Governmental policies are thought to offset the adverse environmental effects of the proposed action.
- Organizations and persons consulted.
- Reproduction of comments and response made during the consultation process.
- Summary of unresolved issues.
- List of approvals.

Time from Filing to Final Action

Agencies must assess an applicant's project to determine the need for an EIS within 30 days from the submission of the request for approval. No time limits are set on the preparation of the document. Acceptance of an EIS must be within 60 days of filing the document with the approving agency, provided that this 60-day period may be extended at the request of the applicant for a period not to exceed 30 days.

Public Participation

Public participation is of central importance in the EIS process. The law is designed to encourage full public involvement in the decision-making process.

After it is determined that an EIS is required, a notice is published in the *EQC Bulletin* advising the public that an EIS will be prepared. The Environmental Impact Statement Preparation Notice (EISPN) summarizes the proposed action, points out areas of potential impact and generally documents the steps and criteria used in making the decision. The Notice includes the name and address of a person who may be contacted for further information about the project.

Following the publication of the Notice, the public has 30 days in which to request to be a consulted party during EIS preparation. The EIS preparer must then request comments in writing to all consulted parties. Upon receipt of such request for comments, the consulted parties have 30 days in which to make written comments.

After a draft EIS is prepared and circulated, the public has an additional 30 days during which to comment in writing. A response must be made in writing to any such public comments. Both the comments and the response must be included in the final EIS document submitted for acceptance. One or more public hearings are generally encumbent in the review process, but is not required under Chapter 343, HRS.

Cost

The cost of preparing an EIS is variable, depending on the size and complexity of the project as well as the degree of controversy that the project may be expected to generate. Although many acceptable EIS's are prepared by the aquaculturists themselves, many large firms prefer to contract the services to outside consultants. Generally speaking, EIS preparation fees, including both preliminary or draft and final documents, can range from 2-6% of the total project cost.

Problem Areas

The EIS requirement poses several problems for prospective aquaculturists:

- The procedures and requirements are complex. Professional assistance could be needed to meet the multiple requirements of the law.

- The process is time-consuming. The EIS procedure requires more than the preparation of a document, but involves the entire process of research, data analysis, discussions, preparation of a statement, and review. During this time no permits will be acted upon.

- The procedure could subject the project to detailed scrutiny, possibly resulting in the disclosure of significant operating details.

- Aquaculture projects involving modifications of wetlands, streams, and coastal waters would be most likely subject to both State and Federal EIS requirements. Although once compounding the complexities of EIS preparation and review, new NEPA Federal Guidelines now permit submission of a single document (which must meet both Federal and State guidelines) and also allow for a single public hearing.

Sources of Professional Assistance

Many local consulting firms specialize in EIS preparation. In addition, engineering firms have some experience in this area. It is best, if possible, to choose a firm with first hand experience in aquaculture. Many of the potentially favorable environmental aspects of aquaculture relate to the biological details of the system under study and are not readily apparent to the inexperienced.

2. CONSERVATION DISTRICT USE PERMIT

Legal Authority

Chapter 205, HRS, as Amended, "Land Use Commission"; Regulation No. 4, Department of Land and Natural Resources, pursuant to Chapter 183-41, HRS, as Amended; Chapter 183-44, "Fishponds" (pertains to permit requirements for repair, reinforcement, or maintenance of traditional fishponds).

Issuing Agency

State Board of Land and Natural Resources

Contact: Department of Land and Natural Resources
1151 Punchbowl Street
Honolulu, Hawaii 96813
(808) 548-7837

Purpose

The purpose of Chapter 205 and Regulation No. 4 (pursuant to Chapter 183-41, HRS, as Amended) is to provide for the regulation of uses within Conservation districts, so that open space, recreational, aesthetic, historic, and cultural values are protected. The regulations are also designed to protect critical wildlife habitat and watershed areas.

Applicability

Anyone proposing to make any use of lands within the Conservation districts of the State, as established by the State Land Use Commission, must apply. The Conservation district includes large areas of shoreline lands within the State, and virtually all traditional Hawaiian fishponds, as well as most submerged offshore lands and outlying small islands.

Regulation No. 4 established a list of permissable uses within Conservation Districts of the State. Aquaculture facilities and activities in Resource (R) and General (G) subzones of Conservation Districts are specifically defined as permitted activities. Whereas, Protective (P) and Limited (L) subzones exclude almost any type of residential or commercial development.

Protective (P) subzones are so defined to protect valuable resources such as watersheds; fish, plant and wildlife sanctuaries, historic or archaeologic sites and unique geological or volcanological features and sites, whereas, the objective of Limited (L) subzones is to limit uses where natural conditions suggest constraints on human activities. Included in this category are lands susceptible to tsunami inundation or flooding. However, many of these natural lowland and coastal areas represent potentially ideal aquaculture sites.

Regulations adopted under Chapter 183-44 place special permit restrictions on repairs, reinforcement, and maintenance activities on all traditional Hawaiian fishponds, except for designated emergency actions.

Date Required

A complete application form must be submitted which identifies the site of the proposed action and describes the action in sufficient detail to permit a thorough evaluation by the Department. Data requirements are extensive and must include (1) a description of existing structures or uses, utilities (including drainage and sewerage); (2) access or proposed access, (3) vegetation (including any rare native plants), (4) topography, (5) shoreline or offshore features (if applicable), (6) any covenants, easements or restrictions, and (7) the presence of designated National or State historic sites. An environmental assessment or environmental impact statement (pursuant to Chapter 343, HRS) must be attached to the Conservation District Use Permit Application (generally in place of the above data requirements).

Time from Filing to Final Action

Six months from submittal to approval. If the Board fails to act within 180 days after submittal of the application, the applicant may automatically put his land to the use or uses requested.

Public Participation

Applications are considered during regular Board meetings which are open to the public. Public hearings are required for all proposed commercial operations in Conservation Districts and are held in the County in which the land is located.

An applicant or landowner (or government agency) who wishes to change or amend boundary lines or permitted uses within any subzone, or establish a new subzone designation, may instigate such a change in the form of a proposed amendment filed with the Board of Land and Natural Resources. This procedure is complex and time consuming and involves public notices, hearings and notifications to affected land owners.

Cost

Costs include documentation of present and proposed drainage conditions, design and construction plans and any other information pertinent to the application or as requested by the Department. An environmental assessment or EIS may be necessary. There is a $50 filing fee and a $50 public hearing fee for all proposed commercial operations to be located in Conservation Districts.

Problem Areas

Administrative review by the Department of Land and Natural Resources and subsequent submittal to the Board normally takes six months.

Sources of Professional Assistance

Several local environmental consulting and civil engineering firms have experience in this area.

3. PERMIT FOR WORK IN SHOREWATERS OF THE STATE

Legal Authority

Chapter 266, HRS, Harbors; State of Hawaii Department of Transportation; Harbors Division, Rules and Regulations and Tariff No. 4.

Issuing Agency

Department of Transportation

Contact: Mr. John C.T. Lee, Engineer
Design Section, Harbors Division
Department of Transportation
79 South Nimitz Highway
Honolulu, Hawaii 96813
(808) 548-2505

Purpose

To regulate construction activities and the erection or placement of any structure or material within shores or shorewaters of the State for protection of navigation and shoreline processes.

Applicability

Applies to projects involving permanent or temporary construction in shore-waters of Hawaii, including navigable portions of streams, estuaries and certain shores.

Data Required

The application requires a complete description of the proposed shoreline development including the nature and extent of proposed work, disposition of dredged or fill materials (and storage or stockpiling of such materials); effects on public access, physical and biological shoreline resources, adjacent property owners, and other requirements that may be pertinent to the proposed work.

Time from Filing to Final Action

Generally depends on the nature of the project and whether an environmental impact statement is required. Relatively small projects with few attendant environmental disturbances can be handled administratively in less than one month. Larger projects representing significant disturbances to sensitive ecosystems or other natural resources can require up to 9 months for approval.

Beginning January 1, 1978, the Department of Land and Natural Resources (DLNR) and the Department of Transportation (DOT) combined permit processing under DLNR's Conservation District Use Permit system. Under the consolidated system, only a Conservation District Use Application need be submitted to DLNR for shorewater projects. DOT permit requirements are met via inter-agency coordination between DOT and DLNR. A separate permit for work in shorewaters of the State is no longer necessary unless specifically required by DLNR for projects which do not affect the Conservation District but still fall within the jurisdiction of DOT.

The combined system eliminates dual processing and duplication of effort and saves the applicant the $50 filing fee required by a separate DOT permit.

Public Participation

A public hearing, while not mandatory, is generally required during the review process at one or more stages of State or County review. Since most actions requiring a Department of Transportation permit for work in shorewaters also require a Federal Department of the Army permit, a single public hearing usually meets the requirements for both State and Federal agencies.

Costs

There is a mandatory $50 filing fee which must accompany the permit application.

The data requirements, including design drawings, can be costly, particularly if an environmental impact statement is required. Data requirements for the permit application basically involve the same type of information as normally provided in a State environmental impact statement. Except for very minor projects, a Department of the Army permit would also be required, which generally must include a Federal environmental impact statement.

Problem Areas

- Action on the application generally requires prior issuance of a Special Management Area permit and a variance from Shoreline Setback regulations (for activities infringing upon the shore).

- Permit application requirements under Section 404 of the Clean Water Act of 1977 (as administered by the U.S. Army Corps of Engineers) generally duplicates the permit process of the Department of Transportation. Except for very minor projects, concurrent application must be made to the U.S. Army Corps of Engineers.

- Although certain projects under the Department of Transportation authority may be exempted from a State environmental impact statement or assessment requirements, actions involving Federal permits are usually not exempted.

Sources of Professional Assistance

Many civil engineering and environmental consulting firms have experience in this area.

4. DESIGNATED GROUNDWATER CONTROL AREA USE PERMIT

Legal Authority

Chapter 177, HRS, "Groundwater Use Act"; Regulation No. 9, Department of Land and Natural Resources (June 1979).

Issuing Agency

Board of Land and Natural Resources

Contact: Mr. Robert T. Chuck
Manager, Chief Engineer
Water and Land Development Division
Department of Land and Natural Resources
1151 Punchbowl Street
Honolulu, Hawaii 96813
(808) 548-7533

Purpose

To protect groundwaters of the State from waste and to assure the availability of potable water supplies as demands increase. Chapter 177 allows for the establishment of "designated groundwater areas" within the State upon the finding by the Board of Land and Natural Resources that there is a "need for regulation and protection for its best utilization, conservation, and protection in order to prevent threat of exhaustion, depletion, waste, pollution or deterioration by salt encroachment."

Applicability

Anyone wishing to initiate the use of groundwaters from a designated groundwater control area must obtain a permit from the Board of Land and Natural Resources. Chapter 177, HRS established several criteria for designation, including areas where:

- The use of groundwater exceeds rate of recharge.
- Groundwater levels are declining or have declined excessively.
- Chloride content of water is increasing to a level that materially reduces the value of the use to which water is being put.
- Excessive preventable waste of water is occurring.
- Any proposed water development(s) which if constructed would, in the opinion of the Board, degrade water quality or alter the beneficial uses of such resources.

Regulation No. 9 of the DLNR was promulgated on June 3, 1979, based on the provisions of Chapter 177. Presently there is one proposed groundwater control area, the Pearl Harbor Designated Groundwater Control Area, which encompasses all lands contained in the Ewa District (Tax Zone 9), and the Wahiawa District (Tax Zone 7).

Regulation 9 allows for existing water usage to be maintained in designated control areas provided the Board certifies such actions as being consistent with the "beneficial" uses of such waters. Amongst the criteria utilized for Board certification and new permit applications are the following:

- There is water available for use.
- The use of the water will be beneficial.
- The most beneficial use and development of the water resources of the State will not be impaired by granting the permit.

Aquaculture is not specifically defined as a beneficial use in the Regulation; however, administrative interpretation of the regulation would appear to include aquaculture under the definition of agriculture, a defined beneficial use of groundwaters.

Although Board certification of existing groundwater uses in a groundwater control area is not expected to result in any adverse effects to present user groups, any future expansion or modifications of facilities or pumpage rates which would effect groundwater resources would require prior approval by the Board.

Data Required

Requests for Board certification (of existing facilities or uses) or applications for development of new facilities or uses would have to demonstrate that water is available for use, the proposed use will be beneficial, and issuance of a permit will not substantially interfere with other existing permitted uses.

Time from Filing to Final Action

The Board of Land and Natural Resources has up to 180 days to act upon receipt of an application. Permits issued by the Board are good for periods not to exceed 50 years.

Pubic Participation

A public hearing and public comment period is required whenever the Board determines that there is a need for a new designated groundwater control area.

A public hearing may also be required for certification of existing groundwater users and for applicants for new groundwater uses in designated groundwater control areas.

Cost

A $100 filing fee must accompany each application.

Problem Areas

Any modification to existing groundwater pumping stations, including increased water usage must be reported to the Board.

Domestic, municipal and military water uses have been defined as "preferred" users if a shortage of water exists in designated groundwater control areas. Thus,

during periods of water shortages, water available for beneficial aquaculture uses could be in short supply.

Sources of Professional Assistance

Some local civil engineering firms have expertise in hydrology and groundwater resources development.

Assistance from the Federal government can be obtained from the Water Resources Division of the U.S. Geological Survey (808-546-8331). The Division of Water and Land Development of the Department of Land and Natural Resources (808-548-7573) and the respective County Boards of Water Supply can also provide valuable assistance.

5. SHELLFISH SANITATION CERTIFICATE

Legal Authority

Chapter 328-9 and Chapter 321-11, HRS, and Hawaii Public Health Regulations, Chapter 4A, and consistency with the National Shellfish Sanitation Program, USPHS Publication No. 33.

Issuing Agency

Department of Health

Contact: Mr. Wilbert Kubota
Food and Drug Branch
Department of Health
1250 Punchbowl Street
Honolulu, Hawaii 96813
(808) 548-3280

Purpose

Shellfish (oysters, clams and mussels) may endanger the health of consumers because (1) shellfish have the ability to filter and concentrate pathogenic microorganisms and toxic substances present in the environment, (2) the environment in which shellfish grow is almost universally subject to some degree of domestic, industrial, or animal pollution, (3) shellfish are packed whole and alive and are often consumed either raw or partially cooked, (4) deleterious substances can be introduced into shucked meats during the shucking process, and (5) raw shellfish packed and held under inadequate refrigeration can serve as an excellent growth medium for bacteria.

In order to provide adequate consumer protection and minimize potential health hazards, sanitary controls in the shellfish industry must begin at the growing area and continue through all aspects of harvesting, processing, packaging, storing and distributing.

Applicability

A person wishing to engage in the growing, harvesting, shucking, packing, repacking or reshipping of fresh or fresh-frozen shellfish for sale to the public must hold a valid Shellfish Sanitation Certificate issued by the Department of Health, State of Hawaii.

Persons or facilities operating without the necessary certificate are subject to seizure of the product in accordance with the Hawaii Food, Drug and Cosmetic Act, and are further subject to civil penalities involving fines or imprisonment.

Data Required

Data requirements are varied as a function of whether the applicant is growing, processing or shipping shellfish. Generally, the Department of Health will conduct a sanitary survey to determine actual or potential sources of pollution in the area, including but not limited to pesticides, industrial wastes and sewage effluent. On the basis of the survey, the Department of Health will classify an area as "approved, restricted or prohibited." As a function of the outcome of the sanitary survey, the Department will establish a monitoring program for the certificate holder to assure proper functioning

of the water system. This program would include a number of possible monitoring parameters, including temperature, salinity, and fecal and total coliform bacteria.

Applicants are advised to consult with the Department of Health early in the project planning stages so that any potential problems relating to construction details, flow diagrams and sanitary requirements can be resolved prior to facility construction.

Time from Filing to Final Action

The time from initial filing to final permit action is generally decided on a case-by-case basis, as a function of project siting parameters, geographic location, past history of the site, and the results of the sanitary survey.

Public Participation

None required.

Cost

There is no specific permit application cost. Costs relating to specified monitoring parameters for assuring overall product quality can amount to several thousand dollars. Certificates issued under the Regulations are valid for a period of one year and expire on June 30th each year.

Problem Areas

The procedure for application for a Shellfish Sanitation Certificate and any attendant monitoring costs are not looked upon as an impediment to development since these procedures ultimately serve the best interests of the aquafarmer by assuring a high degree of product quality control.

Sources of Professional Assistance

In addition to the Department of Health, which is willing and able to assist at all stages of facility or product development, a number of local environmental consulting firms have specialized expertise in this area. Many of these firms have full water quality laboratories. The Shellfish Sanitation Program of the U.S. Food and Drug Administration is also available in providing expertise and assistance in problem areas.

It is highly recommended that applicants wishing to engage in shellfish aquaculture consult with the Food and Drug Branch and the Sanitation Branch of the State Department of Health so that potential health problems relating to water sources, nutrient supplements, storage and processing facilities, sewage disposal, proximity of operations to adjoining properties, may be addressed. The Food and Drug Branch has the responsibility for fishery products in intrastate commerce under Chapter 328, HRS, and Chapter 4, Public Health Regulations. The Sanitation Branch regulates sewage disposal and the waste discharges under Chapter 38, Public Health Regulations, and the processing of fishery products under Chapter 1-A, Public Health Regulations.

APPENDIX D

COUNTY PERMIT AND REVIEW ACTIONS

1. Special Management Area (SMA) Permit
2. Variance from Shoreline Setback Regulations
3. County Grading, Grubbing, and Stockpiling Permits
4. Well Permit–City and County of Honolulu

1. SPECIAL MANAGEMENT AREA (SMA) PERMIT

Legal Authority

Hawaii Coastal Zone Management Program, Chapter 205A, HRS, as Amended. Rules and Regulations adopted by the respective Counties.

Issuing Agency

City Council in the City and County of Honolulu: County Planning Commissions in the Neighbor Islands.

Contact: Department of Land Utilization
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813
(808) 523-4077

Department of Planning
County of Maui
Wailuku, Hawaii 96793
(808) 244-7735

Planning Department
County of Hawaii
25 Aupuni Street
Hilo, Hawaii 96720
(808) 961-8288

Planning Department
County of Kauai
4230 Rice Street
Lihue, Hawaii 96766
(808) 245-3919

Purpose

The purpose of the Special Management Area (SMA) permit is to regulate the uses of shoreline lands and inland waters to preserve, protect, develop, and where possible, to restore and enhance the resources of Hawaii's coastal zone.

Applicability

An SMA permit is generally required for any "development" as defined by statute within the designated SMA which may significantly affect the shoreline and Coastal zone. The SMA is defined in each County to include lands and waters lying between the shoreline (defined as the upper reaches of the wash of the waves, other than storm and tidal waves, usually evidenced by the edge of vegetation growth, or the upper limit of debris left by the wash of the waves) and an established boundary at least one hundred yards inland. Some Counties have established the inland boundary at the peripheral coastal highway where the highway is more than the minimum 100 yards from the shore.

House Bill 1642 of the Tenth Hawaii State Legislature (1979) amended Chapter 250A to allow an exclusion from the permit requirements for aquaculture or mariculture facilities, provided the cumulative impacts of the project do not pose a significant environmental or ecological effect on the SMA.

Date Required

The applicant for a SMA permit must present sufficient data to demonstrate that the proposed development will not have any substantial adverse environmental or ecological effect, except as such adverse effect is minimized to the extent practicable and clearly outweighed by public health, safety or compelling public interest.

Amongst the criteria followed by County authorities in evaluating the merits of proposed developments in the SMA are:

- Adequate access to public-owned beaches, recreation areas and natural reserves.
- Adequate and properly located wildlife preserves are reserved.
- Provisions are made for solid and liquid waste treatment, disposition and management which will minimize adverse effects upon SMA resources.
- Alterations to land forms and vegetation (except crops), and construction of structures shall cause minimum adverse effect to water resources, scenic and recreational amenities and minimize danger of floods, landslides, erosion, siltation, or failure in the event of an earthquake.

The City and County of Honolulu has adopted the format of the State EIS as a means of reviewing the environmental consequences of proposed actions. Neighbor Island Counties generally require the equivalent of an environmental assessment for SMA review of proposed actions.

Time from Filing to Final Action

A minor permit may be obtained in less than 30 days. The full process may require up to four months and longer if an EIS is required.

Public Participation

A public hearing, if required, is set no less than 21 days nor more than 90 days after the date on which the application is filed, unless the 90 day period is waived by the applicant. Any such hearing shall, when possible, be held jointly and concurrently with any required EIS hearing. The County authority must act upon an SMA application within 30 days of the conclusion of the hearing.

Cost

The cost of preparing documentation depends on the nature and size of the proposed undertaking, its location relative to the shoreline and degree of impacts. Filing and processing fees differ from County to County but average $100.

Problem Areas

An applicant can simultaneously file permit requests with agencies which have joint authority in the SMA. However, action on them cannot be taken until the SMA authority issues a permit.

Sources of Professional Assistance

Local engineering and environmental consulting firms have experience in SMA-related matters.

2. VARIANCE FROM SHORELINE SETBACK REGULATIONS

Legal Authority

Chapter 205, Part II, HRS, "Shoreline Setbacks"; also, "Rules and Regulations Relating to Shoreline Setbacks" of the respective Counties.

Issuing Agency

The variance is issued by the Special Management Area (SMA) authority of each County

Contact: Mrs. Lorrie Chee
Acting Chief, Project Compliance Branch
Department of Land Utilization
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813
(808) 523-4077

Planning Department
County of Hawaii
25 Aupuni Street
Hilo, Hawaii 96720
(808) 961-8288

Department of Planning
County of Maui
Wailuku, Maui 96793
(808) 244-7735

Planning Department
County of Kauai
4230 Rice Street
Lihue, Hawaii 96766
(808) 245-3919

Purpose

The purpose of the law is to establish a setback zone along the shore in order to protect public access and to minimize man-induced impacts on natural shoreline processes. Basically, the law prohibits virtually all types of construction or commercial removal of materials within the setback area, but provides a procedure by which an applicant can apply for a "variance" from the established regulations.

Applicability

Anyone planning to build any structure in the shoreline area or otherwise alter the physical conditions of the shoreline area is subject to this regulation. This regulation empowered the Counties to establish a Shoreline Setback Zone beginning at the highest wash of the waves and extending 20 or 40 feet inland (specific situations permit a 20-foot setback). The regulation also makes it unlawful to remove sand, coral, rock, soil, or other beach materials for commercial purposes within the shoreline area or within 1000 feet seaward of the shoreline or from waters less than 30 feet deep.

Although interpretation of the regulation varies somewhat from County to County, a variance for any new structure, facility or activity can be granted if (1) it can be demonstrated to be in the public interest, and (2) if denial of the variance would pose a hardship to the applicant.

Repairs, replacement or reconstruction of existing structures in the Shoreline Setback Zone (such as residential dwellings, agricultural structures, seawalls and revetments) are generally exempt from the variance requirement, unless substantially altered or enlarged.

Repair, strengthening, reinforcement, and maintenance of traditional fishponds, and improvements to existing aquaculture farms are generally exempt from the full body of regulations, though permission to undertake such activities must be accompanied by a permit or waiver of the requirements issued by the respective County Planning Commissions or the City Council of Honolulu (for actions on Oahu).

Data Required

In order to obtain a variance from the regulations, an applicant must prepare a written statement showing that the proposed structure, activity or facility is in the public interest, or that hardship will be caused to the applicant if the request is denied.

An applicant must submit a map prepared by a registered land surveyor which shows the actual field location of the shoreline and the position of the proposed facilities relative to it. The purpose of the survey is to show whether the project is subject to the provisions of the Shoreline Setback Law. The survey map must be confirmed by the State Land Surveyor.

An environmental impact statement may be required by State or County authorities for large or especially controversial projects. Similarly, structures, facilities or activities located within a Shoreline Setback Zone may infringe upon "navigable waters of the United States," thereby dictating the need for a U.S. Department of the Army (Corps of Engineers) Permit.

Since interpretation of Chapter 205, Part II, HRS, and County ordinances adopted pursuant thereto differ somewhat from County to County, it is usually best to check with the respective County Planning Department officials to obtain up-to-date information on data requirements.

Time from Filing to Final Action

Since the Special Management Area (SMA) permit system overlaps the Shoreline Setback Area, the variance procedure is generally combined for ease of processing. A waiver or variance for minor repairs or reconstruction is generally handled administratively within a period of 30 days.

There may be a requirement for a public hearing for new or especially large projects. In such instances, a period of 2 to 4 months may be required. For projects requiring a State or Federal EIS, the review procedure may extend for 9 to 12 months.

It is important to note that although closely related, an entirely different set of regulations apply to the Shoreline Setback Zone and the SMA. As a result, applicants must usually meet the data requirements of the SMA in order to obtain a Shoreline Setback Variance.

Public Participation

A public hearing before the respective County SMA authority is generally required, though small new projects or renovations to existing facilities can be handled administratively.

Cost

Assuming that a State or Federal EIS is not required, the greatest cost is usually associated with retaining a registered land surveyor to certify shoreline boundaries and locations of proposed structures or facilities.

Problem Areas

- The requirements for an instrument survey will generally not be waived, except for repair, reconstruction, or renovation to existing structures.

- Existing or proposed aquaculture (mariculture) facilities located outside any Shoreline Setback Area, but requiring the placement of water intake or discharge pipes or conduits through, over, or under the setback area, would be required to comply with the full variance procedure.

- The process is time consuming and requires substantial data gathering and analysis to demonstrate that the proposed work will not cause significant adverse effects to shoreline processes.

Sources of Professional Assistance

Many licensed land surveyors, civil and coastal engineering firms, and environmental consultants have experience in providing these services.

3. COUNTY GRADING, GRUBBING, AND STOCKPILING PERMITS

Legal Authority

Chapter 180C, HRS. Also, County Grading, Stockpiling and Grubbing Ordinances (County of Hawaii, Ordinance No. 168; City and County of Honolulu, Ordinance No. 3968; County of Kauai; Ordinance No. 262; Permanent Ordinances of the County of Maui, Ordinance No. 639).

Issuing Agency

County Public Works Departments issue this permit.

Contact:

Division of Engineering
Department of Public Works
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813
(808) 523-4921

Department of Public Works
County of Kauai
4396 Rice Street
Lihue, Kauai 96766
(808) 245-3318

Office of the Chief Engineer
Department of Public Works
County of Hawaii
25 Aupuni Street
Hilo, Hawaii 96720
(808) 961-8321

Department of Public Works
County of Maui
200 South High Street
Wailuku, Maui 96793
(808) 244-7827

Purpose

The purpose of the grading permit is to facilitate government control over activities which alter land forms and which have the potential to change the drainage pattern and to cause erosion, and unsafe or unsightly disfigurement of the landscape.

Applicability

A grading permit is required for any earthmoving within the City and County of Honolulu. Other Counties have similar ordinances with somewhat different requirements.

The permit covers all grading, grubbing, stockpiling or clearing activities, with certain exclusions. Applicants should contact the respective County Public Works Department for specific information.

Data Required

The City and County of Honolulu permit requires the applicant to prepare a plan showing:

a. All pertinent terrain features.

b. Layout and arrangement of the proposed works.

c. Representation to scale of typical cross sections of cut and fill areas.

d. Details of topography both before and after the proposed work.

e. Indication of means to be employed to assure erosion control.

f. Estimates (in cubic yards) of the amounts of cut and fill to be produced.

g. If material is to be imported to or exported from the site, an indication of where the material comes from or where it will be deposited. A grading permit is also required for any such offsite locations.

h. If the grading area exceeds one acre, an Erosion Control Plan must be submitted for the Director and Chief Engineer's approval.

The above information is normally presented in the form of scale drawings, with explanatory and/or supplementary data presented in the margins of the figure.

The plan should be prepared by a civil engineer licensed in the State of Hawaii. Two copies must be submitted for the initial review.

After approval of the plan has been recommended by the staff, the signatures of the Division Chief and Chief Engineer are required. The signed plan must be blueprinted again and submitted in three copies to the Permit Section (ground floor, Honolulu Municipal Building). At this point a performance bond must be submitted in an amount which depends on the volume of earth to be moved. In addition, the applicant must submit an approved Temporary Erosion Control Plan, signed by the Division Chief and Chief Engineer.

Two days notice must be given to the Department of Public Works before construction may begin, so that arrangements may be made for onsite inspection of the project.

Direct assistance in preparing an Erosion Control Plan for the proposed project can be obtained free of charge from the U.S. Soil Conservation Service. Acceptance of the proposed erosion control measures by the Soil Conservation Service generally assures County approval.

Time from Filing to Final Action

Two to three weeks from the date of first submittal, assuming no problems arise during the review.

Public Participation

None required.

Cost

The application will require a topographic survey as well as the preparation of a plan map for submittal. Survey charges run $100-300 per day for field work plus $15-30 per hour for drafting and office preparation of the necessary materials.

A soils engineering report may also be required. A performance bond is required for all projects involving movement of more than 500 cubic yards of earth or for excavations or fills of over 15 feet in vertical height. The amount of the filing fee depends on the volume of earth moved.

Problem Areas

- Professional engineering services are required which are expensive. If a bond is required (as it would be for most commercially viable projects), the organization in charge of construction must be bondable. This works to the detriment of the small operator who may intend to do the construction himself. In addition, the bond itself is expensive.

- The grading permit will not be granted until all other environmental and regulatory requirements have been met. Failure to comply will result in deferral of the application.

- If the project involves more than one acre of grading, a Temporary Erosion Control Plan (TECP) must be submitted and approved by the Division Chief and Chief Engineer of the Department of Public Works. Three to five working days are required to obtain this approval.

Sources of Professional Assistance

There are licensed surveyors and civil engineers in Hawaii who are experienced in routine grading permit applications.

4. WELL PERMIT–CITY AND COUNTY OF HONOLULU

Legal Authority

Chapter 54-33, HRS, as Amended. Rules and Regulations of the Board of Water Supply, City and County of Honolulu (May 10, 1976). Section 7-105(j) of the Revised Chapter of the City and County of Honolulu.

Issuing Agency

Board of Water Supply, City and County of Honolulu

Contact: Mr. Chester Lao
Hydrologist/Geologist
Planning and Engineering Division
630 S. Beretania Street
Honolulu, Hawaii 96813
(808) 548-5276

The Neighbor Islands do not have a well permit requirement.

Purpose

The purpose of the permit is to protect, conserve, and regulate the development of groundwater resources within the City and County of Honolulu. Information obtained from the permit allows the Board of Water Supply to gain new data on groundwater resources, to maintain an inventory of existing wells, and to assist them in locating private wells which they may wish to seal off if required by the public interest.

Applicability

Any well to be excavated on Oahu requires issuance of a well permit by the Board of Water Supply. The rules and regulations apply to wells for either fresh, brackish or salt water.

Data Required

Basic data include:

1. Location, size, proposed depth of well.
2. Purpose to which water will be put.
3. Capacity of pumps and distribution system.
4. Specifics of construction, including a cross-sectional drawing of the well throughout its depth.

The regulations also require notification of the Board for any changes involving well ownership, water use, size of well, and pumpage rate.

As a provision for issuance of a permit, the owner must keep a well drilling record, a means of measuring and recording total draft, a means to determine water level, and adequate access and clearance to well drilling equipment.

Time from Filing to Final Action

30 days including review, except for proposed well drilling in any designated groundwater control area.

Public Participation

None Required

Cost

Permit applications must be accompanied by a filing fee of $100. Before any permit is granted, a permitee bond shall be submitted to the Board for approval. The amount of the bond is established by the Board, but in no case may it exceed $25,000. The bond is necessary in the event that it becomes necessary to seal the well for any reason prior to its completion. The bond must provide coverage during the life of the drilling contract plus 30 days. The payee for the bond shall be the Board of Water Supply.

Problem Areas

- The well permit is valid for a period of only one year.
- The Board may refuse to grant a permit if it is determined that the action may bring about overdraft conditions, cause excessive lowering of the ambient groundwater table, cause excessive saltwater intrusion or mineralization, or interfere with existing established water sources.
- Bonding requirements may pose a hardship for individuals or small operators who may not be bondable.

Sources of Professional Assistance

Most well drilling and pump supply companies can assist aquaculturists in preparing applications.

REFERENCES/RECOMMENDED READING

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2. John S. Corbin, *Aquaculture in Hawaii, an Assessment of Progress, Resources and Organizations*, Department of Planning and Economic Development, January, 1976.

3. Daniel R. Mandelker et al., *Legal Aspects of Hawaii's Coastal Zone Management Program*, Department of Planning and Economic Development, Coastal Zone Document No. 6, August, 1975.

4. Doak C. Cox et al., *Special Management Area Boundaries and Guidelines*, Environmental Center, University of Hawaii, September, 1975.

5. Raymond S. Tabata, *An Evaluation of Hawaii's Requirements for Environmental Impact Statements*, Pacific Urban Studies and Planning Program, University of Hawaii, Spring, 1974.

6. "Rules and Regulations Relating to Environmental Shoreline Protection," Planning Departments of Kauai, Maui and Hawaii Counties, and the Department of Land Utilization of the City and County of Honolulu, November, 1975.

7. "Environmental Impact Statement Regulations," Environmental Quality Commission, State of Hawaii, May, 1975.

8. "Rules of Practice and Procedure and District Regulations," State Land Use Commission, State of Hawaii, December, 1975.

9. "Environmental Activity Approval and Permit Index–A Guide to Environmental Activity Approval and Permit Processes in the State of Hawaii," Honolulu-Pacific Federal Executive Board, BG Maurice D. Roush, Div. Engineers, Chairman, July, 1977.

10. "Red Tape vs. Green Light–A Workshop on Government Permit Simplification, Coordination, and Streamlining," Hawaii Coastal Zone Management Program, State DPED, July 7, 1978, Ilikai Hotel (Proceedings).

11. *Aquaculture Development for Hawaii: Assessments and Recommendations*, State of Hawaii, Department of Planning and Economic Development, 1978.

12. Steven R. Lee, *The Hawaiian Prawn Industry, A Profile*, Aquaculture Development Program, Department of Planning and Economic Development, December, 1979.