
Section 10

Water Quality

10. WATER QUALITY

The State Water Code provides that the Department of Health (DOH) shall have primary jurisdiction and responsibility for administration of the state's water quality control programs¹.

The Hawaii Revised Statutes do not define "potable water," but the law does provide for the establishment of maximum contaminant levels for various chemicals, as well as other parameters for drinking water quality. While CWRM defers to DOH on most water quality related matters, CWRM management principles utilize operational water quality definitions based on chloride concentration as follows:

- **Fresh Water:** Chloride concentrations from 0 to 250 milligrams per liter (mg/L)
- **Brackish Water:** Chloride concentrations from 251 to 16,999 mg/L
(Water for irrigation use contains 1,000 mg/L chlorides.
Water for industrial and other uses contains 1,000 mg/L chlorides.)
- **Seawater:** Chloride concentrations of 17,000 mg/L and higher

The DOH's responsibilities include the formulation and regular update of a State Water Quality Plan (WQP) for all existing and potential sources of drinking water². The WRPP, together with the WQP, SWPP, AWUDP, and the County WUDPs, provide the overall guidance and direction for managing Hawaii's precious water resources.

The major objective of the WQP is to protect public health and ecological systems by preserving, protecting, restoring, and enhancing the quality of ground and surface waters throughout the State of Hawaii. The initial WQP was published in 1990. Current efforts to update the WQP are described later in this chapter.

The following sections provide information on the purpose and function of the Water Quality Plan and the status of efforts to update the Water Quality Plan, and describes the current DOH programs that contribute to the plan update.

10.1. Statutory Requirements for the Water Quality Plan

HRS §174C-31(a)(4) requires the DOH to formulate a water quality plan for the State and identifies the plan as a component of the Hawaii Water Plan. The Water Code, in HRS §174C-68(a) also requires the DOH to include in the WQP criteria for use by CWRM in the designation of ground-water and surface-water management areas. HRS §174C-68(b) stipulates that, as needed, the WQP will be reviewed and revised periodically. The DOH is also required to consult with concerned federal, State, and local agencies when formulating and revising the WQP, especially county water supply agencies, and to carefully evaluate their recommendations.

¹ HRS §174C-66.

² HRS §174C-68 and HAR §13-170-50.

10.2. Integration of the Water Quality Plan with Other Hawaii Water Plan Components

Although different State and county agencies prepare separate components of the Hawaii Water Plan, the components must be coordinated and cohesive. The WQP and the WRPP are the two plan components that are critical to determining both water usage and strategies for developing water resources. These two components outline the regulations, standards, and resource management policies that define the availability of ground- and surface-water resources, and the quality to be maintained in these resources. In addition, the quantity of ground- and surface-water resources that can be withdrawn on a sustainable basis is determined as part of the WRPP. The WQP and WRPP therefore provide critical input to the SWPP, the AWUDP, and the County WUDPs developed by the four counties. In general, the SWPP, AWUDP, and County WUDPs must be consistent with the 1990 WRPP and WQP until subsequent updates are developed. However, statutory, rule, and policy amendments to water quality regulations since 1990 may supersede information contained in the 1990 WQP. In addition, the Commission has officially revised portions of the 1990 WRPP.

The Framework was published by CWRM in 2000 to assist State and county agencies as they update various HWP components. The Framework offers the following recommended plan elements, interagency coordination actions, and recommended guidelines for future WQP updates:

Recommended Plan Elements

The current WQP was adopted in 1990 and a draft revision was prepared in December 1992. The draft revision compiles existing policies, regulations and programs at the federal, state and county levels that relate to protecting all sources of drinking water. In addition, new research needs and programs are discussed. The CWRM has not acted upon the current draft revision of the WQP. Further efforts to update the WQP have been deferred due to lack of funding. In addition, the State DOH is currently undertaking an assessment of potentially contaminating activities that may threaten existing drinking water sources, the results of which will be integrated into an updated WQP. That assessment project is described as follows.

Developing Effective Linkages Between Inter-Agency Programs

As discussed in the preceding section, the CWRM is responsible for coordinating regular updates of the HWP, including the update of the WQP component. In fulfilling this mandate, the CWRM has actively participated with the Department of Health in its development of the SWAP project. These collaborative efforts, we believe, have led to the beginnings of more effective linkages to other water resource protection and management programs in the State. It should be reiterated that the DOH is statutorily required to update the WQP. Compliance with this mandate should be viewed as an excellent opportunity to integrate similar intra- and inter-agency water protection programs. Elements of SWAP, the Source Water Protection Strategy, and other DOH programs (e.g. UIC, Wastewater, etc.) should be compiled and coordinated as part of a comprehensive inter-agency strategy for water quality protection. Coordination and identification of program linkages and effective integration of related programs should result in a comprehensive assessment of current/foreseen problems, identification of available mitigation measures, and the development of improved management strategies.

Program achievements that may result from such coordination include, but are not limited to:

- *Providing continual program updates and status reports;*
- *Identifying required follow-on actions by each agency;*
- *Coordinating data collection and monitoring efforts;*
- *Developing a common database and ensuring data consistency;*
- *Establishing a protocol for more effective data sharing; and*
- *Identifying relationships between regulatory and non-regulatory program efforts.*

Recommended WQP Guidelines

Procedures and program measures for coordinating and streamlining agency activities and permitting requirements of similar federal, state and county programs should be established to ensure effective linkages between agency programs. The major goals and objectives of this effort should include, but not be limited to:

- *Maximizing efficient use of agency time, staff and program resources;*
- *Identification of overlapping and/or duplicative program/statutory responsibilities;*
- *Establishment of more effective inter-agency coordination and communication;*
- *Consolidation (wherever possible) of agency review and permitting requirements; and*
- *Resolving conflicting permit approvals or other agency requirements (if any), including procedural disagreements between agencies.*

10.3. Status of the Water Quality Plan

The DOH is responsible for the preparation and update of the WQP. The DOH is moving forward with several water quality programs that will contribute to the update of the WQP. The programs include, but are not limited to, the Source Water Assessment and Protection (SWAP) Program and surface-water studies, regarding total maximum daily loads and the identification of impaired water bodies. When the programs are completed, the results will be integrated into the WQP. The current status of each program is provided in Section 10.4.

10.3.1. DOH Strategic Plan for Hawaii's Environmental Protection Programs

In 1999, the DOH completed the *Strategic Plan for Hawaii's Environmental Programs*, which describes goals, objectives and strategies for the agency's new approach to

environmental management. The 1999 plan identifies improvements in environmental management to facilitate efficient resource allocation toward high-risk environmental problems.

The strategic plan examines DOH's core environmental protection programs and discusses their history, organization, mission, goals, objectives, strategies, and performance measures; the plan also sets forth targets to measure the effectiveness of programs in meeting community needs. Specifically, the plan calls for the State to improve its capability to solve serious environmental problems through risk assessment, streamlining the permitting process, and developing a priority-setting system.

In 2001, the DOH published the *Strategic Plan Update for Hawaii's Environmental Protection Programs* to update the tasks and objectives identified by the 1999 plan. The update focuses primarily on targets, objectives, strategies, and performance measures. Generally, the information on organization, mission, and goals remains appropriate and was not altered. The strategic plan and its 2001 update continue to direct the administration and implementation of the DOH environmental programs that are summarized in the sections below.

10.4. Department of Health Programs Related to the Water Quality Plan

The DOH administers several programs that provide input and guidance to the Water Quality Plan. The Environmental Planning Office, the Safe Drinking Water Branch, the Clean Water Branch, and the Wastewater Branch are the main organizational units within the DOH that administer water quality protection programs.

The Environmental Planning Office is responsible for setting the State's water quality goals, evaluating progress toward achieving those goals, and completing long-range planning for surface-water quality improvement and protection. The Safe Drinking Water Branch is responsible for safeguarding public health by protecting Hawaii's drinking water sources (surface water and ground water) from contamination and assures that owners and operators of public water systems provide safe drinking water to the community. The Clean Water Branch protects the public health and restores inland and coastal waters for marine life and wildlife, through statewide coastal water surveillance, watershed-based environmental management, permitting, monitoring, enforcement, polluted runoff control projects, and public education. The Wastewater Branch administers the statewide engineering and financial functions relating to water pollution control, municipal and private wastewater treatment works, wastewater recycling, individual wastewater systems, and the water pollution control revolving fund.

The DOH program areas that will contribute the eventual update of the WQP are described in the subsequent sections of this chapter. The summaries of program goals, status, and recommendations for future actions provided herein reflect information provided by the Department of Health.

DOH Programs Contributing to the Water Quality Plan:

- Water Quality Management Program
- Source Water Assessment and Protection Program

- Comprehensive State Groundwater Protection Program Strategy/Plan
- Underground Injection Control Program
- Groundwater Contamination Maps
- Polluted Runoff Control Program
- Beach Monitoring Program
- Wastewater Recycling Program

10.4.1. Water Quality Management Program

The Water Quality Management Program is responsible for setting the State's water quality goals (Water Quality Standards), monitoring and assessing the achievement of Water Quality Standards (assessing and listing Impaired Water Bodies), and long-range planning for surface water quality improvement and protection (Total Maximum Daily Load Process and Continuing Planning Process). Most of this work is federally-funded and must meet federal Clean Water Act requirements. Program efforts must also obtain U.S. Environmental Protection Agency (EPA) approval and employ a watershed-based approach to water quality management.

Water Quality Standards (WQS):

Federal law requires the State to complete a water quality standards review process and make necessary revisions every three years.

Program Goals:

The goal of the WQS Program is to develop scientifically based water quality standards that (a) meet federal requirements, (b) specify the uses to be protected in State waters, and (c) provide appropriate criteria and methods for evaluating the attainment of these protected uses.

Recommended Actions:

To achieve the program goals, the DOH plans to implement the following actions:

- Adopt federal bacterial indicator criteria for marine recreational uses.
Develop/adopt improved pathogen/indicator criteria for all recreational uses.
- Adopt specific water column criteria for aquatic pesticide uses.
- Adopt formal guidance (WQS implementation plan) for using water quality standards to assess water quality conditions and make regulatory decisions.
- Update numeric standards for toxic pollutants and develop/adopt numeric standards for ammonia toxicity:
 - Conduct toxicity testing of native aquatic organisms.

- Revise specific water column criteria for brackish and saline waters, based on improved understanding of ecosystem dynamics and chemical variation along salinity gradients.
- Revise overall framework of waterbody types, waterbody classes, protected uses, and evaluative criteria to improve the linkage between specific uses and specific criteria and to improve the basis for specific, use-based assessment methodologies.
- Revise turbidity criteria for all waterbody types.
- Revise temperature and pH criteria for streams to remove the uncertainty in determining “ambient conditions.”
 - Develop/adopt ammonia criteria for environmental uses in streams.
 - Develop/adopt biological criteria for recreational and environmental uses in streams.
- Develop/adopt biotoxicity and sediment toxicity criteria for recreational and environmental uses in all waterbody types.

Current Program Status:

The points listed below summarize the status of the WQS Program:

- Last WQS program amendments adopted 08/31/2004.
- Preparing amendments and conducting ongoing research and strategic planning to address recommended actions.

Total Maximum Daily Load (TMDL)

Federal law requires the State, every two years, to identify and prepare a list of waters that do not or are not expected to meet water quality standards after applying existing required controls (e.g. minimum sewage treatment technology). For each listed waterbody/pollutant combination, the State must (a) establish the waterbody's loading capacity (the maximum loading rate at which water quality standards are met), and (b) allocate this loading capacity among contributing point and nonpoint sources. After these TMDLs are approved by the U.S. Environmental Protection Agency, the State writes TMDL Implementation Plans that identify specific strategies and tactics that could be used to achieve the required load allocations and otherwise improve water quality and overall watershed health.

Program Goals:

The goals of the TMDL Program are as follows:

- Quantitatively assess watershed-scale water quality problems, contributing sources, and pollutant load reductions.

- Using assessment results, provide an analytical basis for planning and implementing pollution controls, land and water management practices, social/institutional changes, and restoration projects needed to improve water quality and protect public and environmental health.

Recommended Actions:

To achieve the program goals, the DOH plans to implement the following actions:

- Revise the Continuing Planning Process to refine and clarify the working relationships among DOH surface water quality protection programs (e.g., permits for point source dischargers and funding for nonpoint source controls) and with other DOH water quality protection programs.
- Follow the Water Quality Standards Program recommendations (below) to improve the scientific basis for TMDL program activities.
- Establish a State Water Quality Monitoring Council to coordinate the statewide collection, management, and use of water quality data for all water resource protection purposes.
- Develop and implement standardized Watershed and Waterbody Inventory Procedures for preparing TMDL Scoping Reports, TMDL Sampling and Analysis Plans, other DOH water pollution control and water quality management plans, and various other private and public water resource management plans:
 - Revise watershed and waterbody delineations to better represent hydrologic truth (particularly as influenced by microtopography, storm drains, and inland receiving water locations) and administrative constraints.
 - Revise watershed and waterbody codings to facilitate water quality database construction/operations, data integration, data sharing, and GIS interoperability.
- Develop and implement water quality modelling approaches that use libraries of watershed and waterbody information to reduce site-specific data requirements for TMDL development:
 - Conduct a "Know the Flow" symposium to advance knowledge of local rainfall/runoff relations and its application to streamflow prediction.
 - Create a catalog of event-based stream water quality data that links contributing area characteristics (topography, land cover, and human activity), hydroclimatic characteristics (rainfall and streamflow), pollutant-loading characteristics, and receiving water quality.
 - Use this catalog to develop pollutant washoff/loading factors across a range of contributing area and hydroclimatic characteristics.
- Join CWRM efforts to establish instream flow standards.

Current Program Status:

The points listed below summarize the status of the TMDL Program:

- 2004 List of Impaired Waters approved.
- 2006 List of Impaired Waters in preparation (incorporated into 2006 Integrated Report of Assessed Waters).
- TMDL Status Update attached.
- CPP review in progress/in preparation for revision.
- Watershed/waterbody inventory procedures in development.
- Watershed/waterbody delineation and coding revisions in progress.
- Database/GIS design and construction in progress, including DOH cross-program data integration efforts.
- Water quality data collection and modelling efforts are currently limited to site-specific TMDL development projects.
- TMDL program management and staff are members of the CWRM Stream Policy Advisory Group.

10.4.2. Source Water Assessment and Protection Program

The reauthorization of the Federal Safe Drinking Water Act included an amendment requiring states to develop a program to assess sources of drinking water, and encouraging states to establish protection programs. The drinking water source assessment is the first step in the development of a comprehensive drinking water source protection program.

Program Goals:

The goals of the SWAP Program are as follows:

- Assess the susceptibility of public drinking water sources to contamination.
- Protect public drinking water sources from contamination.
- Use source water assessment information for meeting drinking-water requirements.

Recommended Actions:

To achieve the program goals, the DOH plans to implement the following actions:

- Assess all existing drinking water sources.
- Assess new and proposed drinking water sources.

- Periodically review and update these assessments.
- Create and implement state and local source water protection workgroups.
- Work with county water and planning departments to integrate protection strategies and plans.
- Develop and implement the Wellhead Protection Financial Assistance Program.
- Work with public water systems in using assessment information as a starting point for meeting various drinking water requirements.

Current Program Status:

The points listed below summarize the status of the SWAP Program:

- Assessments have been conducted on over 475 existing drinking water sources throughout the state. In 2006, DOH completed the *Hawaii Source Water Assessment Program Report, Volume I, Approach Used For the Hawaii Source Water Assessments*.³ Assessments will continue for all new and proposed drinking water sources.
- Preliminary approval for the Wellhead Protection Financial Assistance Program has been received from EPA.
- DOH is working with county water departments and other agencies to create workgroups.
- EPO is working with the DOH Safe Drinking Water Branch to link the source water assessments and drinking water requirements.

10.4.3. Comprehensive State Groundwater Protection Program Strategy/Plan

The overall goal of the Comprehensive State Groundwater Protection Program Strategy/Plan is to protect human health and sensitive ecosystems through the protection and enhancement of the quality of ground water throughout the State of Hawaii.

Program Goals:

The development and implementation of the program will have as its specific goals the following:

- Provide the State with greater flexibility in directing its ground-water protection activities relative to various sources of contamination across federal, State, and local programs, and geographic areas, to achieve comprehensive resource-based ground-water protection.

³ Whittier, R.B., K. Rotzoll, S. Dhal, A.I. El-Kadi, C. Ray, G. Chen, and D. Chang. 2006. *Hawaii Source Water Assessment Program Report, Volume I, Approach Used For the Hawaii Source Water Assessments*. Hawaii Department of Health, Honolulu, Hawaii.

- Eliminate the potential for related programs to work at cross-purposes, causing ineffective expenditures of efforts and resources.
- Demonstrate the State's effectiveness in ground-water protection, thus justifying increased funding for program development and additional flexibility from the EPA and other federal agencies.
- Recognize and further delineate the appropriate roles for federal, State, and local governments as partners in ground-water protection.
- Establish a mechanism for better recognition and understanding of the relationships between ground-water quantity and quality concerns.
- Improve public understanding of ground-water protection concerns within the State, and provide a broader context for public participation.
- Build a consensus across all levels of government, regarding the need for comprehensive ground-water protection and the basic structure of comprehensive protection programs.

Recommended Actions:

The DOH plans to complete the development and implementation of a Comprehensive State Groundwater Protection Program Strategy/Plan, consisting of a set of six strategic activities that would foster more efficient and effective protection of ground water. The strategic activities are:

- Establishing a ground-water protection goal to guide all relevant federal, State, and local programs operating within the State;
- Establishing priorities, based on characterization of the resource, identification of sources of contamination, and delineation of the program's needs, to guide all relevant federal, State, and local programs and activities;
- Defining authorities, roles, responsibilities, and resources, and coordinating mechanisms across relevant federal, State, and local programs for addressing identified ground-water protection priorities;
- Implementing all necessary efforts consistent with the State's priorities;
- Coordinating information collection and management to measure progress, re-evaluate priorities, and support all ground-water related programs; and
- Improving public education and participation in all aspects of ground-water protection.

Once the Comprehensive State Groundwater Protection Program Strategy/Plan has been developed, it should be implemented as part of the SDWB Groundwater Protection Program.

Current Program Status:

An initial draft of the Comprehensive State Groundwater Protection Program Strategy/Plan was submitted to the U.S. Environmental Protection Agency, Region 9, on December 6, 2000 (the document is dated November 30, 2000). The strategy/plan represents the guiding document for the future of ground-water protection in Hawaii. Additional draft documents relating to resource assessment and ground-water quality monitoring were also prepared.

The Safe Drinking Water Branch, under the Groundwater Protection Program, is currently reviewing and updating the Comprehensive State Groundwater Protection Strategy/Plan.

10.4.4. Underground Injection Control (UIC) Program

The Underground Injection Control (UIC) Program was established to monitor and control injection well activity, in order to prevent ground-water pollution. Ground-water pollution can directly affect the quality of drinking water sources, as well as indirectly affect the quality of water in streams and near-shore waters.

Injection wells are used to dispose of wastewater from various activities, e.g., sewage treatment, industrial processes, aquaculture, and surface runoff. Each of these activities, and more, has the potential to cause groundwater pollution. For this reason, injection well activity is specifically targeted for monitoring and control because injection wells are direct, open conduits into the subsurface and are often in contact with ground-water.

Injection well activities are monitored or controlled through underground injection control (UIC) permits issued by the Department of Health. The operator of an injection well must obtain the UIC permit before the injection well can be put into service. The UIC permit stipulates discharge standards, operating conditions, and water quality testing and reporting requirements to prevent or minimize ground-water pollution. Violators of UIC permits, or of the regulations for injection wells under Hawaii Administrative Rules, Title 11, Chapter 23, can be fined and ordered to perform corrective action.

Notwithstanding the risks to Hawaii's ground-water resources, injection wells provide an important alternative method for wastewater disposal for facilities that cannot access the municipal sewer system or cannot discharge through an outfall.

Program Goals:

The function of the UIC Program is to protect the quality of Hawaii's sources of drinking water from chemical, physical, radiological, and biological contamination from injection well activity through the specific actions listed below:

- Processing permits and project reviews for new permits and renewals, modifications, and abandonment of injection wells;
- Evaluating geologic logs of soil and rock, injectivity tests, geologic maps, and groundwater-quality profiles to determine the viability of subsurface injection;
- Maintaining an inventory and database of all injection well files;

- Organizing and conducting site inspections to verify the locations and performance of injection wells, and to verify compliance with all testing or well-closure plans;
- Conducting site investigations to identify problems, such as unpermitted facilities and uncorrected deficiencies;
- Enforcing underground injection control rules and permit conditions; and
- Serving the public by providing information and technical assistance.

Recommended Actions:

To achieve the program goals, the DOH plans to implement the following actions:

- Implement and sustain an effective and efficient regulatory permitting program. Seek compliance first through voluntary and self-responsible motivations, but be ready to acquire compliance through enforcement measures.
- Constantly seek methods, techniques, and approaches that advance effectiveness and efficiency in permitting, as well as in monitoring and enforcement.
- Through our permits, processing, decision-making, and handling/servicing of applicants, agencies, consultants, and the general public, constantly aim to build a good, fair, trustworthy, and honorable reputation.
- Take steps to expand the program; that is, increase the staff, only when absolutely necessary. Never take program funding for granted. Always try to make the most of funds allocated. In private business terms, work to make a profit, even though we are government.

Current Status:

The UIC Program currently manages the UIC line, or boundary, which identifies areas where injection wells are permitted. The program also enforces Title 11, Chapter 23, Underground Injection Control (which differs from the UIC Program of the EPA), and performs the other activities identified above.

According to the DOH, the UIC program is under a 12-month backlog of permit applications and related issues. This backlog has developed over the past few years due to the State's construction surge and the federal ban on large-capacity cesspools. The permit applications are for projects for constructing new injection-wells, abandoning and backfilling injection wells and injection-well cesspools, renewing permits, and modifying permits.

In order to resolve the backlog, certain interim processing and reviewing measures are being implemented. For example, shorter application forms have been developed and are in use to hasten the review and approval/denial process. Another measure/approach being used is to have the consultant shoulder more responsibility for insuring that the UIC Program's field-work instructions are properly

completed, whereby corrective action for unsatisfactory work would be the consultant's responsibility.

10.4.5. Groundwater Contamination Maps

Hawaii's Groundwater Contamination Maps are an integral part of Hawaii's Groundwater Protection Program (GWPP). The GWPP's goal is to protect human health and sensitive ecosystems by fostering protection of ground-water resources and emphasizing water quality assessment, pollution prevention and protection measures.

The Groundwater Contamination Maps illustrate the DOH's assessment of ground-water quality and trends in ground-water contamination. The Contamination Maps identify the location and amount of organic and other contaminants detected and confirmed present in public drinking water wells and select non-potable wells between January 1 and December 31 of a calendar year.

The Contamination Maps show that ground-water contamination is largely the result of human activities, and that once a ground-water source becomes contaminated, it remains so for many years. In addition, wells adjacent to contaminated wells have been found to contain the chemicals known to be present in nearby contaminated wells.

Another application of the Contamination Maps is to educate the public about ground-water contamination and the importance of protecting Hawaii's ground-water resources.

Program Goals:

DOH prepared the ground-water contamination maps in pursuit of the following goals:

- To provide maps identifying locations where certain ground-water contaminants have been detected and confirmed; and
- To provide information on the basic health effects related to the contaminants detected in ground-water wells.

Recommended Actions:

So that the maps are as useful as possible, and to ensure that those concerned with the issue of ground-water contamination have access to the maps, the DOH recommends implementation of the following actions:

- Continue to monitor ground-water quality and ground-water contamination trends.
- Periodically update the ground-water contamination maps for the State of Hawaii. Ideally, at a minimum, the maps and basic health-effects information should be updated annually.
- Make maps available to water systems, government agencies, landowners, stakeholders, the public and community, and others.

Current Program Status:

Since August 1989, ten editions of the Groundwater Contamination Maps have been published. The most current set of maps was published July 28, 2006, and represents data collected and updated between January and December 2005. Publication of the 2006 Groundwater Contamination Maps is anticipated for late 2007.

10.4.6. Polluted Runoff Control Program

The Polluted Runoff Control Program is implemented by the DOH Clean Water Branch to prevent environmental degradation due to nonpoint source pollution. Unlike pollution from industrial and sewage treatment plants, nonpoint source pollution comes from many diffuse sources. Nonpoint source pollution develops when rainfall moving over and through the ground picks up natural and manmade pollutants that are eventually deposited in streams, wetlands, coastal waters, and underground sources of drinking water. Examples of such pollutants are:

- Excess fertilizers and pesticides from fields and gardens;
- Oil, grease, and toxic chemicals from urban and industrial areas;
- Sediment from construction sites, crop and forest lands, and eroding stream banks; and
- Bacteria and nutrients from livestock, pet wastes, and faulty septic systems and cesspools.

Program Goals:

The Polluted Runoff Control Program goals are as follows:

- To ensure that Hawaii's coastal waters are safe and healthy for people, plants and animals; and
- To protect and restore the quality of Hawaii's streams, wetlands, estuaries, and other inland waters for fish and wildlife, recreation, aesthetic enjoyment, and other beneficial uses.

Recommended Actions:

To achieve the program goals and to implement an integrated watershed approach, the State needs to increase the amount of resources devoted to the control of polluted runoff and focus on collaborative efforts to more effectively utilize the limited resources that are devoted to controlling polluted runoff. The State's Coastal Nonpoint Pollution Control Management Plan identifies management measures that need to be implemented by all government agencies and the public to control polluted runoff.

Current Status:

The Polluted Runoff Control Program administers grant money it receives from the EPA through Section 319(h) of the Federal Clean Water Act. The program issues grants with a dollar-for-dollar match for projects focused on the development and implementation of watershed-based plans as a means to control polluted runoff and improve water quality. Project efforts may include the development of watershed plans, as well as efforts related to the implementation of watershed management plans, other comprehensive management plans, or total maximum daily loads. These plans are intended to layout where and what the polluted runoff issues are in a particular watershed, how can the issues be addressed and by whom, and how the implementation of best management practices or activities is to be evaluated to determine success.

Specific activities considered for funding may include: implementation of measures to minimize excessive nutrients, sediment and other pollutants delivered to surface and/or coastal waters, restoration of native vegetation in critical watershed areas such as stream banks/riparian corridors, ungulate control and invasive species removal, support for a watershed coordinator, water quality monitoring and evaluation efforts, educational efforts, and refinement of watershed plans to include nonpoint source pollution elements. The program targets its efforts in specific watersheds where there may be a higher potential for CWA Section 319(h) funding to help improve water quality. These activities are consistent with Hawaii's Implementation Plan for Polluted Runoff Control (July 2000), which is a culmination of the planning that the State of Hawaii has done in past years for polluted runoff control and, at the same time, a plan for implementation of activities to be undertaken by State and County agencies, federal agencies, and Hawaii's citizens to control polluted runoff.

The program also provides outreach and education to the community through school visits and participation in community fairs. The program has partnered with Honolulu Theatre for Youth to have a "clean water message" shared with their audiences for the Little Mermaid production. The program continues to work closely with the City and County of Honolulu, Department of Land and Natural Resources, Department of Transportation and other agencies on various Earth Month activities to encourage people to keep the water clean.

10.4.7. Beach Monitoring Program

The Beach Monitoring Program is administered by the DOH Clean Water Branch to ensure that Hawaii's coastal waters are safe and healthy for people, plants, and animals. Under the DOH Beach Monitoring Program, beaches are divided into three tiers. Tier 1 beaches are Hawaii's important and threatened beaches and therefore are monitored three times a week. Tier 1 represents our core beaches and will be monitored continually until they are re-classed as Tier 2 beach.

Tier 2 beaches are beaches represented by moderate use and are sampled once or twice a week for 6 month periods. After 6 months a new set of Tier 2 beaches are monitored for another 6 months. If a Tier 2 beach shows periodic elevated counts for no obvious reason, it will be re-sampled another 6 months or be elevated to a Tier 1 status.

If a beach shows that it is not impaired or threatened and has consistently low indicator bacteria counts, then it will be given a Tier 3 status. Tier 3 beaches are for the most part, hard to access, no houses nearby, and very little anthropogenic influences. Tier 3 beaches will be sampled at least once during a 6 month period. A list will be provided in the next Annual Beach Report in June 2008.

Program Goals:

The Beach Monitoring Program goal is to maintain coastal waters for the health and safety of people, plants, and animals.

Recommendations:

To achieve the program goal, the DOH recommends that the Hawaii State Water Quality Standard for recreational waters within 1,000 feet of the shoreline be revised to the national EPA standard. The Hawaii State Water Quality Standard for recreational waters is seven enterococci colony forming units per 100 ml, while the National Standard is 35 colony forming units per 100 ml. Hawaii's standard is too strict. For tropical waters there are questions about the reliability of enterococcus as a bacterial indicator for rule-making and decision-making for control of public health risks associated with fecal contamination in coastal recreational waters.

The Hawaii State Water Quality Standard should establish the boundaries (depth) of Hawaii's Recreational Waters. Recreational scuba diving is defined as pleasure diving to a depth of 130 feet without decompression stops.

Current Status:

In 2007, 155 beaches were monitored as compared to 62 in 2004. Sampling 160 beaches per year is the limit for the DOH BEACH Monitoring Program under the current work load and manpower resources of the Monitoring & Analysis Section of the CWB.

10.4.8. Wastewater Recycling Program

The DOH's Wastewater Recycling Program is managed and implemented by the Wastewater Branch. The Wastewater Branch administers the statewide engineering and financial functions relating to water pollution control, municipal and private wastewater treatment works program, individual wastewater systems program and the water pollution control revolving fund program.

Program Goals:

The Wastewater Recycling Program seeks to promote reuse, specifically to increase wastewater reuse to about 30 million gallons per day by 2015 (which is approximately 20 percent of wastewater produced).

Recommended Actions:

To achieve the program goals, the DOH plans to implement the following actions:

- Continue to encourage the use of recycled water by working with counties and private landowners to develop water reuse plans that allow for the most efficient use of recycled water, where available.

- Continue to implement the Wastewater Branch's program for short-duration recycled water use projects, including dust control for construction sites and temporary irrigation.

Current Status:

According to the DOH, wastewater recycling has risen from roughly 20.2 million gallons per day in 2000 to nearly 23.5 million gallons per day in 2005, representing an increase of nearly 1.6 percent over a five-year period. There were no significant additions or deletions to the recycled water users in 2004 and 2005, keeping recycled water use at approximately 23.5 mgd for that period.

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