RATIONALE FOR PROPOSED AMENDMENTS TO HAWAII ADMINISTRATIVE RULES TITLE 11 DEPARTMENT OF HEALTH CHAPTER 11-54 WATER QUALITY STANDARDS

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I. BACKGROUND

Water Quality Standards in Hawaii (State WQS) provide the regulatory basis for assessing, protecting and restoring water bodies in the State. The three key components of State WQS are designated uses, water quality criteria, and antidegradation requirements. Specifically, designated uses identify the beneficial values of all surface waters, water quality criteria define the necessary conditions for achieving designated uses, and antidegradation requirements provide the regulatory framework for protecting existing uses.

The regulations for State WQS are specified in Hawaii Administrative Rules at Title 11, Chapter 54 (HAR 11-54). The administrative rules for State WQS date to January 1968, when Chapter 37-A, Public Health Regulations, first became effective. These regulations were authorized under the Federal Water Pollution Control Act Amendments of 1965. Since the enactment of the Federal Water Pollution Control Act Amendments of 1972, commonly known as the Clean Water Act (CWA), many amendments have been made to State WQS regulations.

In 1979, amendments to State WQS were adopted to satisfy the CWA Section 208 Basin Plan requirements. In 1990, HDOH amended State WQS to include numeric standards for toxic chemicals for the protection of beneficial uses of State surface waters by preventing direct impacts from toxic pollutants to aquatic life, and indirect impacts to human health and wildlife from the bioaccumulation of toxic pollutants in edible aquatic organisms. Prior to this 1990 amendment, regulations were limited due in part to the lack of numeric criteria or any specific limitations for toxic pollutants. Besides amendments such as the inclusion of site-specific standards for the Kona Coast (on the west side of the island of Hawaii) in 2000 and the adoption of EPA recommended recreational water quality criteria in 2014, the core of State WQS has remained relatively unchanged since 1990.

In August 2015, the U.S. Environmental Protection Agency (EPA) published revisions to the federal WQS regulations found in the Code of Federal Regulations (CFR) at Title 40, Part 131 (40 CFR §131). Overall, these revisions clarified the requirements in six major areas of WQS[1]:

1. Administrator's Determinations,
2. Designated Uses,
3. Triennial Reviews,
4. Antidegradation,
5. WQS Variances, and
6. Provisions Authorizing the Use of Schedules of Compliance.

HDOH is required to review State WQS and EPA promulgated WQS at least once every three years, and to modify and adopt appropriate State WQS. Specifically, HDOH is required to evaluate and adopt new or revised criteria for parameters for which EPA has published new or updated CWA section 304(a) criteria recommendations. If HDOH does not adopt new or revised criteria for which EPA has published new or updated CWA section 304(a) criteria recommendations, then HDOH must provide, to the EPA Regional Administrator, an explanation when submitting the results of its triennial review. HDOH may modify the recommended criteria

[1] https://www.epa.gov/sites/production/files/2018-10/documents/wqs-regulatory-revisions-final-rule-factsheet.pdf

to reflect site-specific conditions. All revisions to State WQS regulations must be subject to the public participation process, and they must be adopted by the State and approved by the EPA.

As part of the latest triennial review, HDOH solicited input, from the public and various stakeholders, about the intent to revise the following two areas of WQS regulations.

1. HDOH proposed to revise numeric standards of toxic chemicals for the protection of human health. HDOH did not propose to either revise or adopt in HAR 11-54 any aquatic life standards intended to protect freshwater and saltwater organisms from the effects of short-term and long-term exposure to toxic pollutants. HDOH required additional time to evaluate and to adopt any, new or revised, national acute and chronic criteria that were recommended by EPA in 2015.
2. HDOH proposed to amend HAR 11-54 with authorizing language consistent with federal statutes and regulations allowing the use of flexibilities including use attainability analyses, WQS variances, and site-specific criteria. These regulatory mechanisms would allow HDOH to modify State WQS on a site-specific basis, to designate uses that better reflect actual conditions, and to take measures that incrementally improve water quality in Hawaii.

HDOH provided a 45-day public comment period and held a public hearing, on 15 March 2019, about the intent to revise the above areas of State WQS. Six distinct commenters, including federal and municipal entities, a commercial business, a non-governmental organization, and interested individuals, submitted about forty comments to HDOH during this period. Some of the comments addressed issues that were beyond the scope of the proposed WQS revisions, and that may be considered by HDOH in future WQS revisions. A copy of the HDOH responses to these public comments can be viewed online at the HDOH Clean Water Branch (CWB) website[2] in the "Public Notices and Updates" section.

With the addition of new site-specific flexibilities, HDOH proposed to maintain the logical organization of sections in HAR 11-54 by removing certain current sections. First, HDOH proposed to remove sections HAR 11-54-9.1 and HAR 11-54-9.1.01 to HAR 11-54-9.1.09 about "Water Quality Certification," and to include them in the new chapter 53, titled "Section 401 Water Quality Certification" (HAR 11-53). Next, HDOH also proposed to remove sections HAR 11-54-9 about "Zones of Mixing" and HAR 11-54-12 about "Intake Credits," and to include them in the existing chapter 55, titled "Water Pollution Control" (HAR 11-55). Last, HDOH proposed to make various minor modifications to HAR 11-54 in order to correct inconsistency issues, fix typographical errors, update incorrect references, and clarify unclear terms.

[2] https://health.hawaii.gov/cwb/files/2019/06/WQS-Triennial-RTC-062119.pdf

II. RATIONALE FOR HUMAN HEALTH CRITERIA

HDOH has conducted the required triennial review of State WQS specified in the Hawaii Administrative Rules, Title 11, Chapter 54 (HAR 11-54), and reviewed new and updated CWA section 304(a) recommended water quality criteria that were published by EPA since May 30, 2000. During this triennial review, HDOH proposes to adopt EPA recommended human health criteria that are based on the latest adjusted national fish consumption rate. These recommended human health criteria for toxic pollutants are necessary to protect any designated uses related to the ingestion of water and aquatic organisms. These uses can include, but are not limited to, recreation in and on the water, consumption of fish or shellfish, and the protection of drinking water supplies.

In 2015, EPA updated its national recommended water quality criteria for human health for ninety-four toxic pollutants. The EPA 2015 Final Updated Human Health Ambient Water Quality Criteria[3] contains the latest scientific information to determine the risk associated with the consumption of these ninety-four pollutants, including updated body weight, drinking water consumption rate, fish consumption rate, bioaccumulation factors, toxicity values, and relative source contributions. The latest water quality criteria for these toxic pollutants are incorporated into the current EPA "National Recommended Water Quality Criteria Table for the protection of Human Health"[4] or "Human Health Criteria Table" (as it is commonly called).

Water quality criteria developed under the CWA section 304(a) are based on data and scientific judgments on the relationship between pollutant concentrations and human health effects. The criteria recommended by EPA represent specific levels of pollutants or conditions in a water body that are not expected to cause adverse effects to human health. Adopting the updated section 304(a) criteria ensures that the WQS of a State reflect current science and protect applicable designated uses. New scientific risk information obtained since EPA last published its recommended criteria may lead to updated recommended criteria that may be more stringent or less stringent than the existing WQS of a State. HDOH proposes **to adopt EPA recommended ambient water quality criteria and to update State WQS for the protection of human health**.

First, HDOH proposes to adopt the recommended numeric criteria of the ninety-four pollutants that are listed in the 2015 Final Updated Human Health Ambient Water Quality Criteria. Of these ninety-four pollutants, fifty-six are already included in HAR 11-54 and thirty-eight are not. Second, HDOH proposes to adopt the recommended numeric criteria of sixteen additional pollutants that were updated by EPA prior to 2015. Of these sixteen additional pollutants, fourteen are already included in HAR 11-54 and two are not. Overall, HDOH proposes **to update existing standards for a total of seventy pollutants (i.e., fifty-six from 2015 plus fourteen before 2015), and to add recommended criteria for a total of forty pollutants (i.e., thirty-eight from 2015 plus two before 2015); all updated and added pollutants are listed in the current EPA Human Health Criteria Table**.

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[3] https://www.epa.gov/wqc/2015-epa-updated-ambient-water-quality-criteria-protection-human-health

[4] https://www.epa.gov/wqc/national-recommended-water-quality-criteria-human-health-criteria-table

All criteria listed in the EPA current Human Health Criteria Table are single numeric values except for benzene. Specifically, the water quality criterion, recommended for benzene, is expressed as a numeric range of 16-58 micrograms per liter. This range reflects the use of two toxicity values in the equations for deriving the criteria values.[5] These toxicity values are expressed as Cancer Slope Factors (CSF) for carcinogenic compounds and reflect the information obtained from EPA Integrated Risk Information System (IRIS). The CSF is used to assess the risk associated with exposure to a carcinogen and is represented by the 95% confidence limit on the increased risk of cancer from a lifetime of exposure to a carcinogenic chemical by ingestion.

For benzene, the CSF used to determine the recommended criteria is based on EPA 2000 IRIS assessment and is represented by a CSF range from 0.015 per mg/kg-day to 0.055 per mg/kg-day. Using the lower CSF in the calculation, the ambient water quality criteria for benzene is 58 micrograms per liter. Using the upper CSF, the criteria is calculated to be 16 micrograms per liter. HDOH proposes to use the more conservative calculation in which the upper CSF is used to provide a higher level of public health protection and proposes a numeric standard of 16 micrograms per liter for benzene in the protection of human health.

In addition to the above water quality criteria, HDOH proposes **to adopt the recommended fish tissue residue water quality criterion for methylmercury** as specified in EPA-823-R-01-001, *Water Quality Criterion for the Protection of Human Health: Methylmercury*, Final, January 2001. The methylmercury criterion specified by EPA is a fish (or shellfish) tissue residue water quality criterion rather than a water column-based water quality criterion. As such, HDOH proposes to adopt the fish tissue residue water quality standard that is expressed as milligrams of methylmercury per kilogram of fish rather than micrograms per liter of water. The proposed standard of 0.3 mg of methylmercury per kilogram of fish or shellfish is the first EPA-recommended criterion that specifies a tissue value rather than a water column value. The reasons for proposing a fish tissue-based criterion for methylmercury are:

1. Representation of the dominant human exposure route.
2. Integration of the spatial and temporal complexities, that occur in aquatic systems and that affect bioaccumulation.

In summary, there are seventy proposed updates to current fish consumption numeric standards of toxic pollutants in HAR 11-54. There are forty proposed chemicals to be added: thirty-nine new chemicals and their respective water column criteria from the current EPA Human Health Criteria Table, plus methylmercury and the fish tissue criterion from EPA 2001 Recommended Water Quality Criterion for the Protection of Human Health from Methylmercury. As mentioned earlier, no revisions to aquatic life toxicity standards are proposed at this time.

For seventy chemicals currently specified in HAR 11-54, Table 1 shows the proposed revisions to the toxic chemical list in HAR 11-54-4(c)(3). Thirty-one of these seventy chemicals have names that need updating to be consistent with the ones listed in the current EPA Human Health Criteria Table. All chemical names and standards currently specified in HAR 11-54 are listed in

[5] https://www.regulations.gov/document?D=EPA-HQ-OW-2014-0135-0165

italics. The abbreviation "*ns*" (shown in italics) means "no standards" in the current version of HAR 11-54. All proposed standards reflect the fish consumption criteria in the current EPA Human Health Criteria Table; all fish consumption standards are expressed in micrograms per liter (µg/L).

Table 1. Proposed Revisions to List of Toxic Chemicals

Current chemical name **[Proposed new chemical name]**	**(Fish Consumption)** ***Current standard*** **(µg/L)**	**(Fish Consumption) Proposed standard (µg/L)**
Acenaphthene	*ns*	90
Acrolein	*250*	400
Acrylonitrile	*0.21*	7.0
Aldrin	*0.000026*	0.00000077
Antimony	*15,000*	640 *
Arsenic	*ns*	0.14 *
Benzene	*13*	16
Benzidine	*0.00017*	0.011
Carbon Tetrachloride	*2.3*	5
Chlordane	*0.00016*	0.00032
Chloroethers-ethyl(bis-2) [Bis(2-Chloroethyl) Ether]	*0.44*	2.2
Chloroethers-isopropyl) [Bis(2-Chloro-1-Methylethyl) Ether]	*1,400*	4,000
Chloroethers-methyl(bis) [Bis(Chloromethyl) Ether]	*0.00060*	0.017
Chloroform	*5.1*	2,000
Chlorophenol(2) [2-Chlorophenol]	*ns*	800
Cyanide	*ns*	400

* Proposed standards are recommended criteria that were updated by EPA prior to 2015.

Table 1. Proposed Revisions to List of Toxic Chemicals, Continued

Current chemical name **[Proposed new chemical name]**	**(Fish Consumption)** ***Current standard*** **(µg/L)**	**(Fish Consumption) Proposed standard (µg/L)**
DDT [p,p'-Dichlorodiphenyltrichloroethane (DDT)]	*0.000008*	0.000030
DDT metabolite TDE [p,p'-Dichlorodiphenyldichloroethane (DDD)]	*ns*	0.00012
Dichloro-benzidine [3-3'-Dichlorobenzidine]	*0.007*	0.15
Dichloro-ethane(1,2) [1,2-Dichloroethane]	*79*	650
Dichloro-phenol(2,4) [2,4-Dichlorophenol]	*ns*	60
Dichloro-propene(1,3) [1,3-Dichloropropene]	*4.6*	12
Dieldrin	*0.000025*	0.0000012
Dinitro-o-cresol(4,6) [2-Methyl-4,6-Dinitrophenol]	*250*	30
Dioxin [2,3,7,8-TCDD (Dioxin)]	$5.0x10^{-9}$	$5.1x10^{-9}$ *
Diphenyl-hydrazine(1,2) [1,2-Diphenylhydrazine]	*0.018*	0.2
Endrin	*ns*	0.03
Ethylbenzene	*1,070*	130
Fluoranthene	*18*	20
Heptachlor	*0.00009*	0.0000059
Hexachlorobenzene	*0.00024*	0.000079
Hexachlorobutadiene	*16*	0.01

* Proposed standards are recommended criteria that were updated by EPA prior to 2015.

Table 1. Proposed Revisions to List of Toxic Chemicals, Continued

Current chemical name **[Proposed new chemical name]**	**(Fish Consumption)** ***Current standard*** **(µg/L)**	**(Fish Consumption) Proposed standard (µg/L)**
Hexachloro-cyclohexane-alpha [alpha-Hexachlorocyclohexane (HCH)]	*0.010*	0.00039
Hexachloro-cyclohexane-beta [beta-Hexachlorocyclohexane (HCH)]	*0.018*	0.014
Hexachlorocyclohexane (HCH)-Technical	*0.014*	0.010
Hexachlorocyclopentadiene	*ns*	4
Hexachloroethane	*2.9*	0.1
Isophorone	*170,000*	1,800
Lindane [gamma-Hexachlorocyclohexane (HCH)]	*0.020*	4.4
Methoxychlor	*ns*	0.02
Nickel	*33*	4,600 *
Nitrobenzene	*ns*	600
Nitrosamines	*0.41*	1.24 *
Nitrosodibutylamine-N [Nitrosodibutylamine]	*0.19*	0.22 *
Nitrosodiethylamine-N [Nitrosodiethylamine]	*0.41*	1.24 *
Nitrosodimethylamine-N [N-Nitrosodimethylamine]	*5.3*	3.0 *
Nitrosodiphenylamine-N [N-Nitrosodiphenylamine]	*5.3*	6.0 *
Nitrosopyrrolidine-N [Nitrosopyrrolidine]	*30*	34 *
Pentachlorobenzene	*28*	0.1
Pentachlorophenol	*ns*	0.04
Phenol	*ns*	300,000
Phenol 2,4-dimethyl [2,4-Dimethylphenol]	*ns*	3,000

* Proposed standards are recommended criteria that were updated by EPA prior to 2015.

Table 1. Proposed Revisions to List of Toxic Chemicals, Continued

Current chemical name **[Proposed new chemical name]**	**(Fish Consumption)** ***Current standard*** **(µg/L)**	**(Fish Consumption) Proposed standard (µg/L)**
Phthalate esters dibutyl [Di-n-Butyl Phthalate]	*50,000*	30
Phthalate esters diethyl [Diethyl Phthalate]	*590,000*	600
Phthalate esters di-2-ethylhexyl [Bis(2-Ethylhexyl) Phthalate]	*16,000*	0.37
Phthalate esters dimethyl [Dimethyl Phthalate]	*950,000*	2,000
Polychlorinated Biphenyls (PCBs)	*0.000079*	0.000064 *
Selenium	*ns*	4,200 *
Tetrachloro-benzene(1,2,4,5) [1,2,4,5-Tetrachlorobenzene]	*16*	0.03
Tetrachloro-ethane(1,1,2,2) [1,1,2,2-Tetrachloroethane]	*3.5*	3
Tetrachloroethylene	*2.9*	29
Thallium	*16*	0.47 *
Toluene	*140,000*	520
Toxaphene	*0.00024*	0.00071
Trichloro-ethane(1,1,1) [1,1,1-Trichloroethane]	*340,000*	200,000
Trichloro-ethane(1,1,2) [1,1,2-Trichloroethane]	*14*	8.9
Trichloroethylene	*26*	7
Trichloro-phenol(2,4,6) [2,4,6-Trichlorophenol]	*1.2*	2.8
Vinyl Chloride	*170*	1.6
Zinc	*ns*	26,000 *

* Proposed standards are recommended criteria that were updated by EPA prior to 2015.

As shown in Table 1, HDOH proposes to update the names of thirty-one toxic chemicals to reflect the names as listed in the current EPA Human Health Criteria Table. The updated names

are synonyms of the same toxic chemicals. By adopting the naming convention used by EPA, HDOH hopes to reduce ambiguity and potential confusion in the application of State WQS. HDOH also proposes to update the name of two chemicals, Pentachloroethanes and Tetrachlorophenol(2,3,5,6), which are not included in the current EPA Human Health Criteria Table. First, Pentachloroethane is incorrectly listed in the plural (i.e., Pentachloroethanes) to represent all isomers of this chemical when there is a single isomer. The name of this chemical in HAR 11-54 is updated to Pentachloroethane. Second, the chemical Tetrachlorophenol(2,3,5,6) does not follow the naming convention that the EPA uses for isomers. The name of this chemical in HAR 11-54 is updated to 2,3,5,6-Tetrachlorophenol.

For forty chemicals not currently specified in HAR 11-54, Table 2 shows the proposed additions to the toxic chemical list in HAR 11-54-4(c)(3). All proposed additions have no current fish consumption standards in HAR 11-54. The proposed new chemical names and standards reflect the pollutant names and fish consumption criteria in the current EPA Human Health Criteria Table. All proposed fish consumption standards are expressed in micrograms per liter (µg/L) except for methylmercury which is expressed in milligrams of methylmercury per kilogram of fish (mg/kg). As mentioned earlier, no aquatic life standards are updated for these proposed new chemicals at this time.

Table 2. Proposed Additions to List of Toxic Chemicals

Proposed new chemical name	**(Fish Consumption)** ***No current standard*** **(µg/L)**	**(Fish Consumption) Proposed new standard (µg/L except Methylmercury +)**
1,1-Dichloroethylene	*blank*	20,000
1,2,4-Trichlorobenzene	*blank*	0.076
1,2-Dichlorobenzene	*blank*	3,000
1,2-Dichloropropane	*blank*	31
1,3-Dichlorobenzene	*blank*	10
1,4-Dichlorobenzene	*blank*	900
2,4,5-Trichlorophenol	*blank*	600
2,4-Dinitrophenol	*blank*	300
2,4-Dinitrotoluene	*blank*	1.7
2-Chloronaphthalene	*blank*	1,000
3-Methyl-4-Chlorophenol	*blank*	2,000
alpha-Endosulfan	*blank*	30
Anthracene	*blank*	400
Benzo(a)anthracene	*blank*	0.0013
Benzo(a)pyrene	*blank*	0.00013
Benzo(b)fluoranthene	*blank*	0.0013

Table 2. Proposed Additions to List of Toxic Chemicals, Continued

Proposed new chemical name	**(Fish Consumption)** ***No current standard*** **(µg/L)**	**(Fish Consumption) Proposed new standard (µg/L except Methylmercury +)**
Benzo(k)fluoranthene	*blank*	0.013
beta-Endosulfan	*blank*	40
Bromoform	*blank*	120
Butylbenzyl Phthalate	*blank*	0.10
Chlorobenzene	*blank*	800
Chlorodibromomethane	*blank*	21
Chlorophenoxy Herbicide (2,4-D)	*blank*	12,000
Chlorophenoxy Herbicide (2,4,5-TP) [Silvex]	*blank*	400
Chrysene	*blank*	0.13
Dibenzo(a,h)anthracene	*blank*	0.00013
Dichlorobromomethane	*blank*	27
Dinitrophenols	*blank*	1,000
Endosulfan Sulfate	*blank*	40
Endrin Aldehyde	*blank*	1
Fluorene	*blank*	70
Heptachlor Epoxide	*blank*	0.000032
Indeno(1,2,3-cd)pyrene	*blank*	0.0013
Methyl Bromide	*blank*	10,000
Methylene Chloride	*blank*	1,000
Methylmercury	*blank*	0.3 mg/kg fish **(+) ***
N-Nitrosodi-n-Propylamine	*blank*	0.51 *
p,p'-Dichlorodiphenyldichloroethylene (DDE)	*blank*	0.000018
Pyrene	*blank*	30
Trans-1,2-Dichloroethylene	*blank*	4,000

(+) As recommended by EPA, the standard for methylmercury is expressed as a fish (or shellfish) tissue residue water quality criterion rather than a water column-based water quality criterion.[6]
* Proposed new standards are recommended criteria that were updated by EPA prior to 2015.

[6] https://www.epa.gov/sites/production/files/2019-02/documents/wqc-final-methylmercury-factsheet-2001.pdf

The current version of HAR 11-54 includes numeric standards for chemicals that are mixtures of isomers, and for chemicals that belong to the same class. Specifically, there are fish consumption standards in HAR 11-54 for the following four chemicals; the first three are mixtures of isomers and the fourth is a class of chemicals:

1. Dichlorobenzenes,
2. Dinitrotoluenes,
3. Endosulfan, and
4. Polynuclear Aromatic Hydrocarbons (PAHs).

As listed in Table 2, the proposed additions to the toxic chemical list of HAR 11-54-4(c)(3) include fish consumption standards for isomers of dichlorobenzene, dinitrotoluene, and endosulfan, and specific PAH chemicals. Due to the addition of fish consumption standards for isomers of specific compounds or for chemicals from the PAH class of compounds, HDOH proposes **to remove the current fish consumption standards in HAR 11-54 for dichlorobenzenes, dinitrotoluenes, endosulfan, and PAHs.**

1. There are three isomers of dichlorobenzene. Since HDOH is proposing to add fish consumption standards for all three isomers (1,2-, 1,3-, and 1,4-) of dichlorobenzene, the current fish consumption standard in HAR 11-54 for dichlorobenzenes (i.e., mixtures of dichlorobenzene isomers) is removed.
2. There are six isomers of dinitrotoluene. According to the EPA Technical Fact Sheet on Dinitrotoluene (EPA 505-F-17-010 dated September 2017), the (2,4- and 2,6-) isomers of this chemical are the two major forms. Moreover, 2,4-dinitrotoluene makes up about 76.5% (i.e., more than three-quarters) of technical grade dinitrotoluene which is a mixture of all six isomers. Since HDOH is proposing to add the fish consumption standard for 2,4-dinitrotoluene, the current fish consumption standard in HAR 11-54 for dinitrotoluenes (i.e., mixtures of dinitrotoluene isomers) is removed.
3. There are two isomers of endosulfan. By convention, the total endosulfan residue level in samples is the sum of the (alpha- and beta-) isomers of endosulfan plus endosulfan sulfate (i.e., the major oxidation product of endosulfan). Since HDOH is proposing to add fish consumption standards for the (alpha- and beta-) isomers of endosulfan and also for endosulfan sulfate, the current fish consumption standard in HAR 11-54 for endosulfan (i.e., mixtures of endosulfan isomers) is removed.
4. There are over one-hundred PAH chemicals. Only three PAH chemicals (acenaphthene, fluoranthene, and naphthalene) are specified in HAR 11-54. There are fish consumption standards in HAR 11-54 for only one of these three PAH chemicals (fluoranthene) and also for PAHs (as a class of chemicals). Since HDOH is proposing to add or update fish consumption standards for specific PAH chemicals, the current fish consumption standard in HAR 11-54 for PAHs (as a class of chemicals) is removed. Overall, HDOH is proposing to add fish consumption standards for anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)-anthracene, fluorene, indeno(1,2,3-cd)pyrene, and pyrene, to update fish consumption standards for acenaphthene and fluoranthene, and to remove the fish consumption standard for PAHs. There is no fish consumption standard in HAR 11-54 for naphthalene. However, this PAH chemical remains specified in the proposed version of HAR 11-54

since there are existing aquatic life standards in the current version of HAR 11-54. As mentioned earlier, aquatic life standards are not updated at this time.

Table 3 summarizes the proposed removal of four current fish consumption standards specified in HAR 11-54. The abbreviation "ns" means "no standards." For PAHs, there are no aquatic life standards specified in HAR 11-54. ~~Strikethrough text~~ is used to denote that PAHs (as a class of chemicals) are removed entirely from HAR 11-54.

Table 3. Proposed Removal of Current Fish Consumption Standards

Current chemical name	**(Fish Consumption)** ***Current standard*** **(µg/L)**	**(Fish Consumption) Proposed standard (µg/L)**
Dichlorobenzenes	*850*	ns
Dinitrotoluenes	*3.0*	ns
Endosulfan	*52*	ns
~~*Polynuclear Aromatic Hydrocarbons (PAHs)*~~	~~*0.01*~~	~~ns~~

Current standards in HAR 11-54 include carcinogen indicators which are represented by an asterisk next to each applicable chemical. HDOH proposes to remove all * symbols next to applicable chemicals and to transfer these carcinogen indicators to a new "Carcinogen" data column. In this new data column, the X symbol is used to indicate a carcinogen. For each of the following seven chemicals, currently specified in HAR 11-54, the carcinogen indicator is added based on the carcinogenicity of 10^{-6} risk specified in the current EPA Human Health Criteria Table:

1. 1,2-Diphenylhydrazine, currently listed in HAR 11-54 as *Diphenyl-hydrazine(1,2)*,
2. 1,3-Dichloropropene, currently listed in HAR 11-54 as *Dichloro-propene(1,3)*,
3. Arsenic,
4. Bis(2-Ethylhexyl) Phthalate, currently listed in HAR 11-54 as *Phthalate esters di-2-ethylhexyl*,
5. Copper,
6. Isophorone, and
7. Pentachlorophenol.

For each of the following four chemicals, currently specified in HAR 11-54, the carcinogen indicator is removed based on no carcinogenicity risk specified in the current EPA Human Health Criteria Table:

1. Beryllium,
2. Chloroform,
3. Dichlorobenzenes, and
4. gamma-Hexachlorocyclohexane (HCH), currently listed in HAR 11-54 as *Lindane*.

Since each of the three isomers (1,2-, 1,3-, and 1,4-) of dichlorobenzene has no carcinogenicity risk specified in the current EPA Human Health Criteria Table, the carcinogen indicator is removed for Dichlorobenzenes.

Current standards in HAR 11-54 do not include Chemical Abstracts Service (CAS) numbers whereas recommended criteria from EPA include CAS numbers. A CAS number is a unique numerical identifier assigned, by the CAS organization, to a chemical substance described in the open scientific literature. There are clear advantages to the use of CAS numbers:

1. Easy identification of chemicals by reducing any possible confusion due to the various synonyms and isomers that chemical compounds may have.
2. Convenient search of databases for specific chemical information, including analytical detection methods.

For most chemicals, the corresponding CAS numbers are obtained from the current EPA National Recommended Water Quality Criteria Tables for the protection of Human Health[7] and Aquatic Life.[8] For naphthalene, the CAS number is obtained from EPA 2002 National Recommended Water Quality Criteria.[9] For applicable chemicals, HDOH proposes to include CAS numbers in HAR 11-54. CAS numbers are not assigned to the following eleven chemicals:

1. 2,3,5,6-Tetrachlorophenol (updated name in proposed rule revisions to HAR 11-54),
2. Dichlorobenzenes,
3. Dichloropropanes,
4. Dinitrotoluenes,
5. Endosulfan,
6. Nitrophenols,
7. Nitrosamines (specified in the current EPA Human Health Criteria Table),
8. Pentachloroethane (updated name in proposed rule revisions to HAR 11-54),
9. Polychlorinated Biphenyls (specified in the current EPA Human Health Criteria Table),
10. Tetrachloroethanes, and
11. Tributyltin (specified in the current EPA Aquatic Life Criteria Table).

Nitrosamines, polychlorinated biphenyls, and tributyltin are currently listed in either the EPA Human Health Criteria Table or the EPA Aquatic Life Criteria Table without CAS numbers. The remaining eight chemicals (i.e., 2,3,5,6-tetrachlorophenol, dichlorobenzenes, dichloropropanes, dinitrotoluenes, endosulfan, nitrophenols, pentachloroethane, and tetrachloroethanes) are not currently listed in these two EPA Criteria Tables. However, these eight chemicals remain specified in the proposed version of HAR 11-54 since there are aquatic life standards in the current version of HAR 11-54. As mentioned earlier, aquatic life standards are not updated at this time, and they will be evaluated in subsequent triennial reviews.

[7] https://www.epa.gov/wqc/national-recommended-water-quality-criteria-human-health-criteria-table

[8] https://www.epa.gov/wqc/national-recommended-water-quality-criteria-aquatic-life-criteria-table

[9] https://www.epa.gov/sites/production/files/2018-12/documents/national-recommended-hh-criteria-2002.pdf

Table 4 shows the proposed addition of carcinogen indicators and CAS numbers to the toxic chemical list in HAR 11-54-4(c)(3). The following algorithm is used to list the chemicals in Table 4:

- Chemicals are sorted alphabetically.
- Chemicals are sorted alphabetically by their actual names. For example, Chlorophenoxy Herbicide (2,4,5-TP), where TP is an acronym of trichlorophenoxy, is listed after the (2,4,6-) isomer of trichlorophenol.
- Chemicals with isomers are listed together. For example, Dichlorobenzenes (i.e., mixtures of isomers of dichlorobenzene) and the (1,2-, 1,3-, and 1,4-) isomers of dichlorobenzene are sequentially listed as a group.
- Isomers of a chemical, which is not specified in HAR 11-54, are listed "as if" this chemical is specified. For example, Trichlorophenols (i.e., mixtures of isomers of trichlorophenol) are not specified in HAR 11-54, and the (2,4,5- and 2,4,6-) isomers of trichlorophenol are sequentially listed after trichloroethylene.
- Chemicals, which are formed by adding or bonding atoms (such as carbon, hydrogen, oxygen, or methyl group) to a parent chemical, are listed together. For example, benzo(a)anthracene, which is formed by adding four carbon atoms to anthracene, and dibenzo(a,h)anthracene by adding eight carbon atoms are sequentially listed after anthracene.
- Chemicals formed by adding or bonding atoms to a parent chemical, which is not specified in HAR 11-54, are listed "as if" this chemical is specified. For example, chloromethyl is not specified in HAR 11-54, and Bis(Chloromethyl) Ether, which is formed from the bonding of an oxygen atom and two compounds of chloromethyl, is listed after chloroform.

A total of one hundred thirty-five chemicals are specified in Table 4. Of this total, thirty-one chemicals have proposed new names and forty chemicals are proposed additions. In Table 4, the proposed new names are listed in upright script and the current names are listed in italics.

Table 4. Proposed Addition of Carcinogen and CAS Data

***Current chemical name* or Proposed new chemical name**	**Carcinogen**	**Chemical Abstracts Service (CAS) #**
Acenaphthene	-	83-32-9
Acrolein	-	107-02-8
Acrylonitrile	X	107-13-1
Aldrin	X	309-00-2
Aluminum	-	7429-90-5
Anthracene	-	120-12-7
Benzo(a)anthracene	X	56-55-3
Dibenzo(a,h)anthracene	X	53-70-3
Antimony	-	7440-36-0
Arsenic	X	7440-38-2
Benzene	X	71-43-2
Benzidine	X	92-87-5
Beryllium	-	7440-41-7
Bromoform	X	75-25-2
Butylbenzyl Phthalate	X	85-68-7
Cadmium	-	7440-43-9
Carbon Tetrachloride	X	56-23-5
Chlordane	X	57-74-9
Chlorine	-	7782-50-5
Chlorobenzene	-	108-90-7
Chlorodibromomethane	X	124-48-1
Bis(2-Chloroethyl) Ether	X	111-44-4
Chloroform	-	67-66-3
Bis(Chloromethyl) Ether	X	542-88-1
2-Chloronaphthalene	-	91-58-7
2-Chlorophenol	-	95-57-8
3-Methyl-4-Chlorophenol	-	59-50-7
Chlorpyrifos	-	2921-88-2
Chromium (VI)	-	18540-29-9
Chrysene	X	218-01-9
Copper	X	7440-50-8

Table 4. Proposed Addition of Carcinogen and CAS Data, Continued

***Current chemical name* or Proposed new chemical name**	**Carcinogen**	**Chemical Abstracts Service (CAS) #**
Cyanide	-	57-12-5
Demeton	-	8065-48-3
Di-n-Butyl Phthalate	-	84-74-2
Dichlorobenzenes *	-	-
1,2-Dichlorobenzene	-	95-50-1
1,3-Dichlorobenzene	-	541-73-1
1,4-Dichlorobenzene	-	106-46-7
3,3'-Dichlorobenzidine	X	91-94-1
Dichlorobromomethane	X	75-27-4
p,p'-Dichlorodiphenyldichloroethane (DDD)	X	72-54-8
p,p'-Dichlorodiphenyldichloroethylene (DDE)	X	72-55-9
p,p'-Dichlorodiphenyltrichloroethane (DDT)	X	50-29-3
1,2-Dichloroethane	X	107-06-2
1,1-Dichloroethylene	-	75-35-4
Trans-1,2-Dichloroethylene	-	156-60-5
2,4-Dichlorophenol	-	120-83-2
Chlorophenoxy Herbicide (2,4-D)	-	94-75-7
Dichloropropanes *	-	-
1,2-Dichloropropane	X	78-87-5
1,3-Dichloropropene	X	542-75-6
Dieldrin	X	60-57-1
Diethyl Phthalate	-	84-66-2
Dimethyl Phthalate	-	131-11-3
2,4-Dimethylphenol	-	105-67-9
Dinitrophenols	-	25550-58-7
2,4-Dinitrophenol	-	51-28-5
2-Methyl-4,6-Dinitrophenol	-	534-52-1
Dinitrotoluenes *	X	-
2,4-Dinitrotoluene	X	121-14-2
1,2-Diphenylhydrazine	X	122-66-7

* Chemicals are not listed in current EPA Human Health and Aquatic Life Criteria Tables.

Table 4. Proposed Addition of Carcinogen and CAS Data, Continued

***Current chemical name* or Proposed new chemical name**	**Carcinogen**	**Chemical Abstracts Service (CAS) #**
Endosulfan *	-	-
alpha-Endosulfan	-	959-98-8
beta-Endosulfan	-	33213-65-9
Endosulfan Sulfate	-	1031-07-8
Endrin	-	72-20-8
Endrin Aldehyde	-	7421-93-4
Ethylbenzene	-	100-41-4
Bis(2-Ethylhexyl) Phthalate	X	117-81-7
Fluoranthene	-	206-44-0
Benzo(b)fluoranthene	X	205-99-2
Benzo(k)fluoranthene	X	207-08-9
Fluorene	-	86-73-7
Guthion	-	86-50-0
Heptachlor	X	76-44-8
Heptachlor Epoxide	X	1024-57-3
Hexachlorobenzene	X	118-74-1
Hexachlorobutadiene	X	87-68-3
Hexachlorocyclohexane (HCH)-Technical	X	608-73-1
alpha-Hexachlorocyclohexane (HCH)	X	319-84-6
beta-Hexachlorocyclohexane (HCH)	X	319-85-7
gamma-Hexachlorocyclohexane (HCH) [Lindane]	-	58-89-9
Hexachlorocyclopentadiene	-	77-47-4
Hexachloroethane	X	67-72-1
Isophorone	X	78-59-1
Lead	-	7439-92-1

* Chemicals are not listed in current EPA Human Health and Aquatic Life Criteria Tables.

Table 4. Proposed Addition of Carcinogen and CAS Data, Continued

***Current chemical name* or Proposed new chemical name**	**Carcinogen**	**Chemical Abstracts Service (CAS) #**
Malathion	-	121-75-5
Mercury	-	7439-97-6
Methoxychlor	-	72-43-5
Methyl Bromide	-	74-83-9
Methylene Chloride	X	75-09-2
Bis(2-Chloro-1-Methylethyl) Ether	-	108-60-1
Methylmercury	-	22967-92-6
Mirex	-	2385-85-5
Naphthalene *	-	91-20-3
Nickel	-	7440-02-0
Nitrobenzene	-	98-95-3
Nitrophenols *	X	-
Nitrosamines	X	-
Nitrosodibutylamine	X	924-16-3
Nitrosodiethylamine	X	55-18-5
N-Nitrosodimethylamine	X	62-75-9
N-Nitrosodiphenylamine	X	86-30-6
N-Nitrosodi-n-Propylamine	X	621-64-7
Nitrosopyrrolidine	X	930-55-2
Parathion	-	56-38-2
Pentachlorobenzene	-	608-93-5
Pentachloroethane *	-	-
Pentachlorophenol	X	87-86-5
Phenol	-	108-95-2
Polychlorinated Biphenyls (PCBs)	X	-
Pyrene	-	129-00-0
Benzo(a)pyrene	X	50-32-8
Indeno(1,2,3-cd)pyrene	X	193-39-5
Selenium	-	7782-49-2
Silver	-	7440-22-4

* Chemicals are not listed in the current EPA Human Health and Aquatic Life Criteria Tables.

Table 4. Proposed Addition of Carcinogen and CAS Data, Continued

***Current chemical name* or Proposed new chemical name**	**Carcinogen**	**Chemical Abstracts Service (CAS) #**
1,2,4,5-Tetrachlorobenzene	-	95-94-3
2,3,7,8-TCDD (Dioxin)	X	1746-01-6
Tetrachloroethanes *	-	-
1,1,2,2-Tetrachloroethane	X	79-34-5
Tetrachloroethylene	X	127-18-4
2,3,5,6-Tetrachlorophenol *	-	-
Thallium	-	7440-28-0
Toluene	-	108-88-3
Toxaphene	X	8001-35-2
Tributyltin (TBT)	-	-
1,2,4-Trichlorobenzene	X	120-82-1
1,1,1-Trichloroethane	-	71-55-6
1,1,2-Trichloroethane	X	79-00-5
Trichloroethylene	X	79-01-6
2,4,5-Trichlorophenol	-	95-95-4
2,4,6-Trichlorophenol	X	88-06-2
Chlorophenoxy Herbicide (2,4,5-TP) [Silvex]	-	93-72-1
Vinyl Chloride	X	75-01-4
Zinc	-	7440-66-6

* Chemicals are not listed in the current EPA Human Health and Aquatic Life Criteria Tables.

Finally, HDOH proposes **to move the amended toxicity table from sub-section HAR 11-54-4(c) to a newly created Appendix E of HAR 11-54** in order to accommodate the landscape format of this amended table. This new toxicity table includes both current standards from HAR 11-54 and new criteria recommended by EPA. A total of one hundred thirty-five chemicals are listed in Appendix E dated Month DD, 2021, entitled "Numeric Standards for Toxic Pollutants Applicable to All Waters." This placeholder (i.e., Month DD, 2021) for the actual date will be appropriately modified to reflect the next compilation date of all proposed amendments to the current version of HAR 11-54.

The following major amendments are proposed for section HAR 11-54-4. Along with these major amendments, minor amendments are also proposed to add missing punctuation marks, to correct miscellaneous formatting and typographical errors, to spell out numbers, to convert "State" in "State waters" to lower case, to replace "U.S. Environmental Agency" with the acronym "EPA", "state agency" with "state department", "U.S.C." with "United States Code", and "micro-organism" with "microorganism" for consistency, to clarify unclear definitions, to update incorrect references, and to hyphenate two or more words that are used together as compound adjectives.

§11-54-4 Basic water quality criteria applicable to all waters. (a) All waters shall be free of substances attributable to domestic, industrial, or other controllable sources of pollutants, including:

(1) Materials that will settle to form objectionable sludge or bottom deposits;

(2) Floating debris, oil, grease, scum, or other floating materials;

(3) Substances in amounts sufficient to produce taste in the water or detectable off-flavor in the flesh of fish, or in amounts sufficient to produce objectionable color, turbidity, or other conditions in the receiving waters;

(4) High or low temperatures, biocides, pathogenic organisms, toxic, radioactive, corrosive, or other deleterious substances at levels or in combinations sufficient to be toxic or harmful to human, animal, plant, or aquatic life, or in amounts sufficient to interfere with any beneficial use of the water;

(5) Substances or conditions or combinations thereof in concentrations which produce undesirable aquatic life; and

(6) Soil particles resulting from erosion on land involved in earthwork, such as the construction of public works; highways; subdivisions; recreational, commercial, or

industrial developments; or the cultivation and management of agricultural lands.

(b) The director is authorized to impose by order the penalties and fines and corrective measures as specified in chapters 342D and 342E, HRS, against any person who discharges or otherwise causes or allows water pollutants to enter [~~State~~]state waters and cause violation of this chapter, unless that person acted in compliance with a permit or variance issued by the director pursuant to [~~chapters~~]chapter 342D, HRS, for that person's discharges. Each day that the person has caused each water quality standard not to be met shall constitute a separate offense.

(c) To ensure compliance with [~~paragraph (a)(4),~~]section 11-54-4(a)(4), all [~~State~~]state waters are subject to monitoring and to the following standards for acute and chronic toxicity and the protection of human health.

(1) As used in this section:

"Acute Toxicity" means the degree to which a pollutant, discharge, or water sample causes a rapid adverse impact to aquatic organisms. The acute toxicity of a discharge or receiving water is measured using the methods in section 11-54-10, unless other methods are specified by the director.

"Chronic Toxicity" means the degree to which a pollutant, discharge, or water sample causes a long-term adverse impact to aquatic organisms, such as a reduction in growth or reproduction. The chronic toxicity of a discharge or receiving water is measured using the methods in section 11-54-10, unless other methods are specified by the director.

"Dilution" means, for discharges through submerged outfalls, the average and minimum values calculated using the models in the EPA publication, Initial Mixing Characteristics of Municipal Ocean

Discharges (EPA/600/3-85/073, November, 1985), or in the EPA publication, Expert System for Hydrodynamic Mixing Zone Analysis of Conventional and Toxic Submerged Single Port Discharges (Cormix 1) (EPA/600/3-90/012), February, 1990.

"In-Stream Waste Concentration" (IWC) means the concentration of a toxicant in the receiving water, or for a discharge, the concentration of the effluent after minimum dilution authorized by the department. A discharge of one hundred divided by the minimum dilution is the IWC when the dilution is authorized by the director. A discharge of one hundred per cent effluent is the IWC when dilution is not authorized by the director.

"No Observed Effect Concentration" (NOEC), means the highest per cent concentration of a discharge or water sample, in dilution water, which causes no observable adverse effect in a chronic toxicity test. For example, [~~an~~]a NOEC of [~~100~~]one hundred per cent indicates that an undiluted discharge or water sample causes no observable adverse effect to the organisms in a chronic toxicity test.

"Test of Significant Toxicity" (TST) means the alternative statistical method for analyzing and interpreting valid whole effluent toxicity test data as described in the EPA publications, National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document, EPA 833-R-10-003 (June 2010), and National Pollutant Discharge Elimination System Test of Significant Toxicity Technical Document, EPA 833-R-10-004 (June 2010).

(2) Narrative toxicity and human health standards.

(A) Acute Toxicity Standards: All [~~State~~]state waters shall be free from pollutants in concentrations which exceed the acute standards listed in [~~paragraph (3).~~]Appendix E dated Month DD, 2021, entitled "Numeric Standards for Toxic Pollutants Applicable to All Waters", located at the end of this chapter. All [~~State~~]state waters shall also be free from acute toxicity as measured using the toxicity tests listed in section 11-54-10, or other methods specified by the director.

(B) Chronic Toxicity Standards: All [~~State~~]state waters shall be free from pollutants in concentrations which on average during any twenty-four-hour period exceed the chronic standards listed in [~~paragraph (3).~~]Appendix E dated Month DD, 2021, entitled "Numeric Standards for Toxic Pollutants Applicable to All Waters", located at the end of this chapter. All [~~State~~]state waters shall also be free from chronic toxicity as measured using the toxicity tests listed in section 11-54-10, or other methods specified by the director.

(C) Human Health Standards: All [~~State~~]state waters shall be free from pollutants in concentrations which, on average during any thirty-day period, exceed the "fish consumption" standards for non-carcinogens in [~~paragraph (3).~~]Appendix E dated Month DD, 2021, entitled "Numeric Standards for Toxic Pollutants Applicable to All Waters", located at the end of this chapter. All [~~State~~]state waters shall also be free from pollutants in concentrations, which on average during any [~~12~~]

twelve-month period, exceed the "fish consumption" standards for pollutants identified as carcinogens in [~~paragraph (3).~~]Appendix E dated Month DD, 2021, entitled "Numeric Standards for Toxic Pollutants Applicable to All Waters", located at the end of this chapter.

[~~(3) Numeric standards for toxic pollutants applicable to all waters. The freshwater standards apply where the dissolved inorganic ion concentration is less than 0.5 parts per thousand; saltwater standards apply above 0.5 parts per thousand. Values for metals refer to the dissolved fraction. All values are expressed in micrograms per liter.~~

~~Pollutant~~	~~Freshwater~~		~~Saltwater~~		~~Fish~~
	~~Acute~~	~~Chronic~~	~~Acute~~	~~Chronic~~	~~Consumption~~
~~Acenaphthene~~	~~570~~	~~ns~~	~~320~~	~~ns~~	~~ns~~
~~Acrolein~~	~~23~~	~~ns~~	~~18~~	~~ns~~	~~250~~
~~Acrylonitrile*~~	~~2,500~~	~~ns~~	~~ns~~	~~ns~~	~~0.21~~
~~Aldrin*~~	~~3.0~~	~~ns~~	~~1.3~~	~~ns~~	~~0.000026~~
~~Aluminum~~	~~750~~	~~260~~	~~ns~~	~~ns~~	~~ns~~
~~Antimony~~	~~3,000~~	~~ns~~	~~ns~~	~~ns~~	~~15,000~~
~~Arsenic~~	~~360~~	~~190~~	~~69~~	~~36~~	~~ns~~
~~Benzene*~~	~~1,800~~	~~ns~~	~~1,700~~	~~ns~~	~~13~~
~~Benzidine*~~	~~800~~	~~ns~~	~~ns~~	~~ns~~	~~0.00017~~
~~Beryllium*~~	~~43~~	~~ns~~	~~ns~~	~~ns~~	~~0.038~~

Pollutant	Freshwater Acute	Freshwater Chronic	Saltwater Acute	Saltwater Chronic	Fish Consumption
Cadmium	3+	3+	43	9.3	ns
Carbon tetrachloride*	12,000	ns	16,000	ns	2.3
Chlordane*	2.4	0.0043	0.09	0.004	0.00016
Chlorine	19	11	13	7.5	ns
Chloroethers-					
ethyl(bis-2)*	ns	ns	ns	ns	0.44
isopropyl	ns	ns	ns	ns	1,400
methyl(bis)*	ns	ns	ns	ns	0.00060
Chloroform*	9,600	ns	ns	ns	5.1
Chlorophenol(2)	1,400	ns	ns	ns	ns
Chlorpyrifos	0.083	0.041	0.011	0.0056	ns
Chromium (VI)	16	11	1,100	50	ns
Copper	6+	6+	2.9	2.9	ns
Cyanide	22	5.2	1	1	ns
DDT*	1.1	0.001	0.013	0.001	0.000008
metabolite TDE*	0.03	ns	1.2	ns	ns
Demeton	ns	0.1	ns	0.1	ns
Dichloro-					
benzenes*	370	ns	660	ns	850
benzidine*	ns	ns	ns	ns	0.007
ethane(1,2)*	39,000	ns	38,000	ns	79
phenol(2,4)	670	ns	ns	ns	ns
propanes	7,700	ns	3,400	ns	ns
propene(1,3)	2,000	ns	260	ns	4.6

Pollutant	Freshwater Acute	Freshwater Chronic	Saltwater Acute	Saltwater Chronic	Fish Consumption
Dieldrin*	2.5	0.0019	0.71	0.0019	0.000025
Dinitro					
o-cresol(4,6)	ns	ns	ns	ns	250
toluenes*	110	ns	200	ns	3.0
Dioxin*	0.003	ns	ns	ns	5.0×10^{-9}
Diphenyl-hydrazine(1,2)	ns	ns	ns	ns	0.018
Endosulfan	0.22	0.056	0.034	0.0087	52
Endrin	0.18	0.0023	0.037	0.0023	ns
Ethylbenzene	11,000	ns	140	ns	1,070
Fluoranthene	1,300	ns	13	ns	18
Guthion	ns	0.01	ns	0.01	ns
Heptachlor*	0.52	0.0038	0.053	0.0036	0.00009
Hexachloro-benzene*	ns	ns	ns	ns	0.00024
butadiene*	30	ns	11	ns	16
cyclohexane-					
alpha*	ns	ns	ns	ns	0.010
beta*	ns	ns	ns	ns	0.018
technical*	ns	ns	ns	ns	0.014
cyclopentadiene	2	ns	2	ns	ns
ethane*	330	ns	310	ns	2.9
Isophorone	39,000	ns	4,300	ns	170,000
Lead	29+	29+	140	5.6	ns
Lindane*	2.0	0.08	0.16	ns	0.020

Pollutant	Freshwater Acute	Freshwater Chronic	Saltwater Acute	Saltwater Chronic	Fish Consumption
Malathion	ns	0.1	ns	0.1	ns
Mercury	2.4	0.55	2.1	0.025	0.047
Methoxychlor	ns	0.03	ns	0.03	ns
Mirex	ns	0.001	ns	0.001	ns
Naphthalene	770	ns	780	ns	ns
Nickel	5+	5+	75	8.3	33
Nitrobenzene	9,000	ns	2,200	ns	ns
Nitrophenols*	77	ns	1,600	ns	ns
Nitrosamines*	1,950	ns	ns	ns	0.41
Nitroso					
dibutylamine-N*	ns	ns	ns	ns	0.19
diethylamine-N*	ns	ns	ns	ns	0.41
dimethylamine-N*	ns	ns	ns	ns	5.3
diphenylamine-N*	ns	ns	ns	ns	5.3
pyrrolidine-N*	ns	ns	ns	ns	30
Parathion	0.065	0.013	ns	ns	ns
Pentachloro-					
ethanes	2,400	ns	130	ns	ns
benzene	ns	ns	ns	ns	28
phenol	20	13	13	ns	ns
Phenol	3,400	ns	170	ns	ns
2,4-dimethyl	700	ns	ns	ns	ns
Phthalate esters					
dibutyl	ns	ns	ns	ns	50,000
diethyl	ns	ns	ns	ns	590,000

Pollutant	Freshwater Acute	Freshwater Chronic	Saltwater Acute	Saltwater Chronic	Fish Consumption
di-2-ethylhexyl	ns	ns	ns	ns	16,000
dimethyl	ns	ns	ns	ns	950,000
Polychlorinated biphenyls*	2.0	0.014	10	0.03	0.000079
Polynuclear aromatic hydrocarbons*	ns	ns	ns	ns	0.01
Selenium	20	5	300	71	ns
Silver	1+	1+	2.3	ns	ns
Tetrachloro-ethanes	3,100	ns	ns	ns	ns
benzene(1,2,4,5)	ns	ns	ns	ns	16
ethane(1,1,2,2)*	ns	ns	3,000	ns	3.5
ethylene*	1,800	ns	3,400	145	2.9
phenol(2,3,5,6)	ns	ns	ns	440	ns
Thallium	470	ns	710	ns	16
Toluene	5,800	ns	2,100	ns	140,000
Toxaphene*	0.73	0.0002	0.21	0.0002	0.00024
Tributyltin	ns	0.026	ns	0.01	ns
Trichloro-ethane(1,1,1)	6,000	ns	10,400	ns	340,000
ethane(1,1,2)*	6,000	ns	ns	ns	14
ethylene*	15,000	ns	700	ns	26
phenol(2,4,6)*	ns	ns	ns	ns	1.2
Vinyl chloride*	ns	ns	ns	ns	170
Zinc	22+	22+	95	86	ns

ns = No standard has been developed.

~~* - Carcinogen.~~
~~+ - The value listed is the minimum standard. Depending upon the receiving water CaCO3 hardness, higher standards may be calculated using the respective formula in the U.S. Environmental Protection Agency publication Quality Criteria for Water (EPA 440/5-86-001, Revised May 1, 1987).~~
~~Note - Compounds listed in the plural in the "Pollutant" column represent complex mixtures of isomers. Numbers listed to the right of these compounds refer to the total allowable concentration of any combination of isomers of the compound, not only to concentrations of individual isomers.~~]

[~~(4)~~](3) The following are basic requirements applicable to discharges to [~~State~~]state waters. These standards shall be enforced through effluent limitations or other conditions in discharge permits. The director may apply more stringent discharge requirements to any discharge if necessary to ensure compliance with all standards in [~~paragraph (2).~~] Appendix E dated Month DD, 2021, entitled "Numeric Standards for Toxic Pollutants Applicable to All Waters", located at the end of this chapter.

(A) Continuous discharges through submerged outfalls.

(i) The No Observed Effect Concentration (NOEC), expressed as per cent effluent, of continuous discharges through submerged outfalls shall not be less than [~~100~~]one hundred divided by the minimum dilution; or[~~,~~]

(ii) The Test of Significant Toxicity (TST), as described in EPA 833-R-10-003 (June 2010) and EPA 833-R-10-004 (June 2010), shall be used to demonstrate no unacceptable level of chronic toxicity at the In-stream Waste Concentration (IWC). The chronic toxicity criterion is expressed using a

regulatory management decision (b value) of 0.75 for chronic toxicity where, a 0.25 effect level (or more) at the IWC demonstrates an unacceptable level of chronic toxicity.

(B) Continuous discharges through submerged outfalls shall not contain:

(i) Pollutants in twenty-four-hour average concentrations greater than the values obtained by multiplying the minimum dilution by the standards [~~in paragraph (3) for the prevention of chronic toxicity.~~]for the prevention of chronic toxicity in Appendix E dated Month DD, 2021, entitled "Numeric Standards for Toxic Pollutants Applicable to All Waters", located at the end of this chapter;

(ii) Non-carcinogenic pollutants in thirty-day average concentrations greater than the values obtained by multiplying the minimum dilution by the standards [~~in paragraph (3) for fish consumption.~~]for fish consumption in Appendix E dated Month DD, 2021, entitled "Numeric Standards for Toxic Pollutants Applicable to All Waters", located at the end of this chapter; and

(iii) Carcinogenic pollutants in twelve-month average concentrations greater than the values obtained by multiplying the average dilution by the standards [~~in paragraph (3) for fish consumption.~~]for fish consumption in Appendix E dated Month DD,

2021, entitled "Numeric Standards for Toxic Pollutants Applicable to All Waters", located at the end of this chapter.

(C) Discharges without submerged outfalls.

(i) The survival of test organisms in an undiluted acute toxicity test of any discharge shall not be less than eighty per cent;

(ii) Compliance with the acute toxicity NPDES effluent limit is demonstrated by using the Test of Significant Toxicity (TST) as described in EPA 833-R-10-003 (June 2010) and EPA 833-R-10-004 (June 2010). The acute toxicity criterion is expressed using a regulatory management decision (b value) of 0.80 for acute toxicity test methods listed in 11-54-10, where, in an undiluted acute toxicity test, a 0.20 effect level (or more) at the IWC demonstrates an unacceptable level of acute toxicity; or[~~,~~]

(iii) The Test of Significant Toxicity (TST), as described in EPA 833-R-10-003 (June 2010) and EPA 833-R-10-004 (June 2010), shall be used to demonstrate no unacceptable level of chronic toxicity at the IWC. The chronic toxicity criterion is expressed using a regulatory management decision (b value) of 0.75 for chronic toxicity where, a 0.25 effect level (or more) at the IWC demonstrates an unacceptable level of chronic toxicity. Toxicity is considered significant if the mean response in the IWC is greater

than 0.75 multiplied by the mean response of the control.

No discharge shall contain pollutants in concentrations greater than the standards [~~in paragraph (3) for the prevention of acute toxicity to aquatic life.~~]for the prevention of acute toxicity to aquatic life in Appendix E dated Month DD, 2021, entitled "Numeric Standards for Toxic Pollutants Applicable to All Waters", located at the end of this chapter. The director may make a limited allowance for dilution for a discharge in this category if it meets the following criteria: the discharge velocity is greater than [~~3~~]three meters per second; the discharge enters the receiving water horizontally, and; the receiving water depth at the discharge point is greater than zero.

(d) The requirements of [~~paragraph (a)(6)~~] section 11-54-4(a)(6) shall be deemed met upon a showing that:

(1) [~~the~~]The land on which the erosion occurred or is occurring is being managed in accordance with soil conservation practices acceptable to the applicable soil and water conservation district and the director, and [~~that~~] a comprehensive conservation program is being actively pursued[~~,~~]; or[~~ that~~]

(2) [~~the~~]The discharge has received the best degree of treatment or control, and [~~that~~] the severity of impact of the residual soil reaching the receiving body of water is deemed to be acceptable.

(e) In order to reduce a risk to public health or safety arising out of any violation or probable violation of this chapter, the director may post or order posted any [~~State~~]state waters. Posting is the placement, erection, or use of a sign or signs warning people to stay out of, avoid drinking, avoid contact with, or avoid using the water. This posting authority shall not limit the director's authority to

post or order posting in any other appropriate case or to take any enforcement action.

(f) Pesticide Application.

(1) As used in this section:

"Declared pest emergency situation" means an event defined by a public declaration by the President of the United States, state governor or, with the concurrence of the director, county mayor of a pest problem determined to require control through application of a pesticide beginning less than ten days after identification of the need for pest control.

"Pest" means[~~any~~]:

(A) Any insect, rodent, nematode, fungus, weed[~~,~~]; or

[~~(A)~~](B) Any other form of terrestrial or aquatic plant or animal life or virus, bacteria, or other [~~micro-organism~~] microorganism (except viruses, bacteria, or other [~~micro-organisms~~] microorganisms on or in living man or other living animals) which the Administrator of the EPA declares to be a pest under [~~7 U.S.C. §136w(c)(1).~~] title 7 United States Code section 136w(c)(1).

"Pesticide" means:

(A) Any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pest;

(B) Any substance or mixture of substances intended for use as a plant regulator, defoliant, or desiccant; and

(C) Any nitrogen stabilizer[~~,~~].

[~~except~~]Except that the term "pesticide" shall not include any article that is a "new animal drug" within the meaning of [~~21 U.S.C. 321(w),~~]title 21 United States Code section 321(v), that has been determined by the Secretary of Health and Human Services

not to be a new animal drug by a regulation establishing conditions of use for the article, or that is an animal feed within the meaning of [~~21 U.S.C. 321(x)~~]title 21 United States Code section 321(w) bearing or containing a new animal drug.
The term "pesticide" does not include liquid chemical sterilant products (including any sterilant or subordinate disinfectant claims on such products) for use on a critical [~~or~~] device or a semi-critical device, as defined in [~~section 201 of 21 U.S.C. §321.~~]title 21 United States Code section 321. For purposes of the preceding sentence, the term "critical device" includes any device which is introduced directly into the human body, either into or in contact with the bloodstream or normally sterile areas of the body and the term "semi-critical device" includes any device which contacts intact mucous membranes but which does not ordinarily penetrate the blood barrier or otherwise enter normally sterile areas of the body. The term "pesticide" applies to insecticides, herbicides, fungicides, rodenticides, and various other substances used to control pests. The definition encompasses all uses of pesticides authorized under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) including uses authorized under title 7 United States Code sections [~~3 (registration),~~]136a (Registration of pesticides), [~~5 (experimental),~~]136c (Experimental use permits), [~~18 (emergency exemptions),~~]136p (Exemption of federal and state agencies), [~~24(c) (special local needs registrations),~~]136v(c) (Additional uses), and [~~25(b) (exemptions from FIFRA).~~]136w(b) (Exemption of pesticides).

Note: drugs used to control diseases of humans or animals (such as livestock, fishstock and pets) are not considered pesticides; such drugs are regulated by the Food and Drug Administration. Fertilizers, nutrients, and other substances used to promote plant survival and health are not considered plant growth regulators and thus are not pesticides. Biological control agents, except for certain microorganisms, are exempted from regulation under FIFRA. (Biological control agents include beneficial predators such as birds or ladybugs that eat insect pests, parasitic wasps, fish, etc.).

(2) Pesticide applications may be made to [~~State~~]state waters if the pesticide applications are:

(A) Registered by the [~~U.S. Environmental Protection Agency~~]EPA and licensed by the state department of agriculture or other state [~~agency~~]department regulating pesticides;

(B) Used for the purpose of controlling mosquito and other flying insect pests; controlling weed and algae pests; controlling animal pests; controlling forest canopy pests; or protecting public health or the environment in a declared pest emergency situation or as determined by the director;

(C) Applied in a manner consistent with the labeling of the pesticide under FIFRA;

(D) Applied under permits required by the director and issued pursuant to [~~HRS~~] chapter 342D, [~~if the director requires such permits under chapter 342D,~~]HRS; and

(E) Applied in a manner so applicable narrative and numeric state water quality criteria as required in chapter

11-54 are met. [Eff 11/12/82; am and comp 10/6/84; am and comp 04/14/88; am and comp 01/18/90; am and comp 10/29/92; am and comp 04/17/00; am and comp 10/2/04; am and comp 06/15/09; am and comp 10/21/12; am and comp 12/6/13; am and comp 11/15/14; am and comp] (Auth: HRS §§342D-1, 342D-4, 342D-5, Ch. 342E) (Imp: HRS §§342D-4, 342D-5, Ch. 342E)

The following Appendix E is proposed for HAR 11-54 and it represents the amended toxicity table from sub-section HAR 11-54-4(c). Note that the proposed Appendix E is in landscape format and it is nine-page long.

Appendix E

Numeric Standards for Toxic Pollutants Applicable to All Waters

The freshwater standards apply where the dissolved inorganic ion concentration is less than 0.5 parts per thousand; saltwater standards apply above 0.5 parts per thousand.
Values for metals refer to the dissolved fraction.
Except for Methylmercury, all values are expressed in micrograms per liter (µg/L).

Pollutant Name	Carcin-ogen	CAS #	Freshwater (µg/L)		Saltwater (µg/L)		Fish Consumption (µg/L except Methylmercury *)
			Acute	Chronic	Acute	Chronic	
Acenaphthene	-	83-32-9	570	ns	320	ns	90
Acrolein	-	107-02-8	23	ns	18	ns	400
Acrylonitrile	X	107-13-1	2,500	ns	ns	ns	7.0
Aldrin	X	309-00-2	3.0	ns	1.3	ns	0.00000077
Aluminum	-	7429-90-5	750	260	ns	ns	ns
Anthracene	-	120-12-7	ns	ns	ns	ns	400
Benzo(a)anthracene	X	56-55-3	ns	ns	ns	ns	0.0013
Dibenzo(a,h)anthracene	X	53-70-3	ns	ns	ns	ns	0.00013
Antimony	-	7440-36-0	3,000	ns	ns	ns	640
Arsenic	X	7440-38-2	360	190	69	36	0.14
Benzene	X	71-43-2	1,800	ns	1,700	ns	16
Benzidine	X	92-87-5	800	ns	ns	ns	0.011
Beryllium	-	7440-41-7	43	ns	ns	ns	0.038

Pollutant Name	Carcin-ogen	CAS #	Freshwater (µg/L)		Saltwater (µg/L)		Fish Consumption (µg/L except Methylmercury *)
			Acute	Chronic	Acute	Chronic	
Bromoform	X	75-25-2	ns	ns	ns	ns	120
Butylbenzyl Phthalate	X	85-68-7	ns	ns	ns	ns	0.10
Cadmium	-	7440-43-9	3+	3+	43	9.3	ns
Carbon Tetrachloride	X	56-23-5	12,000	ns	16,000	ns	5
Chlordane	X	57-74-9	2.4	0.0043	0.09	0.004	0.00032
Chlorine	-	7782-50-5	19	11	13	7.5	ns
Chlorobenzene	-	108-90-7	ns	ns	ns	ns	800
Chlorodibromomethane	X	124-48-1	ns	ns	ns	ns	21
Bis(2-Chloroethyl) Ether	X	111-44-4	ns	ns	ns	ns	2.2
Chloroform	-	67-66-3	9,600	ns	ns	ns	2,000
Bis(Chloromethyl) Ether	X	542-88-1	ns	ns	ns	ns	0.017
2-Chloronaphthalene	-	91-58-7	ns	ns	ns	ns	1,000
2-Chlorophenol	-	95-57-8	1,400	ns	ns	ns	800
3-Methyl-4-Chlorophenol	-	59-50-7	ns	ns	ns	ns	2,000
Chlorpyrifos	-	2921-88-2	0.083	0.041	0.011	0.0056	ns
Chromium (VI)	-	18540-29-9	16	11	1,100	50	ns
Chrysene	X	218-01-9	ns	ns	ns	ns	0.13
Copper	X	7440-50-8	6+	6+	2.9	2.9	ns

Pollutant Name	Carcin-ogen	CAS #	Freshwater (µg/L)		Saltwater (µg/L)		Fish Consumption (µg/L except Methylmercury *)
			Acute	Chronic	Acute	Chronic	
Cyanide	-	57-12-5	22	5.2	1	1	400
Demeton	-	8065-48-3	ns	0.1	ns	0.1	ns
Di-n-Butyl Phthalate	-	84-74-2	ns	ns	ns	ns	30
Dichlorobenzenes	-	-	370	ns	660	ns	ns
1,2-Dichlorobenzene	-	95-50-1	ns	ns	ns	ns	3,000
1,3-Dichlorobenzene	-	541-73-1	ns	ns	ns	ns	10
1,4-Dichlorobenzene	-	106-46-7	ns	ns	ns	ns	900
3,3'-Dichlorobenzidine	X	91-94-1	ns	ns	ns	ns	0.15
Dichlorobromomethane	X	75-27-4	ns	ns	ns	ns	27
p,p'-Dichlorodiphenyl-dichloroethane (DDD)	X	72-54-8	0.03	ns	1.2	ns	0.00012
p,p'-Dichlorodiphenyl-dichloroethylene (DDE)	X	72-55-9	ns	ns	ns	ns	0.000018
p,p'-Dichlorodiphenyl-trichloroethane (DDT)	X	50-29-3	1.1	0.001	0.013	0.001	0.000030
1,2-Dichloroethane	X	107-06-2	39,000	ns	38,000	ns	650
1,1-Dichloroethylene	-	75-35-4	ns	ns	ns	ns	20,000
Trans-1,2-Dichloroethylene	-	156-60-5	ns	ns	ns	ns	4,000
2,4-Dichlorophenol	-	120-83-2	670	ns	ns	ns	60
Chlorophenoxy Herbicide (2,4-D)	-	94-75-7	ns	ns	ns	ns	12,000

Pollutant Name	Carcin-ogen	CAS #	Freshwater (µg/L)		Saltwater (µg/L)		Fish Consumption (µg/L except Methylmercury *)
			Acute	Chronic	Acute	Chronic	
Dichloropropanes	-	-	7,700	ns	3,400	ns	ns
1,2-Dichloropropane	X	78-87-5	ns	ns	ns	ns	31
1,3-Dichloropropene	X	542-75-6	2,000	ns	260	ns	12
Dieldrin	X	60-57-1	2.5	0.0019	0.71	0.0019	0.0000012
Diethyl Phthalate	-	84-66-2	ns	ns	ns	ns	600
Dimethyl Phthalate	-	131-11-3	ns	ns	ns	ns	2,000
2,4-Dimethylphenol	-	105-67-9	700	ns	ns	ns	3,000
Dinitrophenols	-	25550-58-7	ns	ns	ns	ns	1,000
2,4-Dinitrophenol	-	51-28-5	ns	ns	ns	ns	300
2-Methyl-4,6-Dinitrophenol	-	534-52-1	ns	ns	ns	ns	30
Dinitrotoluenes	X	-	110	ns	200	ns	ns
2,4-Dinitrotoluene	X	121-14-2	ns	ns	ns	ns	1.7
1,2-Diphenylhydrazine	X	122-66-7	ns	ns	ns	ns	0.2
Endosulfan	-	-	0.22	0.056	0.034	0.0087	ns
alpha-Endosulfan	-	959-98-8	ns	ns	ns	ns	30
beta-Endosulfan	-	33213-65-9	ns	ns	ns	ns	40
Endosulfan Sulfate	-	1031-07-8	ns	ns	ns	ns	40
Endrin	-	72-20-8	0.18	0.0023	0.037	0.0023	0.03

Pollutant Name	Carcin-ogen	CAS #	Freshwater (µg/L)		Saltwater (µg/L)		Fish Consumption (µg/L except Methylmercury *)
			Acute	Chronic	Acute	Chronic	
Endrin Aldehyde	-	7421-93-4	ns	ns	ns	ns	1
Ethylbenzene	-	100-41-4	11,000	ns	140	ns	130
Bis(2-Ethylhexyl) Phthalate	X	117-81-7	ns	ns	ns	ns	0.37
Fluoranthene	-	206-44-0	1,300	ns	13	ns	20
Benzo(b)fluoranthene	X	205-99-2	ns	ns	ns	ns	0.0013
Benzo(k)fluoranthene	X	207-08-9	ns	ns	ns	ns	0.013
Fluorene	-	86-73-7	ns	ns	ns	ns	70
Guthion	-	86-50-0	ns	0.01	ns	0.01	ns
Heptachlor	X	76-44-8	0.52	0.0038	0.053	0.0036	0.0000059
Heptachlor Epoxide	X	1024-57-3	ns	ns	ns	ns	0.000032
Hexachlorobenzene	X	118-74-1	ns	ns	ns	ns	0.000079
Hexachlorobutadiene	X	87-68-3	30	ns	11	ns	0.01
Hexachloro-cyclohexane (HCH)-Technical	X	608-73-1	ns	ns	ns	ns	0.010
alpha-Hexachloro-cyclohexane (HCH)	X	319-84-6	ns	ns	ns	ns	0.00039
beta-Hexachloro-cyclohexane (HCH)	X	319-85-7	ns	ns	ns	ns	0.014
gamma-Hexachloro-cyclohexane (HCH) [Lindane]	-	58-89-9	2.0	0.08	0.16	ns	4.4

Pollutant Name	Carcin-ogen	CAS #	Freshwater (µg/L)		Saltwater (µg/L)		Fish Consumption (µg/L except Methylmercury *)
			Acute	Chronic	Acute	Chronic	
Hexachloro-cyclopentadiene	-	77-47-4	2	ns	2	ns	4
Hexachloroethane	X	67-72-1	330	ns	310	ns	0.1
Isophorone	X	78-59-1	39,000	ns	4,300	ns	1,800
Lead	-	7439-92-1	29+	29+	140	5.6	ns
Malathion	-	121-75-5	ns	0.1	ns	0.1	ns
Mercury	-	7439-97-6	2.4	0.55	2.1	0.025	0.047
Methoxychlor	-	72-43-5	ns	0.03	ns	0.03	0.02
Methyl Bromide	-	74-83-9	ns	ns	ns	ns	10,000
Methylene Chloride	X	75-09-2	ns	ns	ns	ns	1,000
Bis(2-Chloro-1-Methylethyl) Ether	-	108-60-1	ns	ns	ns	ns	4,000
Methylmercury	-	22967-92-6	ns	ns	ns	ns	0.3 mg/kg *
Mirex	-	2385-85-5	ns	0.001	ns	0.001	ns
Naphthalene	-	91-20-3	770	ns	780	ns	ns
Nickel	-	7440-02-0	5+	5+	75	8.3	4,600
Nitrobenzene	-	98-95-3	9,000	ns	2,200	ns	600
Nitrophenols	-	-	77	ns	1,600	ns	ns
Nitrosamines	X	-	1,950	ns	ns	ns	1.24
Nitrosodibutylamine	X	924-16-3	ns	ns	ns	ns	0.22

Pollutant Name	Carcin-ogen	CAS #	Freshwater (µg/L)		Saltwater (µg/L)		Fish Consumption (µg/L except Methylmercury *)
			Acute	Chronic	Acute	Chronic	
Nitrosodiethylamine	X	55-18-5	ns	ns	ns	ns	1.24
N-Nitrosodimethylamine	X	62-75-9	ns	ns	ns	ns	3.0
N-Nitrosodiphenylamine	X	86-30-6	ns	ns	ns	ns	6.0
N-Nitrosodi-n-Propylamine	X	621-64-7	ns	ns	ns	ns	0.51
Nitrosopyrrolidine	X	930-55-2	ns	ns	ns	ns	34
Parathion	-	56-38-2	0.065	0.013	ns	ns	ns
Pentachlorobenzene	-	608-93-5	ns	ns	ns	ns	0.1
Pentachloroethane	-	-	2,400	ns	130	ns	ns
Pentachlorophenol	X	87-86-5	20	13	13	ns	0.04
Phenol	-	108-95-2	3,400	ns	170	ns	300,000
Polychlorinated Biphenyls (PCBs)	X	-	2.0	0.014	10	0.03	0.000064
Pyrene	-	129-00-0	ns	ns	ns	ns	30
Benzo(a)pyrene	X	50-32-8	ns	ns	ns	ns	0.00013
Indeno(1,2,3-cd)pyrene	X	193-39-5	ns	ns	ns	ns	0.0013
Selenium	-	7782-49-2	20	5	300	71	4,200
Silver	-	7440-22-4	1+	1+	2.3	ns	ns
1,2,4,5-Tetrachlorobenzene	-	95-94-3	ns	ns	ns	ns	0.03
2,3,7,8-TCDD (Dioxin)	X	1746-01-6	0.003	ns	ns	ns	5.1×10^{-9}

Pollutant Name	Carcin-ogen	CAS #	Freshwater (µg/L)		Saltwater (µg/L)		Fish Consumption (µg/L except Methylmercury *)
			Acute	Chronic	Acute	Chronic	
Tetrachloroethanes	-	-	3,100	ns	ns	ns	ns
1,1,2,2-Tetrachloroethane	X	79-34-5	ns	ns	3,000	ns	3
Tetrachloroethylene	X	127-18-4	1,800	ns	3,400	145	29
2,3,5,6-Tetrachlorophenol	-	-	ns	ns	ns	440	ns
Thallium	-	7440-28-0	470	ns	710	ns	0.47
Toluene	-	108-88-3	5,800	ns	2,100	ns	520
Toxaphene	X	8001-35-2	0.73	0.0002	0.21	0.0002	0.00071
Tributyltin (TBT)	-	-	ns	0.026	ns	0.01	ns
1,2,4-Trichlorobenzene	X	120-82-1	ns	ns	ns	ns	0.076
1,1,1-Trichloroethane	-	71-55-6	6,000	ns	10,400	ns	200,000
1,1,2-Trichloroethane	X	79-00-5	6,000	ns	ns	ns	8.9
Trichloroethylene	X	79-01-6	15,000	ns	700	ns	7
2,4,5-Trichlorophenol	-	95-95-4	ns	ns	ns	ns	600
2,4,6-Trichlorophenol	X	88-06-2	ns	ns	ns	ns	2.8
Chlorophenoxy Herbicide (2,4,5-TP) [Silvex]	-	93-72-1	ns	ns	ns	ns	400
Vinyl Chloride	X	75-01-4	ns	ns	ns	ns	1.6
Zinc	-	7440-66-6	22+	22+	95	86	26,000

CAS # – Chemical Abstracts Service Number

* - As recommended by the EPA, the standard for Methylmercury is expressed as a fish (or shellfish) tissue residue water quality criterion rather than a water column-based water quality criterion. (https://www.epa.gov/sites/production/files/2019-02/documents/wqc-final-methylmercury-factsheet-2001.pdf)

ns – No standard has been developed.

+ - The value listed is the minimum standard. Depending upon the receiving water calcium carbonate hardness, higher standards may be calculated using the respective formula in EPA 440/5-86-001, Quality Criteria for Water, 1986 (published May 1, 1986).

Note – Compounds listed in the plural in the "Pollutant Name" column (except for Nitrosamines and PCBs) represent mixtures of isomers. Values listed refer to the total allowable concentration of any combination of isomers of these compounds.

III. RATIONALE FOR USE ATTAINABILITY ANALYSES

The CWA mandates a comprehensive program whose ultimate objective is to restore and to maintain the chemical, physical, and biological integrity of all waters. The goal of the CWA is to attain water quality that provides for the protection and propagation of fish, shellfish, and wildlife, and for recreation in and on all waters. All designated uses, that reflect the "fishable/swimmable" goal stated in section 101(a)(2) of the CWA, are presumed attainable unless demonstrated otherwise.

The CWA also mandates States to establish and adopt (subject to EPA approval) WQS regulations to protect public health or welfare, and the quality of all surface waters. States must establish WQS by taking into consideration the use and value of water bodies for propagation of fish and wildlife, recreation, and other uses such as public water supply, agriculture, industry, and navigation. These beneficial uses are stated in section 303(c)(2)(A) of the CWA and they are to be protected or achieved through State WQS regulations. Per 40 CFR §131.3(q), the "other uses" are referred to as non-101(a)(2) uses (i.e., uses that are unrelated to the protection and propagation of fish, shellfish, wildlife or recreation in and on the water).

Since the enactment of the CWA, many States, including Hawaii, have established water body classification systems whereby all similar types of water bodies were assigned uniform WQS. Most States do not generally revise assigned uses. However, some State have recognized the uniqueness of different water bodies, and as a result, they have revised WQS of individual water systems, and assigned to them appropriate uses and applicable WQS. HDOH is interested in **adopting regulatory language that allows the specification of appropriate uses and applicable WQS for individual water systems**.

Per 40 CFR §131.3(g), a Use Attainability Analysis (UAA) is defined as a structured scientific assessment of physical, chemical, biological, or economic factors to determine the attainable uses for a water body. Specifically, a UAA can be conducted to demonstrate that attaining a use is not feasible because of one of the six factors listed in 40 CFR §131.10(g):

1. Naturally occurring pollutant concentrations prevent the attainment of the use.
2. Natural, ephemeral, intermittent or low flow conditions or water levels prevent the attainment of the use, unless these conditions may be compensated for by the discharge of sufficient volume of effluent discharges without violating State water conservation requirements to enable uses to be met.
3. Human caused conditions or sources of pollution prevent the attainment of the use and cannot be remedied or would cause more environmental damage to correct than to leave in place.
4. Dams, diversions, or other types of hydrologic modifications preclude the attainment of the use, and it is not feasible to restore the water body to its original condition or to operate such modification in a way that would result in the attainment of the use.
5. Physical conditions related to the natural features of the water body, such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and the like, unrelated to water quality, preclude the attainment of aquatic life protection uses.
6. Controls more stringent than those required by sections 301(b) and 306 of the CWA would result in substantial and widespread economic and social impact.

The latest revisions to the federal WQS regulations clarify when a UAA is and is not required for 101(a)(2) and non-101(a)(2) uses. Per 40 CFR §131.10(j), a UAA is required in the following situations:

1. when designating a non-101(a)(2) use.
2. when designating a sub-category of a 101(a)(2) use to specify criteria less stringent than previously applicable.
3. when removing a 101(a)(2) use.
4. when removing a sub-category of a 101(a)(2) use.

Per 40 CFR §131.10(k), a UAA is not required in the following situations:

1. when designating a 101(a)(2) use.
2. when designating a sub-category of a 101(a)(2) use to specify criteria as stringent as previously applicable.
3. when removing a non-101(a)(2) use.
4. when revising a non-101(a)(2) use.

Per 40 CFR §131.10(h), it is important to stress that a State may not remove a designated use if it is an existing one or an attainable one. The CWA provides various tools, including limitations in NPDES permits for point sources and best management practices for non-point sources, to control or to reduce discharges of pollutants, and hence, to attain water quality goals.

The adoption of a use based on a UAA is a WQS revision that is subject to both the public participation and EPA approval processes. A State must provide both public notice and public hearing for a UAA. If a State adopts a new or revised WQS based on a UAA then it shall also adopt a Highest Attainable Use (HAU). Per 40 CFR §131.3(m), a HAU is defined as a modified 101(a)(2) use that can be attained based on a UAA, and any other information or analyses. There are no requirements for a HAU if it can be demonstrated that a relevant 101(a)(2) use, and sub-categories of this use, are not attainable. Although such situations are rare, it is conceivable for a State to completely remove a 101(a)(2) use and to concurrently adopt another designated use.

Since the adoption of a use less than a HAU could lower WQS and also affect public health, a scientific assessment (i.e., a UAA) of factors affecting the attainment of a use must include analyses of both the current and prospective conditions of a water body. Specifically, a UAA must not only determine a use that is attainable right now but also one that is deemed attainable in the future (i.e., HAU) pending the implementation of effluent limits and best management practices. To ensure the determination of a HAU, HDOH intends **to require that a UAA or a scientifically defensible analysis be conducted to demonstrate the non-attainment of a use**.

The following additional section is proposed for HAR 11-54:

§11-54-9.3 Use attainability analysis. (a) As used in this section:

"Highest attainable use" or "HAU" means the modified use that is both closest to the uses specified in section 303(c)(2)(A) of the Act and attainable based on a UAA or other scientifically defensible analyses that were used to evaluate attainability.

"Use attainability analysis" or "UAA" means a structured scientific assessment of the factors affecting the attainment of the use, which may include factors as described in title 40, Code of Federal Regulations, section 131.10(g).

(b) A UAA or other scientifically defensible analyses may be conducted to demonstrate the non-attainment of a use, as described in this chapter.

(c) A UAA shall not be inconsistent with federal regulations on protecting and designating uses as described in title 40, Code of Federal Regulations, section 131.10.

(d) A HAU shall be adopted whenever a use, as described in this chapter, is demonstrated to be non-attainable based on a UAA or other scientifically defensible analyses.

(e) The decision to adopt the results of a UAA or other scientifically defensible analyses, demonstrating the non-attainment of a use, shall be subject to public participation requirements. The department shall hold one or more public hearings when adopting the results of a UAA or other scientifically defensible analyses in accordance with applicable provisions of chapter 91, HRS, and 40 C.F.R. §25. The results of a UAA or other scientifically defensible analyses, and supporting information shall be made available to the public prior to the hearing.

(f) The results of a UAA or other scientifically defensible analyses, demonstrating the non-attainment

of a use, shall not be effective until they are adopted by the department and approved by the EPA. [Eff and comp] (Auth: HRS §§342D-4, 342D-5) (Imp: §§342D-4, 342D-5; 40 C.F.R. §§25.5, 131.10; 33 U.S.C. §1313(303))

IV. RATIONALE FOR WQS VARIANCES

Per Hawaii Revised Statutes (HRS) at Title 19, Health, Chapter 342D, Water Pollution, Section 7, Variances (HRS 342D-7), HDOH has the authority to grant variances that allow for the discharge of water pollutants in excess of applicable standards when there are no substantial risks to human health or safety. Specifically, HRS 342D-7 allows for a variance when it can be shown that:

1. full compliance with the standards would produce serious hardship without equal or greater benefits to the public, and
2. practicable means for the adequate prevention, control, or abatement of the water pollution involved are not available.

The length of a variance is a period not exceeding five years, and only until the necessary means for prevention, control, or abatement become practicable. As described, the statutes provide HDOH the authority to grant water quality variances (i.e., WQS variances), and they leave regulatory requirements for the protection of water quality to the discretion of HDOH. Therefore, HDOH now intends **to adopt regulations for administering WQS variances, only applicable to dischargers and not to water bodies, in order to promote the incremental attainment of water quality goals, and to allow, as necessary, the temporary and conditional downgrading of water quality criteria that are applicable to specific dischargers**.

In August 2015, the EPA promulgated new WQS regulations at 40 CFR §131 to clarify the use of WQS variances when a designated use is not attainable in the near-term but is deemed attainable in the future. Specifically, the EPA amended federal WQS regulations to allow the temporary and conditional downgrading of the WQS applicable to a segment of a water body, an entire water body, a permittee, or a group of permittees. The EPA has stressed the utility of multiple permittee WQS variances when addressing situations where various dischargers (i.e., a group of permittees) are all experiencing similar challenges in meeting the limit for a specific pollutant, regardless of whether they are located on the same water body. Depending on the parameters being considered, a State could streamline its WQS variance process by adopting a single rule that applies to all affected permittees. As a pre-requisite to the adoption of multiple permittee WQS variances, a State can list group characteristics and establish eligibility requirements for each permittee in the group. Group characteristics may include the type of permittee (public or private), the size of a permittee (small or large), the source of revenue (tax or service), or the type of effluent (sanitary or industrial). Eligibility requirements may include same designated use and applicable criterion, same water body, or similar treatment technology.

A temporary and modified WQS becomes applicable through the adoption of a "variance" to WQS[10], and it is subject to both the public participation and EPA approval processes. Per 40 CFR §131.3(o), a WQS variance is defined to be a time-limited designated use and criterion, for specific pollutant(s) or water quality parameter(s), that reflect the Highest Attainable Condition (HAC) throughout the term of this WQS variance. This HAC must not lower the water quality that is currently attained. A State has the flexibility to express the HAC as a numeric pollutant concentration, a numeric effluent condition, or any other quantitative expression of pollutant reduction that is achievable with the installation of pollutant control technologies, and if

[10] https://www.govinfo.gov/content/pkg/FR-2013-09-04/pdf/2013-21140.pdf

applicable, the adoption and implementation of a Pollutant Minimization Program (PMP). Per 40 CFR §131.3(p), a PMP is defined to be a structured set of activities to improve processes and pollutant controls that will prevent and reduce pollutant loadings. Specifically, a PMP is a plan that is tailored to address the circumstances of a discharger, and it includes activities ranging from control to offset strategies. The aim of these strategies is to reduce the loadings of an applicable water pollutant from upstream and other sources.

Per 40 CFR §131.14(b)(1)(iv), the term of a WQS variance must only be as long as necessary to achieve the HAC. Per 40 CFR §131.14(b)(1)(v), if a WQS variance has a term greater than five years then a re-evaluation, using all existing and readily available information, of the HAC must occur no less frequently than every five years. A State has the flexibility to determine how it intends to obtain public input on the re-evaluation of a HAC, and it must submit the results of this re-evaluation to the EPA within thirty days of its completion.

Per 40 CFR §131.14(b)(2)(i), the documents required to demonstrate the need for a WQS variance depend on the type of use: either 101(a)(2) or non-101(a)(2). For a 101(a)(2) use, a State must demonstrate that attaining the designated use and criterion, for the term of a WQS variance, is not feasible because of one of the six factors listed in 40 CFR §131.10(g). Besides these six factors, actions, which are necessary to facilitate lake, wetland, or stream restoration, through dam removal or other significant reconfiguration activities can also be used as a factor to preclude attainment of the designated use and criterion for the term of a WQS variance. For a non-101(a)(2) use, a State must submit documentation justifying how its consideration of the use and value of a water body supports the WQS variance and term.

Per 40 CFR §131.14(a)(4), a State may not adopt a WQS variance if the designated use and criterion, that are addressed, can be achieved by implementing technology-based effluent limits as required in sections 301(b) and 306 of the Act. Once adopted by a State and approved by the EPA, a State may use a WQS variance, including the applicable HAC, for the purpose of developing and incorporating effluent limitations in NDPES permits. For the term of a WQS variance, a State must retain, in its standards, the underlying designated use and original specified criterion that are addressed. All other standards, which are not specifically addressed by a WQS variance, remain applicable.

As described above, the requirements for a WQS variance can be broken into six distinct areas. They are:

1. Non-attainment
2. Applicability
3. Interim condition and HAC
4. Term
5. Re-evaluation
6. Renewal

For each area, there are differences between federal regulations and Hawaii statutes for administering WQS variances. HDOH intends **to administer requirements like those specified in the federal regulations at 40 CFR §131.14, and to include, in HAR 11-54, the following three requirements:**

1. **Demonstration of non-attainment based on one of seven factors**
2. **Determination of a HAC**
3. **Re-evaluation of interim conditions**

First, Hawaii statutes only allow for a discharge of water pollutant in excess of applicable standards (i.e., a WQS variance) when compliance with the standards would produce serious hardship without equal or greater benefits to the public. For a 101(a)(2) use, the federal regulations allow the adoption of a WQS variance when the attainment of a designated use and criterion is not feasible because of one of the six factors, listed in 40 CFR §131.10(g), or the restoration-related factor. For the 40 CFR §131.10(g)(6) factor, there is guidance, especially from the EPA, on the methodologies for estimating the financial cost of pollution controls, and for demonstrating the economic burden of these controls. In order to conform with federal regulations and in a manner similar to its proposed process for conducting UAAs, HDOH intends **to require for all uses, including both 101(a)(2) and non-101(a)(2) uses, an assessment of one of the 40 CFR §131.10(g) factors or the utilization of the restoration-related factor to demonstrate the non-attainment of a criterion throughout the term of a WQS variance**.

Second, Hawaii statutes only allow WQS variances for dischargers while federal regulations allow WQS variances for dischargers, as well as for water bodies. For a WQS variance applicable to a discharger or dischargers, federal regulations require a State to specify the highest attainable interim condition (i.e., the HAC) as a quantifiable expression or a narrative requirement. Hawaii statutes do not currently have requirements for a highest attainable interim condition throughout the term of a WQS variance. HDOH intends **to require the specification of a HAC, as either the highest attainable criterion or the interim effluent condition reflecting the greatest pollutant reduction achievable, which is applicable to a discharger or dischargers for the term of a WQS variance**. In order to monitor the interim condition, each discharger shall be required to sample effluent and/or receiving waters, and to report these sampling results to HDOH.

Third, Hawaii statutes only allow the issuance of a WQS variance with a period not exceeding five years, or until the necessary means for the adequate prevention, control, or abatement of the water pollution involved will become practicable. These statutes are different from federal regulations that allow for a term longer than five years, or as long as necessary to achieve the HAC with the implementation of pollutant control activities, and, if applicable, other activities identified through a PMP. For a WQS variance with a term greater than five years, federal regulations also require a re-evaluation of the HAC to occur no less frequently than every five years. A WQS variance granted by HDOH has a maximum period of five years; however, the statutes allow for the renewal of a WQS variance for periods not exceeding five years provided that all requirements of the immediately preceding WQS variance are met. **For situations when the term required to achieve a HAC exceeds a period of five years**, HDOH intends **to allow the issuance of a WQS variance administered by a series of NPDES permits, with each NPDES permit having a duration not exceeding five years**. HDOH also intends **to require the re-evaluation of the HAC, at a frequency no less frequently than every five years, with the aim of determining the water quality progress achieved.**

The following additional section is proposed for HAR 11-54:

§11-54-9.4 Water quality standards variance.

(a) As used in this section:

"Permit" means an authorization, license, or equivalent control document issued by the department to implement the requirements specified in chapter 11-55. Permit does not include any permit which has not yet been the subject of final department action, such as a draft permit.

"Pollutant Minimization Program" or "PMP" means a structured set of activities to improve processes and pollutant controls that will prevent and reduce pollutant loadings.

"WQS variance" or "variance" means a time-limited criterion, for a specific pollutant or a water quality parameter, which reflects the highest attainable condition (HAC) during the term of the variance.

(b) A time-limited change to a criterion, as described in this chapter, shall be consistent with the provisions of section 342D-7, HRS. The following requirements shall apply when considering the application for a variance:

(1) A variance may be considered if a criterion can be demonstrated as not feasibly attainable throughout the term of the variance. Complete assessments, detailed descriptions, supporting analyses, water quality data, and any additional information requested by the department shall be submitted to demonstrate that the attainment of a criterion is not feasible throughout the term based on any of the factors listed in title 40, Code of Federal Regulations, section 131.10(g);

(2) A variance may be considered if a criterion cannot be attained while restoration or other significant reconfiguration activities are being implemented; and

(3) A variance shall not be considered if a criterion addressed by the variance can be achieved by implementing technology-based effluent limits required under chapter 11-55.

(c) A variance shall identify a discharger or dischargers subject to the variance. A variance shall also identify the criterion and the water body to which the variance applies. All other criteria not specifically addressed by a variance shall remain applicable.

(d) A highest attainable condition (HAC) shall be quantifiably specified as either the highest attainable interim condition or the interim effluent condition that reflects the greatest pollutant reduction achievable throughout the term of a variance. The following requirements shall apply when specifying a HAC:

(1) A HAC shall not result in any lowering of the currently attained ambient water quality unless restoration activities are necessary, as described in section 11-54-9.4(b)(2);

(2) A HAC shall take into consideration the installation of pollutant control technologies and, if applicable, the adoption and implementation of a PMP; and

(3) If the length of time required to achieve a HAC exceeds five years, the HAC of each succeeding permit, in a series of permits, shall be at least as stringent as the HAC of the preceding permit.

(e) The term of a variance shall be only as long as necessary to achieve the HAC; provided no permit shall have a term exceeding five years. The following requirements shall apply when specifying the term of a variance:

(1) A term may start from the date EPA approves the variance or from a date specified by the department; and

(2) If the length of time required to achieve a HAC exceeds five years, the department may

consider issuing a series of permits; provided no permit, in a series of permits, shall have a term exceeding five years.

(f) The decision to approve the application for a variance shall be subject to public participation requirements. The department shall hold one or more public hearings when approving the application for a variance in accordance with applicable provisions of chapter 91, HRS, and 40 C.F.R. §25. The application for a variance and supporting information shall be made available to the public prior to the hearing.

(g) A variance shall not be effective until it is adopted by the department and approved by the EPA.

(h) Re-evaluation of a variance or a permit in a series of permits shall be conducted no less frequently than every five years, and at least one hundred eighty days prior to the end of such a variance or such a permit to review the HAC using all existing and readily available information. The following requirements shall apply when conducting a re-evaluation:

(1) A re-evaluation shall determine the water quality progress achieved. Available documents, supporting analyses, water quality data, and any additional information requested by the department shall be submitted to determine the water quality progress achieved;

(2) The results of a re-evaluation may modify the HAC of a variance or the HAC(s) of succeeding permits in a series of permits;

(3) The department shall obtain, in accordance with chapter 91, HRS, public comment on a re-evaluation;

(4) The department shall submit, in accordance with title 40, Code of Federal Regulations, section §131.14(b)(1)(v), the results of a re-evaluation to the EPA; and

(5) If the department does not conduct a re-evaluation as specified or does not submit the results of a re-evaluation as required,

then a variance shall no longer be applicable.

(i) All specified conditions of an expiring variance must have been met in order for a discharger to request a renewal. The following requirements shall apply when requesting a renewal of a variance:

(1) A renewal shall provide for a HAC at least as stringent as the expiring HAC; and

(2) A renewal shall take into consideration the installation of pollutant control technologies and, if applicable, the adoption and implementation of a PMP. [Eff and comp] (Auth: HRS §§342D-4, 342D-5, 342D-7, Ch. 342E) (Imp: §§342D-4, 342D-5, 342D-6, 342D-7, Ch. 342E; 40 §§131.10, 131.14)

V. RATIONALE FOR SITE-SPECIFIC AQUATIC LIFE CRITERIA

The CWA mandates the development and implementation of WQS that may include numerical or narrative criteria. Numerical criteria for specific chemicals, especially toxic pollutants, are crucial for the protection against potential impacts to human health and aquatic ecosystems. For aquatic life numerical criteria, the EPA uses the results from tests conducted in controlled laboratory environments. Specifically, data about acute (i.e., short-term) and chronic (i.e., long-term) toxicities are determined for various freshwater and saltwater aquatic species. These toxicology tests are conducted on the premise that data for the species selected to derive the national criteria (i.e., those recommended by the EPA) are representative of the sensitivities of untested species.

There are inherent differences in species between laboratory environments, where aquatic life WQS criteria are derived, and aquatic ecosystems, where these criteria are implemented. Moreover, there are actual differences in water characteristics that can affect the toxicity of pollutants. Per 40 CFR §131.11(b)(1)(ii), a State has the flexibility to adopt, based on scientifically defensible rationale and methods, numeric WQS that are modified to reflect site-specific conditions. Overall, a site-specific (i.e., "modified") WQS criterion must be as stringent as necessary to protect the applicable designated use.

A site-specific aquatic life WQS criterion is derived by considering the physical, chemical, and biological conditions that characterize a water body. Typically, chemical conditions include water characteristics such as hardness and temperature, while biological conditions include species compositions for fishes and plants. In order to address the differences in physical, chemical and biological conditions between laboratory environments and aquatic ecosystems, a State may adopt site-specific criteria under one or more of the following situations:

1. Species sensitivity. The main species present at a specific water body are either more or less sensitive than those utilized in the national criteria dataset. For example, the national criteria dataset contains data for various aquatic species that are very sensitive to a specific toxic pollutant. However, if none of these species are found at a specific water body where traces of this toxic pollutant have been detected in water samples, then the applicable criteria may be modified.
2. Toxicity variation. The toxicity of a water pollutant is significantly altered by the physico-chemical characteristics of a specific water body. In freshwater environments, the acute and chronic toxicity criteria for metals decrease as hardness increases. For copper, the EPA recommends using the freshwater Biotic Ligand Model (BLM) to derive the acute and chronic toxicity criteria in fresh waters.[11] In July 2016, the EPA issued a peer-reviewed draft to update its recommendation for using the saltwater BLM to estimate the toxicities of copper in marine and estuarine waters.[12] The BLM requires the input of physical and chemical parameters that characterize a specific water body.
3. Natural background. The aquatic life criteria, recommended by the EPA, may require adjustments to reflect the natural background conditions of a specific water body. By

[11] https://www.epa.gov/sites/production/files/2019-02/documents/al-freshwater-copper-2007-revision.pdf

[12] https://www.epa.gov/sites/production/files/2016-08/documents/copper-estuarine-marine-draft-factsheet.pdf

definition, natural background is a background concentration that is only due to non-anthropogenic (i.e., non-manmade) sources. The EPA has recognized that certain pollutants may naturally occur in concentrations greater than the applicable criteria.[13] Accordingly, the EPA has provided States with guidance on setting certain site-specific aquatic life criteria, for a specific water body, equal to background concentrations.

As described in the above situations, the EPA has developed scientific procedures and frameworks to derive site-specific aquatic life criteria. Depending on the applicable circumstances, the following processes can be used:

1. Recalculation Procedure. This process takes into account the differences in sensitivities of the aquatic species tested for the national criteria dataset and those found at a specific site. For a specific site, the basic concept is to retain tested species which are closely related to locally occurring species, and if possible, to replace tested species with other common species which are better substitutes. Special care should be exercised when removing any species from the national criteria dataset since some tested species are needed to represent untested species.
2. Water-Effect Ratio (WER) and Streamlined WER Procedures for metals. These processes take into account the differences in toxicity of a metal in site-specific water and in laboratory dilution water. By definition, the WER is the ratio of the toxicity of a metal in site water to the toxicity of the same metal in laboratory water. This ratio is, by default, assumed to be equal to one (i.e., unity). When using the WER procedure, collected samples and simulated samples must be representative of the actual conditions at a specific site to ensure the validity of the WER-derived toxicity criterion.
3. Biotic Ligand Model (BLM) for copper and potentially other metals. This process takes into account water parameters that directly influence the toxicity of copper at a specific site. These parameters may include temperature, pH, alkalinity, salinity, or concentrations of dissolved organic carbon. A very extensive dataset of input parameters is therefore required to estimate the water toxicity of copper. It is possible to use default values, which are developed by the EPA, in place of missing water input parameters.
4. Natural Conditions Framework for temperature, pH, and dissolved oxygen criteria. This process aims to standardize the methodologies, which are adopted by States, to characterize the natural conditions used in developing the site-specific aquatic life criteria for temperature, pH, and dissolved oxygen. Since manmade disturbances may be widespread or pervasive at a specific site, the task of accurately characterizing natural conditions is inherently tied to the challenge of successfully identifying anthropogenic conditions.

Properly derived site-specific aquatic life criteria protect the designated uses of a specific water body. The adoption of site-specific procedures (i.e., equations to derive site-specific criteria for general or narrow applicability) is a revision to WQS regulations, and therefore, it is subject to the public participation and EPA approval processes. HDOH intends **to introduce authorizing language that references scientific procedures, promulgated by the EPA, for the proper derivation of site-specific aquatic life criteria**.

[13] https://www.epa.gov/sites/production/files/2014-08/documents/naturalbackground-memo.pdf

The following additional section is proposed for HAR 11-54:

§11-54-9.5 Site-specific aquatic life criterion. (a) As used in this section:

"Criterion" means an element of WQS, as described in this chapter, that is expressed as a constituent concentration, a numeric level, or a narrative statement, and that represents a quality of water supporting a particular use. When criteria are met, water quality shall generally protect the designated use.

"EPA PB85-227049" means "*Guidelines for Deriving Numerical National Water Quality Criteria for the Protection of Aquatic Organisms and their Uses*," December 2010 unless otherwise noted.

"EPA 823-B-17-001" means "*Water Quality Standards Handbook*," Chapter 3, Water Quality Criteria, Section 3.5.2, Site-Specific Aquatic Life Water Quality Criteria, November 2017 unless otherwise noted.

(b) A site-specific aquatic life criterion shall be consistent with federal regulations on adopting criteria that protect designated uses as described in title 40, Code of Federal Regulations, section 131.11.

(c) A site-specific aquatic life criterion may be derived to address species sensitivity, toxicity variation, natural background, or any combination of these situations.

(d) A site-specific aquatic life criterion may be based on scientific guidelines described in EPA PB85-227049.

(e) A site-specific aquatic life criterion may be derived with scientific processes described in EPA 823-B-17-001 or other scientifically defensible methods.

(f) The decision to adopt a site-specific aquatic life criterion shall be based on a scientific demonstration that the derived criterion protects the designated use, as described in this chapter.

(g) The decision to adopt a site-specific aquatic life criterion shall be subject to public participation requirements. The department shall hold one or more public hearings when adopting a site-specific aquatic life criterion in accordance with applicable provisions of chapter 91, HRS, and 40 C.F.R. §25. The site-specific aquatic life criterion and supporting information shall be made available to the public prior to the hearing.

(h) A site-specific aquatic life criterion shall not be effective until it is adopted by the department and approved by the EPA. [Eff and comp] (Auth: HRS §187A-1, §§342D-4, 342D-5) (Imp: §§342D-4, 342D-5; 40 C.F.R. §§25.5, 131.11)

VI. RATIONALE FOR ORGANIZATION OF NEW SECTIONS

HDOH intends to amend HAR 11-54 with authorizing language that allows the use of other regulatory mechanisms, including UAAs, WQS variances, and site-specific aquatic life criteria, to address site-specific conditions. In order to achieve this, HDOH intends to remove the requirements for "Water Quality Certification" from the existing sections HAR 11-54-9.1, and HAR 11-54-9.1.01 to HAR 11-54-9.1.09, and to include them in the new chapter 53, titled "Section 401 Water Quality Certification," of the Hawaii Administrative Rules (HAR 11-53). HDOH also intends to transfer the discharge requirements for zones of mixing and intake credits, which are respectively specified in sections HAR 11-54-9 and HAR 11-54-12, to the existing chapter 55, titled "Water Pollution Control," of the Hawaii Administrative Rules (HAR 11-55). The following modifications are proposed for HAR 11-54:

A. Repeal existing section 9.1 for "Water Quality Certification." As mentioned above, the water quality certification requirements will be moved to HAR 11-53.
B. Repeal existing sections 9.1.01 to 9.1.09, all related to "Water Quality Certification." As mentioned above, the water quality certification requirements will be moved to HAR 11-53.
C. Repeal existing section 9 for "Zones Of Mixing." As mentioned above, the mixing zone requirements will be transferred to HAR 11-55.
D. Repeal existing section 11 for "Schedule Of Compliance."
E. Repeal existing section 12 for "Intake Credits." As mentioned above, the intake credit requirements will be transferred to HAR 11-55.
F. Add new section 9.2 for "Site-Specific Flexibilities" and include definitions.
G. Add new sections 9.3, 9.4, and 9.5 for "Use Attainability Analysis," "Water Quality Standards Variance," and "Site-Specific Criterion," respectively.
H. Add new section 9.6 for "Schedule Of Compliance." This new section is based substantially upon the repealed section 11 (see modification D).

A. Repeal existing section HAR 11-54-9.1

[~~§11-54-9.1~~ Water quality certification. ~~As used in sections 11-54-9.1.01 to 11-54-9.1.10:~~

~~"33 CFR" means the Code of Federal Regulations, Title 33, Corps of Engineers, Department of the Army, Department of Defense, revised as of July 1, 2011, unless otherwise specified.~~

~~"40 CFR" means the Code of Federal Regulations, Title 40, Protection of the Environment, revised as of July 1, 2011, unless otherwise specified.~~

~~"Act" means the Clean Water Act (formerly referred to as the Federal Water Pollution Control Act or Federal Water Pollution Control Act Amendments of 1972) Public Law 92-500, as amended by Public Law 95-217, Public Law 95-483 and Public Law 97-117, 33 U.S.C. section 1251 et. seq.~~

~~"Agent" means a duly authorized representative of the owner as defined in section 11-55-7(b).~~

~~"Discharge" means the same thing as defined in Section 502(16) of the Act.~~

~~"Discharge of a pollutant" and "discharge of pollutants" means the same thing as defined in section 502(12) of the Act.~~

~~"Duly authorized representative" means a person or position as defined in 40 CFR section 122.22(b).~~

~~"License or permit" means any permit, certificate, approval, registration, charter, membership, statutory exemption or other form of permission granted by an agency of the federal government to conduct any activity which may result in any discharge into navigable waters.~~

~~"Licensing or permitting agency" means any agency of the federal government to which a federal application is made for a "license or permit."~~

~~"Navigable waters" means the waters of the United States, including the territorial seas.~~

~~"Owner" means the person who owns any "facility" or "activity" which results in any discharge into navigable waters.~~

~~"Pollutant" means the same thing as defined in section 502(6) of the Act.~~

~~"Territorial seas" means the belt of the seas measured from the line of ordinary low water along that portion of the coast which is in direct contact with the open sea and the line marking the seaward limit of inland waters, and extending seaward a distance of three miles.~~

~~"Water quality certification" or "certification" means a statement which asserts that a proposed discharge resulting from an activity will not violate applicable water quality standards and the applicable provisions of sections 301, 302, 303, 306 and 307 of the Act. A water quality certification is required by section 401 of the Act from any applicant for a federal license or permit to conduct any activity, including the construction or operation of facilities which may result in any discharge into navigable waters.~~

~~"Water quality certification application" means any forms provided by the director for use in obtaining the water quality certification.~~

~~"Water quality standards" means standards established pursuant to section 10(c) of the Act, and state-adopted water quality standards for navigable waters which are not interstate waters.~~

~~"Waters of the United States" or "waters of the U.S." means:~~

~~(1) All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;~~

~~(2) All interstate waters, including interstate "wetlands";~~

~~(3) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, "wetlands,"~~

~~sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any such waters:~~

~~(A) Which are or could be used by interstate or foreign travelers for recreational or other purposes;~~

~~(B) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or~~

~~(C) Which are used or could be used for industrial purposes by industries in interstate commerce;~~

~~(4) All impoundments of waters otherwise defined as waters of the United States under this definition;~~

~~(5) Tributaries of waters identified in paragraphs (1) through (4) of this definition;~~

~~(6) The territorial sea; and~~

~~(7) "Wetlands" adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (1) through (6) of this definition.~~] [Eff and comp 04/14/88; am and comp 01/18/90; am and comp 10/29/92; am and comp 04/17 /00; am and comp 10/2/04; comp 06/15/09; comp 10/21/12; am and comp 12/6/13; comp 11/15/14; R] (Auth: HRS §§342D-4, 342D-5, 342D-53) (Imp: HRS §§342D-4, 342D-5, 342D-6)

B. Repeal existing sections HAR 11-54-9.1.01 to HAR 11-54-9.1.09

[~~§11-54-9.1.01 Water quality certification; contents of certification. (a) A certification made by the department shall include:~~

~~(1) The legal name(s), street address, contact person's name and position title, and telephone and fax numbers of the owner and, if applicable, its duly authorized representative;~~

~~(2) A statement that the director has either:~~

~~(A) Examined the application made by the owner or its duly authorized representative to the licensing or permitting agency (specifically identifying the number or code affixed to the application) and bases its certification upon an evaluation of the information contained in the application which is relevant to water quality considerations; or~~

~~(B) Examined other information provided by the owner or its duly authorized representative sufficient to permit the director to make the statement described in paragraph (a)(3);~~

~~(3) A statement that there is reasonable assurance that the activity will be conducted in a manner which will not violate applicable water quality standards;~~

~~(4) A statement of any conditions which the director considers necessary or desirable with respect to the discharge resulting from an activity; and~~

~~(5) Other information the director determines to be appropriate.~~

~~(b) The director shall issue the certification after evaluating the complete water quality certification application, comments received during~~

~~the public comment period, any record of a public hearing held pursuant to section 11-54-09.1.03, other information and data the director considers relevant, and after the director determines that there is reasonable assurance that applicable water quality standards will not be violated and the best practicable methods of control will be applied to a discharge resulting from an activity including the construction and operation of a facility~~

~~(c) The department shall process applications for permits and water quality certifications for the reconstruction, restoration, repair, or reuse of any Hawaiian fishpond that meets the requirements of chapter 183B, HRS, before all other permits and certifications. The director shall render a decision on the completeness of any application for the permit or water quality certification within thirty days of receipt. Applications for fishpond reconstruction, restoration, or repair that are incomplete shall be denied without prejudice. The director shall render a decision on any complete application for a permit or water quality certification for any fishpond within one hundred fifty days.~~

~~(d) The director, at the director's discretion or after consideration of information presented by the owner or its duly authorized representative, the licensing or permitting agency, other government agencies, or interested parties, may modify or revoke an issued certification or waiver.~~] [Eff and comp 4/14/88; am and comp 01/18/90; am and comp 10/29/92; am and comp 04/17/00; am and comp 10/2/04; comp 06/15/09; comp 10/21/12; am and comp 12/6/13; comp 11/15/14; R] (Auth: HRS §§342D-4, 342D-5, 342D6.5, 342D-53) (Imp: HRS §§342D-342D-6, 342D6.5, 342D-5)

[~~§11-54-9.1.02 Water quality certification; contents of water quality certification application. (a) The owner or its duly authorized representative~~

~~shall submit a complete water quality certification application for the discharge resulting from an activity. The water quality certification application shall include at a minimum:~~

~~(1) The legal name(s), street address, contact person's name and position title, and telephone and fax numbers of the owner and, if applicable, its duly authorized representative;~~

~~(2) The company or organization name, contact person's name and position title, and telephone and fax numbers of the emergency contact(s);~~

~~(3) The name, street address, contact person's name and position title, telephone and fax numbers, island, and tax map key number(s) for the project;~~

~~(4) Associated existing or pending federal and environmental permits and corresponding file numbers;~~

~~(5) The name(s) of the navigable water where the discharge occurs, the latitude and longitude of the discharge point(s), the classification of the navigable water, and the associated existing recreational uses;~~

~~(6) The scope of work or a description of the overall project including: the construction or operation of facilities which may result in discharges into navigable waters; the proposed discharge resulting from an activity; and specific biological, chemical, physical, thermal, and other pertinent characteristics of the discharge resulting from an activity;~~

~~(7) If applicable, a description of the function and operation of equipment or facilities to control discharges, including specification of the methods of control to be used;~~

~~(8) The estimated dates on which the activity will begin and end and the date or dates on which the discharge(s) will take place;~~

~~(9) If applicable, a description of the methods and means being used or proposed to monitor the quality and characteristics of the discharge and the operation of equipment or facilities employed in the control of the proposed discharges and a map showing the location(s) of the monitoring point(s);~~

~~(10) The statement of assurance, statement of choice for publication, and if applicable, an authorization statement, with the owner's original signature. Any signatures required for the water quality certification application shall be provided as described in 40 CFR Section 122.22(a);~~

~~(11) Supporting documentation (e.g. maps, plans, specifications, copies of associated federal permits or licenses, federal applications, Environmental Assessments or Environmental Impact Statements, as applicable, etc.);~~

~~(12) Additional information regarding any irregularities or unique features of the project; and~~

~~(13) Additional information as required by the director.~~

~~(b) The director shall notify the owner or its duly authorized representative in writing if a water quality certification application is incomplete or otherwise deficient. A description of the additional information necessary to complete the water quality certification application or to correct the deficiency shall be included in the written notice. If a water quality certification application is incomplete or otherwise deficient, processing of the water quality certification application shall not be completed until the time the owner or its duly authorized representative has supplied the information or otherwise corrected the deficiency. Failure to provide additional information or to correct a deficiency shall be sufficient grounds for denial of the certification or termination of the processing of the water quality certification application.~~

~~(c) The director shall notify the owner or its duly authorized representative in writing when a water quality certification application is considered complete. The director shall act on a request for certification within a period which shall not exceed one year from the date when the water quality certification application was considered complete.~~

~~(d) The owner or its duly authorized representative shall notify the department in writing of changes which may affect the water quality certification application and certification process.~~

~~(e) Each owner who submits a water quality certification application shall pay a filing fee of $1,000. This filing fee shall be submitted with the water quality certification application and shall not be refunded nor applied to any subsequent water quality certification application following final action of denial or termination of the processing of the water quality certification application.~~

~~(1) Fees shall be made payable to the "State of Hawaii" in the form of a cashier's check or money order;~~

~~(2) Water quality certification application(s) submitted by the U.S. Army Corps of Engineers, Honolulu Engineer District, for the purpose of adopting regional or nationwide general permit(s), in accordance with 33 CFR Parts 325 and 330, respectively, shall be exempt from the payment of filing fees.~~

~~(f) If a project or activity requiring a federal permit or license involves or may involve the discharge of a pollutant or pollutants and is initiated or completed without a water quality certification, the director may process an after-the-fact water quality certification application as follows: after-the-fact water quality certification application.~~

~~may be accepted and processed only for the limited purpose of deeming projects or activities requiring federal permits or licenses to be properly permitted~~

~~or licensed forward of the date of the water quality certification or waiver. No water quality certification or waiver shall be issued which allows the retroactive permitting or licensing of projects or activities before the date the water quality certification or waiver was issued. A water quality certification or waiver may be issued if the following criteria are met:~~

~~(1) The project or activity is not the subject of an ongoing enforcement action by the federal, state or county government;~~

~~(2) Any adverse impacts upon water quality resulting from the project or activity have been mitigated to the maximum extent feasible; and~~

~~(3) The project or activity will not cause or contribute to any lack of attainment of water quality standards set forth in this chapter.~~

~~(g) Written notification by the department under subsection (b) is complete upon mailing or sending a facsimile transmission of the document or actual receipt of the document by the owner or its duly authorized representative.~~] [Eff and comp 04/14/88; am and comp 01/18/90; am and comp·10/29/92; am and comp 04/17/00; am and comp 10/2/04; comp 06/15/09; comp 10/21/12; am and comp 12/6/13; comp 11/15/14; R] (Auth: HRS §§342D-4, 342D-5, 342D-53) (Imp: HRS §§342D-4, 342D-5, 342D-6)

[~~§11-54-9.1.03 Water quality certification; notice and hearing. The director may provide the opportunity for public comment or hearing(s) or both to consider the issuance of a water quality certification. A notice shall be published in accordance with chapters 91 and 92, HRS. The director shall inform the owner or its duly authorized representative in writing that the action has been taken. All publication and mailing costs associated~~

~~with the public notification of the director's tentative determinations with respect to the water quality certification application shall be paid by the owner to the appropriate newspaper agency or agencies determined by the director. Failure to provide and pay for public notification, as considered appropriate by the director, may result in a delay in the certification process.~~] [Eff and comp 04/14/88; am and comp 01/18/90; am and comp 10/29/92; am and comp 04/17/00; am and comp 10/2/04; comp 06/15/09; comp 10/21/12; comp 12/6/13; comp 11/15/14; R] (Auth: HRS §§342D-4, 342D-5, 342D-53) (Imp: HRS §§342D-4, 342D-5, 342D-6)

[~~§11-54-9.1.04 Water quality certification; waiver. (a) If the director fails or refuses to act on a request for certification within one year after receipt of a complete water quality certification application, then the certification requirements of section 11-54-9.1 shall be waived with respect to the federal application.~~

~~(b) If the discharge resulting from an activity receives a determination to be covered under a nationwide permit authorization, thereby fulfilling specific conditions of that permit pursuant to 33 CFR sections 330.4, 330.5, and 330.6, then the director will determine, on a case-by-case basis, which projects are considered minor and non-controversial. Certification requirements of section 11-54-9.1 shall be waived for minor and non-controversial activities within one year of receipt of a complete water quality certification application.~~] [Eff and comp 04/14/88; am and comp 01/18/90; am and comp 10/2 9/92; am and comp 04/17/00; am and comp 10/2/04; comp 06/15/09; comp 10/21/12; am and comp 12/6/13; comp 11/15/14; R] (Auth: HRS §§342D-4, 342D-5, 342D-53) (Imp: HRS §§342D-4, 342D-5, 342D-6)

[~~§11-54-9.1.05 Water quality certification; adoption of new water quality standards. (a) The licensee or permittee shall comply with any new water quality standards as adopted by the department.~~

~~(b) In any case where:~~

~~(1) A certification or waiver was issued without applicable water quality standards;~~

~~(2) Water quality standards applicable to the waters into which the activity may discharge are subsequently established before the activity is completed; or~~

~~(3) The director determines that the activity is violating new water quality standards;~~

~~The director shall then notify the licensee or permittee and the licensing or permitting agency of the violation.~~

~~(c) If the licensee or permittee fails within one hundred eighty days of the date of the notice to cease the violation, the director shall notify the licensing or permitting agency that the licensee or permittee has failed to comply with the standards. The director, at the director's discretion, shall also revoke the certification or waiver or recommend suspension of the applicable license or permit pursuant to section 401 of the Act.~~

~~(d) The director shall notify the licensing or permitting agency that, in the director's opinion, there is reasonable assurance that applicable water quality standards will not be violated because t he licensee or permittee took appropriate action to comply with the applicable water quality standards after their license or permit was suspended pursuant to subsection (c).~~

~~(e) This section shall not preclude the department from taking other enforcement action authorized by law.~~] [Eff and comp 04/14/88; am and comp 01/18/90; am and comp 10/29/92; am and comp 04/17/00; am and comp 10/2/04; comp 06 / 15/09; comp 10/21/12; am and comp 12/6/13; comp 11/15/14; R] (Auth: HRS §§342D-4, 342D-5, 342D-53s) (Imp: HRS §§342D-4, 342D-5, 342D-6)

[~~§11-54-9.1.06 Water quality certification; inspection of facility or activity before operation. Where any facility or activity has received certification or waiver pursuant to sections 11-54-9.1.01 to 11-54-9.1.09 in connection with the issuance of a license or permit for construction, and where the facility or activity is not required to obtain an operating license or permit, the director, prior to the initial operation of the facility or activity, shall be afforded the opportunity to inspect the facility or activity for the purpose of determining if the manner in which the facility or activity will be operated or conducted will violate applicable water quality standards.~~] [Eff and comp 04/14/88; am and comp 01/18/90; am and comp 10/29/92; am and comp 04/17/00; am and comp 10/2/04; comp 06/15/09; comp 10/21/12; comp 12/6/13; comp 11/15/14; R] (Auth: HRS §§342D-4, 342D-5, 342D-53) (Imp: HRS §§342D-4, 342D-5, 342D-6)

[~~§11-54-9.1.07 Water quality certification; notification to licensing or permitting agency. If the director, after an inspection pursuant to section 11-54-9.1.06 determines that operation of the proposed facility or activity will violate applicable water quality standards, the director shall so notify the owner or, if applicable, its duly authorized representative and the licensing or permitting agency.~~] [Eff and comp 04/14/88; am and comp 01/18/90; am and comp 10/29/92; am and comp 04/17/00; am and comp 10/2/04; comp 06/15/09; comp 10/21/12; comp 12/6/13; comp 11/15/14; R] (Auth: HRS §§342D-4, 342D-5, 342D-53) (Imp: HRS §§342D-4, 342D-5, 342D-6)

[~~§11-54-9.1.08 Water quality certification; termination or suspension. Where a licensing or~~

~~permitting agency, following a public hearing, suspends a license or permit after receiving the director's notice and recommendation pursuant to section 11-54-9.1.07 the owner or its duly authorized representative may submit evidence to the director, that the facility or activity has been modified so as not to violate applicable water quality standards. If the director determines that the applicable water quality standards have not been and will not be violated, the director shall so notify the licensing or permitting agency.~~] [Eff and comp 04/14/88; am and comp 01/18/90; am and comp 10/29/92; am and comp 04/17/00; am and comp 10/2/04; comp 06/15/09; comp 10/21/12; comp 12/6/13; comp 11/15/14; R] (Auth: HRS §§342D-4, 342D-5, 342D-53) (Imp: HRS §§342D-4, 342D-5, 342D-6)

[~~§11-54-9.1.09 Water quality certification; review and advice. The director may, and upon request shall, provide licensing and permitting agencies with determinations, definitions, and interpretations to the meaning and content of state water quality standards. The director may, and upon request shall, also advise licensing and permitting agencies of the status of compliance by the owner(s) of a water quality certification with the conditions and requirements of applicable water quality standards.~~] [Eff and comp 04/14/88; am and comp 01/18/90; am and comp 10/29/92; am and comp 04/17/00; am and comp 10/2/04; comp 06/15/09; comp 10/21/12; comp 12/6/13; comp 11/15/14; R] (Auth: HRS §§342D-4, 342D-5, 342D-53) (Imp: HRS §§342D-4, 342D-5, 342D-6)

Due to the repeal of the above “Water Quality Certification” sections from HAR 11-54, minor modifications are proposed for the definition of “Wetlands,” in section HAR 11-54-1, to respectively reference the HDOH requirements for water

quality certifications as the new chapter 53 (HAR 11-53), and for NPDES permits as the existing chapter 55 (HAR 11-55). Amendments are also proposed for section HAR 11-54-1 to include the definitions of "pollutant" and "water quality standards."

§11-54-1 Definitions. As used in this chapter:

"Pollutant" or "water pollutant", as defined in section 342D-1, HRS, means dredged spoil, solid refuse, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical waste, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, soil, sediment, cellar dirt and industrial, municipal, and agricultural waste.

"Water quality standards" or "WQS" means provisions of state law which consist of a designated use or designated uses for state waters and water quality criteria for such waters based upon such uses. WQS are to protect the public health or welfare, enhance the quality of state waters, and serve the purposes of the Act.

"Wetlands" means land that is transitional between terrestrial and aquatic ecosystems where the water table is usually at or near the surface or the land is covered by shallow water. A wetland shall have one or more of the following attributes:

(1) At least periodically the land supports predominantly hydrophytic vegetation;
(2) The substratum is predominantly undrained hydric soil; or
(3) The substratum is nonsoil (gravel or rocks) and is at least periodically saturated with water or covered by shallow water.

Wetlands may be fresh, brackish, or saline and generally include swamps, marshes, bogs, and associated ponds and pools, mud flats, isolated

seasonal ponds, littoral zones of standing water bodies, and alluvial floodplains. For the [~~purpose~~] purposes of applying for water quality certifications [~~under Clean Water Act Section 401,~~]as specified in chapter 11-53, and [~~for~~]National Pollutant Discharge Elimination System (NPDES) [~~permit purposes,~~]permits, as specified in chapter 11-55, the identification and delineation of wetland boundaries shall be done following the procedures described in the U.S. Army Corps of Engineers' Wetlands Delineation Manual (USACE 1987).

[Eff 11/12/82; am and comp 10/6/84; am and comp 04/14/88; am and comp 01/18/90; am and comp 10/29/92; am and comp 04/17/00; am and comp 10/02/04; comp 06/15/09; comp 10/21/12; am and comp 12/6/13; am and comp 11/15/14; am and comp] (Auth: HRS §187A-1, §§342D-1, 342D-4, 342D-5, Ch. 342E) (Imp: HRS §§342D-4, 342D-5, Ch. 342E; 40 C.F.R. §§122.2, 130.2, 131.3, 131.12; 22 U.S.C. §1362(14))

C. Repeal existing section HAR 11-54-9

[~~§11-54-9 Zones of mixing. (a) As used in this section, "zones of mixing" means limited areas around outfalls and other facilities to allow for the initial dilution of waste discharges.~~

~~(b) Zones of mixing for the assimilation of domestic, agricultural, and industrial discharges which have received the best degree of treatment or control are recognized as being necessary. It is the objective of these limited zones to provide for a current realistic means of control over the placement and manner of discharges or emissions so as to achieve the highest attainable level of water quality or otherwise to achieve the minimum environmental impact considering initial dilution, dispersion, and reactions from substances which may be considered to be pollutants.~~

~~(c) Establishment, renewal, and termination.~~

~~(1) Application for establishment of a zone of mixing shall be made concurrently with any discharge permits whenever applicable and the conditions of a zone of mixing shall be incorporated as conditions of the discharge permits. Every application for a zone of mixing shall be made on forms furnished by the director and shall be accompanied by a complete and detailed description of present conditions, how present conditions do not conform to standards, and other information as the director may prescribe.~~

~~(2) Each application for a zone of mixing shall be reviewed in light of the descriptions, statements, plans, histories, and other supporting information as may be submitted upon the request of the director, and in light of the effect or probable effect upon water quality standards established pursuant to this chapter.~~

~~(3) Whenever an application is approved, the director shall establish the zone of mixing, taking into account the environmental impact, including but not limited to factors such as the protected uses of the body of water, existing natural conditions of the receiving water, character of the effluent, and the adequacy of the design of the outfall and diffuser system to achieve maximum dispersion and assimilation of the treated or controlled waste with a minimum of undesirable or noticeable effect on the receiving water.~~

~~(4) Approval of a zone of mixing shall be made either after a public hearing is held by the director in the county where the source is situated, in accordance with chapters 91 and 92, HRS and the rules of practice and procedures of the department, or after the public notification and comment process duly established for a discharge permit in the case when the zone of mixing is being considered concurrently with the discharge permit.~~

~~(5) No zone of mixing shall be established by the director unless the application and the supporting information clearly show that:~~

~~(A) The continuation of the function or operation involved in the discharge by the granting of the zone of mixing is in the public interest;~~

~~(B) The discharge occurring or proposed to occur does not substantially endanger human health or safety;~~

~~(C) Compliance with the existing water quality standards from which a zone of mixing is sought would produce serious hardships without equal or greater benefits to the public; and~~

~~(D) The discharge occurring or proposed to occur does not violate the basic~~

~~standards applicable to all waters, will not unreasonably interfere with any actual or probable use of the water areas for which it is classified, and has received (or in the case of a proposed discharge will receive) the best degree of treatment or control.~~

~~(6) Any zone of mixing or renewal thereof shall be established within the requirements of this section and for time periods and under conditions consistent with the reasons therefore and within the following limitations:~~

~~(A) If the zone of mixing is established on the grounds that there is no reasonable means known or available for the adequate prevention, control, or abatement of the discharge involved, it shall be allowed only until the necessary means for prevention, control or abatement become practicable, and subject to the taking of any substitute or alternative measures that the director may prescribe. No renewal of a zone of mixing established under this subsection shall be allowed without a thorough review of known and available means of preventing, controlling, or abating the discharge involved;~~

~~(B) The director may issue a zone of mixing for a period not exceeding five years;~~

~~(C) Every zone of mixing established under this section shall include, but not be limited to, conditions requiring the applicant to perform appropriate effluent and receiving water sampling including monitoring of bottom biological communities and report the results of each sampling to the director. A program of research to develop reasonable alternatives to the~~

~~methods of treatment or control in use by the applicant may be required if research is deemed prudent by the director; and~~

~~(D) In order to prevent high temperature discharges from violating section 11-54-04(a)(4), no new or increased domestic, industrial, or other controllable source shall discharge at a maximum temperature which will cause temperatures to exceed three degrees Celsius above ambient, or thirty degrees Celsius, whichever is less, within one meter of the bottom within a zone of mixing. For discharges with or without submerged outfalls, the director may make a limited allowance for higher discharge temperatures if there is satisfactory demonstration that the elevated temperature will not cause damage to the local aquatic community.~~

~~(7) Any zone of mixing established pursuant to this section may be renewed from time to time on terms and conditions and for periods not exceeding five years which would be appropriate on initial establishment of a zone of mixing, provided that the applicant for renewal had met all of the conditions specified in the immediately preceding mixing, and provided further that the renewal and the zone of mixing established in pursuance thereof shall provide for the discharge not greater in quantity of mass emissions than that attained pursuant to the terms of the immediately preceding zone of mixing at its expiration. Any new zones of mixing or requests for zone of mixing renewals for wastewater treatment plants (WWTP) performing primary treatment shall comply with section 301(h) of the Federal~~

~~Water Pollution Control Act of 1972 (33 U.S.C. 1251). No renewal shall be allowed except upon application. Any renewal application shall be made at least one hundred and eighty days prior to the expiration of the zone of mixing.~~

~~(8) No zone of mixing established pursuant to this part shall be construed to prevent or limit the application of any emergency provisions and procedures provided by law.~~

~~(9) The establishment of any zone of mixing shall be subject to the concurrence of the U.S. Environmental Protection Agency.~~

~~(10) Each mixing zone may be subject to revocation, suspension, or modification if, after notice and opportunity for a hearing pursuant to chapter 91, HRS and the rules of practice and procedures of the department, the director determines that the terms specified in section 342D-6, HRS have been violated. In taking any action, the director may consider operating records, compliance investigations, or other information regarding discharge quality or impact on receiving waters. The action shall be effected by giving written notice to the permittee, which shall contain the reasons for the action.~~

~~(11) The director shall be notified within thirty days of the permanent discontinuance of a discharge. The zone of mixing shall terminate thirty days after such notification has been received.~~

~~(12) Upon expiration of the period stated in the designation, the zone of mixing shall automatically terminate and no rights shall become vested in the designee.~~] [Eff 11/12/82; am and comp 10/6/84; am and comp 04/14/88; am and comp 01/18/90; am and comp 10/29/92; am and comp 04/17/00; am and comp

10/2/04; comp 06/15/09; comp 10/21/12; am and comp 12/6/13; comp 11/15/14; R] (Auth: HRS §§342D-1, 342D-4, 342D-5) (Imp: HRS §§342D-4, 342D-5)

Due to the repeal of section HAR 11-54-9, an amendment is proposed for section HAR 11-54-1 to include the definition of "zones of mixing."

§11-54-1 Definitions. As used in chapter:

"Zones of mixing" means limited areas around outfalls and other facilities to allow for the initial dilution of waste discharges. Zones of mixing for the assimilation of domestic, agricultural, and industrial discharges which have received the best degree of treatment or control are recognized as being necessary. [Eff 11/12/82; am and comp 10/6/84; am and comp 04/14/88; am and comp 01/18/90; am and comp 10/29/92; am and comp 04/17/00; am and comp 10/02/04; comp 06/15/09; comp 10/21/12; am and comp 12/6/13; am and comp 11/15/14; am and comp] (Auth: HRS §187A-1, §§342D-1, 342D-4, 342D-5, Ch. 342E) (Imp: HRS §§342D-4, 342D-5, Ch. 342E; 40 C.F.R. §§122.2, 130.2, 131.3, 131.12; 22 U.S.C. §1362(14))

D. Repeal existing section HAR 11-54-11

[~~§11-54-11 Schedule of compliance. (a) A schedule of compliance is an NPDES implementation tool that applies to the implementation of water quality standards through NPDES permits only.~~

~~(b) The director may issue a schedule of compliance in an individual NPDES permit for the implementation of effluent limits derived from the water quality criteria in this chapter if the director makes a finding that the discharger cannot immediately comply with the water quality based effluent limitations upon the effective grant of the permit.~~

~~(c) A schedule of compliance may be included in an individual NPDES permit issued by the director pursuant to chapter 342D, HRS.~~

~~(d) A schedule of compliance in an NPDES permit is allowed only for water quality-based effluent limits based upon a new, revised, or newly interpreted water quality standard and must:~~

~~(1) Comply with the provisions in 40 CFR section 122.47, revised as of July 1, 2014, and~~

~~(2) Include an enforceable final effluent limitation that is within the timeframe allowed as specified in sections 11-55-08(a)(2)(B), 11-55-15(d), 11-55-21, 11-55-22, 11-55-23 (10), and 11-55-34.07(3)(B).~~

~~(3) Require compliance as soon as possible.~~

~~(e) A schedule of compliance that exceeds one year in duration must set forth interim requirements, specific dates to meet interim requirements, and a date by which the required water quality-based effluent limitation must be achieved.~~] [Eff and comp 11/15/14; R] (Auth: HRS §§342D-4, 342D-5, 342D-53, Ch. 342E) (Imp: HRS §§342D-4, 342D-5, 342D-6, Ch. 342E)

E. Repeal existing section HAR 11-54-12

[~~§11-54-12 Intake credits. (a) An intake credit is an NPDES implementation tool that applies to the implementation of water quality standards through NPDES permits only.~~

~~(b) As used in this section:~~

~~"Background pollutant concentration means the water body concentration immediately upstream/upcurrent of a permitted discharge, regardless of whether those pollutants are natural or result from anthropogenic upstream activity.~~

~~"Intake pollutant" means the background pollutant concentration that is present in the intake water body, which must be the same water body as the receiving water for the discharge at the time it is withdrawn from such waters.~~

~~"Same body of water" means an intake pollutant is considered to be from the "same body of water" as the discharge if the department finds that the intake pollutant would have reached the vicinity of the outfall point in the receiving water within a reasonable period of time had it not been removed by the permittee. This finding may be deemed established if:~~

~~(1) The background pollutant concentration in the receiving water (excluding any amount of the pollutant in the facility's discharge) is similar to that in the intake water; and~~

~~(2) There is a direct hydrologic connection between the intake and discharge points; and~~

~~(3) Water quality characteristics (e.g. temperature, pH, hardness) are similar in the intake and receiving waters.~~

~~The department may consider other site-specific factors relevant to the transport and fate of the pollutant in deciding whether a pollutant would or would not have reached the vicinity of the outfall~~

~~point in the receiving water within a reasonable period had it not been removed by the permittee.~~

~~(c) The director may, upon request of the discharger, adjust water quality-based effluent limitations or standards to reflect credit for intake pollutants in the discharger's intake water only:~~

~~(1) To the extent necessary to meet the applicable limitation or standard, up to a maximum value equal to the intake pollutant value; and~~

~~(2) If there is no net increase in the concentration of the intake pollutant for which the credit is given. A discharger may add to the mass of the background pollutant concentration if an equal or greater mass is removed prior to discharge, so there is no net addition of the pollutant in the discharge compared to the intake water.~~

~~(d) Intake credit is not applicable to any pollutant for which a Total Maximum Daily Load (TMDL) and waste load allocation (WLA) have been developed and have been approved by the U.S. Environmental Protection Agency unless the TMDL and WLA provide for such an intake credit.~~

~~(e) The director shall grant credit for water quality-based effluent limits only if:~~

~~(1) One hundred per cent of the intake water containing the intake pollutant is withdrawn from the same body of water into which the discharge is made;~~

~~(2) The facility does not chemically or physically alter the intake pollutant in a manner that would cause adverse water quality impacts to occur that would not occur if the pollutant was left in-stream;~~

~~(3) The timing and location of the discharge would not cause adverse water quality impacts to occur that would not occur if the intake pollutant were left in-stream; and,~~

~~(4) The director finds that the discharge of intake pollutants into the same body of~~

~~water will not adversely impact narrative or numeric water quality criteria specified in this chapter.~~

~~(f) Effluent limitations must be established so that they comply with all other applicable state and federal laws and regulations including water quality-based requirements and anti-degradation policies.~~

~~(g) All requests for the establishment of credit for intake pollutants shall be made on forms furnished by the department and shall be accompanied by:~~

~~(1) Documentation showing a complete and detailed description of present conditions and how present conditions do not conform to standards; and~~

~~(2) Documentation showing that the intake and discharge waterbodies are the "same body of water;" and~~

~~(3) Documentation showing that pollutant(s) for which credits are being request actually come(s) from the intake water.~~

~~(h) Credit for intake pollutants shall be specified in the discharger's NPDES permit and shall become effective with the department's issuance of the permit for the specified permittee.~~

~~(1) All permits that include intake credits issued by the department shall include monitoring of all influent, effluent, and ambient water to demonstrate that the conditions in this section are maintained during the permit term.~~

~~(2) All credit for intake pollutants developed under this section shall be re-evaluated upon permit renewal.~~

~~(i) Credit for intake pollutants established under this section apply in the vicinity of the discharge for purposes of establishing permit limits for a specified pollutant for the specified permittee.~~

~~(j) All other water quality criteria established under this chapter continue to apply.~~] [Eff and comp 11/15/14; R] (Auth: HRS §§342D-

4, 342D-5, 342D-53, Ch. 342E) (Imp: HRS §§342D-4, 342D-5, 342D-6, Ch. 342E)

F. Add new section HAR 11-54-9.2

§11-54-9.2 Site-specific flexibilities. As used in sections 11-54-9.3, 11-54-9.4, 11-54-9.5, and 11-54-9.6:

"40 C.F.R. §25" means title 40, Code of Federal Regulations, part 25, entitled "Public Participation in Programs under the Resource Conservation And Recovery Act, the Safe Drinking Water Act, and the Clean Water Act", revised as of 16 February 1979 unless otherwise noted.

"40 C.F.R. §131" means title 40, Code of Federal Regulations, part 131, entitled "Water Quality Standards", revised as of 21 August 2015 unless otherwise noted. [Eff and comp] (Auth: HRS §§342D-4, 342D-5, 342D-7) (Imp: §§342D-4, 342D-5, 342D-6, 342D-7; 40 C.F.R. §§25.5, 131.10, 131.11)

G. Add new sections HAR 11-54-9.3, HAR 11-54-9.4, and HAR 11-54-9.5

§11-54-9.3 Use attainability analysis.

(see rationale III for rules)

§11-54-9.4 Water quality standards variance.

(see rationale IV for rules)

§11-54-9.5 Site-specific aquatic life criterion.

(see rationale V for rules)

H. Add new section HAR 11-54-9.6

§11-54-9.6 Schedule of compliance. (a) A schedule of compliance is an NPDES implementation tool that applies to the implementation of water quality standards through NPDES permits only.

(b) The director may issue a schedule of compliance in an individual NPDES permit for the implementation of effluent limits derived from the water quality criteria in this chapter if the director makes a finding that the discharger cannot immediately comply with the water quality based effluent limitations upon the effective grant of the permit.

(c) A schedule of compliance may be included in an individual NPDES permit issued by the director pursuant to chapter 342D, HRS.

(d) A schedule of compliance in an NPDES permit is allowed only for water quality-based effluent limits based upon a new, revised, or newly interpreted water quality standard and must:

(1) Comply with the provisions in title 40, Code of Federal Regulations, section 122.47, revised as of July 1, 2014;

(2) Include an enforceable final effluent limitation that is within the timeframe allowed as specified in sections 11-55-08(a)(2)(B), 11-55-15(d), 11-55-21, 11-55-22, 11-55-23 (10), and 11-55-34.07(3)(B); and

(3) Require compliance as soon as possible.

(e) A schedule of compliance that exceeds one year in duration must set forth interim requirements, specific dates to meet interim requirements, and a date by which the required water quality-based effluent limitation must be achieved. [Eff and comp] (Auth: HRS §§342D-4, 342D-5, 342D-53, Ch. 342E) (Imp: HRS §§342D-4, 342D-5, 342D-6, Ch. 342E)

Historical note: §11-54-9.6 is based substantially upon §11-54-11. [Eff and comp 11/15/14; R]

VII. RATIONALE FOR VARIOUS MINOR MODIFICATIONS

First, the current version of HAR 11-54 is not published in the manner established by the revisor of statutes in section 91-5(a), titled "Publication of Rules," of the Hawaii Revised Statutes (HRS). Specifically, section headings should be boldface instead of underscored. Next, the current version of HAR 11-54 has definitions that reference either applicable HRS or HAR sections. Some of these definitions include both the section number, and the statutory or regulatory language, while others only include the section number. Last, the current version of HAR 11-54 has abbreviations and acronyms before they are defined, unclear and incorrect references, and incomplete definitions. HDOH proposes to maintain the correct and consistent use of headings, definitions, abbreviations, acronyms, and references in HAR 11-54 as follows:

A. Change all section headings from underscore to boldface.
B. Include section number, and statutory/regulatory language in definitions.
C. Define abbreviations and acronyms before they are used.
D. Clarify unclear definitions
E. Update incorrect references
F. Clarify unclear references.

Along with the above minor modifications, HDOH also proposes to add missing punctuation marks, to correct formatting and typographical errors, to spell out numbers, to convert "State" in "State waters" to lower case, to remove the ʻokina in Hawaiian words (e.g., to replace "Hawaiʻi" with "Hawaii," "Kauaʻi" with "Kauai," and so on), to substitute "shall" for certain instances of "will," to replace "oxidation – reduction" with "oxidation-reduction," and "CFR" or "C.F.R." with "Code of Federal Regulations" for consistency, and to hyphenate two or more words that are used together as compound adjectives.

A. Change all section headings from underscore to boldface.

All section headings are boldface instead of underscored in the proposed version of HAR 11-54 with amendments. The following three sections of HAR 11-54 (HAR 11-54-5, HAR 11-54-13, and HAR 11-54-14) do not include any proposed amendments, and they will be compiled along with the amended sections.

§11-54-5 Uses and specific criteria applicable to inland waters. Inland water areas to be protected are described in section 11-54-5.1, corresponding specific criteria are set forth in section 11-54-5.2; water body types are defined in section 11-54-1. [Eff 11/12/82; am and comp 10/6/84; am and comp 04/14/88; am and comp 01/18/90; am and comp 10/29/92; am and comp 04/17/00; am and comp 10/2/04; comp 06/15/09; comp 10/21/12; comp 12/6/13; comp 11/15/14; comp] (Auth: HRS §§342D-1, 342D-4, 342D-5, Ch. 342E) (Imp: HRS §§342D-4, 342D-5, Ch. 342E)

§11-54-13 Revision. These water quality criteria are based upon the best currently available data. Studies made in connection with the implementation program may suggest improvements to this chapter. For this reason, the chapter will be subject to periodic review and, where necessary, to change. Any change will be made only after public hearing, held in compliance with chapter 91, HRS and the rules of practice and procedures of the department. [Eff 11/12/82; am and comp 10/6/84; am and comp 04/14/88; am and comp 01/18/90; am and comp 10/29/92; am and comp 04/17/00; am and comp 10/2/04; comp 06/15/09; comp 10/21/12; comp 12/6/13; ren §11-54-11 and comp 11/15/14; comp] (Auth: HRS §§342D-1, 342D-4, 342D-5, Ch. 342E) (Imp: HRS §§342D-4, 342D-5, Ch. 342E)

§11-54-14 Severability. If any provisions of this chapter, or the application thereof to any person or circumstances, is held invalid, the invalidity does not affect other provisions or application of this chapter which can be given effect without the invalid provision or application, and to this end the provisions of this chapter are severable. [Eff 11/12/82; am and comp 10/6/84; am and comp 04/14/88; am and comp 01/18/90; am and comp 10/29/92; am and comp 04/17/00; am and comp 10/2/04; comp 06/15/09; comp 10/21/12; comp 12/6/13; ren §11-54-12 and comp 11/15/14; comp] (Auth: HRS §§342D-1, 342D-4, 342D-5, Ch. 342E) (Imp: HRS §§342D-4, 342D-5, Ch. 342E)

B. Include section number, and statutory/regulatory language in definitions.

§11-54-1 Definitions. As used in this chapter:

"Amphidromous" means aquatic life that [~~migrate~~] migrates to and from the sea, but not specifically for reproductive purposes. Amphidromous aquatic life in [~~Hawaiian~~]state streams [~~are~~]is confined to fresh waters as adults, but their larval stages are partially or entirely spent in the ocean as part of the zooplankton.

"Aquatic life", as defined in section 187A-1, HRS, means ["]any type or species of mammal, fish, amphibian, reptile, mollusk, crustacean, arthropod, invertebrate, coral, or other animal that inhabits the freshwater or marine environment and includes any part, product, egg, or offspring thereof; or freshwater or marine plants, including, seeds, roots, products, and other parts thereof[~~" (section 187A-1, HRS)~~].

"Best management practices" or "BMPs" means schedules of activities, prohibitions or designations of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of [~~State~~]state waters. Best management practices also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. BMPs include methods, measures, or practices selected by the department to meet nonpoint source pollution control needs. BMPs also include but are not limited to structural and nonstructural controls. BMPs can be applied before, during, and after pollution-producing activities[~~ to reduce or eliminate the introduction of pollutants into receiving State waters~~].

"Coastal waters", as defined in section 342D-1, HRS, means [~~"~~]all waters surrounding the islands of the State from the coast of any island to a point three miles seaward from the coast, and, in the case of streams, rivers, and drainage ditches, to a point three miles seaward from their point of discharge into the sea and includes those brackish waters, fresh waters, and salt waters that are subject to the ebb and flow of the tide[~~" (section 342D-1, HRS)~~].

"Department" means the department of health, State of [~~Hawai'i.~~]Hawaii.

"Director" means the director, department of health, State of [~~Hawai'i,~~]Hawaii, or the director's duly authorized agent.

"Elevated wetlands" means natural freshwater wetlands located above [~~100 m (330 ft)~~]one hundred meters (three hundred thirty feet) elevation. They are generally found in undisturbed areas, mainly in remote uplands and forest reserves with high rainfall. Elevated wetlands include upland bogs, marshes, swamps, and associated ponds and pools.

"Flowing waters" means fresh waters flowing unidirectionally down altitudinal gradients. These waters may or may not be confined in distinct channels. Flowing waters include streams, flowing springs and seeps, and ditches and flumes.

"Low wetlands" means freshwater wetlands located below [~~100 m (330 ft)~~]one hundred meters (three hundred thirty feet) elevation that may be natural or artificial in origin and are usually found near coasts or in valley termini. Low wetlands are maintained by either stream, well, or ditch influent water, or by exposure of the natural water table. Low wetlands include, but are not limited to, natural lowland marshes, riparian wetlands, littoral zones of standing waters (including lakes, reservoirs, ponds, and

fishponds), and agricultural wetlands such as taro [~~lo'i.~~]loi.

"Natural freshwater lakes" means standing water that is always fresh, in well-defined natural basins, with a surface area usually greater than 0.1 [~~ha~~] hectares (0.25 acres), and in which rooted emergent hydrophytes, if present, occupy no more than thirty per cent of the surface area. Natural freshwater lakes in [~~Hawai'i~~]Hawaii occur at high, intermediate, and low elevations. Lowland freshwater lakes characteristically lack a natural oceanic connection (surface or subsurface) of a magnitude sufficient to cause demonstrable tidal fluctuations.

"Nonpoint source pollution"[~~has the meaning~~], as defined in section 342E-1, HRS[~~.~~], means water pollution that does not originate from a point source.

"Perennial streams" means fresh waters flowing year-round in all or part of natural channels, portions of which may be modified by humans. Flow in perennial streams may vary seasonally. Perennial streams may be subdivided into longitudinal zones, based on elevation and gradient:

(1) Headwater zone (elevation above [~~800 m (2600 ft)~~]eight hundred meters (two thousand six hundred feet) or gradient above [~~30~~]thirty per cent or both);

(2) Mid-zone (elevation between [~~50-800 m (165-2600 ft),~~]fifty and eight hundred meters (one hundred sixty-five and two thousand six hundred feet) or gradient between [~~5 and 30~~] five and thirty per cent or both); and

(3) Terminal zone (elevation below [~~50 m (165 ft)~~]fifty meters (one hundred sixty-five feet) or gradient below [~~5~~]five per cent or both).

Perennial streams may be either continuous or interrupted. Continuous perennial streams discharge continuously to the ocean in their natural state, and

contain water in the entire length of the stream channel year-round. Interrupted perennial streams usually flow perennially in their upper reaches but only seasonally in parts of their middle or lower reaches, due to either downward seepage of surface flow (naturally interrupted) or to man-made water diversions (artificially interrupted).

"Person"[~~ has the same meaning~~], as defined in section 342D-1, HRS[~~.~~], means any individual, partnership, firm, association, public or private corporation, federal agency, the State or any of its political subdivisions, trust, estate, or any other legal entity.

"Point source" [~~has the same meaning~~]or "point source pollution", as defined in section [~~11-55-01.~~]342E-1, HRS, means pollution from 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. This term does not include agricultural stormwater discharges and return flows from irrigated agriculture.

"Pollutant" or "water pollutant", as defined in section 342D-1, HRS, means dredged spoil, solid refuse, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical waste, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, soil, sediment, cellar dirt and industrial, municipal, and agricultural waste.

"Pollution" [~~means~~]or "water pollution", as defined in section 342D-1, HRS[~~.~~], means:

(1) Such contamination or other alteration of the physical, chemical, or biological properties of any state waters, including

change in temperature, taste, color, turbidity, or odor of the waters, or

(2) Such discharge of any liquid, gaseous, solid, radioactive, or other substances into any state waters, as will or is likely to create a nuisance or render such waters unreasonably harmful, detrimental, or injurious to public health, safety, or welfare, including harm, detriment, or injury to public water supplies, fish and aquatic life and wildlife, recreational purposes and agricultural and industrial research and scientific uses of such waters or as will or is likely to violate any water quality standards, effluent standards, treatment and pretreatment standards, or standards of performance for new sources adopted by the department.

[~~"Saline or salt waters" means waters with dissolved inorganic ion concentrations greater than thirty-two parts per thousand.~~]

"Saline lakes" means standing waters of salinities ranging from brackish to hypersaline, located in well-defined natural basins, and lacking a natural surface connection to the ocean. Saline lakes may be present as high-island shoreline or near-shoreline features (e.g. Lake Nomilu, Kauai; Salt Lake, Oahu; Lake Kauhako, Molokai) or as low-island closed lagoons (Lake Laysan, Laysan). They are usually, but not always, fed by seawater seepage and may be diluted by rainwater, overland runoff, or ground water, or concentrated by evaporation.

"Saline or salt waters" means waters with dissolved inorganic ion concentrations greater than thirty-two parts per thousand.

"State waters", as defined [~~by~~]in section 342D-1, HRS, means all waters, fresh, brackish, or salt around and within the State, including, but not limited to, coastal waters, streams, rivers, drainage ditches,

ponds, reservoirs, canals, ground waters, and lakes; provided that drainage ditches, ponds, and reservoirs required as part of a water pollution control system are excluded. This chapter applies to all [~~State~~] state waters, including wetlands, subject to the following exceptions:

(1) This chapter does not apply to groundwater, except the director may in the director's discretion take appropriate actions when the director believes that the discharge of pollutants to the ground or groundwater has adversely affected, is adversely affecting, or will adversely affect the quality of any [~~State~~]state water other than groundwater.

(2) This chapter does not apply to drainage ditches, flumes, ponds and reservoirs that are required as part of a water pollution control system.

(3) This chapter does not apply to drainage ditches, flumes, ponds, and reservoirs that are used solely for irrigation and do not overflow into or otherwise adversely affect the quality of any other [~~State~~]state waters, unless such ditches, flumes, ponds, and reservoirs are waters of the United States as defined in [~~40 C.F.R.~~]title 40 Code of Federal Regulations section 122.2. The State [~~of Hawai'i~~]has those boundaries stated in the [~~Hawai'i~~]Hawaii Constitution, art. XV, §1.

"Water pollution control system" means a system designed and constructed specifically for the purpose of collecting, handling, storing, treating, or disposing of storm water, domestic wastewater, [~~and/or~~]industrial wastewater, or any combination of these waters to prevent water pollution.

[Eff 11/12/82; am and comp 10/6/84; am and comp 04/14/88; am and comp 01/18/90; am and comp 10/29/92; am and comp 04/17/00; am and comp 10/02/04; comp

06/15/09; comp 10/21/12; am and comp 12/6/13; am and comp 11/15/14; am and comp] (Auth: HRS §187A-1, §§342D-1, 342D-4, 342D-5, Ch. 342E) (Imp: HRS §§342D-4, 342D-5, Ch. 342E; 40 C.F.R. §§122.2, 130.2, 131.3, 131.12; 22 U.S.C. §1362(14))

C. Define abbreviations and acronyms before they are used.

There is a first use of the abbreviation "Act," in paragraph HAR 11-54-7(f)(3), which precedes its definition, in section HAR 11-54-9.1, as the Clean Water Act. The "Act" has to be defined in section HAR 11-54-1 instead of section HAR 11-54-9.1. There are also many uses of the acronym "EPA" which is not defined in HAR 11-54. The following amendments are proposed to define the abbreviation "Act" and the acronym "EPA" in section HAR 11-54-1, and to maintain their consistent use in sections HAR 11-54-1.1 and HAR 11-54-7.

§11-54-1 Definitions. As used in this chapter:

"Act" means the Clean Water Act (formally referred to as the Federal Water Pollution Control Act or Federal Water Pollution Control Act Amendments of 1972) Public Law 92-500, as amended by Public Law 95-217, Public Law 95-483, Public Law 97-117, and Public Law 114-115, (33 U.S.C. §1251 et seq).

"Best degree of treatment or control" means that treatment or control which is required by applicable [~~statutes and regulations of the State of Hawai'i~~] state statutes and state regulations and the [~~Federal Water Pollution Control Act, as amended, (33 U.S.C. §1251, et seq.)~~]Act or which is otherwise specified by the director considering technology or management practices currently available in relation to the public interest.

"U.S. Environmental Protection Agency" or "EPA" means the federal agency whose mission is to protect human and environmental health.

[Eff 11/12/82; am and comp 10/6/84; am and comp 04/14/88; am and comp 01/18/90; am and comp 10/29/92; am and comp 04/17/00; am and comp 10/02/04; comp 06/15/09; comp 10/21/12; am and comp 12/6/13; am and comp 11/15/14; am and comp] (Auth: HRS §187A-1, §§342D-1, 342D-4, 342D-5, Ch. 342E) (Imp:

HRS §§342D-4, 342D-5, Ch. 342E; 40 C.F.R. §§122.2, 130.2, 131.3, 131.12; 22 U.S.C. §1362(14))

§11-54-1.1 General policy of water quality antidegradation. (a) Existing uses and the level of water quality necessary to protect the existing uses shall be maintained and protected.

(b) Where the quality of the waters exceed levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water, that quality shall be maintained and protected unless the director finds, after full satisfaction of the intergovernmental coordination and public participation provisions of the [~~state's~~]State's continuing planning process, that allowing lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located. In allowing such degradation or lower water quality, the director shall assure water quality adequate to protect existing uses fully. Further, the director shall assure that there shall be achieved the highest statutory and regulatory requirements for all new and existing point sources and all cost-effective and reasonable best management practices for nonpoint source control.

(c) Where existing high quality waters constitute an outstanding resource, such as waters of national and state parks and wildlife refuges and waters of exceptional recreational or ecological significance, that water quality shall be maintained and protected.

(d) In those areas where potential water quality impairment associated with a thermal discharge is involved, the antidegradation policy and implementing method shall be consistent with section 316 of the [~~Clean Water Act.~~]Act. [Eff 11/12/82; am and comp 10/6/84; am and comp 04/14/88; am and comp 01/18/90; am and comp 10/29/92; am and comp 04/17/00; am and

comp 10/2/04; comp 06/15/09; comp 10/21/12; am and comp 12/6/13; comp 11/15/14; am and comp] (Auth: HRS §§342D-1, 342D-4, 342D-5, Ch. 342E; 40 C.F.R. §131.12) (Imp: HRS §§342D-4, 342D-5, Ch. 342E)

Incidental to the aforementioned amendments for section HAR 11-54-7, it is also proposed not to list the water areas to be protected in side-by-side columns, and to only list them in single columns.

§11-54-7 Uses and specific criteria applicable to marine bottom types. (a) Sand beaches.

(1) As used in this subsection[~~: "Sand~~], "sand beaches" means shoreline composed of the weathered calcareous remains of marine algae and animals (white sand), the weathered remains of volcanic tuff (olivine), or the weathered remains of lava (black sand). Associated animals are largely burrowers and are related to particle grain size, slope, and color of the beach.

(2) Water areas to be protected:

(A) Class I - All beaches on the Northwestern Hawaiian Islands. These islands comprise that portion of the Hawaiian [~~archipelago~~]Archipelago which lies northwest of the island of Kauai and is part of the State[~~ of Hawaii~~]; including Nihoa Island, Necker Island, French Frigate Shoals, Brooks Banks, Gardiner Pinnacles, Dowsett and Maro Reef, Laysan Island, Lisianski Island, Pearl and Hermes Atoll, Gambia Shoal, and Kure Atoll.

(B) Class II - All beaches not in Class I.

(3) The following criteria are specific to sand beaches:

[~~(A) Episodic deposits of flood-borne sediment shall not occur in quantities exceeding an equivalent thickness of ten millimeters (0.40 inches) twenty-four hours after a heavy rainstorm.~~]

[~~(B)~~](A) Oxidation[~~—~~]-reduction potential (EH) in the uppermost ten centimeters (four inches) of sediment shall not be less than +100 millivolts.

[~~(C)~~](B) No more than fifty per cent of the grain size distribution of sediment shall be smaller than 0.125 millimeters in diameter.

(C) Episodic deposits of flood-borne sediment shall not occur in quantities exceeding an equivalent thickness of ten millimeters (0.40 inches) twenty-four hours after a heavy rainstorm.

(b) Lava rock shoreline and solution benches.

(1) As used in this subsection:

"Lava rock shorelines" means sea cliffs and other vertical rock faces, horizontal basalts, volcanic tuff beaches, and boulder beaches formed by rocks falling from above or deposited by storm waves. Associated plants and animals are adapted to the harsh physical environment and are distinctly zoned to the degree of wave exposure.

"Solution benches" means sea level platforms developed on upraised reef or solidified beach rock by the erosive action of waves and rains. Solution benches are distinguished by a thick algal turf and conspicuous zonation of plants and animals.

(2) Water areas to be protected:

(A) Class I - All lava rock shorelines and solution benches in preserves, reserves, sanctuaries, and refuges established by the state department of land and natural resources under chapter 195 or chapter 190, HRS, or

similar reserves for the protection of marine life established under chapter 190, HRS, as amended; or in refuges or sanctuaries established by the U.S. Fish and Wildlife Service or the National Marine Fisheries Service.

(B) Class II

(i) All other lava rock shorelines not in Class I.

(ii) The following solution benches:

Maui	[~~Oahu~~]
Kihei	[~~Diamond Head~~]
Papaula Point	[~~Manana Island~~]
	[~~Makapuu~~]
Kauai	[~~Laie~~]
[~~Near Hanapepe Salt Ponds~~	~~Kahuku Mokuleia~~]
Near Hanapepe Salt Ponds	
Mililii	[~~Makua~~]
Nualolo	[~~Makaha~~]
Makaha	[~~Maile~~]
Mahaulepu	[~~Lualualei~~]
[~~Kuhio Beach Park (Kukuiula)~~]	~~Barbers Point~~
Kuhio Beach Park (Kukuiula)	

Oahu
Diamond Head
Manana Island
Makapuu
Laie
Kahuku
Mokuleia
Makua
Makaha
Maile
Lualualei
Barbers Point

(3) The following criteria are specific to lava rock shorelines and solution benches:

(A) Episodic deposits of flood-borne sediment shall not occur in quantities exceeding an equivalent thickness of five millimeters (0.20 inches) for longer than twenty-four hours after a heavy rainstorm.

(B) The director shall determine parameters, measures, and criteria for bottom biological communities which may be affected by proposed actions. The location and boundaries of each bottom-type class [~~will~~]shall be clarified when situations require their identification[~~. For example,~~] such as when a discharge permit is applied for or a waiver pursuant to section 301(h) of the [~~Federal Water Pollution Control Act (33 U.S. C. Section 1311)~~]Act is required. Permanent benchmark stations may be required where necessary for monitoring purposes. The water quality standards for this subsection shall be deemed to be met if time series surveys of benchmark stations indicate no relative changes in the relevant biological communities, as noted by biological community indicators or by indicator organisms which may be applicable to the specific site.

(c) Marine pools and protected coves.

(1) As used in this subsection:

"Marine pools" means waters which collect in depressions on sea level lava rock outcrops and solution benches and also behind large boulders fronting the sea. Pools farthest from the ocean have harsher environments and less frequent renewal of water and support fewer animals. Those closest to the ocean are frequently renewed

with water, are essentially marine, and support more diverse fauna.

"Protected coves" means small inlets which are removed from heavy wave action or surge.

(2) Water areas to be protected.

(A) Class I.

(i) All marine pools and protected coves in preserves, reserves, sanctuaries, and refuges established by the state department of land and natural resources under chapter 195 or chapter 190, HRS, or similar reserves for the protection of marine life established under chapter 190, HRS, as amended; or in refuges or sanctuaries established by the U.S. Fish and Wildlife Service or the National Fisheries Service[~~.~~]; and

(ii) Hawaii
Honaunau
Kiholo

(B) Class II.

Hawaii	[~~Maui~~]
Kalapana	[~~Hana~~]
Pohakuloa	[~~Keanae~~]
Kapalaoa	[~~Napili~~]
Kapoho	[~~Puu Olai to~~]
[~~King's Landing~~]	[~~Cape~~]
[~~(Papai)~~]	[~~Hanamanioa~~]
King's Landing (Papai)	[~~Kipahulu~~]
Hilo	
Leileiwi Point	[~~Molokai~~]
Wailua Bay	[~~Cape Halawa~~]
	[~~Kalaupapa~~]

Maui [~~South Coast~~]
Hana
Keanae
Napili
Puu Olai to Cape Hanamanioa
Kipahulu

Molokai
Cape Halawa
Kalaupapa
South Coast

Oahu
Diamond Head
Halona Blowhole to Makapuu
Mokuleia
Kaena Point
Makua
Punaluu

Kauai
Kealia
Mahaulepu
Hanamaulu
Poipu
Puolo Point

(3) The following criteria are specific to marine pools and protected coves:
(A) In marine pools and coves with sand bottoms, oxidation-reduction potential (EH) in the uppermost ten centimeters (four inches) of sediment shall not be less than +100 millivolts.
(B) In marine pools and coves with sand bottoms, no more than fifty per cent of the grain size distribution of the sediment shall be smaller than 0.125 millimeters in diameter.
(C) Episodic deposits of flood-borne soil sediment shall not occur in quantities

exceeding equivalent thicknesses for longer than twenty-four hours following a heavy rainstorm according to the following:

(i) No thicker than an equivalent of five millimeters (0.20 inches) on hard bottoms (other than living corals).

(ii) No thicker than an equivalent of ten millimeters (0.40 inches) on soft bottoms.

(D) The director shall determine parameters, measures, and criteria for bottom biological communities which may be affected by proposed actions. Permanent benchmark stations may be required where necessary for monitoring purposes. The water quality standards for this subsection shall be deemed to be met if time series surveys of benchmark stations indicate no relative changes in the relevant biological communities, as noted by biological community indicators or by indicator organisms which may be applicable to the specific site.

(d) Artificial basins.

(1) As used in this subsection[~~: "Artificial~~], "artificial basins" means dredged or quarried channels or harbors, and harbor-associated submerged structures. Many organisms can attach to the vertical structures, but the soft, shifting sediment bottoms of harbors may only be colonized by a few hardy or transient species.

(2) Class II water areas to be protected are as follows:

(A) Shallow draft harbors:

Hawaii
[~~Wailoa River Boat~~]
[~~Harbor~~]
Wailoa River Boat Harbor
Mahukona Harbor
Keauhou Harbor
Kailua-Kona Harbor
Honokohau Boat Harbor
Kawaihae Boat Harbor

Maui
Maalaea Boat Harbor
Lahaina Boat Harbor
Hana Harbor

Lanai
Manele Boat Harbor
Kaumalapau Harbor

Molokai
Kalaupapa Anchorage
Kaunakakai Small Boat Harbor
Hale o Lono Harbor

Oahu
Heeia Kea Boat Harbor
Kaneohe Marine Corps Air Station
Kaneohe Yacht Club
Hawaii Kai Marina (Kuapa Pond)
Pokai Bay
Waianae Boat Harbor
Keehi Marine Center
La Mariana Sailing Club
Haleiwa Harbor
Makani Kai Marina
Keehi Boat Harbor
Ala Wai Boat Harbor:
    Ala Wai Fuel Dock
    Hawaii Yacht Club
    Waikiki Yacht Club
Ko Olina

[~~Maui~~]
[~~Maalaea Boat~~]
[~~Harbor~~]
[~~Lahaina Boat~~]
[~~Harbor~~]
[~~Hana Harbor~~]

[~~Lanai~~]
[~~Manele Boat~~]
[~~Harbor~~]
[~~Kaumalapau~~]
[~~Harbor~~]

Kauai
Nawiliwili Small Boat Harbor
Kukuiula Boat Harbor
Kikiaola Boat Harbor
Port Allen Boat Harbor

(B) Deep draft commercial harbors:

Hawaii
Kuhio Bay (Hilo Harbor)
Kawaihae Deep Draft Harbor

Maui
Kahului Harbor

Molokai
Kaunakakai Barge Harbor

Oahu
Honolulu Harbor
Barbers Point Harbor
Kewalo Basin

Kauai
Nawiliwili Harbor
Port Allen Harbor

(3) Specific criterion to be applied - Oxidation-reduction potential (EH) in the uppermost ten centimeters (four inches) of sediment shall not be less than -100 millivolts.

(e) Reef flats and reef communities.

(1) As used in this subsection:

"Nearshore reef flats" means shallow platforms of reef rock, rubble, and sand extending from the shoreline. Smaller, younger flats projected out as semi-circular aprons while older, larger flats form wide continuous platforms. Associated animals are mollusks, echinoderms, worms,

crustaceans (many living beneath the surface), and reef-building corals.

"Offshore reef flats" means shallow, submerged platforms of reef rock and sand between depths of zero to three meters (zero to ten feet) which are separated from the shoreline of high volcanic islands by lagoons or ocean expanses. Dominant organisms are bottom-dwelling algae. Biological composition is extremely variable. There are three types: patch, barrier, and atoll reef flats; quite different from one another structurally. The presence of heavier wave action, water more oceanic in character, and the relative absence of terrigenous influences distinguish offshore reef flats.

"Protected reef communities" means hard bottom aggregations, including scattered sand channels and patches, dominated by living coral thickets, mounds, or platforms. They are found at depths of ten to thirty meters (thirty-two to ninety-six feet) along protected leeward coasts or in shallow water (up to sea level) in sheltered lagoons behind atoll or barrier reefs and in the calm reaches of bays or coves.

"Wave-exposed reef communities" means aggregations, including scattered sand channels and patches, dominated by corals. They may be found at depths up to forty meters (approximately one hundred thirty feet) along coasts subject to continuous or heavy wave action and surge. Wave-exposed reef communities are dominated biologically by benthic algae, reef-building corals, and echinoderms.

(2) Water areas to be protected:

(A) Class I.

(i) All reef flats and reef communities in preserves,

reserves, sanctuaries, and refuges established by the state department of land and natural resources under chapter 195 or chapter 190, HRS, or similar reserves for the protection of marine life under chapter 190, HRS, as amended; or in refuges or sanctuaries established by the U.S. Fish and Wildlife Service or the National Marine Fisheries Service;

(ii) Nearshore reef flats:

Hawaii	[~~Maui~~]
Puako	[~~Honolua~~]
[~~Lanai~~]	[~~Oahu~~]
[~~Northwest Lanai Reef~~]	[~~Hanauma Bay~~]
[~~Molokai~~]	[~~Kauai~~]
[~~Western Kalaupapa~~]	[~~Nualolokai~~]
[~~Southeast Molokai Reef~~]	[~~Hanalei~~]
[~~Honomuni Harbor~~]	[~~(Anini to~~]
[~~Kulaalamihi Fishpond~~]	[~~Haena)~~]

Lanai
Northwest Lanai Reef

Molokai
Western Kalaupapa
Southeast Molokai Reef
Honomuni Harbor
Kulaalamihi Fishpond

Maui
Honolua
Oahu
Hanauma Bay

Kauai
Nualolokai
Hanalei (Anini to Haena)

(iii) Offshore reef flats:

Moku o Loe (Coconut Island, Kaneohe Bay, Oahu)
Kure Atoll
Pearl and Hermes Atoll
Lisianski Island
Laysan Island
Maro Reef
French Frigate Shoals

(iv) Wave exposed reef communities:

Hawaii
1823 Lava Flow (Punaluu)
1840 Lava Flow (North Puna)
1868 Lava Flow (South Point)
1887 Lava Flow (South Point)
1955 Lava Flow (South Puna)
1960 Lava Flow (Kapoho)
1969 Lava Flow (Apuna Point)
1970 Lava Flow (Apuna Point)
1971 Lava Flow (Apuna Point)
1972 Lava Flow (Apuna Point)
1973 Lava Flow (Apuna Point)

Maui
Hana Bay
Makuleia Bay (Honolua)

Molokini Island
All wave exposed reef communities

Molokai
Moanui Kahinapohaku Waikolu – Kalawao
Halawa Bay

Oahu
Sharks Cove (Pupukea)
Moku Manu (Islands)
Outer Hanauma Bay
Waimea Bay
Kawela Bay
Kahana Bay

Kauai
[~~Ke'e~~]Kee Beach
Poipu Beach
Kipu Beach

Niihau
All wave exposed communities

Lehua (off Niihau)
All wave exposed communities

(v) Protected reef communities:

Hawaii
Puako
Honaunau
Kealakekua
Kiholo
Anaehoomalu
Hapuna

Hawaii (continued)
Kahaluu Bay
Keaweula (North Kohala)
Milolii Bay to Keawaiki
Kailua-Kaiwi (Kona)
Onomea Bay
1801 Lava Flow (Keahole or Kiholo)
1850 Lava Flow (South Kona)
1859 Lava Flow (Kiholo)
1919 Lava Flow (Milolii)
1926 Lava Flow (Milolii)

Maui
Honolua
Ahihi-La Perouse (including 1790 Lava Flow at Cape Kinau)

Molokini Island
All protected reef communities

Lanai
Manele
Hulopoe

Molokai [~~Oahu~~]
Southeast Molokai [~~Hanauma Bay~~]
Kalaupapa [~~Moku o Loe~~]
Honomuni Harbor [~~(Coconut Island,~~] [~~Kaneohe Bay)~~]

Oahu
Hanauma Bay
Moku o Loe (Coconut Island, Kaneohe Bay)

Kauai
Hoai Bay (Poipu)

Northwestern Hawaiian Islands
Kure Atoll Lagoon
Pearl and Hermes Lagoon
Lisianski Lagoon
Maro Reef Lagoon
French Frigate Shoals Lagoon

(B) Class II.
(i) Existing or planned harbors may be located within nearshore reef flats showing degraded habitats and only where feasible alternatives are lacking and upon written approval by the director, considering environmental impact

and the public interest pursuant to section 342D-6, HRS.

Hawaii [~~Maui~~]
Blonde Reef (Hilo Harbor) [~~Lahaina~~]
Kawaihae Small Boat Harbor [~~Harbor~~]
[~~Kahului~~]
Maui [~~Harbor~~]
Lahaina Harbor
Kahului Harbor

Lanai
Manele

Molokai
Kaunakakai Harbor
Hale o Lono Harbor
Palaau ([~~2.4 kilometers/1.5~~ [~~mile,~~]1.5 miles or 2.4 kilometers, east of Pakanaka Fishpond)

Oahu
Keehi Boat Harbor
Ala Moana Reef
Honolulu Harbor
Heeia Harbor

Oahu (continued)
Kaneohe Yacht Club
Ala Wai Harbor
Haleiwa Boat Harbor
Maunalua Bay
Pearl Harbor
Kaneohe Bay
Kahe

All other nearshore reef flats not in Class I;

(ii) Offshore reef flats:

Oahu
Kapapa Barrier Reef
Kaneohe Patch Reefs (Kaneohe Bay)

(iii) All other wave exposed or protected reef communities not in Class I.

(3) Specific criteria to be applied to all reef flats and reef communities: No action shall be undertaken which would substantially risk damage, impairment, or alteration of the biological characteristics of the areas named herein. When a determination of substantial risk is made by the director, the action shall be declared to be contrary to the public interest and no other permits shall be issued pursuant to chapter 342D, HRS.

(A) Oxidation-reduction potential (EH) in the uppermost ten centimeters (four inches) of sand patches shall not be less than +100 millivolts[~~;~~].

(B) No more than fifty per cent of the grain size distribution of sand patches shall be smaller than 0.125 millimeters in diameter[~~;~~].

(C) Episodic deposits of flood-borne soil sediment shall not occur in quantities exceeding equivalent thicknesses for longer than twenty-four hours after a heavy rainstorm as follows:

(i) No thicker than an equivalent of two millimeters (0.08 inches) on living coral surfaces[~~;~~].

(ii) No thicker than an equivalent of five millimeters (0.2 inches) on other hard bottoms[~~;~~].

(iii) No thicker than an equivalent of ten millimeters (0.4 inches) on soft bottoms[~~;~~].

(D) The director shall determine parameters, measures, and criteria for bottom biological communities which may be affected by proposed actions. The location and boundaries of each bottom-type class shall be clarified when situations require their identification. For example, the location and boundaries shall be clarified when a discharge permit is applied for or a waiver pursuant to [~~Section~~]section 301(h) of the [~~Federal Water Pollution Control Act of 1972 (33 U.S.C. 1251 et seq.)~~]Act is required. Permanent benchmark stations may be required where necessary for monitoring purposes. The water quality standards for this subsection shall be deemed to be met if time series surveys of benchmark stations indicate no relative changes in the relevant biological communities, as noted by biological community indicators or by indicator organisms which may be applicable to the specific site.

(f) Soft bottom communities.

(1) As used in this subsection[~~: "Soft~~], "soft bottom communities" means poorly described and "patchy" communities, mostly of burrowing organisms, living in deposits at depths between two to forty meters (approximately six to one hundred thirty feet). The particle size of sediment, depth below sea level, and degree of water movement and associated sediment turnover dictate the composition of animals which rework the bottom with burrows, trails, tracks, ripples, hummocks, and depressions.

(2) Water areas to be protected:
Class II - All soft bottom communities.

(3) Specific criteria to be applied – Oxidation-reduction potential (EH) in the uppermost ten centimeters (four inches) of sediment should not be less than -100 millivolts. The location and boundaries of each bottom-type class shall be clarified when situations require their identification. For example, the location and boundaries shall be clarified when a discharge permit is applied for or a waiver pursuant to [~~Section~~]section 301(h) of the Act is required. [Eff 11/12/82; am and comp 10/6/84; am and comp 04/14/88; am and comp 01/18/90; am and comp 10/29/92; am and comp 04/17/00; am and comp 10/2/04; comp 06/15/09; comp 10/21/12; am and comp 12/6/13; comp 11/15/14; am and comp] (Auth: HRS §§342D-1, 342D-4, 342D-5, Ch. 342E) (Imp: HRS §§342D-4, 342D-5, Ch. 342E)

D. Clarify unclear definitions

The following amendments are proposed for section HAR 11-54-2 to clarify the definition of marine waters.

§11-54-2 Classification of [~~State~~]state waters.

(a) State waters are classified as either inland waters or marine waters.

(b) Inland waters may be fresh, brackish, or saline.

(1) All inland fresh waters are classified as follows, based on their ecological characteristics and other natural criteria:

(A) Flowing waters.

(i) Streams (perennial and intermittent);

(ii) Flowing springs and seeps; and

(iii) Ditches and flumes that discharge into any other [~~waters of the State;~~]state waters;

(B) Standing waters.

(i) Natural freshwater lakes; and

(ii) Reservoirs (impoundments);

(C) Wetlands.

(i) Elevated wetlands (bogs, marshes, swamps, and associated ponds); and

(ii) Low wetlands (marshes, swamps, and associated ponds).

(2) All inland brackish or saline waters are classified as follows, based on their ecological characteristics and other natural criteria:

(A) Standing waters.

(i) Anchialine pools; and

(ii) Saline lakes[~~.~~];

(B) Wetlands.

(i) Coastal wetlands (marshes, swamps, and associated ponds)[~~.~~];

(C) Estuaries.

(i) Natural estuaries (stream-fed estuaries and spring-fed estuaries); and

(ii) Developed estuaries.

(c) Marine waters may be embayments, open coastal, or oceanic waters.

[~~(1) All marine waters are either embayments, open coastal, or oceanic waters;~~]

[~~(2)~~](1) All [~~marine waters which are~~] embayments or open coastal waters are [~~also~~]classified [~~according to the following~~]as follows, based on their bottom subtypes:

(A) Sand beaches;

(B) Lava rock shorelines and solution benches;

(C) Marine pools and protected coves;

(D) Artificial basins;

(E) Reef flats; and

(F) Soft bottoms. [Eff 11/12/82; am and comp 10/6/84; am and comp 04/14/88; am and comp 01/18/90; am and comp 10/29/92; am and comp 04/17/00; am and comp 10/2/04; comp 06/15/09; comp 10/21/12; am and comp 12/6/13; am and comp 11/15/14; am and comp] (Auth: HRS §§342D-1, 342D-4, 342D-5, Ch. 342E) (Imp: HRS §§342D-4, 342D-5, Ch. 342E)

There is an incomplete definition of the "Statistical Threshold Value (STV)" in section HAR 11-54-8. This definition does not include "colony forming units (CFU)" as part of the units of measurement for the STV. This section also includes many occurrences of "enterococcus." "Enterococci" (i.e., the group of bacteria which is used widely as an indicator of fecal contamination) should be used in place of the genus "*Enterococcus*." The following amendments are proposed for section HAR 11-54-8 to include the units of measurement for the STV and to maintain the consistent use of "enterococci."

§11-54-8 Recreational criteria for all [~~State~~] state waters. (a) These criteria are designed to protect the public from exposure to harmful levels of pathogens while participating in water-contact activities. The specific criteria for [~~enterococcus~~] enterococci shall be expressed in colony forming units (CFU) per one hundred milliliters or as a most probable number (MPN) per one hundred milliliters, as specified by the analytical method used.

(b) [~~Enterococcus~~]Enterococci content shall not exceed a geometric mean of [~~35 colony forming units~~] thirty-five CFU per one hundred milliliters over any [~~thirty day~~]thirty-day interval.

(c) A Statistical Threshold Value (STV) of [~~130~~] one hundred thirty CFU per one hundred milliliters shall be used for [~~enterococcus.~~] enterococci. The STV shall not be exceeded by more than ten per cent of samples taken within the same [~~thirty day~~]thirty-day interval in which the geometric mean is calculated.

(d) State waters in which [~~enterococcus~~] enterococci content does not exceed the standard shall not be lowered in quality.

(e) Raw or inadequately treated sewage, sewage for which the degree of treatment is unknown, or other pollutants of public health significance, as determined by the director[~~of health~~], shall not be present in natural public swimming, bathing, or wading areas. Warning signs shall be posted at locations where human sewage has been identified as temporarily contributing to the [~~enterococcus~~] enterococci count. [Eff 11/12/82; am and comp 10/6/84; am and comp 04/14/88; am and comp 01/18/90; am and comp 10/29/92; am and comp 04/17/00; am and comp 10/2/04; am and comp 06/15/09; comp 10/21/12; am and comp 12/6/13; am and comp 11/15/14; am and comp] (Auth: HRS §§342D-1, 342D-4, 342D-5, Ch. 342E) (Imp: HRS §342D-4, 342D-5, Ch. 342E)

E. Update incorrect references

As described on page 6 of the rationale for the Proposed Revisions to HAR 11-54 dated June 2014,[14] the addition of sub-section HAR 11-54-4(b) is to clarify that there can be exceedances of Water Quality Standards whether a pollutant is discharged from a point source or a non-point source. This addition forced the re-numbering of subsequent sub-sections in HAR 11-54-4. However, references to the re-numbered sub-section HAR 11-54-4(f) were not updated. Specifically, the current version of HAR 11-54 includes incorrect references to HAR 11-54-4(e), which was re-numbered as HAR 11-54-4(f). There is also the inconsistent use of references to the basic water quality criteria. These criteria are specified in sub-section HAR 11-54-4(a). The current version of HAR 11-54 includes the use of either HAR 11-54-4 or HAR 11-54-4(a) as the reference to these criteria. The following amendments are proposed for sections HAR 11-54-3 and HAR 11-54-5.2 to update references to sub-sections HAR 11-54-4(a) and HAR 11-54-4(f), and to clarify that "basic criteria" means "basic water quality criteria."

Incidental to the aforementioned amendments for section HAR 11-54-3, it is also proposed to amend section HAR 11-54-3(c)(1) to clarify that class AA marine waters must remain in their natural pristine state with an absolute minimum of pollution from point source discharges of industrial wastewater and industrial stormwater, and to correct the "off shore" typographical error. For the clarification of class AA marine waters, note that the placeholder date (i.e., Month DD, 2021) will be substituted with the actual date of the next compilation of all proposed amendments to the current version of HAR 11-54.

§11-54-3 Classification of water uses. (a) The following use categories classify inland and marine waters for purposes of applying the water quality standards set forth in this chapter, and for the selection or definition of appropriate water quality parameters and uses to be protected in these waters. Storm water discharge into [~~State~~]state waters shall be allowed provided it meets the requirements

[14] https://health.hawaii.gov/cwb/files/2013/04/Clean_Water_Branch_HAR_11-54_20141115_Rationale.pdf

specified in this section and the basic water quality criteria specified in section [~~11-54-4.~~]11-54-4(a).

(b) Inland waters.

(1) Class 1.

It is the objective of class 1 waters that these waters remain in their natural state as nearly as possible with an absolute minimum of pollution from any human-caused source. To the extent possible, the wilderness character of these areas shall be protected. Waste discharge into these waters is prohibited, except as provided in section [~~11-54-4(e).~~]11-54-4(f). Any conduct which results in a demonstrable increase in levels of point or nonpoint source contamination in class 1 waters is prohibited.

(A) Class 1.a.

The uses to be protected in class 1.a waters are scientific and educational purposes, protection of native breeding stock, baseline references from which human-caused changes can be measured, compatible recreation, aesthetic enjoyment, and other nondegrading uses which are compatible with the protection of the ecosystems associated with waters of this class;

(B) Class 1.b.

The uses to be protected in class 1.b waters are domestic water supplies, food processing, protection of native breeding stock, the support and propagation of aquatic life, baseline references from which human-caused changes can be measured, scientific and educational purposes, compatible recreation, and aesthetic enjoyment. Public access to these waters may be restricted to protect drinking water supplies;

(2) Class 2.
The objective of class 2 waters is to protect their use for recreational purposes, the support and propagation of aquatic life, agricultural and industrial water supplies, shipping, and navigation. The uses to be protected in this class of waters are all uses compatible with the protection and propagation of fish, shellfish, and wildlife, and with recreation in and on these waters. These waters shall not act as receiving waters for any discharge which has not received the best degree of treatment or control compatible with the criteria established for this class. No new treated sewage discharges shall be permitted within estuaries. No new industrial discharges shall be permitted within estuaries, with the exception of:
(A) Acceptable non-contact thermal and drydock or marine railway discharges within Pearl Harbor, Oahu;
(B) Storm water discharges associated with industrial activities (defined in [~~40 C.F.R.~~]title 40 Code of Federal Regulations sections 122.26(b)(14) and (b)(15), except (b)(15)(i)(A) and (b)(15)(i)(B)) which meet, at the minimum, the basic water quality criteria applicable to all waters as specified in section 11-54-4(a), and all applicable requirements specified in chapter 11-55[~~, titled "Water Pollution Control"~~]; and
(C) Discharges covered by a National Pollutant Discharge Elimination System (NPDES) general permit, approved by the [~~U.S. Environmental Protection Agency~~] EPA and issued by the [~~Department~~] department in accordance with [~~40 C.F.R.~~]title 40 Code of Federal

Regulations section 122.28 and all applicable requirements specified in chapter 11-55[~~, titled "Water Pollution Control"~~].

(c) Marine waters.

(1) Class AA.

It is the objective of class AA waters that these waters remain in their natural pristine state as nearly as possible with an absolute minimum of pollution or alteration of water quality from any human-caused source or actions. To the extent practicable, the wilderness character of these areas shall be protected.

(A) No new permit shall be issued for point source discharges of industrial wastewater, industrial storm water, and those facilities designated by the department as pollutant sources, except for construction-related discharges. All permitted discharges in effect on or before Month DD, 2021; all future modifications of such discharges; and all future renewals of such discharges may be allowed and permitted with conditions specified in discharge permits to meet applicable and appropriate protection levels for class AA waters.

(B) No zones of mixing shall be permitted in this class:

[~~(A)~~](i) Within a defined reef area, in waters of a depth less than [~~18 meters (ten fathoms);~~]ten fathoms (eighteen meters); or

[~~(B)~~](ii) If there is no defined reef area, [~~In~~]in waters up to a distance of [~~300~~]three hundred meters (one thousand feet) [~~off shore~~]offshore [~~if there is no defined reef area~~]and if the

depth is greater than [~~18 meters (ten fathoms).~~]ten fathoms (eighteen meters).

The uses to be protected in this class of waters are oceanographic research, the support and propagation of shellfish and other marine life, conservation of coral reefs and wilderness areas, compatible recreation, and aesthetic enjoyment. The classification of any water area as Class AA shall not preclude other uses of the waters compatible with these objectives and in conformance with the criteria applicable to them;

Start of addendum added on 28 May 2021.

HDOH published public notices on 16 December 2020, established a 45-day public comment period, and held a public hearing on 1 February 2021 to receive testimony from interested parties about all proposed amendments that are described in this rationale document. HDOH received a total of eighty-nine (89) written testimonies during the public comment period. Eighty-three (83) of these written testimonies (or more than 90%) were in opposition to the proposed amendment to prohibit industrial point source discharges into class AA marine waters (see above section HAR 11-54-3(c)(1) which is highlighted in yellow).

Considering all of the written testimonies received, HDOH has decided to defer the prohibition component in the proposed amendment of class AA marine waters to the next triennial review of State WQS. This deferral will allow for the evaluation and consideration of alternate amendments to protect class AA marine waters and to ensure these waters remain in their natural pristine state with a minimum of pollution. The next triennial review of State WQS is scheduled for April 2022.

There are two key components in the proposed amendment of class AA marine waters. First, there is the clarification that class AA marine waters must remain in their natural pristine state with an absolute minimum of pollution from industrial point source discharges. Second, there is the clarification that the primary units for measuring the depth of marine waters are fathoms and not meters. Note that only the first component in the proposed amendment is deferred and that the

second component is retained. It is still proposed to amend section HAR 11-54-3(c)(1) to clarify the primary units for measuring the depth of marine waters, to spell out numbers, and to correct the "off shore" typographical error (see below).

(1) Class AA.
It is the objective of class AA waters that these waters remain in their natural pristine state as nearly as possible with an absolute minimum of pollution or alteration of water quality from any human-caused source or actions. To the extent practicable, the wilderness character of these areas shall be protected. No zones of mixing shall be permitted in this class:
(A) Within a defined reef area, in waters of a depth less than [~~18 meters (ten fathoms);~~]ten fathoms (eighteen meters); or
(B) In waters up to a distance of [~~300~~] three hundred meters (one thousand feet) [~~off shore~~]offshore if there is no defined reef area and if the depth is greater than [~~18 meters (ten fathoms).~~]ten fathoms (eighteen meters).
The uses to be protected in this class of waters are oceanographic research, the support and propagation of shellfish and other marine life, conservation of coral reefs and wilderness areas, compatible recreation, and aesthetic enjoyment. The classification of any water area as Class AA shall not preclude other uses of the waters compatible with these objectives and in conformance with the criteria applicable to them;

End of addendum added on 28 May 2021.

(2) Class A.
It is the objective of class A waters that their use for recreational purposes and aesthetic enjoyment be protected. Any other use shall be permitted as long as it is compatible with the protection and propagation of fish, shellfish, and wildlife, and with recreation in and on these waters. These waters shall not act as receiving waters for any discharge which has not received the best degree of treatment or control compatible with the criteria established for this class. No new sewage discharges [~~will~~]shall be permitted within embayments. No new industrial discharges shall be permitted within embayments, with the exception of:
(A) Acceptable non-contact thermal and drydock or marine railway discharges, in the following water bodies:
(i) Honolulu Harbor, Oahu;
(ii) Barbers Point Harbor, Oahu;
(iii) Keehi Lagoon Marina Area, Oahu;
(iv) Ala Wai Boat Harbor, Oahu; and
(v) Kahului Harbor, Maui[~~.~~];
(B) Storm water discharges associated with industrial activities (defined in [~~40 C.F.R.~~]title 40 Code of Federal Regulations sections 122.26(b)(14) and (b)(15), except (b)(15)(i)(A) and (b)(15)(i)(B)) which meet, at the minimum, the basic water quality criteria applicable to all waters as specified in section [~~11-54-4~~]11-54-4(a), and all applicable requirements specified in the chapter 11-55[~~, titled "Water Pollution Control"~~]; and
(C) Discharges covered by a NPDES general permit, approved by the [~~U.S. Environmental Protection Agency~~]EPA and issued by the [~~Department~~]department in

accordance with [~~40 C.F.R.~~]title 40 Code of Federal Regulations section 122.28 and all applicable requirements specified in chapter 11-55[~~, titled "Water Pollution Control"~~].

(d) Marine bottom ecosystems.

(1) Class I.

It is the objective of class I marine bottom ecosystems that they remain as nearly as possible in their natural pristine state with an absolute minimum of pollution from any human-induced source. Uses of marine bottom ecosystems in this class are passive human uses without intervention or alteration, allowing the perpetuation and preservation of the marine bottom in a most natural state, such as for nonconsumptive scientific research (demonstration, observation or monitoring only), nonconsumptive education, aesthetic enjoyment, passive activities, and preservation;

(2) Class II.

It is the objective of class II marine bottom ecosystems that their use for protection including propagation of fish, shellfish, and wildlife, and for recreational purposes not be limited in any way. The uses to be protected in this class of marine bottom ecosystems are all uses compatible with the protection and propagation of fish, shellfish, and wildlife, and with recreation. Any action which may permanently or completely modify, alter, consume, or degrade marine bottoms, such as structural flood control channelization (dams); landfill and reclamation; navigational structures (harbors, ramps); structural shore protection (seawalls, revetments); and wastewater effluent outfall structures may

be allowed upon securing approval in writing from the director, considering the environmental impact and the public interest pursuant to sections 342D-4, 342D-5, 342D-6, and 342D-50, [~~HRS~~]HRS, in accordance with the applicable provisions of chapter 91, HRS. [Eff 11/12/82; am and comp 10/6/84; am and comp 04/14/88; am and comp 01/18/90; am and comp 10/29/92; am and comp 04/17/00; am and comp 10/2/04; comp 06/15/09; am and comp 10/21/12; am and comp 12/6/13; am and comp 11/15/14; am and comp] (Auth: HRS §174C, §§342D-1, 342D-4, 342D-5, Ch. 342E) (Imp: HRS §§342D-4, 342D-5, Ch. 342E)

Incidental to the aforementioned amendments for section HAR 11-54-5.2, it is also proposed to standardize the listing order of the specific criteria for inland waters, and to clarify all occurrences of the definition of "Nephelometric Turbidity Units" in HAR 11-54-5.2.

§11-54-5.2 Inland water criteria. (a) [~~Criteria for springs~~]Springs and seeps, ditches and flumes, natural freshwater lakes, reservoirs, low wetlands, coastal wetlands, saline lakes, and anchialine pools.

(1) Only the [~~basic criteria~~]basic water quality criteria set forth in section [~~11-54-4~~]11-54-4(a) apply to springs and seeps, ditches and flumes, natural freshwater lakes, reservoirs, low wetlands, coastal wetlands, saline lakes, and anchialine pools.

(2) Natural freshwater lakes, saline lakes, and anchialine pools [~~will~~]shall be maintained in the natural state through [~~Hawai'i's~~]the State's "no discharge" policy for these waters.

(3) Waste discharge into these waters is prohibited, except as provided in section [~~11-54-4(e)~~]11-54-4(f) (see section 11-54-3(b)(1)).

(b) [~~Specific criteria for streams.~~]Streams.

(1) [~~Water column~~]Specific criteria for streams shall be as provided in the following table:

[~~Parameter~~	~~Geometric mean not to exceed the given value~~	~~Not to exceed the given value more than ten per cent of the time~~	~~Not to exceed the given value more than two per cent of the time~~]
Parameter	Geometric mean not to exceed the given value	Not to exceed the given value more than ten per cent of the time	Not to exceed the given value more than two per cent of the time
Total Nitrogen (ug N/L)	250.0* 180.0**	520.0* 380.0**	800.0* 600.0**
Nitrate + Nitrite Nitrogen (ug [NO_3 + NO_2]-N/L)	70.0* 30.0**	180.0* 90.0**	300.0* 170.0**
Total Phosphorus (ug P/L)	50.0* 30.0**	100.0* 60.0**	150.0* 80.0**
Total Suspended Solids (mg/L)	20.0* 10.0**	50.0* 30.0**	80.0* 55.0**
Turbidity (N.T.U.)	5.0* 2.0**	15.0* 5.5**	25.0* 10.0**

* Wet season - November 1 through April 30.
** Dry season - May 1 through October 31.
L = liter.
N.T.U. [~~=~~]- Nephelometric Turbidity Units[~~. A comparison of the intensity of light scattered by the sample under defined conditions with the intensity of light scattered by a standard reference suspension under the same conditions. The higher the intensity of scattered light, the higher the turbidity.~~] are

used to measure changes in the intensity of light scattered by a water sample. The higher the intensity of scattered light means there is higher turbidity.
ug = microgram or 0.000001 grams.
pH Units – [~~shall~~]Shall not deviate more than 0.5 units from ambient conditions and shall not be lower than 5.5 nor higher than 8.0.
Dissolved Oxygen – [~~Not~~]Shall not be less than eighty per cent saturation, determined as a function of ambient water temperature.
Temperature - Shall not vary more than one degree Celsius from ambient conditions.
Specific Conductance – [~~Not~~]Shall not be more than three hundred [~~micromhos/centimeter.~~]micromhos per centimeter.

[~~(1)~~](2) Bottom criteria for streams[~~:~~] shall be applied as:

(A) Episodic deposits of flood-borne soil sediment shall not occur in quantities exceeding an equivalent thickness of five millimeters (0.20 inches) over hard bottoms twenty-four hours after a heavy rainstorm[~~.~~];

(B) Episodic deposits of flood-borne soil sediment shall not occur in quantities exceeding an equivalent thickness of ten millimeters (0.40 inches) over soft bottoms twenty-four hours after a heavy rainstorm[~~.~~];

(C) In soft bottom material in pool sections of streams, oxidation-reduction potential (EH) in the top ten centimeters (four inches) shall not be less than +100 millivolts[~~.~~];

(D) In soft bottom material in pool sections of streams, no more than fifty per cent of the grain size distribution of sediment shall be smaller than 0.125 millimeters (0.005 inches) in diameter [~~.~~]; and

(E) The director shall prescribe the appropriate parameters, measures, and criteria for monitoring stream bottom biological communities including their habitat, which may be affected by proposed actions. Permanent benchmark stations may be required where necessary for monitoring purposes. The water quality criteria for this subsection shall be deemed to be met if time series surveys of benchmark stations indicate no relative changes in the relevant biological communities, as noted by biological community indicators or by indicator organisms which may be applicable to the specific site.

(c) [~~Specific criteria~~]Elevated wetlands. Specific criteria to be applied for elevated wetlands: pH units shall not deviate more than 0.5 units from ambient conditions and shall not be lower than 4.5 nor higher than 7.0.

(d) [~~Specific criteria for estuaries.~~]Estuaries.

(1) [~~The following table is applicable to all~~] Specific criteria for all estuaries except Pearl Harbor[~~:~~] shall be as provided in the following table:

[~~Parameter~~	~~Geometric mean not to exceed the given value~~	~~Not to exceed the given value more than ten per cent of the time~~	~~Not to exceed the given value more than two per cent of the time~~]

Parameter	Geometric mean not to exceed the given value	Not to exceed the given value more than ten per cent of the time	Not to exceed the given value more than two per cent of the time
Total Nitrogen (ug N/L)	200.00	350.00	500.00
[~~Ammonia Nitrogen (ug NH_4-N/L)~~]	~~6.00~~	~~10.00~~	~~20.00~~
Nitrate + Nitrite Nitrogen (ug [NO_3 + NO_2]-N/L)	8.00	25.00	35.00
Ammonia Nitrogen (ug NH_4-N/L)	6.00	10.00	20.00
Total Phosphorus (ug P/L)	25.00	50.00	75.00
[~~Parameter~~	~~Geometric mean not to exceed the given value~~	~~Not to exceed the given value more than ten per cent of the time~~	~~Not to exceed the given value more than two per cent of the time~~]
Chlorophyll a (ug/L)	2.00	5.00	10.00
Turbidity (N.T.U.)	1.5	3.00	5.00

L = liter.

N.T.U. [~~=~~]- Nephelometric Turbidity Units[~~. A comparison of the intensity of light scattered by the sample under defined conditions with the intensity of light scattered by a standard reference suspension under the same conditions. The higher the intensity of scattered light, the higher the turbidity.~~] are used to measure changes in the intensity of light scattered by a water sample. The higher the intensity of scattered light means there is higher turbidity.

ug = microgram or 0.000001 grams.

pH Units - [~~shall~~]Shall not deviate more than 0.5 units from ambient conditions and shall not be lower than 7.0 nor higher than 8.6.

Dissolved Oxygen - [~~Not~~]Shall not be less than seventy-five per cent saturation, determined as a function of ambient water temperature and salinity.
Temperature - Shall not vary more than one degree Celsius from ambient conditions.
Salinity - Shall not vary more than ten per cent from ambient conditions.
Oxidation[~~-~~]-reduction potential (EH) - Shall not be less than -100 millivolts in the uppermost ten centimeters (four inches) of sediment.

(2) [~~The following table is applicable only to~~]Specific criteria for Pearl Harbor Estuary[~~.~~] shall be as provided in the following table:

[~~Parameter~~]	~~Geometric mean not to exceed the given value~~	~~Not to exceed the given value more than ten per cent of the time~~	~~Not to exceed the given value more than two per cent of the time~~]
Parameter	Geometric mean not to exceed the given value	Not to exceed the given value more than ten per cent of the time	Not to exceed the given value more than two per cent of the time
Total Nitrogen (ug N/L)	300.00	550.00	750.00
[~~Ammonia Nitrogen (ug NH_4-N/L)~~]	~~10.00~~	~~20.00~~	~~30.00~~
Nitrate + Nitrite Nitrogen (ug [NO_3 + NO_2]-N/L)	15.00	40.00	70.00
Ammonia Nitrogen (ug NH_4-N/L)	10.00	20.00	30.00
Total Phosphorus (ug P/L)	60.00	130.00	200.00
Chlorophyll a (ug/L)	3.50	10.00	20.00
Turbidity (N.T.U.)	4.00	8.00	15.00

L = liter.
N.T.U. [=]- Nephelometric Turbidity Units[. A comparison of the intensity of light scattered by the sample under defined conditions with the intensity of light scattered by a standard reference suspension under the same conditions. The higher the intensity of scattered light, the higher the turbidity.] are used to measure changes in the intensity of light scattered by a water sample. The higher the intensity of scattered light means there is higher turbidity.
ug = microgram or 0.000001 grams.
pH Units - [shall]Shall not deviate more than 0.5 units from ambient conditions and shall not be lower than 6.8 nor higher than 8.8.
Dissolved Oxygen - [Not]Shall not be less than sixty per cent saturation, determined as a function of ambient water temperature and salinity.
Temperature - Shall not vary more than one degree Celsius from ambient conditions.
Salinity - Shall not vary more than ten per cent from ambient conditions.
Oxidation[---]-Reduction potential (EH) - Shall not be less than -100 millivolts in the uppermost ten centimeters (four inches) of sediment. [Eff 11/12/82; am and comp 10/6/84; am and comp 04/14/88; am and comp 01/18/90; am and comp 10/29/92; am and comp 04/17/00; am and comp 10/2/04; comp 06/15/09; am and comp 10/21/12; am and comp 12/6/13; comp 11/15/14; am and comp] (Auth: HRS §§342D-1, 342D-4, 342D-5, Ch. 342E) (Imp: HRS §§342D-4, 342D-5, Ch. 342E)

There is a reference, in section HAR 11-54-10, to EPA "Short-Term Methods For Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms" as EPA 821-R-02-031. The last three-digits are transposed, and this reference should be listed as EPA 821-R-02-013 instead. The following amendments are proposed for section HAR 11-54-8 to correct this error.

§11-54-10 Water quality analyses. (a) Laboratory analysis shall be performed by a laboratory approved by the department.

(b) Where applicable, analysis to determine compliance with these rules shall be by:

Parameter	Reference
Sample Collection (Phytoplankton and other Bioassays)	Standard Methods for the Examination of Water and Waste Water, twenty first edition, APHA
Sample Preservation and Holding Time, Bacteriological and Chemical Methodology	[~~"Guidelines Establishing~~] [~~Test Procedures for the~~] [~~Analysis of Pollutants,"~~] [~~Federal Register, July 1,~~] [~~2011 (40 CFR 136)~~] Title 40, Code of Federal Regulations, part 136, entitled "Guidelines Establishing Test Procedures for the Analysis of Pollutants", (40 C.F.R. §136) "A Manual of Chemical and Biological Methods for Seawater Analysis" T.R. Parsons, Y. Maita, and C.M. Lalli, 1984, Pergamon Press, New York. "Methods of Seawater Analysis", 2nd, Revised and Extended Edition, ed. by K. Grashof, M. Erhardt, K. Kremling, 1983. Verlag Chemie, Weinheim, Germany.

Toxicity Test	EPA [~~821-R-02-031,~~]821-R-02-013, Short-Term Methods For Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, 4th edition, October 2002. or: EPA 821-R-02-012, Methods For Measuring the Acute Toxicity of Effluents and Receiving waters to Freshwater and Marine Organisms, 5th edition, October 2002. or: EPA 821-R-02-014, Short-Term Methods For Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms, 3rd edition, October 2002. or: EPA 833-R-10-003, National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document, June 2010. or:

	EPA 833-R-10-004, National Pollutant Discharge Elimination System Test of Significant Toxicity Technical Document, June 2010. or: EPA/600/R-12/022, Tropical Collector Urchin, *Tripneustes gratilla*, Fertilization Test Method, April 2012.
Quality Control (Bacteriological and Biology) and Chemistry	EPA/600/4-79-019, Handbook for Analytical Quality Control in Water and Wastewater Laboratories, March 1979.
Kona Coast Area Specific Standards	Rationale for the Development of Area-Specific Water Quality Criteria for the West Coast of The Island of Hawaii and Procedures for Their Use. [~~Hawaii State Department of Health. March 1997.~~] Department of Health, State Of Hawaii. March 1997.

or as otherwise previously specified or approved by the director. [Eff 11/12/82; am and comp 10/6/84; am and comp 04/14/88; am and comp 01/18/90; am and comp 10/29/92; am and comp 04/17/00; am and comp 10/2/04; comp 06/15/09; comp 10/21/12; am and comp 12/6/13; comp 11/15/14; am and comp] (Auth: HRS §§342D-1, 342D-4, 342D-5, Ch. 342E) (Imp: HRS §§342D-4, 342D-5, Ch. 342E)

There are references to paragraphs (a)(1)(A), (B), (C), and (D) in section HAR 11-54-15; however, these paragraphs do not exist. The correct references are paragraphs (b)(1)(A), (B), (C), and (D), respectively. The following amendments are proposed for section HAR 11-54-15 to update the incorrect references to paragraphs (a)(1)(A), (B), (C), and (D), and to update the location of the Clean Water Branch from "Honolulu" to "Pearl City."

§11-54-15 Field citations; non-compliance. (a) This section authorizes field citations to effectively and quickly settle easily verifiable violations of chapter 342D, HRS, and this chapter. Settlements under this section are an additional remedy and do not supplant the director's authority to issue orders under section 342D-9, HRS.

(b) Offer to settle.

(1) A field citation is an offer to settle an administrative case against a specific violation on a specific day. Instead of issuing a formal notice and finding of violation and order, the director may, in the director's sole discretion, through any authorized employee, issue a field citation by personal service or certified mail to:

(A) Any person who discharges or otherwise causes or allows water pollutants to enter [~~State~~]state waters and cause violation of this chapter, unless that person acted in compliance with a permit or variance issued by the director pursuant to chapter [~~342D~~]342D, HRS, for that person's discharges;

(B) Any person who fails to correctly install, implement, maintain, or repair site best management practices as called for in this chapter;

(C) Any person who violates monitoring requirements as required by the director; and

(D) Any person who violates record keeping requirements as required by the director.

(2) A field citation shall indicate the following amounts for violations:

(A) $500 for any person who violates [~~paragraph (a)(1)(A), (B), or (C)~~]sections 11-54-15(b)(1)(A), 11-54-15(b)(1)(B), or 11-54-15(b)(1)(C) for first violation, and $2,000 for a subsequent violation; and

(B) $100 for any person who violates [~~paragraph (a)(1)(D)~~]section 11-54-15(b)(1)(D) for first violation, and $200 for a subsequent violation.

(c) Resolution of field citation.

(1) A person issued a field citation may accept the citation by:

(A) Signing the field citation;

(B) Paying the full amount indicated on the field citation. Payment shall be made to the "State of Hawaii" in the form of a pre-printed check, cashier's check, money order, or as otherwise specified by the director;

(C) Mailing or delivering the signed citation and full payment to the clean water branch in [~~Honolulu~~]Pearl City or to the district health office for the county where the violation occurred. The department must receive the signed field citation and full payment within twenty days after the person receives the field citation; and

(D) Correction within seven [~~(7)~~] days, or unless otherwise specified on the field citation, of the violation of this chapter.

(2) By signing the field citation, the person to whom it was issued agrees to:

(A) Give up the right to a contested case hearing under chapter 91 or 342D, HRS, or otherwise challenge the field citation;

(B) Pay the full amount indicated; and

(C) Correct the violation.

(3) If the field citation is not accepted in compliance with [~~paragraph (1),~~]section 11-54-15(c)(1), the director may seek for that cited violation any remedies available under this chapter; chapter 342D, HRS; or any other law. For all other violations the director retains authority to seek any available remedies.

(d) Form of citation. The department shall prescribe a field citation form.[~~"~~] [Eff and comp 11/15/14; am and comp] (Auth: HRS §§342D-1, 342D-4, 342D-5, Ch. 342E) (Imp: HRS §§342D-4, 342D-5, Ch. 342E)

F. Clarify unclear references.

The following amendments are proposed to section HAR 11-54-5.1 to clarify the protection of inland waters areas.

§11-54-5.1 Inland water areas to be protected.

(a) Freshwaters.

(1) Flowing waters[~~:~~] include perennial streams and rivers, intermittent streams, springs and seeps, and man-made ditches and flumes that discharge into any other state waters [~~of the State~~].

(A) Class 1.a.:

(i) All flowing waters within the natural reserves, preserves, sanctuaries, and refuges established by the state department of land and natural resources under chapter 195, HRS, or similar reserves for the protection of aquatic life established under chapter 195, HRS.

(ii) All flowing waters in national and state parks.

(iii) All flowing waters in state or federal fish and wildlife refuges.

(iv) All flowing waters which have been identified as a unique or critical habitat for threatened or endangered species by the U.S. Fish and Wildlife Service.

(v) All flowing waters in Waimanu National Estuarine Research Reserve ([~~Hawai'i~~]Hawaii).

As listed in Appendix A dated July 1, 2014, entitled "Class 1, Inland Waters", located at the end of this chapter.

(B) Class 1.b.: All flowing waters in protective subzones designated under chapter 13-5 by the state department of land and natural resources as listed in Appendix A dated July 1, 2014, entitled "Class 1, Inland Waters", located at the end of this chapter.

(C) Class 2.: All flowing waters in areas not otherwise classified.

All flowing waters in classes 1 and 2 in which water quality exceeds the standards specified in this chapter shall not be lowered in quality unless it has been affirmatively demonstrated to the director that the change is justifiable as a result of important economic or social development and [~~will~~]shall not interfere with or become injurious to any assigned uses made of, or presently in, those waters. This statement of antidegradation policy does not limit the applicability of the policy in section 11-54-1.1 to the whole chapter.

(2) Standing waters [~~(~~]include natural freshwater lakes and reservoirs[~~):~~].

(A) Class 1.a.:

(i) All standing waters within the natural reserves, preserves, sanctuaries, and refuges established by the state department of land and natural resources under chapter 195, HRS, or similar reserves for the protection of aquatic life established under chapter 195, HRS.

(ii) All standing waters in national and state parks.

(iii) All standing waters in state or federal fish and wildlife refuges.

(iv) All standing waters which have been identified as a unique or

critical habitat for threatened or endangered species by the U.S. Fish and Wildlife Service.

(v) All standing waters in Waimanu National Estuarine Research Reserve ([~~Hawai'i~~]Hawaii).

As listed in Appendix A dated July 1, 2014, entitled "Class 1, Inland Waters", located at the end of this chapter.

(B) Class 1.b.: All standing waters in protective subzones designated under chapter 13-5 by the state department of land and natural resources as listed in Appendix A dated July 1, 2014, entitled "Class 1, Inland Waters", located at the end of this chapter.

(C) Class 2.: All standing waters in areas not otherwise classified.

(3) Elevated wetlands and low wetlands[~~:~~].

(A) Class 1.a.:

(i) All elevated and low wetlands within the natural reserves, preserves, sanctuaries, and refuges established by the state department of land and natural resources under chapter 195, HRS, or similar reserves for the protection of aquatic life established under chapter 195, HRS.

(ii) All elevated and low wetlands in national and state parks.

(iii) All elevated and low wetlands in state or federal fish and wildlife refuges.

(iv) All elevated and low wetlands which have been identified as a unique or critical habitat for threatened or endangered species

by the U.S. Fish and Wildlife Service.

(v) All elevated and low wetlands in Waimanu National Estuarine Research Reserve ([~~Hawai'i~~] Hawaii).

As listed in Appendix A dated July 1, 2014, entitled "Class 1, Inland Waters", located at the end of this chapter.

(B) Class 1.b.: All elevated and low wetlands in protective subzones designated under chapter 13-5 by the state department of land and natural resources as listed in Appendix A dated July 1, 2014, entitled "Class 1, Inland Waters", located at the end of this chapter.

(C) Class 2.: All elevated and low wetlands not otherwise classified.

(b) Brackish or saline waters [~~(~~]include anchialine pools, saline lakes, coastal wetlands, and estuaries[~~)~~].

(1) Class 1.a.:

(A) All inland brackish or saline waters within natural reserves, preserves, sanctuaries, and refuges established by the state department of land and natural resources under chapter 195, HRS, or similar reserves for the protection of aquatic life established under chapter 195, HRS.

(B) All inland brackish or saline waters in national and state parks.

(C) All inland brackish or saline waters in state or federal fish and wildlife refuges.

(D) All inland brackish or saline waters which have been identified as a unique or critical habitat for threatened or

endangered species by the U.S. Fish and Wildlife Service.

(E) All inland brackish and saline waters in Waimanu National Estuarine Research Reserve ([~~Hawai'i~~]Hawaii).

(F) The following natural estuaries: [~~Lumaha'i~~]Lumahai and Kilauea estuaries ([~~Kaua'i~~]Kauai).

As listed in Appendix A dated July 1, 2014, entitled "Class 1, Inland Waters", located at the end of this chapter.

(2) Class l.b.: All inland brackish or saline waters in protective subzones designated under chapter 13-5 by the state department of land and natural resources as listed in Appendix A dated July 1, 2014, entitled "Class 1, Inland Waters", located at the end of this chapter.

(3) Class 2.: All inland brackish and saline waters not otherwise classified. [Eff 11/12/82; am and comp 10/6/84; am and comp 04/14/88; am and comp 01/18/90; am and comp 10/29/92; am and comp 04/17/00; am and comp 10/2/04; comp 06/15/09; comp 10/21/12; am and comp 12/6/13; am and comp 11/15/14; am and comp] (Auth: HRS §342D-1, 342D-4, 342D-5, Ch. 342E) (Imp: HRS §§342D- 4, 342D-5, Ch. 342E)

There is the use of an asterisk "*," at the end of sub-paragraph HAR 11-54-6(d)(1)(A), to indicate that "specific criteria for Class A embayments apply to Honokohau Harbor and Kawaihae Harbor, see section 11-54-6(a)(3)." This asterisk does not refer to any specific parts of HAR 11-54-6(d). There is also the use of a reference, at the end of sub-paragraph HAR 11-54-6(d)(1)(B), to "clause (i)." This clause does not exist in HAR 11-54-6(d). The following amendments are proposed for section HAR 11-54-6 to clarify the above unclear references.

Incidental to the above updates, the following amendments are also proposed to standardize the listing order of the specific criteria for marine waters, and to

clarify all occurrences of the definition of “Nephelometric Turbidity Units” in HAR 11-54-6.

§11-54-6 Uses and specific criteria applicable to marine waters. (a) Embayments.

(1) As used in this subsection:

"Embayments" means land-confined and physically-protected marine waters with restricted openings to open coastal waters, defined by the ratio of total bay volume to the cross-sectional entrance area of seven hundred to one or greater.

"Total bay volume" is measured in cubic meters and "cross-sectional entrance area" is measured in square meters, and both are determined at mean lower low water.

(2) Water areas to be protected[~~.~~]:

(A) Class AA.

(i) Waters are listed in Appendix B dated July 1, 2014, entitled "Class AA, Marine Waters and Embayments", located at the end of this chapter.

(ii) All embayments in preserves, reserves, sanctuaries, and refuges established by the state department of land and natural resources under chapter 195 or chapter 190, HRS, as listed in Appendix B dated July 1, 2014, entitled "Class AA, Marine Waters and Embayments", located at the end of this chapter, or similar reserves for the protection of marine life established under chapter 190, HRS, as listed in Appendix B dated July 1, 2014, entitled "Class AA, Marine Waters and Embayments",

located at the end of this chapter.

(iii) All waters in state or federal fish and wildlife refuges and marine sanctuaries as listed in Appendix B dated July 1, 2014, entitled "Class AA, Marine Waters and Embayments", located at the end of this chapter.

(iv) All waters which have been officially identified as a unique or critical habitat for threatened or endangered species by the U.S. Fish and Wildlife Service as listed in Appendix B dated July 1, 2014, entitled "Class AA, Marine Waters and Embayments", located at the end of this chapter.

(B) Class A.
Waters are listed in Appendix C dated July 1, 2014, entitled "Class A, Marine Waters and Embayments", located at the end of this chapter.

(3) The following criteria are specific for all embayments excluding those described in [~~subsection (d).~~]section 11-54-6(d). (Note that criteria for embayments differ based on fresh water inflow.)

[~~Parameter~~	~~Geometric mean not to exceed the given value~~	~~Not to exceed the given value more than ten per cent of the time~~	~~Not to exceed the given value more than two per cent of the time~~]

Parameter	Geometric mean not to exceed the given value	Not to exceed the given value more than ten per cent of the time	Not to exceed the given value more than two per cent of the time
Total Nitrogen (ug N/L)	200.00* 150.00**	350.00* 250.00**	500.00* 350.00**
[~~Ammonia Nitrogen (ug NH_4-N/L)~~	~~6.00*~~ ~~3.50**~~	~~13.00*~~ ~~8.50**~~	~~20.00*~~ ~~15.00**~~]
Nitrate + Nitrite Nitrogen (ug [NO_3 + NO_2]-N/L)	8.00* 5.00**	20.00* 14.00**	35.00* 25.00**
Ammonia Nitrogen (ug NH_4-N/L)	6.00* 3.50**	13.00* 8.50**	20.00* 15.00**
Total Phosphorus (ug P/L)	25.00* 20.00**	50.00* 40.00**	75.00* 60.00**
Chlorophyll a (ug/L)	1.50* 0.50**	4.50* 1.50**	8.50* 3.00**
Turbidity (N.T.U.)	1.5* 0.40**	3.00* 1.00**	5.00* 1.50**

* "Wet" criteria apply when the average fresh water inflow from the land equals or exceeds one per cent of the embayment volume per day.
** "Dry" criteria apply when the average fresh water inflow from the land is less than one per cent of the embayment volume per day.
Applicable to both "wet" and "dry" conditions:
L = liter.
N.T.U. - Nephelometric Turbidity Units are used to measure changes in the intensity of light scattered by a water sample. The higher the intensity of scattered light means there is higher turbidity.
ug = microgram or 0.000001 grams.
pH Units - [~~shall~~]Shall not deviate more than 0.5 units from a value of 8.1, except at coastal locations where and when freshwater from stream, stormdrain or groundwater discharge may depress the pH to a minimum level of 7.0.

Dissolved Oxygen - [~~Not~~]Shall not be less than seventy-five per cent saturation, determined as a function of ambient water temperature and salinity.
Temperature - Shall not vary more than one degree Celsius from ambient conditions.
Salinity - Shall not vary more than ten per cent from natural or seasonal changes considering hydrologic input and oceanographic factors.
[~~L = liter~~
~~N.T.U. = Nephelometric Turbidity Units. A comparison of the intensity of light scattered by the sample under defined conditions with the intensity of light scattered by a standard reference suspension under the same conditions. The higher the intensity of scattered light, the higher the turbidity.~~
~~ug = microgram or 0.000001 grams~~]

(b) Open coastal waters.

(1) As used in this subsection[~~:~~], "[~~Open~~]open coastal waters" means marine waters bounded by the [~~183 meter or 600 foot (100 fathom)~~] one hundred fathoms (one hundred eighty-three meters or six hundred feet) depth contour and the shoreline, excluding bays named in [~~subsection (a).~~]section 11-54-6(a).

(2) Water areas to be protected:

(A) Class AA as listed in Appendix D dated July 1, 2014, entitled "Class AA, Open Coastal Waters", located at the end of this chapter.
All open waters in preserves, reserves, sanctuaries, and refuges established by the state department of land and natural resources under chapter 195, HRS, or chapter 190, HRS, as listed in Appendix D dated July 1, 2014, entitled "Class AA, Open Coastal Waters", located at the end of this chapter[~~,~~]; or similar reserves for the protection of marine life established under chapter 190, HRS, as amended, as listed

in Appendix D dated July 1, 2014, entitled "Class AA, Open Coastal Waters", located at the end of this chapter; or in the refuges or sanctuaries established by the U.S. Fish and Wildlife Service or the National Marine Fisheries Service as listed in Appendix D dated July 1, 2014, entitled "Class AA, Open Coastal Waters", located at the end of this chapter.

(B) Class A - All other open coastal waters not otherwise specified.

(3) The following criteria are specific for all open coastal waters, excluding those described in [~~subsection (d).~~]section 11-54-6(d). (Note that criteria for open coastal waters differ, based on fresh water discharge.)

[~~Parameter~~	~~Geometric mean not to exceed the given value~~	~~Not to exceed the given value more than ten per cent of the time~~	~~Not to exceed the given value more than two per cent of the time~~]

Parameter	Geometric mean not to exceed the given value	Not to exceed the given value more than ten per cent of the time	Not to exceed the given value more than two per cent of the time
Total Nitrogen	150.00*	250.00*	350.00*
(ug N/L)	110.00**	180.00**	250.00**
[~~Ammonia Nitrogen~~	~~3.50*~~	~~8.50*~~	~~15.00*~~
~~(ug NH_4-N/L)~~	~~2.00**~~	~~5.00**~~	~~9.00**~~]
Nitrate + Nitrite	5.00*	14.00*	25.00*
Nitrogen	3.50**	10.00**	20.00**
(ug [NO_3 + NO_2]-N/L)			
Ammonia Nitrogen	3.50*	8.50*	15.00*
(ug NH_4-N/L)	2.00**	5.00**	9.00**
Total Phosphorus	20.00*	40.00*	60.00*
(ug P/L)	16.00**	30.00**	45.00**
[~~Light Extinction~~	~~0.20*~~	~~0.50*~~	~~0.85*~~
~~Coefficient (k units)~~	~~0.10**~~	~~0.30**~~	~~0.55**~~]
Chlorophyll a	0.30*	0.90*	1.75*
(ug/L)	0.15**	0.50**	1.00**
Turbidity	0.50*	1.25*	2.00*
(N.T.U.)	0.20**	0.50**	1.00**
Light Extinction	0.20*	0.50*	0.85*
Coefficient	0.10**	0.30**	0.55**
(k units)			

* "Wet" criteria apply when the open coastal waters receive more than three million gallons per day of fresh water discharge per shoreline mile.
** "Dry" criteria apply when the open coastal waters receive less than three million gallons per day of fresh water discharge per shoreline mile.
Applicable to both "wet" and "dry" conditions:
L = liter.
N.T.U. - Nephelometric Turbidity Units are used to measure changes in the intensity of light scattered by a water sample. The higher the intensity of scattered light means there is higher turbidity.
ug = microgram or 0.000001 grams.

pH Units - [~~shall~~]Shall not deviate more than 0.5 units from a value of 8.1, except at coastal locations where and when freshwater from stream, stormdrain or groundwater discharge may depress the pH to a minimum level of 7.0.
Dissolved Oxygen - [~~Not~~]Shall not be less than seventy-five per cent saturation, determined as a function of ambient water temperature and salinity.
Temperature - Shall not vary more than one degree Celsius from ambient conditions.
Salinity - Shall not vary more than ten per cent from natural or seasonal changes considering hydrologic input and oceanographic factors.
k units = the ratio of light measured at the water's surface to light measured at a particular depth.
[~~L = liter~~]
Light Extinction Coefficient is only required for dischargers who have obtained a waiver pursuant to section 301(h) of the [~~Federal Water Pollution Control Act of 1972 (33 U.S.C. 1251), as amended,~~]Act and are required by EPA to monitor it.
[~~N.T.U. = Nephelometric Turbidity Units. A comparison of the intensity of light scattered by the sample under defined conditions with the intensity of light scattered by a standard reference suspension under the same conditions. The higher the intensity of scattered light, the higher the turbidity.~~
~~ug = microgram or 0.000001 grams~~]

(c) Oceanic waters.

(1) As used in this subsection[~~:~~], "[~~Oceanic~~]oceanic waters" means all other marine waters outside of the [~~183 meter (600 feet or 100 fathom)~~]one hundred fathoms (one hundred eighty-three meters or six hundred feet) depth contour.

(2) Water areas to be protected: Class A - All oceanic waters.

(3) The following criteria are specific for oceanic waters:

[~~Parameter~~	~~Geometric mean not to exceed the given value~~	~~Not to exceed the given value more than ten per cent of the time~~	~~Not to exceed the given value more than two per cent of the time~~]
Parameter	Geometric mean not to exceed the given value	Not to exceed the given value more than ten per cent of the time	Not to exceed the given value more than two per cent of the time
Total Nitrogen (ug N/L)	50.00	80.00	100.00
[~~Ammonia Nitrogen (ug NH_4-N/L)~~]	~~1.00~~	~~1.75~~	~~2.50~~
Nitrate + Nitrite Nitrogen (ug [NO_3 + NO_2]-N/L)	1.50	2.50	3.50
Ammonia Nitrogen (ug NH_4-N/L)	1.00	1.75	2.50
Total Phosphorus (ug P/L)	10.00	18.00	25.00
Chlorophyll a (ug/L)	0.06	0.12	0.20
Turbidity (N.T.U.)	0.03	0.10	0.20

L = liter.

N.T.U. [~~=~~]- Nephelometric Turbidity Units[~~. A comparison of the intensity of light scattered by the sample under defined conditions with the intensity of light scattered by a standard reference suspension under the same conditions. The higher the intensity of scattered light, the higher the turbidity.~~] are used to measure changes in the intensity of light scattered by a water sample. The higher the intensity of scattered light means there is higher turbidity.

ug = microgram or 0.000001 grams.

pH Units - [~~shall~~]Shall not deviate more than 0.5 units from a value of 8.1.

Dissolved Oxygen – [~~Not~~]Shall not be less than seventy-five per cent saturation, determined as a function of ambient water temperature and salinity.
Temperature – [~~shall~~]Shall not vary more than one degree Celsius from ambient conditions.
Salinity - Shall not vary more than ten per cent from natural or seasonal changes considering hydrologic input and oceanographic factors.

(d) Area-specific criteria for the Kona (west) coast of the island of Hawaii.

(1) [~~For all marine waters of the island of Hawaii from Loa Point, South Kona District, clockwise to Malae Point, North Kona District, excluding Kawaihae Harbor and Honokohau Harbor, and for all areas from the shoreline at mean lower low water to a distance 1000 m seaward:~~]As used in this subsection, "Kona coast of the island of Hawaii" means the area from Loa Point, South Kona District, clockwise to Malae Point, North Kona District.

(2) Water areas to be protected: All marine waters and all areas from the shoreline at mean lower low water to a distance one thousand meters seeward, excluding Honokohau Harbor and Kawaihae Harbor.

(3) The following criteria are specific to the Kona coast of the island of Hawaii, except for Honokohau Harbor and Kawaihae Harbor (see section 11-54-6(a)(3) for Class A embayments):

(A) In areas where nearshore marine water salinity is greater than [~~32.00~~]thirty-two parts per thousand the following specific criteria apply:

[~~Parameter~~	~~Geometric mean not to exceed the given single value~~]

Parameter	Geometric mean not to exceed the given value
Total Dissolved Nitrogen (ug N/L)	100.00
Nitrate + Nitrite Nitrogen (ug [NO_3 + NO_2]-N/L)	4.50
Ammonia Nitrogen (ug NH_4-N/L)	2.50
Total Dissolved Phosphorus (ug P/L)	12.50
Phosphate (ug PO_4-P/L)	5.00
[~~Ammonia Nitrogen (ug NH_4-N/L)~~]	~~2.50~~
Chlorophyll a (ug/L)	0.30
Turbidity (N.T.U.)	0.10

[~~* Specific criteria for Class A embayments apply to Honokohau Harbor and Kawaihae Harbor, see section 11-54-6(a)(3).~~]

(B) If nearshore marine water salinity is less than or equal to [~~32.00~~]thirty-two parts per thousand the following parameters shall be related to salinity on the basis of a linear least squares regression equation:

$$Y = MX + B$$

where:

Y = parameter concentration (in ug/L)
X = salinity (in ppt)
M = regression coefficient (or "slope")
B = constant (or "Y intercept").

The absolute value of the upper [~~95~~] ninety-five per cent confidence limit for the calculated sample regression coefficient (M) shall not exceed the absolute value of the following values:

Parameter	M
Total Dissolved Nitrogen (ug N/L)	-40.35
Nitrate + Nitrite Nitrogen (ug [NO_3 + NO_2]-N/L)	-31.92
[~~Total Dissolved Nitrogen (ug N/L)~~]	~~-40.35~~
[~~Phosphate (ug PO_4-P/L)~~	~~-3.22~~]
Total Dissolved Phosphorus (ug P/L)	-2.86
Phosphate (ug PO_4-P/L)	-3.22

The specific criteria for ammonia nitrogen, chlorophyll a, and turbidity given in [~~clause (i)~~]section 11-54-6(d)(3)(A) also apply.

(C) Parameter concentrations shall be determined along a horizontal transect extending seaward from a shoreline sample location using the following method: water samples shall be obtained at distances of [~~1, 10, 50, 100, and 500~~]one, ten, fifty, one hundred, and five hundred meters from the shoreline sampling location. Samples shall be collected within one

meter of the water surface and below the air-water interface. Dissolved nutrient samples shall be filtered through media with particle size retention of 0.7 um. This sampling protocol shall be replicated not less than three times on different days over a period not to exceed fourteen days during dry weather conditions. The geometric means of sample measurements for corresponding offshore distances shall be used for regression calculations.

L = liter.
N.T.U. - Nephelometric Turbidity Units are used to measure changes in the intensity of light scattered by a water sample. The higher the intensity of scattered light means there is higher turbidity.
ug = microgram or 0.000001 grams.
pH Units – [~~shall~~]Shall not deviate more than 0.5 units from a value of 8.1, except at coastal locations where and when freshwater from stream, stormdrain or groundwater discharge may depress the pH to a minimum level of 7.0.
Dissolved Oxygen – [~~Not~~]Shall not be less than seventy-five per cent saturation, determined as a function of ambient water temperature and salinity.
Temperature - Shall not vary more than one degree Celsius from ambient conditions.
Salinity - Shall not vary more than ten per cent from natural or seasonal changes considering hydrologic input and oceanographic factors.
[~~L – liter~~
~~N.T.U. - Nephelometric Turbidity Units. A comparison of the intensity of light scattered by the sample under defined conditions with the intensity of light scattered by a standard reference suspension under the same conditions. The higher the intensity of scattered light, the higher the turbidity.~~

~~ug - microgram or 0.000001 grams.~~] [Eff 11/12/82; am and comp 10/6/84; am and comp 04/14/88; am and comp 01/18/90; am and comp 10/29/92; am and comp 04/17/00; am and comp 10/2/04; comp 06/15/09; comp 10/21/12; am and comp 12/6/13; am and comp 11/15/14; am and comp] (Auth: HRS §§342D-1, 342D-4, 342D-5, Ch. 342E) (Imp: HRS §§342D-4, 342D-5, Ch. 342E)