

APPENDIX D

Policy and Regulatory Framework for the Creation and Restoration of Wetlands and Wetland Islands Using Dredge Materials

Rebecca French, Ph.D.
Connecticut Institute for Resilience and Climate Adaptation
University of Connecticut

Summary

Policy, regulations, and permitting at the state and federal level are reviewed here with a focus on the most relevant points for the creation and restoration of wetlands and wetland islands using dredged materials.

In Connecticut policies are driven by the Structures, Dredging and Fill Act; Tidal Wetlands Act; and Coastal Management Act, including recent amendments on the use of living shorelines as an erosion control measure. At the federal level wetlands restoration and creation projects using dredge materials are regulated under Section 404 of the Clean Water Act since they would involve fill in tidal waters. The certification requirements for activities under Section 404 require certification by the State as described in Section 401 of the Clean Water Act. Connecticut requires certification under both the Clean Water Act and the Connecticut Water Quality Standards, including anti-degradation policies. Placement of dredge materials is also regulated by the State's environmental media management regulations as defined by the Connecticut Remediation Standard Regulations (RSRs).

As would be expected from the current governing policies, projects that are at a scale and type that would have little to no environmental impact can proceed easily through the permitting process through predetermined categories of general permits. For example, marsh restoration projects, including elevating marsh surfaces, under the supervision of the Connecticut Department of Energy and Environmental Protection can proceed with no further review. In contrast, projects that would be seen as placing fill in special aquatic sites are regulated by volume and extent under general permits from the US Army Corps and may require an individual permit, which includes a full environmental assessment and opportunity for public comment. All projects that involve dredge materials must also obtain a water quality certificate and the dredge materials must be managed according to the RSR and water quality anti-degradation policies. These regulations further constrain the contamination level of the dredge materials that can be used and where those materials can be placed and therefore these criteria should be considered in the design phase of a project.

Connecticut State Policy and Regulations

Governing Statutes

There are three statutes governing activities in tidal wetlands and tidal, coastal or navigable waters of Connecticut under the Connecticut Department of Energy and Environmental Protection Land and Water Resources Division. They are the Structures, Dredging and Fill Act¹ and the Tidal Wetlands Act² and the Connecticut Coastal Management Act.³

Since the use of dredge materials for the restoration or creation of wetlands and wetlands islands are being reviewed here, the Standards of Water Quality⁴ also applies for the permit for discharge of dredged material.⁵

¹ Conn. Gen. Statutes (CGS) Sec. 22a-359 - 22a-363f, inclusive

² CGS Sec. 22a-28 - 22a-35, inclusive

³ CGS Sec. 22a-90 - 22a-112, inclusive

⁴ CGS Sec. 22a-426

⁵ http://www.ct.gov/deep/cwp/view.asp?a=2705&q=323580&depNav_GID=1635

Structures, Dredging and Fill Act

The Structures, Dredging and Fill Act gives the Commissioner of CTDEEP the authority to regulate “the placement of fill, and work incidental thereto, in the tidal, coastal or navigable waters of the state waterward of the coastal jurisdiction line”⁶ and requires a permit for these activities. Insofar as the use of dredge materials for the creation and restoration of wetlands is considered “fill,” then this regulation applies.

Tidal Wetlands Act

The Tidal Wetlands Act affirms that Connecticut’s policy is to “preserve” and “prevent” “despoliation and destruction” of wetlands.⁷ The statute justifies this policy referencing the history of “unregulated dredging, dumping, filling and like activities”⁸ that contributed to the significant loss of wetlands in the state. The statute also acknowledges that the loss or degradation of wetlands could “disturb the natural ability of tidal wetlands to reduce flood damage and adversely affect the public health and welfare.”⁹

Connecticut Coastal Management Act

The Connecticut Coastal Management Act provides protections for coastal areas using a resource management approach. For tidal wetlands, the statute supports the “rehabilitation and restoration of degraded tidal wetlands.”¹⁰ The “creation” of wetlands is allowed for the “purpose of shellfish and finfish management, habitat creation and dredge spoil disposal.”¹¹ Management of intertidal flats should be done to “preserve their value” and “restoration and enhancement of degraded intertidal flats” is “encourage[d].”¹²

The statutes “disallow any filling of tidal wetlands and nearshore, offshore and intertidal waters for the purpose of creating new land from existing wetlands and coastal waters which would otherwise be undevelopable, unless it is found that the adverse impacts on coastal resources are minimal.”¹³ “Structures” in tidal wetlands and coastal waters are “require[d]” to be “designed, constructed and maintained to minimize adverse impacts on coastal resources, circulation and sedimentation patterns, water quality, and flooding and erosion, [and] to reduce to the maximum extent practicable the use of fill.”¹⁴

Living Shorelines

The Connecticut Coastal Management Act references the value of coastal resources for the “prevention or alleviation of shore erosion and coastal flooding.”¹⁵ However, the Act promotes the use of non-structural alternatives in order to “to maintain the natural relationship between eroding and

⁶ Sec. 22a-359(a)

⁷ CGS Sec. 22a-28

⁸ CGS Sec. 22a-28

⁹ CGS Sec. 22a-28

¹⁰ CGS Section 22a-92(b)(2)(E)

¹¹ CGS Section 22a-92(b)(2)(E)

¹² CGS Section 22a-92(b)(2)(D)

¹³ CGS Section 22a-92(c)(1)(B)

¹⁴ CGS Section 22a-92(b)(1)(D)

¹⁵ CGS Section 22a-359(a), as referenced by CGS Section 22a-92(a)(2)

depositional coastal landforms and to minimize the adverse impacts of erosion and sedimentation on coastal land uses.” The alternatives can include “living shorelines techniques utilizing a variety of structural and organic materials, such as tidal wetland plants, submerged aquatic vegetation, coir fiber logs, sand fill and stone to provide shoreline protection and maintain or restore coastal resources and habitat.”¹⁶

There is no further definition of living shorelines in the Connecticut statute, but the CTDEEP has a working definition: “A shoreline management practice which restores, enhances, maintains or creates natural coastal or riparian habitat, functions and processes and also functions to mitigate flooding or shoreline erosion through a continuous land-water interface. Coastal and riparian habitats include, but are not limited to intertidal flats, tidal marsh, beach/dune systems, and bluffs. Living shorelines may include structural features that are combined with natural components to attenuate wave energy and currents.”¹⁷

Standards of Water Quality

The Standards of Water Quality¹⁸ provide policy for improving water resources in Connecticut. Under the General Standards of Surface Water Quality, the state’s goal is “to restore or maintain the chemical, physical and biological integrity of surface waters.” The Standards require that surface waters and sediments do not have “chemical constituents” that will be toxic to aquatic life and ecosystems, bioconcentrate or bioaccumulate. These conditions can exist in a dredged material disposal area or fill disposal or placement area, but then they must also be “capped with material suitable for unconfined, open water disposal.” Coastal waters fall under Class SA and Class SB. Both of these categories allow for discharge of dredged or fill material in waters designated under these classifications.^{19,20}

Anti-degradation Standards

The Connecticut Water Quality Standards also contain anti-degradation standards and implementation policies. The standards state that, “surface waters with an existing quality better than the criteria established in the Connecticut Water Quality Standards shall be maintained at their existing high quality.” If a water body is determined to be an “outstanding national resource water,” then only discharges that would temporarily lower quality are allowed.²¹

Environmental Media Management and Remediation Standard Regulations

Dredge materials will fall into one of two categories of environmental media: special wastes (a subcategory of solid wastes) or clean fill.²² Solid wastes include soils that do not meet the standards for soil remediation, including either the direct exposure criteria and pollutant mobility criteria or the background concentration²³ for soil in the release area. The definition of special wastes has a list of

¹⁶ CGS 22a-92(c)(2)(e)

¹⁷ personal communication, Peter Francis, CT DEEP

¹⁸ CGS 22a-426

¹⁹ Sec. 22a-426-4 (g) (3)

²⁰ Sec. 22a-426-4 (k)

²¹ Sec. 22a-426-8 (a)(1-4)

²² Regs CT State Agencies, Sec. 22a-209-1

²³ Regs CT State Agencies, Sec. 22a-133k (a)

media defined as such and includes “contaminated dredge spoils.”²⁴ Clean fill includes both natural soil and polluted soil “treated to reduce the concentration of pollutants to levels which do not exceed the applicable pollutant mobility criteria and direct exposure criteria.”²⁵

Solid waste cannot “contact with surface waters” and disposal must “minimize impact on surface waters.”²⁶ However, dredge materials are categorized as special wastes and the Commissioner may reduce the “daily cover and ground water separation distances for the disposal of these wastes,” if it can be shown that the disposal will not pollute state waters.²⁷ But the disposal must not degrade the water quality below the water quality classification or further degrade already degraded waters.²⁸

Federal Policy and Regulations

CORPS OF ENGINEERS REGULATORY JURISDICTION

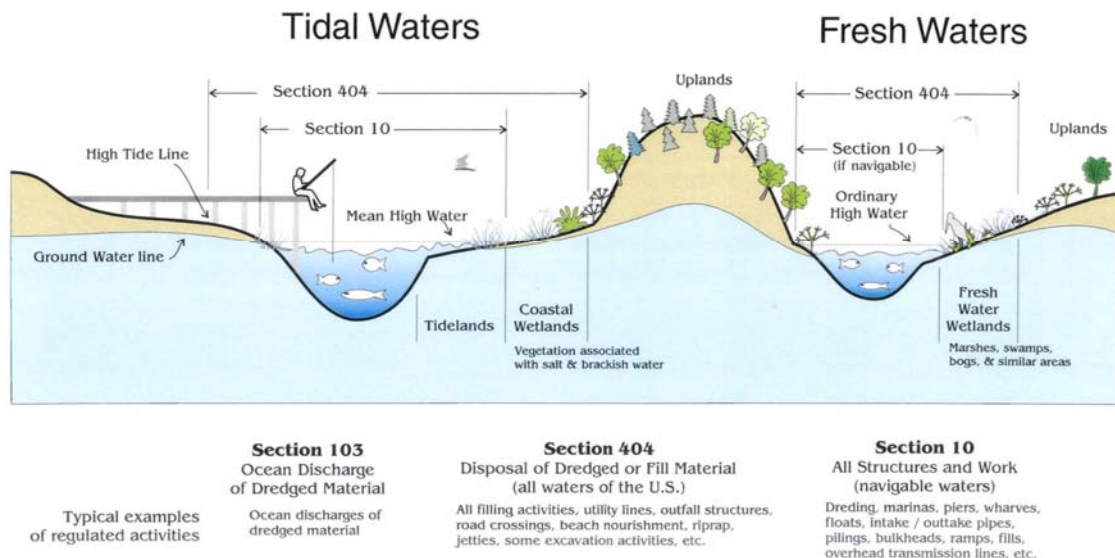


Figure 1. The regulatory jurisdiction for the US Army Corps of Engineers for tidal and fresh waters under Section 103 of the Marine Protection, Research and Sanctuaries Act; Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act of 1899.²⁹

Although Section 103 of the Marine Protection, Research and Sanctuaries Act and Section 10 of the Rivers and Harbors Act of 1899 also impact aspects of an overall restoration or creation of wetlands using dredged materials project, this report focuses on Section 404 of the Clean Water Act since it specifically deals with disposal of dredge or fill material and its jurisdiction covers the entire tidal area,

²⁴ Regs CT State Agencies, Sec. 22a-209-1

²⁵ Regs CT State Agencies, Sec. 22a-209-1

²⁶ Regs CT State Agencies, Sec. 22a-209-7(b)(5)

²⁷ Regs CT State Agencies, Sec. 22a-209-8 (f)(7)

²⁸ Section 22a-209-7 (c)(2)

²⁹ <http://www.nwp.usace.army.mil/Missions/Regulatory/Jurisdiction.aspx>

whereas Section 10 of the Rivers and Harbors Act of 1899 covers the dredging project itself and any structures that might occur in navigable waters.

Section 404 of the Clean Water Act

Section 404 of the Clean Water Act (CWA) regulates the discharge of dredged materials into waters of the United States, including wetlands.³⁰ Discharges of dredged material may be permitted if no “practicable alternative exists that is less damaging to the aquatic environment” or if “the nation’s waters would [not] be significantly degraded.”³¹ In order to get a permit for a project the applicant “must first show steps have been taken to avoid impacts to wetlands, streams and other aquatic resources; that potential impacts have been minimized; and that compensation will be provided for all remaining unavoidable impacts.”³² Three federal agencies are involved in the decisions about activities regulated under Section 404 of the CWA.³³ The U.S. Army Corps of Engineers (USACE) administers the program and permit decisions, the US Environmental Protection Agency (USEPA) serves as reviewer on individual permits and enforces Section 404, and the U.S. Fish and Wildlife Service (USFWS) and NOAA National Marine Fisheries Service (NMFS) reviews impacts on fish and wildlife.

WIIN Act 2016

On December 16, 2016, the Water Infrastructure Improvements for the Nation (WIIN) Act³⁴ was signed into law by President Obama. The bill amends the Water Resources and Development Act, which governs the activities of the US ACE. The new bill included language supporting marsh restoration for flood and extreme weather protection, sea level rise and coastal resilience, including the beneficial use of dredge materials for these activities through the creation of a pilot program and studies in these areas. The pilot projects specifically to reduce storm damage; promote public safety; protect, restore and create ecosystem habitats; stabilize streams and enhance shorelines; promote recreation; support risk management adaptation strategies; and reduce the costs of dredging and dredge material placement or disposal.

On February 9, 2018, the USACE released a request for proposals for the pilot projects. In addition to a project description and list of partners, the USACE requested an estimate of monetary and non-monetary benefits of the project in the categories of environmental, economic and social benefits.³⁵

Connecticut State Permits

Permits are issued under the Structures, Dredging and Fill Act and the Tidal Wetlands Act and activities are also reviewed for consistency with the Coastal Management Act for projects below the coastal jurisdiction line.³⁶ Connecticut provides three different permit options – general, certificate of

³⁰ <https://www.epa.gov/cwa-404/section-404-permit-program> (last updated 3/3/16; accessed 12/30/16)

³¹ <https://www.epa.gov/cwa-404/section-404-permit-program> (last updated 3/3/16; accessed 12/30/16)

³² <https://www.epa.gov/cwa-404/section-404-permit-program> (last updated 3/3/16; accessed 12/30/16)

³³ <https://www.epa.gov/cwa-404/section-404-permit-program> (last updated 3/3/16; accessed 12/30/16)

³⁴ S.612 WIIN Act; Public Law No: 114-322

³⁵ 83 FR 5763

³⁶ Sec. 22a-359(a)

permission and individual permits depending on the potential environmental impact of the activity.³⁷ Living shorelines projects present a special case with a potential for expedited permitting. A decision tree to guide applicants through the type of permit needed is shown in Figure 2.

The discharge of dredge materials into wetlands also necessitates a state Water Quality Certificate from DEEP pursuant to Section 401 of the federal Clean Water Act³⁸ showing that the discharge is consistent with the Connecticut Water Quality Standards.³⁹

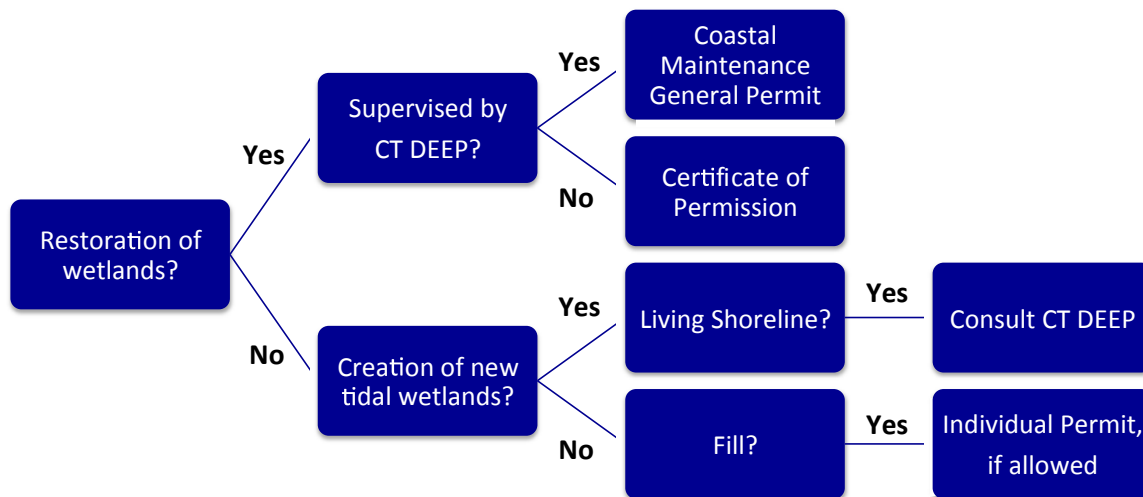


Figure 2. This figure shows a decision tree (starting on the left and following to the right) for the type of Connecticut permit needed for a marsh restoration or marsh creation project. Using the path followed by the “yes” or “no” response to the question at each junction, the permittee will be led to the appropriate permit or resource.

Connecticut Coastal Maintenance General Permit

The Connecticut Coastal Maintenance general permit that went into effect on October 26, 2015 and expires in 2035 allows for “coastal restoration activities including coastal habitat creation and coastal habitat enhancement” with no required registration if they are “performed by, or under the direct supervision of, the department.”⁴⁰

³⁷ http://www.ct.gov/deep/cwp/view.asp?a=2705&q=323580&depNav_GID=1635

³⁸ http://www.ct.gov/deep/cwp/view.asp?a=2705&q=323580&depNav_GID=1635

³⁹ http://www.ct.gov/deep/cwp/view.asp?a=2709&q=324168&depNav_GID=1643

⁴⁰

[http://www.ct.gov/deep/lib/deep/Permits and Licenses/LandUse General Permits/Long Island Sound General Permits/Coastal Maintenance gp.pdf](http://www.ct.gov/deep/lib/deep/Permits%20and%20Licenses/LandUse%20General%20Permits/Long%20Island%20Sound%20General%20Permits/Coastal%20Maintenance%20gp.pdf) October 26, 2015.

The general permit defines coastal restoration activities as “the intentional alteration of a site to reestablish the approximate biogeophysical conditions that existed in the predisturbance ecosystem or habitat.”⁴¹ Coastal habitat creation is defined as “means to bring into existence a habitat that was not historically supported at the site in question including the conversion of an existing habitat in favor of a new habitat.” Coastal habitat enhancement is “the intentional alteration of a habitat to improve one or a very limited number of functions of the existing habitat type.”⁴²

Certificate of Permission

The CT DEEP guidance on coastal permits states, “certain environmentally beneficial activities such as the removal of derelict structures and restoration of degraded tidal wetlands may be approved through the [Certificate of Permission (COP)] process. COPs are issued within 45 days, or within 90 days if additional information is requested by LWRD to complete its review.”⁴³

Individual Permit

An Individual Permit is likely to be required if the project is considered “fill” in wetlands under the Structure, Dredging and Fill Act and Tidal Wetlands Act. These projects can take up to 180 days to obtain a permit due to the considerable review of any adverse impacts, public notice and comment period.⁴⁴

Living Shorelines

The creation of new marsh habitat may be part of a living shoreline strategy. Any living shoreline activity to be constructed below the coastal jurisdiction line is subject to regulation by the CTDEEP. CTDEEP permits living shorelines either as a Certificate of Permission (COP) or an Individual Permit. Legislation granted CTDEEP the flexibility to issue up to three expedited COPs per year for living shorelines to pilot this new approach to mitigate shoreline erosion and restore or enhance tidal wetlands.⁴⁵

Living shorelines are also exempted from being considered a flood and erosion control structure,⁴⁶ therefore if a living shoreline project falls within the municipal jurisdiction area only, i.e. above the coastal jurisdiction line, municipalities do not need to forward projects to the state for approval. However, living shorelines are a new technology and municipalities are advised to consult with the CTDEEP to ensure that a project qualifies as a living shoreline.

401 Water Quality Certification Program for Connecticut

The CTDEEP administers the 401 Water Quality Certification Program for certification required by the Clean Water Act.⁴⁷ The program “regulates any applicant for a federal license or permit who seeks to

⁴¹

http://www.ct.gov/deep/lib/deep/Permits_and_Licenses/LandUse_General_Permits/Long_Island_Sound_General_Permits/Coastal_Maintenance_gp.pdf October 26, 2015.

⁴²

http://www.ct.gov/deep/lib/deep/Permits_and_Licenses/LandUse_General_Permits/Long_Island_Sound_General_Permits/Coastal_Maintenance_gp.pdf October 26, 2015.

⁴³ http://www.ct.gov/deep/cwp/view.asp?a=2705&q=323580&depNav_GID=1635

⁴⁴ <https://circa.uconn.edu/wp-content/uploads/sites/1618/2017/10/DEEP-overview-Nov.-20.pdf>

⁴⁵ Connecticut General Statutes Title 22A. Environmental Protection § 22a-363h

⁴⁶ Sec. 22a-109(c)(2)

⁴⁷ <https://www.epa.gov/cwa-404/clean-water-act-section-401-certification>, (accessed 2/13/17)

conduct an activity that may result in any discharge into the navigable waters, including all wetlands, watercourses and natural and man-made ponds.”⁴⁸ The CTDEEP issued 401 Water Quality Certification for Programmatic General Permits from the US Army Corps under certain conditions as described below in the federal permitting section.

Federal Agency Permits

For projects that would involve fill in tidal waters, permits must be obtained from the US Army Corps of Engineers under section 404 of the Clean Water Act. For Connecticut, these permits include either a Programmatic General Permit for projects that are likely to have minimal impacts on the environment or an individual permit where potential significant impacts are reviewed.⁴⁹

Programmatic General Permit – Dept. of the Army

The Programmatic General Permits (PGP) for minimal impacts projects for the purpose of shoreline protection, including living shorelines are authorized under GP 9, Shoreline & Bank Stabilization Projects.⁵⁰

The permit specifically *excludes* projects based on size in certain areas including:

- permanent and temporary impacts >1/2 acre in tidal waters;
- >1000 SF in tidal Special Aquatic Sites (SAS) other than vegetated shallows;
- or >100 SF in tidal vegetated shallows.

There are two levels of general permit: self-verification (SV) eligible and pre-construction notification (PCN) eligible with the latter category assumed to have a larger environmental impact than the former. However, the CTDEEP water quality certificate for the PGP⁵¹ further limits the size of SV and PCN eligible projects. SV eligible projects must be ≤ 50 feet for shoreline or riverbank stabilization. PCN eligible projects must be ≤ 100 feet. Projects greater than 100 feet require an individual water quality certificate. The general permit does not apply to projects that would impact special wetlands, endangered species or significant or critical habitats or adversely impact the floodplain.

The PGP states that SV eligible projects cannot place fill in special aquatic sites (SAS) (i.e. mudflats, tidal wetlands, submerged aquatic vegetation or shellfish beds). Project size constraints are:

- projects must be ≤ 200 linear feet; (*But in Connecticut ≤ 50 feet per the water quality certificate*)
- ≤ 1 cubic yard of fill per linear foot placed between the high tide line (HTL) and mean low water (MLW);
- or ≤1 cubic yard of fill per linear foot placed waterward of ordinary high water (OHW).

⁴⁸ http://www.ct.gov/deep/cwp/view.asp?a=2709&q=324168&depNav_GID=1643 (last updated May 2016)

⁴⁹ <https://www.epa.gov/cwa-404/section-404-permit-program> (last updated 3/3/16; accessed 12/30/16)

⁵⁰ [http://www.nae.usace.army.mil/portals/74/docs/regulatory/publicnotices/CT_General_Permit_2016%20Public%20Notice\(Update\).pdf](http://www.nae.usace.army.mil/portals/74/docs/regulatory/publicnotices/CT_General_Permit_2016%20Public%20Notice(Update).pdf)

⁵¹ http://www.nae.usace.army.mil/portals/74/docs/regulatory/StateGeneralPermits/CT/401_Water_Quality_Certification_and_Table-2016-Update.pdf

PCN eligible projects can include “fill waterward of the HTL in coastal waters including alternative stabilization techniques that are a combination of soft and hard shoreline stabilization techniques that will affect SAS, change the natural shoreline configuration or alter natural or ecological processes.” If projects are only eligible for screening under the PCN, then an application to the USACE is required, including drawings, wetlands functions and values assessment, and plans for mitigation. In Connecticut projects must be ≤ 100 feet per the water quality certificate.

Individual Permit

USACE issues individual permits based on a public interest review and environmental criteria in section 404(b)(1) of the Clean Water Act, which were developed with the EPA. The environmental criteria include the following categories:

- Potential Impacts on Physical and Chemical Characteristics of the Aquatic Ecosystem⁵²
- Potential Impacts on Biological Characteristics of the Aquatic Ecosystem⁵³
- Potential Impacts on Special Aquatic Sites (SAS)⁵⁴
- Potential Effects on Human Use Characteristics⁵⁵

⁵² §230.20-230.25

⁵³ §230.30-230.32

⁵⁴ §230.40-230.45

⁵⁵ §230.50-230.54