



California Regional Water Quality Control Board

San Francisco Bay Region



Linda S. Adams
Secretary for
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Arnold Schwarzenegger
Governor

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MARE ISLAND
SSIC NO. 5090.3.A

Letter sent via email

Date: April 16, 2008
File No. 2129.2011 (BJT)

Department of the Navy
BRAC Program Management Office
Attn: Mr. Michael Bloom
1455 Frazee Road, Suite 900
San Diego, CA 92108-4301
michael.s.bloom@navy.mil

Subject: Navy Requests for Applicable or Relevant and Appropriate Requirements (ARARs) for Installation Restoration Site 17 (IR17) and Building 742, Former Mare Island Naval Shipyard, Vallejo, Solano County.

Dear Mr. Bloom:

A list of ARARs is attached with this letter for soil remediation, for groundwater remediation, and for human and ecological health protection.

Please contact me at (510) 622-2422 or brthompson@waterboards.ca.gov if you have any questions.

Sincerely,

Brian Thompson, CHG, CEG
Engineering Geologist

Attachments: - ARARs for Soil Remediation
- ARARs for Groundwater Remediation
- ARARs for Human and Ecological Health Protection

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ARARs for Soil Remediation

No.	Source	Standard, Requirement, Criterion, or Limitation	Description	ARARs, or To Be Considered	Comments
1	Porter-Cologne Water Quality Control Act (California Water Code Sections 13240, 13241, 13242, 13242) Water Quality Control Plan (Basin Plan) for the San Francisco Bay Basin, RWQCB, SFB.	Chapter 2 – Beneficial Uses	Chapter 2 describes beneficial uses of surface and ground waters.	Applicable	Applicable to define beneficial uses of surface water where treated effluent may be discharged or at locations where impacted ground water may be impacting surface water.
		Chapter 3 – Water Quality Objectives	Chapter 3 establishes water quality objectives, including narrative and numerical standards that protect the beneficial uses and water quality objectives of surface and ground waters in the region.	Applicable	Applicable where effluent is discharged to surface water or where groundwater discharges to surface water. Any activity, including, but not limited to the discharge of contaminated soils or water or in-situ treatment or containment of contaminated soils or waters, must not result in actual water quality exceeding water quality objectives.
		Chapter 4 – Implementation Plan	Chapter 4 describes implementation plans and other control measures designed to ensure compliance with statewide plans and policies and provide comprehensive water quality planning. Please note that Hunters Point Shipyard lies within the Islais Valley and Visitation Valley Groundwater Basins. Existing and potential beneficial uses of this groundwater are: municipal and domestic supply, industrial process water supply, industrial service water supply, agricultural water supply, and freshwater replenishment to surface water.	Applicable	States that groundwater cleanup levels are established based upon the most sensitive beneficial use identified and that groundwater cleanup levels will be to background unless groundwater cleanup levels can be established based upon acceptable health risks. Requires groundwater monitoring to verify that groundwater is not polluted by chemicals remaining in soil.

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2	Porter-Cologne Water Quality Control Act (California Water Code Sections 13000 et seq.)	13307.1 (c)	If the state board or regional board finds that the property is not suitable of unrestricted use and that a land use restriction is necessary for the protection of public health, safety, or the environment, then the state board and the regional boards may not issue a closure letter, or make a determination that no future action is required with respect to a site that is subject to a cleanup or abatement order pursuant to Section 13304 and that is not an underground storage tank site, unless a land use restriction is recorded or required to be recorded pursuant to Section 1471 of the Civil Code.	Applicable	The new section of the Water Code is applicable to soil remedial actions as Board staff anticipates preparing a Site Cleanup Requirement (Cleanup and Abatement) Order for petroleum hydrocarbons once Parcel C is transferred.
		13243	The RWQCB may specify certain conditions or areas where the discharge of waste, or certain types of waste, will not be permitted.	Applicable	Applies to soil remedial action.
3	Porter-Cologne Water Quality Control Act (California Water Code Sections 13000, 13140, 13263, 13304)	State Water Resources Control Board Resolution No. 68-16 Statement of Policy with Respect to Maintaining High ("Anti- Quality Waters in California Degradation Policy")	Establishes policy that whenever the existing water quality is better than the quality established in policies as of the date on which such policies become effective, such existing high quality will be maintained until it has been demonstrated that any change will be consistent with the maximum benefit to the people of the State, won't unreasonably affect present and anticipated beneficial use of such water, and will not result in water quality less than prescribed in the policies. Discharges or proposed discharges to existing high quality waters will be required to meet waste discharge requirements which will result in the best practicable treatment or control of the discharge necessary to assure that a pollution or nuisance	Applicable	Applicable to sites where discharges of contaminants to the soil or soil action have potential to cause active discharges to surface waters and groundwater. In-situ cleanup levels for contaminates soils must be set so that groundwater will not be degraded, unless degradation is consistent with the maximum benefit of the people of the state. If degradation is allowed, the discharge must meet best practical treatment or control standards, and result in the highest water quality possible consistent with the maximum benefit to the people of the state. In no case may water quality objectives be exceeded.

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			will not occur and the highest water quality consistent with the maximum benefit to the people of the State will be maintained.		
4	Porter-Cologne Water Quality Control Act (California Water Code Sections 13000, 13140, 13240, 13260, 13263, 13267, 13300, 13304, 13307)	State Water Resources Control Board Resolution 92-49 ("Policies and Procedures for Investigation and Cleanup and Abatement of Discharges Under Water Code 13304")	Establishes requirements for investigation and cleanup and abatement of discharges. Among other requirements, dischargers must cleanup and abate the effects of discharges in a manner that promotes the attainment of either background water quality, or the best quality that is reasonable if background water quality cannot be restored. Requires the application of Title 23, CCR, Section 2550.4 requirements to cleanups.	Applicable	Applies to all cleanups of wastes to soil that threatens or may affect the quality of ground or surface water.
5	Porter-Cologne Water Quality Control Act (California Water Code Sections 13000, 13140, 13240)	State Water Resources Control Resolution 88-63 ("Sources of Drinking Water Policy") (as contained in the RWQCB's Water Quality Control Plan)	Specifies that, with certain exemptions, all ground and surface waters must have the beneficial use of municipal or domestic supply. SWRCB Resolution 88-63 applies to all sites that may be affected by discharges of waste to groundwater or surface water. The resolution specifies that, with certain exemptions, all groundwater and surface waters have beneficial uses of municipal or domestic supply. These exceptions include, among others, if: (1) the TDS exceeds 3,000 mg/L, or (2) the water source does not provide sufficient water to supply a single well capable of producing an average sustained yield of 200 gallons per day.	Applicable	Applies in determining beneficial uses for waters that may be affected by discharges of waste. Applies to soil actions that will result in a discharge to groundwater or surface water.

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6	Technical Document prepared by San Francisco Regional Water Quality Control Board Staff	"Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater," Interim Final July 2003 (updated November 2007)	Provides guidance on selecting numerical values to implement narrative water quality objectives contain in the Basin Plan.	To Be Considered; Relevant and Appropriate	This performance standard is to be considered in selecting numerical values to implement the Basin Plan for setting cleanup levels and discharge limits. The numerical values contained in the staff report may be ARAR's or Performance Standards, depending on the source of the values.
7	Staff Report of the RWQCB, CVR	The Designated Level Methodology for Waste Classification and Cleanup Level Determination	Provides guidance on how to classify wastes according to Title 27, CCR, Division 2, Subdiv.1/ Title 23, CCR, Division 3, Chapter 15, Article 10	To Be Considered	Performance standard to be considered in determining the classification of wastes and contaminated soils.
8	Porter-Cologne Water Quality Control Act (California Water Code Sections 13140-13147, 13172, 13260, 13263, 13267, 13304)	Title 27, California Code of Regulations (CCR), Division 2, Subdivision 1 (Section 20080 et seq.), Title 23, CCR, Division 3, Chapter 15, (Section 2510 et seq.)	Establishes waste and siting classification systems and minimum waste management standards for discharges of waste to land for treatment, storage, and disposal. Engineered alternatives that are consistent with Title 27/ Title 23 performance goals may be considered. Establishes corrective action requirements for responding to leaks and other unauthorized discharges.	Applicable	Applies to all discharges of waste to land for treatment, storage, or disposal that may affect water quality. The application of some of the specific sections of Title 27/ Title 23 to different situations is discussed below. Provisions of Title 23 apply to hazardous waste and provisions of Title 27 apply to designated and non-hazardous waste.

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9	Porter-Cologne Water Quality Control Act (California Water Code Sections 13140-13147, 13172, 13260, 13263, 13269).	Title 23, CCR, Section, 2520, 2521	Requires that hazardous waste be discharged to Class I waste management units that meet certain design and monitoring standards.	Applicable	Applies to discharges of hazardous waste to land for treatment, storage, or disposal.
10	Porter-Cologne Water Quality Control Act (California Water Code Sections 13140-13147, 13172, 13260, 13263, 13269).	Title 27, CCR, Section, 20200(c), 20210	Requires that designated waste be discharged to Class I or Class II waste management units.	Applicable	Applies to discharges of designated waste (nonhazardous waste that could cause degradation of surface or ground waters) to land for treatment, storage, or disposal.
11	Porter-Cologne Water Quality Control Act (California Water Code Sections 13140-13147, 13172, 13260, 13263, 13269).	Title 27, CCR, Section 20230	Requires that inert waste does not need to be discharged at classified units	Applicable	Applies to discharges of inert waste to land for treatment, storage, or disposal.
12	Porter-Cologne Water Quality Control Act (California Water Code Sections 13140-13147, 13172, 13260, 13263, 13269).	Title 27, CCR, Section 20200(c), 20220	Requires that non-hazardous solid waste be discharged to a classified waste management unit.	Applicable	Applies to discharges of non-hazardous solid waste to land for treatment, storage, or disposal.

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13	Porter-Cologne Water Quality Control Act (California Water Code Sections 13260, 13263, 13370.5, 13372, 13373, 13374, 13375, 13376, 13377, 13383).	40 CFR Parts 122, 123, 124, National Pollution Discharge Elimination System, implemented by California Storm water Permit for Industrial Activities, State Water Resources Control Board Order #97-03-DWQ.	Regulates pollutants in discharge of storm water associated with hazardous waste treatment, storage, and disposal facilities, wastewater treatment plants, landfills, land application sites, and open dumps. Requirements to ensure storm water discharges do not contribute to a violation of surface water quality standards.	Applicable	Applies to storm water discharges from industrial areas. Includes measures to minimize and/or eliminate pollutants in storm water discharges and monitoring to demonstrate compliance.
14	Porter-Cologne Water Quality Control Act (California Water Code Sections 13260, 13263, 13370.5, 13372, 13373, 13374, 13375, 13376, 13377, 13383).	40 CFR Parts 122, 123, 124, National pollution discharge elimination system, implemented by State Water Resources Control Board Order No. 99-08 DWQ (Waste Discharge Requirements for Discharges of Storm Water Runoff Associated with Construction Activity).	Requires control of storm water runoff discharges at construction sites that are greater than 1acre in size. Regulates pollutants in discharge of storm water associated with construction activity (clearing, grading, or excavation) involving the disturbance of one acre or more. Requirements to ensure storm water discharges do not contribute to a violation of surface water quality standards.	Applicable	Applies to construction areas over 1 acre in size. Includes measures to minimize and/or eliminate pollutants in storm water discharges and monitoring to demonstrate compliance.
15	Porter-Cologne Water Quality Control Act (California Water Code Sections 13140-13147, 13172, 13260, 13263, 13267, 13304).	Title 27, CCR, Section 20080(g), Title 23, CCR, Section 2510(g)	Requires monitoring. If water quality is threatened, corrective action consistent with Title 27, Title 23 is required.	Applicable	Applies to areas of land where discharges had ceased as of November 27, 1984 (the effective date of the revised Title 27/ Title 23 regulations).

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16	Porter-Cologne Water Quality Control Act (California Water Code Sections 13140-13147, 13172, 13260, 13263, 13267, 13304).	Title 27, CCR, Section 20090(d) Title 23 CCR, Section 2511(d)	Actions taken by public agencies to cleanup unauthorized releases are exempt from Title 27/ Title 23 except that wastes removed from immediate place of release and discharged to land must be managed in accordance with classification (Title 27 CCR, Section 20200/ Title 23 CCR, Sections 2520) and siting requirements of Title 27 or Title 23 and wastes contained or left in place must comply with Title 27 or Title 23 to the extent feasible.	Applicable	Applies to remediation and monitoring of sites.
17	Porter-Cologne Water Quality Control Act (California Water Code Sections 13140-13147, 13172, 13260, 13263, 13267, 13304).	Title 27, CCR, Section 20080 (d) Title 23, CCR, Section 2510(d)	Requires closure of existing waste management units according to Title 27/Title 23	Applicable	Applies to "existing" waste management units (i.e., areas where waste was discharged to land on or before 27 November 1984, but that were not closed, abandoned, or inactive prior to that date).
18	Porter-Cologne Water Quality Control Act (California Water Code Sections 13140-13147, 13172, 13260, 1323, 13269).	Title 27, CCR, Section 21400, Title 23, CCR, Section 2582.	Requires surface impoundments to be closed by removing and treating all free liquid and either removing all remaining contamination or closing the surface impoundment as a landfill	Applicable	If water quality is threatened, this section is relevant and appropriate for natural topographic depressions, excavations, and diked areas where wastes containing free liquids were discharged.
19	Porter-Cologne Water Quality Control Act (California Water Code Sections 13140-13147, 13172, 13260, 13263, 13267, 13269).	Title 27, CCR, Sections 20385-20435 Title 23, CCR, Section 2550.	Applicable where groundwater monitoring is required under 2510 or 2511 of Ch 15 (and equivalent for Title 27), applies to authorized waste management units as well as unauthorized discharges of waste to land and to closed abandoned or inactive units.	Applicable	Applies to all areas in which waste has been discharged to land to determine the threat to water quality.
20	Porter-Cologne Water Quality Control Act	Title 27, CCR, Section 20385, Title 23, CCR, Section 2550.1	Requires detection monitoring. Once a significant release has occurred, evaluation, or corrective action	Applicable	Applies to all areas in which waste has been discharged to land to determine the threat to water quality.

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	(California Water Code Sections 13140-13147, 13172, 13260, 13263, 13267, 13269).		monitoring is required.		
21	Porter-Cologne Water Quality Control Act (California Water Code Sections 13140-13147, 13172, 13260, 13263, 13267, 13269).	Title 27, CCR, Section 20390, Title 23, CCR, Section 2550.2	Requires establishment of a water quality protection standard consisting of a list of constituents of concern, concentration limits, compliance monitoring points and all monitoring points. This section further specifies the time period that the standard shall apply.	Applicable	Applies to all areas in which waste has been discharged to land where groundwater is threatened.
22	Porter-Cologne Water Quality Control Act (California Water Code Sections 13140-13147, 13172, 13260, 13263, 13267, 13269).	Title 27, CCR, Section 20395, Title 23, CCR, Section 2550.3	Requires development of a list of constituents of concern, which include all waste constituents that are reasonably expected to be present in the soil from discharges to land, and could adversely affect water quality.	Applicable	Applies to all areas in which waste has been discharged to land where groundwater is threatened.
23	Porter-Cologne Water Quality Control Act (California Water Code Sections 13140-13147, 13172, 13260, 13263, 13267, 13269).	Title 27, CCR, Section 20400, Title 23, CCR, Section 2550.4	Concentration limits must be established for groundwater, surface water, and the unsaturated zone. Must be based on background, equal to background, or for corrective actions, may be greater than background, not to exceed the lower of the applicable water quality objective or the concentration technologically or economically achievable. Specific factors must be considered in setting cleanup standards above background levels.	Relevant and Appropriate.	If water quality is threatened, this section applies in setting soil cleanup levels for all cleanups of discharges of waste to land.

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24	Porter-Cologne Water Quality Control Act (California Water Code Sections 13140-13147, 13172, 13260, 13263, 13267, 13269).	Title 27, CCR, Section 20405, Title 23, CCR, Section 2550.5	Requires identification of the point of compliance, hydraulically down gradient from the area where waste was discharged to land.	Applicable	Applies to all areas in which waste has been discharged to land where groundwater is threatened.
25	Porter-Cologne Water Quality Control Act (California Water Code Sections 13140-13147, 13172, 13260, 13263, 13267, 13269).	Title 27, CCR, Section 20410 Title 23, CCR, Section 2550.6	Requires monitoring for compliance with remedial action objectives for three years from the date of achieving cleanup levels.	Relevant and Appropriate	Applies to all soil cleanup activities.
26	Porter-Cologne Water Quality Control Act (California Water Code Sections 13140-13147, 13172, 13260, 13263, 13267, 13269).	Title 27, CCR, Section 20415 Title 23, CCR, Section 2550.7.	Requires general soil, surface water, and ground water monitoring.	Relevant and appropriate.	Applies to all areas in which waste has been discharged to land.
27	Porter-Cologne Water Quality Control Act (California Water Code Sections 13140-13147, 13172, 13260, 13263, 13267, 13269).	Title 27, CCR, Section 20420, Title 23, CCR, Section 2550.8.	Requires detection monitoring to determine if a release has occurred.	Applicable	Applies to all areas where waste has been discharged to land and groundwater is threatened.

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28	Porter-Cologne Water Quality Control Act (California Water Code Sections 13140-13147, 13172, 13260, 13263, 13267, 13269).	Title 27, CCR, Section 20425 Title 23, CCR, Section 2550.9	Requires an assessment of the nature and extent of the release, including a determination of the spatial distribution and concentration of each constituent.	Applicable	Applies to sites at which monitoring results show statistically significant evidence of a release.
29	Porter-Cologne Water Quality Control Act (California Water Code Sections 13140-13147, 13172, 13260, 13263, 13267, 13269).	Title 27, CCR, Section 20430 Title 23, CCR, Section 2550.10	Requires implementation of corrective action measures that ensure that cleanup levels (i.e., water quality protection standard established under section 2550.2) are achieved throughout the zone affected by the release by removing the waste constituents or treating them in place. Source control may be required. Also requires monitoring to determine the effectiveness of the corrective actions.	Relevant and Appropriate	If water quality is threatened, this section applies to all soil cleanup activities.
30	Porter-Cologne Water Quality Control Act (California Water Code Sections 13140-13147, 13172, 13260, 13263, 13267, 13269).	Title 27, CCR, Section 20950; 22207 (a); 22212 (a), and 22222. Title 23, CCR, Section 2550.0 (b); 2580; 2580(f).	General closure requirements, including continued maintenance of waste containment, drainage controls, and groundwater monitoring throughout the closure and post-closure maintenance periods.	Applicable	Applies to partial or final closure of waste management units.
31	Porter-Cologne Water Quality Control Act (California Water Code Sections 13140-13147, 13172, 13260, 13263, 13267, 13269)	Title 27, CCR, Section 21090	Requires a final cover for landfills constructed in accordance with specific prescriptive standards, to be maintained as long as wastes pose a threat to water quality.	Relevant and Appropriate	If water quality is threatened, this section is relevant and appropriate for wastes contained or left in place at the end of remedial actions that could affect water quality. Includes closure of landfills and other areas where wastes have been discharged to land.

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32	Federal Clean Water Act	40 CFR 230.3, Section 404, Definition of Wetlands	Authorizes the US Army Corps of Engineers to delineate wetlands.	Relevant and Appropriate	Applicable to soil remedial action in the vicinity of wetlands.
33	Federal Clean Water Act	40 CFR, 230.10(a) and 230.10(c)	Restrictions for discharge: If there is a practicable alternative that would have a lesser impact on the wetlands, fill materials should not be discharged at the wetland. Any discharge that occurs should not cause a violation of state water quality objectives or a significant degradation of water quality.	Relevant and Appropriate	Applicable to soil remedial action in the vicinity of wetlands.
34	Federal Clean Water Act	USACE, Public Notice 92-7: Interim Testing Procedures for Evaluating Dredged Material Disposed of in San Francisco Bay	Reassures that all wetland creation, uplands, disposal, or dredging projects complete certain notifications and listings.	Relevant and Appropriate	Applicable to soil remedial action in the vicinity of wetlands.
35	Federal Clean Water Act	Section 401, 33 U.S.C. 1341	State Water Quality Certification: Wetland destruction and alteration would require a 404 permit and this certification assures that the proposed activity will comply with state water quality standards.	Relevant and Appropriate	Applicable to soil remedial action in the vicinity of wetlands.
36	Federal Clean Water Act	40 CFR 122 – EPA Administered Permit Programs: The National Pollution Discharge Elimination System, 40 CFR 122.26; 40 CFR 122.41 (d); 40 CFR 122.41 (e); 40 CFR 122.44 (d)	<p>Requirements to ensure storm water discharges from remedial action activities do not contribute to a violation of surface water quality standards.</p> <p>All reasonable steps must be taken to minimize or prevent discharges which have a reasonable likelihood of causing adverse impacts on surface water quality (40 CFR 122.41(d)).</p> <p>Discharges into surface water must achieve federal and state water quality standards (40 CFR 122.44 (d)).</p>	Relevant and Appropriate	Applicable to soil remedial action.

ARARs for Groundwater Remediation

No.	Source	Standard, Requirement, Criterion, or Limitation	Description	ARARs, or To Be Considered	Comments
1	Porter-Cologne Water Quality Control Act (California Water Code Section 13000 et seq.)	California Water Code Section 13304.1(a)	Requires that a groundwater cleanup system that is required to obtain a discharge permit from the regional board and that discharges of treated groundwater to surface water or groundwater, shall treat the groundwater to standards approved by the regional board, taking into account the beneficial uses of the receiving water that the location of the discharge and the method by which the discharge takes place	Relevant and Appropriate	Applies to groundwater remedial actions.
		California Water Code Section 13307.1(c)	If the State Board or regional board finds that the property is not suitable for unrestricted use and that a land use restriction is necessary for the protection of public health, safety, or the environment, then the state board and the regional boards may not issue a closure letter, or make a determination that no further action is required, with respect to a site that is subject to a cleanup or abatement order pursuant to Section 13304 and that is not an underground storage tank site, unless a land use restriction is recorded or required to be recorded pursuant to Section 1471 or the Civil Code.	Applicable	This section of the Water Code is applicable to groundwater remedial actions as Board staff anticipates preparing a Site Cleanup Requirements (Cleanup and Abatement) Order for petroleum hydrocarbons once Parcel C is transferred.
		California Water Code Section 13243	The RWQCB may specify certain conditions or areas where the discharge of waste, or certain types of waste, will not be permitted.	Applicable	Applies to groundwater remedial action.
2	Porter-Cologne Water Quality Control Act (California Water Code Section 13000, 133304, 13240,	Water Quality Control Plan (Basin Plan) for the San Francisco Bay Basin, RWQCB, SFB. Chapter 2 – Beneficial Uses	Chapter 2 describes beneficial uses of surface and ground waters.	Applicable	Applicable to define beneficial uses of surface water where treated effluent may be discharged or at locations where impacted ground water may be impacting surface water.

ARARs for Groundwater Remediation

No.	Source	Standard, Requirement, Criterion, or Limitation	Description	ARARs, or To Be Considered	Comments
	13241, 13242, 13243)	<p>Water Quality Control Plan (Basin Plan) for the San Francisco Bay Basin, RWQCB, SFB.</p> <p>Chapter 3 – Water Quality Objectives</p>	<p>Chapter 3 establishes water quality objectives, including narrative and numerical standards that protect the beneficial uses and water quality objectives of surface and ground waters in the region.</p> <p>Narrative objectives describe the water quality to attain via pollution control and form the basis for the numerical values. Numerical objectives are designed to limit the adverse effects of pollutants.</p>	Applicable	Applicable where effluent is discharged to surface water or where groundwater discharges to surface water. Any activity, including, but not limited to the discharge of contaminated soils or water or in-situ treatment or containment of contaminated soils or waters, must not result in actual water quality exceeding water quality objectives.
		<p>Water Quality Control Plan (Basin Plan) for the San Francisco Bay Basin, RWQCB, SFB.</p> <p>Chapter 4 – Implementation Plan</p>	<p>Chapter 4 describes implementation plans and other control measures designed to ensure compliance with statewide plans and policies.</p> <p>Includes groundwater and surface water protection and management. Describes program goals, how water quality objectives area applied, and strategies for managing polluted sites.</p> <p>Please note that Hunters Point Shipyard lies within the Islais Valley and Visitation Valley Groundwater Basins. Existing and potential beneficial uses of this groundwater are: municipal and domestic supply, industrial process water supply, industrial service water supply, agricultural water supply, and freshwater replenishment to surface water.</p>	Applicable	States that groundwater cleanup levels are established based upon the most sensitive beneficial use identified and that groundwater cleanup levels will be to background unless groundwater cleanup levels can be established based upon acceptable health risks. Requires groundwater monitoring to verify that groundwater is not polluted by chemicals remaining in soil.
3	Porter-Cologne Water Quality Control Act (California Water Code Sections 13000, 13140,	State Water Resources Control Board Resolution No. 68-16, Statement of Policy with Respect to Maintaining High Quality Waters in California ("Anti-degradation Policy").	<p>Requires that high quality surface and groundwater be maintained to the maximum extent possible.</p> <p>Establishes policy that whenever the existing water quality is better than the quality</p>	Applicable	<p>Applies to discharges of waste to waters, including discharges to soil that may affect surface or ground waters.</p> <p>If degradation of waters is allowed,</p>

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No.	Source	Standard, Requirement, Criterion, or Limitation	Description	ARARs, or To Be Considered	Comments
	13263, 13304)		<p>established in policies as of the date on which such policies become effective, such existing high quality will be maintained until it has been demonstrated that any change will be consistent with the maximum benefit to the people of the State, won't unreasonably affect present and anticipated beneficial use of such water, and will not result in water quality less than prescribed in the policies.</p> <p>Discharge or proposed discharges to existing high quality waters will be required to meet waste discharge requirements which will result in the best practicable treatment or control of the discharge necessary to assure that a pollution or nuisance will not occur and the highest water quality consistent with the maximum benefit to the people of the State will be maintained.</p>		<p>or allowed to remain, the discharge must meet best practical treatment or control standards, and result in the highest water quality possible that is consistent with the maximum benefit to the people of the State.</p> <p>In-situ cleanup levels for contaminated ground waters must be set at background level, unless allowing continued degradation is consistent with the maximum benefit of the people of the state.</p>
4	Porter-Cologne Water Quality Control Act (California Water Code Sections 13240, 13241, 13242, 13243)	RWQCB, SFB Basin Plan, "Discharge of Treated Groundwater;" RWQCB Resolution No. 88-160.	Urges the dischargers of extracted groundwater from groundwater cleanup projects to reclaim their effluents to the extent technologically and economically feasible, and if not technologically and economically feasible, urges discharge to POTWs. Where neither reclamation nor POTW discharge is technically or economically feasible, discharge in accordance with NPDES requirements will be authorized by the Board.	Relevant and Appropriate	Applicable to all groundwater sites where groundwater extraction occurs. Board NPDES permitting requirements identified by the resolution are procedural and not ARARs.
5	Porter-Cologne Water Quality Control Act (California Water Code Sections 13000, 13140,	State Water Resources Control Board Resolution No. 88-63 ("Sources of Drinking Water Policy"), as contained in the RWQCB's Water Quality Control Plan	<p>Specifies that, with certain exceptions, all ground and surface waters must have the beneficial use of municipal or domestic water supply.</p> <p>SWRCB Resolution 88-63 applies to all sites</p>	Applicable	Applies in determining beneficial uses for waters that may be affected by discharges of waste.

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No.	Source	Standard, Requirement, Criterion, or Limitation	Description	ARARs, or To Be Considered	Comments
	13240)		that may be affected by discharges of waste to groundwater or surface water. The resolution specifies that, with certain exceptions, all groundwater and surface waters have beneficial uses of municipal or domestic water supply. These exceptions include, among others, if: 1) the TDS exceed a 3,000 mg/L or 2) the water source does not provide sufficient water to supply as single well capable of producing and average sustained yield of 200 gallons per day.		
6	Porter-Cologne Water Quality Control Act (California Water Code Sections 13000, 13140, 13240, 13260, 13263, 13267, 13300, 13304, 13307)	State Water Resources Control Board Resolution No. 92-49, (Policies and Procedures for Investigation and Cleanup and Abatement of Discharges Under Water Code Section 13304"), as amended April 21, 1994.	Establishes requirements for investigation and cleanup and abatement of discharges. Among other requirements, dischargers must clean up and abate the effects of discharges in a manner that promotes the attainment of either background water quality, or the best water quality that is reasonable if background water quality cannot be restored. Requires the application of Title 23, CCR, Section 2550.4, requirements to cleanups.	Applicable	Applies to groundwater remedial actions. Applies to all cleanups where the quality of groundwater or surface water is threatened.
7	Porter-Cologne Water Quality Control Act (California Water Code Sections 13140-13147, 13172, 13260, 13263, 13267, 13304)	Title 27, CCR, Division 2, Subdivision 1 (Section 20080 et seq.) Title 23, CCR, Division 3, Chapter 15 (Section 2510 et seq.).	Establishes waste and siting classification systems and minimum waste management standards for discharges of waste to land for treatment, storage, and disposal. Engineered alternatives that are consistent with Title 27/Title 23 performance goals may be considered. Establishes corrective action requirements for responding to discharges to land, including spills and leaks and other unauthorized discharges.	Applicable	The Application of specific sections of Title 27/ Title 23 is discussed below. Provisions of Title 23 apply to hazardous waste and provisions of Title 27 apply to designated and nonhazardous solid waste.

ARARs for Groundwater Remediation

No.	Source	Standard, Requirement, Criterion, or Limitation	Description	ARARs, or To Be Considered	Comments
8	Porter-Cologne Water Quality Control Act (California Water Code Sections 13140-13147, 13172, 13260, 13263, 13267, 13304).	Title 27, CCR, Section 20090(d) Title 23, CCR, Section 2511 (d)	Action taken by public agencies to clean up unauthorized releases are exempt from Title 27/ Title 23 except that wastes removed from immediate place of release and discharged to land must be managed in accordance with classification (Title 27, CCR, Section 20200/ Title 23, CCR, Section 2520) and siting requirements of Title 27 or Title 23 and wastes contained or left in place must comply with Title 27 or Title 23 to the extent feasible.	Applicable	Applies to remediation and monitoring of sites.
9	Porter-Cologne Water Quality Control Act (California Water Code Sections 13140-13147, 13172, 13260, 13263, 13267, 13304).	Title 27, CCR, Section 20400 Title 23, CCR, Section 2550.4.	Concentration limits must be established for groundwater, surface water, and the unsaturated zone. Must be based on background, equal to background, or for corrective actions, may be greater than background, not to exceed the lower of the applicable water quality objective or the concentration technologically or economically achievable. Specific factors must be considered in setting cleanup standards above background levels.	Applicable	Applies in setting ground water cleanup levels for all discharges of waste to land.
10	Porter-Cologne Water Quality Control Act (California Water Code Sections 13140-13147, 13172, 13260, 13263, 13267, 13304).	Title 27, CCR, Section 20410 Title 23, CCR, Section 2550.6	Requires monitoring for compliance with remedial action objectives for three years from the date of achieving cleanup standards.	Applicable	Applies to groundwater remedial actions.

ARARs for Groundwater Remediation

No.	Source	Standard, Requirement, Criterion, or Limitation	Description	ARARs, or To Be Considered	Comments
11	Porter-Cologne Water Quality Control Act (California Water Code Sections 13140-13147, 13172, 13260, 13263, 13267, 13304).	Title 27, CCR, Section 20415 Title 23, CCR, Section 2550.7.	Requires general soil, surface water, and ground water monitoring.	Applicable	Applies to all areas at which waste has been discharged to land.
12	Porter-Cologne Water Quality Control Act (California Water Code Sections 13140-13147, 13172, 13260, 13263, 13267, 13304).	Title, 27, CCR, Section 20425 Title, 23, CCR, Section 2550.9.	Requires an assessment of the nature and extent of the release, including a determination of the spatial distribution and concentration of each constituent.	Applicable	Applies to areas at which monitoring results show statistically significant evidence of a release.
13	Porter-Cologne Water Quality Control Act (California Water Code Sections 13140-13147, 13172, 13260, 13263, 13267, 13304).	Title 27, CCR, Section 20430 Title 23, CCR Section 2550.10	Requires implementation of corrective action measures that ensure that cleanup levels are achieved throughout the zone affected by the release by removing the waste constituents or treating them in place. Source control may be required. Also requires monitoring to determine the effectiveness of the corrective actions.	Applicable	Applies to groundwater remedial actions.

ARARs for Groundwater Remediation

No.	Source	Standard, Requirement, Criterion, or Limitation	Description	ARARs, or To Be Considered	Comments
14	Porter-Cologne Water Quality Control Act (California Water Code Sections 13140-13147, 13172, 13260, 13263, 13267 13304).	Title 27, CCR, Section 21090	Requires a final cover constructed in accordance with specific prescriptive standards, to be maintained as long as wastes pose a threat to water quality.	Applicable	Applies to wastes contained or left in place at the end of remedial actions that could affect water quality. Includes closure of landfills and other areas where wastes have been discharged to land.
15	California Safe Drinking Water Act (California Health & Safety Code Section 4010 et seq.)	Title 22, CCR, Section 64400 et seq.	Requirements for public water systems. Includes Maximum Contaminant Levels (MCLs) and Secondary Maximum Contaminant Levels (SMCLs).	Relevant and Appropriate	The act is legally applicable for an aquifer and associated distribution and pre-treatment system that is currently defined as "public water system" If it is only a potential "Public water system," then the act is relevant and appropriate.
16	Staff Report of the RWQCB, Central Valley Region	"A Compilation of Water Quality Goals"	Provides guidance on selecting numerical values to implement narrative water quality objectives contained in the Basin Plan.	To Be Considered	Performance Standard. To be considered in selecting appropriate numerical values to implement the Basin Plan for setting cleanup levels and discharge limits. The numerical values contained in the staff report may be ARAR's, or Performance Standards, depending on the source of the values.

ARARs for Groundwater Remediation

No.	Source	Standard, Requirement, Criterion, or Limitation	Description	ARARs, or To Be Considered	Comments
17	Technical Document prepared by San Francisco Bay Regional Board Staff	"Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater" (Interim Final - July 2003; updated November 2007)	Provides guidance on selecting numerical values to implement narrative water quality objectives contained in the Basin Plan.	To Be Considered; Relevant and Appropriate	Applies to groundwater remedial actions.
18	California Toxics Rule	40 CFR 131.38	Contains criteria for priority toxic pollutants in the State of California for inland surface waters and enclosed bays and estuaries, except in those waters subject to objectives in the Regional Board's 1995 Basin Plan.	Relevant and Appropriate	Applies to groundwater remedial actions.

ARARs for Human and Ecological Health Protection

No.	Source	Standard, Requirement, Criterion, or Limitation	Description	ARARs, or To Be Considered	Comments
1	Porter-Cologne Water Quality Control Act (California Water Code)	Section 13304.2	Requires the assessment of potential human health or ecological risks caused or created by the discharge using human health and environmental screening levels or a site-specific assessment of risks. Risk assessments consider all media pathways including, but not limited to, drinking water, food, ambient and indoor air, and soil.	Applicable	
2	Technical Document prepared by San Francisco Regional Water Quality Control Board Staff	"Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater," Interim Final July 2003 (updated November 2007)	Provides guidance on selecting numerical values to implement narrative water quality objectives contain in the Basin Plan.	To Be Considered; Relevant and Appropriate	This performance standard is to be considered in selecting numerical values to implement the Basin Plan for setting cleanup levels and discharge limits. The numerical values contained in the staff report may be ARAR's or Performance Standards, depending on the source of the values.
3	Fish and Game Code section 5650 (a), (b) & (f)	Action must be taken if toxic materials are placed where they can enter waters of the State. There can be no release that would have a deleterious effect on species or habitat.	This code section prohibits depositing or placing where it can pass into waters of the state any petroleum products (Section 5650(a)(1)), factory refuse (section 5650(a)(4)), sawdust, shavings, slabs or edgings (section 5650(a)(3)), and any substance deleterious to fish, plant life or bird life (section 5650(a)(6)). These are substantive, promulgated environmental protection requirements. These requirements impose strict criminal liability on violators. (<i>People v. Chevron Chemical Company (1983) 143 Cal. App. 3d 50</i>). This imposition of strict criminal liability imposes a standard that is more stringent than federal law. The extent to which each subdivision of section 5650 is relevant and appropriate depends on the site characterization.	Applicable	

ARARs for Human and Ecological Health Protection

No.	Source	Standard, Requirement, Criterion, or Limitation	Description	ARARs, or To Be Considered	Comments
4	Fish and Game Code section 3005 (Stats. 1957, c. 456, p. 1353 section 3005)	Action must be taken to prohibit the taking of birds and mammals, including the taking by poison.	This code section prohibits the taking of birds and mammals, including taking by poison. ATake@ is defined by Fish and Game Code section 86 to include killing. APoison@ is not defined in the code. Although there is no state authority on this point, federal law recognizes that poison, such as Strychnine, may effect incidental taking. (<i>Defenders of Wildlife v. Administrator, Environmental Protection Agency</i> (1989) 882. F. 2d. 1295). This code section imposes a substantive, promulgated environmental protection requirement.	Applicable	
5	Fish and Game Code section 1908 (Added by Stats. 1977, c. 1181, p. 3869, section 8)	Action must be taken to conserve native plants, there can be no releases and/or actions that would have a deleterious effect on species or habitat.	Section 1908 imposes a substantive requirement by forbidding any Aperson@ to take rare or endangered native plants. California Code of Regulations Title 14 section 670.2 provides a listing of the plants of California that have been declared to be Endangered, Threatened or Rare. Fish and Game Code section 67 provides the definition of Aperson@ as any natural person or any partnership, corporation, limited liability company, trust, or other type of association. Whether the federal government or contractors acting on behalf of the federal government would fall within that definition is a potential issue. To the extent that there are rare or endangered plants on site, section 1908 would be an ARAR.	Applicable	

ARARs for Human and Ecological Health Protection

No.	Source	Standard, Requirement, Criterion, or Limitation	Description	ARARs, or To Be Considered	Comments
6	Fish and Game Code section 2080 (Added by Stats. 1984, c. 1240, section 2).	Action must be taken to conserve endangered species, there can be no releases and/or actions that would have a deleterious effect on species or habitat.	<p>This section prohibits the take, possession, purchase or sell within the state, any species (including rare native plant species), or any product thereof, that the commission determines to be an endangered or threatened species, or the attempt of any of these acts. This section is applicable and relevant to the extent that there are endangered or threatened species in the area which have the potential of being affected if actions are not taken to conserve the species. This section prohibits releases and/or actions that would have a deleterious effect on species or their habitat. This section and applicable Title 14 regulations should be considered as ARARs.</p> <p><i>California Code of Regulations Title 14 sections 670.2 provides a listing the plants of California declared to be Endangered, Threatened or Rare.</i></p> <p><i>California Code of Regulations Title 14 section 670.5 provides a listing of Animals of California declared to be endangered or threatened.</i></p> <p><i>California Code of Regulations Title 14 section 783 et. seq., provides the implementation regulations for the California Endangered Species Act.</i></p>	Applicable	

ARARs for Human and Ecological Health Protection

No.	Source	Standard, Requirement, Criterion, or Limitation	Description	ARARs, or To Be Considered	Comments
7	Fish and Game Code section 3003.1 (Prop. 4 section 1 approved Nov. 3, 1998, eff. Nov. 4, 1998)	Action must be taken to prohibit the use of steel-jawed leghold traps	This section prohibits the use of any body gripping trap and provides that it is unlawful for any person, including an employee of the federal government, to use or authorize the use of such device to capture any game mammal, fur bearing mammal, nongame mammal, protected mammal, or any dog or cat. This prohibition will not apply in the extraordinary case where the use of such a device is the only method available to protect human health and safety.	Applicable	
8	Fish and Game Code section 3511 (Added by Stats.1970, c. 1036, p. 1848 section 4)	Action must be taken to prevent the taking of fully protected birds	<p>This section provides that it is unlawful to take or possess any of the following fully protected birds:</p> <ul style="list-style-type: none"> (a). American Peregrine Falcon (b). Brown Pelican (c). California Black Rail (d). California Clapper Rail (e). California Condor (f). California Least Tern (g). Golden Eagle (h). Greater Sandhill Crane (i). Light-footed Clapper Rail (j). Southern Bald Eagle (k). Trumpeter Swan (l). White-tailed Kite (m). Yuma Clapper Rail <p>This should be considered Applicable and Relevant to the extent that such fully protected birds or their habitat are detected on or near the site.</p>	Applicable	

ARARs for Human and Ecological Health Protection

No.	Source	Standard, Requirement, Criterion, or Limitation	Description	ARARs, or To Be Considered	Comments
9	Fish and Game Commission Wetlands Policy (adopted 1987) included in Fish and Game Code Addenda	Actions must be taken to assure that there is no net loss of wetlands acreage or habitat value. Action must be taken to preserve, protect, restore and enhance California's wetland acreage and habitat values.	This policy seeks to provide for the protection, preservation, restoration, enhancement and expansion of wetland habitat in California. Further, it opposes any development or conversion of wetland that would result in a reduction of wetland acreage or habitat value. It adopts the USFWS definition of a wetland which utilizes hydric soils, saturation or inundation, and vegetable criteria, and requires the presence of at least one of these criteria (rather than all three) in order to classify an area as a wetland. This policy is not a regulatory program and should be included as a TBC.	Applicable	
10	Fish and Game Code section 4700 (Added by Stats. 1970, c. 1036, p. 1848 section 6)	Actions must be taken to assure that no fully protected mammals are taken or possessed at any time.	This section prohibits the take or possession of any of the fully protected mammals or their parts. The following are fully protected mammals: (a) Morro Bay kangaroo rat (b) Bighorn sheep except Nelson bighorn sheep (c) Northern elephant seal (d) Guadalupe fur seal (e) Ring-tailed cat (f) Pacific right whale (g) Salt-marsh harvest mouse	Applicable	
11	Fish and Game Code section 5050 (Added by Stats. 1970, c. 1036, p. 1849, section 7)	Actions must be taken to prevent the take or possession of any fully protected reptile or amphibian.	This section prohibits the take or possession of fully protected reptiles and amphibians or parts thereof. The following are fully protected reptiles and amphibians: (1) Blunt-nosed leopard lizard (2) San Francisco garter snake (3) Santa Cruz long-toed salamander (4) Limestone salamander (5) Black toad This section is applicable, relevant and appropriate to the extent that these amphibians or	Applicable	

ARARs for Human and Ecological Health Protection

No.	Source	Standard, Requirement, Criterion, or Limitation	Description	ARARs, or To Be Considered	Comments
			reptiles and/or their habitat are located on or near the site.		
12	Fish and Game Code section 3503	Action must be taken to avoid the take or destruction of the nest or eggs of any bird	This section prohibits the take, possession, or needless destruction of the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto.	Applicable	
13	Fish and Game Code section 3503.5 (Added by Stats. 1985, c. 1334, section 6)	Action must be taken to prevent the take, possession, or destruction of any birds-of-prey or their eggs	This section prohibits the take, possession, or destruction of any birds in the orders of Falconiformes or Strigiformes (birds-of-prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto. This section will be applicable and relevant to the extent that such species or their eggs are located on or near the site.	Applicable	
14	Fish and Game Code section 3800 (Added by Stats. 1971, c. 1470, p. 2906,	Actions must be taken to prevent the take of nongame birds.	This section prohibits the take of nongame birds, except in accordance with regulations of the commission, or when related to mining operations with a mitigation plan approved by the department. This section further provides requirements concerning mitigation plans related to mining. This section is applicable and relevant to the extent that nongame birds or their eggs are located on or near the site and such species have not been included in the fish and wildlife conservation plan filed pursuant to the Federal Fish and Wildlife Conservation Act. Species included in the plan will be protected at	Applicable	

ARARs for Human and Ecological Health Protection

No.	Source	Standard, Requirement, Criterion, or Limitation	Description	ARARs, or To Be Considered	Comments
			the federal standard making this section an ARAR to the extent that it is more stringent than the federal standard of protection.		
15	Fish and Game Code section 4150 (Added by Stats. 1971, c. 1470, p. 2907, section 21)	Action must be taken to avoid the take or possession of nongame mammals	Nongame mammals are those occurring naturally in California which are not game mammals, fully protected mammals, or fur-bearing mammals. These mammals, or their parts, may not be taken or possessed except as provided in this code or in accordance with regulations adopted by the commission.	Applicable	
16	Code of Regulations (hereinafter referred as C.C.R.) section 472 (effective 07/01/74)	Action must be taken to avoid the take of nongame mammals except as provided in applicable regulations	<p>This Regulation provides that nongame birds and mammals may not be taken except as provided in subsections (a) through (d) below and in Sections 478 and 485.</p> <p>a). The following nongame birds and mammals may be taken except as provided in Chapter 6: English Sparrow, Starling, coyote, weasels, skunks, opossum, moles and rodents (excludes tree and flying squirrels, and those listed as furbearers, endangered or threatened species);</p> <p>b). Fallow, sambar, sika, and axis deer may be taken concurrently with the general deer season.</p> <p>c). Aoudad, mouflon, tahr, and feral goats may be taken all year.</p> <p>d). American Crows may be taken only under provisions of section 485 and by landowners or tenants, or person authorized by landowners or tenants, when American Crows are committing or about to commit depredations upon ornamental shade trees, agricultural crops, livestock, or wildlife, or when concentrated in such numbers and manner as to constitute a</p>	Applicable	

ARARs for Human and Ecological Health Protection

No.	Source	Standard, Requirement, Criterion, or Limitation	Description	ARARs, or To Be Considered	Comments
			health hazard or other nuisance. If required by Federal regulations, landowners or tenants shall obtain a Federal migratory bird depredation permit before taking any American Crows or authorizing any other person to take them.		
17	Fish and Game Code section 5517 (Added by Stats. 1993, c. 1174 (A.B. 522), section 2)	Action must be taken to avoid the take of any white shark	It is unlawful to take any white shark (<i>Carcharodon carcharias</i>), except under permit issued pursuant to section 1002 for scientific or educational purposes.	Applicable	
18	Fish and Game Code section 8500(Added by Stats. 1972, c. 1248, p. 2436. Section 2, eff. Dec. 13, 1972)	Action must be taken to avoid the take or possession of mollusks, crustaceans, or other invertebrates	It is unlawful to possess or take, unless otherwise expressly permitted in this chapter, mollusks, crustaceans, or other invertebrates, unless a valid tidal invertebrate permit has been issued. The taking, possessing, or landing of such invertebrates pursuant to this section shall be subject to regulations adopted by the commission.	Applicable	
19	Title 14 C.C.R. section 28.06 (effective 03/07/94)	Action must be taken to prevent the take of any white shark.	Regulation provides that white shark may not be taken, except under permit issued by the Department pursuant to section 1002 of the Fish and Game Code for scientific or educational purposes.	Applicable	

ARARs for Human and Ecological Health Protection

No.	Source	Standard, Requirement, Criterion, or Limitation	Description	ARARs, or To Be Considered	Comments
20	Title 14 C.C.R. sections 40 (Section 40 designated effective 03/01/74)	Action must be taken to avoid the take or possession of protected amphibians	This regulation makes it unlawful to capture, collect, intentionally kill or injure, possess, purchase, propagate, sell, transport, import, or export any native reptile or amphibian, or parts thereof unless under special permit from the department issued pursuant to Title 14 C.C.R. sections 650, 670.7, or 783 of these regulations, or as otherwise provided in the Fish and Game Code or these regulations.	Applicable	
21	Title 14 C.C.R. section 460 (effective 07/01/59)	Action must be taken to avoid take	Regulation makes it unlawful to take Fisher, marten, river otter, desert kit fox, and red fox.	Applicable	