San Francisco Estuary Invasive Spartina Project

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Preserving native wetlands

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Major Project Funders:

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American Resource & Recovery Act

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U.S. Environmental Protection Agency

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State Wildlife Conservation Board

CALFED Bay Delta Program

U.S. Fish and Wildlife Service

National Fish and Wildlife Foundation

Website:
www.spartina.org

Internal Memorandum

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ISP Memo #14-10 rev1
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To: Marilyn Latta, Project Manager

From: Peggy Olofson

Subject: Review of the ISP Treatment Program to determine whether the program results in any new impacts not considered previously under the 2003 and 2005 CEQA assessments

The State Coastal Conservancy evaluated potential environmental consequences associated with implementing the Invasive Spartina Project (ISP) Treatment Program in 2003 in a combined Programmatic Environmental Impact Report/Environmental Impact Assessment (SCH #2001042058; "PEIR", www.spartina.org/project_documents/eis_final.htm). Two years later, the Conservancy evaluated the potential effects of an additional herbicide proposed for use by the Treatment Program in an addendum to the PEIR (http://www.spartina.org/2005Addendum.htm). Under the CEQA Guidelines (14CCR §15000), treatment implementing agencies (e.g., a Conservancy treatment grantee or contractor) undertaking a subsequent site-specific project that is within the scope of a programmatic EIR may rely on that EIR as the sole, formal environmental document for the site-specific project if the programmatic EIR is sufficiently detailed so that the responsible agency can conclude that the site-specific project involves only impacts already adequately assessed and mitigation measures previously identified by the EIR. If the agency undertaking the site-specific project finds that the site-specific activities involve environmental effects or require mitigation not covered in the programmatic EIR, then they must undertake further environmental documentation through a negative declaration or EIR process (§15152(f) and §15168(c)(1)).

The 2003 PEIR, as augmented by the 2005 addendum, was intended specifically to be used as the basis for subsequent site-specific CEQA analyses for each proposed treatment project. The PEIR Mitigation Monitoring and Reporting Program (MMRP; www.spartina.org/Spartina_Final_EIR/Spartina_Final_EIR_App_K.pdf as amended by http://www.spartina.org/project_documents/ImazAddendum/Addendum%20AppA.pdf), provided an extensive list of potential impacts that should be considered for each treatment method at each treatment site, as well as a list of possible actions that must be applied to mitigate any potential impacts identified. This list is further augmented by a list of Conservation Measures required to be implemented under the ESA Section 7 Consultation and Biological Opinion and amendments (http://www.spartina.org/project.htm#section7), which provide additional protection for specific endangered species that may be present at the sites. Each year, as the Treatment Program managers develop and finalize plans for each treatment site, they consider the potential environmental effects associated with each treatment method and prepare site- and treatment-specific checklists of potential impacts and associated mitigation and conservation measures, following the procedures set forth in the MMRP (**Attachment 1 & 2**). The mitigation checklist is provided to the Conservancy

grantee and/or treatment contractor, who reviews, adopts, and implements the mitigation measures to comply with CEQA, and pursuant to the terms of their grant or contract.

Review of Treatment Program for New CEQA Impacts

The purpose of this review is to determine whether there may be any new impacts potentially associated with the ISP Treatment Program that were not previously considered in the 2003 PEIR and the 2005 Addendum, and if so, whether any additional mitigation or CEQA action is necessary. A "new" impact might be found to occur in any of the following circumstances:

- The Treatment Program implements a new treatment method not previously evaluated, or an existing method in a manner that varies substantially from the previously-evaluated method.
- The Treatment Program implements treatment at a location that differs in character substantially from the scenarios evaluated in the PEIR and Addendum.
- A previously-evaluated treatment method implemented at a typical location is suspected or found to have a significant effect that had not been anticipated or evaluated at the time of the PEIR and Addendum.
- Treatment is implemented under the auspices of the ISP Treatment Program outside of the Geographic scope covered by the PEIR and Addendum.

Currently, there are 206 delimited "sub-areas" (the unit used by ISP for defining treatment sites) where invasive *Spartina* has been, and may again be, treated. **Attachment 3** provides a listing of sub-areas, and at locations where treatment is expected to occur, indicates what treatment method(s) are proposed for use there. Thirty (30) sub-areas are not expected to be treated because no invasive Spartina was discovered there during the most recent inventory, and 11 sub-areas will not be treated due to permitting restraints to protect endangered species. At the remaining 165 sub-areas, the treatment methods proposed include aquatic herbicide, applied either from truck, amphibious vehicle, backpack sprayer, airboat, or helicopter, and manual methods, including digging, mowing, and covering. Each one of these treatment methods was thoroughly analyzed for potential impacts considering a range of habitat scenarios in the 2003 PEIR and 2005 Addendum, and suitable mitigations were included in the 2014 MMRP tables. No new, previously untried treatment methods were proposed or will be used. A Section 7 Biological Opinion amendment in 2014 identified approved entry dates for each sub-area, and specified Conservation Measures to protect endangered species.

ATTACHMENT 1: Impact and Mitigation Checklists

SITE-SPECIFIC PROJECT IMPACT EVALUATION

Site Name: Alameda Flood Control Channel, Alameda County TSN: ISP-2004-1

Impact*	Applicable to Site	Applicable Mitigations* (by Treatment Method used at Site)				Comments/Analysis of Residual Impact at Site	Additional Mitigation Required
		Herbicide Application					
		Backpack Sprayer	Amphibious Vehicle	Conventional Spray Truck	Aerial (Helicopter)		
GEO-1: Erosion or deposition of sediment at treatment site	NA/NE					NA/NE – Proposed activities are not ground disturbing and will not elevate erosion above ambient levels.	None
GEO-2: Erosion or topographic change of marsh and mudflat by vehicles used in eradication	A		GEO-2			LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
GEO-3: Remobilization of sand in cordgrass-stabilized estuarine beaches	NA/NE					NA/NE – Proposed activities will not take place within an estuarine beach.	None
GEO-4: Increased demand for sediment disposal and potential spread of invasive cordgrass via sediment disposal	NA/NE					NA/NE – No dredging/sediment disposal proposed	None
GEO-5: Increased volume and velocity of tidal currents in channels due to the removal of invasive cordgrass	A	None	None	None	None	No adverse impact (see EIS/R GEO-5 discussion). Site conditions consistent with those anticipated in the PEIS/R.	None
GEO-6: Increased depth and turbulence of tidewaters impounded in salt marsh pans	NA/NE					NA/NE – Proposed activities will not take place within salt marsh pans.	None
WQ-1: Degradation of water quality due to herbicide application	A	WQ-1	WQ-1	WQ-1	WQ-1	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
WQ-2: Degradation of water quality due to herbicide spills	A	WQ-2	WQ-2	WQ-2	WQ-2	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None

Key: * Impact and mitigation numbering from ISP Control Program Programmatic EIS/R, August 2003
NA/NE – Not applicable / No Effect
LTS/NLTAE – Less Than Significant Impact / Not Likely to Adversely Effect
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Impact*	Applicable to Site	Applicable Mitigations* (by Treatment Method used at Site)				Comments/Analysis of Residual Impact at Site	Additional Mitigation Required
		Herbicide Application					
		Backpack Sprayer	Amphibious Vehicle	Conventional Spray Truck	Aerial (Helicopter)		
WQ-3: Degradation of water quality due to fuel or petroleum spills	A	WQ-3	WQ-3	WQ-3	WQ-3	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
WQ-4: Degradation of water quality due to contaminant remobilization	NA/NE					NA/NE – No dredging or other sediment-mobilizing activities proposed.	None
WQ-5: Water quality effects resulting from sediment accretion	NA/NE					NA/NE – This impact only applies to EIS/R Alternative 3.	None
BIO-1.1: Effects on tidal marsh plant communities affected by salt-meadow cordgrass and English cordgrass.	NA/NE					NA/NE – Field surveys found no salt-meadow or English cordgrass at this site.	None
BIO-1.2: Effects on tidal marsh plant communities affected by Atlantic smooth cordgrass and its hybrids.	A	BIO-1.2	BIO-1.2	BIO-1.2	BIO-1.2	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-1.3: Effects on tidal marsh plant communities affected by Chilean cordgrass.	NA/NE					NA/NE – Field surveys found no Chilean cordgrass at site.	None
BIO-1.4: Effects on submerged aquatic plant communities.	NA/NE					NA/NE – Field surveys found no eelgrass or other submerged aquatic plants at site.	None
BIO-2: Effects on special-status plants (Soft bird's beak and/or Suisun thistle) in tidal marshes	NA/NE					NA/NE – Field surveys found no special-status plant species at site.	None
BIO-3: Effects on shorebirds and waterfowl.	A	BIO-3	BIO-3	BIO-3	BIO-3	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-4.1: Effects on the salt marsh harvest mouse and tidal marsh shrew species.	A	BIO-4.1	BIO-4.1	BIO-4.1		LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None

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		Backpack Sprayer	Amphibious Vehicle	Conventional Spray Truck	Aerial (Helicopter)		
BIO-4.2: Effects on resident harbor seal colonies of San Francisco Bay.	NA/NE					NA/NE – No harbor seal colonies at or near site.	None
BIO-4.3: Effects on the southern sea otter.	NA/NE					NA/NE – Outside of known range of southern sea otters.	None
BIO-5.1: Effects on the California clapper rail.	A	BIO-5.1 as modified by UFSWS BO	BIO-5.1 as modified by UFSWS BO	BIO-5.1 as modified by UFSWS BO	BIO-5.1 as modified by UFSWS BO	LTS/NLTAE at site – Potential project impacts mitigated at site. SU cumulative impacts addressed in EIS/R and CEQA findings.	None
BIO-5.2: Effects on the California black rail.	A	BIO-5.2	BIO-5.2	BIO-5.2	BIO-5.2	NA/NE – Outside of known range of black rails.	None
BIO-5.3: Effects on tidal marsh song sparrow subspecies and the salt marsh common yellowthroat.	A	BIO-5.3	BIO-5.3	BIO-5.3	BIO-5.3	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-5.4: Effects on California least terns and western snowy plovers.	A	BIO-5.4 as modified by UFSWS BO	BIO-5.4 as modified by UFSWS BO	BIO-5.4 as modified by UFSWS BO	BIO-5.4 as modified by UFSWS BO	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-5.5: Effects on raptors (birds of prey).	A				BIO-5.5	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-6.1: Effects on anadromous salmonids (winter-run and spring-run Chinook salmon, steelhead).	A	BIO-6.1	BIO-6.1	BIO-6.1	BIO-6.1	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-6.2: Effects on delta smelt and Sacramento splittail.	NA/NE					NA/NE – Outside of known delta smelt and Sacramento splittail range.	None
BIO-6.3: Effects on the tidewater goby.	NA/NE					NA/NE – Outside of known range of tidewater goby.	None

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		Herbicide Application					
		Backpack Sprayer	Amphibious Vehicle	Conventional Spray Truck	Aerial (Helicopter)		
BIO-6.4: Effects on estuarine fish populations of shallow submerged intertidal mudflats and channels.	A	BIO-6.4 – minimize spraying	BIO-6.4 – minimize spraying	BIO-6.4 – minimize spraying	BIO-6.4 – minimize spraying	LTS/NLTAE with additional mitigation BIO-6.4(b) (Note: No mowing proposed accept in test plots because of unacceptable impacts to birds)	BIO-6.4(b) - R-11 will not be used adjacent to channel to minimize any potential adverse affects on estuarine fish.
BIO-7: Effects on California red-legged frog and San Francisco garter snake.	NA/NE					NA/NE – Outside of known range of California red-legged frog and San Francisco garter snake.	None
BIO-8: Effects of regional invasive cordgrass eradication on mosquito production.	NA/NE					NA/NE – Site activities will not create additional mosquito habitat.	None
BIO-9: Effects on tiger beetle species.	NA/NE					NA/NE – No potential tiger beetle habitat will be affected.	None
AQ-1: Dust emissions.	A			AQ-1		NA/NE – Access levees are paved.	None
AQ-2: Smoke emissions.	NA/NE					NA/NE – No burning proposed.	None
AQ-3: Herbicide effects on Air Quality.	A				AQ-3	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
AQ-4: Ozone precursor emissions.	NA/NE					LTS/NLTAE without mitigation.	None
AQ-5: Carbon Monoxide (CO) emissions.	NA/NE					LTS/NLTAE without mitigation.	None
N-1: Disturbance of sensitive receptors	A	N1	N1	N1	N1	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R	None

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		Herbicide Application					
		Backpack Sprayer	Amphibious Vehicle	Conventional Spray Truck	Aerial (Helicopter)		
HS-1: Worker injury from accidents associated with manual and mechanical cordgrass Treatment.	NA/NE					NA/NE – No manual or mechanical control methods proposed.	None
HS-2: Worker Health Effects from Herbicide Application.	A	HS-2	HS-2	HS-2	HS-2	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
HS-3: Health Effects to the Public from Herbicide Application.	A	HS-3	HS-3	HS-3	HS-3	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
HS-4: Health effects to workers or the public from accidents associated with treatment.	A	HS-4	HS-4	HS-4	HS-4	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
VIS-1: Alteration of Views from Removal of Non-Native Cordgrass Infestations.	A	VIS-1	VIS-1	VIS-1	VIS-1	SU – Impacts addressed in EIS/R and CEQA findings. Site conditions consistent with those anticipated in the PEIS/R.	None
VIS-2: Change in Views from native Marsh, Mudflat, and Open Water to Non-Native Cordgrass Meadows and Monocultures.	NA/NE					NA/NE – Applies only to PEIS/R Alternative 3 (No Action)	None
LU-1: Land Use Conflicts Between Herbicide Use and Sensitive Receptors	A					LTS/NLTAE – Limited to less than significant by HS, N and AQ mitigations.	None
LU-2: Land Use Conflicts from Mechanical and Burning Treatment Methods	NA/NE					NA/NE – Methods not proposed for site	None
CUL-1: Disturbance or Destruction of Cultural Resources from Access and Treatment.	A	CUL-1	CUL-1	CUL-1		LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None

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		Herbicide Application					
		Backpack Sprayer	Amphibious Vehicle	Conventional Spray Truck	Aerial (Helicopter)		
CUL-2: Loss of cultural resources from erosion.	NA/NE					NA/NE – No erosion-producing activities proposed	None
CUM-1: Effects of wetland restoration projects on spread of non-native cordgrass	NA/NE					NA/NE – No restoration projects proposed on this site	None
CUM-2: Cumulative damage to marsh plain vegetation	NA/NE					NA/NE – No Mosquito Abatement districts working on this site	None

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SITE-SPECIFIC PROJECT MITIGATION

Site Name: Alameda Flood Control Channel, Alameda County TSN: ISP-2004-1

*Impact**	*Applicable Mitigation & Conservation Measures (source**)*	*Herbicide Application Technique*				*Implementation Timing*	*Verification Signatures*	
		Backpack Sprayer	*Tracked Amphibious Vehicle*	*Conventional Spray Truck*	*Aerial (Helicopter)*		*Implementing Entity*	*ISP Field Supervisor*
GEO-2: Erosion or topographic change of marsh and mudflat by vehicles used in eradication	Minimize vehicle use in marsh (GEO-2;CM-1)		X			During treatment		
WQ-1: Degradation of water quality due to herbicide application	Apply herbicide directly to plant at low tide and according to label. (WQ-1;CM-3 & 4)	X	X	X	X	During treatment		
WQ-2: Degradation of water quality due to herbicide spills	Apply under supervision of trained applicator (WQ-2;CM-3)	X	X	X	X	During treatment		
	Implement spill and containment plan provided or approved by ISP (WQ-2;CM-17)	X	X	X	X	During treatment		
WQ-3: Degradation of water quality due to fuel or petroleum spills	Implement spill and containment plan provided or approved by ISP (WQ-3;CM-17).	X	X	X	X	During treatment		
BIO-1.2: Effects on tidal marsh plant communities affected by Atlantic smooth cordgrass and its hybrids.	Minimize entry and re-entry into marsh (BIO-1.2;CM-1)	X	X	X	X	During treatment		
	Avoid staging in high, dense vegetation such as gumplant or pickleweed (FWS GL)	X	X	X	X	During treatment		
	Place mats or other protectors beneath heavy equipment operating in sensitive high marsh vegetation, especially gumplant (BIO-1.2)	X	X	X	X	During treatment		
	Avoid herbicide application to non-target vegetation adjacent to treatment area. (BIO-1.2;CM-3,4)	X	X	X	X	During treatment		
BIO-3: Effects on shorebirds, waterfowl & marshland birds.	Avoid working within 1,000 feet of occupied mudflats during peak Pacific Flyway stopovers. (BIO-3)	X	X	X	X	During treatment		

* Impact numbering from ISP Programmatic EIS/R, September 2003.

**Mitigations and control measures include ISP Programmatic EIS/R mitigations (e.g., BIO-1.2), U.S. FWS general biological opinion conservation measures (e.g., CM-3), U.S. FWS site-specific biological opinion conservation measures (e.g., SSCM-3), recommendations from U.S. FWS guidance letters (e.g., FWS GL), and California Department of Fish and Game recommendations (e.g., DFG).

*Impact**	*Applicable Mitigation & Conservation Measures (source**)*	*Herbicide Application Technique*				*Implementation Timing*	*Verification Signatures*	
		Backpack Sprayer	*Tracked Amphibious Vehicle*	*Conventional Spray Truck*	*Aerial (Helicopter)*		*Implementing Entity*	*ISP Field Supervisor*
	Occupy treatment area soon after high tide, before mudflats emerge. (BIO-3)	X	X	X	X	During treatment		
	Haze shorebirds to minimize potential direct contact with herbicide drift. (BIO-3)	X	X	X	X	During treatment		
BIO-4.1: Effects on the salt marsh harvest mouse and tidal marsh shrew species.	Use shortest possible access route through any pickleweed habitat. Flag areas of repeated access (BIO-4.1;CM-15)	X	X	X		During treatment		
	Use protective mats or other covering over pickleweed in areas or repeated access (BIO-4.1;CM-15)	X	X	X		During treatment		
	Assume presence of SMHM on all suitable sites (CM 14)	X	X	X		During treatment		
	Whenever possible, schedule work after mass mortality events caused by extreme high tides (CM 16).	X	X	X		Pre- and during treatment		
BIO-5.1: Effects on California clapper rail.	Perform work during Sept 1 thru Feb 1 to avoid CLRA breading season (BIO-5.1;CM-18)	X	X	X		During treatment		
	For work within the Clapper Rail breeding season, call counts will be performed in the early spring according to FWS protocols (CM-18)				X	Pre-treatment		
	Provide CLRA Field biologist supervision. (BIO-5.1)	X	X	X	X	During treatment		
	Assure that field personnel are trained in general CLRA biology and CLRA identification and call detection. (BIO-5.1)	X	X	X	X	Pre-treatment and during treatment		

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*Impact**	*Applicable Mitigation & Conservation Measures (source**)*	*Herbicide Application Technique*				*Implementation Timing*	*Verification Signatures*	
		Backpack Sprayer	*Tracked Amphibious Vehicle*	*Conventional Spray Truck*	*Aerial (Helicopter)*		*Implementing Entity*	*ISP Field Supervisor*
	Report any CLRA activity immediately to ISP Field Supervisor and in post-treatment report (BIO-5.1)	X	X	X	X	During and post-treatment		
BIO-5.3: Effects on tidal marsh song sparrow subspecies and the salt marsh common yellowthroat.	Implement CLRA timing restriction (most restrictive). (BIO-5.2)	X	X	X		During treatment		
	Report any SMSS and SCYE activity immediately to ISP Field Supervisor and in post-treatment report (BIO-5.3)	X	X	X	X	During and post-treatment		
	Avoid spraying or removing Grindelia plants in the marsh	X	X	X	X	During treatment		
	Watch for Song Sparrow presence in the work area during early season treatment work (pre-August), especially in the smaller, upper reaches of channels.	X	X	X	X	During treatment		
BIO-5.4: Effects on California least terns and western snowy plovers.	Survey access levees for nesting CALT and WSPL prior to entry (BIO-5.4;CM-20)	X	X	X	X	Pre-treatment		
	Report any CALT and WSPL activity immediately to ISP Field Supervisor and in post-treatment report (BIO-5.4)	X	X	X	X	During and post-treatment		
	Ensure 500 foot buffer around nests for any helicopter activity (BIO-5.5)				X	During treatment		
BIO-6.1: Effects on anadromous salmonids (winter-run and spring-run Chinook salmon, steelhead).	Target herbicide applications to minimize herbicide use near channel. (BIO-6.1)	X	X	X	X	During treatment		
	Avoid use of alylphenol ethoxylate surfactants Dec 1 thru April 1 to avoid steelhead spawning. (BIO-6.1)	X	X	X	X	During treatment		

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**Mitigations and control measures include ISP Programmatic EIS/R mitigations (e.g., BIO-1.2), U.S. FWS general biological opinion conservation measures (e.g., CM-3), U.S. FWS site-specific biological opinion conservation measures (e.g., SSCM-3), recommendations from U.S. FWS guidance letters (e.g., FWS GL), and California Department of Fish and Game recommendations (e.g., DFG).

*Impact**	*Applicable Mitigation & Conservation Measures (source**)*	*Herbicide Application Technique*				*Implementation Timing*	*Verification Signatures*	
		Backpack Sprayer	*Tracked Amphibious Vehicle*	*Conventional Spray Truck*	*Aerial (Helicopter)*		*Implementing Entity*	*ISP Field Supervisor*
BIO-6.4: Effects on estuarine fish populations of shallow submerged intertidal mudflats and channels.	Minimize spraying near intertidal mudflats and channels (BIO-6.4)	X	X	X	X	During treatment		
	Avoid use of alkylphenol ethoxylate surfactants adjacent to channel to minimize any potential adverse affects on estuarine fish. (BIO-6.4)	X	X	X	X	During treatment		
AQ-3: Herbicide effects on air quality	Implement ISP Drift Management plan for aerial applications of herbicide (AQ-3;CM-3,4)				X	During treatment		
N-1: Disturbance of Sensitive Receptors	Comply with local noise ordinances (N-1)	X	X	X	X	During treatment		
	Avoid use of helicopters within 1,500 feet of hospitals, schools, or houses during times of occupancy (N-1)	X	X	X	X	During treatment		
HS-1: Worker injury from accidents associated with manual and mechanical cordgrass treatment.	Assure proper safety training of personnel based on site safety protocols (HS-1)	X	X	X	X	Pre- and during treatment		
	Implement site safety plan or ISP-approved equivalent (HS-1)	X	X	X	X	During treatment		
HS-2: Worker health effects from herbicide application.	Follow handling and application procedures as identified on product label. (HS-2;CM-3)	X	X	X	X	During treatment		
HS-3: Health effects to the public from herbicide application.	Minimize drift according to ISP drift management plan or equivalent (HS-3;CM-3,4)	X	X	X	X	During treatment		
	Post appropriate signage (see attached signage requirements) a minimum of 24 hours pre-treatment (HS-3;CM-3)	X	X	X	X	Pre-treatment		

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**Mitigations and control measures include ISP Programmatic EIS/R mitigations (e.g., BIO-1.2), U.S. FWS general biological opinion conservation measures (e.g., CM-3), U.S. FWS site-specific biological opinion conservation measures (e.g., SSCM-3), recommendations from U.S. FWS guidance letters (e.g., FWS GL), and California Department of Fish and Game recommendations (e.g., DFG).

*Impact**	*Applicable Mitigation & Conservation Measures (source**)*	*Herbicide Application Technique*				*Implementation Timing*	*Verification Signatures*	
		Backpack Sprayer	*Tracked Amphibious Vehicle*	*Conventional Spray Truck*	*Aerial (Helicopter)*		*Implementing Entity*	*ISP Field Supervisor*
	Avoid scheduling herbicide application near high public use areas during weekends or holidays, or close public access to area 24 hours before and after treatment. (HS-3;CM-3)	X	X	X	X	Pre-treatment and during treatment		
HS-4: Health effects to workers or the public from accidents associated with treatment.	Maintain ISP or approved equivalent Site Safety and Spill Prevention plan on site. (HS-4)	X	X	X	X	During treatment		
VIS-1: Alteration of views from removal of non-native cordgrass Infestations.	Post appropriate signage according to ISP signage protocols. (VIS-1)	X	X	X	X	Pre-treatment, during treatment, post-treatment		
CUL-1: Disturbance or destruction of cultural resources from access and treatment.	Report all discovered prehistoric or historic resources to the ISP Field Supervisor and a qualified archeologist or historic resources consultant and suspend all work at site until archaeological mitigation has taken place. (CUL-1)	X	X	X	X	Pre-treatment and during treatment		
CM-7: Invasive species	Monitor cleared patches for recruitment of invasive plant species including perennial pepperweed until native vegetation has become dominant (CM-7)	X	X	X	X	Post-treatment		

* Impact numbering from ISP Programmatic EIS/R, September 2003.

**Mitigations and control measures include ISP Programmatic EIS/R mitigations (e.g., BIO-1.2), U.S. FWS general biological opinion conservation measures (e.g., CM-3), U.S. FWS site-specific biological opinion conservation measures (e.g., SSCM-3), recommendations from U.S. FWS guidance letters (e.g., FWS GL), and California Department of Fish and Game recommendations (e.g., DFG).

SITE-SPECIFIC PROJECT IMPACT EVALUATION

Site Name: Bair/Greco Island, San Mateo County TSN: ISP-2004-2

*Impact**	*Applicable to Site*	*Sub-Area Included*	*Applicable Mitigations* (by Treatment Method used at Site) Various herbicide Treatment methods*					*Comments/Analysis of Residual Impact at Site*	*Additional Mitigation Required*
			Truck	*Aerial*	*Boat*	*Argo*	*Back-pack*		
GEO-1: Erosion or deposition of sediment at treatment site	NA/NE							NA/NE – Proposed activities are not ground disturbing and will not elevate erosion above ambient levels.	None
GEO-2: Erosion or topographic change of marsh and mudflat by vehicles used in eradication	A	All sub-areas				GEO-2		LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
GEO-3: Remobilization of sand in cordgrass-stabilized estuarine beaches	NA/NE							NA/NE – No excavation within estuarine beaches planned. Any cordgrass treated within this Complex on estuarine beaches will be treated with herbicide leaving intact root masses. Root masses will naturally degrade on site.	None
GEO-4: Increased demand for sediment disposal and potential spread of invasive cordgrass via sediment disposal.	NA/NE							NA/NE – No dredging/sediment disposal proposed	None
GEO-5: Increased volume and velocity of tidal currents in channels due to the removal of invasive cordgrass.	A	All sub-areas	None	None	None	None	None	No adverse impact (see EIS/R GEO-5 discussion). Site conditions consistent with those anticipated in the PEIS/R.	None
GEO-6: Increased depth and turbulence of tidewaters impounded in salt marsh pans.	A	All sub-areas	None	None	None	None	None	NA/NE – No mitigation required for work near or in salt marsh pans.	None

Key: * Impact and mitigation numbering from ISP Control Program Programmatic EIS/R, August 2003 1 of 7
NA/NE – Not Applicable/No Effect
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USFWS BO – US Fish & Wildlife Service Biological Opinion

Impact*	Applicable to Site	Sub-Area Included	Applicable Mitigations* (by Treatment Method used at Site) Various herbicide Treatment methods					Comments/Analysis of Residual Impact at Site	Additional Mitigation Required
			Truck	Aerial	Boat	Argo	Back-pack		
WQ-1: Degradation of water quality due to herbicide application	A	All sub-areas	WQ-1	WQ-1	WQ-1	WQ-1	WQ-1	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
WQ-2: Degradation of water quality due to herbicide spills	A	All sub-areas	WQ-2	WQ-2	WQ-2	WQ-2	WQ-2	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
WQ-3: Degradation of water quality due to fuel or petroleum spills	A	All sub-areas	WQ-3	WQ-3	WQ-3	WQ-3	WQ-3	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
WQ-4: Degradation of water quality due to contaminant remobilization	NA/NE							NA/NE – No dredging or other sediment-mobilizing activities proposed.	None
WQ-5: Water quality effects resulting from sediment accretion	NA/NE							NA/NE – This impact only applies to EIS/R Alternative 3.	None
BIO-1.1: Effects on tidal marsh plant communities affected by salt-meadow cordgrass and English cordgrass.	NA/NE							NA/NE – Field surveys found no salt-meadow or English cordgrass at this site.	None
BIO-1.2: Effects on tidal marsh plant communities affected by Atlantic smooth cordgrass and its hybrids.	A	All sub-areas	BIO-1.2	BIO-1.2	BIO-1.2	BIO-1.2	BIO-1.2	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-1.3: Effects on tidal marsh plant communities affected by Chilean cordgrass.	NA/NE							NA/NE – Field surveys found no Chilean cordgrass at site.	None

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Impact*	Applicable to Site	Sub-Area Included	Applicable Mitigations* (by Treatment Method used at Site) Various herbicide Treatment methods					Comments/Analysis of Residual Impact at Site	Additional Mitigation Required
			Truck	Aerial	Boat	Argo	Back-pack		
BIO-1.4: Effects on submerged aquatic plant communities.	NA/NE							NA/NE – Field surveys found no eel-grass or other submerged aquatic plants at site.	None
BIO-2: Effects on special-status plants (Soft bird's beak and/or Suisun thistle) in tidal marshes	NA/NE							NA/NE – Field surveys found no special-status plant species at site.	None
BIO-3: Effects on shorebirds and waterfowl.	A	All sub-areas	BIO-3	BIO-3	BIO-3	BIO-3	BIO-3	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-4.1: Effects on the salt marsh harvest mouse and tidal marsh shrew species.	A	All sub-areas	BIO-4.1	BIO-4.1	BIO-4.1	BIO-4.1	BIO-4.1	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-4.2: Effects on resident harbor seal colonies of San Francisco Bay.	A	2a, 2b, 2c, 2f, 2h, 2i		BIO-4.2	BIO-4.2	BIO-4.2		LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-4.3: Effects on the southern sea otter.	NA/NE							NA/NE – Outside of known range of southern sea otters.	None
BIO-5.1: Effects on the California clapper rail.	A	All sub-areas	BIO-5.1 as modified by UFSWS BO	BIO-5.1 as modified by UFSWS BO	BIO-5.1 as modified by UFSWS BO	BIO-5.1 as modified by UFSWS BO	BIO-5.1 as modified by UFSWS BO	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-5.2: Effects on the California black rail.	NA/NE							NA/NE – Outside of known range black rails.	None

Key: * Impact and mitigation numbering from ISP Control Program Programmatic EIS/R, August 2003 3 of 7
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Impact*	Applicable to Site	Sub-Area Included	Applicable Mitigations* (by Treatment Method used at Site) Various herbicide Treatment methods					Comments/Analysis of Residual Impact at Site	Additional Mitigation Required
			Truck	Aerial	Boat	Argo	Back-pack		
BIO-5.3: Effects on tidal marsh song sparrow subspecies and the salt marsh common yellow-throat.	A	All sub-areas	BIO-5.3	BIO-5.3	BIO-5.3	BIO-5.3	BIO-5.3	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-5.4: Effects on California least terns and western snowy plovers.	A	2i, 2j	BIO-5.4 as modified by UFSWS BO		BIO-5.4 as modified by UFSWS BO	BIO-5.4 as modified by UFSWS BO	BIO-5.4 as modified by UFSWS BO	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-5.5: Effects on raptors (birds of prey).	A	All sub-areas		BIO-5.5				LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-6.1: Effects on anadromous salmonids (winter-run and spring-run Chinook salmon, steelhead).	A	All sub-areas	BIO-6.1	BIO-6.1	BIO-6.1	BIO-6.1	BIO-6.1	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-6.2: Effects on delta smelt and Sacramento splittail.	NA/NE							NA/NE – Outside of known delta smelt and Sacramento splittail range.	None
BIO-6.3: Effects on the tidewater goby.	NA/NE							NA/NE – Outside of known range of tidewater goby.	None

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Impact*	Applicable to Site	Sub-Area Included	Applicable Mitigations* (by Treatment Method used at Site) Various herbicide Treatment methods					Comments/Analysis of Residual Impact at Site	Additional Mitigation Required
			Truck	Aerial	Boat	Argo	Back-pack		
BIO-6.4: Effects on estuarine fish populations of shallow submerged intertidal mudflats and channels.	A	All sub-areas	BIO-6.4 minimize spraying	BIO-6.4 minimize spraying	BIO-6.4 minimize spraying	BIO-6.4 minimize spraying	BIO-6.4 minimize spraying	LTS/NLTAE with additional mitigation BIO-6.4(b) (Note: No mowing proposed because of unacceptable impacts to birds)	BIO-6.4(b) - R-11 will not be used adjacent to channel to minimize any potential adverse affects on estuarine fish.
BIO-7: Effects on California red-legged frog and San Francisco garter snake.	NA/NE							NA/NE – Outside of known range of California red-legged frog and San Francisco garter snake.	None
BIO-8: Effects of regional invasive cordgrass eradication on mosquito production.	NA/NE	All sub-areas				BIO-8		LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-9: Effects on tiger beetle species.	NA/NE							NA/NE – No potential tiger beetle habitat will be affected.	None
AQ-1: Dust emissions.	A	All sub-areas	AQ-1					LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
AQ-2: Smoke emissions.	NA/NE							NA/NE – No burning proposed.	None
AQ-3: Herbicide effects on air quality.	A	All sub-areas		AQ-3				LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None

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Impact*	Applicable to Site	Sub-Area Included	Applicable Mitigations* (by Treatment Method used at Site) Various herbicide Treatment methods					Comments/Analysis of Residual Impact at Site	Additional Mitigation Required
			Truck	Aerial	Boat	Argo	Back-pack		
AQ-4: Ozone precursor emissions.	NA/NE							LTS/NLTAE without mitigation.	None
AQ-5: Carbon Monoxide (CO) emissions.	NA/NE							LTS/NLTAE without mitigation.	None
N-1: Disturbance of sensitive receptors	A	All sub-areas	N-1	N-1	N-1	N-1	N-1	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
HS-1: Worker injury from accidents associated with manual and mechanical cordgrass treatment.	NA/NE							NA/NE – Methods not proposed for this site	None
HS-2: Worker health effects from herbicide application.	A	All sub-areas	HS-2	HS-2	HS-2	HS-2	HS-2	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
HS-3: Health effects to the public from herbicide application.	A	All sub-areas	HS-3	HS-3	HS-3	HS-3	HS-3	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
HS-4: Health effects to workers or the public from accidents associated with treatment.	A	All sub-areas	HS-4	HS-4	HS-4	HS-4	HS-4	LTS/NLTAE – Potential impacts mitigated to less than. Site conditions consistent with those anticipated in the PEIS/R.	None
VIS-1: Alteration of views from removal of non-native cordgrass infestations.	A	All sub-areas	VIS-1	VIS-1	VIS-1	VIS-1	VIS-1	SU – Impacts addressed in EIS/R and CEQA findings. Site conditions consistent with those anticipated in the PEIS/R.	None

Key: * Impact and mitigation numbering from ISP Control Program Programmatic EIS/R, August 2003 6 of 7
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Impact*	Applicable to Site	Sub-Area Included	Applicable Mitigations* (by Treatment Method used at Site) Various herbicide Treatment methods					Comments/Analysis of Residual Impact at Site	Additional Mitigation Required
			Truck	Aerial	Boat	Argo	Back-pack		
VIS-2: Change in views from native marsh, mudflat, and open water to non-native cordgrass meadows and monocultures.	NA/NE							NA/NE – Applies only to PEIS/R Alternative 3 (No Action)	None
LU-1: Land use conflicts between herbicide use and sensitive receptors	A	All sub-areas	LU-1	LU-1	LU-1	LU-1	LU-1	LTS/NLTAE – Limited to less than significant by HS, N and AQ mitigations.	None
LU-2: Land use conflicts from mechanical and burning treatment methods	NA/NE							NA/NE – Methods not proposed for site	None
CUL-1: Disturbance or destruction of cultural resources from access and treatment.	A	All sub-areas	CUL-1		CUL-1	CUL-1	CUL-1	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
CUL-2: Loss of cultural resources from erosion.	NA/NE							NA/NE – No erosion-producing activities proposed	None
CUM-1- Effects of wetland restoration projects on spread of non-native cordgrass	NA/NE							NA/NE – No restoration projects with the potential to spread Spartina proposed within this Complex during the proposed treatment schedule	None
CUM-2- Cumulative damage to marsh plain vegetation	A	All sub-areas	CUM-2	CUM-2	CUM-2	CUM-2	CUM-2	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None

Key: * Impact and mitigation numbering from ISP Control Program Programmatic EIS/R, August 2003 7 of 7
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SITE-SPECIFIC PROJECT MITIGATION

Site Name: Bair & Greco Island Complex, San Mateo County TSN: ISP-2004-2

Impact	*Applicable Mitigation & Conservation Measures*	*Sub Area Included*	*Truck*	*Aerial*	*Boat*	*Argo*	*Back-pack*	*Implementa-tion Timing*	*Verification Signatures*	
									Implementing Entity	*ISP Field Supervisor*
GEO-2: Erosion or to-pographic change of marsh and mudflat by vehicles used in eradi-cation	Minimize vehicle travel in the marsh and mudflats (GEO-2;CM-1)	All-sub-areas				X		During treatment		
WQ-1: Degradation of water quality due to herbicide application	Apply herbicide directly to plant at low tide and accord-ing to label. (WQ-1; CM-3 & 4)	All sub-areas	X	X	X	X	X	During treatment		
WQ-2: Degradation of water quality due to herbicide spills	Apply under supervision of trained applicator (WQ-2;CM-3)	All sub-areas	X	X	X	X	X	During treatment		
	Implement spill and con-tainment plan provided or approved by ISP (WQ-2;CM-17)	All sub-areas	X	X	X	X	X	During treatment		
WQ-3: Degradation of water quality due to fuel or petroleum spills	Implement spill and con-tainment plan provided or approved by ISP (WQ-3;CM-17)	All sub-areas	X	X	X	X		During treatment		
BIO-1.2: Effects on tidal marsh plant communi-ties affected by Atlantic smooth cordgrass and its hybrids.	Minimize entry and re-entry into marsh (BIO-1.2;CM-1)	All sub-areas	X	X	X	X	X	During treatment		
	Avoid staging in high, dense vegetation such as gumplant or pickleweed (FWS GL)	All sub-areas	X	X	X	X	X	During treatment		
	Avoid herbicide application to non-target vegetation adjacent to treatment area. (BIO-1.2;CM-3,4)	All sub-areas	X	X	X	X	X	During treatment		

*Impact numbering from ISP Control Program Programmatic EIS/R, September 2003.
Mitigations are from corresponding numbered mitigation in the same document,
Also included are the USFWS general and site-specific biological opinions Conservation Measures (CM).

Impact	*Applicable Mitigation & Conservation Measures*	*Sub Area Included*	*Truck*	*Aerial*	*Boat*	*Argo*	*Back-pack*	*Implementation Timing*	*Verification Signatures*	
									Implementing Entity	*ISP Field Supervisor*
BIO-3: Effects on shorebirds, waterfowl & marshland birds.	Avoid working within 1,000 feet of occupied mudflats during peak Pacific Flyway stopovers. (BIO-3)	All sub-areas	X	X	X	X	X	During treatment		
	Occupy treatment area soon after high tide, before mud-flats emerge. (BIO-3)	All sub-areas	X	X	X	X	X	During treatment		
	Haze shorebirds to minimize potential direct contact with herbicide drift. (BIO-3)	All sub-areas	X	X	X	X	X	During treatment		
	Helicopters will not be operated within 1000 feet of active major foraging or roosting sites (BIO-3)	All sub-areas		X				During treatment		
BIO-4.1: Effects on the salt marsh harvest mouse and tidal marsh shrew species.	Use shortest possible access route through any pickleweed habitat. Flag areas of repeated access (BIO-4.1;CM-15)	All sub-areas				X		During treatment		
	Use protective mats or other covering over pickleweed in areas of repeated access (BIO-4.1;CM-15)	All sub-areas	X	X	X	X	X	During treatment		
	Assume presence of SMHM on all suitable sites (CM 14)	All sub-areas	X	X	X	X	X	During treatment		
	Whenever possible, schedule work after mass mortality events caused by extreme high tides (CM 16).	All sub-areas	X	X	X	X	X	Pre- and during treatment		
BIO-4.2: Effects on resident harbor seal colonies of San Francisco Bay.	Minimize vehicle and foot access to marsh within 1000 feet of haul out sites (BIO-4.2)	2a, 2b, 2c, 2f, 2h, 2i		X	X			During treatment		

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Mitigations are from corresponding numbered mitigation in the same document,
Also included are the USFWS general and site-specific biological opinions Conservation Measures (CM).

Impact	*Applicable Mitigation & Conservation Measures*	*Sub Area Included*	*Truck*	*Aerial*	*Boat*	*Argo*	*Back-pack*	*Implementation Timing*	*Verification Signatures*	
									Implementing Entity	*ISP Field Supervisor*
	Avoid approaching haul out sites within 2000 feet (or any distance that elicits vigilance behavior) when pups are present. (BIO-4.2)	2a, 2b, 2c, 2f, 2h, 2i		X	X			During treatment		
	Follow ISP spill prevention plan or equivalent BIO-4.2;CM-3,4)	2a, 2b, 2c, 2f, 2h, 2i		X	X			During treatment		
BIO-5.1: Effects on California clapper rail.	Perform work only during Sept 1 thru Feb 1 to avoid CLRA breading season (BIO-5.1;CM-18)	All sub-areas	X		X	X	X	During treatment		
	For work within the Clapper Rail breeding season, call counts will be performed in the early spring according to FWS protocols (CM-18)	All sub-areas	X		X	X	X	During treatment		
	Provide CLRA Field biologist supervision (BIO-5.1)	All sub-areas	X		X	X	X	During treatment		
	Assure that field personnel are trained in general CLRA biology and CLRA identification and call detection (BIO-5.1)	All sub-areas	X		X	X	X	During treatment		
	Report any CLRA activity immediately to ISP Field Supervisor and in post-treatment report (BIO-5.1)	All sub-areas	X		X	X	X	During treatment		
BIO-5.3: Effects on tidal marsh song sparrow subspecies and the salt marsh common yellow-throat.	Report any SMSS and SCYE activity immediately to ISP Field Supervisor and in post-treatment report	All sub-areas	X		X	X	X	During and post-treatment		
	Avoid spraying or removing Grindelia plants in the marsh	All sub-areas	X	X	X	X	X	During treatment		

*Impact numbering from ISP Control Program Programmatic EIS/R, September 2003.
Mitigations are from corresponding numbered mitigation in the same document,
Also included are the USFWS general and site-specific biological opinions Conservation Measures (CM).

Impact	*Applicable Mitigation & Conservation Measures*	*Sub Area Included*	*Truck*	*Aerial*	*Boat*	*Argo*	*Back-pack*	*Implementation Timing*	*Verification Signatures*	
									Implementing Entity	*ISP Field Supervisor*
	Watch for Song Sparrow presence in the work area during early season treatment work (pre-August), especially in the smaller, upper reaches of channels.	All sub-areas	X	X	X	X	X	During treatment		
BIO-5.4: Effects on California least terns and western snowy plovers.	Survey access levees for nesting CALT and WESP prior to entry (BIO-5.4;CM-20)	2i, 2j	X		X	X	X	During treatment		
	Report any CALT and WSPL activity immediately to ISP Field Supervisor and in post-treatment report (BIO-5.4)	2i, 2j	X		X	X	X	During treatment		
BIO-5.5: Effects on raptors (birds of prey).	Consult qualified biologist to determine possible raptor nesting presence (BIO-5.5)	All sub-areas		X				Pre-treatment		
	Ensure 500 foot buffer around nests for any helicopter activity (BIO-5.5)	All sub-areas		X				Pre-treatment and during treatment		
BIO-6.1: Effects on anadromous salmonids (winter-run and spring-run Chinook salmon, steelhead).	Target herbicide applications to minimize herbicide use near channel (BIO-6.1).	All sub-areas	X	X	X	X	X	During treatment		
	Avoid use of alylphenol ethoxylate surfactants Dec 1 thru April 1 to avoid steelhead spawning. (BIO-6.1)	All sub-areas	X	X	X	X	X	During treatment		
BIO-6.4: Effects on estuarine fish populations of shallow submerged	Minimize spraying near intertidal mudflats and channels (BIO-6.4)	All sub-areas	X	X	X	X	X	During treatment		

*Impact numbering from ISP Control Program Programmatic EIS/R, September 2003.
Mitigations are from corresponding numbered mitigation in the same document,
Also included are the USFWS general and site-specific biological opinions Conservation Measures (CM).

Impact	*Applicable Mitigation & Conservation Measures*	*Sub Area Included*	*Truck*	*Aerial*	*Boat*	*Argo*	*Back-pack*	*Implementation Timing*	*Verification Signatures*	
									Implementing Entity	*ISP Field Supervisor*
intertidal mudflats and channels.	Avoid use of alylphenol ethoxylate surfactants adjacent to channel to minimize any potential adverse affects on estuarine fish (BIO-6.4)	All sub-areas	X	X	X	X	X	During treatment		
BIO-8: Effects of regional invasive cordgrass eradication on mosquito production.	Monitor access route for the formation of un-drained depressions in tire ruts or foot trails (BIO-8)	All sub-areas	X			X	X	During treatment		
	Backfill or cut drainage into shallow depressions left in the marsh by control work to minimize standing water where appropriate (BIO-8)	All sub-areas	X			X	X	Post-treatment		
AQ-1: Dust Emissions	Maintain 15 mph speed limit when traveling on unpaved levees or access roads (AQ-1)	All sub-areas	X					During treatment		
AQ-3: Herbicide effects on air quality.	Implement ISP approved drift management plan (AQ-3;CM-3,4)	All sub-areas		X				During treatment		
N-1: Disturbance of sensitive receptors	Comply with all local noise ordinances (N-1)	All sub-areas	X	X	X	X	X	During treatment		
HS-2: Worker Health effects from herbicide application.	Follow handling and application procedures as identified on product label (HS-2;CM-3)	All sub-areas	X	X	X	X	X	During treatment		
HS-3: Health effects to the public from herbicide application.	Minimize drift according to ISP drift management plan or equivalent (HS-3;CM-3,4)	All sub-areas	X	X	X	X	X	During treatment		

*Impact numbering from ISP Control Program Programmatic EIS/R, September 2003.
Mitigations are from corresponding numbered mitigation in the same document,
Also included are the USFWS general and site-specific biological opinions Conservation Measures (CM).

Impact	*Applicable Mitigation & Conservation Measures*	*Sub Area Included*	*Truck*	*Aerial*	*Boat*	*Argo*	*Back-pack*	*Implementation Timing*	*Verification Signatures*	
									Implementing Entity	*ISP Field Supervisor*
	Post appropriate signage (see attached signage requirements) a minimum of 24 hours pre-treatment (HS-3)	All sub-areas	X	X	X	X	X	Pre-treatment		
	Avoid scheduling herbicide application near high public use areas during weekends or holidays, or close public access to area 24 hours before and after treatment (HS-3)	All sub-areas	X	X	X	X	X	Pre-treatment and during treatment		
HS-4: Health effects to workers or the public from accidents associated with treatment.	Maintain ISP or approved equivalent Site Safety and Spill Prevention plan on site (HS-4;CM-3,17)	All sub-areas	X	X	X	X	X	During treatment		
VIS-1: Alteration of views from removal of non-native cordgrass infestations.	Post appropriate signage according to ISP signage protocols (VIS-1)	All sub-areas	X	X	X	X	X	Pre-treatment, during treatment, post-treatment		
CUL-1: Disturbance or destruction of cultural resources from access and treatment.	Report all discovered prehistoric or historic resources to the ISP Field Supervisor and a qualified archeologist or historic resources consultant and suspend all work at site until archaeological mitigation has taken place (CUL-1)	All sub-areas	X		X	X	X	Pre-treatment and during treatment		
CUM-2: Cumulative damage to marsh plain vegetation	Coordinate treatment schedule with the Mosquito abatement district in order to minimize cumulative impacts (CUM-2)	All sub-areas	X	X	X	X	X	Pre-treatment		

*Impact numbering from ISP Control Program Programmatic EIS/R, September 2003.
Mitigations are from corresponding numbered mitigation in the same document,
Also included are the USFWS general and site-specific biological opinions Conservation Measures (CM).

Impact	*Applicable Mitigation & Conservation Measures*	*Sub Area Included*	*Truck*	*Aerial*	*Boat*	*Argo*	*Back-pack*	*Implementa-tion Timing*	*Verification Signatures*	
									Implementing Entity	*ISP Field Supervisor*
CM-7: Invasive species	Monitor cleared patches for recruitment of invasive plant species including perennial pepperweed until native vegetation has become dominant (CM-7)	All sub-areas	X	X	X	X	X	Post-treatment		

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Mitigations are from corresponding numbered mitigation in the same document,
Also included are the USFWS general and site-specific biological opinions Conservation Measures (CM).

SITE-SPECIFIC PROJECT IMPACT EVALUATION

Site Name: Blackie's Pasture, Tiberon, Marin County TSN: ISP-2004-3

*Impact**	*Applicable to Site*	*Applicable Mitigations* (by Treatment Method used at Site)*			*Comments/Analysis of Residual Impact at Site*	*Additional Mitigation Required*
		Herbicide	*Covering*	*Digging*		
GEO-1: Erosion or deposition of sediment at treatment site	NA/NE				NA/NE – Mechanical removal activities are not proposed. Digging of *Spartina* on site will not elevate erosion above ambient levels.	None
GEO-2: Erosion or topographic change of marsh and mudflat by vehicles used in eradication	NA/NE				NA/NE – Activities not proposed for site	None
GEO-3: Remobilization of sand in cordgrass-stabilized estuarine beaches	NA/NE				NA/NE – Proposed activities will not take place within an estuarine beach.	None
GEO-4: Increased demand for sediment disposal and potential spread of invasive cordgrass via sediment disposal.	NA/NE				NA/NE – No dredging/sediment disposal proposed	None
GEO-5: Increased volume and velocity of tidal currents in channels due to the removal of invasive cordgrass.	A	None	None	None	No adverse impact (see EIS/R GEO-5 discussion). Site conditions consistent with those anticipated in the PEIS/R.	No mitigation required
GEO-6: Increased depth and turbulence of tidewaters impounded in salt marsh pans.	NA/NE				NA/NE – Proposed activities will not take place within salt marsh pans.	None
WQ-1: Degradation of water quality due to herbicide application	A	WQ-1			LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
WQ-2: Degradation of water quality due to herbicide spills	A	WQ-2			LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None

Key: * Impact and mitigation numbering from ISP Control Program Programmatic EIS/R, August 2003
NA/NE – Not Applicable/No Effect
LTS/NLTAE – Less Than Significant impact/Not Likely to Adversely Effect
SU – Significant but unmitigable impact
USFWS BO – US Fish & Wildlife Service Biological Opinion

*Impact**	*Applicable to Site*	*Applicable Mitigations* (by Treatment Method used at Site)*			*Comments/Analysis of Residual Impact at Site*	*Additional Mitigation Required*
		Herbicide	*Covering*	*Digging*		
WQ-3: Degradation of water quality due to fuel or petroleum spills	A	WQ-3			LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
WQ-4: Degradation of water quality due to contaminant remobilization	NA/NE				NA/NE – No dredging or other sediment-mobilizing activities proposed.	None
WQ-5: Water quality effects resulting from sediment accretion	NA/NE				NA/NE – This impact only applies to EIS/R Alternative 3.	None
BIO-1.1: Effects on tidal marsh plant communities affected by salt-meadow cordgrass and English cordgrass.	NA/NE				NA/NE – Field surveys found no salt-meadow or English cordgrass at this site.	None
BIO-1.2: Effects on tidal marsh plant communities affected by Atlantic smooth cordgrass and its hybrids.	A	BIO-1.2	BIO-1.2	BIO-1.2	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-1.3: Effects on tidal marsh plant communities affected by Chilean cordgrass.	A	BIO-1.3	BIO-1.3	BIO-1.3	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-1.4: Effects on submerged aquatic plant communities.	NA/NE				NA/NE – Field surveys found no eelgrass or other submerged aquatic plants at site.	None
BIO-2: Effects on special-status plants (Soft bird's beak and/or Suisun thistle) in tidal marshes	NA/NE				NA/NE – Field surveys found no special-status plant species at site.	None
BIO-3: Effects on shorebirds and waterfowl.	A	BIO-3	BIO-3	BIO-3	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None

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*Impact**	*Appli-cable to Site*	*Applicable Mitigations* (by Treatment Method used at Site)*			*Comments/Analysis of Residual Impact at Site*	*Additional Mitigation Required*
		Herbicide	*Covering*	*Digging*		
BIO-4.1: Effects on the salt marsh harvest mouse and tidal marsh shrew species.	NA/NE				NA/NE – Site not known to support salt marsh harvest mouse and/or tidal marsh shrew species.	None
BIO-4.2: Effects on resident harbor seal colonies of San Francisco Bay.	NA/NE				NA/NE – No harbor seal colonies at or near site.	None
BIO-4.3: Effects on the southern sea otter.	NA/NE				NA/NE – Outside of known range of southern sea otters.	None
BIO-5.1: Effects on the California clapper rail.	NA/NE				NA/NE – Not a known site for California Clapper Rail	None
BIO-5.2: Effects on the California black rail.	NA/NE				NA/NE – Outside of known range of black rails.	None
BIO-5.3: Effects on tidal marsh song sparrow subspecies and the salt marsh common yellowthroat.	A	Bio-5.3 as modified by UFSWS BO	Bio-5.3 as modified by UFSWS BO	Bio-5.3 as modified by UFSWS BO	LTS/NLTAE – Potential project impacts mitigated at site.	None
BIO-5.4: Effects on California least terns and western snowy plovers.	NA/NE				NA/NE – Outside of known range of California least terns and western snowy plovers	None
BIO-5.5: Effects on raptors (birds of prey).	NA/NE				NA/NE – No aerial applications proposed	None
BIO-6.1: Effects on anadromous salmonids (winter-run and spring-run Chinook salmon, steelhead).	A	BIO-6.1			LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-6.2: Effects on delta smelt and Sacramento splittail.	NA/NE				NA/NE – Outside of known delta smelt and Sacramento splittail range.	None
BIO-6.3: Effects on the tidewater goby.	NA/NE				NA/NE – Outside of known range of tidewater goby.	None

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*Impact**	*Appli-cable to Site*	*Applicable Mitigations* (by Treatment Method used at Site)*			*Comments/Analysis of Residual Impact at Site*	*Additional Mitigation Required*
		Herbicide	*Covering*	*Digging*		
BIO-6.4: Effects on estuarine fish populations of shallow submerged intertidal mudflats and channels.	A	BIO-6.4 – minimize spraying			LTS/NLTAE with additional mitigation BIO-6.4(b) (Note: no mowing proposed accept in test plots because of unacceptable impacts to birds)	BIO-6.4(b) - R-11 will not be used adjacent to channel to minimize any potential adverse af-fects on estuarine fish.
BIO-7: Effects on the California red-legged frog and San Francisco garter snake.	NA/NE				NA/NE – Outside of known range of Califor-nia red-legged frog and San Francisco gar-ter snake.	None
BIO-8: Effects of regional invasive cordgrass eradication on mosquito production.	NA/NE				NA/NE – Site activities will not create addi-tional mosquito habitat.	None
BIO-9: Effects on tiger beetle spe-cies.	NA/NE				NA/NE – No potential tiger beetle habitat will be affected.	None
AQ-1: Dust emissions.	NA/NE				NA/NE – Access levees are paved.	None
AQ-2: Smoke emissions.	NA/NE				NA/NE – No burning proposed.	None
AQ-3: Herbicide effects on air quality.	NA/NE				NA/NE – No aerial application of herbicide proposed	None
AQ-4: Ozone precursor Emis-sions.	NA/NE				LTS/NLTAE without mitigation.	None
AQ-5: Carbon Monoxide (CO) emissions.	NA/NE				LTS/NLTAE without mitigation.	None
N-1: Disturbance of sensitive re-ceptors	A	N1	N1	N1	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consis-tent with those anticipated in the PEIS/R.	None
HS-1: Worker injury from acci-dents associated with manual and mechanical cordgrass treatment.	A	HS-1	HS-1	HS-1	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consis-tent with those anticipated in the PEIS/R.	None

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*Impact**	*Appli-cable to Site*	*Applicable Mitigations* (by Treatment Method used at Site)*			*Comments/Analysis of Residual Impact at Site*	*Additional Mitigation Required*
		Herbicide	*Covering*	*Digging*		
HS-2: Worker health effects from herbicide application.	A	HS-2			LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
HS-3: Health effects to the public from herbicide application.	A	HS-3			LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
HS-4: Health effects to workers or the public from accidents associated with treatment.	A	HS-4	HS-4	HS-4	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
VIS-1: Alteration of views from removal of non-native cordgrass infestations.	A	VIS-1	VIS-1	VIS-1	SU – Impacts addressed in EIS/R and CEQA findings. Site conditions consistent with those anticipated in the PEIS/R.	None
VIS-2: Change in views from native marsh, mudflat, and open water to non-native cordgrass meadows and monocultures.	NA/NE				NA/NE – Applies only to PEIS/R Alternative 3 (No Action)	None
LU-1: Land use conflicts between herbicide use and sensitive receptors	A	LU-1			LTS/NLTAE – Limited to less than significant by HS, N and AQ mitigations.	None
LU-2: Land use conflicts from mechanical and burning treatment methods	NA/NE				NA/NE – Methods not proposed for site	None
CUL-1: Disturbance or destruction of cultural resources from access and treatment.	A	CUL-1b only	CUL-1b only	CUL-1b only	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
CUL-2: Loss of cultural resources from erosion.	NA/NE				NA/NE – No erosion-producing activities proposed	None

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*Impact**	*Appli-cable to Site*	*Applicable Mitigations* (by Treatment Method used at Site)*			*Comments/Analysis of Residual Impact at Site*	*Additional Mitigation Required*
		Herbicide	*Covering*	*Digging*		
CUM-1: Effects of wetland restoration projects on spread of non-native cordgrass	NA/NE				NA/NE – No restoration projects proposed on this site	None
CUM-2: Cumulative damage to marsh plain vegetation	NA/NE				NA/NE – No Mosquito Abatement Districts working on this site	None

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SITE-SPECIFIC PROJECT MITIGATION

Site Name: Blackie's Pasture, Tiburon, Marin County TSN: ISP-2004-3

Impact	*Applicable Mitigation & Conservation Measures*	*Herbicide*	*Covering*	*Digging*	*Implementation Timing*	*Verification Signatures*	
						Implementing Entity	*ISP Field Supervisor*
WQ-1: Degradation of water quality due to herbicide application	Apply herbicide directly to plant at low tide and according to label. (WQ-1;CM-3,4)	X			During treatment		
WQ-2: Degradation of water quality due to herbicide spills	Apply under supervision of trained applicator (WQ-2;CM-3)	X			During treatment		
	Implement spill and containment plan provided or approved by ISP (WQ-2:CM-3,17)	X			During treatment		
WQ-3: Degradation of water quality due to fuel or petroleum spills	Implement spill and containment plan provided or approved by ISP (WQ-3;CM-17)	X			During treatment		
BIO-1.2: Effects on tidal marsh plant communities affected by Atlantic smooth cordgrass and its hybrids.	Minimize entry and re-entry into marsh, define access points (BIO-1.2;CM-1)	X	X	X	During treatment		
	Avoid staging in high, dense vegetation such as gumplant or pickleweed (FWS GL)	X	X	X	During treatment		
	Avoid herbicide application to non-target vegetation adjacent to treatment area (BIO-1.2;CM-3,4)	X			During treatment		
	Non-viable and viable excavated cordgrass shall be removed from marsh (BIO-1.2;CM-9)			X	During treatment		
	Geotextile mats shall be stabilized with stakes and weights (BIO-1.2;CM-11)		X		During treatment		
BIO-1.3: Effects on tidal marsh plant communities affected by Chilean cordgrass.	Follow protocols for mitigation BIO-1.2 above	X	X	X	During treatment		

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Mitigations are from corresponding numbered mitigation in the same document,
Also included are the USFWS general and site-specific biological opinions Conservation Measures (CM).

Impact	*Applicable Mitigation & Conservation Measures*	*Herbicide*	*Covering*	*Digging*	*Implementation Timing*	*Verification Signatures*	
						Implementing Entity	*ISP Field Supervisor*
BIO-3: Effects on shorebirds, waterfowl & marshland birds.	Avoid working within 1,000 feet of occupied mudflats during peak Pacific Flyway stopovers (BIO-3)	X	X	X	During treatment		
	Occupy treatment area soon after high tide, before mudflats emerge (BIO-3)	X	X	X	During treatment		
	Haze shorebirds to minimize potential direct contact with herbicide drift (BIO-3)	X	X	X	During treatment		
BIO-5.3: Effects on tidal marsh song sparrow subspecies and the salt marsh common yellowthroat.	Report any SMSS and SCYE activity immediately to ISP Field Supervisor and in post-treatment report (BIO-5.3)	X	X	X	During and post treatment		
	Avoid spraying or removing Grindelia plants in the marsh	X	X	X	During treatment		
	Watch for Song Sparrow presence in the work area during early season treatment work (pre-August), especially in the smaller, upper reaches of channels.	X	X	X	During treatment		
BIO-6.1: Effects on anadromous salmonids (winter-run and spring-run Chinook salmon, steelhead).	Target herbicide applications to minimize herbicide use near channel (BIO-6.1).	X			During treatment		
	Avoid use of alylphenol ethoxylate surfactants Dec 1 thru April 1 to avoid steelhead spawning. (BIO-6.1)	X			During treatment		
BIO-6.4: Effects on estuarine fish populations of shallow submerged intertidal mudflats and channels.	Minimize spraying near channels (BIO-6.4)	X			During treatment		
	Avoid use of alylphenol ethoxylate surfactants adjacent to channel to minimize any potential adverse affects on estuarine fish	X			During treatment		

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Mitigations are from corresponding numbered mitigation in the same document,
Also included are the USFWS general and site-specific biological opinions Conservation Measures (CM).

Impact	*Applicable Mitigation & Conservation Measures*	*Herbicide*	*Covering*	*Digging*	*Implementation Timing*	*Verification Signatures*	
						Implementing Entity	*ISP Field Supervisor*
N-1: Disturbance of sensitive receptors	Comply with all local noise ordinances (N-1)	X	X	X	During treatment		
HS-1: Worker Injury from accidents associated with manual and mechanical cordgrass treatment.	Comply with ISP site safety protocols or equivalent (HS-1)		X	X	During treatment		
HS-2: Worker health effects from herbicide application.	Follow handling and application procedures as identified on product label (HS-2;CM-3)	X			During treatment		
HS-3: Health effects to the public from herbicide application.	Minimize drift according to ISP drift management plan (HS-3;CM-3,4)	X			During treatment		
	Post appropriate signage (see attached signage requirements) a minimum of 24 hours pre-treatment (HS-3)	X			Pre-treatment		
HS-4: Health effects to workers or the public from accidents associated with treatment.	Maintain ISP or approved equivalent Site Safety and Spill Prevention plan on site (HS-4;CM-3,17)	X	X	X	During treatment		
VIS-1: Alteration of views from removal of non-native cordgrass infestations.	Post appropriate signage according to ISP signage protocols (VIS-1)	X	X	X	Pre-treatment, during treatment, post-treatment		
CUL-1: Disturbance or destruction of cultural resources from access and treatment.	Report all discovered prehistoric or historic resources to the ISP Field Supervisor and a qualified archeologist or historic resources consultant and suspend all work at site until archaeological mitigation has taken place (CUL-1)	X	X	X	Pre-treatment and during treatment		
CM-7: Invasive species	Monitor cleared patches for recruitment of invasive plant species including perennial pepperweed until native vegetation has become dominant (CM-7)	X	X	X	Post treatment		

*Impact numbering from ISP Control Program Programmatic EIS/R, September 2003.
Mitigations are from corresponding numbered mitigation in the same document,
Also included are the USFWS general and site-specific biological opinions Conservation Measures (CM).

SITE-SPECIFIC PROJECT IMPACT EVALUATION

Site Name: Corte Madera Creek Complex, Marin County TSN: ISP-2004-4

*Impact**	*Applicable to Site*	*Sub Area Included*	*Applicable Mitigations* (by Treatment Method used at Site)*			*Comments/Analysis of Residual Impact at Site*	*Additional Mitigation Required*
			Herbicide	*Digging*			
GEO-1: Erosion or deposition of sediment at treatment site	NA/NE					LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
GEO-2: Erosion or topographic change of marsh and mudflat by vehicles used in eradication	NA/NE					NA/NE – Vehicles will not be used in marshes for *Spartina* treatment within this site.	None
GEO-3: Remobilization of sand in cordgrass-stabilized estuarine beaches	NA/NE					NA/NE – Proposed activities will not take place within an estuarine beach.	None
GEO-4: Increased demand for sediment disposal and potential spread of invasive cordgrass via sediment disposal.	NA/NE					NA/NE – No dredging/sediment disposal proposed	None
GEO-5: Increased volume and velocity of tidal currents in channels due to the removal of invasive cordgrass.	NA/NE					No adverse impact (see EIS/R GEO-5 discussion). Site conditions consistent with those anticipated in the PEIS/R.	None
GEO-6: Increased depth and turbulence of tidewaters impounded in salt marsh pans.	NA/NE					NA/NE – Without Mitigation.	None
WQ-1: Degradation of Water Quality due to Herbicide Application	A	Sub-Areas 4a, 4b, 4e, 4f, 4g, 4h, 4i,4j, 4k	WQ-1			LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
WQ-2: Degradation of Water Quality due to Herbicide Spills	A	Sub-Areas 4a, 4b, 4e, 4f, 4g, 4h, 4i,4j, 4k	WQ-2			LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None

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SU – Significant but unmitigable impact LTS/NLTAE – Less Than Significant impact/Not Likely to Adversely Effect
USFWS BO – US Fish & Wildlife Service Biological Opinion

*Impact**	*Applicable to Site*	*Sub Area Included*	*Applicable Mitigations* (by Treatment Method used at Site)*			*Comments/Analysis of Residual Impact at Site*	*Additional Mitigation Required*
			Herbicide	*Digging*			
WQ-3: Degradation of Water Quality due to Fuel or Petroleum Spills	A	All Sub-Areas	WQ-3	WQ-3		LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
WQ-4: Degradation of Water Quality due to Contaminant Remobilization	NA/NE					NA/NE – No dredging or other sediment-mobilizing activities proposed.	None
WQ-5: Water Quality Effects Resulting from Sediment Accretion	NA/NE					NA/NE – This impact only applies to EIS/R Alternative 3.	None
BIO-1.1: Effects on tidal marsh plant communities affected by salt-meadow cordgrass and English cordgrass.	A	Sub-Area 4g	BIO-1.1	BIO-1.1		LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-1.2: Effects on tidal marsh plant communities affected by Atlantic smooth cordgrass and its hybrids.	A	Sub-Area 4a	BIO-1.2	BIO-1.2		LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-1.3: Effects on tidal marsh plant communities affected by Chilean cordgrass.	A	All Sub-Areas	BIO-1.3	BIO-1.3		LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-1.4: Effects on submerged aquatic plant communities.	NA/NE					NA/NE – Field surveys found no eelgrass or other submerged aquatic plants at site.	None
BIO-2: Effects on special-status plants (Soft bird's beak and/or Suisun thistle) in tidal marshes	NA/NE					NA/NE – Field surveys found no special-status plant species at site.	None
BIO-3: Effects on shorebirds and waterfowl.	A	All Sub-Areas	BIO-3	BIO-3		LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None

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SU – Significant but unmitigable impact LTS/NLTAE – Less Than Significant impact/Not Likely to Adversely Effect

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*Impact**	*Applicable to Site*	*Sub Area Included*	*Applicable Mitigations* (by Treatment Method used at Site)*			*Comments/Analysis of Residual Impact at Site*	*Additional Mitigation Required*
			Herbicide	*Digging*			
BIO-4.1: Effects on the salt marsh harvest mouse and tidal marsh shrew species.	A	All Sub-Areas except 4f	BIO-4.1 as modi-fied by the USFWS BO	BIO-4.1 as modi-fied by the USFW S BO		LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-4.2: Effects on resident har-bor seal colonies of San Francisco Bay.	NA/NE					NA/NE – No harbor seal colonies at or near site.	None
BIO-4.3: Effects on the southern sea otter.	NA/NE					NA/NE – Outside of known range of southern sea otters.	None
BIO-5.1: Effects on California clapper rail.	A	All Sub-Areas except 4e and 4f	BIO-5.1 as modi-fied by UFSWS BO	BIO-5.1 as modi-fied by UFSW S BO		LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-5.2: Effects on California black rail.	NA/NE	All Sub-Areas	BIO-5.2	BIO-5.2		LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-5.3: Effects on tidal marsh song sparrow subspecies and the salt marsh common yellowthroat.	A	All Sub-Areas	BIO-5.3 as modi-fied by UFSWS BO	BIO-5.3 as modi-fied by UFSW S BO		LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-5.4: Effects on California least terns and western snowy plovers.	NA/NE					NA/NE – Areas of treatment unsuitable for Cali-fornia least terns and/or western snowy plovers	None
BIO-5.5: Effects on raptors (birds of prey).	NA/NE					NA/NE – No aerial applications proposed for this Complex	None

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Impact*	Applicable to Site	Sub Area Included	Applicable Mitigations* (by Treatment Method used at Site)			Comments/Analysis of Residual Impact at Site	Additional Mitigation Required
			Herbicide	Digging			
BIO-6.1: Effects on anadromous salmonids (winter-run and spring-run Chinook salmon, steelhead).	A	Sub-Areas 4a, 4b, 4e, 4f, 4g, 4h, 4i,4j, 4k	BIO-6.1			LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-6.2: Effects on delta smelt and Sacramento splittail.	NA/NE					NA/NE – Outside of known delta smelt and Sacramento splittail range.	None
BIO-6.3: Effects on the tidewater goby.	NA/NE					NA/NE – Outside of known range of tidewater goby.	None
BIO-6.4: Effects on estuarine fish populations of shallow submerged intertidal mudflats and channels.	A	Sub-Areas 4a, 4b, 4e, 4f, 4g, 4h, 4i,4j, 4k	BIO-6.4 – minimize spraying			LTS/NLTAE with additional mitigation BIO-6.4(b) (Note: No mowing proposed accept in test plots because of unacceptable impacts to birds)	BIO-6.4(b) - R-11 will not be used adjacent to channel to minimize any potential adverse affects on estuarine fish.
BIO-7: Effects on California red-legged frog and San Francisco garter snake.	NA/NE					NA/NE – Outside of known range of California red-legged frog and San Francisco garter snake.	None
BIO-8: Effects of regional invasive cordgrass eradication on mosquito production.	NA/NE					NA/NE – Site activities will not create additional mosquito habitat.	None
BIO-9: Effects on tiger beetle species.	NA/NE					NA/NE – No potential tiger beetle habitat will be affected.	None
AQ-1: Dust emissions.	NA/NE					NA/NE – Access levees and roads are paved.	None
AQ-2: Smoke emissions.	NA/NE					NA/NE – No burning proposed.	None
AQ-3: Herbicide effects on air quality.	NA/NE					NA/NE – No aerial applications proposed	None
AQ-4: Ozone precursor emissions.	NA/NE					LTS/NLTAE without mitigation.	None
AQ-5: Carbon Monoxide (CO) emissions.	NA/NE					LTS/NLTAE without mitigation.	None

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Impact*	Applicable to Site	Sub Area Included	Applicable Mitigations* (by Treatment Method used at Site)			Comments/Analysis of Residual Impact at Site	Additional Mitigation Required
			Herbicide	Digging			
N-1: Disturbance of sensitive receptors	A	All Sub-Areas	N-1	N-1		LTS/NLTAE – Potential impacts mitigated to less than. Site conditions consistent with those anticipated in the PEIS/R.	None
HS-1: Worker injury from accidents associated with manual and mechanical cordgrass treatment.	A	All Sub-Areas except 4a, 4e and 4j		HS-1		LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
HS-2: Worker health effects from herbicide application.	A	Sub-Areas 4a, 4b, 4e, 4f, 4g, 4h, 4i,4j, 4k	HS-2			LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
HS-3: Health effects to the public from herbicide application.	A	Sub-Areas 4a, 4b, 4e, 4f, 4g, 4h, 4i,4j, 4k	HS-3			LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
HS-4: Health effects to workers or the public from accidents associated with treatment.	A	All Sub-Areas	HS-4	HS-4		LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
VIS-1: Alteration of views from removal of non-native cordgrass infestations.	A	All Sub-Areas	VIS-1	VIS-1		SU – Impacts addressed in EIS/R and CEQA findings. Site conditions consistent with those anticipated in the PEIS/R.	None
VIS-2: Change in views from native marsh, mudflat, and open water to non-native cordgrass meadows and monocultures.	NA/NE					NA/NE – Applies only to PEIS/R Alternative 3 (No Action)	None
LU-1: Land use conflicts between herbicide use and sensitive receptors	A	Sub-Areas 4a, 4b, 4e, 4f, 4g, 4h, 4i,4j, 4k	LU-1			LTS/NLTAE – Limited to less than significant by HS, N and AQ mitigations.	None
LU-2: Land use conflicts from mechanical and burning treatment methods	NA/NE					NA/NE – Methods not proposed for site	None

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*Impact**	*Applicable to Site*	*Sub Area Included*	*Applicable Mitigations* (by Treatment Method used at Site)*			*Comments/Analysis of Residual Impact at Site*	*Additional Mitigation Required*
			Herbicide	*Digging*			
CUL-1: Disturbance or destruction of cultural resources from access and treatment.	A	All Sub-Areas	CUL-	CUL-1		LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
CUL-2: Loss of cultural resources from erosion.	NA/NE					NA/NE – No erosion-producing activities proposed	None
CUM-1- Effects of wetland restoration projects on spread of non-native cordgrass	NA/NE					NA/NE – No restoration projects with the potential to spread *Spartina* proposed within this Complex during the proposed treatment schedule	None
CUM-2- Cumulative damage to marsh plain vegetation	NA/NE					NA/NE – Without mitigation.	None

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SITE-SPECIFIC PROJECT MITIGATION

Site Name: Corte Madera Creek Complex, Marin County TSN: ISP-2004-4

Impact	*Applicable Mitigation & Conservation Measures*	*Sub-Area Included*	*Herbicide*	*Digging*	*Implementation Timing*	*Verification Signatures*	
						Implementing Entity	*ISP Field Supervisor*
WQ-1: Degradation of Water Quality due to Herbicide Application	Apply herbicide directly to plant at low tide and according to label (WQ-1;CM-3,4)	Sub-Areas 4a, 4b, 4e, 4f, 4g, 4h, 4i,4j, 4k	X		During treatment		
WQ-2: Degradation of Water Quality due to Herbicide Spills	Apply under supervision of trained applicator (WQ-2;CM-3)	Sub-Areas 4a, 4b, 4e, 4f, 4g, 4h, 4i,4j, 4k	X		During treatment		
	Implement spill and containment plan provided or approved by ISP (WQ-2; CM-3,17)	Sub-Areas 4a, 4b, 4e, 4f, 4g, 4h, 4i,4j, 4k	X		During treatment		
WQ-3: Degradation of Water Quality due to Fuel or Petroleum Spills	Implement spill and containment plan provided or approved by ISP. (WQ-3;CM-17)	All Sub-Areas	X		During treatment		
BIO-1.1: Effects on tidal marsh plant communities affected by salt-meadow cordgrass and English cordgrass.	Minimize entry and re-entry into marsh (BIO-1.1;CM-1)	Sub-Area 4g	X	X			
	Avoid herbicide application to non-target vegetation adjacent to treatment area. (BIO-1.1;CM-3,4)	Sub-Area 4g	X				
BIO-1.2: Effects on tidal marsh plant communities affected by Atlantic smooth cordgrass and its hybrids.	Minimize entry and re-entry into marsh (BIO-1.2;CM-1)	Sub-Area 4a	X	X	During treatment		
	Avoid herbicide application to non-target vegetation adjacent to treatment area. (BIO-1.2;CM-3,4)	Sub-Area 4a	X		During treatment		

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Mitigations are from corresponding numbered mitigation in the same document,
Also included are the USFWS general and site-specific biological opinions Conservation Measures (CM).

Impact	*Applicable Mitigation & Conservation Measures*	*Sub-Area Included*	*Herbicide*	*Digging*	*Implementation Timing*	*Verification Signatures*	
						Implementing Entity	*ISP Field Supervisor*
BIO-1.3: Effects on tidal marsh plant communities affected by Chilean cordgrass and its hybrids.	Minimize entry and re-entry into marsh (BIO-1.3;CM-1)	All Sub-Areas	X	X			
	Avoid herbicide application to non-target vegetation adjacent to treatment area. (BIO-1.3;CM-3,4)	Sub-Areas 4a, 4b, 4e, 4f, 4g, 4h, 4i,4j, 4k	X				
BIO-3: Effects on shorebirds, waterfowl & marshland birds.	Avoid working within 1,000 feet of occupied mudflats during peak Pacific Flyway stopovers (BIO-3)	All Sub-Areas	X	X	During treatment		
	Occupy treatment area soon after high tide, before mudflats emerge (BIO-3)	All Sub-Areas	X	X	During treatment		
	Haze shorebirds to minimize potential direct contact with herbicide drift (BIO-3)	All Sub-Areas	X	X	During treatment		
BIO-4.1: Effects on the Salt Marsh Harvest Mouse and Tidal shrew species	Use shortest possible access route through any pickleweed habitat. Flag areas of repeated access (BIO-4.1;CM-15)	All Sub-areas except 4f	X	X	During treatment		
	Use protective mats or other covering over pickleweed in areas or repeated access (BIO-4.1;CM-15)	All Sub-areas except 4f	X	X	During treatment		
	Assume presence of SMHM on all suitable sites (CM 14)	All Sub-areas except 4f	X	X	During treatment		
	Whenever possible, schedule work after mass mortality events caused by extreme high tides (CM 16).	All Sub-areas except 4f	X	X	Pre- and during treatment		

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Also included are the USFWS general and site-specific biological opinions Conservation Measures (CM).

Impact	*Applicable Mitigation & Conservation Measures*	*Sub-Area Included*	*Herbicide*	*Digging*	*Implementation Timing*	*Verification Signatures*	
						Implementing Entity	*ISP Field Supervisor*
BIO-5.1: Effects on California clapper rail.	Perform work only during Sept 1 thru Feb 1 to avoid CLRA breading season (BIO-5.1;CM-18)	All Sub-Areas except 4e and 4f	X	X	During treatment		
	For work within the Clapper Rail breeding season, call counts will be performed in the early spring according to FWS protocols (CM-18)	All Sub-Areas except 4e and 4f	X	X	Pre-treatment		
	Provide CLRA Field biologist supervision (BIO-5.1)	All Sub-Areas except 4e and 4f	X	X	During treatment		
	Assure that field personnel are trained in general CLRA biology and CLRA identification and call detection (BIO-5.1)	All Sub-Areas except 4e and 4f	X	X	During treatment		
	Report any CLRA activity immediately to ISP Field Supervisor and in post-treatment report (BIO-5.1)	All Sub-Areas except 4e and 4f	X	X	During treatment		
BIO-5.3: Effects on tidal marsh song sparrow subspecies and the salt marsh common yellowthroat.	Report any SMSS and SCYE activity immediately to ISP Field Supervisor and in post-treatment report (BIO-5.3)	All Sub-Areas	X	X	During and post-treatment		
	Avoid spraying or removing Grindelia plants in the marsh	All Sub-Areas	X	X	During treatment		
	Watch for Song Sparrow presence in the work area during early season treatment work (pre-August), especially in the smaller, upper reaches of channels.	All Sub-Areas	X	X	During treatment		

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Also included are the USFWS general and site-specific biological opinions Conservation Measures (CM).

Impact	*Applicable Mitigation & Conservation Measures*	*Sub-Area Included*	*Herbicide*	*Digging*	*Implementation Timing*	*Verification Signatures*	
						Implementing Entity	*ISP Field Supervisor*
BIO-6.1: Effects on anadromous salmonids (winter-run and spring-run Chinook salmon, steelhead).	Minimize spraying within marsh. Spray drift near channels shall be minimized and conform to ISP herbicide drift management plan or equivalent (BIO-6.1)	Sub-Areas 4a, 4b, 4e, 4f, 4g, 4h, 4i,4j, 4k	X		During treatment		
BIO-6.4: Effects on estuarine fish populations of shallow submerged intertidal mudflats and channels.	Spray drift near channels shall be minimized and conform to ISP herbicide drift management plan or equivalent (BIO-6.4)	Sub-Areas 4a, 4b, 4e, 4f, 4g, 4h, 4i,4j, 4k	X		During treatment		
N-1: Disturbance of sensitive receptors	Comply with all local noise ordinances (N-1)	All Sub-Areas	X	X	During treatment		
HS-1: Worker Injury from accidents Associated with manual and mechanical Cordgrass treatment	Follow ISP approved site safety protocols or equivalent (HS-1;CM-3)	All Sub-Areas		X	During treatment		
HS-2: Worker Health Effects from Herbicide Application.	Follow handling and application procedures as identified on product label (HS-2;CM-3)	Sub-Areas 4a, 4b, 4e, 4f, 4g, 4h, 4i,4j, 4k	X		During treatment		
HS-3: Health Effects to the Public from Herbicide Application.	Minimize drift according to ISP drift management plan or equivalent (HS-3;CM-3,4)	Sub-Areas 4a, 4b, 4e, 4f, 4g, 4h, 4i,4j, 4k	X		During treatment		
	Post appropriate signage (see attached signage requirements) a minimum of 24 hours pre-treatment (HS-3)	Sub-Areas 4a, 4b, 4e, 4f, 4g, 4h, 4i,4j, 4k	X		Pre-treatment		

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Also included are the USFWS general and site-specific biological opinions Conservation Measures (CM).

Impact	*Applicable Mitigation & Conservation Measures*	*Sub-Area Included*	*Herbicide*	*Digging*	*Implementation Timing*	*Verification Signatures*	
						Implementing Entity	*ISP Field Supervisor*
	Avoid scheduling herbicide application near high public use areas during weekends or holidays, or close public access to area 24 hours before and after treatment (HS-3)	Sub-Areas 4a, 4b, 4e, 4f, 4g, 4h, 4i,4j, 4k	X		Pre-treatment and during treatment		
HS-4: Health effects to workers or the public from accidents associated with treatment.	Maintain ISP or approved equivalent Site Safety and Spill Prevention plan on site (HS-4;CM-3,17)	All Sub-Areas	X	X	During treatment		
VIS-1: Alteration of Views from Removal of Non-native Cordgrass Infestations.	Post appropriate signage according to ISP signage protocols (VIS-1)	All Sub-Areas	X	X	Pre-treatment, during treatment, post-treatment		
CUL-1: Disturbance or Destruction of Cultural Resources from Access and Treatment.	Report all discovered prehistoric or historic resources to the ISP Field Supervisor and a qualified archeologist or historic resources consultant and suspend all work at site until archaeological mitigation has taken place (CUL-1)	All Sub-Areas	X	X	Pre-treatment and during treatment		
CM-7: Invasive Species	Monitor cleared patches for recruitment of invasive plant species including perennial pepperweed until native vegetation has become dominant (CM-7)	All sub-areas	X	X	Post-treatment		

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Also included are the USFWS general and site-specific biological opinions Conservation Measures (CM).

SITE-SPECIFIC PROJECT IMPACT EVALUATION

Site Name: Coyote Creek & Mowry Slough Area, Alameda County TSN: ISP-2004-5

*Impact**	*Appli-cable to Site*	*Sub-Area Included*	*Applicable Mitigations* (by Treatment Method used at Site)*					*Comments/Analysis of Re-sidual Impact at Site*	*Additional Miti-gation Required*
			Backpack	*Boat*	*Truck*	*Amphibious Vehicle*	*Aerial*		
GEO-1: Erosion or deposition of sediment at treatment site	NA/NE							NA/NE – Proposed activities are not ground disturbing and will not elevate erosion above ambient levels.	None
GEO-2: Erosion or topographic change of marsh and mudflat by vehicles used in eradication	NA/NE							NA/NE – No equipment will be working on marsh or mudflat surfaces	None
GEO-3: Remobilization of sand in cordgrass-stabilized estuarine beaches	NA/NE							NA/NE – Proposed activities will not take place within an estuarine beach.	None
GEO-4: Increased demand for sediment disposal and potential spread of invasive cordgrass via sediment disposal.	NA/NE							NA/NE – No dredg-ing/sediment disposal pro-posed	None
GEO-5: Increased volume and velocity of tidal currents in chan-nels due to the removal of invasive cordgrass.	A	All Sub-Areas	GEO-5	GEO-5	GEO-5	GEO-5	GEO-5	No adverse impact (see EIS/R GEO-5 discussion). Site conditions consistent with those anticipated in the PEIS/R.	None
GEO-6: Increased depth and tur-bulence of tidewaters impounded in salt marsh pans.	NA/NE							NA/NE – Proposed activities will not take place within salt marsh pans.	None

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Impact*	Applicable to Site	Sub-Area Included	Applicable Mitigations* (by Treatment Method used at Site)					Comments/Analysis of Residual Impact at Site	Additional Mitigation Required
			Backpack	Boat	Truck	Amphibious Vehicle	Aerial		
WQ-1: Degradation of Water Quality due to herbicide application	A	All Sub-Areas	WQ-1	WQ-1	WQ-1	WQ-1	WQ-1	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
WQ-2: Degradation of Water Quality due to herbicide spills	A	All Sub-Areas	WQ-2	WQ-2	WQ-2	WQ-2	WQ-2	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
WQ-3: Degradation of Water Quality due to fuel or petroleum spills	A	All Sub-Areas	WQ-3	WQ-3	WQ-3	WQ-3	WQ-3	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
WQ-4: Degradation of Water Quality due to Contaminant Remobilization	NA/NE							NA/NE – No dredging or other sediment-mobilizing activities proposed.	None
WQ-5: Water Quality Effects Resulting from Sediment Accretion	NA/NE							NA/NE – This impact only applies to EIS/R Alternative 3.	None
BIO-1.1: Effects on tidal marsh plant communities affected by salt-meadow cordgrass and English cordgrass.	NA/NE							NA/NE – Field surveys found no salt-meadow or English cordgrass at this site.	None
BIO-1.2: Effects on tidal marsh plant communities affected by Atlantic smooth cordgrass and its hybrids.	A	All Sub-Areas	BIO-1.2	BIO-1.2	BIO-1.2	BIO-1.2	BIO-1.2	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None

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Impact*	Applicable to Site	Sub-Area Included	Applicable Mitigations* (by Treatment Method used at Site)					Comments/Analysis of Residual Impact at Site	Additional Mitigation Required
			Backpack	Boat	Truck	Amphibious Vehicle	Aerial		
BIO-1.3: Effects on tidal marsh plant communities affected by Chilean cordgrass.	NA/NE							NA/NE – Field surveys found no Chilean cordgrass at site.	None
BIO-1.4: Effects on submerged aquatic plant communities.	NA/NE							NA/NE – Field surveys found no eelgrass or other submerged aquatic plants at site.	None
BIO-2: Effects on special-status plants (Soft bird's beak and/or Suisun thistle) in tidal marshes	NA/NE							NA/NE – Field surveys found no special-status plant species at site.	None
BIO-3: Effects on shorebirds and waterfowl.	A	All Sub-Areas	BIO-3	BIO-3	BIO-3	BIO-3	BIO-3	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-4.1: Effects on the salt marsh harvest mouse and tidal marsh shrew species.	A	All Sub-Areas	BIO-4.1	BIO-4.1	BIO-4.1	BIO-4.1	BIO-4.1	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-4.2: Effects on resident harbor seal colonies of San Francisco Bay.	A	Sub-Areas 5a and 5c	BIO-4.2	BIO-4.2	BIO-4.2	BIO-4.2	BIO-4.2	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-4.3: Effects on the southern sea otter.	NA/NE							NA/NE – Outside of known range of southern sea otters.	None

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*Impact**	*Applicable to Site*	*Sub-Area Included*	*Applicable Mitigations* (by Treatment Method used at Site)*					*Comments/Analysis of Residual Impact at Site*	*Additional Mitigation Required*
			Backpack	*Boat*	*Truck*	*Amphibious Vehicle*	*Aerial*		
BIO-5.1: Effects on the California clapper rail.	A	All Sub-Areas	BIO-5.1 as modified by UFSWS BO	BIO-5.1 as modified by UFSWS BO	BIO-5.1 as modified by UFSWS BO	BIO-5.1 as modified by UFSWS BO	BIO-5.1 as modified by UFSWS BO	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-5.2: Effects on the California black rail.	NA/NE							NA/NE – Outside of known range black rails.	None
BIO-5.3: Effects on tidal marsh song sparrow subspecies and the salt marsh common yellowthroat.	A	All Sub-Areas	BIO-5.3 as modified by UFSWS BO	BIO-5.3 as modified by UFSWS BO	BIO-5.3 as modified by UFSWS BO	BIO-5.3 as modified by UFSWS BO	BIO-5.3 as modified by UFSWS BO	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-5.4: Effects on California least terns and western snowy plovers.	A	Sub-Areas 5c and 5d	BIO-5.4 as modified by UFSWS BO	BIO-5.4 as modified by UFSWS BO	BIO-5.4 as modified by UFSWS BO	BIO-5.4 as modified by UFSWS BO	BIO-5.4 as modified by UFSWS BO	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-5.5: Effects on raptors (birds of prey).	A	Sub-Areas 5a, 5b, 5c, 5d, 5f					BIO-5.5	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-6.1: Effects on anadromous salmonids (winter-run and spring-run Chinook salmon, steelhead).	A	All Sub-Areas	BIO-6.1 as modified by UFSWS BO	BIO-6.1 as modified by UFSWS BO	BIO-6.1 as modified by UFSWS BO	BIO-6.1 as modified by UFSWS BO	BIO-6.1 as modified by UFSWS BO	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None

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*Impact**	*Applicable to Site*	*Sub-Area Included*	*Applicable Mitigations* (by Treatment Method used at Site)*					*Comments/Analysis of Residual Impact at Site*	*Additional Mitigation Required*
			Backpack	*Boat*	*Truck*	*Amphibious Vehicle*	*Aerial*		
BIO-6.2: Effects on delta smelt and Sacramento splittail.	NA/NE							NA/NE – Outside of known delta smelt and Sacramento splittail range.	None
BIO-6.3: Effects on the tidewater goby.	NA/NE							NA/NE – Outside of known range of tidewater goby.	None
BIO-6.4: Effects on estuarine fish populations of shallow submerged intertidal mudflats and channels.	A	All Sub-Areas	BIO-6.4 – minimize spraying	BIO-6.4 – minimize spraying	BIO-6.4 – minimize spraying	BIO-6.4 – minimize spraying	BIO-6.4 – minimize spraying	LTS/NLTAE with additional mitigation BIO-6.4(b) (Note: no mowing proposed accept in test plots because of unacceptable impacts to birds)	BIO-6.4(b) - R-11 will not be used adjacent to channel to minimize any potential adverse affects on estuarine fish.
BIO-7: Effects on California red-legged frog and San Francisco garter snake.	NA/NE							NA/NE – Outside of known range of California red-legged frog and San Francisco garter snake.	None
BIO-8: Effects of regional invasive cordgrass eradication on mosquito production.	NA/NE							NA/NE – Site activities will not create additional mosquito habitat.	None
BIO-9: Effects on tiger beetle species.	NA/NE							NA/NE – no potential tiger beetle habitat will be affected.	None
AQ-1: Dust Emissions.	A	All Sub-Areas	AQ-1	AQ-1	AQ-1	AQ-1	AQ-1	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None

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Impact*	Applicable to Site	Sub-Area Included	Applicable Mitigations* (by Treatment Method used at Site)					Comments/Analysis of Residual Impact at Site	Additional Mitigation Required
			Backpack	Boat	Truck	Amphibious Vehicle	Aerial		
AQ-2: Smoke Emissions.	NA/NE							NA/NE – no burning proposed.	None
AQ-3: Herbicide Effects on Air Quality.	A	Sub-Areas 5a, 5b, 5c, 5d, 5f					AQ-3	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
AQ-4: Ozone Precursor Emissions.	NA/NE							LTS/NLTAE without mitigation.	None
AQ-5: Carbon monoxide (CO) Emissions.	NA/NE							LTS/NLTAE without mitigation.	None
N-1: Disturbance of Sensitive Receptors	A	Sub-Areas 5a, 5b, 5c, 5d, 5e, 5g	N-1	N-1	N-1	N-1		LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
HS-1: Worker Injury from Accidents Associated with Manual and Mechanical Cordgrass Treatment.	NA/NE							NA/NE – Methods not proposed for site.	None
HS-2: Worker Health Effects from Herbicide Application.	A	All Sub-Areas	HS-2	HS-2	HS-2	HS-2	HS-2	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None

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SU – Significant but unmitigable impact
USFWS BO – US Fish & Wildlife Service Biological Opinion

Impact*	Applicable to Site	Sub-Area Included	Applicable Mitigations* (by Treatment Method used at Site)					Comments/Analysis of Residual Impact at Site	Additional Mitigation Required
			Backpack	Boat	Truck	Amphibious Vehicle	Aerial		
HS-3: Health Effects to the Public from Herbicide Application.	A	All Sub-Areas	HS-3	HS-3	HS-3	HS-3	HS-3	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
HS-4: Health effects to workers or the public from accidents associated with treatment.	A	All Sub-Areas	HS-4	HS-4	HS-4	HS-4	HS-4	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
VIS-1: Alteration of Views from Removal of Non-native Cordgrass Infestations.	A	All Sub-Areas	VIS-1	VIS-1	VIS-1	VIS-1	VIS-1	SU – impacts addressed in EIS/R and CEQA findings. Site conditions consistent with those anticipated in the PEIS/R.	None
VIS-2: Change in Views from Native Marsh, Mudflat, and Open Water to Non-native Cordgrass Meadows and Monocultures.	NA/NE							NA/NE – Applies only to PEIS/R Alternative 3 (No Action)	None
LU-1: Land Use Conflicts Between Herbicide Use and Sensitive Receptors	A	All Sub Areas						LTS/NLTAE – Limited to less than significant by HS, N and AQ mitigations.	None
LU-2: Land Use Conflicts from Mechanical and Burning Treatment Methods	NA/NE							NA/NE – Methods not proposed for site	None
CUL-1: Disturbance or Destruction of Cultural Resources from Access and Treatment.	A	All Sub-Areas				CUl-1		LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None

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*Impact**	*Appli-cable to Site*	*Sub-Area Included*	*Applicable Mitigations* (by Treatment Method used at Site)*					*Comments/Analysis of Re-sidual Impact at Site*	*Additional Miti-gation Required*
			Backpack	*Boat*	*Truck*	*Amphibious Vehicle*	*Aerial*		
CUL-2: Loss of Cultural Re-sources from Erosion.	NA/NE							NA/NE – No erosion-producing activities pro-posed	None
CUM-1: Effects of wetland restora-tion projects on spread of non-native cordgrass	NA/NE							NA/NE – No restoration pro-jects proposed on this site	None
CUM-2: Cumulative damage to marsh plain vegetation	NA/NE							NA/NE – Without mitigation	None

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SITE-SPECIFIC PROJECT MITIGATION

Site Name: Coyote Creek & Mowry Slough Area, Alameda County TSN: ISP-2004-5

*Impact**	*Applicable Mitigation & Conservation Measures**	*Applicable Sub-area*	*Backpack*	*Boat*	*Truck*	*Amphibious Vehicle*	*Aerial*	*Implementation Timing*	*Verification Signatures*	
									Implementing Entity	*ISP Field Supervisor*
WQ-1: Degradation of water quality due to herbicide application	Apply herbicide directly to plant at low tide and according to label. (WQ-1; CM-3, 4)	All sub-areas	X	X	X	X	X	During treatment		
WQ-2: Degradation of water quality due to herbicide spills	Apply under supervision of trained applicator (WQ-2; CM-3)	All sub-Areas	X	X	X	X	X	During treatment		
	Implement spill and containment plan provided or approved by ISP (WQ-2; CM-3, 17)	All sub-areas	X	X	X	X	X	During treatment		
WQ-3: Degradation of Water Quality due to Fuel or Petroleum Spills	Implement spill and containment plan provided or approved by ISP (WQ-3; CM-17)	All sub-areas	X	X	X	X	X	During treatment		
BIO-1.2: Effects on tidal marsh plant communities affected by Atlantic smooth cordgrass and its hybrids.	Minimize entry and re-entry into marsh, define access points (BIO-1.2; CM-1)	All Sub-areas	X	X	X	X		During treatment		
	Avoid staging in high, dense vegetation such as gumplant or pickleweed (FWS GL)	All sub-areas	X	X	X	X	X	During treatment		
	Avoid herbicide application to non-target vegetation adjacent to treatment area (BIO-1.2; CM-3, 4)	All sub-areas	X	X	X	X	X	During treatment		

*Impact numbering from ISP Control Program Programmatic EIS/R, September 2003.
Mitigations are from corresponding numbered mitigation in the same document,
CM - Conservation Measures as defined by USFWS Biological Opinions (general and site-specific)

*Impact**	*Applicable Mitigation & Conservation Measures**	*Applicable Sub-area*	*Backpack*	*Boat*	*Truck*	*Amphibious Vehicle*	*Aerial*	*Implementation Timing*	*Verification Signatures*	
									Implementing Entity	*ISP Field Supervisor*
BIO-3: Effects on shorebirds, waterfowl & marshland birds.	Avoid working within 1,000 feet of occupied mudflats during peak Pacific Flyway stopovers (BIO-3)	All sub-areas	X	X	X	X	X	During treatment		
	Occupy treatment area soon after high tide, before mudflats emerge (BIO-3)	All sub-areas	X	X	X	X	X	During treatment		
	Haze shorebirds to minimize potential direct contact with herbicide drift (BIO-3)	All sub-areas	X	X	X	X	X	During treatment		
BIO-4.1: Effects on the salt marsh harvest mouse and tidal marsh shrew species.	Use shortest possible access route through any pickleweed habitat. Flag areas of repeated access (BIO-4.1; CM-15)	All sub-areas	X	X	X	X		During treatment		
	Use protective mats or other covering over pickleweed in areas or repeated access (BIO-4.1; CM-15)	All sub-areas	X	X	X	X		During treatment		
	Assume presence of SMHM on all suitable sites (CM 14)	All sub-areas	X	X	X	X	X	During treatment		
	Whenever possible, schedule work after mass mortality events caused by extreme high tides (CM 16).	All sub-areas	X	X	X	X	X	Pre- and during treatment		
BIO-4.2: Effects on resident Harbor Seal colonies of San Francisco Bay	Minimize vehicle and foot access to marsh within 1000 feet of haul out sites (BIO-4.2)	Sub-Areas 5a and 5c	X	X	X	X		During treatment		

*Impact numbering from ISP Control Program Programmatic EIS/R, September 2003.
Mitigations are from corresponding numbered mitigation in the same document,
CM - Conservation Measures as defined by USFWS Biological Opinions (general and site-specific)

*Impact**	*Applicable Mitigation & Conservation Measures**	*Applicable Sub-area*	*Backpack*	*Boat*	*Truck*	*Amphibious Vehicle*	*Aerial*	*Implementation Timing*	*Verification Signatures*	
									Implementing Entity	*ISP Field Supervisor*
	Avoid approaching haul out sites within 2000 feet (or any distance that elicits vigilance behavior) when pups are present (BIO-4.2)	All sub-areas	X	X	X	X	X	During treatment		
	Follow ISP spill prevention plan or equivalent (BIO-4.2; CM-17)	All sub-areas	X	X	X	X	X	During treatment		
BIO-5.1: Effects on California clapper rail.	Perform work only during Sept 1 thru Feb 1 to avoid CLRA breading season (BIO-5.1; CM-18)	All sub-areas	X	X	X	X		During treatment		
	For work within the Clapper Rail breeding season, call counts will be performed in the early spring according to FWS protocols (CM-18)	All sub-areas					X	Pre-treatment		
	Provide CLRA Field biologist supervision (BIO-5.1)	All sub-areas	X	X	X	X	X	During treatment		
	Assure that field personnel are trained in general CLRA biology and CLRA identification and call detection (BIO-5.1)	All sub-areas	X	X	X	X	X	Pre-treatment and during treatment		
	Report any CLRA activity immediately to ISP Field Supervisor and in post-treatment report (BIO-5.1)	All sub-areas	X	X	X	X	X	During and post-treatment		
BIO-5.3: Effects on tidal marsh song sparrow subspecies and the salt marsh common yellowthroat.	Report any SMSS and SCYE activity immediately to ISP Field Supervisor and in post-treatment report (BIO-5.3)	All sub-areas	X	X	X	X	X	During and post-treatment		

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CM - Conservation Measures as defined by USFWS Biological Opinions (general and site-specific)

*Impact**	*Applicable Mitigation & Conservation Measures**	*Applicable Sub-area*	*Backpack*	*Boat*	*Truck*	*Amphibious Vehicle*	*Aerial*	*Implementation Timing*	*Verification Signatures*	
									Implementing Entity	*ISP Field Supervisor*
	Avoid spraying or removing *Grindelia* plants in the marsh (BIO-5.3)	All sub-areas	X	X	X	X	X	During treatment		
	Watch for Song Sparrow presence in the work area during early season treatment work (pre-August), especially in the smaller, upper reaches of channels (BIO-5.3)	All sub-areas	X	X	X	X	X	During treatment		
BIO-5.4: Effects on California least terns and western snowy plovers.	Survey access levees for nesting CALT and WSPL prior to entry (BIO-5.4; CM-20)	Sub-Areas 5c and 5d	X	X	X	X	X	Pre-treatment		
	Report any CALT and WSPL activity immediately to ISP Field Supervisor and in post-treatment report (BIO-5.4)	Sub-Areas 5c and 5d	X	X	X	X	X	During and post-treatment		
BIO-5.5 Effects on raptors (birds of prey)	Consult qualified biologist to determine possible raptor nesting presence (BIO-5.5)	Sub-Areas 5a, 5b, 5c, 5d, 5f					X	Pre-treatment		
	Ensure 500 foot buffer around nests for any helicopter activity (BIO-5.5)	Sub-Areas 5a, 5b, 5c, 5d, 5f					X	During treatment		
BIO-6.1: Effects on anadromous salmonids (winter-run and spring-run Chinook salmon, steelhead).	Minimize herbicide applications (BIO-6.1)	All sub-areas	X	X	X	X	X	During treatment		

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CM - Conservation Measures as defined by USFWS Biological Opinions (general and site-specific)

*Impact**	*Applicable Mitigation & Conservation Measures**	*Applicable Sub-area*	*Backpack*	*Boat*	*Truck*	*Amphibious Vehicle*	*Aerial*	*Implementation Timing*	*Verification Signatures*	
									Implementing Entity	*ISP Field Supervisor*
	Avoid use of alkylphenol ethoxylate surfactants adjacent to channel to minimize any potential adverse affects on estuarine fish (BIO-6.1)	All sub-areas	X	X	X	X	X	During treatment		
BIO-6.4: Effects on estuarine fish populations of shallow submerged intertidal mudflats and channels.	Minimize spraying near channels (BIO-6.4)	All sub-areas	X	X	X	X	X	During treatment		
	Avoid use of alkylphenol ethoxylate surfactants adjacent to channel to minimize any potential adverse affects on estuarine fish (BIO-6.4)	All sub-areas	X	X	X	X	X	During treatment		
AQ-1: Dust emissions	Limit speeds on dirt roads to 15 miles per hour (AQ-1)	All Sub-areas	X	X	X	X	X	During treatment		
AQ-3: Herbicide effects on air quality.	Implement ISP approved drift management plan (AQ-3; CM-3, 4)	Sub-Areas 5a, 5b, 5c, 5d, 5f					X	During treatment		
N-1: Disturbance of Sensitive Receptors	Comply with all local noise ordinances (N-1)	Sub-Areas 5a, 5b, 5c, 5d, 5e, 5g	X	X	X	X		During treatment		
HS-2: Worker Health Effects from Herbicide Application.	Follow handling and application procedures as identified on product label (HS-2; CM-3, 4)	All sub-areas	X	X	X	X	X	During treatment		
HS-3: Health Effects to the Public from Herbicide Application.	Minimize drift according to ISP drift management plan (HS-3; CM-3, 4)	All sub-areas	X	X	X	X	X	During treatment		

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CM - Conservation Measures as defined by USFWS Biological Opinions (general and site-specific)

*Impact**	*Applicable Mitigation & Conservation Measures**	*Applicable Sub-area*	*Backpack*	*Boat*	*Truck*	*Amphibi-ous Ve-hicle*	*Aerial*	*Implementation Timing*	*Verification Signatures*	
									Implement-ing Entity	*ISP Field Supervisor*
	Post appropriate signage (see attached signage requirements) a minimum of 24 hours pre-treatment (HS-3)	All sub-areas	X	X	X	X	X	Pre-treatment		
HS-4: Health effects to workers or the public from accidents associ-ated with treatment.	Maintain ISP or approved equivalent Site Safety and Spill Prevention plan on site (HS-4; CM-3, 4,17)	All sub-areas	X	X	X	X	X	During treatment		
VIS-1: Alteration of Views from Removal of Non-native Cordgrass Infestations.	Post appropriate signage according to ISP signage protocols (VIS-1)	All sub-areas	X	X	X	X	X	Pre-treatment, during treatment, post-treatment		
CUL-1: Disturbance or Destruction of Cultural Resources from Access and Treatment.	Report all discovered pre-historic or historic re-sources to the ISP Field Supervisor and a qualified archeologist or historic resources consultant and suspend all work at site until archaeological miti-gation has taken place (CUL-1)	All sub-areas				X		Pre-treatment and during treatment		
CM-7: Invasive Species	Monitor cleared patches for recruitment of invasive plant species including perennial pepperweed until native vegetation has become dominant (CM-7)	All sub-areas	X					Post-treatment		

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CM - Conservation Measures as defined by USFWS Biological Opinions (general and site-specific)

SITE-SPECIFIC PROJECT IMPACT EVALUATION

Site Name: Emeryville Crescent, Alameda County TSN: ISP-2004-6

*Impact**	*Applicable Sub-site*	*Applicable Mitigations* (by Treatment Method used at Site)*			*Comments/Analysis of Residual Impact at Site*	*Additional Mitigation Required*
		Amphibious vehicle	*Backpack sprayer*	*Conventional Spray Truck*		
GEO-1: Erosion or deposition of sediment at treatment site	NA/NE				NA/NE – Proposed activities are not ground disturbing and will not elevate erosion above ambient levels.	None
GEO-2: Erosion or topographic change of marsh and mudflat by vehicles used in eradication	All sub-areas	GEO-2			LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
GEO-3: Remobilization of sand in cordgrass-stabilized estuarine beaches	NA/NE				NA/NE – Proposed activities will not remove existing native *Spartina* matrix.	None
GEO-4: Increased demand for sediment disposal and potential spread of invasive cordgrass via sediment disposal.	NA/NE				NA/NE – No dredging/sediment disposal proposed	None
GEO-5: Increased volume and velocity of tidal currents in channels due to the removal of invasive cordgrass.	All sub-areas	None	None	None	No adverse impact (see EIS/R GEO-5 discussion). Site conditions consistent with those anticipated in the PEIS/R.	None
GEO-6: Increased depth and turbulence of tidewaters impounded in salt marsh pans.	NA/NE				NA/NE – Proposed activities will not take place within salt marsh pans.	None
WQ-1: Degradation of Water Quality due to Herbicide Application	All sub-areas	WQ-1	WQ-1	WQ-1	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None

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Impact*	Applicable Sub-site	Applicable Mitigations* (by Treatment Method used at Site)			Comments/Analysis of Residual Impact at Site	Additional Mitigation Required
		Amphibious vehicle	Backpack sprayer	Conventional Spray Truck		
WQ-2: Degradation of Water Quality due to Herbicide Spills	All sub-areas	WQ-2	WQ-2	WQ-2	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
WQ-3: Degradation of Water Quality due to Fuel or Petroleum Spills	All sub-areas	WQ-3	WQ-3	WQ-3	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
WQ-4: Degradation of Water Quality due to Contaminant Remobilization	NA/NE				NA/NE – No dredging or other sediment-mobilizing activities proposed.	None
WQ-5: Water Quality Effects Resulting from Sediment Accretion	NA/NE				NA/NE – This impact only applies to EIS/R Alternative 3.	None
BIO-1.1: Effects on tidal marsh plant communities affected by salt-meadow cordgrass and English cordgrass.	NA/NE				NA/NE – Field surveys found no salt-meadow or English cordgrass at this site.	None
BIO-1.2: Effects on tidal marsh plant communities affected by Atlantic smooth cordgrass and its hybrids.	All sub-areas	BIO-1.2	BIO-1.2	BIO-1.2	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-1.3: Effects on tidal marsh plant communities affected by Chilean cordgrass.	NA/NE				NA/NE – Field surveys found no Chilean cordgrass at site.	None
BIO-1.4: Effects on submerged aquatic plant communities.	NA/NE				NA/NE – Field surveys found no eelgrass or other submerged aquatic plants at site.	None

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Impact*	Applicable Sub-site	Applicable Mitigations* (by Treatment Method used at Site)			Comments/Analysis of Residual Impact at Site	Additional Mitigation Required
		Amphibious vehicle	Backpack sprayer	Conventional Spray Truck		
BIO-2: Effects on special-status plants (Soft bird's beak and/or Suisun thistle) in tidal marshes	NA/NE				NA/NE – Field surveys found no special-status plant species at site.	None
BIO-3: Effects on shorebirds and waterfowl.	All sub-areas	BIO-3	BIO-3	BIO-3	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-4.1: Effects on the salt marsh harvest mouse and tidal marsh shrew species.	All sub-areas	BIO-4.1 as modified by UFSWS BO	BIO-4.1 as modified by UFSWS BO	BIO-4.1 as modified by UFSWS BO	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-4.2: Effects on resident harbor seal colonies of San Francisco Bay.	NA/NE				NA/NE – Harbor seal colonies at or near site.	None
BIO-4.3: Effects on the southern sea otter.	NA/NE				NA/NE – Outside of known range of southern sea otters.	None
BIO-5.1: Effects on the California clapper rail.	All sub-areas	BIO-5.1 as modified by UFSWS BO	BIO-5.1 as modified by UFSWS BO	BIO-5.1 as modified by UFSWS BO	LTS/NLTAE at site – Potential project impacts mitigated at site. SU cumulative impacts addressed in EIS/R and CEQA findings.	None
BIO-5.2: Effects on the California black rail.	All sub-areas	BIO-5.2	BIO-5.2	BIO-5.2	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-5.3: Effects on tidal marsh song sparrow subspecies and the salt marsh common yellowthroat.	All sub-areas	BIO-5.3 as modified by UFSWS BO	BIO-5.3 as modified by UFSWS BO	BIO-5.3 as modified by UFSWS BO	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None

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Impact*	Applicable Sub-site	Applicable Mitigations* (by Treatment Method used at Site)			Comments/Analysis of Residual Impact at Site	Additional Mitigation Required
		Amphibious vehicle	Backpack sprayer	Conventional Spray Truck		
BIO-5.4: Effects on California least terns and western snowy plovers.	NA/NE				NA/NE – No suitable habitat for least terns or western snowy plovers at this site.	None
BIO-5.5: Effects on raptors (birds of prey).	NA/NE				NA/NE – No helicopters to be used in treatment at this site.	None
BIO-6.1: Effects on anadromous salmonids (winter-run and spring-run Chinook salmon, steelhead).	All sub-areas				LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-6.2: Effects on delta smelt and Sacramento splittail.	NA/NE				NA/NE – Outside of known delta smelt and Sacramento splittail range.	None
BIO-6.3: Effects on the tidewater goby.	NA/NE				NA/NE – Outside of known range of tidewater goby.	None
BIO-6.4: Effects on estuarine fish populations of shallow submerged intertidal mudflats and channels.	All sub-areas	BIO-6.4 – minimize spraying	BIO-6.4 – minimize spraying	BIO-6.4 – minimize spraying	LTS/NLTAE with additional mitigation BIO-6.4(b) (Note: no mowing proposed accept in test plots because of unacceptable impacts to birds)	BIO-6.4(b) - R-11 will not be used adjacent to channel to minimize any potential adverse affects on estuarine fish.
BIO-7: Effects on California red-legged frog and San Francisco garter snake.	NA/NE				NA/NE – Outside of known range of California red-legged frog and San Francisco garter snake.	None
BIO-8: Effects of regional invasive cordgrass eradication on mosquito production.	NA/NE				NA/NE – Site activities will not create additional mosquito habitat.	None
BIO-9: Effects on tiger beetle species.	NA/NE				NA/NE – No potential tiger beetle habitat will be affected.	None

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*Impact**	*Applicable Sub-site*	*Applicable Mitigations* (by Treatment Method used at Site)*			*Comments/Analysis of Residual Impact at Site*	*Additional Mitigation Required*
		Amphibious vehicle	*Backpack sprayer*	*Conventional Spray Truck*		
AQ-1: Dust Emissions.	NA/NE				NA/NE – Access roads are paved.	None
AQ-2: Smoke Emissions.	NA/NE				NA/NE – No burning proposed.	None
AQ-3: Herbicide Effects on Air Quality.	NA/NE				NA/NE – No aerial applications proposed	None
AQ-4: Ozone Precursor Emissions.	NA/NE				LTS/NLTAE without mitigation.	None
AQ-5: Carbon Monoxide (CO) Emissions.	NA/NE				LTS/NLTAE without mitigation.	None
N-1: Disturbance of Sensitive Receptors	All sub-areas	N-1	N-1	N-1	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
HS-1: Worker Injury from Accidents Associated with Manual and Mechanical Cordgrass Treatment.	NA/NE				NA/NE – No manual or mechanical cordgrass treatment proposed	None
HS-2: Worker Health Effects from Herbicide Application.	All sub-areas	HS-2	HS-2	HS-2	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
HS-3: Health Effects to the Public from Herbicide Application.	All sub-areas	HS-3	HS-3	HS-3	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
HS-4: Health effects to workers or the public from accidents associated with treatment.	All sub-areas	HS-4	HS-4	HS-4	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None

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*Impact**	*Applicable Sub-site*	*Applicable Mitigations* (by Treatment Method used at Site)*			*Comments/Analysis of Residual Impact at Site*	*Additional Mitigation Required*
		Amphibious vehicle	*Backpack sprayer*	*Conventional Spray Truck*		
VIS-1: Alteration of Views from Removal of Non-native Cordgrass Infestations.	All sub-areas	VIS-1	VIS-1	VIS-1	SU – Impacts addressed in EIS/R and CEQA findings. Site conditions consistent with those anticipated in the PEIS/R.	None
VIS-2: Change in Views from Native Marsh, Mudflat, and Open Water to Non-native Cordgrass Meadows and Monocultures.	NA/NE				NA/NE – Applies only to PEIS/R Alternative 3 (No Action)	None
LU-1: Land Use Conflicts Between Herbicide Use and Sensitive Receptors	All sub-areas				LTS/NLTAE – Limited to less than significant by HS, N and AQ mitigations.	None
LU-2: Land Use Conflicts from Mechanical and Burning Treatment Methods	NA/NE				NA/NE – Methods not proposed for site	None
CUL-1: Disturbance or Destruction of Cultural Resources from Access and Treatment.	All sub-areas	CUL-1	CUL-1	CUL-1	NA/NE – Treatment activities will not take place in cultural resources areas	None
CUL-2: Loss of Cultural Resources from Erosion.	NA/NE				NA/NE – No erosion-producing activities proposed	None
CUM-1: Effects of wetland restoration projects on spread of non-native cordgrass	NA/NE				NA/NE – No restoration projects proposed on this site	None
CUM-2: Cumulative damage to marsh plain vegetation	NA/NE				NA/NE – No Mosquito Abatement Districts working on this site	None

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SITE-SPECIFIC PROJECT MITIGATION

Site Name: Emeryville Crescent, Alameda County TSN: ISP-2004-6

Impact	*Applicable Mitigation & Conservation Measure*	*Applicable sub-site*	*Amphibious vehicle*	*Backpack sprayer*	*Conventional Spray Truck*	*Implementation Timing*	*Verification Signatures*	
							Implementing Entity	*ISP Field Supervisor*
GEO-2: Erosion or topographic change of marsh and mudflat by vehicles used in eradication	Minimize vehicle travel in areas subject to erosion (GEO-2;CM-1).	6b, 6b	X			During treatment		
WQ-1: Degradation of Water Quality due to Herbicide Application	Apply herbicide directly to plant at low tide and according to l6a, 6bel (WQ-1;CM-3,4)	6a, 6b	X	X	X	During treatment		
WQ-2: Degradation of Water Quality due to Herbicide Spills	Apply under supervision of trained applicator (WQ-2;CM-3)	6a, 6b	X	X	X	During treatment		
	Implement spill and containment plan provided or approved by ISP (WQ-2; CM-3,17)	6a, 6b	X	X	X	During treatment		
WQ-3: Degradation of Water Quality due to Fuel or Petroleum Spills	Implement spill and containment plan provided or approved by ISP (WQ-3;CM-17)	6a, 6b	X	X	X	During treatment		
BIO-1.2: Effects on tidal marsh plant communities affected by Atlantic smooth cordgrass and its hybrids.	Minimize entry and re-entry into marsh (BIO-1.2;CM-1)	6a, 6b	X	X	X	During treatment		
	Avoid staging in high, dense vegetation such as gumplant or pickleweed (FWS GL)	6a, 6b	X	X	X	During treatment		
	Place mats or other protectors beneath heavy equipment operating in sensitive high-marsh vegetation, especially gumplant. (BIO-1.2;CM-1)	6a, 6b	X	X	X	During treatment		

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Also included are the USFWS general and site-specific biological opinions Conservation Measures (CM).

Impact	*Applicable Mitigation & Conservation Measure*	*Applicable sub-site*	*Amphibious vehicle*	*Backpack sprayer*	*Conven-tional Spray Truck*	*Implementation Timing*	*Verification Signatures*	
							Implementing Entity	*ISP Field Supervisor*
	Avoid herbicide application to non-target vegetation adjacent to treatment area (BIO-1.2;CM-3,4)	6a, 6b	X	X	X	During treatment		
BIO-3: Effects on shore-birds, waterfowl & marsh-land birds.	Avoid working within 1,000 feet of occupied mudflats during peak Pacific Flyway stopovers (BIO-3)	6a, 6b	X	X	X	During treatment		
	Occupy treatment area soon after high tide, before mudflats emerge (BIO-3)	6a, 6b	X	X	X	During treatment		
	Haze shorebirds to minimize potential direct contact with herbicide drift (BIO-3)	6a, 6b	X	X	X	During treatment		
BIO-4.1: Effects on the salt marsh harvest mouse and tidal marsh shrew species.	Use shortest possible access route through any pickleweed h6a, 6bitat. Flag areas of re-peated access (BIO-4.1;CM-15)	6a, 6b	X	X	X	During treatment		
	Use protective mats or other covering over pickleweed in areas or repeated access (BIO-4.1;CM-15)	6a, 6b	X	X	X	During treatment		
	Assume presence of SMHM on all suitable sites (CM 14)	6a, 6b	X	X	X	During treatment		
	Whenever possible, schedule work after mass mortality events caused by extreme high tides (CM 16).	6a, 6b	X	X	X	During treatment		
BIO-5.1: Effects on Califor-nia clapper rail.	Perform work only during Sept 1 thru Feb 1 to avoid CLRA breading season (BIO-5.1;CM-18)	6a, 6b	X	X	X	During treatment		

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Also included are the USFWS general and site-specific biological opinions Conservation Measures (CM).

Impact	*Applicable Mitigation & Conservation Measure*	*Applicable sub-site*	*Amphibious vehicle*	*Backpack sprayer*	*Conven-tional Spray Truck*	*Implementation Timing*	*Verification Signatures*	
							Implementing Entity	*ISP Field Supervisor*
BIO-5.1: Effects on California clapper rail.	For work within the Clapper Rail breeding season, call counts will be performed in the early spring according to FWS protocols (CM-18)	6a, 6b	X	X	X	Pre-treatment		
	Provide CLRA Field biologist supervision (BIO-5.1)	6a, 6b	X	X	X	During treatment		
	Assure that field personnel are trained in general CLRA biol-ogy and CLRA identification and call detection (BIO-5.1)	6a, 6b	X	X	X	Pre-treatment and during treatment		
	Report any CLRA activity im-mediately to ISP Field Super-visor and in post-treatment report (BIO-5.1)	6a, 6b	X	X	X	During and post-treatment		
BIO-5.2: Effects on Califor-nia Black Rail	Perform work only during Sept 1 thru Feb 1 to avoid CABR breeding season (BIO-5.2)	6a, 6b	X	X	X	During treatment		
	For work within the CABR breeding season, call counts will be performed in the early spring according to FWS pro-tocols (BIO-5.2)	6a, 6b	X	X	X	Pre-treatment		
	Provide CABR Field Biologist Supervision (BIO-5.2)	6a, 6b	X	X	X	Pre-treatment and during trea-tment		
	Assure that field personnel are trained in general CABR biol-ogy and identification as well as call detection (BIO-5.2)	6a, 6b	X	X	X	Pre-treatment and during treatment		
	Report any CABR activity im-mediately to ISP Field Super-visor and in post-treatment report (BIO-5.2)	6a, 6b	X	X	X	During treatment and Post-treatment		

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Impact	*Applicable Mitigation & Conservation Measure*	*Applicable sub-site*	*Amphibious vehicle*	*Backpack sprayer*	*Conventional Spray Truck*	*Implementation Timing*	*Verification Signatures*	
							Implementing Entity	*ISP Field Supervisor*
BIO-5.3: Effects on tidal marsh song sparrow subspecies and the salt marsh common yellowthroat.	Implement CLRA timing restriction (most restrictive) (BIO-5.3)	6a, 6b	X	X	X	During treatment		
	Report any SMSS and SCYE activity immediately to ISP Field Supervisor and in post-treatment report (BIO-5.3)	6a, 6b	X	X	X	During and post-treatment		
	Avoid spraying or removing Grindelia plants in the marsh	6a,6b	X	X	X	During treatment		
	Watch for Song Sparrow presence in the work area during early season treatment work (pre-August), especially in the smaller, upper reaches of channels.	6a,6b	X	X	X	During treatment		
BIO-6.1: Effects on anadromous salmonids (winter-run and spring-run Chinook salmon, steelhead).	Target herbicide applications to minimize herbicide use near channel (BIO-6.1).	6a,6b	X	X	X	During treatment		
	Avoid use of alylphenol ethoxylate surfactants Dec 1 thru April 1 to avoid steelhead spawning. (BIO-6.1)	6a,6b	X	X	X	During treatment		
BIO-6.4: Effects on estuarine fish populations of shallow submerged intertidal mudflats and channels.	Bio-6.4 – Minimize spraying near channels (BIO-6.4)	6a, 6b	X	X	X	During treatment		
	Avoid use of alylphenol ethoxylate surfactants adjacent to channel to minimize any potential adverse affects on estuarine fish (BIO-6.4)	6a, 6b	X	X	X	During treatment		
N-1: Disturbance of Sensitive Receptors	Comply with all local noise ordinances (N-1)	6a, 6b	X	X	X	During treatment		

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Also included are the USFWS general and site-specific biological opinions Conservation Measures (CM).

Impact	*Applicable Mitigation & Conservation Measure*	*Applicable sub-site*	*Amphibious vehicle*	*Backpack sprayer*	*Conventional Spray Truck*	*Implementation Timing*	*Verification Signatures*	
							Implementing Entity	*ISP Field Supervisor*
HS-2: Worker Health Effects from Herbicide Application.	Follow handling and application procedures as identified on product l6a, 6bel (HS-2;CM-3,4,17)	6a, 6b	X	X	X	During treatment		
HS-3: Health Effects to the Public from Herbicide Application.	Minimize drift according to ISP drift management plan (HS-3)	6a, 6b	X	X	X	During treatment		
	Post appropriate signage (see attached signage requirements) a minimum of 24 hours pre-treatment (HS-3)	6a, 6b	X	X	X	Pre-treatment		
	Avoid scheduling herbicide application near high public use areas during weekends or holidays, or close public access to area 24 hours before and after treatment (HS-3)	6a, 6b	X	X	X	Pre-treatment and during treatment		
HS-4: Health effects to workers or the public from accidents associated with treatment.	Maintain ISP or approved equivalent Site Safety and Spill Prevention plan on site (HS-4;CM-3,4,17)	6a, 6b	X	X	X	During treatment		
VIS-1: Alteration of Views from Removal of Non-native Cordgrass Infestations.	Post appropriate signage according to ISP signage protocols (VIS-1)	6a, 6b	X	X	X	Pre-treatment, during treatment, post-treatment		
CM-7: Invasive Species	Monitor cleared patches for recruitment of invasive plant species including perennial pepperweed until native vegetation has become dominant (CM-7)	6a, 6b	X	X	X	Post-treatment		

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SITE-SPECIFIC PROJECT IMPACT EVALUATION

Site Name: Oro Loma Marsh, Alameda County TSN: ISP-2004-7

*Impact**	*Applicable to Site*	*Applicable Mitigations* (by Treatment Method used at Site)*				*Comments/Analysis of Residual Impact at Site*	*Additional Mitigation Required*
		Backpack	*Truck*	*Amphibious Vehicle*	*Aerial*		
GEO-1: Erosion or deposition of sediment at treatment site	NA/NE					NA/NE-Proposed activities will not elevate erosion above ambient levels	None
GEO-2: Erosion or topographic change of marsh and mudflat by vehicles used in eradication	A			GEO-2		LTS/NLTAE-Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R	None
GEO-3: Remobilization of sand in cordgrass-stabilized estuarine beaches	NA/NE					NA/NE-Proposed activities will not take place within an estuarine beach	None
GEO-4: Increased demand for sediment disposal and potential spread of invasive cordgrass via sediment disposal.	NA/NE					NA/NE-No dredging /sediment disposal proposed	None
GEO-5: Increased volume and velocity of tidal currents in channels due to the removal of invasive cordgrass.	A	GEO-5	GEO-5	GEO-5	GEO-5	No adverse impact (see PEIS/R GEO-5 discussion). Site conditions consistent with those anticipated in the PEIS/R.	None
GEO-6: Increased depth and turbulence of tidewaters impounded in salt marsh pans.	NA/NE					NA/NE-Proposed activities will not take place within salt marsh pans	None
WQ-1: Degradation of water quality due to herbicide application	A	WQ-1	WQ-1	WQ-1	WQ-1	LTS/NLTAE-Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R	None

Key: * Impact and mitigation numbering from ISP Control Program Programmatic EIS/R, August 2003 1 of 6
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USFWS BO – US Fish & Wildlife Service Biological Opinion

Impact*	Applicable to Site	Applicable Mitigations* (by Treatment Method used at Site)				Comments/Analysis of Residual Impact at Site	Additional Mitigation Required
		Backpack	Truck	Amphibious Vehicle	Aerial		
WQ-2: Degradation of water quality due to herbicide spills	A	WQ-2	WQ-2	WQ-2	WQ-2	LTS/NLTAE-Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R	None
WQ-3: Degradation of water quality due to fuel or petroleum spills	A	WQ-3	WQ-3	WQ-3	WQ-3	LTS/NLTAE-Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R	None
WQ-4: Degradation of water quality due to contaminant remobilization	NA/NE					NA/NE-No dredging/excavation proposed for this site	None
WQ-5: Water quality effects resulting from sediment accretion	NA/NE					NA/NE-This impact only applies to PEIS/R Alternative 3	None
BIO-1.1: Effects on tidal marsh plant communities affected by salt-meadow cordgrass and English cordgrass.	NA/NE					NA/NE-Field surveys have found no Salt meadow or English cordgrass at this site	None
BIO-1.2: Effects on tidal marsh plant communities affected by Atlantic smooth cordgrass and its hybrids.	A	BIO-1.2	BIO-1.2	BIO-1.2	BIO-1.2	LTS/NLTAE-Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R	None
BIO-1.3: Effects on tidal marsh plant communities affected by Chilean cordgrass.	NA/NE					NA/NE-Field surveys have found no Chilean cordgrass at this site	None
BIO-1.4: Effects on submerged aquatic plant communities.	NA/NE					NA/NE-Field surveys have found no eelgrass or other submerged aquatic plants at this site	None
BIO-2: Effects on special-status plants (Soft bird's beak and/or Suisun thistle) in tidal marshes	NA/NE					NA/NE-Field surveys have found no special status plants at this site	None

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Impact*	Applicable to Site	Applicable Mitigations* (by Treatment Method used at Site)				Comments/Analysis of Residual Impact at Site	Additional Mitigation Required
		Backpack	Truck	Amphibious Vehicle	Aerial		
BIO-3: Effects on shorebirds and waterfowl.	A	BIO-3	BIO-3	BIO-3	BIO-3	LTS/NLTAE-Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R	None
BIO-4.1: Effects on the salt marsh harvest mouse and tidal marsh shrew species.	A	BIO-4.1 as modified by USFWS BO	BIO-4.1 as modified by USFWS BO	BIO-4.1 as modified by USFWS BO		LTS/NLTAE-Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R	None
BIO-4.2: Effects on resident harbor seal colonies of San Francisco Bay.	NA/NE					NA/NE-No harbor seal colonies at or near site	None
BIO-4.3: Effects on the southern sea otter.	NA/NE					NA/NE-Outside of the known range of the southern sea otter	None
BIO-5.1: Effects on the California clapper rail.	A	BIO-5.1	BIO-5.1	BIO-5.1	BIO-5.1	LTS/NLTAE-Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R	None
BIO-5.2: Effects on the California black rail.	A	BIO-5.2	BIO-5.2	BIO-5.2	BIO-5.2	LTS/NLTAE-Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R	None
BIO-5.3: Effects on tidal marsh song sparrow subspecies and the salt marsh common yellowthroat.	A	BIO-5.3	BIO-5.3	BIO-5.3	BIO-5.3	LTS/NLTAE-Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R	None
BIO-5.4: Effects on California least terns and western snowy plovers.	NA/NE					NA/NE-No California least terns or western snowy plovers within or adjacent to site.	None

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Impact*	Applicable to Site	Applicable Mitigations* (by Treatment Method used at Site)				Comments/Analysis of Residual Impact at Site	Additional Mitigation Required
		Backpack	Truck	Amphibious Vehicle	Aerial		
BIO-5.5: Effects on raptors (birds of prey).	A				BIO-5.5	LTS/NLTAE-Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R	None
BIO-6.1: Effects on anadromous salmonids (winter-run and spring-run Chinook salmon, steelhead).	A	BIO-6.1	BIO-6.1	BIO-6.1	BIO-6.1	LTS/NLTAE-Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R	None
BIO-6.2: Effects on delta smelt and Sacramento splittail.	NA/NE					NA/NE-Outside of known range of delta smelt and Sacramento splittail	None
BIO-6.3: Effects on the tidewater goby.	NA/NE					NA/NE-Outside of the known range of the tidewater goby	None
BIO-6.4: Effects on estuarine fish populations of shallow submerged intertidal mudflats and channels.	A	BIO-6.4	BIO-6.4	BIO-6.4	BIO-6.4	LTS/NLTAE-with additional mitigation BIO-6(b) (Note: no mowing on site)	BIO-6.4(6) –R-11 will not be used adjacent to channel to minimize any potential adverse affects on estuarine fish
BIO-7: Effects on California red-legged frog and San Francisco garter snake.	NA/NE					NA/NE-Outside of habitat range of California Red Legged Frog and San Francisco Garter Snake	None
BIO-8: Effects of regional invasive cordgrass eradication on mosquito production.	NA/NE					NA/NE-Site activities will not create additional mosquito habitat	None
BIO-9: Effects on tiger beetle species.	NA/NE					LTS/NLTAE- Site conditions consistent with those anticipated in the PEIS/R – no mitigation required	None
AQ-1: Dust Emissions.	A	AQ-1	AQ-1	AQ-1	AQ-1	LTS/NLTAE-Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R	None

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Impact*	Applicable to Site	Applicable Mitigations* (by Treatment Method used at Site)				Comments/Analysis of Residual Impact at Site	Additional Mitigation Required
		Backpack	Truck	Amphibious Vehicle	Aerial		
AQ-2: Smoke Emissions.	NA/NE					NA/NE-No burning proposed	None
AQ-3: Herbicide Effects on air quality.	A				AQ-3	LTS/NLTAE-Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R	None
AQ-4: Ozone precursor emissions.	NA/NE					LTS/NLTAE-without mitigation	None
AQ-5: Carbon monoxide (CO) emissions.	NA/NE					LTS/NLTAE-without mitigation	None
N-1: Disturbance of sensitive receptors	A	N-1	N-1	N-1	N-1	LTS/NLTAE-Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R	None
HS-1: Worker Injury from accidents associated with manual and mechanical cordgrass treatment.	NA/NE					NA/NE-Methods not proposed for this site.	None
HS-2: Worker health effects from herbicide application.	A	HS-2	HS-2	HS-2	HS-2	LTS/NLTAE-Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R	None
HS-3: Health effects to the public from herbicide application.	A	HS-3	HS-3	HS-3	HS-3	LTS/NLTAE-Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R	None
HS-4: Health effects to workers or the public from accidents associated with treatment.	A	HS-4	HS-4	HS-4	HS-4	LTS/NLTAE-Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R	None

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*Impact**	*Applicable to Site*	*Applicable Mitigations* (by Treatment Method used at Site)*				*Comments/Analysis of Residual Impact at Site*	*Additional Mitigation Required*
		Backpack	*Truck*	*Amphibious Vehicle*	*Aerial*		
VIS-1: Alteration of views from removal of non-native cordgrass Infestations.	A	VIS-1	VIS-1	VIS-1	VIS-1	SU-impacts addressed in the PEIS/r and CEQA findings. Site conditions consistent with those anticipated within in the PEIS/R	None
VIS-2: Change in views from native marsh, mudflat, and open water to non-native cordgrass meadows and monocultures.	NA/NE					NA/NE-Applies only to PEIS/R Alternative 3 (No action)	None
LU-1: Land use conflicts between herbicide use and sensitive receptors	A	LU-1	LU-1	LU-1	LU-1	LTS/NLTAE-Limited to less than significant by HS,N & AQ mitigations	None
LU-2: Land use conflicts from mechanical and burning treatment methods	NA/NE					NA/NE-Methods not proposed for this site.	None
CUL-1: Disturbance or Destruction of Cultural Resources from Access and Treatment.	A			CUL-1		LTS/NLTAE-Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R	None
CUL-2: Loss of Cultural Resources from Erosion.	NA/NE					NA/NE-Methods not proposed for this site	None
CUM-1: Effects of wetland restoration projects on spread of non-native cordgrass	NA/NE					NA/NE-site is an existing restoration site with established *Spartina* hybrids. Control of *Spartina* on this site will enhance restoration efforts.	None
CUM-2: Cumulative damage to marsh plain vegetation	NA/NE					NA/NE-Without mitigation	None

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SITE-SPECIFIC PROJECT MITIGATION

Site Name: Oro Loma Marsh, Alameda County TSN: ISP-2004-7

*Impact**	*Applicable Mitigation & Conservation Measures**	*Back-pack*	*Truck*	*Amphibious Vehicle*	*Aerial*	*Implementation Timing*	*Verification Signatures*	
							Implementing Entity	*ISP Field Supervisor*
GEO-2: Erosion or topographic change of marsh and mudflat by vehicles used in eradication	Minimize vehicle travel in areas subject to erosion. (GEO-2; CM-1)			X		During treatment		
WQ-1: Degradation of Water Quality due to Herbicide Application	Apply herbicide directly to plant at low tide and according to label. (WQ-1; CM-3, 4)	X	X	X	X	During treatment		
WQ-2: Degradation of Water Quality due to Herbicide Spills	Apply under supervision of trained applicator (WQ-2; CM-3)	X	X	X	X	During treatment		
	Implement spill and containment plan provided or approved by ISP (WQ-2; CM-17)	X	X	X	X	During treatment		
WQ-3: Degradation of Water Quality due to Fuel or Petroleum Spills	Implement spill and containment plan provided or approved by ISP (WQ-3; CM-17)	X	X	X	X	During treatment		
BIO-1.2: Effects on tidal marsh plant communities affected by Atlantic smooth cordgrass and its hybrids.	Minimize entry and re-entry into marsh, define access points (BIO-1.2; CM-1)	X	X	X	X	During treatment		
	Avoid staging in high, dense vegetation such as gumplant or pickleweed (FWS GL)	X	X	X	X	During treatment		
	Avoid herbicide application to non-target vegetation adjacent to treatment area (BIO-1.2; CM-3, 4)	X	X	X	X	During treatment		

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CM - Conservation Measures as defined by USFWS Biological Opinions (general and site-specific)

*Impact**	*Applicable Mitigation & Conservation Measures**	*Back-pack*	*Truck*	*Amphibious Vehicle*	*Aerial*	*Implementation Timing*	*Verification Signatures*	
							Implementing Entity	*ISP Field Supervisor*
BIO-3: Effects on shore-birds, waterfowl & marsh-land birds.	Avoid working within 1,000 feet of occupied mudflats during peak Pacific Flyway stopovers (BIO-3)	X	X	X	X	During treatment		
	Occupy treatment area soon after high tide, before mudflats emerge (BIO-3)	X	X	X	X	During treatment		
	Haze shorebirds to minimize potential direct contact with herbicide drift (BIO-3)	X	X	X	X	During treatment		
BIO-4.1: Effects on the salt marsh harvest mouse and tidal marsh shrew species.	Use shortest possible access route through any pickleweed habitat. Flag areas of repeated access (BIO-4.1; CM-15)	X	X	X		During treatment		
	Use protective mats or other covering over pickleweed in areas or repeated access (BIO-4.1; CM-15)	X	X	X		During treatment		
	Assume presence of SMHM on all suitable sites (CM 14)	X	X	X	X	During treatment		
	Whenever possible, schedule work after mass mortality events caused by extreme high tides (CM 16).	X	X	X	X	Pre- and during treatment		
BIO-5.1: Effects on California Clapper Rail	Perform work only during Sept 1 thru Feb 1 to avoid CACR breeding season (BIO-5.1; CM-18)	X	X	X		During treatment		

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CM - Conservation Measures as defined by USFWS Biological Opinions (general and site-specific)

*Impact**	*Applicable Mitigation & Conservation Measures**	*Back-pack*	*Truck*	*Amphibious Vehicle*	*Aerial*	*Implementation Timing*	*Verification Signatures*	
							Implementing Entity	*ISP Field Supervisor*
	For work within the CACR breeding season, call counts will be performed in the early spring according to FWS protocols (CM-18)	X	X	X	X	Pre-treatment		
	Provide CACR Field Biologist Supervision (BIO-5.1)	X	X	X	X	Pre-treatment and During treatment		
	Assure that field personnel are trained in general CACR biology and identification as well as call detection (BIO-5.1)	X	X	X	X	Pre-treatment and During treatment		
	Report any CACR activity immediately to ISP Field Supervisor and in post-treatment report (BIO-5.1)	X	X	X	X	During treatment and Post-treatment		
BIO-5.2: Effects on California Black Rail	Perform work only during Sept 1 thru Feb 1 to avoid CABR breeding season (BIO-5.2)	X	X	X		During treatment		
	For work within the CABR breeding season, call counts will be performed in the early spring according to FWS protocols (BIO-5.2)	X	X	X	X	Pre-treatment		
	Provide CABR Field Biologist Supervision (BIO-5.2)	X	X	X	X	Pre-treatment and During treatment		
	Assure that field personnel are trained in general CABR biology and identification as well as call detection (BIO-5.2)	X	X	X	X	Pre-treatment and During treatment		

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CM - Conservation Measures as defined by USFWS Biological Opinions (general and site-specific)

*Impact**	*Applicable Mitigation & Conservation Measures**	*Back-pack*	*Truck*	*Amphibious Vehicle*	*Aerial*	*Implementation Timing*	*Verification Signatures*	
							Implementing Entity	*ISP Field Supervisor*
	Report any CABR activity immediately to ISP Field Supervisor and in post-treatment report (BIO-5.2)	X	X	X	X	During treatment and post-treatment		
BIO-5.3: Effects on tidal marsh song sparrow subspecies and the salt marsh common yellowthroat.	Report any SMSS and SCYE activity immediately to ISP Field Supervisor and in post-treatment report (BIO-5.3)	X	X	X	X	During and post-treatment		
	Perform work according to Bio 5.1, post Clapper Rail breeding season protocols (most restrictive) (Bio 5.1;CM 18)	X	X	X	X	During treatment		
	Avoid spraying or removing *Grindelia* plants in the marsh (BIO-5.3)	X	X	X	X	During treatment		
	Watch for Song Sparrow presence in the work area during early season treatment work (pre-August), especially in the smaller, upper reaches of channels (BIO-5.3)	X	X	X	X	During treatment		
BIO-5.5: Effects on raptors (birds of prey).	Consult qualified biologist to determine possible raptor nesting presence (BIO-5.5)				X	Pre-treatment		
	Ensure 500 foot buffer around nests for any helicopter activity (BIO-5.5)				X	During treatment		
BIO-6.1: Effects on anadromous salmonids (winter-run and spring-run Chinook salmon, steelhead).	Target herbicide applications to minimize herbicide use near channel (BIO-6.1).	X	X	X	X	During treatment		

*Impact numbering from ISP Control Program Programmatic EIS/R, September 2003.
Mitigations are from corresponding numbered mitigation in the same document,
CM - Conservation Measures as defined by USFWS Biological Opinions (general and site-specific)

*Impact**	*Applicable Mitigation & Conservation Measures**	*Back-pack*	*Truck*	*Amphibious Vehicle*	*Aerial*	*Implementation Timing*	*Verification Signatures*	
							Implementing Entity	*ISP Field Supervisor*
	Avoid use of alkylphenol ethoxylate surfactants Dec 1 thru April 1 to avoid steelhead spawning. (BIO-6.1)	X	X	X	X	During treatment		
BIO-6.4: Effects on estuarine fish populations of shallow submerged intertidal mudflats and channels.	Minimize spraying near channels (BIO-6.4)	X	X	X	X	During treatment		
	Avoid use of alkylphenol ethoxylate surfactants adjacent to channel to minimize any potential adverse affects on estuarine fish (FWS BO)	X	X	X	X	During treatment		
AQ-1: Dust emissions	Limit speeds on dirt roads to 15 miles per hour (AQ-1)	X	X	X	X	During treatment		
AQ-3: Herbicide Effects on Air Quality.	Implement ISP herbicide drift management plan for aerial applications of herbicide (AQ-3; CM-3, 4)				X	During treatment		
N-1: Disturbance of Sensitive Receptors	Comply with all local noise ordinances (N-1)	X	X	X	X	During treatment		
	Avoid use of helicopters within 1,500 ft of hospitals, schools, or houses during times of occupancy (N-1)				X	During treatment		
HS-2: Worker Health Effects from Herbicide Application.	Follow handling and application procedures as identified on product label (HS-2; CM-3)	X	X	X	X	During treatment		
HS-3: Health Effects to the Public from Herbicide Application.	Minimize drift according to ISP drift management plan (HS-3; CM-3,4)	X	X	X	X	During treatment		

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Mitigations are from corresponding numbered mitigation in the same document,
CM - Conservation Measures as defined by USFWS Biological Opinions (general and site-specific)

*Impact**	*Applicable Mitigation & Conservation Measures**	*Back-pack*	*Truck*	*Amphibious Vehicle*	*Aerial*	*Implementation Timing*	*Verification Signatures*	
							Implementing Entity	*ISP Field Supervisor*
	Post appropriate signage (see attached signage requirements) a minimum of 24 hours pre-treatment (HS-3)	X	X	X	X	Pre-treatment		
	Avoid scheduling herbicide application near high public use areas during weekends or holidays, or close public access to area 24 hours before and after treatment (HS-3)	X	X	X	X	Pre-treatment and during treatment		
HS-4: Health effects to workers or the public from accidents associated with treatment.	Maintain ISP or approved equivalent Site Safety and Spill Prevention plan on site (HS-4; CM-3, 4, 17)	X	X	X	X	During treatment		
VIS-1: Alteration of Views from Removal of Non-native Cordgrass Infestations.	Post appropriate signage according to ISP signage protocols (VIS-1)	X	X	X	X	Pre-treatment, during treatment, post-treatment		
CUL-1: Disturbance or Destruction of Cultural Resources from Access and Treatment.	Conduct Phase 1 records search for cultural resources on site before work (CUL-1)			X		Pre-Treatment		
CM-7: Invasive Species	Monitor cleared patches for recruitment of invasive plant species including perennial pepperweed until native vegetation has become dominant (CM-7)	X	X	X	X	Post-treatment		

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Mitigations are from corresponding numbered mitigation in the same document,
CM - Conservation Measures as defined by USFWS Biological Opinions (general and site-specific)

SITE-SPECIFIC PROJECT IMPACT EVALUATION

Site Name: Palo Alto Baylands, Santa Clara County TSN: ISP-2004-8

*Impact**	*Applicable to Site*	*Applicable Mitigations* (by Treatment Method used at Site)*			*Comments/Analysis of Residual Impact at Site*	*Additional Mitigation Required*
		Herbicide	*Dig*	*Cover*		
GEO-1: Erosion or deposition of sediment at treatment site	NA/NE				NA/NE – Manual digging on site will be on a limited basis, no large-scale excavation proposed.	None
GEO-2: Erosion or topographic change of marsh and mudflat by vehicles used in eradication	NA/NE				NA/NE - No equipment will be working on marsh or mudflat surfaces	None
GEO-3: Remobilization of sand in cordgrass-stabilized estuarine beaches	NA/NE				NA/NE - Proposed activities will not take place within an estuarine beach.	None
GEO-4: Increased demand for sediment disposal and potential spread of invasive cordgrass via sediment disposal.	NA/NE				NA/NE - No dredging/sediment disposal proposed	None
GEO-5: Increased volume and velocity of tidal currents in channels due to the removal of invasive cordgrass.	NA/NE				No adverse impact (see EIS/R GEO-5 discussion). Site conditions consistent with those anticipated in the PEIS/R.	None
GEO-6: Increased depth and turbulence of tidewaters impounded in salt marsh pans.	NA/NE				NA/NE - Proposed activities will not take place within salt marsh pans.	None
WQ-1: Degradation of Water Quality due to Herbicide Application	A	WQ-1			LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None

Key: * Impact and mitigation numbering from ISP Control Program Programmatic EIS/R, August 2003
NA/NE – Not Applicable/No Effect
LTS/NLTAE – Less Than Significant impact/Not Likely to Adversely Effect
SU – Significant but unmitigable impact
USFWS BO – US Fish & Wildlife Service Biological Opinion

*Impact**	*Applicable to Site*	*Applicable Mitigations* (by Treatment Method used at Site)*			*Comments/Analysis of Residual Impact at Site*	*Additional Mitigation Required*
		Herbicide	*Dig*	*Cover*		
WQ-2: Degradation of Water Quality due to Herbicide Spills	A	WQ-2			LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
WQ-3: Degradation of Water Quality due to Fuel or Petroleum Spills	A	WQ-3			LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
WQ-4: Degradation of Water Quality due to Contaminant Remobilization	NA/NE				NA/NE - No dredging or other sediment-mobilizing activities proposed.	None
WQ-5: Water Quality Effects Resulting from Sediment Accretion	NA/NE				NA/NE – This impact only applies to EIS/R Alternative 3.	None
BIO-1.1: Effects on tidal marsh plant communities affected by salt-meadow cordgrass and English cordgrass.	NA/NE				NA/NE – Field surveys found no salt-meadow or English cordgrass at this site.	None
BIO-1.2: Effects on tidal marsh plant communities affected by Atlantic smooth cordgrass and its hybrids.	A	BIO-1.2	BIO-1.2	BIO-1.2	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-1.3: Effects on tidal marsh plant communities affected by Chilean cordgrass.	NA/NE				NA/NE – Field surveys found no Chilean cordgrass at site.	None
BIO-1.4: Effects on submerged aquatic plant communities.	NA/NE				NA/NE – Field surveys found no eelgrass or other submerged aquatic plants at site.	None
BIO-2: Effects on special-status plants (Soft bird's beak and/or Suisun thistle) in tidal marshes	NA/NE				NA/NE - Field surveys found no special-status plant species at site.	None

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Impact*	Applicable to Site	Applicable Mitigations* (by Treatment Method used at Site)			Comments/Analysis of Residual Impact at Site	Additional Mitigation Required
		Herbicide	Dig	Cover		
BIO-3: Effects on shorebirds and waterfowl.	A	BIO-3	BIO-3	BIO-3	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-4.1: Effects on the salt marsh harvest mouse and tidal marsh shrew species.	A	BIO-4.1 as modified by USFWS BO	BIO-4.1 as modified by USFWS BO	BIO-4.1 as modified by USFWS BO	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-4.2: Effects on resident harbor seal colonies of San Francisco Bay.	NA/NE				NA/NE - No harbor seal colonies within project area	None
BIO-4.3: Effects on the southern sea otter.	NA/NE				NA/NE – Outside of known range of southern sea otters.	None
BIO-5.1: Effects on the California clapper rail.	A	BIO-5.1 as modified by UFSWS BO	BIO-5.1 as modified by UFSWS BO	BIO-5.1 as modified by UFSWS BO	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-5.2: Effects on the California black rail.	NA/NE				NA/NE – Outside of known range black rails.	None
BIO-5.3: Effects on tidal marsh song sparrow subspecies and the salt marsh common yellowthroat.	A	BIO-5.3	BIO-5.3	BIO-5.3	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-5.4: Effects on California least terns and western snowy plovers.	NA/NE				NA/NE – Outside of known range CA least terns and western snowy plovers.	None
BIO-5.5: Effects on raptors (birds of prey).	NA/NE				NA/NE - No aerial applications proposed for this site.	None
BIO-6.1: Effects on anadromous salmonids (winter-run and spring-run Chinook salmon, steelhead).	NA/NE	BIO-6.1			LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None

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*Impact**	*Appli-cable to Site*	*Applicable Mitigations* (by Treatment Method used at Site)*			*Comments/Analysis of Residual Impact at Site*	*Additional Mitigation Required*
		Herbicide	*Dig*	*Cover*		
BIO-6.2: Effects on delta smelt and Sacramento splittail.	NA/NE				NA/NE – Outside of known delta smelt and Sacramento splittail range.	None
BIO-6.3: Effects on the tidewater goby.	NA/NE				NA/NE – Outside of known range of tidewater goby.	None
BIO-6.4: Effects on estuarine fish populations of shallow submerged intertidal mudflats and channels.	A	BIO-6.4 – minimize spraying			LTS/NLTAE with additional mitigation BIO-6.4(b) (Note: no mowing proposed because of unacceptable impacts to birds)	BIO-6.4(b) - R-11 will not be used adjacent to channel to minimize any potential adverse affects on estuarine fish.
BIO-7: Effects on California red-legged frog and San Francisco garter snake.	NA/NE				NA/NE – Outside of known range of California red-legged frog and San Francisco garter snake.	None
BIO-8: Effects of regional invasive cordgrass eradication on mosquito production.	NA/NE				NA/NE – Site activities will not create additional mosquito habitat.	None
BIO-9: Effects on tiger beetle species.	NA/NE				NA/NE - No potential tiger beetle habitat will be affected.	None
AQ-1: Dust Emissions.	NA/NE	AQ-1			LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
AQ-2: Smoke Emissions.	NA/NE				NA/NE – No burning proposed.	None
AQ-3: Herbicide Effects on Air Quality.	NA/NE				NA/NE-No aerial applications proposed	None
AQ-4: Ozone Precursor Emissions.	NA/NE				LTS/NLTAE without mitigation.	None
AQ-5: Carbon Monoxide (CO) Emissions.	NA/NE				LTS/NLTAE without mitigation.	None

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*Impact**	*Applicable to Site*	*Applicable Mitigations* (by Treatment Method used at Site)*			*Comments/Analysis of Residual Impact at Site*	*Additional Mitigation Required*
		Herbicide	*Dig*	*Cover*		
N-1: Disturbance of Sensitive Receptors	A	N-1			LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
HS-1: Worker Injury from Accidents Associated with Manual and Mechanical Cordgrass Treatment.	A		HS-1	HS-1	LTS/NLTAE - Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
HS-2: Worker Health Effects from Herbicide Application.	A	HS-2			LTS/NLTAE - Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
HS-3: Health Effects to the Public from Herbicide Application.	A	HS-3			LTS/NLTAE - Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
HS-4: Health effects to workers or the public from accidents associated with treatment.	A	HS-4	HS-4	HS-4	LTS/NLTAE - Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
VIS-1: Alteration of Views from Removal of Non-native Cordgrass Infestations.	A	VIS-1	VIS-1	VIS-1	SU - Impacts addressed in EIS/R and CEQA findings. Site conditions consistent with those anticipated in the PEIS/R.	None
VIS-2: Change in Views from Native Marsh, Mudflat, and Open Water to Non-native Cordgrass Meadows and Monocultures.	NA/NE				NA/NE - Applies only to PEIS/R Alternative 3 (No Action)	None
LU-1: Land Use Conflicts Between Herbicide Use and Sensitive Receptors	A				LTS/NLTAE - Limited to less than significant by HS, N and AQ mitigations.	None
LU-2: Land Use Conflicts from Mechanical and Burning Treatment Methods	NA/NE				NA/NE - Methods not proposed for site	None

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*Impact**	*Appli-cable to Site*	*Applicable Mitigations* (by Treatment Method used at Site)*			*Comments/Analysis of Residual Impact at Site*	*Additional Mitigation Required*
		Herbicide	*Dig*	*Cover*		
CUL-1: Disturbance or Destruction of Cultural Resources from Access and Treatment.	A	CUL-1	CUL-1	CUL-1	LTS/NLTAE - Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
CUL-2: Loss of Cultural Resources from Erosion.	NA/NE				NA/NE - No erosion-producing activities proposed	None
CUM-1: Effects of wetland restoration projects on spread of non-native cordgrass	NA/NE				NA/NE - No restoration projects proposed on this site	None
CUM-2: Cumulative damage to marsh plain vegetation	NA/NE				NA/NE- No Mosquito Abatement Districts working on this site	None

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SITE-SPECIFIC PROJECT MITIGATION

Site Name: Palo Alto Baylands, Santa Clara County TSN: ISP-2004-8

Impact	*Applicable Mitigation & Conservation Measures*	*Herbicide*	*Dig*	*Covering*	*Implementation Timing*	*Verification Signatures*	
						Implementing Entity	*ISP Field Supervisor*
WQ-1: Degradation of Water Quality due to Herbicide Application	Apply herbicide directly to plant at low tide and according to label. (WQ-1;CM-3,4)	X			During treatment		
WQ-2: Degradation of Water Quality due to Herbicide Spills	Apply under supervision of trained applicator (WQ-2;CM-3)	X			During treatment		
	Implement spill and containment plan provided or approved by ISP (WQ-2;CM-17)	X			During treatment		
WQ-3: Degradation of Water Quality due to Fuel or Petroleum Spills	Implement spill and containment plan provided or approved by ISP (WQ-3;CM-17)	X			During treatment		
BIO-1.2: Effects on tidal marsh plant communities affected by Atlantic smooth cordgrass and its hybrids.	Minimize entry and re-entry into marsh , define access points (BIO-1.2;CM-1)	X	X	X	During treatment		
	Avoid staging in high, dense vegetation such as gumplant or pickleweed (FWS GL)	X	X	X	During treatment		
	Avoid herbicide application to non-target vegetation adjacent to treatment area (BIO-1.2;CM-4)	X			During treatment		
BIO-3: Effects on shorebirds, waterfowl & marshland birds	Avoid working within 1,000 feet of occupied mudflats during peak Pacific Flyway stopovers (BIO-3)	X	X	X	During treatment		
	Occupy treatment area soon after high tide, before mudflats emerge (BIO-3)	X	X	X	During treatment		
	Haze shorebirds to minimize potential direct contact with herbicide drift (BIO-3)	X	X	X	During treatment		

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Mitigations are from corresponding numbered mitigation in the same document,
Also included are the USFWS general and site-specific biological opinions Conservation Measures (CM).

Impact	*Applicable Mitigation & Conservation Measures*	*Herbicide*	*Dig*	*Covering*	*Implementation Timing*	*Verification Signatures*	
						Implementing Entity	*ISP Field Supervisor*
BIO-4.1: Effects on the salt marsh harvest mouse and tidal marsh shrew species.	Use shortest possible access route through any pickleweed habitat. Flag areas of repeated access (BIO-4.1;CM-15)	X	X	X	During treatment		
	Use protective mats or other covering over pickleweed in areas or repeated access (BIO-4.1;CM-15)	X	X	X	During treatment		
	Assume presence of SMHM on all suitable sites (CM 14)	X	X	X	During treatment		
	Whenever possible, schedule work after mass mortality events caused by extreme high tides (CM 16).	X	X	X	Pre- and during treatment		
BIO-5.1: Effects on California clapper rail.	Perform work only during Sept 1 thru Feb 1 to avoid CLRA breading season (BIO-5.1;CM-18)	X	X	X	During treatment		
	For work within the Clapper Rail breeding season, call counts will be performed in the early spring according to FWS protocols (CM-18)	X	X	X	Pre-treatment		
	Provide CLRA Field biologist supervision (BIO-5.1)	X	X	X	During treatment		
	Assure that field personnel are trained in general CLRA biology and CLRA identification and call detection (BIO-5.1)	X	X	X	Pre-treatment and during treatment		
	Report any CLRA activity immediately to ISP Field Supervisor and in post-treatment report (BIO-5.1)	X	X	X	During and post treatment		
BIO-5.3: Effects on tidal marsh song sparrow subspecies and the salt marsh common yellowthroat.	Report any SMSS and SCYE activity immediately to ISP Field Supervisor and in post-treatment report (BIO-5.3)	X	X	X	During and post treatment		
	Avoid spraying or removing Grindelia plants in the marsh	X	X	X	During treatment		

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Mitigations are from corresponding numbered mitigation in the same document,
Also included are the USFWS general and site-specific biological opinions Conservation Measures (CM).

Impact	*Applicable Mitigation & Conservation Measures*	*Herbicide*	*Dig*	*Covering*	*Implementation Timing*	*Verification Signatures*	
						Implementing Entity	*ISP Field Supervisor*
	Watch for Song Sparrow presence in the work area during early season treatment work (pre-August), especially in the smaller, upper reaches of channels.	X	X	X	During treatment		
BIO-6.1: Effects on anadromous salmonids (Winter-run and spring-run Chinook Salmon, steelhead)	Herbicide treatments shall be minimized near channels and mudflats (BIO-6.1)	X			During treatment		
BIO-6.4: Effects on estuarine fish populations of shallow submerged intertidal mudflats and channels.	Minimize spraying near channels (BIO-6.4)	X			During treatment		
	Avoid use of alylphenol ethoxylate surfactants adjacent to channel to minimize any potential adverse affects on estuarine fish (FWS BO)	X			During treatment		
N-1: Disturbance of Sensitive Receptors	Comply with all local noise ordinances (N-1)	X			During treatment		
HS-1: Worker Injury from Accidents Associated with Manual and Mechanical Cordgrass Treatment	Implement ISP-approved site safety plan or equivalent (HS-1)		X	X	During treatment		
HS-2: Worker Health Effects from Herbicide Application.	Follow handling and application procedures as identified on product label (HS-2;CM-3,17)	X			During treatment		
HS-3: Health Effects to the Public from Herbicide Application.	Minimize drift according to ISP drift management plan (HS-3;CM-3,4,17)	X			During treatment		
	Post appropriate signage (see attached signage requirements) a minimum of 24 hours pre-treatment (HS-3)	X			Pre-treatment		
HS-4: Health effects to workers or the public from accidents associated with treatment.	Maintain ISP or approved equivalent Site Safety and Spill Prevention plan on site (HS-4;CM-3,4,17)	X	X	X	During treatment		

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Mitigations are from corresponding numbered mitigation in the same document,
Also included are the USFWS general and site-specific biological opinions Conservation Measures (CM).

Impact	*Applicable Mitigation & Conservation Measures*	*Herbicide*	*Dig*	*Covering*	*Implementation Timing*	*Verification Signatures*	
						Implementing Entity	*ISP Field Supervisor*
VIS-1: Alteration of Views from Removal of Non-native Cordgrass Infestations.	Post appropriate signage according to ISP signage protocols (VIS-1)	X	X	X	Pre-treatment, during treatment, post-treatment		
CUL-1: Disturbance or Destruction of Cultural Resources from Access and Treatment.	Report all discovered prehistoric or historic resources to the ISP Field Supervisor and a qualified archeologist or historic resources consultant and suspend all work at site until archaeological mitigation has taken place (CUL-1)	X	X	X	Pre-treatment and during treatment		
CM-7: Invasive Species	Monitor cleared patches for recruitment of invasive plant species including perennial pepperweed until native vegetation has become dominant (CM-7)	X	X	X	Post-treatment		

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Mitigations are from corresponding numbered mitigation in the same document,
Also included are the USFWS general and site-specific biological opinions Conservation Measures (CM).

SITE-SPECIFIC PROJECT IMPACT EVALUATION

Site Name: Pickleweed Park, San Rafael, Marin County TSN: ISP-2004-9

*Impact**	*Appli-cable to Site*	*Applicable Mitigations* (by Treatment Method used at Site)*			*Comments/Analysis of Residual Impact at Site*	*Additional Mitigation Required*
		Herbicide	*Digging*			
GEO-1: Erosion or deposition of sediment at treatment site	NA/NE				NA/NE - Proposed activities are not ground disturbing and will not elevate erosion above ambient levels.	None
GEO-2: Erosion or topographic change of marsh and mudflat by vehicles used in eradication	NA/NE				NA/NE - No equipment will be working on marsh or mudflat surfaces	None
GEO-3: Remobilization of sand in cordgrass-stabilized estuarine beaches	NA/NE				NA/NE - Proposed activities will not take place within an estuarine beach.	None
GEO-4: Increased demand for sediment disposal and potential spread of invasive cordgrass via sediment disposal.	NA/NE				NA/NE - No dredging/sediment disposal proposed	None
GEO-5: Increased volume and velocity of tidal currents in channels due to the removal of invasive cordgrass.	NA/NE				No adverse impact (see EIS/R GEO-5 discussion). Site conditions consistent with those anticipated in the PEIS/R.	None
GEO-6: Increased depth and turbulence of tidewaters impounded in salt marsh pans.	NA/NE				NA/NE - Proposed activities will not take place within salt marsh pans.	None
WQ-1: Degradation of Water Quality due to Herbicide Application	A	WQ-1			LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
WQ-2: Degradation of Water Quality due to Herbicide Spills	A	WQ-2			LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None

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Impact*	Applicable to Site	Applicable Mitigations* (by Treatment Method used at Site)			Comments/Analysis of Residual Impact at Site	Additional Mitigation Required
		Herbicide	Digging			
WQ-3: Degradation of Water Quality due to Fuel or Petroleum Spills	A	WQ-3			LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
WQ-4: Degradation of Water Quality due to Contaminant Remobilization	NA/NE				NA/NE - No dredging or other sediment-mobilizing activities proposed.	None
WQ-5: Water Quality Effects Resulting from Sediment Accretion	NA/NE				NA/NE – This impact only applies to EIS/R Alternative 3.	None
BIO-1.1: Effects on tidal marsh plant communities affected by salt-meadow cordgrass and English cordgrass.	NA/NE				NA/NE – Field surveys found no salt-meadow or English cordgrass at this site.	None
BIO-1.2: Effects on tidal marsh plant communities affected by Atlantic smooth cordgrass and its hybrids.	A	BIO-1.2	BIO-1.2		LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-1.3: Effects on tidal marsh plant communities affected by Chilean cordgrass.	A	BIO-1.3	BIO-1.3		LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-1.4: Effects on submerged aquatic plant communities.	NA/NE				NA/NE – Field surveys found no eelgrass or other submerged aquatic plants at site.	None
BIO-2: Effects on special-status plants (Soft bird's beak and/or Suisun thistle) in tidal marshes	A	BIO-2	BIO-2		LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-3: Effects on shorebirds and waterfowl.	A	BIO-3	BIO-3		LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-4.1: Effects on the salt marsh harvest mouse and tidal marsh shrew species.	A	BIO-4.1	BIO-4.1		LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None

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SU – Significant but unmitigable impact
USFWS BO – US Fish & Wildlife Service Biological Opinion

Impact*	Applicable to Site	Applicable Mitigations* (by Treatment Method used at Site)			Comments/Analysis of Residual Impact at Site	Additional Mitigation Required
		Herbicide	Digging			
BIO-4.2: Effects on resident harbor seal colonies of San Francisco Bay.	NA/NE				NA/NE - No harbor seal colonies within project area	None
BIO-4.3: Effects on the southern sea otter.	NA/NE				NA/NE – Outside of known range of southern sea otters.	None
BIO-5.1: Effects on the California clapper rail.	A	BIO-5.1 as modified by UFSWS BO	BIO-5.1 as modified by UFSWS BO		LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-5.2: Effects on the California black rail.	A	BIO-5.2	BIO-5.2		LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-5.3: Effects on tidal marsh song sparrow subspecies and the salt marsh common yellowthroat.	A	BIO-5.3	BIO-5.3		LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-5.4: Effects on California least terns and western snowy plovers.	NA/NE				NA/NE - Area not known to be a site for California least terns or western snowy plovers.	None
BIO-5.5: Effects on raptors (birds of prey).	NA/NE				NA/NE - No aerial applications proposed for this site.	None
BIO-6.1: Effects on anadromous salmonids (winter-run and spring-run Chinook salmon, steelhead).	A	BIO-6.1			LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-6.2: Effects on delta smelt and Sacramento splittail.	NA/NE				NA/NE – Outside of known delta smelt and Sacramento splittail range.	None
BIO-6.3: Effects on the tidewater goby.	NA/NE				NA/NE – Outside of known range of tidewater goby.	None

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*Impact**	*Applicable to Site*	*Applicable Mitigations* (by Treatment Method used at Site)*			*Comments/Analysis of Residual Impact at Site*	*Additional Mitigation Required*
		Herbicide	*Digging*			
BIO-6.4: Effects on estuarine fish populations of shallow submerged intertidal mudflats and channels.	A	BIO-6.4 – minimize spraying			LTS/NLTAE with additional mitigation BIO-6.4(b) (Note: No mowing proposed accept in test plots because of unacceptable impacts to birds)	BIO-6.4(b) - R-11 will not be used adjacent to channel to minimize any potential adverse affects on estuarine fish.
BIO-7: Effects on California red-legged frog and San Francisco garter snake.	NA/NE				NA/NE – Outside of known range of California red-legged frog and San Francisco garter snake.	None
BIO-8: Effects of regional invasive cordgrass eradication on mosquito production.	NA/NE				NA/NE – Site activities will not create additional mosquito habitat.	None
BIO-9: Effects on tiger beetle species.	NA/NE				NA/NE - No potential tiger beetle habitat will be affected.	None
AQ-1: Dust emissions.	NA/NE				NA/NE - Access will be on foot or via paved access road	None
AQ-2: Smoke emissions.	NA/NE				NA/NE – No burning proposed.	None
AQ-3: Herbicide effects on air quality.	NA/NE				NA/NE - No aerial applications proposed	None
AQ-4: Ozone precursor emissions.	NA/NE				LTS/NLTAE without mitigation.	None
AQ-5: Carbon Monoxide (CO) emissions.	NA/NE				LTS/NLTAE without mitigation.	None
N-1: Disturbance of sensitive receptors	A	N-1			LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
HS-1: Worker injury from accidents associated with manual and mechanical cordgrass treatment.	A		HS-1		LTS/NLTAE - Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None

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*Impact**	*Appli-cable to Site*	*Applicable Mitigations* (by Treatment Method used at Site)*			*Comments/Analysis of Residual Impact at Site*	*Additional Mitigation Required*
		Herbicide	*Digging*			
HS-2: Worker health effects from herbicide application.	A	HS-2			LTS/NLTAE - Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
HS-3: Health effects to the public from herbicide application.	A	HS-3			LTS/NLTAE - Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
HS-4: Health effects to workers or the public from accidents associated with treatment.	A	HS-4	HS-4		LTS/NLTAE - Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
VIS-1: Alteration of views from removal of non-native cordgrass infestations.	A	VIS-1	VIS-1		SU - Impacts addressed in EIS/R and CEQA findings. Site conditions consistent with those anticipated in the PEIS/R.	None
VIS-2: Change in views from native marsh, mudflat, and open water to non-native cordgrass meadows and monocultures.	NA/NE				NA/NE - Applies only to PEIS/R Alternative 3 (No Action)	None
LU-1: Land use conflicts between herbicide use and sensitive receptors	A				LTS/NLTAE - Limited to less than significant by HS, N and AQ mitigations.	None
LU-2: Land use conflicts from mechanical and burning treatment methods	NA/NE				NA/NE - Methods not proposed for site	None
CUL-1: Disturbance or destruction of cultural resources from access and treatment.	A	CUL-1	CUL-1		LTS/NLTAE - Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
CUL-2: Loss of cultural resources from erosion.	NA/NE				NA/NE - No erosion-producing activities proposed	None
CUM-1- Effects of wetland restoration projects on spread of non-native cordgrass	NA/NE				NA/NE - No restoration projects proposed on this site	None

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*Impact**	*Appli-cable to Site*	*Applicable Mitigations* (by Treatment Method used at Site)*			*Comments/Analysis of Residual Impact at Site*	*Additional Mitigation Required*
		Herbicide	*Digging*			
CUM-2- Cumulative damage to marsh plain vegetation	NA/NE				NA/NE - No Mosquito Abatement Districts working on this site	None

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SITE-SPECIFIC PROJECT MITIGATION

Site Name: Pickleweed Park, San Rafael, Marin County TSN: ISP-2004-9

Impact	*Applicable Mitigation & Conservation Measures*	*Herbicide*	*Digging*		*Implementation Timing*	*Verification Signatures*	
						Implementing Entity	*ISP Field Supervisor*
WQ-1: Degradation of water quality due to herbicide application	Apply herbicide directly to plant at low tide and according to label. (WQ-1;CM-3,4)	X			During treatment		
WQ-2: Degradation of water quality due to herbicide spills	Apply under supervision of trained applicator (WQ-2CM-3)	X			During treatment		
	Implement spill and containment plan provided or approved by ISP (WQ-2;CM-17)	X			During treatment		
WQ-3: Degradation of water quality due to fuel or petroleum spills	Implement spill and containment plan provided or approved by ISP (WQ-3;CM-17)	X			During treatment		
BIO-1.2: Effects on tidal marsh plant communities affected by Atlantic Smooth Cordgrass and its hybrids.	Minimize entry and re-entry into marsh , define access points (BIO-1.3;CM-1)						
	Avoid herbicide application to non-target vegetation adjacent to treatment area (BIO-1.3;CM-3,4)						
BIO-1.3: Effects on tidal marsh plant communities affected by Chilean cordgrass and its hybrids.	Minimize entry and re-entry into marsh , define access points (BIO-1.3;CM-1)	X	X		During treatment		
	Avoid herbicide application to non-target vegetation adjacent to treatment area (BIO-1.3;CM-3,4)	X			During treatment		
BIO-2: Effects on special-status plants (Soft bird's beak and/or Suisun thistle) in tidal marshes	Perform pre-project surveys for *Circium hydrophilum hydrophilum* (BIO-2;CM-22)	X	X		Pre-treatment		
	Field crews will be instructed on ID and avoidance of *Circium hydrophilum hydrophilum* (BIO-2)	X	X		Pre-treatment		

*Impact numbering from ISP Control Program Programmatic EIS/R, September 2003.
Mitigations are from corresponding numbered mitigation in the same document,
Also included are the USFWS general and site-specific biological opinions Conservation Measures (CM).

Impact	*Applicable Mitigation & Conservation Measures*	*Herbicide*	*Digging*		*Implementation Timing*	*Verification Signatures*	
						Implementing Entity	*ISP Field Supervisor*
	On site qualified botanical supervision (BIO-2;CM-23)	X	X		During treatment		
	Cover non-target *Circium hydrophilum hydrophilum* with fabric during spray work (BIO-2)	X			During treatment		
BIO-3: Effects on shorebirds, waterfowl & marshland birds.	Avoid working within 1,000 feet of occupied mudflats during peak Pacific Flyway stopovers (BIO-3)	X	X		During treatment		
	Occupy treatment area soon after high tide, before mudflats emerge (BIO-3)	X	X		During treatment		
	Haze shorebirds to minimize potential direct contact with herbicide drift (BIO-3)	X	X		During treatment		
BIO-4.1: Effects on the salt marsh harvest mouse and tidal marsh shrew species.	Use shortest possible access route through any pickleweed habitat. Flag areas of repeated access (BIO-4.1;CM-15)	X	X		During treatment		
	Use protective mats or other covering over pickleweed in areas or repeated access (BIO-4.1;CM-15)	X	X		During treatment		
	Assume presence of SMHM on all suitable sites (CM 14)	X	X		During treatment		
	Whenever possible, schedule work after mass mortality events caused by extreme high tides (CM 16).	X	X		Pre- and during treatment		
BIO-5.1: Effects on the California clapper rail.	Perform work only during Sept 1 thru Feb 1 to avoid CLRA breading season.(BIO-5.1;CM-18)	X	X		During treatment		
	For work within the Clapper Rail breeding season, call counts will be performed in the early spring according to FWS protocols (CM-18)	X	X		Pre-treatment		

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Mitigations are from corresponding numbered mitigation in the same document,
Also included are the USFWS general and site-specific biological opinions Conservation Measures (CM).

Impact	*Applicable Mitigation & Conservation Measures*	*Herbicide*	*Digging*		*Implementation Timing*	*Verification Signatures*	
						Implementing Entity	*ISP Field Supervisor*
	Provide CLRA Field biologist supervision. .(BIO-5.1)	X	X		During treatment		
	Assure that field personnel are trained in general CLRA biology and CLRA identification and call detection. .(BIO-5.1)	X	X		Pre-treatment and during treatment		
	Report any CLRA activity immediately to ISP Field Supervisor and in post-treatment report.(BIO-5.1)	X	X		During and post-treatment		
BIO-5.2: Effects on the California Black Rail	Implement mitigations for BIO-5.1 above (BIO-5.1)	X	X		During treatment		
BIO-5.3: Effects on tidal marsh song sparrow subspecies and the salt marsh common yellowthroat.	Report any SMSS and SCYE activity immediately to ISP Field Supervisor and in post-treatment report (BIO-5.3)	X	X		During and post-treatment		
	Avoid spraying or removing Grindelia plants in the marsh	X	X		During treatment		
	Watch for Song Sparrow presence in the work area during early season treatment work (pre-August), especially in the smaller, upper reaches of channels.	X	X		During treatment		
BIO-6.1: Effects on anadromous salmonids (Winter-run and spring-run Chinook Salmon, steelhead)	Herbicide treatments shall be minimized near channels and mudflats (BIO-6.1)	X			During treatment		
BIO-6.4: Effects on estuarine fish populations of shallow submerged intertidal mudflats and channels.	Minimize spraying near channels (BIO-6.4)	X			During treatment		
	Avoid use of alylphenol ethoxylate surfactants adjacent to channel to minimize any potential adverse affects on estuarine fish (FWS BO)	X			During treatment		
N-1: Disturbance of sensitive receptors	Comply with all local noise ordinances (N-1)	X			During treatment		

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Mitigations are from corresponding numbered mitigation in the same document,
Also included are the USFWS general and site-specific biological opinions Conservation Measures (CM).

Impact	*Applicable Mitigation & Conservation Measures*	*Herbicide*	*Digging*		*Implementation Timing*	*Verification Signatures*	
						Implementing Entity	*ISP Field Supervisor*
HS-1: Worker injury from accidents associated with manual and mechanical cordgrass treatment	Implement ISP-approved site safety plan or equivalent (HS-1)		X		During treatment		
HS-2: Worker health effects from herbicide application.	Follow handling and application procedures as identified on product label (HS-2;CM-3,4,17)	X			During treatment		
HS-3: Health effects to the public from herbicide application.	Minimize drift according to ISP drift management plan (HS-3;CM-3,4,17)	X			During treatment		
	Post appropriate signage (see attached signage requirements) a minimum of 24 hours pre-treatment (HS-3)	X			Pre-treatment		
HS-4: Health effects to workers or the public from accidents associated with treatment.	Maintain ISP or approved equivalent Site Safety and Spill Prevention plan on site (HS-4;Cm-3,4,17)	X	X		During treatment		
VIS-1: Alteration of views from removal of non-native cordgrass infestations.	Post appropriate signage according to ISP signage protocols (VIS-1)	X	X		Pre-treatment, during treatment, post-treatment		
CUL-1: Disturbance or destruction of cultural resources from access and treatment.	Report all discovered prehistoric or historic resources to the ISP Field Supervisor and a qualified archeologist or historic resources consultant and suspend all work at site until archaeological mitigation has taken place (CUL-1)	X	X		Pre-treatment and during treatment		
CM-7: Invasive species	Monitor cleared patches for recruitment of invasive plant species including perennial pepperweed until native vegetation has become dominant (CM-7)	X	X		Post treatment		

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Mitigations are from corresponding numbered mitigation in the same document,
Also included are the USFWS general and site-specific biological opinions Conservation Measures (CM).

SITE-SPECIFIC PROJECT IMPACT EVALUATION

Site Name: Point Pinole Regional Shoreline, Contra Costa County TSN: ISP-2004-10

*Impact**	*Applicable to Site*	*Sub-areas included*	*Applicable Mitigations* (by Treatment Method used at Site)*			*Comments/Analysis of Residual Impact at Site*	*Additional Mitigation Required*
			Herbicide	*Digging*			
GEO-1: Erosion or deposition of sediment at treatment site	NA/NE					LTS/NLTAE - Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R	None
GEO-2: Erosion or topographic change of marsh and mudflat by vehicles used in eradication	NA/NE					NA/NE - Proposed activities are not ground disturbing and will not elevate erosion above ambient levels. Any vehicle traffic will be confined to existing access roadways	None
GEO-3: Remobilization of sand in cordgrass-stabilized estuarine beaches	NA/NE					NA/NE - Proposed activities will not disturb sub-surface vegetation, providing residual erosion resistance	None
GEO-4: Increased demand for sediment disposal and potential spread of invasive cordgrass via sediment disposal.	NA/NE					NA/NE - No dredging/sediment disposal proposed	None
GEO-5: Increased volume and velocity of tidal currents in channels due to the removal of invasive cordgrass.	A	All sub-areas	None	All		No adverse impact (see PEIS/R GEO-5 discussion). Site conditions consistent with those anticipated in the PEIS/R	No mitigation required
GEO-6: Increased depth and turbulence of tidewaters impounded in salt marsh pans.	NA/NE					NA/NE - Proposed activities will not take place within salt marsh pans	None

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Impact*	Applicable to Site	Sub-areas included	Applicable Mitigations* (by Treatment Method used at Site)			Comments/Analysis of Residual Impact at Site	Additional Mitigation Required
			Herbicide	Digging			
WQ-1: Degradation of water quality due to herbicide application	A	Sub-area 10a, 10c	WQ-1			LTS/NLTAE - Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R	None
WQ-2: Degradation of water quality due to herbicide spills	A	Sub-area 10a, 10c	WQ-2			LTS/NLTAE - Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R	None
WQ-3: Degradation of water quality due to fuel or petroleum spills	A	Sub-area 10a, 10c	WQ-3			LTS/NLTAE - Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R	None
WQ-4: Degradation of water quality due to contaminant remobilization	NA/NE					NA/NE - No dredging or other sediment mobilizing activities proposed	None
WQ-5: Water quality effects resulting from sediment accretion	NA/NE					NA/NE - This impact only applies to PEIR/S Alternative 3	None
BIO-1.1: Effects on tidal marsh plant communities affected by salt-meadow cordgrass and English cordgrass.	NA/NE					NA/NE - Field surveys found no salt-meadow cordgrass or English cordgrass at this site	None
BIO-1.2: Effects on tidal marsh plant communities affected by Atlantic smooth cordgrass and its hybrids.	A	All sub-areas	BIO-1.2			LTS/NLTAE - Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R	None

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Impact*	Appli-cable to Site	Sub-areas included	Applicable Mitigations* (by Treatment Method used at Site)			Comments/Analysis of Residual Impact at Site	Additional Mitiga-tion Required
			Herbicide	Digging			
BIO-1.3: Effects on tidal marsh plant communities affected by Chilean cordgrass.	A	Sub-area 10a	BIO-1.3	Bio-1.3		LTS/NLTAE - Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R	None
BIO-1.4: Effects on submerged aquatic plant communities.	NA/NE					NA/NE - Field surveys found no eelgrass or other submerged aquatic plants at the site	None
BIO-2: Effects on special-status plants (Soft bird's beak and/or Suisun thistle) in tidal marshes	A	Sub-area 10a	BIO-2	BIO-2		LTS/NLTAE - Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R	None
BIO-3: Effects on shorebirds and waterfowl.	A	All sub-areas	BIO-3	BIO-3		LTS/NLTAE - Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R	None
BIO-4.1: Effects on the salt marsh harvest mouse and tidal marsh shrew species.	A	All sub-areas	BIO-4.1 as modified by the USFWS BO	BIO-4.1 as modified by the USFWS BO		LTS/NLTAE - Potential impacts mitigated to less than significant (per PEIS/R, Impact/Mitigation BIO-4.1). Site conditions consistent with those anticipated in the PEIS/R	None
BIO-4.2: Effects on resident har-bor seal colonies of San Francisco Bay.	NA/NE					NA/NE - No harbor seal colonies at or near site	None
BIO-4.3: Effects on the southern sea otter.	NA/NE					NA/NE - Outside of the range of southern sea otters	None

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Impact*	Appli-cable to Site	Sub-areas included	Applicable Mitigations* (by Treatment Method used at Site)			Comments/Analysis of Residual Impact at Site	Additional Mitiga-tion Required
			Herbicide	Digging			
BIO-5.1: Effects on the California clapper rail.	A	All sub-areas	BIO-5.1 as modified by the USFWS BO	BIO-5.1 as modified by the USFWS BO		LTS/NLTAE – At site - Potential project impacts mitigated at site SU cumulative impacts addressed in PEIS/R and CEQA findings	None
BIO-5.2: Effects on the California black rail.	A	All sub-areas	BIO-5.2	BIO-5.2		LTS/NLTAE - Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R	None
BIO-5.3: Effects on tidal marsh song sparrow subspecies and the salt marsh common yellowthroat.	A	All sub-areas	BIO-5.3	BIO-5.3		LTS/NLTAE - Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R	None
BIO-5.4: Effects on California least terns and western snowy plovers.	NA/NE					NA/NE - Outside of the range of least terns and snowy plovers.	None
BIO-5.5: Effects on raptors (birds of prey).	NA/NE					NA/NE - No aerial applications pro-posed for this site	None
BIO-6.1: Effects on anadromous salmonids (winter-run and spring-run Chinook salmon, steelhead).	A	Sub-areas 10a, 10c	BIO-6.1-minimize spraying			LTS/NLTAE - Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R	None
BIO-6.2: Effects on delta smelt and Sacramento splittail.	NA/NE					NA/NE - Project site outside of delta smelt and Sacramento splittail range	None
BIO-6.3: Effects on the tidewater goby.	NA/NE					NA/NE - Project site outside of tidewater goby range	None

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Impact*	Applicable to Site	Sub-areas included	Applicable Mitigations* (by Treatment Method used at Site)			Comments/Analysis of Residual Impact at Site	Additional Mitigation Required
			Herbicide	Digging			
BIO-6.4: Effects on estuarine fish populations of shallow submerged intertidal mudflats and channels.	A	Sub-areas 10a, 10c	BIO-6.4-minimize spraying			LTS/NLTAE with additional mitigation BIO-6.4(b) No mowing proposed for this site	BIO-6.4(b)- R-11 will not be used adjacent to channels to minimize any potential adverse impacts on estuarine fish.
BIO-7: Effects on California red-legged frog and San Francisco garter snake.	NA/NE					NA/NE - Outside of known range of California red-legged frog and San Francisco garter snake.	None
BIO-8: Effects of regional invasive cordgrass eradication on mosquito production.	NA/NE					NA/NE - Site activities will not create additional mosquito habitat	None
BIO-9: Effects on tiger beetle species.	NA/NE					NA/NE - No adverse impact. Site conditions consistent with those anticipated in the PEIS/R	None
AQ-1: Dust emissions.	A	All sub-areas	AQ-1			LTS/NLTAE - Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R	None
AQ-2: Smoke emissions.	NA/NE					NA/NE - No burning proposed	None
AQ-3: Herbicide effects on air quality.	NA/NE					NA/NE - No aerial applications proposed for this site	None
AQ-4: Ozone precursor emissions.	NA/NE					LTS/NLTAE without mitigation	None
AQ-5: Carbon monoxide (CO) emissions.	NA/NE					LTS/NLTAE without mitigation	None

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Impact*	Applicable to Site	Sub-areas included	Applicable Mitigations* (by Treatment Method used at Site)			Comments/Analysis of Residual Impact at Site	Additional Mitigation Required
			Herbicide	Digging			
N-1: Disturbance of sensitive receptors	A	Sub areas 10a, 10c	N-1			LTS/NLTAE - Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R	None
HS-1: Worker Injury from accidents associated with manual and mechanical cordgrass treatment.	NA/NE					NA/NE - No manual or mechanical treatment proposed	None
HS-2: Worker health effects from herbicide application.	A	Sub areas 10a, 10c	HS-2			LTS/NLTAE - Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R	None
HS-3: Health effects to the public from herbicide application.	A	Sub areas 10a, 10c	HS-3			LTS/NLTAE - Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R	None
HS-4: Health effects to workers or the public from accidents associated with treatment.	A	Sub areas 10a, 10c	HS-4	HS-4		LTS/NLTAE - Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R	None
VIS-1: Alteration of views from removal of non-native cordgrass infestations.	A	All sub-areas	VIS-1	VIS-1		LTS/NLTAE - Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R	None
VIS-2: Change in views from native marsh, mudflat, and open water to non-native cordgrass meadows and monocultures.	NA/NE					NA/NE - Applies only to PEIS/R Alternative 3 (No Action)	None

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Impact*	Applicable to Site	Sub-areas included	Applicable Mitigations* (by Treatment Method used at Site)			Comments/Analysis of Residual Impact at Site	Additional Mitigation Required
			Herbicide	Digging			
LU-1: Land use conflicts between herbicide use and sensitive receptors	A	Sub-areas 10a, 10c	LU-1			LTS/NLTAE - Limited to less than significant by HS, N and AQ mitigations.	None
LU-2: Land use conflicts from mechanical and burning treatment methods	NA/NE					NA/NE - Methods not proposed for the site	None
CUL-1: Disturbance or destruction of cultural resources from Access and Treatment.	NA/NE					NA/NE - No manual or mechanical methods proposed for this site	None
CUL-2: Loss of Cultural Resources from Erosion.	NA/NE					NA/NE - No erosion-producing activities proposed for this site	None
CUM-1- Effects of wetland restoration projects on spread of non-native cordgrass	NA/NE					NA/NE - No restoration projects proposed on this site	None
CUM-2- Cumulative damage to marsh plain vegetation	NA/NE					NA/NE - No Mosquito Abatement Districts working on this site	None

Key: * Impact and mitigation numbering from ISP Control Program Programmatic EIS/R, August 2003
NA/NE – Not Applicable/No Effect
LTS/NLTAE – Less Than Significant impact/Not Likely to Adversely Effect
SU – Significant but unmitigable impact
USFWS BO – US Fish & Wildlife Service Biological Opinion

Date___/___/___

SITE-SPECIFIC PROJECT MITIGATION

Site Name: Point Pinole Regional Shoreline TSN: ISP-2004-10

Impact	*Applicable Mitigation*	*Applicable to Sub-Area*	*Herbicide*	*Digging*	*Implementation Timing*	*Verification Signatures*		*Notes*
						Implement-ing Entity	*ISP Field Supervisor*	
WQ-1: Degradation of water quality due to herbicide application	Apply herbicide directly to plant at low tide and according to label. (WQ-1;CM-3,4)	10a, 10c	X		During treatment			
WQ-2: Degradation of water quality due to herbicide spills	Apply under supervision of trained applicator (WQ-2CM-3)	10a, 10c	X		During treatment			
	Implement spill and containment plan provided or approved by ISP (WQ-2;CM-17)	10a, 10c	X		During treatment			
WQ-3: Degradation of water quality due to fuel or petroleum spills	Implement spill and containment plan provided or approved by ISP(WQ-3;CM-17)	10a, 10c	X		During treatment			
BIO-1.2: Effects on tidal marsh plant communities affected by Atlantic smooth cordgrass and its hybrids.	Minimize entry and re-entry into marsh (BIO-1.2;CM-1)	All sub-areas	X		During treatment			
	Avoid staging in high, dense vegetation such as gumplant or pickle-weed (FWS GL)	All sub-areas	X		During treatment			
	Avoid herbicide application to non-target vegetation adjacent to treatment area (BIO-1.2;CM-3,4)	All sub-areas	X		During treatment			

*Impact numbering from ISP Control Program Programmatic EIS/R, September 2003.
Mitigations are from corresponding numbered mitigation in the same document,
Also included are the USFWS general and site-specific biological opinions Conservation Measures (CM).

Impact	*Applicable Mitigation*	*Applicable to Sub-Area*	*Herbicide*	*Digging*	*Implementation Timing*	*Verification Signatures*		*Notes*
						Implement-ing Entity	*ISP Field Supervisor*	
	Cover adjacent non-target special-status vegetation with temporary fabric as needed (BIO-1.2)	All sub-areas	X		During treatment			
BIO-1.3:Effects on tidal marsh plant communities by Chilean cordgrass	Minimize entry and re-entry into marsh (BIO-1.3;CM-1)	10a	X	X	During treatment			
	Avoid herbicide application to non-target vegetation adjacent to treatment area (BIO-1.3;CM-3,4)	10a	X	X	During treatment			
	Cover adjacent non-target special-status vegetation with temporary fabric as needed (BIO-1.3)	10a	X	X	During treatment			
BIO-2: Effects on special-status plants (Soft bird's beak and/or Suisun thistle) in tidal marshes	Pre-project surveys for *Cordylanthus mollis mollis* and *Circium hydrophilum hydrophilum*(BIO-2;CM-22)	10a	X	X	Pre-treatment			
	Field crews will be instructed on ID and avoidance of *Cordylanthus mollis mollis* and *Circium hydrophilum hydrophilum* (BIO-2)	10a	X	X	Pre-treatment			
	On site qualified botanical supervision (BIO-2;CM-23)	10a	X	X	During treatment			

*Impact numbering from ISP Control Program Programmatic EIS/R, September 2003.
Mitigations are from corresponding numbered mitigation in the same document,
Also included are the USFWS general and site-specific biological opinions Conservation Measures (CM).

Impact	*Applicable Mitigation*	*Applicable to Sub-Area*	*Herbicide*	*Digging*	*Implementation Timing*	*Verification Signatures*		*Notes*
						Implement-ing Entity	*ISP Field Supervisor*	
	Cover non-target *Cordy-lanthus mollis mollis* and *Circium hydrophi-lum hydrophilum* with fabric during spray work (BIO-2)	10a	X		During treatment			
BIO-3: Effects on shore-birds, waterfowl & marshland birds.	Avoid working within 1,000 feet of occupied mudflats during peak Pacific Flyway stop-overs (BIO-3)	All sub-areas	X	X	During treatment			
	Occupy treatment area soon after high tide, before mudflats emerge (BIO-3)	All sub-areas	X	X	During treatment			
	Haze shorebirds to minimize potential direct contact with herbicide drift (BIO-3)	All sub-areas	X	X	During treatment			
BIO-4.1: Effects on the salt marsh harvest mouse and tidal marsh shrew species.	Use shortest possible access route through any pickleweed habitat. Flag areas of repeated access (BIO-4.1;CM-15)	All sub-areas	X	X	During treatment			
	Use protective mats or other covering over pickleweed in areas or repeated access (BIO-4.1;CM-15)	All sub-areas	X	X	During treatment			
	Assume presence of SMHM on all suitable sites (CM 14)	All sub-areas	X	X	During treatment			

*Impact numbering from ISP Control Program Programmatic EIS/R, September 2003.
Mitigations are from corresponding numbered mitigation in the same document,
Also included are the USFWS general and site-specific biological opinions Conservation Measures (CM).

Impact	*Applicable Mitigation*	*Applicable to Sub-Area*	*Herbicide*	*Digging*	*Implementation Timing*	*Verification Signatures*		*Notes*
						Implement-ing Entity	*ISP Field Supervisor*	
	Whenever possible, schedule work after mass mortality events caused by extreme high tides (CM 16).	All sub-areas	X	X	Pre-treatment			
BIO-5.1: Effects on the California Clapper rail.	Perform work only during Sept 1 thru Feb 1 to avoid CLRA breading season (BIO-5.1;CM-18)	All sub-areas	X	X	During treatment			
	For work within the Clapper Rail breeding season, call counts will be performed in the early spring according to FWS protocols (CM-18)	All sub-areas	X	X	Pre treatment			
	Provide CLRA Field biologist supervision (BIO-5.1)	All sub-areas	X	X	During treatment			
	Assure that field personnel are trained in general CLRA biology and CLRA identification and call detection (BIO-5.1)	All sub-areas	X	X	Pretreatment and during treatment			
	Report any CLRA activity immediately to ISP Field Supervisor and in post-treatment report (BIO-5.1)	All sub-areas	X	X	During and post treatment			
BIO-5.2: Effects on the California Black rail	Perform work only during Sept 1 thru Feb 1 to avoid CABR breeding season (BIO-5.2)	All sub-areas	X	X	During treatment			

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Mitigations are from corresponding numbered mitigation in the same document,
Also included are the USFWS general and site-specific biological opinions Conservation Measures (CM).

Impact	*Applicable Mitigation*	*Applicable to Sub-Area*	*Herbicide*	*Digging*	*Implementation Timing*	*Verification Signatures*		*Notes*
						Implement-ing Entity	*ISP Field Supervisor*	
	For work within the CABR breeding season, call counts will be performed in the early spring according to FWS protocols (BIO-5.2)	All Sub-areas	X	X	Pre-treatment			
	Provide CABR Field Biologist Supervision (BIO-5.2)	All Sub-areas	X	X	Pre-treatment and During treatment			
	Assure that field personnel are trained in general CABR biology and identification as well as call detection (BIO-5.2)	All Sub-areas	X	X	Pre-treatment and During treatment			
	Report any CABR activity immediately to ISP Field Supervisor and in post-treatment report (BIO-5.2)	All Sub-areas	X	X	During treatment and Post-treatment			
BIO-5.3: Effects on tidal marsh song sparrow subspecies and the salt marsh common yellow-throat.	Implement CLRA timing restriction (most restrictive)	All Sub-areas	X	X	During treatment			
	Report any SMSS and SCYE activity immediately to ISP Field Supervisor and in post-treatment report (BIO-5.3)	All Sub-areas	X	X	During and post treatment			
	Avoid spraying or removing Grindelia plants in the marsh	All Sub-areas	X	X	During treatment			

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Mitigations are from corresponding numbered mitigation in the same document,
Also included are the USFWS general and site-specific biological opinions Conservation Measures (CM).

Impact	*Applicable Mitigation*	*Applicable to Sub-Area*	*Herbicide*	*Digging*	*Implementation Timing*	*Verification Signatures*		*Notes*
						Implement-ing Entity	*ISP Field Supervisor*	
	Watch for Song Sparrow presence in the work area during early season treatment work (pre-August), especially in the smaller, upper reaches of channels.	All Sub-areas	X	X	During treatment			
BIO-6.1: Effects on anadromous salmonids (winter-run and spring-run Chinook salmon, steelhead).	Target herbicide applications to minimize herbicide use near channel (BIO-6.1).	Sub-area 10a, 10c	X		During treatment			
	Avoid use of alylphenol ethoxylate surfactants Dec 1 thru April 1 to avoid steelhead spawning. (BIO-6.1)	Sub-area 10a, 10c	X		During treatment			
BIO-6.4: Effects on estuarine fish populations of shallow submerged intertidal mudflats and channels.	Bio-6.4 – minimize spraying near channels (BIO-6.4)	Sub-area 10a, 10c	X		During treatment			
	Avoid use of alylphenol ethoxylate surfactants adjacent to channel to minimize any potential adverse affects on estuarine fish.	Sub-area 10a, 10c	X		During treatment			
AQ-1: Dust emissions	Limit speeds on dirt roads to 15 miles per hour (AQ-1)	All sub-areas	X	X	During treatment			
N-1: Disturbance of sensitive receptors	Comply with all local noise ordinances (N-1)	Sub-areas 10a, 10c	X		During treatment			
HS-2: Worker health effects from herbicide application.	Follow handling and application procedures as identified on product label (HS-2;CM-3)	Sub-areas 10a, 10c	X		During treatment			

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Also included are the USFWS general and site-specific biological opinions Conservation Measures (CM).

Impact	*Applicable Mitigation*	*Applicable to Sub-Area*	*Herbicide*	*Digging*	*Implementation Timing*	*Verification Signatures*		*Notes*
						Implement-ing Entity	*ISP Field Supervisor*	
HS-3: Health effects to the public from herbicide application.	Minimize drift according to ISP drift management plan (HS-3;CM-3,4)	Sub-areas 10a, 10c	X		During treatment			
	Post appropriate signage (see attached signage requirements) a minimum of 24 hours pre-treatment (HS-3)	Sub-areas 10a, 10c	X		Pre-treatment			
	Avoid scheduling herbicide application near high public use areas during weekends or holidays, or close public access to area 24 hours before and after treatment. (HS-3)	Sub-areas 10a, 10c	X		Pre-treatment and during treatment			
HS-4: Health effects to workers or the public from accidents associated with treatment.	Maintain ISP or approved equivalent Site Safety and Spill Prevention plan on site (HS-4;CM-3,4,17)	Sub-areas 10a, 10c	X	X	During treatment			
VIS-1: Alteration of views from removal of non-native cordgrass Infestations.	Post appropriate signage according to ISP signage protocols (VIS-1)	Sub-areas 10a, 10c	X	X	Pre-treatment, during treatment, post-treatment			
CM-7: Invasive species	Monitor cleared patches for recruitment of invasive plant species including perennial pepperweed until native vegetation has become dominant (CM-7)	All sub -areas	X	X	Post treatment			

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Mitigations are from corresponding numbered mitigation in the same document,
Also included are the USFWS general and site-specific biological opinions Conservation Measures (CM).

SITE-SPECIFIC PROJECT IMPACT EVALUATION

Site Name: Southampton Marsh, Solano County TSN: ISP-2004-11

*Impact**	*Applicable to Site*	*Applicable Mitigations* (by Treatment Method used at Site)*			*Comments/Analysis of Residual Impact at Site*	*Additional Mitigation Required*
		Herbicide	*Digging*			
GEO-1: Erosion or deposition of sediment at treatment site	NA/NE				NA/NE – Proposed activities are not ground disturbing and will not elevate erosion above ambient levels.	None
GEO-2: Erosion or topographic change of marsh and mudflat by vehicles used in eradication	NA/NE				NA/NE – Method not proposed for this site	None
GEO-3: Remobilization of sand in cordgrass-stabilized estuarine beaches	NA/NE				NA/NE – Proposed activities will not take place within an estuarine beach.	None
GEO-4: Increased demand for sediment disposal and potential spread of invasive cordgrass via sediment disposal.	NA/NE				NA/NE – No dredging/ or large-scale sediment disposal proposed	None
GEO-5: Increased volume and velocity of tidal currents in channels due to the removal of invasive cordgrass.	A	None	None		No adverse impact (see EIS/R GEO-5 discussion). Site conditions consistent with those anticipated in the PEIS/R.	None
GEO-6: Increased depth and turbulence of tidewaters impounded in salt marsh pans.	NA/NE				NA/NE – Proposed activities will not take place within salt marsh pans.	None
WQ-1: Degradation of Water Quality due to Herbicide Application	A	WQ-1			LTS/NLTAE – Potential impacts mitigated to less than significant (per EIS/R, Impact/Mitigation WQ-1). Site conditions consistent with those anticipated in the PEIS/R.	None

Key: * Impact and mitigation numbering from ISP Control Program Programmatic EIS/R, August 2003
NA/NE – Not applicable/No Effect
LTS/NLTAE – Less Than Significant impact /Not Likely to Adversely Effect
SU – Significant but unmitigable impact
USFWS BO – US Fish & Wildlife Service Biological Opinion

Impact*	Applicable to Site	Applicable Mitigations* (by Treatment Method used at Site)			Comments/Analysis of Residual Impact at Site	Additional Mitigation Required
		Herbicide	Digging			
WQ-2: Degradation of Water Quality due to Herbicide Spills	A	WQ-2			LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
WQ-3: Degradation of Water Quality due to Fuel or Petroleum Spills	A	WQ-3			LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
WQ-4: Degradation of Water Quality due to Contaminant Remobilization	NA/NE				NA/NE - No dredging or other sediment-mobilizing activities proposed.	None
WQ-5: Water Quality Effects Resulting from Sediment Accretion	NA/NE				NA/NE – This impact only applies to EIS/R Alternative 3.	None
BIO-1.1: Effects on tidal marsh plant communities affected by salt-meadow cordgrass and English cordgrass.	NA/NE	BIO-1.1	BIO-1.1		LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-1.2: Effects on tidal marsh plant communities affected by Atlantic smooth cordgrass and its hybrids.	NA/NE				NA/NE – Field surveys found no Atlantic smooth cordgrass at site.	None
BIO-1.3: Effects on tidal marsh plant communities affected by Chilean cordgrass.	NA/NE				NA/NE – Field surveys found no Chilean cordgrass at site.	None
BIO-1.4: Effects on submerged aquatic plant communities.	NA/NE				NA/NE – Field surveys found no eelgrass or other submerged aquatic plants at site.	None
BIO-2: Effects on special-status plants (Soft bird's beak and/or Suisun thistle) in tidal marshes	A	BIO-2	BIO-2		LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None

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Impact*	Applicable to Site	Applicable Mitigations* (by Treatment Method used at Site)			Comments/Analysis of Residual Impact at Site	Additional Mitigation Required
		Herbicide	Digging			
BIO-3: Effects on shorebirds and waterfowl.	A	BIO-3	BIO-3		LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-4.1: Effects on the salt marsh harvest mouse and tidal marsh shrew species.	A	BIO-4.1 as modified by the USFWS BO	BIO-4.1 as modified by the USFWS BO		LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-4.2: Effects on resident harbor seal colonies of San Francisco Bay.	NA/NE				NA/NE – No harbor seal colonies at or near site.	None
BIO-4.3: Effects on the southern sea otter.	NA/NE				NA/NE – Outside of known range of southern sea otters.	None
BIO-5.1: Effects on the California clapper rail.	A	BIO-5.1 as modified by UFSWS BO	BIO-5.1 as modified by UFSWS BO		SU at site – Short-term potential project impacts mitigated at site. LTS/NLTAE – cumulative impacts addressed in EIS/R and CEQA findings.	None
BIO-5.2: Effects on the California black rail.	A	BIO-5.2	BIO-5.2		LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-5.3: Effects on tidal marsh song sparrow subspecies and the salt marsh common yellowthroat.	A	BIO-5.2	BIO-5.2		LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-5.4: Effects on California least terns and western snowy plovers.	NA/NE				NA/NE – Outside of known range of California least terns and western snowy plovers.	None
BIO-5.5: Effects on raptors (birds of prey).	NA/NE				NA/NE – No aerial herbicide applications proposed	None

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Impact*	Appli-cable to Site	Applicable Mitigations* (by Treatment Method used at Site)			Comments/Analysis of Residual Impact at Site	Additional Mitigation Required
		Herbicide	Digging			
BIO-6.1: Effects on anadromous salmonids (winter-run and spring-run Chinook salmon, steelhead).	A	BIO-6.1			LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-6.2: Effects on delta smelt and Sacramento splittail.	A	BIO-6.2			LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-6.3: Effects on the tidewater goby.	NA/NE				NA/NE – Proposed treatment will not occur within tidewater goby habitat	None
BIO-6.4: Effects on estuarine fish populations of shallow submerged intertidal mudflats and channels.	A	BIO-6.4 – minimize spraying			LTS/NLTAE with additional mitigation BIO-6.4(b)	BIO-6.4(b) – R-11 will not be used adjacent to channel to minimize any potential adverse affects on estuarine fish.
BIO-7: Effects on California red-legged frog and San Francisco garter snake.	NA/NE				NA/NE – Outside of known range of California red-legged frog and San Francisco garter snake.	None
BIO-8: Effects of regional invasive cordgrass eradication on mosquito production.	NA/NE				NA/NE – Site activities will not create additional mosquito habitat.	None
BIO-9: Effects on tiger beetle species.	NA/NE				NA/NE – No potential tiger beetle habitat will be affected.	None
AQ-1: Dust Emissions.	NA/NE				NA/NE – All access roads are paved.	None
AQ-2: Smoke Emissions.	NA/NE				NA/NE – No burning proposed.	None
AQ-3: Herbicide Effects on Air Quality.	NA/NE				NA/NE – No aerial herbicide applications proposed	None
AQ-4: Ozone Precursor Emissions.	NA/NE				LTS/NLTAE without mitigation.	None

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Impact*	Applicable to Site	Applicable Mitigations* (by Treatment Method used at Site)			Comments/Analysis of Residual Impact at Site	Additional Mitigation Required
		Herbicide	Digging			
AQ-5: Carbon Monoxide (CO) Emissions.	NA/NE				LTS/NLTAE without mitigation.	None
N-1: Disturbance of Sensitive Receptors	NA/NE				NA/NE – No noise producing equipment proposed for use during treatment	None
HS-1: Worker Injury from accidents associated with manual and mechanical cordgrass treatment.	NA/NE				NA/NE – No digging operations proposed.	None
HS-2: Worker health effects from herbicide application.	A	HS-2			LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
HS-3: Health effects to the public from herbicide application.	A	HS-3			LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
HS-4: Health effects to workers or the public from accidents associated with treatment.	A	HS-4			LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
VIS-1: Alteration of views from removal of non-native cordgrass infestations.	A	VIS-1	VIS-1		SU – Impacts addressed in EIS/R and CEQA findings. Site conditions consistent with those anticipated in the PEIS/R.	None
VIS-2: Change in views from native marsh, mudflat, and open water to non-native cordgrass meadows and monocultures.	NA/NE				NA/NE – Applies only to PEIS/R Alternative 3 (No Action)	None
LU-1: Land use conflicts between herbicide use and sensitive receptors	A	LU-1			LTS/NLTAE – Limited to less than significant by HS, N and AQ mitigations.	None
LU-2: Land use conflicts from mechanical and burning treatment methods	NA/NE				NA/NE – Methods not proposed for site	None

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*Impact**	*Appli-cable to Site*	*Applicable Mitigations* (by Treatment Method used at Site)*			*Comments/Analysis of Residual Impact at Site*	*Additional Mitigation Required*
		Herbicide	*Digging*			
CUL-1: Disturbance or destruction of cultural resources from access and treatment.	A	CUL-1	CUL-1		LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
CUL-2: Loss of cultural resources from erosion.	NA/NE				NA/NE – No erosion-producing activities proposed	None
CUM-1- Effects of wetland restoration projects on spread of non-native cordgrass	NA/NE				NA/NE – No restoration projects proposed on this site	None
CUM-2- Cumulative damage to marsh plain vegetation	NA/NE				NA/NE – No Mosquito Abatement Districts working on this site	None

Key: * Impact and mitigation numbering from ISP Control Program Programmatic EIS/R, August 2003
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SITE-SPECIFIC PROJECT MITIGATION

Site Name: Southampton Marsh, Solano County TSN: ISP-2004-11

*Impact**	*Applicable Mitigation & Conservation Measures (source**)*	*Herbicide*	*Digging*	*Implementation Timing*	*Verification Signatures*	
					Implementing Entity	*ISP Field Supervisor*
WQ-1: Degradation of water quality due to herbicide application	Apply herbicide directly to plant at low tide and according to label (WQ-1;CM-3,4)	X		During treatment		
WQ-2: Degradation of water quality due to herbicide spills	Apply under supervision of trained applicator (WQ-2;CM-3)	X		During treatment		
	Implement spill and containment plan provided or approved by ISP (WQ-2;CM-17)	X		During treatment		
WQ-3: Degradation of water quality due to fuel or petroleum spills	Implement spill and containment plan provided or approved by ISP. (WQ-3;CM-17)	X		During treatment		
BIO-1.1: Effects on tidal marsh plant communities affected by Salt meadow cordgrass and its hybrids.	Minimize entry and re-entry into marsh (BIO-1.1;CM-1)	X	X	During treatment		
	Avoid staging in high, dense vegetation such as gumplant or pickleweed (FWS GL)	X	X	During treatment		
	Avoid herbicide application to non-target vegetation adjacent to treatment area (BIO-1.1;CM-3,4)	X	X	During treatment		
	Use geotextile fabric to prevent treatment of non-target *Cordylanthus mollis* vegetation (BIO-1.1)	X	X	During treatment		
BIO-2: Effects on special-status plants (Soft bird's beak and/or Suisun thistle) in tidal marshes	Pre-project surveys for *Cordylanthus mollis mollis* and *Circium hydrophilum hydrophilum*(BIO-2;CM-22)	X	X	Pre-treatment		

* Impact numbering from ISP Programmatic EIS/R, September 2003.

**Mitigations and control measures include ISP Programmatic EIS/R mitigations (e.g., BIO-1.2), U.S. FWS general biological opinion conservation measures (e.g., CM-3), U.S. FWS site-specific biological opinion conservation measures (e.g., SSCM-3), recommendations from U.S. FWS guidance letters (e.g., FWS GL), and California Department of Fish and Game recommendations (e.g., DFG).

*Impact**	*Applicable Mitigation & Conservation Measures (source**)*	*Herbicide*	*Digging*	*Implementation Timing*	*Verification Signatures*	
					Implement-ing Entity	*ISP Field Supervisor*
	Field crews will be instructed on ID and avoidance of *Cordylanthus mollis mollis* and *Circium hydrophilum hydrophilum* (BIO-2)	X	X	Pre- and during treatment		
	On site qualified botanical supervision (BIO-2;CM-23)	X	X	During treatment		
	Cover non-target *Cordylanthus mollis mollis* and *Circium hydrophilum hydrophilum* with fabric during spray work (BIO-2)	X		During treatment		
BIO-3: Effects on shorebirds, waterfowl & marshland birds.	Avoid working within 1,000 feet of occupied mudflats during peak Pacific Flyway stopovers (BIO-3)	X	X	During treatment		
	Occupy treatment area soon after high tide, before mudflats emerge (BIO-3)	X	X	During treatment		
	Haze shorebirds to minimize potential direct contact with herbicide drift (BIO-3)	X	X	During treatment		
BIO-4.1: Effects on the salt marsh harvest mouse and tidal marsh shrew species.	Use shortest possible access route through any pickleweed habitat. Flag areas of repeated access (BIO-4.1;CM-15)	X	X	During treatment		
	Use protective mats or other covering over pickleweed in areas or repeated access (BIO-4.1;CM-15)	X	X	During treatment		
	Assume presence of SMHM on all suitable sites (CM 14)	X	X	During treatment		

* Impact numbering from ISP Programmatic EIS/R, September 2003.

**Mitigations and control measures include ISP Programmatic EIS/R mitigations (e.g., BIO-1.2), U.S. FWS general biological opinion conservation measures (e.g., CM-3), U.S. FWS site-specific biological opinion conservation measures (e.g., SSCM-3), recommendations from U.S. FWS guidance letters (e.g., FWS GL), and California Department of Fish and Game recommendations (e.g., DFG).

*Impact**	*Applicable Mitigation & Conservation Measures (source**)*	*Herbicide*	*Digging*	*Implementation Timing*	*Verification Signatures*	
					Implement-ing Entity	*ISP Field Supervisor*
	Whenever possible, schedule work after mass mortality events caused by extreme high tides (CM 16).	X	X	Pre-treatment		
BIO-5.1: Effects on California clapper rail.	Perform work only during Sept 1 thru Feb 1 to avoid CLRA breading season (BIO-5.1;CM-18)	X	X	During treatment		
	For work within the Clapper Rail breeding season, call counts will be performed in the early spring according to FWS protocols (CM-18)	X	X	Pre-treatment		
	Provide CLRA Field biologist supervision. (BIO-5.1)	X	X	During treatment		
	Assure that field personnel are trained in general CLRA biology and CLRA identification and call detection (BIO-5.1)	X	X	Pre-treatment and during treatment		
	Report any CLRA activity immediately to ISP Field Supervisor and in post-treatment report (BIO-5.1)	X	X	During and post-treatment		
BIO-5.2: Effects on California Black Rail	Conform with BIO-5.1	X	X	During treatment		
BIO-5.3: Effects on tidal marsh song sparrow subspecies and the salt marsh common yellowthroat.	Implement CLRA timing restriction (most restrictive).	X	X	During treatment		
	Report any SMSS and SCYE activity immediately to ISP Field Supervisor and in post-treatment report (BIO-5.3)	X	X	During and post-treatment		
	Avoid spraying or removing Grindelia plants in the marsh	X	X	During treatment		

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**Mitigations and control measures include ISP Programmatic EIS/R mitigations (e.g., BIO-1.2), U.S. FWS general biological opinion conservation measures (e.g., CM-3), U.S. FWS site-specific biological opinion conservation measures (e.g., SSCM-3), recommendations from U.S. FWS guidance letters (e.g., FWS GL), and California Department of Fish and Game recommendations (e.g., DFG).

*Impact**	*Applicable Mitigation & Conservation Measures (source**)*	*Herbicide*	*Digging*	*Implementation Timing*	*Verification Signatures*	
					Implement-ing Entity	*ISP Field Supervisor*
	Watch for Song Sparrow presence in the work area during early season treatment work (pre-August), especially in the smaller, upper reaches of channels.	X	X	During treatment		
BIO-6.1: Effects on anadromous salmonids (winter-run and spring-run Chinook salmon, steelhead).	Target herbicide applications to minimize herbicide use near channel (BIO-6.1)	X		During treatment		
	Avoid use of alylphenol ethoxylate surfactants Dec 1 thru April 1 to avoid steelhead spawning.	X		During treatment		
BIO-6.2: Effects on delta smelt and Sacramento splittail	Spray drift near channels shall be minimized and conform to ISP herbicide drift management plan or equivalent (BIO-6.2;CM-13)	X		During treatment		
BIO-6.4: Effects on estuarine fish populations of shallow submerged intertidal mudflats and channels.	Bio-6.4 – minimize spraying near intertidal mudflats and channels (BIO-6.4)	X		During treatment		
	Avoid use of alylphenol ethoxylate surfactants adjacent to channel to minimize any potential adverse affects on estuarine fish.	X		During treatment		
HS-2: Worker health effects from herbicide application.	Follow handling and application procedures as identified on product label (HS-2;CM-3)	X		During treatment		
HS-3: Health effects to the public from herbicide application.	Minimize drift according to ISP drift management plan or equivalent (HS-3;CM-3,4)	X		During treatment		

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**Mitigations and control measures include ISP Programmatic EIS/R mitigations (e.g., BIO-1.2), U.S. FWS general biological opinion conservation measures (e.g., CM-3), U.S. FWS site-specific biological opinion conservation measures (e.g., SSCM-3), recommendations from U.S. FWS guidance letters (e.g., FWS GL), and California Department of Fish and Game recommendations (e.g., DFG).

*Impact**	*Applicable Mitigation & Conservation Measures (source**)*	*Herbicide*	*Digging*	*Implementation Timing*	*Verification Signatures*	
					Implement-ing Entity	*ISP Field Supervisor*
	Post appropriate signage (see attached signage require-ments) a minimum of 24 hours pre-treatment (HS-3)	X		Pre-treatment		
	Avoid scheduling herbicide application near high public use areas during weekends or holidays, or close public ac-cess to area 24 hours before and after treatment (HS-3)	X		Pre-treatment and during treatment		
HS-4: Health effects to workers or the public from accidents associated with treatment.	Maintain ISP or approved equivalent Site Safety and Spill Prevention plan on site (HS-4;CM-3,4,17)	X		During treatment		
VIS-1: Alteration of views from re-moval of non-native cordgrass infes-tations.	Post appropriate signage ac-cording to ISP signage proto-cols (VIS-1)	X	X	Pre-treatment, during treatment, post-treatment		
CUL-1: Disturbance or destruction of cultural resources from access and treatment.	Report all discovered prehis-toric or historic resources to the ISP Field Supervisor and a qualified archeologist or his-toric resources consultant and suspend all work at site until archaeological mitigation has taken place (CUL-1)	X	X	Pre-treatment and during treatment		
CM-7: Invasive species	Monitor cleared patches for recruitment of invasive plant species including perennial pepperweed until native vege-tation has become dominant (CM-7)	X		Post-treatment		

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**Mitigations and control measures include ISP Programmatic EIS/R mitigations (e.g., BIO-1.2), U.S. FWS general biological opinion conservation measures (e.g., CM-3), U.S. FWS site-specific biological opinion conservation measures (e.g., SSCM-3), recommendations from U.S. FWS guid-ance letters (e.g., FWS GL), and California Department of Fish and Game recommendations (e.g., DFG).

SITE-SPECIFIC PROJECT IMPACT EVALUATION

Site Name: Southeast San Francisco Complex, San Francisco County TSN: ISP-2004-12

*Impact**	*Applicable to site*	*Sub Area Included*	*Applicable Mitigations* (by Treatment Method used at site)*						*Comments/Analysis of Residual Impact at site*	*Additional Mitigation Required*
			Back-pack	*Truck*	*Boat*	*Mowing*	*Covering*	*Digging*		
GEO-1: Erosion or deposition of sediment at treatment site	NA/NE								LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
GEO-2: Erosion or topographic change of marsh and mudflat by vehicles used in eradication	NA/NE								NA/NE - Methods not proposed for this Complex	None
GEO-3: Remobilization of sand in cordgrass-stabilized estuarine beaches	NA/NE								NA/NE - No excavation within estuarine beaches planned.	None
GEO-4: Increased demand for sediment disposal and potential spread of invasive cordgrass via sediment disposal.	NA/NE								NA/NE - No dredging/sediment disposal proposed	None
GEO-5: Increased volume and velocity of tidal currents in channels due to the removal of invasive cordgrass.	A	All Sub-Areas	GEO-5	GEO-5	GEO-5	GEO-5	GEO-5	GEO-5	No adverse impact (see EIS/R GEO-5 discussion). Site conditions consistent with those anticipated in the PEIS/R.	None
GEO-6: Increased depth and turbulence of tidewaters impounded in salt marsh pans.	NA/NE								NA/NE - Proposed activities will not take place within salt marsh pans	None

Key: * Impact and mitigation numbering from ISP Control Program Programmatic EIS/R, August 2003
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LTS/NLTAE – Less Than Significant impact/Not Likely to Adversely Effect

Impact*	Applicable to site	Sub Area Included	Applicable Mitigations* (by Treatment Method used at site)						Comments/Analysis of Residual Impact at site	Additional Mitigation Required
			Back-pack	Truck	Boat	Mowing	Covering	Digging		
WQ-1: Degradation of Water Quality due to Herbicide Application	A	All sub-areas	WQ-1	WQ-1	WQ-1				LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
WQ-2: Degradation of Water Quality due to Herbicide Spills	A	All sub-areas	WQ-2	WQ-2	WQ-2				LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
WQ-3: Degradation of Water Quality due to Fuel or Petroleum Spills	A	All sub-areas	WQ-3	WQ-3	WQ-3	WQ-3			LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
WQ-4: Degradation of Water Quality due to Contaminant Remobilization	NA/NE								NA/NE - No dredging or other sediment-mobilizing activities proposed.	None
WQ-5: Water Quality Effects Resulting from Sediment Accretion	NA/NE								NA/NE – This impact only applies to EIS/R Alternative 3.	None
BIO-1.1: Effects on tidal marsh plant communities affected by salt-meadow cordgrass and English cordgrass.	NA/NE								NA/NE – Field surveys found no salt-meadow or English cordgrass at this site.	None
BIO-1.2: Effects on tidal marsh plant communities affected by Atlantic smooth cordgrass and its hybrids.	A	All Sub-Areas	BIO-1.2	BIO-1.2	BIO-1.2	BIO-1.2	BIO-1.2	BIO-1.2	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None

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Impact*	Applicable to site	Sub Area Included	Applicable Mitigations* (by Treatment Method used at site)						Comments/Analysis of Residual Impact at site	Additional Mitigation Required
			Back-pack	Truck	Boat	Mowing	Covering	Digging		
BIO-1.3: Effects on tidal marsh plant communities affected by Chilean cordgrass.	NA/NE								NA/NE – Field surveys found no Chilean cordgrass at site.	None
BIO-1.4: Effects on submerged aquatic plant communities.	NA/NE								NA/NE – Field surveys found no eelgrass or other submerged aquatic plants at site.	None
BIO-2: Effects on special-status plants (Soft bird's beak and/or Suisun thistle) in tidal marshes	NA/NE								NA/NE - Field surveys found no special-status plant species at site.	None
BIO-3: Effects on shorebirds and waterfowl.	A	All Sub-Areas	BIO-3	BIO-3	BIO-3	BIO-3	BIO-3	BIO-3	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-4.1: Effects on the salt marsh harvest mouse and tidal marsh shrew species.	NA/NE								NA/NE - Activities will not occur within Salt marsh harvest mouse habitat	None
BIO-4.2: Effects on resident harbor seal colonies of San Francisco Bay.	NA/NE								NA/NE - No harbor seal colonies at or near site.	None
BIO-4.3: Effects on the southern sea otter.	NA/NE								NA/NE – Outside of known range of southern sea otters.	None
BIO-5.1: Effects on California clapper rail.	NA/NE								NA/NE - Sites within SE SF Complex not known to contain California Clapper Rail	None

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Impact*	Applicable to site	Sub Area Included	Applicable Mitigations* (by Treatment Method used at site)						Comments/Analysis of Residual Impact at site	Additional Mitigation Required
			Back-pack	Truck	Boat	Mowing	Covering	Digging		
BIO-5.2: Effects on California black rail.	NA/NE								NA/NE – Outside of known range black rails.	None
BIO-5.3: Effects on tidal marsh song sparrow subspecies and the salt marsh common yellow-throat.	A	All Sub-Areas	BIO-5.2 as modified by UFSWS BO	BIO-5.2 as modified by UFSWS BO	BIO-5.2 as modified by UFSWS BO	BIO-5.2 as modified by UFSWS BO	BIO-5.2 as modified by UFSWS BO	BIO-5.2 as modified by UFSWS BO	LTS/NLTAE – Potential project impacts mitigated at site.	None
BIO-5.4: Effects on California least terns and western snowy plovers.	NA/NE								NA/NE - Areas of treatment unsuitable for California least terns and/or western snowy plovers	None
BIO-5.5: Effects on raptors (birds of prey).	NA/NE								NA/NE - No aerial applications proposed for this Complex	None
BIO-6.1: Effects on anadromous salmonids (winter-run and spring-run Chinook salmon, steelhead).	A	All sub-areas	BIO-6.1	BIO-6.1	BIO-6.1				LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-6.2: Effects on delta smelt and Sacramento splittail.	NA/NE								NA/NE – Outside of known delta smelt and Sacramento splittail range.	None
BIO-6.3: Effects on the tidewater goby.	NA/NE								NA/NE – Outside of known range of tidewater goby.	None
BIO-6.4: Effects on estuarine fish populations of shallow submerged intertidal mudflats and channels.	A	All sub-areas	Bio-6.4 – minimize spraying	Bio-6.4 – minimize spraying	Bio-6.4 – minimize spraying				LTS/NLTAE with additional mitigation BIO-6.4(b) (Note: no mowing proposed accept in test plots because of unacceptable impacts to birds)	BIO-6.4(b) - R-11 will not be used adjacent to channel to minimize any potential adverse affects on estuarine fish.

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Impact*	Applicable to site	Sub Area Included	Applicable Mitigations* (by Treatment Method used at site)						Comments/Analysis of Residual Impact at site	Additional Mitigation Required
			Back-pack	Truck	Boat	Mowing	Covering	Digging		
BIO-7: Effects on California red-legged frog and San Francisco garter snake.	NA/NE								NA/NE – Outside of known range of California red-legged frog and San Francisco garter snake.	None
BIO-8: Effects of regional invasive cordgrass eradication on mosquito production.	NA/NE								NA/NE – Site activities will not create additional mosquito habitat.	None
BIO-9: Effects on tiger beetle species.	NA/NE								NA/NE - no potential tiger beetle habitat will be affected.	None
AQ-1: Dust Emissions.	A	All sub-areas	AQ-1	AQ-1	AQ-1	AQ-1	AQ-1	AQ-1	NA/NE - access levees and roads are paved.	None
AQ-2: Smoke Emissions.	NA/NE								NA/NE – No burning proposed.	None
AQ-3: Herbicide Effects on Air Quality.	NA/NE								NA/NE - No aerial applications proposed	None
AQ-4: Ozone Precursor Emissions.	NA/NE								LTS/NLTAE without mitigation.	None
AQ-5: Carbon Monoxide (CO) Emissions.	NA/NE								LTS/NLTAE without mitigation.	None
N-1: Disturbance of Sensitive Receptors	A	All sub-areas	N-1	N-1	N-1	N-1			LTS/NLTAE - Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
HS-1: Worker Injury from Accidents Associated with Manual and Mechanical Cordgrass Treatment.	A	12a, 12b, 12i				HS-1	HS-1	HS-1	LTS/NLTAE - Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None

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Impact*	Applicable to site	Sub Area Included	Applicable Mitigations* (by Treatment Method used at site)						Comments/Analysis of Residual Impact at site	Additional Mitigation Required
			Back-pack	Truck	Boat	Mowing	Covering	Digging		
HS-2: Worker Health Effects from Herbicide Application.	A	All sub-areas	HS-2	HS-2	HS-2				LTS/NLTAE - Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
HS-3: Health Effects to the Public from Herbicide Application.	A	All sub-areas	HS-3	HS-3	HS-3				LTS/NLTAE - Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
HS-4: Health effects to workers or the public from accidents associated with treatment.	A	All Sub-Areas	HS-4	HS-4	HS-4	HS-4	HS-4	HS-4	LTS/NLTAE - Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
VIS-1: Alteration of Views from Removal of Non-native Cordgrass Infestations.	A	All Sub-areas	VIS-1	VIS-1	VIS-1	VIS-1	VIS-1	VIS-1	SU - Impacts addressed in EIS/R and CEQA findings. Site conditions consistent with those anticipated in the PEIS/R.	None
VIS-2: Change in Views from Native Marsh, Mudflat, and Open Water to Non-native Cordgrass Meadows and Monocultures.	NA/NE								NA/NE - Applies only to PEIS/R Alternative 3 (No Action)	None
LU-1: Land Use Conflicts Between Herbicide Use and Sensitive Receptors	A	All sub-areas	LU-1	LU-1	LU-1				LTS/NLTAE - Limited to less than significant by HS, N and AQ mitigations.	None

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Impact*	Applicable to site	Sub Area Included	Applicable Mitigations* (by Treatment Method used at site)						Comments/Analysis of Residual Impact at site	Additional Mitigation Required
			Back-pack	Truck	Boat	Mowing	Covering	Digging		
LU-2: Land Use Conflicts from Mechanical and Burning Treatment Methods	NA/NE								NA/NE - Methods not proposed for site	None
CUL-1: Disturbance or Destruction of Cultural Resources from Access and Treatment.	A	All Sub-Areas	CUL-1			CUL-1	CUL-1	CUL-1	LTS/NLTAE - Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
CUL-2: Loss of Cultural Resources from Erosion.	NA/NE								NA/NE - No erosion-producing activities proposed	None
CUM-1: Effects of wetland restoration projects on spread of non-native cordgrass	NA/NE								NA/NE - No restoration projects with the potential to spread Spartina proposed within this Complex during the proposed treatment schedule	None
CUM-2: Cumulative damage to marsh plain vegetation	NA/NE								NA/NE - No Mosquito Abatement Districts working on this site	None

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SITE-SPECIFIC PROJECT MITIGATION

Site Name: Southeast San Francisco Complex TSN: ISP-2004-12

*Impact**	*Applicable Mitigation & Conservation Measures**	*Sub Area Included*	*Back-pack*	*Truck*	*Boat*	*Mowing*	*Covering*	*Digging*	*Implementation Timing*	*Verification Signatures*	
										Implementing Entity	*ISP Field Supervisor*
WQ-1: Degradation of Water Quality due to Herbicide Application	Apply herbicide directly to plant at low tide and according to label. (WQ-1; CM-3, 4)	All sub-areas	X	X	X				During treatment		
WQ-2: Degradation of Water Quality due to Herbicide Spills	Apply under supervision of trained applicator (WQ-2; CM-3)	All sub-areas	X	X	X				During treatment		
	Implement spill and containment plan provided or approved by ISP (WQ-2; CM-17)	All sub-areas	X	X	X				During treatment		
WQ-3: Degradation of Water Quality due to Fuel or Petroleum Spills	Implement spill and containment plan provided or approved by ISP (WQ-3; CM-17)	All sub-areas	X	X	X	X			During treatment		
BIO-1.2: Effects on tidal marsh plant communities affected by Atlantic smooth cordgrass and its hybrids.	Minimize entry and re-entry into marsh (BIO-1.2; CM-1)	All Sub-Areas	X	X	X	X	X	X	During treatment		
	Avoid staging in high, dense vegetation such as gumplant or pickle-weed (FWS GL)	All Sub-Areas	X	X	X	X	X	X	During treatment		
	Avoid herbicide application to non-target vegetation adjacent to treatment area (BIO-1.2; CM-3, 4)	Sub-Areas 12c, 12d, 12e, 12f	X	X	X				During treatment		

*Impact numbering from ISP Control Program Programmatic EIS/R, September 2003.
Mitigations are from corresponding numbered mitigation in the same document,
CM - Conservation Measures as defined by USFWS Biological Opinions (general and site-specific)

Impact*	Applicable Mitigation & Conservation Measures*	Sub Area Included	Back-pack	Truck	Boat	Mowing	Covering	Digging	Implementation Timing	Verification Signatures	
										Implementing Entity	ISP Field Supervisor
BIO-3: Effects on shorebirds, waterfowl & marshland birds.	Avoid working within 1,000 feet of occupied mudflats during peak Pacific Flyway stop-overs (BIO-3)	All Sub-Areas	X	X	X	X	X	X	During treatment		
	Occupy treatment area soon after high tide, before mudflats emerge (BIO-3)	All Sub-Areas	X	X	X	X	X	X	During treatment		
	Haze shorebirds to minimize potential direct contact with herbicide drift (BIO-3)	All Sub-Areas	X	X	X	X	X	X	During treatment		
BIO-5.3: Effects on tidal marsh song sparrow subspecies and the salt marsh common yellowthroat.	Report any SMSS and SCYE activity immediately to ISP Field Supervisor and in post-treatment report (BIO-5.3)	All Sub-Areas	X	X	X	X	X	X	During and post-treatment		
	Avoid spraying or removing Grindelia plants in the marsh (BIO-5.3)	All Sub-Areas	X	X	X	X	X	X	During treatment		
	Watch for Song Sparrow presence in the work area during early season treatment work (pre-August), especially in the smaller, upper reaches of channels (BIO-5.3)	All Sub-Areas	X	X	X	X	X	X	During treatment		
BIO-6.1: Effects on anadromous salmonids (winter-run and spring-run Chinook salmon, steelhead).	Target herbicide applications to minimize herbicide use near channel (BIO-6.1).	All sub-areas	X	X	X				During treatment		

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Mitigations are from corresponding numbered mitigation in the same document,
CM - Conservation Measures as defined by USFWS Biological Opinions (general and site-specific)

*Impact**	*Applicable Mitigation & Conservation Measures**	*Sub Area Included*	*Back-pack*	*Truck*	*Boat*	*Mowing*	*Covering*	*Digging*	*Implementation Timing*	*Verification Signatures*	
										Implementing Entity	*ISP Field Supervisor*
	Avoid use of alkylphenol ethoxylate surfactants Dec 1 thru April 1 to avoid steelhead spawning. (BIO-6.1)	All sub-areas	X	X	X				During treatment		
BIO-6.4: Effects on estuarine fish populations of shallow submerged intertidal mudflats and channels.	Minimize spraying near intertidal mudflats and channels (BIO-6.4)	All sub-areas	X	X	X				During treatment		
	Avoid use of alkylphenol ethoxylate surfactants adjacent to channel to minimize any potential adverse affects on estuarine fish (BIO-6.4)	All sub-areas	X	X	X				During treatment		
AQ-1: Dust emissions	Limit speeds on dirt roads to 15 miles per hour (AQ-1)	All sub-areas	X	X	X	X	X	X	During treatment		
N-1: Disturbance of sensitive receptors	Comply with all local noise ordinances (N-1)	All sub-areas	X	X	X	X			During treatment		
HS-1: Worker Injury from accidents Associated with manual and mechanical Cordgrass treatment	Follow ISP approved site safety protocols or equivalent (HS-1; CM-3)	Sub-Areas 12a, 12b, 12f				X	X	X	During treatment		
HS-2: Worker Health Effects from Herbicide Application.	Follow handling and application procedures as identified on product label (HS-2; CM-3)	All sub-areas	X	X	X				During treatment		
HS-3: Health Effects to the Public from Herbicide Application.	Minimize drift according to ISP drift management plan or equivalent (HS-3; CM-3, 4)	All sub-areas	X	X	X				During treatment		

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Mitigations are from corresponding numbered mitigation in the same document,
CM - Conservation Measures as defined by USFWS Biological Opinions (general and site-specific)

*Impact**	*Applicable Mitigation & Conservation Measures**	*Sub Area Included*	*Back-pack*	*Truck*	*Boat*	*Mowing*	*Covering*	*Digging*	*Implementation Timing*	*Verification Signatures*	
										Implementing Entity	*ISP Field Supervisor*
	Post appropriate signage (see attached signage requirements) a minimum of 24 hours pre-treatment (HS-3)	All sub-areas	X	X	X				Pre-treatment		
	Avoid scheduling herbicide application near high public use areas during weekends or holidays, or close public access to area 24 hours before and after treatment (HS-3)	All sub-areas	X	X	X				Pre-treatment and during treatment		
HS-4: Health effects to workers or the public from accidents associated with treatment.	Maintain ISP or approved equivalent Site Safety and Spill Prevention plan on site (HS-4; CM-3, 4, 17)	All Sub-Areas	X	X	X	X	X	X	During treatment		
VIS-1: Alteration of Views from Removal of Non-native Cordgrass Infestations.	Post appropriate signage according to ISP signage protocols (VIS-1)	All Sub-Areas	X	X	X	X	X	X	Pre-treatment, during treatment, post-treatment		
CUL-1: Disturbance or Destruction of Cultural Resources from Access and Treatment.	Report all discovered prehistoric or historic resources to the ISP Field Supervisor and a qualified archeologist or historic resources consultant and suspend all work at site until archaeological mitigation has taken place (CUL-1)	All Sub-Areas	X			X	X	X	Pre-treatment and during treatment		

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Mitigations are from corresponding numbered mitigation in the same document,
CM - Conservation Measures as defined by USFWS Biological Opinions (general and site-specific)

*Impact**	*Applicable Mitigation & Conservation Measures**	*Sub Area Included*	*Back-pack*	*Truck*	*Boat*	*Mowing*	*Covering*	*Digging*	*Implementation Timing*	*Verification Signatures*	
										Implementing Entity	*ISP Field Supervisor*
CM-7: Invasive Species	Monitor cleared patches for recruitment of invasive plant species including perennial pepperweed until native vegetation has become dominant (CM-7)	All sub-areas	X	X	X	X	X	X	Post-treatment		

*Impact numbering from ISP Control Program Programmatic EIS/R, September 2003.
Mitigations are from corresponding numbered mitigation in the same document,
CM - Conservation Measures as defined by USFWS Biological Opinions (general and site-specific)

SITE-SPECIFIC PROJECT IMPACT EVALUATION

Site Name: Whale's Tail Complex TSN: ISP-2004-13

*Impact**	*Applicable to Site*	*Applicable Sub-Site*	*Applicable Mitigations* (by Treatment Method used at Site)*					*Applicable Mitigations* (by Treatment Method used at Site)*	*Additional Mitigation Required*
			Back-pack	*Truck*	*Amphibi-ous Ve-hicle*	*Aerial*	*Boat*		
GEO-1: Erosion or deposition of sediment at treatment site	NA/NE							NA/NE – Erosional rates will not exceed ambient levels.	None
GEO-2: Erosion or topographic change of marsh and mudflat by vehicles used in eradication	A	13a, 13b, 13c, 13d, 13e, 13f, 13g			GEO-2			LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
GEO-3: Remobilization of sand in cordgrass-stabilized estuarine beaches	NA/NE							NA/NE – Treatments will not increase mobility of estuarine beaches above ambient levels.	None
GEO-4: Increased demand for sediment disposal and potential spread of invasive cordgrass via sediment disposal.	NA/NE							NA/NE – Treatments will not involve the use of sediment removal techniques.	None
GEO-5: Increased volume and velocity of tidal currents in channels due to the removal of invasive cordgrass.	A	All Sub-Areas	GEO-5	GEO-5	GEO-5	GEO-5	GEO-5	No adverse impact (see EIS/R GEO-5 discussion). Site conditions consistent with those anticipated in the PEIS/R.	None

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*Impact**	*Applicable to Site*	*Applicable Sub-Site*	*Applicable Mitigations* (by Treatment Method used at Site)*					*Applicable Mitigations* (by Treatment Method used at Site)*	*Additional Mitigation Required*
			Back-pack	*Truck*	*Amphibi-ous Ve-hicle*	*Aerial*	*Boat*		
GEO-6: Increased depth and turbulence of tidewaters impounded in salt marsh pans.	A	All Sub-areas	GEO-6	GEO-6	GEO-6	GEO-6	GEO-6	No adverse impact (see EIS/R GEO-6 discussion). Site conditions consistent with those anticipated in the PEIS/R.	None
WQ-1: Degradation of water quality due to herbicide application	A	All Sub-Areas	WQ-1	WQ-1	WQ-1	WQ-1	WQ-1	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
WQ-2: Degradation of water quality due to herbicide spills	A	All Sub-Areas	WQ-2	WQ-2	WQ-2	WQ-2	WQ-2	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
WQ-3: Degradation of water quality due to fuel or petroleum spills	A	All Sub-Areas	WQ-3	WQ-3	WQ-3	WQ-3	WQ-3	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
WQ-4: Degradation of water quality due to contaminant remobilization	NA/NE							LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
WQ-5: Water quality effects resulting from sediment accretion	NA/NE							NA/NE – This impact only applies to EIS/R Alternative 3.	None

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*Impact**	*Applicable to Site*	*Applicable Sub-Site*	*Applicable Mitigations* (by Treatment Method used at Site)*					*Applicable Mitigations* (by Treatment Method used at Site)*	*Additional Mitigation Required*
			Back-pack	*Truck*	*Amphibi-ous Ve-hicle*	*Aerial*	*Boat*		
BIO-1.1: Effects on tidal marsh plant communities affected by salt-meadow cordgrass and English cordgrass.	NA/NE							NA/NE – Field surveys found no salt-meadow or English cordgrass at this site.	None
BIO-1.2: Effects on tidal marsh plant communities affected by Atlantic smooth cordgrass and its hybrids.	A	All Sub-Areas	BIO-1.2	BIO-1.2	BIO-1.2	BIO-1.2	BIO-1.2	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-1.3: Effects on tidal marsh plant communities affected by Chilean cordgrass.	NA/NE							NA/NE – Field surveys found no Chilean cordgrass at site.	None
BIO-1.4: Effects on submerged aquatic plant communities.	NA/NE							NA/NE – Field surveys found no eelgrass or other submerged aquatic plants at site.	None
BIO-2: Effects on special-status plants (Soft bird's beak and/or Suisun thistle) in tidal marshes	NA/NE							NA/NE - Field surveys found no special-status plant species at site.	None
BIO-3: Effects on shorebirds and waterfowl.	A	All Sub-Areas	BIO-3	BIO-3	BIO-3	BIO-3	BIO-3	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None

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Impact*	Applicable to Site	Applicable Sub-Site	Applicable Mitigations* (by Treatment Method used at Site)					Applicable Mitigations* (by Treatment Method used at Site)	Additional Mitigation Required
			Back-pack	Truck	Amphibi-ous Ve-hicle	Aerial	Boat		
BIO-4.1: Effects on the salt marsh harvest mouse and tidal marsh shrew species.	A	Sub-areas 13a, 13b, 13c, 13d, 13e, 13f, 13g			BIO-4.1			LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-4.2: Effects on resident harbor seal colonies of San Francisco Bay.	NA/NE							NA/NE - No harbor seal colonies at or near site.	None
BIO-4.3: Effects on the southern sea otter.	NA/NE							NA/NE – Outside of known range of southern sea otters.	None
BIO-5.1: Effects on California clapper rail.	A	All Sub-Areas	BIO-5.1	BIO-5.1	BIO-5.1	BIO-5.1	BIO-5.1	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-5.2: Effects on California black rail.	A	All Sub-Areas	BIO-5.2	BIO-5.2	BIO-5.2	BIO-5.2	BIO-5.2	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-5.3: Effects on tidal marsh song sparrow subspecies and the salt marsh common yellowthroat.	A	All Sub-Areas	BIO-5.3	BIO-5.3	BIO-5.3	BIO-5.3	BIO-5.3	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-5.4: Effects on California least terns and western snowy plovers.	A	13a, 13b, 13c, 13d, 13g	BIO-5.4	BIO-5.4	BIO-5.4	BIO-5.4	BIO-5.4	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None

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Impact*	Applicable to Site	Applicable Sub-Site	Applicable Mitigations* (by Treatment Method used at Site)					Applicable Mitigations* (by Treatment Method used at Site)	Additional Mitigation Required
			Back-pack	Truck	Amphibi-ous Ve-hicle	Aerial	Boat		
BIO-5.5: Effects on raptors (birds of prey).	A	All Sub-Areas				BIO-5.5		LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-6.1: Effects on anadromous salmonids (winter-run and spring-run Chinook salmon, steelhead).	A	All Sub-Areas	BIO-6.1	BIO-6.1	BIO-6.1	BIO-6.1	BIO-6.1	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-6.2: Effects on delta smelt and Sacramento splittail.	NA/NE							NA/NE – Outside of known delta smelt and Sacramento splittail range.	None
BIO-6.3: Effects on the tidewater goby.	NA/NE							NA/NE – Outside of known range of tidewater goby.	None
BIO-6.4: Effects on estuarine fish populations of shallow submerged intertidal mudflats and channels.	A	All Sub-Areas	BIO-6.4 – minimize spraying	BIO-6.4 – minimize spraying	BIO-6.4 – minimize spraying	BIO-6.4 – minimize spraying	BIO-6.4 – minimize spraying	LTS/NLTAE with additional mitigation BIO-6.4(b) (Note: no mowing proposed accept in test plots because of unacceptable impacts to birds)	BIO-6.4(b) - R-11 will not be used adjacent to channel to minimize any potential adverse affects on estuarine fish.
BIO-7: Effects on California red-legged frog and San Francisco garter snake.	NA/NE							NA/NE – Outside of known range of California red-legged frog and San Francisco garter snake.	None

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Impact*	Applicable to Site	Applicable Sub-Site	Applicable Mitigations* (by Treatment Method used at Site)					Applicable Mitigations* (by Treatment Method used at Site)	Additional Mitigation Required
			Back-pack	Truck	Amphibi-ous Ve-hicle	Aerial	Boat		
BIO-8: Effects of regional invasive cordgrass eradication on mosquito production.	A	Sub areas 13a, 13b, 13c, 13d, 13e, 13f, 13g			BIO-8			NA/NE – Site activities will not create additional mosquito habitat.	None
BIO-9: Effects on tiger beetle species.	NA/NE							NA/NE - No potential tiger beetle habitat will be affected.	None
AQ-1: Dust emissions.	A	All Sub-Areas	AQ-1	AQ-1	AQ-1	AQ-1	AQ-1	LTS/NLTAE - Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
AQ-2: Smoke emissions.	NA/NE							NA/NE – No burning proposed.	None
AQ-3: Herbicide effects on air quality.	A	All Sub-Areas				AQ-3		LTS/NLTAE - Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
AQ-4: Ozone precursor emissions.	NA/NE							LTS/NLTAE without mitigation.	None
AQ-5: Carbon monoxide (CO) emissions.	NA/NE							LTS/NLTAE without mitigation.	None
N-1: Disturbance of sensitive receptors	A	All Sub-Areas	N-1	N-1	N-1	N-1	N-1	LTS/NLTAE - Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R	None

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*Impact**	*Applicable to Site*	*Applicable Sub-Site*	*Applicable Mitigations* (by Treatment Method used at Site)*					*Applicable Mitigations* (by Treatment Method used at Site)*	*Additional Mitigation Required*
			Back-pack	*Truck*	*Amphibi-ous Ve-hicle*	*Aerial*	*Boat*		
HS-1: Worker Injury from accidents associated with manual and mechanical cordgrass treatment.	NA/NE							LTS/NLTAE - Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
HS-2: Worker health effects from herbicide application.	A	All Sub-Areas	HS-2	HS-2	HS-2	HS-2	HS-2	LTS/NLTAE - Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
HS-3: Health effects to the public from herbicide application.	A	All Sub-Areas	HS-3	HS-3	HS-3	HS-3	HS-3	LTS/NLTAE - Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
HS-4: Health effects to workers or the public from accidents associated with treatment.	A	All Sub-Areas	HS-4	HS-4	HS-4	HS-4	HS-4	LTS/NLTAE - Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
VIS-1: Alteration of views from removal of non-native cordgrass infestations.	A	All Sub-Areas	VIS-1	VIS-1	VIS-1	VIS-1	VIS-1	SU - Impacts addressed in EIS/R and CEQA findings. Site conditions consistent with those anticipated in the PEIS/R.	None
VIS-2: Change in views from native marsh, mudflat, and open water to non-native cordgrass meadows and monocultures.	NA/NE							NA/NE - Applies only to PEIS/R Alternative 3 (No Action)	None

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*Impact**	*Applicable to Site*	*Applicable Sub-Site*	*Applicable Mitigations* (by Treatment Method used at Site)*					*Applicable Mitigations* (by Treatment Method used at Site)*	*Additional Mitigation Required*
			Back-pack	*Truck*	*Amphibi-ous Ve-hicle*	*Aerial*	*Boat*		
LU-1: Land use conflicts between herbicide use and sensitive receptors	A	All Sub-Areas	LU-1	LU-1	LU-1	LU-1	LU-1	LTS/NLTAE – Limited to less than significant by HS, N and AQ mitigations.	None
LU-2: Land use conflicts from mechanical and burning treatment meth-ods	NA/NE							LTS/NLTAE - Limited to less than significant AQ mitiga-tions.	None
CUL-1: Disturbance or destruction of cultural re-sources from access and treatment.	A	Sub-areas 13a, 13b, 13c, 13d, 13e, 13f			CUl-1			LTS/NLTAE - Potential im-pacts mitigated to less than significant. Site conditions consistent with those antici-pated in the PEIS/R.	None
CUL-2: Loss of cultural resources from erosion.	NA/NE							NA/NE – No erosion-producing activities pro-posed	None
CUM-1: Effects of wetland restoration projects on spread of non-native cordgrass	A	All Sub-Areas	CUM-1	CUM-1	CUM-1	CUM-1	CUM-1	Potentially Significant-ISP will attempt coordination of control work at site with the South Bay Salt Ponds Res-toration Project.	None
CUM-2: Cumulative dam-age to marsh plain vege-tation	A	All-Sub-Areas	CUM-2	CUM-2	CUM-2	CUM-2	CUM-2	LTS/NLTAE - Without miti-gation.	None
CM-7: Post-treatment invasion by invasive spe-cies	A	All Sub-Areas	CM-7	CM-7	CM-7	CM-7	CM-7	LTS/NLTAE - Potential im-pacts mitigated to less than significant.	None

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SITE-SPECIFIC PROJECT MITIGATION

Site Name: Whale's Tail Complex, Alameda County TSN: ISP-2004-13

*Impact**	*Applicable Mitigation & Conservation Measures (source**)*	*Back-pack*	*Truck*	*Amphibi-ous Ve-hicle*	*Boat*	*Aerial*	*Implementation Timing*	*Verification Signatures*	
								Implementing Entity	*ISP Field Supervisor*
GEO-2: Erosion or topographic change of marsh and mudflat by vehicles used in eradication	Minimize vehicle use in marsh (GEO-2; CM-1)			X			During treatment		
GEO-4: Increased demand for sediment disposal and potential spread of invasive cordgrass via sedi-ment disposal.	Spoils from Aquamog treatment work will be disposed of off site on levee tops or other up-land, non-aquatic areas to dessicate and die (GEO-4)						During treatment		
WQ-1: Degradation of water quality due to herbicide application	Apply herbicide directly to plant at low tide and according to label. (WQ-1; CM-3 & 4)	X	X	X	X	X	During treatment		
WQ-2: Degradation of water quality due to herbicide spills	Apply under supervision of trained applicator (WQ-2;CM-3)	X	X	X	X	X	During treatment		
	Implement spill and containment plan pro-vided by contractor and approved by WRA (WQ-2;CM-17)	X	X	X	X	X	During treatment		
WQ-3: Degradation of water quality due to fuel or petroleum spills	Implement spill and containment plan pro-vided by contractor and approved by WRA (WQ-3;CM-17).	X	X	X	X	X	During treatment		

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**Mitigations and control measures include ISP Programmatic EIS/R mitigations (e.g., BIO-1.2), U.S. FWS general biological opinion conservation measures (e.g., CM-3), U.S. FWS site-specific biological opinion conservation measures (e.g., SSCM-3), recommendations from U.S. FWS guidance letters (e.g., FWS GL), and California Department of Fish and Game recommendations (e.g., DFG).

*Impact**	*Applicable Mitigation & Conservation Measures (source**)*	*Back-pack*	*Truck*	*Amphibi-ous Ve-hicle*	*Boat*	*Aerial*	*Implementation Timing*	*Verification Signatures*	
								Implementing Entity	*ISP Field Supervisor*
WQ-4: Degradation of water quality due to contaminant remobili-zation									
BIO-1.2: Effects on tidal marsh plant communities affected by Atlantic smooth cordgrass and its hybrids.	Minimize entry and re-entry into marsh (BIO-1.2;CM-1)	X	X	X	X	X	During treatment		
	Avoid staging in high, dense vegetation such as gumplant or pickle-weed (FWS GL)	X	X	X	X	X	During treatment		
	Place mats or other protectors beneath heavy equipment oper-ating in sensitive high marsh vegetation, es-pecially gumplant (BIO-1.2)			X			During treatment		
	Avoid herbicide applica-tion to non-target vege-tation adjacent to treat-ment area. (BIO-1.2;CM-3,4)	X	X	X	X	X	During treatment		
BIO-3: Effects on shorebirds, waterfowl & marshland birds.	Avoid working within 1,000 feet of occupied mudflats during peak Pacific Flyway stop-overs. (BIO-3)	X	X	X	X	X	During treatment		
	Occupy treatment area soon after high tide, before mudflats emerge. (BIO-3)	X	X	X	X	X	During treatment		

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*Impact**	*Applicable Mitigation & Conservation Measures (source**)*	*Back-pack*	*Truck*	*Amphibi-ous Ve-hicle*	*Boat*	*Aerial*	*Implementation Timing*	*Verification Signatures*	
								Implementing Entity	*ISP Field Supervisor*
	Haze shorebirds to minimize potential direct contact with herbicide drift. (BIO-3)	X	X	X	X	X	During treatment		
BIO-4.1: Effects on the salt marsh harvest mouse and tidal marsh shrew species.	Use shortest possible access route through any pickleweed habitat. Flag areas of repeated access (BIO-4.1;CM-15)	X	X	X	X				
	Use protective mats or other covering over pickleweed in areas or repeated access (BIO-4.1;CM-15)			X					
	Assume presence of SMHM on all suitable sites (CM 14)	X	X	X	X	X			
	Whenever possible, schedule work after mass mortality events caused by extreme high tides (CM 16).	X	X	X	X	X			
BIO-5.1: Effects on California clapper rail.	For work within the Clapper Rail breeding season, call counts will be performed prior to application of herbicide according to FWS protocols (CM-18)					X	Pre-treatment		
	Provide CLRA Field biologist supervision. (BIO-5.1)	X	X	X	X	X	During treatment		

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*Impact**	*Applicable Mitigation & Conservation Measures (source**)*	*Back-pack*	*Truck*	*Amphibi-ous Ve-hicle*	*Boat*	*Aerial*	*Implementation Timing*	*Verification Signatures*	
								Implementing Entity	*ISP Field Supervisor*
	Assure that field personnel are trained in general CLRA biology and CLRA identification and call detection. (BIO-5.1)	X	X	X	X	X	Pre-treatment and during treatment		
	Report any CLRA activity immediately to the on-site field biologist and in post-treatment report (BIO-5.1)	X	X	X	X	X	During and post-treatment		
BIO-5.3: Effects on tidal marsh song sparrow subspecies and the salt marsh common yellowthroat.	Report any SMSS and SCYE activity immediately to ISP Field Supervisor and in post-treatment report (BIO-5.3)	X	X	X	X	X	During treatment		
	Avoid spraying or removing Grindelia plants in the marsh	X	X	X	X	X	During treatment		
	Watch for Song Sparrow presence in the work area during early season treatment work (pre-August), especially in the smaller, upper reaches of channels.	X	X	X	X	X	During and post-treatment		
BIO-5.4: Effects on California least terns and western snowy plovers.	Survey access levees for nesting CALT and WSPL prior to entry (BIO-5.4;CM-20)	X	X	X	X	X	Pre-treatment		

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*Impact**	*Applicable Mitigation & Conservation Measures (source**)*	*Back-pack*	*Truck*	*Amphibi-ous Ve-hicle*	*Boat*	*Aerial*	*Implementation Timing*	*Verification Signatures*	
								Implementing Entity	*ISP Field Supervisor*
	Report any CALT and WSPL activity immediately to on-site field biologist and in post-treatment report (BIO-5.4)	X	X	X	X	X	During and post-treatment		
BIO-5.5:Effects on raptors (birds of prey)	Identified nests shall be provided a buffer of 500 feet during spray operations. (BIO-5.5)					X	During treatment		
BIO-6.1: Effects on anadromous salmonids (winter-run and spring-run Chinook salmon, steelhead).	Target herbicide applications to minimize herbicide use near channel. (BIO-6.1)	X	X	X	X	X	During treatment		
	Avoid use of alylphenol ethoxylate surfactants Dec 1 thru April 1 to avoid steelhead spawning. (BIO-6.1)	X	X	X	X	X	During treatment		
BIO-6.4: Effects on estuarine fish populations of shallow submerged intertidal mudflats and channels.	Bio-6.4 – minimize spraying near intertidal mudflats and channels (BIO-6.4)	X	X	X	X	X	During treatment		
	Avoid use of alylphenol ethoxylate surfactants adjacent to channel to minimize any potential adverse affects on estuarine fish. (BIO-6.4)	X	X	X	X	X	During treatment		
BIO-8: Effects of regional invasive cordgrass eradication on mosquito production.	Monitor treatment activities for development of un-drained depressions in marsh, backfill or incised to drain impounded water (BIO-8)			X			During treatment		

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*Impact**	*Applicable Mitigation & Conservation Measures (source**)*	*Back-pack*	*Truck*	*Amphibi-ous Ve-hicle*	*Boat*	*Aerial*	*Implementation Timing*	*Verification Signatures*	
								Implementing Entity	*ISP Field Supervisor*
AQ-1: Dust emissions	Suspend activities when winds are too great to prevent visible dust clouds from affecting sensitive receptors (i.e., houses, schools, hospi-tals). (AQ-1)	X	X	X	X	X	During treatment		
	Limit traffic speeds on any dirt access roads to 15 miles per hour. (AQ-1)	X	X	X	X	X	During treatment		
AQ-3: Herbicide ef-fects on air quality	Implement ISP Drift Management plan for aerial applications of herbicide (AQ-3;CM-3,4)					X	During treatment		
N-1: Disturbance of sensitive receptors	Comply with local noise ordinances (N-1)	X	X	X	X	X	During treatment		
HS-1: Worker Injury from accidents asso-ciated with manual and mechanical Cordgrass treatment.	Appropriate safety pro-cedures and equipment shall be used by work-ers to minimize risks associated with manual and mechanical treat-ment methods (HS-1)						During treatment		
HS-2: Worker health effects from herbicide application.	Follow handling and application procedures as identified on product label. (HS-2; CM-3)	X	X	X	X	X	During treatment		
HS-3: Health effects to the public from herbicide application.	Minimize drift according to drift management plan provided by con-tractor and approved by WRA. (HS-3;CM-3,4)	X	X	X	X	X	During treatment		

* Impact numbering from ISP Programmatic EIS/R, September 2003.

**Mitigations and control measures include ISP Programmatic EIS/R mitigations (e.g., BIO-1.2), U.S. FWS general biological opinion conservation measures (e.g., CM-3), U.S. FWS site-specific biological opinion conservation measures (e.g., SSCM-3), recommendations from U.S. FWS guidance letters (e.g., FWS GL), and California Department of Fish and Game recommendations (e.g., DFG).

*Impact**	*Applicable Mitigation & Conservation Measures (source**)*	*Back-pack*	*Truck*	*Amphibi-ous Ve-hicle*	*Boat*	*Aerial*	*Implementation Timing*	*Verification Signatures*	
								Implementing Entity	*ISP Field Supervisor*
	Post appropriate sign-age within 24 hours of a treatment (HS-3;CM-3)	X	X	X	X	X	Pre-treatment		
	Avoid scheduling herbi-cide application near high public use areas during weekends or holidays, or close public access to area 24 hours before and after treat-ment. (HS-3;CM-3)	X	X	X	X	X	Pre-treatment and during treatment		
HS-4: Health effects to workers or the pub-lic from accidents associated with treat-ment.	Maintain Site Safety and Spill Prevention plan on site. (HS-4)	X	X	X	X	X	During treatment		
VIS-1: Alteration of views from removal of non-native Cordgrass Infestations.	Post appropriate sign-age according to ISP signage protocols. (VIS-1)	X	X	X	X	X	Pre-treatment, dur-ing treatment, post-treatment		
CUL-1: Disturbance or destruction of cul-tural resources from access and treat-ment.	Conduct Phase 1 re-cords search of historic resources on site (CUL-1)			X			Pre-treatment		
CUM-1: Effects of wetland restoration projects on spread of non-native cordgrass.	As approved by USFWS and required in RWQCB, BCDC, and Corps of Engineers permits, control of inva-sive cordgrass will con-tinue at the project site until native vegetation has become estab-lished.	X	X	X	X	X	Pre-treatment and during treatment		

* Impact numbering from ISP Programmatic EIS/R, September 2003.

**Mitigations and control measures include ISP Programmatic EIS/R mitigations (e.g., BIO-1.2), U.S. FWS general biological opinion conservation measures (e.g., CM-3), U.S. FWS site-specific biological opinion conservation measures (e.g., SSCM-3), recommendations from U.S. FWS guidance letters (e.g., FWS GL), and California Department of Fish and Game recommendations (e.g., DFG).

*Impact**	*Applicable Mitigation & Conservation Measures (source**)*	*Back-pack*	*Truck*	*Amphibi-ous Ve-hicle*	*Boat*	*Aerial*	*Implementation Timing*	*Verification Signatures*	
								Implementing Entity	*ISP Field Supervisor*
CM-7: Invasive species	Monitor cleared patches for recruitment of invasive plant species including perennial pepperweed until native vegetation has become dominant (CM-7)	X	X	X	X	X	Post-treatment		

* Impact numbering from ISP Programmatic EIS/R, September 2003.

**Mitigations and control measures include ISP Programmatic EIS/R mitigations (e.g., BIO-1.2), U.S. FWS general biological opinion conservation measures (e.g., CM-3), U.S. FWS site-specific biological opinion conservation measures (e.g., SSCM-3), recommendations from U.S. FWS guidance letters (e.g., FWS GL), and California Department of Fish and Game recommendations (e.g., DFG).

SITE-SPECIFIC PROJECT IMPACT EVALUATION

Site Name: South San Francisco Bay Tidelands, Santa Clara County TSN: ISP-2004-15

*Impact**	*Appli-cable to Site*	*Applica-ble to sub-areas*	*Applicable Mitigations* (by treatment method used at Site)*					*Comments/Analysis of Residual Impact at Site*	*Additional Mitigation Required*
			Backpack	*Truck*	*Boat*	*Amphibious vehicles*	*Aerial*		
GEO-1: Erosion or deposition of sediment at treatment site	NA/NE							NA/NE – Proposed activities are not ground disturbing and will not elevate erosion above ambient levels.	None
GEO-2: Erosion or topographic change of marsh and mudflat by vehicles used in eradication	NA/NE							NA/NE – No equipment will be working on marsh or mudflat surfaces	None
GEO-3: Remobilization of sand in cordgrass-stabilized estuarine beaches	NA/NE							NA/NE – Proposed activities will not take place within an estuarine beach.	None
GEO-4: Increased demand for sediment disposal and potential spread of invasive cordgrass via sediment disposal.	NA/NE							NA/NE – No dredging/sediment disposal proposed	None
GEO-5: Increased volume and velocity of tidal currents in channels due to the removal of invasive cordgrass.	NA/NE							NA/NE – No adverse impact (see EIS/R GEO-5 discussion). Site conditions consistent with those anticipated in the PEIS/R.	None
GEO-6: Increased depth and turbulence of tidewaters impounded in salt marsh pans.	NA/NE							NA/NE – Proposed activities will not take place within salt marsh pans.	None

Key: * Impact and mitigation numbering from ISP Control Program Programmatic EIS/R, September 2003
NA/NE – Not Applicable/No Effect
LTS/NLTAE – Less Than Significant impact/Not Likely to Adversely Effect
SU – Significant but unmitigable impact
USFWS BO – US Fish & Wildlife Service Biological Opinion

*Impact**	*Applicable to Site*	*Applicable to sub-areas*	*Applicable Mitigations* (by treatment method used at Site)*					*Comments/Analysis of Residual Impact at Site*	*Additional Mitigation Required*
			Backpack	*Truck*	*Boat*	*Amphibious vehicles*	*Aerial*		
WQ-1: Degradation of water quality due to herbicide application	A	All Sub-areas	WQ-1	WQ-1	WQ-1	WQ-1	WQ-1	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
WQ-2: Degradation of water quality due to herbicide spills	A	All Sub-areas	WQ-2	WQ-1	WQ-1	WQ-1	WQ-1	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
WQ-3: Degradation of water quality due to fuel or petroleum spills	A	All Sub-areas	WQ-3	WQ-1	WQ-1	WQ-1	WQ-1	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
WQ-4: Degradation of water quality due to contaminant remobilization	NA/NE							NA/NE – No dredging or other sediment-mobilizing activities proposed.	None
WQ-5: Water quality effects resulting from sediment accretion	NA/NE							NA/NE – This impact only applies to EIS/R Alternative 3.	None
BIO-1.1: Effects on tidal marsh plant communities affected by salt-meadow cordgrass and English cordgrass.	NA/NE							NA/NE – Field surveys found no salt-meadow or English cordgrass at this site.	None

Key: * Impact and mitigation numbering from ISP Control Program Programmatic EIS/R, September 2003
NA/NE – Not Applicable/No Effect
LTS/NLTAE – Less Than Significant impact/Not Likely to Adversely Effect
SU – Significant but unmitigable impact
USFWS BO – US Fish & Wildlife Service Biological Opinion

*Impact**	*Appli-cable to Site*	*Applica-ble to sub-areas*	*Applicable Mitigations* (by treatment method used at Site)*					*Comments/Analysis of Residual Impact at Site*	*Additional Mitigation Required*
			Backpack	*Truck*	*Boat*	*Amphibious vehicles*	*Aerial*		
BIO-1.2: Effects on tidal marsh plant communities affected by Atlantic smooth cordgrass and its hybrids.	A	All Sub-areas	BIO-1.2	BIO-1.2	BIO-1.2	BIO-1.2	BIO-1.2	LTS/NLTAE – Potential impacts mitigated to less than significant. Site con-ditions consistent with those anticipated in the PEIS/R.	None
BIO-1.3: Effects on tidal marsh plant communities affected by Chilean cordgrass.	NA/NE							NA/NE – Field surveys found no Chilean cordgrass at site.	None
BIO-1.4: Effects on submerged aquatic plant communities.	NA/NE							NA/NE – Field surveys found no eelgrass or other submerged aquatic plants at site.	None
BIO-2: Effects on special-status plants (Soft bird's beak and/or Suisun thistle) in tidal marshes	NA/NE							NA/NE – Field surveys found no special-status plant species at site.	None
BIO-3: Effects on shorebirds and waterfowl.	A	All Sub-areas	BIO-3	BIO-3	BIO-3	BIO-3	BIO-3	LTS/NLTAE – Potential impacts mitigated to less than significant. Site con-ditions consistent with those anticipated in the PEIS/R.	None
BIO-4.1: Effects on the salt marsh harvest mouse and tidal marsh shrew species.	A	Sub-areas 15a and 15c				BIO-4.1 as modified by USFWS BO		LTS/NLTAE – Potential impacts mitigated to less than significant. Site con-ditions consistent with those anticipated in the PEIS/R.	None

Key: * Impact and mitigation numbering from ISP Control Program Programmatic EIS/R, September 2003
NA/NE – Not Applicable/No Effect
LTS/NLTAE – Less Than Significant impact/Not Likely to Adversely Effect
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USFWS BO – US Fish & Wildlife Service Biological Opinion

*Impact**	*Applicable to Site*	*Applicable to sub-areas*	*Applicable Mitigations* (by treatment method used at Site)*					*Comments/Analysis of Residual Impact at Site*	*Additional Mitigation Required*
			Backpack	*Truck*	*Boat*	*Amphibious vehicles*	*Aerial*		
BIO-4.2: Effects on resident harbor seal colonies of San Francisco Bay.	A	Sub area 12a	BIO-4.2	BIO-4.2	BIO-4.2	BIO-4.2	BIO-4.2	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-4.3: Effects on the southern sea otter.	NA/NE							NA/NE – Outside of known range of southern sea otters.	None
BIO-5.1: Effects on California clapper rail.	A	All Sub-areas	BIO-5.1 as modified by UFSWS BO	BIO-5.1 as modified by UFSWS BO	BIO-5.1 as modified by UFSWS BO	BIO-5.1 as modified by UFSWS BO	BIO-5.1 as modified by UFSWS BO	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-5.2: Effects on California black rail.	NA/NE							NA/NE – Outside of known range black rails.	None
BIO-5.3: Effects on tidal marsh song sparrow subspecies and the salt marsh common yellowthroat.	A	All Sub-areas	BIO-5.3	BIO-5.3	BIO-5.3	BIO-5.3	BIO-5.3	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-5.4: Effects on California least terns and western snowy plovers.	A	All Sub-areas	BIO-5.4 as modified by UFSWS BO	BIO-5.4 as modified by UFSWS BO	BIO-5.4 as modified by UFSWS BO	BIO-5.4 as modified by UFSWS BO	BIO-5.4 as modified by UFSWS BO	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None

Key: * Impact and mitigation numbering from ISP Control Program Programmatic EIS/R, September 2003
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LTS/NLTAE – Less Than Significant impact/Not Likely to Adversely Effect
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*Impact**	*Appli-cable to Site*	*Applica-ble to sub-areas*	*Applicable Mitigations* (by treatment method used at Site)*					*Comments/Analysis of Residual Impact at Site*	*Additional Mitigation Required*
			Backpack	*Truck*	*Boat*	*Amphibious vehicles*	*Aerial*		
BIO-5.5: Effects on raptors (birds of prey).	NA/NE							NA/NE – No aerial applications proposed for this site.	None
BIO-6.1: Effects on anadromous salmonids (winter-run and spring-run Chinook salmon, steelhead).	A	All sub-areas	BIO-6.1	BIO-6.1	BIO-6.1	BIO-6.1	BIO-6.1	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	
BIO-6.2: Effects on delta smelt and Sacramento splittail.	NA/NE							NA/NE – Outside of known delta smelt and Sacramento splittail range.	None
BIO-6.3: Effects on the tidewater goby.	NA/NE							NA/NE – Outside of known range of tidewater goby.	None
BIO-6.4: Effects on estuarine fish populations of shallow submerged intertidal mudflats and channels.	A	All Sub-areas	BIO-6.4 – minimize spraying	BIO-6.4 – minimize spraying	BIO-6.4 – minimize spraying	BIO-6.4 – minimize spraying	BIO-6.4 – minimize spraying	LTS/NLTAE with additional mitigation BIO-6.4(b)	BIO-6.4(b) - R-11 will not be used adjacent to channel to minimize any potential adverse affects on estuarine fish.
BIO-7: Effects on California red-legged frog and San Francisco garter snake.	NA/NE							NA/NE – Outside of known range of California red-legged frog and San Francisco garter snake.	None

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*Impact**	*Applicable to Site*	*Applicable to sub-areas*	*Applicable Mitigations* (by treatment method used at Site)*					*Comments/Analysis of Residual Impact at Site*	*Additional Mitigation Required*
			Backpack	*Truck*	*Boat*	*Amphibious vehicles*	*Aerial*		
BIO-8: Effects of regional invasive cordgrass eradication on mosquito production.	NA/NE							NA/NE – Site activities will not create additional mosquito habitat.	None
BIO-9: Effects on tiger beetle species.	NA/NE							NA/NE – No potential tiger beetle habitat will be affected.	None
AQ-1: Dust Emissions.	A	Sub areas 15a, 15c		AQ-1				LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
AQ-2: Smoke Emissions.	NA/NE							NA/NE – No burning proposed.	None
AQ-3: Herbicide Effects on Air Quality.	NA/NE							NA/NE – No aerial applications proposed	None
AQ-4: Ozone Precursor Emissions.	NA/NE							LTS/NLTAE without mitigation.	None
AQ-5: Carbon Monoxide (CO) Emissions.	NA/NE							LTS/NLTAE without mitigation.	None
N-1: Disturbance of Sensitive Receptors	A	All Sub-areas	N-1	N-1	N-1	N-1	N-1	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
HS-1: Worker Injury from Accidents Associated with Manual and Mechanical Cordgrass Treatment.	NA/NE							NA/NE – No manual or mechanical removal proposed.	None

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*Impact**	*Appli-cable to Site*	*Applica-ble to sub-areas*	*Applicable Mitigations* (by treatment method used at Site)*					*Comments/Analysis of Residual Impact at Site*	*Additional Mitigation Required*
			Backpack	*Truck*	*Boat*	*Amphibious vehicles*	*Aerial*		
HS-2: Worker Health Effects from Herbicide Application.	A	All Sub-	HS-2	HS-2	HS-2	HS-2	HS-2	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
HS-3: Health Effects to the Public from Herbicide Application.	A	All Sub-areas	HS-3	HS-3	HS-3	HS-3	HS-3	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
HS-4: Health effects to workers or the public from accidents associated with treatment.	A	All Sub-areas	HS-4	HS-4	HS-4	HS-4	HS-4	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
VIS-1: Alteration of views from removal of non-native cordgrass Infestations.	A	All Sub-areas	VIS-1	VIS-1	VIS-1	VIS-1	VIS-1	SU – Impacts addressed in EIS/R and CEQA findings. Site conditions consistent with those anticipated in the PEIS/R.	None
VIS-2: Change in views from native marsh, mudflat, and open water to non-native cordgrass meadows and monocultures.	NA/NE							NA/NE – Applies only to PEIS/R Alternative 3 (No Action)	None
LU-1: Land use conflicts between herbicide use and sensitive receptors	A	All Sub-areas	LU-1	LU-1	LU-1	LU-1	LU-1	LTS/NLTAE – Limited to less than significant by HS, N and AQ mitigations.	None

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*Impact**	*Applicable to Site*	*Applicable to sub-areas*	*Applicable Mitigations* (by treatment method used at Site)*					*Comments/Analysis of Residual Impact at Site*	*Additional Mitigation Required*
			Backpack	*Truck*	*Boat*	*Amphibious vehicles*	*Aerial*		
LU-2: Land use conflicts from mechanical and burning treatment methods	NA/NE							NA/NE – Methods not proposed for site	None
CUL-1: Disturbance or destruction of cultural resources from access and treatment.	A		CUL-1					LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
CUL-2: Loss of cultural resources from erosion.	NA/NE							NA/NE – No erosion-producing activities proposed	None
CUM-1- Effects of wetland restoration projects on spread of non-native cordgrass.	A		CUM-1					Potentially Significant – ISP and SCVWD will coordinate control work at site with the South Bay Salt Ponds Restoration Project.	None
CUM-2- Cumulative damage to marsh plain vegetation	NA/NE							NA/NE – No Mosquito Abatement Districts working on this site	None

Key: * Impact and mitigation numbering from ISP Control Program Programmatic EIS/R, September 2003
NA/NE – Not Applicable/No Effect
LTS/NLTAE – Less Than Significant impact/Not Likely to Adversely Effect
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SITE-SPECIFIC PROJECT MITIGATION

Site Name: South San Francisco Bay Tidelands, Santa Clara County TSN: ISP-2004-15

*Impact**	*Applicable Mitigation & Conservation Measures*	*Herbicide*	*Implementation Timing*	*Verification Signatures*	
				Implementing Entity	*ISP Field Supervisor*
WQ-1: Degradation of water quality due to herbicide application	Apply herbicide directly to plant at low tide and according to label. (WQ-1;CM-3,4)	X	During treatment		
WQ-2: Degradation of water quality due to herbicide spills	Apply under supervision of trained applicator (WQ-2;CM-3)	X	During treatment		
	Implement spill and containment plan provided or approved by ISP (WQ-2;CM-17)	X	During treatment		
WQ-3: Degradation of water quality due to fuel or petroleum spills	Implement spill and containment plan provided or approved by ISP (WQ-3;CM-17)	X	During treatment		
BIO-1.2: Effects on tidal marsh plant communities affected by Atlantic smooth cordgrass and its hybrids.	Minimize entry and re-entry into marsh, define access points (BIO-1.2;CM-1)	X	During treatment		
	Avoid staging in high, dense vegetation such as gumplant or pickleweed (FWS GL)	X	During treatment		
	Avoid herbicide application to non-target vegetation adjacent to treatment area (BIO-1.2;CM-4)	X	During treatment		
BIO-3: Effects on shorebirds, waterfowl & marshland birds	Avoid working within 1,000 feet of occupied mudflats during peak Pacific Flyway stopovers (BIO-3)	X	During treatment		
	Occupy treatment area soon after high tide, before mudflats emerge (BIO-3)	X	During treatment		
	Haze shorebirds to minimize potential direct contact with herbicide drift (BIO-3)	X	During treatment		
BIO-4.1: Effects on the salt marsh harvest mouse and tidal marsh shrew species.	Use shortest possible access route through any pickleweed habitat. Flag areas of repeated access (BIO-4.1;CM-15)	X	During treatment		

*Impact numbering from ISP Control Program Programmatic EIS/R, September 2003.
Mitigations are from corresponding numbered mitigation in the same document,
Also included are the USFWS general and site-specific biological opinions Conservation Measures (CM).

*Impact**	*Applicable Mitigation & Conservation Measures*	*Herbicide*	*Implementation Timing*	*Verification Signatures*	
				Implementing Entity	*ISP Field Supervisor*
	Use protective mats or other covering over pickleweed in areas of repeated access (BIO-4.1;CM-15)	X	During treatment		
	Assume presence of SMHM on all suitable sites (CM 14)	X	During treatment		
	Whenever possible, schedule work after mass mortality events caused by extreme high tides (CM 16).	X	Pre-treatment		
BIO-4.2: Effects on resident harbor seal colonies of San Francisco Bay.	Minimize vehicle and foot access to marsh within 1000 feet of haul out sites (BIO-4.2)	X	During treatment		
	Avoid approaching haul out sites within 2000 feet (or any distance that elicits vigilance behavior) when pups are present. (BIO-4.2)	X	During treatment		
	Follow ISP spill prevention plan or equivalent BIO-4.2;CM-3,4)	X	During treatment		
BIO-5.1: Effects on California clapper rail.	Perform work only during Sept 1 thru Feb 1 to avoid CLRA breeding season (BIO-5.1;CM-18)	X	During treatment		
	Provide CLRA Field biologist supervision (BIO-5.1)	X	During treatment		
	Assure that field personnel are trained in general CLRA biology and CLRA identification and call detection (BIO-5.1)	X	Pre-treatment and during treatment		
	Report any CLRA activity immediately to ISP Field Supervisor and in post-treatment report (BIO-5.1)	X	During and post treatment		
BIO-5.3: Effects on tidal marsh song sparrow subspecies and the salt marsh common yellowthroat.	Report any SMSS and SCYE activity immediately to ISP Field Supervisor and in post-treatment report (BIO-5.3)	X	During and post-treatment		
	Avoid spraying or removing Grindelia plants in the marsh	X	During treatment		

*Impact numbering from ISP Control Program Programmatic EIS/R, September 2003.
Mitigations are from corresponding numbered mitigation in the same document,
Also included are the USFWS general and site-specific biological opinions Conservation Measures (CM).

*Impact**	*Applicable Mitigation & Conservation Measures*	*Herbicide*	*Implementation Timing*	*Verification Signatures*	
				Implementing Entity	*ISP Field Supervisor*
BIO-5.4: Effects on California least terns and western snowy plovers.	Survey access levees for nesting CALT and WSPL prior to entry (BIO-5.4;CM-20)	X	Pre-treatment		
	Report any CALT and WSPL activity immediately to ISP Field Supervisor and in post-treatment report (BIO-5.4)	X	During and post-treatment		
BIO-6.1: Effects on anadromous salmonids (Winter-run and spring-run Chinook Salmon, steelhead)	Herbicide treatments shall be minimized near channels and mudflats (BIO-6.1)	X	During treatment		
BIO-6.4: Effects on estuarine fish populations of shallow submerged intertidal mudflats and channels.	Minimize spraying near channels (BIO-6.4)	X	During treatment		
	Avoid use of alylphenol ethoxylate surfactants adjacent to channel to minimize any potential adverse affects on estuarine fish (FWS BO)	X	During treatment		
AQ-1: Dust emissions	Suspend activities when winds are too great to prevent visible dust clouds from affecting sensitive receptors (i.e., houses, schools, hospitals). (AQ-1)	X	During treatment		
	Limit traffic speeds on any dirt access roads to 15 miles per hour. (AQ-1)	X	During treatment		
N-1: Disturbance of sensitive receptors	Comply with all local noise ordinances (N-1)	X	During treatment		
HS-2: Worker health effects from herbicide application.	Follow handling and application procedures as identified on product label (HS-2;CM-3,17)	X	During treatment		
HS-3: Health effects to the public from herbicide application.	Minimize drift according to ISP drift management plan (HS-3;CM-3,4,17)	X	During treatment		
	Post appropriate signage (see attached signage requirements) a minimum of 24 hours pre-treatment (HS-3)	X	Pre-treatment		
HS-4: Health effects to workers or the public from accidents associated with treatment.	Maintain ISP or approved equivalent Site Safety and Spill Prevention plan on site (HS-4;CM-3,4,17)	X	During treatment		

*Impact numbering from ISP Control Program Programmatic EIS/R, September 2003.
Mitigations are from corresponding numbered mitigation in the same document,
Also included are the USFWS general and site-specific biological opinions Conservation Measures (CM).

*Impact**	*Applicable Mitigation & Conservation Measures*	*Herbicide*	*Implementation Timing*	*Verification Signatures*	
				Implementing Entity	*ISP Field Supervisor*
VIS-1: Alteration of views from removal of non-native cordgrass infestations.	Post appropriate signage according to ISP signage protocols (VIS-1)	X	Pre-treatment, during treatment, post-treatment		
CUL-1: Disturbance or destruction of cultural resources from access and treatment.	Report all discovered prehistoric or historic resources to the ISP Field Supervisor and a qualified archeologist or historic resources consultant and suspend all work at site until archaeological mitigation has taken place (CUL-1)	X	Pre-treatment and during treatment		
CUM-1: Effects of wetland restoration projects on spread of non-native cordgrass.	Potentially Significant-ISP and SCVWD will coordinate control work at site with the South Bay Salt Ponds Restoration Project.	X	Pre-treatment, During treatment, post-treatment		
CM-7: Invasive species	Monitor cleared patches for recruitment of invasive plant species including perennial pepperweed until native vegetation has become dominant (CM-7)	X	Post-treatment		

*Impact numbering from ISP Control Program Programmatic EIS/R, September 2003.
Mitigations are from corresponding numbered mitigation in the same document,
Also included are the USFWS general and site-specific biological opinions Conservation Measures (CM).

SITE-SPECIFIC PROJECT IMPACT EVALUATION

Site Name: Cooley Landing TSN: ISP-2004-16

*Impact**	*Applicable to Site*	*Applicable Mitigations* (by Treatment Method used at Site)*						*Comments/Analysis of Residual Impact at Site*	*Additional Mitigation Required*
		Back-pack	*Truck*	*Amphibious vehicle*	*Boat*	*Aerial*			
GEO-1: Erosion or deposition of sediment at treatment site	NA/NE							NA/NE – Proposed activities are not ground disturbing and will not elevate erosion above ambient levels.	None
GEO-2: Erosion or topographic change of marsh and mudflat by vehicles used in eradication	A			GEO-2				Herbicide: Residual impact LTS/NLTAE Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
GEO-3: Remobilization of sand in cordgrass stabilized estuarine beaches	NA/NE							NA/NE – No sandy estuarine beaches are present at the project site	None
GEO-4: Increased demand for sediment disposal and potential spread of invasive cordgrass via sediment disposal.	NA/NE							NA/NE – No dredging/sediment disposal proposed	None
GEO-5: Increased volume and velocity of tidal currents in channels due to the removal of invasive cordgrass.	A	GEO-5	GEO-5	GEO-5	GEO-5	GEO-5		No adverse impact (see EIS/R GEO-5 discussion). Site conditions consistent with those anticipated in the PEIS/R.	None

Key: * Impact and mitigation numbering from ISP Control Program Programmatic EIS/R, August 2003
NA/NE – Not applicable/No effect
LTS/NLTAE – Less than significant impact / Not Likely to Adversely Effect
SU – Significant but unmitigable impact
USFWS BO – US Fish & Wildlife Service Biological Opinion

Impact*	Applicable to Site	Applicable Mitigations* (by Treatment Method used at Site)						Comments/Analysis of Residual Impact at Site	Additional Mitigation Required
		Back-pack	Truck	Amphibious vehicle	Boat	Aerial			
GEO-6: Increased depth and turbulence of tidewaters impounded in salt marsh pans.	A	GEO-6	GEO-6	GEO-6	GEO-6	GEO-6		No adverse impact (see EIS/R GEO-6 discussion). Site conditions consistent with those anticipated in the PEIS/R.	None
WQ-1: Degradation of water quality due to herbicide application	A	WQ-1	WQ-1	WQ-1	WQ-1	WQ-1		LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
WQ-2: Degradation of water quality due to herbicide spills	A	WQ-2	WQ-2	WQ-2	WQ-2	WQ-2		LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
WQ-3: Degradation of water quality due to fuel or petroleum spills	A	WQ-3	WQ-3	WQ-3	WQ-3	WQ-3		LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
WQ-4: Degradation of water quality due to contaminant remobilization	NA/NE							NA/NE – No dredging or other sediment-mobilizing activities proposed.	None
WQ-5: Water quality effects resulting from sediment accretion	NA/NE							NA/NE – This impact only applies to EIS/R Alternative 3.	None
BIO-1.1: Effects on tidal marsh plant communities affected by salt-meadow cordgrass and English cordgrass.	NA/NE							NA/NE – Field surveys found no salt-meadow or English cordgrass at this site.	None

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Impact*	Applicable to Site	Applicable Mitigations* (by Treatment Method used at Site)						Comments/Analysis of Residual Impact at Site	Additional Mitigation Required
		Back-pack	Truck	Amphibious vehicle	Boat	Aerial			
BIO-1.2: Effects on tidal marsh plant communities affected by Atlantic smooth cordgrass and its hybrids.	A	BIO-1.2	BIO-1.2	BIO-1.2	BIO-1.2	BIO-1.2		LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-1.3: Effects on tidal marsh plant communities affected by Chilean cordgrass.	NA/NE							NA/NE – Field surveys found no Chilean cordgrass at site.	None
BIO-1.4: Effects on submerged aquatic plant communities.	NA/NE							NA/NE – Field surveys found no eelgrass or other submerged aquatic plants at site.	None
BIO-2: Effects on special-status plants in tidal marshes.	NA/NE							NA/NE – Field surveys found no special-status plant species at site.	None
BIO-3: Effects on shorebirds and waterfowl.	A	BIO-3	BIO-3	BIO-3	BIO-3	BIO-3		LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-4.1: Effects on the salt marsh harvest mouse and tidal marsh shrew species.	NA/NE							NA/NE – No salt marsh harvest mouse or tidal marsh shrew on or near site.	None
BIO-4.2: Effects on resident harbor seal colonies of San Francisco Bay.	NA/NE							NA/NE – No harbor seal colonies at or near site.	None
BIO-4.3: Effects on the southern sea otter.	NA/NE							NA/NE – Outside of known range of southern sea otters.	None

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Impact*	Applicable to Site	Applicable Mitigations* (by Treatment Method used at Site)						Comments/Analysis of Residual Impact at Site	Additional Mitigation Required
		Back-pack	Truck	Amphibious vehicle	Boat	Aerial			
BIO-5.1: Effects on California clapper rail.	A	BIO-5.1	BIO-5.1	BIO-5.1	BIO-5.1	BIO-5.1		LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-5.2: Effects on the California black rail.	NA/NE							NA/NE – Outside of known range black rails.	None
BIO-5.3: Effects on tidal marsh song sparrow subspecies and the salt marsh common yellow-throat.	A	BIO-5.3	BIO-5.3	BIO-5.3	BIO-5.3	BIO-5.3		LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-5.4: Effects on California least terns and western snowy plovers.	A	BIO-5.4	BIO-5.4	BIO-5.4	BIO-5.4	BIO-5.4		LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-5.5: Effects on raptors (birds of prey).	A					BIO-5.5		LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-6.1: Effects on anadromous salmonids (winter-run and spring-run Chinook salmon, steelhead).	A	BIO-6.1	BIO-6.1	BIO-6.1	BIO-6.1	BIO-6.1		LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-6.2: Effects on delta smelt and Sacramento splittail.	NA/NE							NA/NE – Outside of known delta smelt and Sacramento splittail range.	None

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Impact*	Applicable to Site	Applicable Mitigations* (by Treatment Method used at Site)						Comments/Analysis of Residual Impact at Site	Additional Mitigation Required
		Back-pack	Truck	Amphibious vehicle	Boat	Aerial			
BIO-6.3: Effects on the tidewater goby.	NA/NE							NA/NE – Outside of known range of tidewater goby.	None
BIO-6.4: Effects on estuarine fish populations of shallow submerged intertidal mudflats and channels.	A	BIO-6.4 – minimize spraying	BIO-6.4 – minimize spraying	BIO-6.4 – minimize spraying	BIO-6.4 – minimize spraying	BIO-6.4 – minimize spraying		LTS/NLTAE with additional mitigation BIO-6.4(b)	BIO-6.4(b) - R-11 will not be used adjacent to channel to minimize any potential adverse affects on estuarine fish.
BIO-7: Effects on California red-legged frog and San Francisco garter snake.	NA/NE							NA/NE – Suitable habitat for California red-legged frog and San Francisco garter snake is not present at the site.	None
BIO-8: Effects of regional invasive cordgrass eradication on mosquito production.	NA/NE							NA/NE – Site activities will not create additional mosquito habitat.	None
BIO-9: Effects on tiger beetle species.	NA/NE							NA/NE – No potential tiger beetle habitat will be affected.	None
AQ-1: Dust emissions.	A	AQ-1	AQ-1	AQ-1	AQ-1	AQ-1		LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
AQ-2: Smoke emissions.	NA/NE							NA/NE – No burning proposed.	None

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Impact*	Applicable to Site	Applicable Mitigations* (by Treatment Method used at Site)						Comments/Analysis of Residual Impact at Site	Additional Mitigation Required
		Back-pack	Truck	Amphibious vehicle	Boat	Aerial			
AQ-3: Herbicide effects on air quality.	A					AQ-3		LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R	None
AQ-4: Ozone precursor emissions.	NA/NE							LTS/NLTAE without mitigation.	None
AQ-5: Carbon Monoxide (CO) emissions.	NA/NE							LTS/NLTAE without mitigation.	None
N-1: Disturbance of sensitive receptors	A	N-1	N-1	N-1	N-1	N-1		LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R	None
HS-1: Worker Injury from accidents associated with manual and mechanical cordgrass treatment.	A							LTS/NLTAE – Potential impacts mitigated to less than significant per EIS/R Impact/Mitigation HS-1.	None
HS-2: Worker health effects from herbicide application.	A	HS-2	HS-2	HS-2	HS-2	HS-2		LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
HS-3: Health effects to the public from herbicide application.	A	HS-3	HS-3	HS-3	HS-3	HS-3		LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None

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NA/NE – Not applicable / No Effect
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SU – Significant but Unmitigable impact
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Impact*	Applicable to Site	Applicable Mitigations* (by Treatment Method used at Site)						Comments/Analysis of Residual Impact at Site	Additional Mitigation Required
		Back-pack	Truck	Amphibious vehicle	Boat	Aerial			
HS-4: Health effects to workers or the public from accidents associated with treatment.	A	HS-4	HS-4	HS-4	HS-4	HS-4		LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
VIS-1: Alteration of views from removal of non-native Cordgrass Infestations.	A	VIS-1	VIS-1	VIS-1	VIS-1	VIS-1		SU – Impacts addressed in EIS/R and CEQA findings. Site conditions consistent with those anticipated in the PEIS/R.	None
VIS-2: Change in Views from native marsh, Mudflat, and open eater to non-native Cordgrass meadows and monocultures.	NA/NE							NA/NE – Applies only to PEIS/R Alternative 3 (No Action)	None
LU-1: Land use conflicts between herbicide use and sensitive receptors	A	LU-1	LU-1	LU-1	LU-1	LU-1		LTS/NLTAE – Limited to less than significant by HS, N and AQ mitigations.	None
LU-2: Land use conflicts from mechanical and burning Treatment Methods	A							NA/NE-No mechanical or burning methods proposed on this site.	None
CUL-1: Disturbance or destruction of cultural resources from access and treatment.	NA/NE							NA/NE – No-ground disturbing treatment methods proposed	None
CUL-2: Loss of cultural resources from erosion.	NA/NE							NA/NE – No erosion-producing activities proposed	None

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*Impact**	*Applicable to Site*	*Applicable Mitigations* (by Treatment Method used at Site)*						*Comments/Analysis of Residual Impact at Site*	*Additional Mitigation Required*
		Back-pack	*Truck*	*Amphibious vehicle*	*Boat*	*Aerial*			
CUM-1- Effects of wetland restoration projects on spread of non-native cordgrass	A	CUM-1	CUM-1	CUM-1	CUM-1	CUM-1		LTS/NLTAE – Project site is a wetland restoration project, therefore control of invasive *Spartina* inherently reduces the spread to wetland restoration projects	None
CUM-2- Cumulative damage to marsh plain vegetation	A			CUM-2				NA/NE – No Mosquito Abatement Districts working on this site	None
CM-7- Post-treatment invasion by invasive species	A	CM-7	CM-7	CM-7	CM-7	CM-7		LTS/NLTAE – Potential impacts mitigated to less than significant (per USFWS BO CM-7).	None

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SITE-SPECIFIC PROJECT MITIGATION

Site Name: Cooley Landing, San Mateo County TSN: ISP-2004-16

*Impact**	*Applicable Mitigation & Conservation Measures (source**)*	*Back-pack*	*Truck*	*Am-phibious Vehicle*	*Boat*	*Aerial*	*Implementation Timing*	*Verification Signatures*	
								Implementing Entity	*ISP Field Supervisor*
GEO-2: Erosion or topographic change of marsh and mudflat by vehicles used in eradication	Minimize vehicle use in marsh (GEO-2; CM-1)			X			During treatment		
WQ-1: Degradation of water quality due to herbicide application	Apply herbicide directly to plant at low tide and according to label. (WQ-1; CM-3 & 4)	X	X	X	X	X	During treatment		
WQ-2: Degradation of water quality due to herbicide spills	Apply under supervision of trained applicator (WQ-2;CM-3)	X	X	X	X	X	During treatment		
	Implement spill and containment plan provided by contractor and approved by WRA (WQ-2;CM-17)	X	X	X	X	X	During treatment		
WQ-3: Degradation of water quality due to fuel or petroleum spills	Implement spill and containment plan provided by contractor and approved by WRA (WQ-3;CM-17).	X	X	X	X	X	During treatment		
BIO-1.2: Effects on tidal marsh plant communities affected by Atlantic smooth cordgrass and its hybrids.	Minimize entry and re-entry into marsh (BIO-1.2;CM-1)	X	X	X	X	X	During treatment		

* Impact numbering from ISP Programmatic EIS/R, September 2003.

**Mitigations and control measures include ISP Programmatic EIS/R mitigations (e.g., BIO-1.2), U.S. FWS general biological opinion conservation measures (e.g., CM-3), U.S. FWS site-specific biological opinion conservation measures (e.g., SSCM-3), recommendations from U.S. FWS guidance letters (e.g., FWS GL), and California Department of Fish and Game recommendations (e.g., DFG).

*Impact**	*Applicable Mitigation & Conservation Measures (source**)*	*Back-pack*	*Truck*	*Am-phibious Vehicle*	*Boat*	*Aerial*	*Implementation Timing*	*Verification Signatures*	
								Implementing Entity	*ISP Field Supervisor*
	Avoid staging in high, dense vegetation such as gumplant or pickle-weed (FWS GL)	X	X	X	X	X	During treatment		
	Place mats or other protectors beneath heavy equipment oper-ating in sensitive high marsh vegetation, es-pecially gumplant (BIO-1.2)			X			During treatment		
	Avoid herbicide applica-tion to non-target vege-tation adjacent to treat-ment area. (BIO-1.2;CM-3,4)	X	X	X	X	X	During treatment		
BIO-3: Effects on shorebirds, waterfowl & marshland birds.	Avoid working within 1,000 feet of occupied mudflats during peak Pacific Flyway stop-overs. (BIO-3)	X	X	X	X	X	During treatment		
	Occupy treatment area soon after high tide, before mudflats emerge. (BIO-3)	X	X	X	X	X	During treatment		
	Haze shorebirds to minimize potential direct contact with herbicide drift. (BIO-3)	X	X	X	X	X	During treatment		

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**Mitigations and control measures include ISP Programmatic EIS/R mitigations (e.g., BIO-1.2), U.S. FWS general biological opinion conservation measures (e.g., CM-3), U.S. FWS site-specific biological opinion conservation measures (e.g., SSCM-3), recommendations from U.S. FWS guidance letters (e.g., FWS GL), and California Department of Fish and Game recommendations (e.g., DFG).

*Impact**	*Applicable Mitigation & Conservation Measures (source**)*	*Back-pack*	*Truck*	*Am-phibious Vehicle*	*Boat*	*Aerial*	*Implementation Timing*	*Verification Signatures*	
								Implementing Entity	*ISP Field Supervisor*
BIO-5.1: Effects on California clapper rail.	For work within the Clapper Rail breeding season, call counts will be performed prior to application of herbicide according to FWS protocols (CM-18)	X	X	X	X	X	Pre-treatment		
	Provide CLRA Field biologist supervision. (BIO-5.1)	X	X	X	X	X	During treatment		
	Assure that field personnel are trained in general CLRA biology and CLRA identification and call detection. (BIO-5.1)	X	X	X	X	X	Pre-treatment and during treatment		
	Report any CLRA activity immediately to the on-site field biologist and in post-treatment report (BIO-5.1)	X	X	X	X	X	During and post-treatment		
BIO-5.3: Effects on tidal marsh song sparrow subspecies and the salt marsh common yellowthroat.	Report any SMSS and SCYE activity immediately to ISP Field Supervisor and in post-treatment report (BIO-5.3)	X	X	X	X	X	During treatment		
	Avoid spraying or removing Grindelia plants in the marsh	X	X	X	X	X	During treatment		

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*Impact**	*Applicable Mitigation & Conservation Measures (source**)*	*Back-pack*	*Truck*	*Am-phibious Vehicle*	*Boat*	*Aerial*	*Implementation Timing*	*Verification Signatures*	
								Implementing Entity	*ISP Field Supervisor*
	Watch for Song Sparrow presence in the work area during early season treatment work (pre-August), especially in the smaller, upper reaches of channels.	X	X	X	X	X	During and post-treatment		
BIO-5.4: Effects on California least terns and western snowy plovers.	Survey access levees for nesting CALT and WSPL prior to entry (BIO-5.4;CM-20)	X	X	X	X	X	Pre-treatment		
	Report any CALT and WSPL activity immediately to on-site field biologist and in post-treatment report (BIO-5.4)	X	X	X	X	X	During and post-treatment		
BIO-5.5:Effects on raptors (birds of prey)	Identified nests shall be provided a buffer of 500 feet during spray operations. (BIO-5.5)					X	During treatment		
BIO-6.1: Effects on anadromous salmonids (winter-run and spring-run Chinook salmon, steelhead).	Target herbicide applications to minimize herbicide use near channel. (BIO-6.1)	X	X	X	X	X	During treatment		
	Avoid use of alylphenol ethoxylate surfactants Dec 1 thru April 1 to avoid steelhead spawning. (BIO-6.1)	X	X	X	X	X	During treatment		

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**Mitigations and control measures include ISP Programmatic EIS/R mitigations (e.g., BIO-1.2), U.S. FWS general biological opinion conservation measures (e.g., CM-3), U.S. FWS site-specific biological opinion conservation measures (e.g., SSCM-3), recommendations from U.S. FWS guidance letters (e.g., FWS GL), and California Department of Fish and Game recommendations (e.g., DFG).

*Impact**	*Applicable Mitigation & Conservation Measures (source**)*	*Back-pack*	*Truck*	*Am-phibious Vehicle*	*Boat*	*Aerial*	*Implementation Timing*	*Verification Signatures*	
								Implementing Entity	*ISP Field Supervisor*
BIO-6.4: Effects on estuarine fish populations of shallow submerged intertidal mudflats and channels.	Bio-6.4 – minimize spraying near intertidal mudflats and channels (BIO-6.4)	X	X	X	X	X	During treatment		
	Avoid use of alylphenol ethoxylate surfactants adjacent to channel to minimize any potential adverse affects on estuarine fish. (BIO-6.4)	X	X	X	X	X	During treatment		
AQ-1: Dust emissions	Suspend activities when winds are too great to prevent visible dust clouds from affecting sensitive receptors (i.e., houses, schools, hospitals). (AQ-1)	X	X	X	X	X	During treatment		
	Limit traffic speeds on any dirt access roads to 15 miles per hour. (AQ-1)	X	X	X	X	X	During treatment		
AQ-3: Herbicide effects on air quality	Implement ISP Drift Management plan for aerial applications of herbicide (AQ-3;CM-3,4)					X	During treatment		
N-1: Disturbance of sensitive receptors	Comply with local noise ordinances (N-1)	X	X	X	X	X	During treatment		
HS-2: Worker health effects from herbicide application.	Follow handling and application procedures as identified on product label. (HS-2;CM-3)	X	X	X	X	X	During treatment		

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**Mitigations and control measures include ISP Programmatic EIS/R mitigations (e.g., BIO-1.2), U.S. FWS general biological opinion conservation measures (e.g., CM-3), U.S. FWS site-specific biological opinion conservation measures (e.g., SSCM-3), recommendations from U.S. FWS guidance letters (e.g., FWS GL), and California Department of Fish and Game recommendations (e.g., DFG).

*Impact**	*Applicable Mitigation & Conservation Measures (source**)*	*Back-pack*	*Truck*	*Am-phibious Vehicle*	*Boat*	*Aerial*	*Implementation Timing*	*Verification Signatures*	
								Implementing Entity	*ISP Field Supervisor*
HS-3: Health effects to the public from herbicide application.	Minimize drift according to drift management plan provided by contractor and approved by WRA. (HS-3;CM-3,4)	X	X	X	X	X	During treatment		
	Post appropriate signage within 24 hours of a treatment (HS-3;CM-3)	X	X	X	X	X	Pre-treatment		
	Avoid scheduling herbicide application near high public use areas during weekends or holidays, or close public access to area 24 hours before and after treatment. (HS-3;CM-3)	X	X	X	X	X	Pre-treatment and during treatment		
HS-4: Health effects to workers or the public from accidents associated with treatment.	Maintain Site Safety and Spill Prevention plan on site. (HS-4)	X	X	X	X	X	During treatment		
VIS-1: Alteration of views from removal of non-native Cordgrass Infestations.	Post appropriate signage according to ISP signage protocols. (VIS-1)	X	X	X	X	X	Pre-treatment, during treatment, post-treatment		
CUM-1: Effects of wetland restoration projects on spread of non-native cordgrass.	As approved by USFWS and required in RWQCB, BCDC, and Corps of Engineers permits, control of invasive cordgrass will continue at the project site until native vegetation has become established.	X	X	X	X	X	Pre-treatment and during treatment		

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**Mitigations and control measures include ISP Programmatic EIS/R mitigations (e.g., BIO-1.2), U.S. FWS general biological opinion conservation measures (e.g., CM-3), U.S. FWS site-specific biological opinion conservation measures (e.g., SSCM-3), recommendations from U.S. FWS guidance letters (e.g., FWS GL), and California Department of Fish and Game recommendations (e.g., DFG).

*Impact**	*Applicable Mitigation & Conservation Measures (source**)*	*Back-pack*	*Truck*	*Am-phibious Vehicle*	*Boat*	*Aerial*	*Implementation Timing*	*Verification Signatures*	
								Implementing Entity	*ISP Field Supervisor*
CM-7: Invasive species	Monitor cleared patches for recruitment of invasive plant species including perennial pepperweed until native vegetation has become dominant (CM-7)	X	X	X	X	X	Post-treatment		

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**Mitigations and control measures include ISP Programmatic EIS/R mitigations (e.g., BIO-1.2), U.S. FWS general biological opinion conservation measures (e.g., CM-3), U.S. FWS site-specific biological opinion conservation measures (e.g., SSCM-3), recommendations from U.S. FWS guidance letters (e.g., FWS GL), and California Department of Fish and Game recommendations (e.g., DFG).

SITE-SPECIFIC PROJECT IMPACT EVALUATION

Site Name: Alameda and San Leandro Bay, Alameda County TSN: ISP-2005-17

*Impact**	*Applicable to Site*	*Sub-Area Included*	*Applicable Mitigations* (by Treatment Method used at Site) Various herbicide Treatment methods*					*Comments/Analysis of Residual Impact of Treatment Methods at Site*	*Additional Mitigation Required*
			Truck	*Aerial*	*Boat*	*Amph*	*Back-pack*		
GEO-1: Erosion or deposition of sediment at treatment site	NA/NE							NA/NE – Proposed activities are not ground disturbing and will not elevate erosion above ambient levels.	None
GEO-2: Erosion or topographic change of marsh and mudflat by vehicles used in eradication	A	All sub-areas except 17f & 17g				GEO-2		LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
GEO-3: Remobilization of sand in cordgrass-stabilized estuarine beaches	NA/NE							NA/NE – No excavation within estuarine beaches planned. Any cordgrass treated within this Complex on estuarine beaches will be treated with herbicide leaving intact root masses. Root masses will naturally degrade on site.	None
GEO-4: Increased demand for sediment disposal and potential spread of invasive cordgrass via sediment disposal.	NA/NE							NA/NE – No dredging/sediment disposal proposed	None
GEO-5: Increased volume and velocity of tidal currents in channels due to the removal of invasive cordgrass.	A	All Sub-Areas						No adverse impact (see EIS/R GEO-5 discussion). Site conditions consistent with those anticipated in the PEIS/R.	None
GEO-6: Increased depth and turbulence of tidewaters impounded in salt marsh pans.	A	All Sub-Areas						NA/NE – No mitigation required for work near or in salt marsh pans.	None

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A - Applicable
NA/NE – Not Applicable/No Effect
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SU – Significant but unmitigable impact
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Impact*	Applicable to Site	Sub-Area Included	Applicable Mitigations* (by Treatment Method used at Site) Various herbicide Treatment methods					Comments/Analysis of Residual Impact of Treatment Methods at Site	Additional Mitigation Required
			Truck	Aerial	Boat	Amph	Back-pack		
WQ-1: Degradation of water quality due to herbicide application	A	All Sub-Areas	WQ-1	WQ-1	WQ-1	WQ-1	WQ-1	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
WQ-2: Degradation of water quality due to herbicide spills	A	All Sub-Areas	WQ-2	WQ-2	WQ-2	WQ-2	WQ-2	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
WQ-3: Degradation of water quality due to fuel or petroleum spills	A	All Sub-Areas	WQ-3	WQ-3	WQ-3	WQ-3	WQ-3	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
WQ-4: Degradation of water quality due to contaminant remobilization	NA/NE							NA/NE – No dredging or other sediment-mobilizing activities proposed.	None
WQ-5: Water quality effects resulting from sediment accretion	NA/NE							NA/NE – This impact only applies to EIS/R Alternative 3.	None
BIO-1.1: Effects on tidal marsh plant communities affected by salt-meadow cordgrass and English cordgrass.	NA/NE							NA/NE – Field surveys found no salt-meadow or English cordgrass within this site.	None
BIO-1.2: Effects on tidal marsh plant communities affected by Atlantic smooth cordgrass and its hybrids.	A	All Sub-Areas	BIO-1.2	BIO-1.2	BIO-1.2	BIO-1.2	BIO-1.2	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-1.3: Effects on tidal marsh plant communities affected by Chilean cordgrass.	NA/NE							NA/NE – Field surveys found no Chilean cordgrass within this site.	None

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Impact*	Applicable to Site	Sub-Area Included	Applicable Mitigations* (by Treatment Method used at Site) Various herbicide Treatment methods					Comments/Analysis of Residual Impact of Treatment Methods at Site	Additional Mitigation Required
			Truck	Aerial	Boat	Amph	Back-pack		
BIO-1.4: Effects on submerged aquatic plant communities.	NA/NE							NA/NE – Field surveys found no eelgrass or other submerged aquatic plants within site.	None
BIO-2: Effects on special-status plants (Soft bird's beak and/or Suisun thistle) in tidal marshes	NA/NE							NA/NE – Field surveys found no special-status plant species within site.	None
BIO-3: Effects on shorebirds and waterfowl.	A	All Sub-Areas	BIO-3	BIO-3	BIO-3	BIO-3	BIO-3	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-4.1: Effects on the salt marsh harvest mouse and tidal marsh shrew species.	A	All sub-areas except 17f & 17g				BIO-4.1		LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-4.2: Effects on resident harbor seal colonies of San Francisco Bay.	NA/NE							LTS/NLTAE – No sub-areas within site contain harbor seal colonies.	None
BIO-4.3: Effects on the southern sea otter.	NA/NE							NA/NE – Outside of known range of southern sea otters.	None
BIO-5.1: Effects on the California clapper rail.	A	17a, 17b, 17c, 17d, 17e, 17g, 17h, 17j, 17k, 17l, 17m	BIO-5.1 as modified by UFSWS BO	BIO-5.1 as modified by UFSWS BO	BIO-5.1 as modified by UFSWS BO	BIO-5.1 as modified by UFSWS BO	BIO-5.1 as modified by UFSWS BO	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R. MAY AFFECT- On Sub-Areas 17a and 17c. Impacts will be mitigated by phasing treatments within Site as a whole.	Phasing of treatments within the Site, on Sub-Areas 17a, 17c, 17d, 17h

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Impact*	Applicable to Site	Sub-Area Included	Applicable Mitigations* (by Treatment Method used at Site) Various herbicide Treatment methods					Comments/Analysis of Residual Impact of Treatment Methods at Site	Additional Mitigation Required
			Truck	Aerial	Boat	Amph	Back-pack		
BIO-5.2: Effects on the California black rail.	A	17a, 17b, 17c, 17d, 17e, 17g, 17k, 17l, 17m	BIO-5.2	BIO-5.2	BIO-5.2	BIO-5.2	BIO-5.2	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-5.3: Effects on tidal marsh song sparrow sub-species and the salt marsh common yellowthroat.	A	All Sub-Areas except 17f	BIO-5.3	BIO-5.3	BIO-5.3	BIO-5.3	BIO-5.3	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-5.4: Effects on California least terns and western snowy plovers.	A	17a, 17b, 17c, 17h, 17j	BIO-5.4	BIO-5.4	BIO-5.4	BIO-5.4	BIO-5.4	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-5.5: Effects on raptors (birds of prey).	A	Sub-areas 17c, 17d, 17h, 17k, 17l & 17j		BIO-5.5				LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-6.1: Effects on anadromous salmonids (winter-run and spring-run Chinook salmon, steelhead).	A	All Sub-Areas	BIO-6.1	BIO-6.1	BIO-6.1	BIO-6.1	BIO-6.1	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-6.2: Effects on delta smelt and Sacramento splittail.	NA/NE							NA/NE – Outside of known delta smelt and Sacramento splittail range.	None
BIO-6.3: Effects on the tidewater goby.	NA/NE							NA/NE – Outside of known range of tidewater goby.	None

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Impact*	Applicable to Site	Sub-Area Included	Applicable Mitigations* (by Treatment Method used at Site) Various herbicide Treatment methods					Comments/Analysis of Residual Impact of Treatment Methods at Site	Additional Mitigation Required
			Truck	Aerial	Boat	Amph	Back-pack		
BIO-6.4: Effects on estuarine fish populations of shallow submerged intertidal mudflats and channels.	A	All sub-areas	BIO-6.4 – minimize spraying	BIO-6.4 – minimize spraying	BIO-6.4 – minimize spraying	BIO-6.4 – minimize spraying	BIO-6.4 – minimize spraying	LTS/NLTAE with additional mitigation BIO-6.4(b)	BIO-6.4(b) - R-11 will not be used adjacent to channel to minimize potential affects on estuarine fish.
BIO-7: Effects on California red-legged frog and San Francisco garter snake.	NA/NE							NA/NE – Outside of known range of California red-legged frog and San Francisco garter snake. Salinities of areas slated for treatment are too high.	None
BIO-8: Effects of regional invasive cordgrass eradication on mosquito production.	A	All Sub-areas except 17f & 17g				BIO-8		LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-9: Effects on tiger beetle species.	NA/NE							LTS/NLTAE without mitigation.	None
AQ-1: Dust emissions.	NA/NE							NA/NE – Access routes paved.	None
AQ-2: Smoke emissions.	NA/NE							NA/NE – No burning proposed.	None
AQ-3: Herbicide effects on air quality.	A	Sub-areas 17c, 17d, 17h, 17k, 17l & 17j		AQ-3				LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
AQ-4: Ozone precursor emissions.	NA/NE							LTS/NLTAE without mitigation.	None
AQ-5: Carbon Monoxide (CO) emissions.	NA/NE							LTS/NLTAE without mitigation.	None
N-1: Disturbance of sensitive receptors	A	All sub-areas	N-1	N-1	N-1	N-1	N-1	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None

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Impact*	Applicable to Site	Sub-Area Included	Applicable Mitigations* (by Treatment Method used at Site) Various herbicide Treatment methods					Comments/Analysis of Residual Impact of Treatment Methods at Site	Additional Mitigation Required
			Truck	Aerial	Boat	Amph	Back-pack		
HS-1: Worker injury from accidents associated with manual and mechanical cordgrass treatment.	NA/NE							NA/NE – Methods not proposed for this site	None
HS-2: Worker health effects from herbicide application.	A	All sub-areas	HS-2	HS-2	HS-2	HS-2	HS-2	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
HS-3: Health effects to the public from herbicide application.	A	All sub-areas	HS-3	HS-3	HS-3	HS-3	HS-3	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
HS-4: Health effects to workers or the public from accidents associated with treatment.	A	All sub-areas	HS-4	HS-4	HS-4	HS-4	HS-4	LTS/NLTAE – Potential impacts mitigated to less than. Site conditions consistent with those anticipated in the PEIS/R.	None
VIS-1: Alteration of views from removal of non-native cordgrass infestations.	A	All sub-areas	VIS-1	VIS-1	VIS-1	VIS-1	VIS-1	SU – Impacts addressed in EIS/R and CEQA findings. Site conditions consistent with those anticipated in the PEIS/R.	None
VIS-2: Change in views from native marsh, mudflat, and open water to non-native cordgrass meadows and monocultures.	NA/NE							NA/NE – Applies only to PEIS/R Alternative 3 (No Action)	None
LU-1: Land use conflicts between herbicide use and sensitive receptors	A	All sub-areas	LU-1	LU-1	LU-1	LU-1	LU-1	LTS/NLTAE – Limited to less than significant by HS, and N mitigations.	None

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Impact*	Applicable to Site	Sub-Area Included	Applicable Mitigations* (by Treatment Method used at Site) Various herbicide Treatment methods					Comments/Analysis of Residual Impact of Treatment Methods at Site	Additional Mitigation Required
			Truck	Aerial	Boat	Amph	Back-pack		
LU-2: Land use conflicts from mechanical and burning treatment methods	NA/NE							NA/NE – Methods not proposed for site	None
CUL-1: Disturbance or destruction of cultural resources from access and treatment.	A	All sub-areas	CUL-1		CUL-1	CUL-1	CUL-1	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
CUL-2: Loss of cultural resources from erosion.	NA/NE							NA/NE – No erosion-producing activities proposed	None
CUM-1- Effects of wetland restoration projects on spread of non-native cordgrass	NA/NE							NA/NE – No restoration projects with the potential to spread Spartina proposed within this Complex during the proposed treatment schedule	None
CUM-2- Cumulative damage to marsh plain vegetation	A	All Sub-areas except 17f & 17g				CUM-2		LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None

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SITE-SPECIFIC PROJECT MITIGATION

Site Name: Alameda and San Leandro Bay, Alameda County TSN: ISP-2005-17

*Impact**	*Applicable Mitigation & Conservation Measures**	*Sub Area Included*	*Truck*	*Aerial*	*Boat*	*Argo*	*Back-pack*	*Implementation Timing*	*Verification Signatures*	
									Implementing Entity	*ISP Field Supervisor*
GEO-2: Erosion or topographic change of marsh and mudflat by vehicles used in eradication	Minimize vehicle travel in the marsh and mudflats (GEO-2; CM-1)	All sub-areas except 17f & 17g				X		During treatment		
WQ-1: Degradation of water quality due to herbicide application	Apply herbicide directly to plant at low tide and according to label. (WQ-1; CM-3 & 4)	All sub-areas	X	X	X	X	X	During treatment		
WQ-2: Degradation of water quality due to herbicide spills	Apply under supervision of trained applicator (WQ-2; CM-3)	All sub-areas	X	X	X	X	X	During treatment		
	Implement spill and containment plan provided or approved by ISP (WQ-2; CM-17)	All sub-areas	X	X	X	X	X	During treatment		
WQ-3: Degradation of water quality due to fuel or petroleum spills	Implement spill and containment plan provided or approved by ISP (WQ-3; CM-17)	All sub-areas	X	X	X	X	X	During treatment		
BIO-1.2: Effects on tidal marsh plant communities affected by Atlantic smooth cordgrass and its hybrids.	Minimize entry and re-entry into marsh (BIO-1.2; CM-1)	All sub-areas	X	X	X	X	X	During treatment		
	Avoid staging in high, dense vegetation such as gumplant or pickleweed (FWS GL)	All sub-areas	X	X	X	X	X	During treatment		

*Impact numbering from ISP Control Program Programmatic EIS/R, September 2003.
Mitigations are from corresponding numbered mitigation in the same document,
CM - Conservation Measures as defined by USFWS Biological Opinions (general and site-specific)

*Impact**	*Applicable Mitigation & Conservation Measures**	*Sub Area Included*	*Truck*	*Aerial*	*Boat*	*Argo*	*Back-pack*	*Implementation Timing*	*Verification Signatures*	
									Implementing Entity	*ISP Field Supervisor*
	Avoid herbicide application to non-target vegetation adjacent to treatment area. (BIO-1.2; CM-3, 4)	All sub-areas	X	X	X	X	X	During treatment		
BIO-3: Effects on shorebirds, waterfowl & marshland birds.	Avoid working within 1,000 feet of occupied mudflats during peak Pacific Flyway stopovers. (BIO-3)	All sub-areas	X	X	X	X	X	During treatment		
	Occupy treatment area soon after high tide, before mudflats emerge. (BIO-3)	All sub-areas	X	X	X	X	X	During treatment		
	Haze shorebirds to minimize potential direct contact with herbicide drift. (BIO-3)	All sub-areas	X	X	X	X	X	During treatment		
	Helicopters will not be operated within 1000 feet of active major foraging or roosting sites (BIO-3)	Sub-areas 17c, 17d, 17h, 17k, 17l & 17		X				During treatment		
BIO-4.1: Effects on the salt marsh harvest mouse and tidal marsh shrew species.	Use shortest possible access route through any pickleweed habitat. Flag areas of repeated access (BIO-4.1; CM-15)	All sub-areas except 17f & 17g				X		During treatment		
	Use protective mats or other covering over pickleweed in areas of repeated access (BIO-4.1; CM-15)	All sub-areas except 17f & 17g				X		During treatment		
	Assume presence of SMHM on all suitable sites (CM 14)	All Sub-Areas except 17f	X	X	X	X	X	During treatment		

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*Impact**	*Applicable Mitigation & Conservation Measures**	*Sub Area Included*	*Truck*	*Aerial*	*Boat*	*Argo*	*Back-pack*	*Implementation Timing*	*Verification Signatures*	
									Implementing Entity	*ISP Field Supervisor*
	Whenever possible, schedule work after mass mortality events caused by extreme high tides (CM 16).	All sub-areas except 17f & 17g				X		Pre- and during treatment		
BIO-5.1: Effects on California clapper rail.	Perform work only during Sept 1 thru Feb 1 to avoid CLRA breading season (BIO-5.1; CM-18)	17a, 17b, 17c, 17d, 17e, 17g, 17h, 17j, 17k, 17l, 17m	X		X	X	X	During treatment		
	For work within the Clapper Rail breeding season, call counts will be performed in the early spring according to FWS protocols (CM-18)	Sub-areas 17c, 17d, 17h, 17k, 17l & 17j		X				During treatment		
	Provide CLRA Field biologist supervision (BIO-5.1)	17a, 17b, 17c, 17d, 17e, 17g, 17h, 17j, 17k, 17l, 17m	X	X	X	X	X	During treatment		
	Assure that field personnel are trained in general CLRA biology and CLRA identification and call detection (BIO-5.1)	17a, 17b, 17c, 17d, 17e, 17g, 17h, 17j, 17k, 17l, 17m	X	X	X	X	X	During treatment		
	Report any CLRA activity immediately to ISP Field Supervisor and in post-treatment report (BIO-5.1)	17a, 17b, 17c, 17d, 17e, 17g, 17h, 17j, 17k, 17l, 17m	X	X	X	X	X	During treatment		

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*Impact**	*Applicable Mitigation & Conservation Measures**	*Sub Area Included*	*Truck*	*Aerial*	*Boat*	*Argo*	*Back-pack*	*Implementation Timing*	*Verification Signatures*	
									Implementing Entity	*ISP Field Supervisor*
BIO-5.2: Effects on the California black rail.	Implement mitigation and avoidance procedures for California clapper rail (BIO-5.1)	17a, 17b, 17c, 17d, 17e, 17g, 17k, 17l, 17m	X	X	X	X	X	During treatment		
BIO-5.3: Effects on tidal marsh song sparrow subspecies and the salt marsh common yellow-throat.	Report any SMSS and SCYE activity immediately to ISP Field Supervisor and in post-treatment report (BIO-5.3)	All Sub-Areas except 17f	X		X	X	X	During and post-treatment		
	Avoid spraying or removing *Grindelia* plants in the marsh (BIO-5.3)	All Sub-Areas except 17f	X	X	X	X	X	During treatment		
	Watch for Song Sparrow presence in the work area during early season treatment work (pre-August), especially in the smaller, upper reaches of channels (BIO-5.3)	All Sub-Areas except 17f	X	X	X	X	X	During treatment		
BIO-5.4: Effects on California least terns and western snowy plovers.	Survey levees for terns and plovers prior to treatment (BIO-5.4)	17a, 17b, 17c, 17h, 17j	X	X	X	X	X	Pre-treatment and during treatment		
BIO-5.5: Effects on raptors (birds of prey).	Consult qualified biologist to determine possible raptor nesting presence (BIO-5.5)	Sub-areas 17c, 17d, 17h, 17k, 17l & 17j		X				Pre-treatment		
	Ensure 500 foot buffer around nests for any helicopter activity (BIO-5.5)	Sub-areas 17c, 17d, 17h, 17k, 17l & 17j		X				Pre-treatment and during treatment		
BIO-6.1: Effects on anadromous salmonids (winter-run and spring-run Chinook salmon,	Target herbicide applications to minimize herbicide use near channel (BIO-6.1).	All Sub-Areas	X	X	X	X	X	During treatment		

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*Impact**	*Applicable Mitigation & Conservation Measures**	*Sub Area Included*	*Truck*	*Aerial*	*Boat*	*Argo*	*Back-pack*	*Implementation Timing*	*Verification Signatures*	
									Implementing Entity	*ISP Field Supervisor*
steelhead).	Avoid use of alkylphenol ethoxylate surfactants Dec 1 thru April 1 to avoid steelhead spawning. (BIO-6.1)	All sub-areas	X	X	X	X	X	During treatment		
BIO-6.4: Effects on estuarine fish populations of shallow submerged intertidal mudflats and channels.	Minimize spraying near intertidal mudflats and channels (BIO-6.4)	All sub-areas	X	X	X	X	X	During treatment		
	Avoid use of alkylphenol ethoxylate surfactants adjacent to channel to minimize any potential adverse affects on estuarine fish (BIO-6.4)	All sub-areas	X	X	X	X	X	During treatment		
BIO-8: Effects of regional invasive cordgrass eradication on mosquito production.	Monitor access route for the formation of undrained depressions in tire ruts or foot trails (BIO-8)	All Sub-areas except 17f & 17g				X		During treatment		
	Backfill or cut drainage into shallow depressions left in the marsh by control work to minimize standing water where appropriate (BIO-8)	All Sub-areas except 17f & 17g				X		Post-treatment		
AQ-3: Herbicide effects on air quality.	Implement ISP approved drift management plan (AQ-3; CM-3,4)	Sub-areas 17c, 17d, 17h, 17k, 17l & 17j		X				During treatment		
N-1: Disturbance of sensitive receptors	Comply with all local noise ordinances (N-1)	All sub-areas	X	X	X	X	X	During treatment		
HS-2: Worker Health effects from herbicide application.	Follow handling and application procedures as identified on product label (HS-2; CM-3)	All sub-areas	X	X	X	X	X	During treatment		

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*Impact**	*Applicable Mitigation & Conservation Measures**	*Sub Area Included*	*Truck*	*Aerial*	*Boat*	*Argo*	*Back-pack*	*Implementa-tion Timing*	*Verification Signatures*	
									Implementing Entity	*ISP Field Supervisor*
HS-3: Health effects to the public from herbi-cide application.	Minimize drift according to ISP drift management plan or equivalent (HS-3; CM-3, 4)	All sub-areas	X	X	X	X	X	During treatment		
	Post appropriate signage (see attached signage requirements) a minimum of 24 hours pre-treatment (HS-3)	All sub-areas	X	X	X	X	X	Pre-treatment		
HS-4: Health effects to workers or the public from accidents associ-ated with treatment.	Avoid scheduling herbi-cide application near high public use areas during weekends or holidays, or close public access to area 24 hours before and after treatment (HS-3)	All sub-areas	X	X	X	X	X	Pre-treatment and during treatment		
	Maintain ISP or approved equivalent Site Safety and Spill Prevention plan on site (HS-4;CM-3,17)	All sub-areas	X	X	X	X	X	During treatment		
VIS-1: Alteration of views from removal of non-native cordgrass infestations.	Post appropriate signage according to ISP signage protocols (VIS-1)	All sub-areas	X	X	X	X	X	Pre-treatment, during treatment, post-treatment		
CUL-1: Disturbance or destruction of cultural resources from access and treatment.	Report all discovered pre-historic or historic re-sources to the ISP Field Supervisor and a qualified archeologist or historic resources consultant and suspend all work at site until archaeological miti-gation has taken place (CUL-1)	All sub-areas	X		X	X	X	Pre-treatment and during treatment		

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*Impact**	*Applicable Mitigation & Conservation Measures**	*Sub Area Included*	*Truck*	*Aerial*	*Boat*	*Argo*	*Back-pack*	*Implementation Timing*	*Verification Signatures*	
									Implementing Entity	*ISP Field Supervisor*
CUM-2: Cumulative damage to marsh plain vegetation	Coordinate treatment schedule with the Mosquito abatement district in order to minimize cumulative impacts (CUM-2)	All Sub-areas except 17f & 17g				X		Pre-treatment		
CM-7: Invasive species	Monitor cleared patches for recruitment of invasive plant species including perennial pepperweed until native vegetation has become dominant (CM-7)	All sub-areas	X	X	X	X	X	Post-treatment		

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CM - Conservation Measures as defined by USFWS Biological Opinions (general and site-specific)

SITE-SPECIFIC PROJECT IMPACT EVALUATION

Site Name: Colma Creek and San Bruno Marsh Complex, San Mateo County TSN: ISP-2004-18

Impact*	Applicable to Site	Sub-Area Included	Applicable Mitigations* (by Treatment Method used at Site) Various herbicide Treatment methods					Comments/Analysis of Residual Impact at Site	Additional Mitigation Required
			Truck	Aerial	Boat	Argo	Back-pack		
GEO-1: Erosion or deposition of sediment at treatment site	NA/NE							NA/NE – Proposed activities are not ground disturbing and will not elevate erosion above ambient levels.	None
GEO-2: Erosion or topographic change of marsh and mudflat by vehicles used in eradication	A	18a, 18b, 18d, 18e, 18f, 18g, 18h				GEO-2		LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
GEO-3: Remobilization of sand in cordgrass-stabilized estuarine beaches	NA/NE							NA/NE – No excavation within estuarine beaches planned. Any cordgrass treated within this Complex on estuarine beaches will be treated with herbicide leaving intact root masses. Root masses will naturally degrade on site.	None
GEO-4: Increased demand for sediment disposal and potential spread of invasive cordgrass via sediment disposal.	NA/NE							NA/NE – No dredging/sediment disposal proposed	None
GEO-5: Increased volume and velocity of tidal currents in channels due to the removal of invasive cordgrass.	A	All sub-areas	None	None	None	None	None	No adverse impact (see EIS/R GEO-5 discussion). Site conditions consistent with those anticipated in the PEIS/R.	None
GEO-6: Increased depth and turbulence of tidewaters impounded in salt marsh pans.	A	All sub-areas	None	None	None	None	None	NA/NE – No mitigation required for work near or in salt marsh pans.	None
WQ-1: Degradation of water quality due to herbicide application	A	All sub-areas	WQ-1	WQ-1	WQ-1	WQ-1	WQ-1	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
WQ-2: Degradation of water quality due to herbicide spills	A	All sub-areas	WQ-2	WQ-2	WQ-2	WQ-2	WQ-2	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None

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Impact*	Applicable to Site	Sub-Area Included	Applicable Mitigations* (by Treatment Method used at Site) Various herbicide Treatment methods					Comments/Analysis of Residual Impact at Site	Additional Mitigation Required
			Truck	Aerial	Boat	Argo	Back-pack		
WQ-3: Degradation of water quality due to fuel or petroleum spills	A	All sub-areas	WQ-3	WQ-3	WQ-3	WQ-3	WQ-3	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
WQ-4: Degradation of water quality due to contaminant remobilization	NA/NE							NA/NE – No dredging or other sediment-mobilizing activities proposed.	None
WQ-5: Water quality effects resulting from sediment accretion	NA/NE							NA/NE – This impact only applies to EIS/R Alternative 3.	None
BIO-1.1: Effects on tidal marsh plant communities affected by salt-meadow cordgrass and English cordgrass.	NA/NE							NA/NE – Field surveys found no salt-meadow or English cordgrass at this site.	None
BIO-1.2: Effects on tidal marsh plant communities affected by Atlantic smooth cordgrass and its hybrids.	A	All sub-areas	BIO-1.2	BIO-1.2	BIO-1.2	BIO-1.2	BIO-1.2	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-1.3: Effects on tidal marsh plant communities affected by Chilean cordgrass.	NA/NE							NA/NE – Field surveys found no Chilean cordgrass at site.	None
BIO-1.4: Effects on submerged aquatic plant communities.	NA/NE							NA/NE – Field surveys found no eelgrass or other submerged aquatic plants at site.	None
BIO-2: Effects on special-status plants (Soft bird's beak and/or Suisun thistle) in tidal marshes	NA/NE							NA/NE – Field surveys found no special-status plant species at site.	None
BIO-3: Effects on shorebirds and waterfowl.	A	All sub-areas	BIO-3	BIO-3	BIO-3	BIO-3	BIO-3	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-4.1: Effects on the salt marsh harvest mouse and tidal marsh shrew species.	A	18a, 18b, 18d, 18e, 18f, 18g, 18h				BIO-4.1		LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-4.2: Effects on resident harbor seal colonies of San Francisco Bay.	NA/NE							NA/NE –No harbor seal colonies within areas targeted for *Spartina* treatment under this plan.	None

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Impact*	Applicable to Site	Sub-Area Included	Applicable Mitigations* (by Treatment Method used at Site) Various herbicide Treatment methods					Comments/Analysis of Residual Impact at Site	Additional Mitigation Required
			Truck	Aerial	Boat	Argo	Back-pack		
BIO-4.3: Effects on the southern sea otter.	NA/NE							NA/NE – Outside of known range of southern sea otters.	None
BIO-5.1: Effects on the California clapper rail.	A	All sub-areas	BIO-5.1 as modified by UFSWS BO	BIO-5.1 as modified by UFSWS BO	BIO-5.1 as modified by UFSWS BO	BIO-5.1 as modified by UFSWS BO	BIO-5.1 as modified by UFSWS BO	LTS/NLTAE – Potential impacts mitigated to less than significant on Sub-Areas 18a and 18h. Site conditions consistent with those anticipated in the PEIS/R. MAY AFFECT- On Sub-Areas 18c, 18d, 18e, 18f, and 18g. Impacts will be mitigated by phasing treatments within Site as a whole.	Phasing of treatments within the Site, on Sub-Areas 18a, 18c, 18d, 18e, 18f, and 18g
BIO-5.2: Effects on the California black rail.	A	All sub-areas	BIO-5.2	BIO-5.2	BIO-5.2	BIO-5.2	BIO-5.2	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-5.3: Effects on tidal marsh song sparrow subspecies and the salt marsh common yellowthroat.	A	All sub-areas	BIO-5.3	BIO-5.3	BIO-5.3	BIO-5.3	BIO-5.3	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-5.4: Effects on California least terns and western snowy plovers.	NA/NE							NA/NE – Outside of known California least tern and western snowy plover range.	None
BIO-5.5: Effects on raptors (birds of prey).	A	18d, 18e, 18f, 18g		BIO-5.5				LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-6.1: Effects on anadromous salmonids (winter-run and spring-run Chinook salmon, steelhead).	A	All sub-areas	BIO-6.1	BIO-6.1	BIO-6.1	BIO-6.1	BIO-6.1	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-6.2: Effects on delta smelt and Sacramento splittail.	NA/NE							NA/NE – Outside of known delta smelt and Sacramento splittail range.	None
BIO-6.3: Effects on the tidewater goby.	NA/NE							NA/NE – Outside of known range of tidewater goby.	None

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Impact*	Applicable to Site	Sub-Area Included	Applicable Mitigations* (by Treatment Method used at Site) Various herbicide Treatment methods					Comments/Analysis of Residual Impact at Site	Additional Mitigation Required
			Truck	Aerial	Boat	Argo	Back-pack		
BIO-6.4: Effects on estuarine fish populations of shallow submerged intertidal mudflats and channels.	A	All sub-areas	BIO-6.4 – minimize spraying	BIO-6.4 – minimize spraying	BIO-6.4 – minimize spraying	BIO-6.4 – minimize spraying	BIO-6.4 – minimize spraying	LTS/NLTAE with additional mitigation BIO-6.4(b) (Note: No mowing proposed because of unacceptable impacts to birds)	BIO-6.4(b) - R-11 will not be used adjacent to channel to minimize any potential adverse affects on estuarine fish.
BIO-7: Effects on California red-legged frog and San Francisco garter snake.	NA/NE							NA/NE – Outside of known range of California red-legged frog and San Francisco garter snake.	None
BIO-8: Effects of regional invasive cordgrass eradication on mosquito production.	A	18a, 18b, 18d, 18e, 18f, 18g, 18h				BIO-8		LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-9: Effects on tiger beetle species.	NA/NE							NA/NE – No potential tiger beetle habitat will be affected.	None
AQ-1: Dust emissions.	A	18e	AQ-1	AQ-1	AQ-1	AQ-1	AQ-1	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
AQ-2: Smoke emissions.	NA/NE							NA/NE – No burning proposed.	None
AQ-3: Herbicide effects on air quality.	A	18d, 18e, 18f, 18g		AQ-3				LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
AQ-4: Ozone precursor emissions.	NA/NE							LTS/NLTAE without mitigation.	None
AQ-5: Carbon Monoxide (CO) emissions.	NA/NE							LTS/NLTAE without mitigation.	None
N-1: Disturbance of sensitive receptors	A	All sub-areas	N-1	N-1	N-1	N-1	N-1	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
HS-1: Worker injury from accidents associated with manual and mechanical cordgrass treatment.	NA/NE							NA/NE – Methods not proposed for this site	None

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*Impact**	*Applicable to Site*	*Sub-Area Included*	*Applicable Mitigations* (by Treatment Method used at Site) Various herbicide Treatment methods*					*Comments/Analysis of Residual Impact at Site*	*Additional Mitigation Required*
			Truck	*Aerial*	*Boat*	*Argo*	*Back-pack*		
HS-2: Worker health effects from herbicide application.	A	All sub-areas	HS-2	HS-2	HS-2	HS-2	HS-2	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
HS-3: Health effects to the public from herbicide application.	A	All sub-areas	HS-3	HS-3	HS-3	HS-3	HS-3	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
HS-4: Health effects to workers or the public from accidents associated with treatment.	A	All sub-areas	HS-4	HS-4	HS-4	HS-4	HS-4	LTS/NLTAE – Potential impacts mitigated to less than. Site conditions consistent with those anticipated in the PEIS/R.	None
VIS-1: Alteration of views from removal of non-native cordgrass infestations.	A	All sub-areas	VIS-1	VIS-1	VIS-1	VIS-1	VIS-1	SU – Impacts addressed in EIS/R and CEQA findings. Site conditions consistent with those anticipated in the PEIS/R.	None
VIS-2: Change in views from native marsh, mudflat, and open water to non-native cordgrass meadows and monocultures.	NA/NE							NA/NE – Applies only to PEIS/R Alternative 3 (No Action)	None
LU-1: Land use conflicts between herbicide use and sensitive receptors	A	All sub-areas	LU-1	LU-1	LU-1	LU-1	LU-1	LTS/NLTAE – Limited to less than significant by HS, N and AQ mitigations.	None
LU-2: Land use conflicts from mechanical and burning treatment methods	NA/NE							NA/NE – Methods not proposed for site	None
CUL-1: Disturbance or destruction of cultural resources from access and treatment.	A	All sub-areas	CUL-1		CUL-1	CUL-1	CUL-1	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
CUL-2: Loss of cultural resources from erosion.	NA/NE							NA/NE – No erosion-producing activities proposed	None
CUM-1- Effects of wetland restoration projects on spread of non-native cordgrass	NA/NE							NA/NE – No restoration projects with the potential to spread *Spartina* proposed within this Complex during the proposed treatment schedule	None
CUM-2- Cumulative damage to marsh plain vegetation	A	18d, 18e, 18f, 18g				CUM-2		LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None

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SITE-SPECIFIC PROJECT MITIGATION

Site Name: Colma Creek and San Bruno Marsh Complex, San Mateo County TSN: ISP-2005-18

*Impact**	*Applicable Mitigation & Conservation Measures**	*Sub Area Included*	*Truck*	*Aerial*	*Boat*	*Argo*	*Back-pack*	*Implementation Timing*	*Verification Signatures*	
									Implementing Entity	*ISP Field Supervisor*
GEO-2: Erosion or topographic change of marsh and mudflat by vehicles used in eradication	Minimize vehicle travel in the marsh and mudflats (GEO-2; CM-1)	18a, 18b, 18d, 18e, 18f, 18g				X		During treatment		
WQ-1: Degradation of water quality due to herbicide application	Apply herbicide directly to plant at low tide and according to label. (WQ-1; CM-3 & 4)	All sub-areas	X	X	X	X	X	During treatment		
WQ-2: Degradation of water quality due to herbicide spills	Apply under supervision of trained applicator (WQ-2; CM-3)	All sub-areas	X	X	X	X	X	During treatment		
	Implement spill and containment plan provided or approved by ISP (WQ-2; CM-17)	All sub-areas	X	X	X	X	X	During treatment		
WQ-3: Degradation of water quality due to fuel or petroleum spills	Implement spill and containment plan provided or approved by ISP (WQ-3; CM-17)	All sub-areas	X	X	X	X	X	During treatment		
BIO-1.2: Effects on tidal marsh plant communities affected by Atlantic smooth cordgrass and its hybrids.	Minimize entry and re-entry into marsh (BIO-1.2; CM-1)	All sub-areas	X	X	X	X	X	During treatment		
	Avoid staging in high, dense vegetation such as gumplant or pickleweed (FWS GL)	All sub-areas	X	X	X	X	X	During treatment		
	Avoid herbicide application to non-target vegetation adjacent to treatment area. (BIO-1.2; CM-3, 4)	All sub-areas	X	X	X	X	X	During treatment		

*Impact numbering from ISP Control Program Programmatic EIS/R, September 2003.
Mitigations are from corresponding numbered mitigation in the same document,
CM - Conservation Measures as defined by USFWS Biological Opinions (general and site-specific)

*Impact**	*Applicable Mitigation & Conservation Measures**	*Sub Area Included*	*Truck*	*Aerial*	*Boat*	*Argo*	*Back-pack*	*Implementation Timing*	*Verification Signatures*	
									Implementing Entity	*ISP Field Supervisor*
BIO-3: Effects on shorebirds, waterfowl & marshland birds.	Avoid working within 1,000 feet of occupied mudflats during peak Pacific Flyway stopovers. (BIO-3)	All sub-areas	X	X	X	X	X	During treatment		
	Occupy treatment area soon after high tide, before mudflats emerge. (BIO-3)	All sub-areas	X	X	X	X	X	During treatment		
	Haze shorebirds to minimize potential direct contact with herbicide drift. (BIO-3)	All sub-areas	X	X	X	X	X	During treatment		
	Helicopters will not be operated within 1000 feet of active major foraging or roosting sites (BIO-3)	18d, 18e, 18f, 18g		X				During treatment		
BIO-4.1: Effects on the salt marsh harvest mouse and tidal marsh shrew species.	Use shortest possible access route through any pickleweed habitat. Flag areas of repeated access (BIO-4.1; CM-15)	18a, 18b, 18d, 18e, 18f, 18g				X		During treatment		
	Use protective mats or other covering over pickleweed in areas of repeated access (BIO-4.1; CM-15)	18a, 18b, 18d, 18e, 18f, 18g				X		During treatment		
	Assume presence of SMHM on all suitable sites (CM 14)	All Sub-Areas	X	X	X	X	X	During treatment		
	Whenever possible, schedule work after mass mortality events caused by extreme high tides (CM 16).	18a, 18b, 18d, 18e, 18f, 18g				X		Pre- and during treatment		
BIO-5.1: Effects on California clapper rail.	Perform work only during Sept 1 thru Feb 1 to avoid CLRA breading season (BIO-5.1; CM-18)	All Sub-areas	X		X	X	X	During treatment		

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*Impact**	*Applicable Mitigation & Conservation Measures**	*Sub Area Included*	*Truck*	*Aerial*	*Boat*	*Argo*	*Back-pack*	*Implementation Timing*	*Verification Signatures*	
									Implementing Entity	*ISP Field Supervisor*
	For work within the Clapper Rail breeding season, call counts will be performed in the early spring according to FWS protocols (CM-18)	18d, 18e, 18f, 18g		X				During treatment		
	Provide CLRA Field biologist supervision (BIO-5.1)	All Sub-areas	X	X	X	X	X	During treatment		
	Assure that field personnel are trained in general CLRA biology and CLRA identification and call detection (BIO-5.1)	All Sub-areas	X	X	X	X	X	During treatment		
	Report any CLRA activity immediately to ISP Field Supervisor and in post-treatment report (BIO-5.1)	All Sub-Areas	X	X	X	X	X	During treatment		
BIO-5.2: Effects on the California black rail.	Implement mitigation and avoidance procedures for California clapper rail (BIO-5.1)	All Sub-Areas	X	X	X	X	X	During treatment		
BIO-5.3: Effects on tidal marsh song sparrow subspecies and the salt marsh common yellowthroat.	Report any SMSS and SCYE activity immediately to ISP Field Supervisor and in post-treatment report (BIO-5.3)	All Sub-Areas	X		X	X	X	During and post-treatment		
	Avoid spraying or removing *Grindelia* plants in the marsh (BIO-5.3)	All Sub-Areas	X	X	X	X	X	During treatment		
	Watch for Song Sparrow presence in the work area during early season treatment work (pre-August), especially in the smaller, upper reaches of channels (BIO-5.3)	All Sub-Areas	X	X	X	X	X	During treatment		

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*Impact**	*Applicable Mitigation & Conservation Measures**	*Sub Area Included*	*Truck*	*Aerial*	*Boat*	*Argo*	*Back-pack*	*Implementation Timing*	*Verification Signatures*	
									Implementing Entity	*ISP Field Supervisor*
BIO-5.5: Effects on raptors (birds of prey).	Consult qualified biologist to determine possible raptor nesting presence (BIO-5.5)	18d, 18e, 18f, 18g		X				Pre-treatment		
	Ensure 500 foot buffer around nests for any helicopter activity (BIO-5.5)	18d, 18e, 18f, 18g		X				Pre-treatment and during treatment		
BIO-6.1: Effects on anadromous salmonids (winter-run and spring-run Chinook salmon, steelhead).	Target herbicide applications to minimize herbicide use near channel (BIO-6.1).	All Sub-Areas	X	X	X	X	X	During treatment		
	Avoid use of alkylphenol ethoxylate surfactants Dec 1 thru April 1 to avoid steelhead spawning. (BIO-6.1)	All sub-areas	X	X	X	X	X	During treatment		
BIO-6.4: Effects on estuarine fish populations of shallow submerged intertidal mudflats and channels.	Minimize spraying near intertidal mudflats and channels (BIO-6.4)	All sub-areas	X	X	X	X	X	During treatment		
	Avoid use of alkylphenol ethoxylate surfactants adjacent to channel to minimize any potential adverse affects on estuarine fish (BIO-6.4)	All sub-areas	X	X	X	X	X	During treatment		
BIO-8: Effects of regional invasive cordgrass eradication on mosquito production.	Monitor access route for the formation of un-drained depressions in tire ruts or foot trails (BIO-8)	18a, 18b, 18d, 18e, 18f, 18g, 18h				X		During treatment		
	Backfill or cut drainage into shallow depressions left in the marsh by control work to minimize standing water where appropriate (BIO-8)	18a, 18b, 18d, 18e, 18f, 18g, 18h				X		Post-treatment		

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CM - Conservation Measures as defined by USFWS Biological Opinions (general and site-specific)

*Impact**	*Applicable Mitigation & Conservation Measures**	*Sub Area Included*	*Truck*	*Aerial*	*Boat*	*Argo*	*Back-pack*	*Implementation Timing*	*Verification Signatures*	
									Implementing Entity	*ISP Field Supervisor*
AQ-1: Dust emissions	Limit traffic speeds on any dirt access roads to 15 miles per hour. (AQ-1)	All sub-areas	X	X	X	X	X	Pre-treatment, during treatment, post-treatment		
AQ-3: Herbicide effects on air quality.	Implement ISP approved drift management plan (AQ-3; CM-3, 4)	18d, 18e, 18f, 18g		X				During treatment		
N-1: Disturbance of sensitive receptors	Comply with all local noise ordinances (N-1)	All sub-areas	X	X	X	X	X	During treatment		
HS-2: Worker Health effects from herbicide application.	Follow handling and application procedures as identified on product label (HS-2; CM-3)	All sub-areas	X	X	X	X	X	During treatment		
HS-3: Health effects to the public from herbicide application.	Minimize drift according to ISP drift management plan or equivalent (HS-3; CM-3,4)	All sub-areas	X	X	X	X	X	During treatment		
	Post appropriate signage (see attached signage requirements) a minimum of 24 hours pre-treatment (HS-3)	All sub-areas	X	X	X	X	X	Pre-treatment		
HS-4: Health effects to workers or the public from accidents associated with treatment.	Avoid scheduling herbicide application near high public use areas during weekends or holidays, or close public access to area 24 hours before and after treatment (HS-3)	All sub-areas	X	X	X	X	X	Pre-treatment and during treatment		
	Maintain ISP or approved equivalent Site Safety and Spill Prevention plan on site (HS-4; CM-3, 17)	All sub-areas	X	X	X	X	X	During treatment		

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*Impact**	*Applicable Mitigation & Conservation Measures**	*Sub Area Included*	*Truck*	*Aerial*	*Boat*	*Argo*	*Back-pack*	*Implementation Timing*	*Verification Signatures*	
									Implementing Entity	*ISP Field Supervisor*
VIS-1: Alteration of views from removal of non-native cordgrass infestations.	Post appropriate signage according to ISP signage protocols (VIS-1)	All sub-areas	X	X	X	X	X	Pre-treatment, during treatment, post-treatment		
CUL-1: Disturbance or destruction of cultural resources from access and treatment.	Report all discovered prehistoric or historic resources to the ISP Field Supervisor and a qualified archeologist or historic resources consultant and suspend all work at site until archaeological mitigation has taken place (CUL-1)	All sub-areas	X		X	X	X	Pre-treatment and during treatment		
CUM-2: Cumulative damage to marsh plain vegetation	Coordinate treatment schedule with the Mosquito abatement district in order to minimize cumulative impacts (CUM-2)	18a, 18b, 18d, 18e, 18f, 18g, 18h				X		Pre-treatment		
CM-7: Invasive species	Monitor cleared patches for recruitment of invasive plant species including perennial pepperweed until native vegetation has become dominant (CM-7)	All sub-areas	X	X	X	X	X	Post-treatment		

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CM - Conservation Measures as defined by USFWS Biological Opinions (general and site-specific)

SITE-SPECIFIC PROJECT IMPACT EVALUATION

Site Name: West San Francisco Bay, San Mateo County TSN: ISP-2004-19

*Impact**	*Applicable to Site*	*Sub-Area Included*	*Applicable Mitigations* (by Treatment Method used at Site)* Various herbicide Treatment methods					*Comments/Analysis of Residual Impact at Site*	*Additional Mitigation Required*
			Truck	*Aerial*	*Boat*	*Argo*	*Back-pack*		
GEO-1: Erosion or deposition of sediment at treatment site	NA/NE							NA/NE – Proposed activities are not ground disturbing and will not elevate erosion above ambient levels.	None
GEO-2: Erosion or topographic change of marsh and mudflat by vehicles used in eradication	A	19e, 19h, 19i, 19j, 19k, 19l 19n, 19o, 19p, 19q				GEO-2		LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
GEO-3: Remobilization of sand in cordgrass-stabilized estuarine beaches	NA/NE							NA/NE – No excavation within estuarine beaches planned. Any cordgrass treated within this Complex on estuarine beaches will be treated with herbicide leaving intact root masses. Root masses will naturally degrade on site.	None
GEO-4: Increased demand for sediment disposal and potential spread of invasive cordgrass via sediment disposal.	NA/NE							NA/NE – No dredging/sediment disposal proposed	None
GEO-5: Increased volume and velocity of tidal currents in channels due to the removal of invasive cordgrass.	A	19b, 19e, 19h, 19i, 19j, 19k, 19o, 19p	None	None	None	None	None	No adverse impact (see EIS/R GEO-5 discussion). Site conditions consistent with those anticipated in the PEIS/R.	None
GEO-6: Increased depth and turbulence of tidewaters impounded in salt marsh pans.	A	19p	None	None	None	None	None	NA/NE – No mitigation required for work near or in salt marsh pans.	None

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Impact*	Applicable to Site	Sub-Area Included	Applicable Mitigations* (by Treatment Method used at Site) Various herbicide Treatment methods					Comments/Analysis of Residual Impact at Site	Additional Mitigation Required
			Truck	Aerial	Boat	Argo	Back-pack		
WQ-1: Degradation of water quality due to herbicide application	A	All sub-areas	WQ-1	WQ-1	WQ-1	WQ-1	WQ-1	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
WQ-2: Degradation of water quality due to herbicide spills	A	All sub-areas	WQ-2	WQ-2	WQ-2	WQ-2	WQ-2	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
WQ-3: Degradation of water quality due to fuel or petroleum spills	A	All sub-areas	WQ-3	WQ-3	WQ-3	WQ-3	WQ-3	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
WQ-4: Degradation of water quality due to contaminant remobilization	NA/NE							NA/NE – No dredging or other sediment-mobilizing activities proposed.	None
WQ-5: Water quality effects resulting from sediment accretion	NA/NE							NA/NE – This impact only applies to EIS/R Alternative 3.	None
BIO-1.1: Effects on tidal marsh plant communities affected by salt-meadow cordgrass and English cordgrass.	NA/NE							NA/NE – Field surveys found no salt-meadow or English cordgrass within this site.	None
BIO-1.2: Effects on tidal marsh plant communities affected by Atlantic smooth cordgrass and its hybrids.	A	All sub-areas	BIO-1.2	BIO-1.2	BIO-1.2	BIO-1.2	BIO-1.2	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None

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Impact*	Applicable to Site	Sub-Area Included	Applicable Mitigations* (by Treatment Method used at Site) Various herbicide Treatment methods					Comments/Analysis of Residual Impact at Site	Additional Mitigation Required
			Truck	Aerial	Boat	Argo	Back-pack		
BIO-1.3: Effects on tidal marsh plant communities affected by Chilean cordgrass.	A	19k	BIO-1.3			BIO-1.3	BIO-1.3	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-1.4: Effects on submerged aquatic plant communities.	NA/NE							NA/NE – Field surveys found no eelgrass or other submerged aquatic plants within site.	None
BIO-2: Effects on special-status plants (Soft bird's beak and/or Suisun thistle) in tidal marshes	NA/NE							NA/NE – Field surveys found no special-status plant species within site.	None
BIO-3: Effects on shorebirds and waterfowl.	A	All sub-areas	BIO-3	BIO-3	BIO-3	BIO-3	BIO-3	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-4.1: Effects on the salt marsh harvest mouse and tidal marsh shrew species.	A	19a, 19i, 19l, 19n, 19p,	BIO-4.1	BIO-4.1	BIO-4.1	BIO-4.1	BIO-4.1	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-4.2: Effects on resident harbor seal colonies of San Francisco Bay.	NA/NE							LTS/NLTAE – No sub-areas within site contain harbor seal colonies.	None
BIO-4.3: Effects on the southern sea otter.	NA/NE							NA/NE – Outside of known range of southern sea otters.	None

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Impact*	Applicable to Site	Sub-Area Included	Applicable Mitigations* (by Treatment Method used at Site) Various herbicide Treatment methods					Comments/Analysis of Residual Impact at Site	Additional Mitigation Required
			Truck	Aerial	Boat	Argo	Back-pack		
BIO-5.1: Effects on the California clapper rail.	A	All Sub-areas	BIO-5.1 as modified by UFSWS BO	BIO-5.1 as modified by UFSWS BO	BIO-5.1 as modified by UFSWS BO	BIO-5.1 as modified by UFSWS BO	BIO-5.1 as modified by UFSWS BO	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-5.2: Effects on the California black rail.	NA/NE							NA/NE – Outside of known range black rails.	None
BIO-5.3: Effects on tidal marsh song sparrow subspecies and the salt marsh common yellow-throat.	A	19a, 19b, 19e, 19f, 19i, 19k, 19n, 19p	BIO-5.3	BIO-5.3	BIO-5.3	BIO-5.3	BIO-5.3	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-5.4: Effects on California least terns and western snowy plovers.	NA/NE							NA/NE – No least tern or western snowy plover within sub-areas of this site.	None
BIO-5.5: Effects on raptors (birds of prey).	A	19p		BIO-5.5				LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-6.1: Effects on anadromous salmonids (winter-run and spring-run Chinook salmon, steelhead).	A	All sub-areas	BIO-6.1	BIO-6.1	BIO-6.1	BIO-6.1	BIO-6.1	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-6.2: Effects on delta smelt and Sacramento splittail.	NA/NE							NA/NE – Outside of known delta smelt and Sacramento splittail range.	None
BIO-6.3: Effects on the tidewater goby.	NA/NE							NA/NE – Outside of known range of tidewater goby.	None

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			Truck	Aerial	Boat	Argo	Back-pack		
BIO-6.4: Effects on estuarine fish populations of shallow submerged intertidal mudflats and channels.	A	All sub-areas	BIO-6.4 – mini-mize spraying	BIO-6.4 – mini-mize spraying	BIO-6.4 – mini-mize spraying	BIO-6.4 – mini-mize spraying	BIO-6.4 – mini-mize spraying	LTS/NLTAE with additional mitigation BIO-6.4(b) (Note: No mowing proposed because of unacceptable impacts to birds)	BIO-6.4(b) - R-11 will not be used ad-jacent to channel to minimize any poten-tial ad-verse af-fects on estuarine fish.
BIO-7: Effects on California red-legged frog and San Fran-cisco garter snake.	NA/NE							NA/NE – Outside of known range of California red-legged frog and San Francisco garter snake. Salinities of areas slated for treatment are too high.	None
BIO-8: Effects of regional inva-sive cordgrass eradication on mosquito production.	A	19e, 19h, 19i, 19j, 19k, 19l 19n, 19o, 19p, 19q				BIO-8		LTS/NLTAE – Potential impacts miti-gated to less than significant. Site con-ditions consistent with those anticipated in the PEIS/R.	None
BIO-9: Effects on tiger beetle species.	NA/NE							LTS/NLTAE without mitigation.	None
AQ-1: Dust emissions.	A	All sub-areas	AQ-1					NA/NE – Access routes paved.	None
AQ-2: Smoke emissions.	NA/NE							NA/NE – No burning proposed.	None
AQ-3: Herbicide effects on air quality.	A	19p		AQ-3				LTS/NLTAE – Potential impacts miti-gated to less than significant. Site con-ditions consistent with those anticipated in the PEIS/R.	None

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Impact*	Applicable to Site	Sub-Area Included	Applicable Mitigations* (by Treatment Method used at Site) Various herbicide Treatment methods					Comments/Analysis of Residual Impact at Site	Additional Mitigation Required
			Truck	Aerial	Boat	Argo	Back-pack		
AQ-4: Ozone precursor emissions.	NA/NE							LTS/NLTAE without mitigation.	None
AQ-5: Carbon Monoxide (CO) emissions.	NA/NE							LTS/NLTAE without mitigation.	None
N-1: Disturbance of sensitive receptors	A	All sub-areas	N-1	N-1	N-1	N-1	N-1	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
HS-1: Worker injury from accidents associated with manual and mechanical cordgrass treatment.	NA/NE							NA/NE – Methods not proposed for this site	None
HS-2: Worker health effects from herbicide application.	A	All sub-areas	HS-2	HS-2	HS-2	HS-2	HS-2	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
HS-3: Health effects to the public from herbicide application.	A	All sub-areas	HS-3	HS-3	HS-3	HS-3	HS-3	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
HS-4: Health effects to workers or the public from accidents associated with treatment.	A	All sub-areas	HS-4	HS-4	HS-4	HS-4	HS-4	LTS/NLTAE – Potential impacts mitigated to less than. Site conditions consistent with those anticipated in the PEIS/R.	None
VIS-1: Alteration of views from removal of non-native cordgrass infestations.	A	All sub-areas	VIS-1	VIS-1	VIS-1	VIS-1	VIS-1	SU – Impacts addressed in EIS/R and CEQA findings. Site conditions consistent with those anticipated in the PEIS/R.	None

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Impact*	Applicable to Site	Sub-Area Included	Applicable Mitigations* (by Treatment Method used at Site) Various herbicide Treatment methods					Comments/Analysis of Residual Impact at Site	Additional Mitigation Required
			Truck	Aerial	Boat	Argo	Back-pack		
VIS-2: Change in views from native marsh, mudflat, and open water to non-native cordgrass meadows and monocultures.	NA/NE							NA/NE – Applies only to PEIS/R Alternative 3 (No Action)	None
LU-1: Land use conflicts between herbicide use and sensitive receptors	A	All sub-areas	LU-1	LU-1	LU-1	LU-1	LU-1	LTS/NLTAE – Limited to less than significant by HS, N and AQ mitigations.	None
LU-2: Land use conflicts from mechanical and burning treatment methods	NA/NE							NA/NE – Methods not proposed for site	None
CUL-1: Disturbance or destruction of cultural resources from access and treatment.	A	All sub-areas	CUL-1a		CUL-1a	CUL-1a	CUL-1a	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
CUL-2: Loss of cultural resources from erosion.	NA/NE							NA/NE – No erosion-producing activities proposed	None
CUM-1- Effects of wetland restoration projects on spread of non-native cordgrass	NA/NE							NA/NE – No restoration projects with the potential to spread Spartina proposed within this Complex during the proposed treatment schedule	None
CUM-2- Cumulative damage to marsh plain vegetation	A	All sub-areas	CUM-2	CUM-2	CUM-2	CUM-2	CUM-2	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None

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SITE-SPECIFIC PROJECT MITIGATION

Site Name: West San Francisco Bay, San Mateo County TSN: ISP-2005-19

*Impact**	*Applicable Mitigation & Conservation Measures**	*Sub Area Included*	*Truck*	*Aerial*	*Boat*	*Argo*	*Back-pack*	*Implementation Timing*	*Verification Signatures*	
									Implementing Entity	*ISP Field Supervisor*
GEO-2: Erosion or topographic change of marsh and mudflat by vehicles used in eradication	Minimize vehicle travel in the marsh and mudflats (GEO-2; CM-1)	19e, 19h, 19i, 19j, 19k, 19l 19n, 19o, 19p, 19q				X		During treatment		
WQ-1: Degradation of water quality due to herbicide application	Apply herbicide directly to plant at low tide and according to label. (WQ-1; CM-3 & 4)	All sub-areas	X	X	X	X	X	During treatment		
WQ-2: Degradation of water quality due to herbicide spills	Apply under supervision of trained applicator (WQ-2; CM-3)	All sub-areas	X	X	X	X	X	During treatment		
	Implement spill and containment plan provided or approved by ISP (WQ-2; CM-17)	All sub-areas	X	X	X	X	X	During treatment		
WQ-3: Degradation of water quality due to fuel or petroleum spills	Implement spill and containment plan provided or approved by ISP (WQ-3; CM-17)	All sub-areas	X	X	X	X		During treatment		
BIO-1.2: Effects on tidal marsh plant communities affected by Atlantic smooth cordgrass and its hybrids.	Minimize entry and re-entry into marsh (BIO-1.2; CM-1)	All sub-areas	X	X	X	X	X	During treatment		
	Avoid staging in high, dense vegetation such as gumplant or pickleweed (FWS GL)	All sub-areas	X	X	X	X	X	During treatment		
	Avoid herbicide application to non-target vegetation adjacent to treatment area. (BIO-1.2; CM-3, 4)	All sub-areas	X	X	X	X	X	During treatment		

*Impact numbering from ISP Control Program Programmatic EIS/R, September 2003.
Mitigations are from corresponding numbered mitigation in the same document,
CM - Conservation Measures as defined by USFWS Biological Opinions (general and site-specific)

*Impact**	*Applicable Mitigation & Conservation Measures**	*Sub Area Included*	*Truck*	*Aerial*	*Boat*	*Argo*	*Back-pack*	*Implementa-tion Timing*	*Verification Signatures*	
									Implementing Entity	*ISP Field Supervisor*
BIO-1.3: Effects on tidal marsh plant communi-ties affected by Chilean cordgrass.	Minimize entry and re-entry into marsh (BIO-1.2; CM-1)	19k	X			X	X	During treatment		
	Avoid herbicide application to non-target vegetation adjacent to treatment area. (BIO-1.2; CM-3,4)	19k	X			X	X	During treatment		
BIO-3: Effects on shorebirds, waterfowl & marshland birds.	Avoid working within 1,000 feet of occupied mudflats during peak Pacific Flyway stopovers. (BIO-3)	All sub-areas	X	X	X	X	X	During treatment		
	Occupy treatment area soon after high tide, before mud-flats emerge. (BIO-3)	All sub-areas	X	X	X	X	X	During treatment		
	Haze shorebirds to minimize potential direct contact with herbicide drift. (BIO-3)	All sub-areas	X	X	X	X	X	During treatment		
	Helicopters will not be oper-ated within 1000 feet of ac-tive major foraging or roost-ing sites (BIO-3)	19p		X				During treatment		
BIO-4.1: Effects on the salt marsh harvest mouse and tidal marsh shrew species.	Use shortest possible ac-cess route through any pickleweed habitat. Flag areas of repeated access (BIO-4.1; CM-15)	19e, 19h, 19i, 19j, 19k, 19l 19n, 19o, 19p, 19q				X		During treatment		
	Use protective mats or other covering over pickleweed in areas of repeated access (BIO-4.1; CM-15)	19e, 19h, 19i, 19j, 19k, 19l 19n, 19o, 19p, 19q				X		During treatment		
	Assume presence of SMHM on all suitable sites (CM 14)	19a, 19i, 19l, 19n, 19p	X	X	X	X	X	During treatment		

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*Impact**	*Applicable Mitigation & Conservation Measures**	*Sub Area Included*	*Truck*	*Aerial*	*Boat*	*Argo*	*Back-pack*	*Implementa-tion Timing*	*Verification Signatures*	
									Implementing Entity	*ISP Field Supervisor*
	Whenever possible, sched-ule work after mass mortality events caused by extreme high tides (CM 16).	All sub-areas				X	X	Pre- and during treatment		
BIO-5.1: Effects on Cali-fornia clapper rail.	Perform work only during Sept 1 thru Feb 1 to avoid CLRA breading season (BIO-5.1; CM-18)	All Sub-areas	X		X	X	X	During treatment		
	For work within the Clapper Rail breeding season, call counts will be performed in the early spring according to FWS protocols (CM-18)	19p		X				During treatment		
	Provide CLRA Field biologist supervision (BIO-5.1)	All sub-areas	X	X	X	X	X	During treatment		
	Assure that field personnel are trained in general CLRA biology and CLRA identifica-tion and call detection (BIO-5.1)	All sub-areas	X	X	X	X	X	During treatment		
	Report any CLRA activity immediately to ISP Field Supervisor and in post-treatment report (BIO-5.1)	All sub-areas	X	X	X	X	X	During treatment		
BIO-5.3: Effects on tidal marsh song sparrow subspecies and the salt marsh common yellow-throat.	Report any SMSS and SCYE activity immediately to ISP Field Supervisor and in post-treatment report (BIO-5.3)	All sub-areas	X		X	X	X	During and post-treatment		
	Avoid spraying or removing *Grindelia* plants in the marsh (BIO-5.3)	All sub-areas	X	X	X	X	X	During treatment		

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*Impact**	*Applicable Mitigation & Conservation Measures**	*Sub Area Included*	*Truck*	*Aerial*	*Boat*	*Argo*	*Back-pack*	*Implementa-tion Timing*	*Verification Signatures*	
									Implementing Entity	*ISP Field Supervisor*
	Watch for Song Sparrow presence in the work area during early season treat-ment work (pre-August), especially in the smaller, upper reaches of channels (BIO-5.3)	All sub-areas	X	X	X	X	X	During treatment		
BIO-5.5: Effects on rap-tors (birds of prey).	Consult qualified biologist to determine possible raptor nesting presence (BIO-5.5)	19p		X				Pre-treatment		
	Ensure 500 foot buffer around nests for any heli-copter activity (BIO-5.5)	19p		X				Pre-treatment and during treatment		
BIO-6.1: Effects on anadromous salmonids (winter-run and spring-run Chinook salmon, steelhead).	Target herbicide applications to minimize herbicide use near channel (BIO-6.1).	All sub-areas	X	X	X	X	X	During treatment		
	Avoid use of alkylphenol ethoxylate surfactants Dec 1 thru April 1 to avoid steel-head spawning. (BIO-6.1)	All sub-areas	X	X	X	X	X	During treatment		
BIO-6.4: Effects on es-tuarine fish populations of shallow submerged intertidal mudflats and channels.	Minimize spraying near in-tertidal mudflats and chan-nels (BIO-6.4)	All sub-areas	X	X	X	X	X	During treatment		
	Avoid use of alkylphenol ethoxylate surfactants adja-cent to channel to minimize any potential adverse affects on estuarine fish (BIO-6.4)	All sub-areas	X	X	X	X	X	During treatment		
BIO-8: Effects of re-gional invasive cordgrass eradication on mosquito production.	Monitor access route for the formation of un-drained de-pressions in tire ruts or foot trails (BIO-8)	19e, 19h, 19i, 19j, 19k, 19l 19n, 19o, 19p, 19q				X		During treatment		

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*Impact**	*Applicable Mitigation & Conservation Measures**	*Sub Area Included*	*Truck*	*Aerial*	*Boat*	*Argo*	*Back-pack*	*Implementa-tion Timing*	*Verification Signatures*	
									Implementing Entity	*ISP Field Supervisor*
	Backfill or cut drainage into shallow depressions left in the marsh by control work to minimize standing water where appropriate (BIO-8)	19e, 19h, 19i, 19j, 19k, 19l 19n, 19o, 19p, 19q				X		Post-treatment		
AQ-1: Dust Emissions	Maintain 15 mph speed limit when traveling on unpaved levees or access roads (AQ-1)	All sub-areas	X					During treatment		
AQ-3: Herbicide effects on air quality.	Implement ISP approved drift management plan (AQ-3; CM-3,4)	19p		X				During treatment		
N-1: Disturbance of sensitive receptors	Comply with all local noise ordinances (N-1)	All sub-areas	X	X	X	X	X	During treatment		
HS-2: Worker Health effects from herbicide application.	Follow handling and application procedures as identified on product label (HS-2; CM-3)	All sub-areas	X	X	X	X	X	During treatment		
HS-3: Health effects to the public from herbicide application.	Minimize drift according to ISP drift management plan or equivalent (HS-3; CM-3,4)	All sub-areas	X	X	X	X	X	During treatment		
	Post appropriate signage (see attached signage requirements) a minimum of 24 hours pre-treatment (HS-3)	All sub-areas	X	X	X	X	X	Pre-treatment		
	Avoid scheduling herbicide application near high public use areas during weekends or holidays, or close public access to area 24 hours before and after treatment (HS-3)	All sub-areas	X	X	X	X	X	Pre-treatment and during treatment		

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*Impact**	*Applicable Mitigation & Conservation Measures**	*Sub Area Included*	*Truck*	*Aerial*	*Boat*	*Argo*	*Back-pack*	*Implementa-tion Timing*	*Verification Signatures*	
									Implementing Entity	*ISP Field Supervisor*
HS-4: Health effects to workers or the public from accidents associ-ated with treatment.	Maintain ISP or approved equivalent Site Safety and Spill Prevention plan on site (HS-4; CM-3,17)	All sub-areas	X	X	X	X	X	During treatment		
VIS-1: Alteration of views from removal of non-native cordgrass infestations.	Post appropriate signage according to ISP signage protocols (VIS-1)	All sub-areas	X	X	X	X	X	Pre-treatment, during treatment, post-treatment		
CUL-1: Disturbance or destruction of cultural resources from access and treatment.	Report all discovered prehis-toric or historic resources to the ISP Field Supervisor and a qualified archeologist or historic resources consultant and suspend all work at site until archaeological mitiga-tion has taken place (CUL-1)	All sub-areas	X	X	X	X	X	Pre-treatment and during treatment		
CUM-2: Cumulative damage to marsh plain vegetation	Coordinate treatment schedule with the Mosquito abatement district in order to minimize cumulative impacts (CUM-2)	All sub-areas	X	X	X	X	X	Pre-treatment		
CM-7: Invasive species	Monitor cleared patches for recruitment of invasive plant species including perennial pepperweed until native vegetation has become dominant (CM-7)	All sub-areas	X	X	X	X	X	Post-treatment		

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SITE-SPECIFIC PROJECT IMPACT EVALUATION

Site Name: San Leandro and Hayward Shoreline, Alameda County TSN: ISP-2005-20

*Impact**	*Applicable to Site*	*Sub-Area Included*	*Applicable Mitigations* (by Treatment Method used at Site)* Various herbicide Treatment methods					*Comments/Analysis of Residual Impact at Site*	*Additional Mitigation Required*
			Truck	*Aerial*	*Boat*	*Argo*	*Back-pack*		
GEO-1: Erosion or deposition of sediment at treatment site	NA/NE							NA/NE – Proposed activities are not ground disturbing and will not elevate erosion above ambient levels.	None
GEO-2: Erosion or topographic change of marsh and mudflat by vehicles used in eradication	A	Sub-areas 20c-t				GEO-2		LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
GEO-3: Remobilization of sand in cordgrass-stabilized estuarine beaches	NA/NE							NA/NE – No excavation within estuarine beaches planned. Any cordgrass treated within this Complex on estuarine beaches will be treated with herbicide leaving intact root masses. Root masses will naturally degrade on site.	None
GEO-4: Increased demand for sediment disposal and potential spread of invasive cordgrass via sediment disposal.	NA/NE							NA/NE – No dredging/sediment disposal proposed	None
GEO-5: Increased volume and velocity of tidal currents in channels due to the removal of invasive cordgrass.	A	All Sub-Areas	None	None	None	None	None	No adverse impact (see EIS/R GEO-5 discussion). Site conditions consistent with those anticipated in the PEIS/R.	None
GEO-6: Increased depth and turbulence of tidewaters impounded in salt marsh pans.	A	20c, 20d, 20e, 20f, 20m, 20n, 20o	None	None	None	None	None	NA/NE – No mitigation required for work near or in salt marsh pans.	None

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Impact*	Applicable to Site	Sub-Area Included	Applicable Mitigations* (by Treatment Method used at Site) Various herbicide Treatment methods					Comments/Analysis of Residual Impact at Site	Additional Mitigation Required
			Truck	Aerial	Boat	Argo	Back-pack		
WQ-1: Degradation of water quality due to herbicide application	A	All sub-areas	WQ-1	WQ-1	WQ-1	WQ-1	WQ-1	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
WQ-2: Degradation of water quality due to herbicide spills	A	All sub-areas	WQ-2	WQ-2	WQ-2	WQ-2	WQ-2	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
WQ-3: Degradation of water quality due to fuel or petroleum spills	A	All sub-areas	WQ-3	WQ-3	WQ-3	WQ-3	WQ-3	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
WQ-4: Degradation of water quality due to contaminant remobilization	NA/NE							NA/NE – No dredging or other sediment-mobilizing activities proposed.	None
WQ-5: Water quality effects resulting from sediment accretion	NA/NE							NA/NE – This impact only applies to EIS/R Alternative 3.	None
BIO-1.1: Effects on tidal marsh plant communities affected by salt-meadow cordgrass and English cordgrass.	NA/NE							NA/NE – Field surveys found no salt-meadow or English cordgrass within this site.	None
BIO-1.2: Effects on tidal marsh plant communities affected by Atlantic smooth cordgrass and its hybrids.	A	All sub-areas	BIO-1.2	BIO-1.2	BIO-1.2	BIO-1.2	BIO-1.2	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-1.3: Effects on tidal marsh plant communities affected by Chilean cordgrass.	NA/NE							NA/NE – Field surveys found no Chilean cordgrass within this site.	None
BIO-1.4: Effects on submerged aquatic plant communities.	NA/NE							NA/NE – Field surveys found no eelgrass or other submerged aquatic plants within site.	None

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Impact*	Applicable to Site	Sub-Area Included	Applicable Mitigations* (by Treatment Method used at Site) Various herbicide Treatment methods					Comments/Analysis of Residual Impact at Site	Additional Mitigation Required
			Truck	Aerial	Boat	Argo	Back-pack		
BIO-2: Effects on special-status plants (Soft bird's beak and/or Suisun thistle) in tidal marshes	NA/NE							NA/NE – Field surveys found no special-status plant species within site.	None
BIO-3: Effects on shorebirds and waterfowl.	A	All sub-areas	BIO-3	BIO-3	BIO-3	BIO-3	BIO-3	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-4.1: Effects on the salt marsh harvest mouse and tidal marsh shrew species.	A	20f, 20h, 20l, 20m, 20n, 20o, 20p	BIO-4.1	BIO-4.1	BIO-4.1	BIO-4.1	BIO-4.1	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-4.2: Effects on resident harbor seal colonies of San Francisco Bay.	NA/NE							LTS/NLTAE – No sub-areas within site contain harbor seal colonies.	None
BIO-4.3: Effects on the southern sea otter.	NA/NE							NA/NE – Outside of known range of southern sea otters.	None
BIO-5.1: Effects on the California clapper rail.	A	20d, 20e, 20f, 20g, 20h, 20l, 20i, 20m, 20n, 20o	BIO-5.1 as modified by UFSWS BO	BIO-5.1 as modified by UFSWS BO	BIO-5.1 as modified by UFSWS BO	BIO-5.1 as modified by UFSWS BO	BIO-5.1 as modified by UFSWS BO	LTS/NLTAE – Potential impacts mitigated to less than significant on Sub-Areas 20d, 20e, 20f, 20g, 20h, 20l, and 20i. Site conditions consistent with those anticipated in the PEIS/R. MAY AFFECT- On Sub-Areas 20m, 20n, and 20o. Impacts will be mitigated by phasing treatments within Site as a whole.	Phasing of treatments within the Site, on Sub-Areas 20m, 20n, and 20o.
BIO-5.2: Effects on the California black rail.	NA/NE							NA/NE – Outside of known range black rails.	None
BIO-5.3: Effects on tidal marsh song sparrow subspecies and the salt marsh common yellowthroat.	A	All sub-areas	BIO-5.3	BIO-5.3	BIO-5.3	BIO-5.3	BIO-5.3	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None

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USFWS BO – US Fish & Wildlife Service Biological Opinion

Impact*	Applicable to Site	Sub-Area Included	Applicable Mitigations* (by Treatment Method used at Site) Various herbicide Treatment methods					Comments/Analysis of Residual Impact at Site	Additional Mitigation Required
			Truck	Aerial	Boat	Argo	Back-pack		
BIO-5.4: Effects on California least terns and western snowy plovers.	NA/NE							NA/NE – No least tern or western snowy plover within sub-areas of this site.	None
BIO-5.5: Effects on raptors (birds of prey).	A	Sub-areas, 20b, 20c-h, 20k-t		BIO-5.5				LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-6.1: Effects on anadromous salmonids (winter-run and spring-run Chinook salmon, steelhead).	A	All sub-areas	BIO-6.1	BIO-6.1	BIO-6.1	BIO-6.1	BIO-6.1	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-6.2: Effects on delta smelt and Sacramento splittail.	NA/NE							NA/NE – Outside of known delta smelt and Sacramento splittail range.	None
BIO-6.3: Effects on the tidewater goby.	NA/NE							NA/NE – Outside of known range of tidewater goby.	None
BIO-6.4: Effects on estuarine fish populations of shallow submerged intertidal mudflats and channels.	A	All sub-areas	BIO-6.4 – minimize spraying	BIO-6.4 – minimize spraying	BIO-6.4 – minimize spraying	BIO-6.4 – minimize spraying	BIO-6.4 – minimize spraying	LTS/NLTAE with additional mitigation BIO-6.4(b) (Note: No mowing proposed because of unacceptable impacts to birds)	BIO-6.4(b) - R-11 will not be used adjacent to channel to minimize any potential adverse affects on estuarine fish.
BIO-7: Effects on California red-legged frog and San Francisco garter snake.	NA/NE							NA/NE – Outside of known range of California red-legged frog and San Francisco garter snake. Salinities of areas slated for treatment are too high.	None
BIO-8: Effects of regional invasive cordgrass eradication on mosquito production.	A	Sub-areas 20c-t				BIO-8		LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None

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Impact*	Applicable to Site	Sub-Area Included	Applicable Mitigations* (by Treatment Method used at Site) Various herbicide Treatment methods					Comments/Analysis of Residual Impact at Site	Additional Mitigation Required
			Truck	Aerial	Boat	Argo	Back-pack		
BIO-9: Effects on tiger beetle species.	NA/NE							LTS/NLTAE without mitigation.	None
AQ-1: Dust emissions.	A	All sub-areas	AQ-1	AQ-1	AQ-1	AQ-1	AQ-1	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
AQ-2: Smoke emissions.	NA/NE							NA/NE – No burning proposed.	None
AQ-3: Herbicide effects on air quality.	A	Sub-areas, 20b, 20c-h, 20k-t		AQ-3				LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
AQ-4: Ozone precursor emissions.	NA/NE							LTS/NLTAE without mitigation.	None
AQ-5: Carbon Monoxide (CO) emissions.	NA/NE							LTS/NLTAE without mitigation.	None
N-1: Disturbance of sensitive receptors	A	All sub-areas	N-1	N-1	N-1	N-1	N-1	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
HS-1: Worker injury from accidents associated with manual and mechanical cordgrass treatment.	NA/NE							NA/NE – Methods not proposed for this site	None
HS-2: Worker health effects from herbicide application.	A	All sub-areas	HS-2	HS-2	HS-2	HS-2	HS-2	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
HS-3: Health effects to the public from herbicide application.	A	All sub-areas	HS-3	HS-3	HS-3	HS-3	HS-3	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None

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*Impact**	*Applicable to Site*	*Sub-Area Included*	*Applicable Mitigations* (by Treatment Method used at Site)* *Various herbicide Treatment methods*					*Comments/Analysis of Residual Impact at Site*	*Additional Mitigation Required*
			Truck	*Aerial*	*Boat*	*Argo*	*Back-pack*		
HS-4: Health effects to workers or the public from accidents associated with treatment.	A	All sub-areas	HS-4	HS-4	HS-4	HS-4	HS-4	LTS/NLTAE – Potential impacts mitigated to less than. Site conditions consistent with those anticipated in the PEIS/R.	None
VIS-1: Alteration of views from removal of non-native cordgrass infestations.	A	All sub-areas	VIS-1	VIS-1	VIS-1	VIS-1	VIS-1	SU – Impacts addressed in EIS/R and CEQA findings. Site conditions consistent with those anticipated in the PEIS/R.	None
VIS-2: Change in views from native marsh, mudflat, and open water to non-native cordgrass meadows and monocultures.	NA/NE							NA/NE – Applies only to PEIS/R Alternative 3 (No Action)	None
LU-1: Land use conflicts between herbicide use and sensitive receptors	A	All sub-areas	LU-1	LU-1	LU-1	LU-1	LU-1	LTS/NLTAE – Limited to less than significant by HS, N and AQ mitigations.	None
LU-2: Land use conflicts from mechanical and burning treatment methods	NA/NE							NA/NE – Methods not proposed for site	None
CUL-1: Disturbance or destruction of cultural resources from access and treatment.	A	All sub-areas	CUL-1a		CUL-1a	CUL-1a	CUL-1a	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
CUL-2: Loss of cultural resources from erosion.	NA/NE							NA/NE – No erosion-producing activities proposed	None
CUM-1- Effects of wetland restoration projects on spread of non-native cordgrass	NA/NE							NA/NE – No restoration projects with the potential to spread *Spartina* proposed within this Complex during the proposed treatment schedule	None

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*Impact**	*Applicable to Site*	*Sub-Area Included*	*Applicable Mitigations* (by Treatment Method used at Site)* *Various herbicide Treatment methods*					*Comments/Analysis of Residual Impact at Site*	*Additional Mitigation Required*
			Truck	*Aerial*	*Boat*	*Argo*	*Back-pack*		
CUM-2- Cumulative damage to marsh plain vegetation	A	Sub-areas 20c-t				CUM-2		LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consis-tent with those anticipated in the PEIS/R.	None

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SITE-SPECIFIC PROJECT MITIGATION

Site Name: San Leandro and Hayward Shoreline, Alameda County TSN: ISP-2005-20

*Impact**	*Applicable Mitigation & Conservation Measures**	*Sub Area Included*	*Truck*	*Aerial*	*Boat*	*Argo*	*Back-pack*	*Implementation Timing*	*Verification Signatures*	
									Implementing Entity	*ISP Field Supervisor*
GEO-2: Erosion or topographic change of marsh and mudflat by vehicles used in eradication	Minimize vehicle travel in the marsh and mudflats (GEO-2; CM-1)	Sub-areas 20c-t				X		During treatment		
WQ-1: Degradation of water quality due to herbicide application	Apply herbicide directly to plant at low tide and according to label. (WQ-1; CM-3 & 4)	All sub-areas	X	X	X	X	X	During treatment		
WQ-2: Degradation of water quality due to herbicide spills	Apply under supervision of trained applicator (WQ-2; CM-3)	All sub-areas	X	X	X	X	X	During treatment		
	Implement spill and containment plan provided or approved by ISP (WQ-2; CM-17)	All sub-areas	X	X	X	X	X	During treatment		
WQ-3: Degradation of water quality due to fuel or petroleum spills	Implement spill and containment plan provided or approved by ISP (WQ-3; CM-17)	All sub-areas	X	X	X	X	X	During treatment		
BIO-1.2: Effects on tidal marsh plant communities affected by Atlantic smooth cordgrass and its hybrids.	Minimize entry and re-entry into marsh (BIO-1.2; CM-1)	All sub-areas	X	X	X	X	X	During treatment		
	Avoid staging in high, dense vegetation such as gumplant or pickleweed (FWS GL)	All sub-areas	X	X	X	X	X	During treatment		
	Avoid herbicide application to non-target vegetation adjacent to treatment area. (BIO-1.2; CM-3, 4)	All sub-areas	X	X	X	X	X	During treatment		

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Mitigations are from corresponding numbered mitigation in the same document,
CM - Conservation Measures as defined by USFWS Biological Opinions (general and site-specific)

*Impact**	*Applicable Mitigation & Conservation Measures**	*Sub Area Included*	*Truck*	*Aerial*	*Boat*	*Argo*	*Back-pack*	*Implementa-tion Timing*	*Verification Signatures*	
									Implementing Entity	*ISP Field Supervisor*
BIO-3: Effects on shorebirds, waterfowl & marshland birds.	Avoid working within 1,000 feet of occupied mudflats during peak Pacific Flyway stopovers. (BIO-3)	All sub-areas	X	X	X	X	X	During treatment		
	Occupy treatment area soon after high tide, before mudflats emerge. (BIO-3)	All sub-areas	X	X	X	X	X	During treatment		
	Haze shorebirds to minimize potential direct contact with her-bicide drift. (BIO-3)	All sub-areas	X	X	X	X	X	During treatment		
	Helicopters will not be operated within 1000 feet of active major foraging or roosting sites (BIO-3)	Sub-areas, 20b, 20c-h, 20k-t		X				During treatment		
BIO-4.1: Effects on the salt marsh harvest mouse and tidal marsh shrew species.	Use shortest possible access route through any pickleweed habitat. Flag areas of repeated access (BIO-4.1; CM-15)	Sub-areas 20c-t				X		During treatment		
	Use protective mats or other covering over pickleweed in ar-eas of repeated access (BIO-4.1; CM-15)	Sub-areas 20c-t				X		During treatment		
	Assume presence of SMHM on all suitable sites (CM 14)	All Sub-Areas	X	X	X	X	X	During treatment		
	Whenever possible, schedule work after mass mortality events caused by extreme high tides (CM 16).	20f, 20h, Sub-areas 20c-t				X		Pre- and during treatment		

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*Impact**	*Applicable Mitigation & Conservation Measures**	*Sub Area Included*	*Truck*	*Aerial*	*Boat*	*Argo*	*Back-pack*	*Implementa-tion Timing*	*Verification Signatures*	
									Implementing Entity	*ISP Field Supervisor*
BIO-5.1: Effects on California clapper rail.	Perform work only during Sept 1 thru Feb 1 to avoid CLRA bread-ing season (BIO-5.1; CM-18)	All terrestrial treatments on 20d, 20e, 20f, 20g, 20h, 20l, 20i, 20m, 20n, 20o	X		X	X	X	During treatment		
	For work within the Clapper Rail breeding season, call counts will be performed in the early spring according to FWS protocols (CM-18)	Sub-areas, 20b, 20c-h, 20k-t		X				During treatment		
	Provide CLRA Field biologist supervision (BIO-5.1)	20d, 20e, 20f, 20g, 20h, 20l, 20i, 20m, 20n, 20o	X	X	X	X	X	During treatment		
	Assure that field personnel are trained in general CLRA biology and CLRA identification and call detection (BIO-5.1)	20d, 20e, 20f, 20g, 20h, 20l, 20i, 20m, 20n, 20o	X	X	X	X	X	During treatment		
	Report any CLRA activity imme-diately to ISP Field Supervisor and in post-treatment report (BIO-5.1)	20d, 20e, 20f, 20g, 20h, 20l, 20i, 20m, 20n, 20o	X	X	X	X	X	During treatment		
BIO-5.3: Effects on tidal marsh song sparrow subspecies and the salt marsh common yellow-throat.	Report any SMSS and SCYE activity immediately to ISP Field Supervisor and in post-treatment report (BIO-5.3)	All Sub-Areas	X	X	X	X	X	During and post-treatment		
	Avoid spraying or removing *Grindelia* plants in the marsh (BIO-5.3)	All Sub-Areas	X	X	X	X	X	During treatment		

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*Impact**	*Applicable Mitigation & Conservation Measures**	*Sub Area Included*	*Truck*	*Aerial*	*Boat*	*Argo*	*Back-pack*	*Implementation Timing*	*Verification Signatures*	
									Implementing Entity	*ISP Field Supervisor*
	Watch for Song Sparrow presence in the work area during early season treatment work (pre-August), especially in the smaller, upper reaches of channels (BIO-5.3)	All Sub-Areas	X	X	X	X	X	During treatment		
BIO-5.5: Effects on raptors (birds of prey).	Consult qualified biologist to determine possible raptor nesting presence (BIO-5.5)	Sub-areas, 20b, 20c-h, 20k-t		X				Pre-treatment		
	Ensure 500 foot buffer around nests for any helicopter activity (BIO-5.5)	Sub-areas, 20b, 20c-h, 20k-t		X				Pre-treatment and during treatment		
BIO-6.1: Effects on anadromous salmonids (winter-run and spring-run Chinook salmon, steelhead).	Target herbicide applications to minimize herbicide use near channel (BIO-6.1).	All Sub-Areas	X	X	X	X	X	During treatment		
	Avoid use of alkylphenol ethoxylate surfactants Dec 1 thru April 1 to avoid steelhead spawning. (BIO-6.1)	All sub-areas	X	X	X	X	X	During treatment		
BIO-6.4: Effects on estuarine fish populations of shallow submerged intertidal mudflats and channels.	Minimize spraying near intertidal mudflats and channels (BIO-6.4)	All sub-areas	X	X	X	X	X	During treatment		
	Avoid use of alkylphenol ethoxylate surfactants adjacent to channel to minimize any potential adverse affects on estuarine fish (BIO-6.4)	All sub-areas	X	X	X	X	X	During treatment		
BIO-8: Effects of regional invasive cordgrass eradication on mosquito production.	Monitor access route for the formation of un-drained depressions in tire ruts or foot trails (BIO-8)	Sub-areas 20c-t				X		During treatment		

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*Impact**	*Applicable Mitigation & Conservation Measures**	*Sub Area Included*	*Truck*	*Aerial*	*Boat*	*Argo*	*Back-pack*	*Implementation Timing*	*Verification Signatures*	
									Implementing Entity	*ISP Field Supervisor*
	Backfill or cut drainage into shallow depressions left in the marsh by control work to minimize standing water where appropriate (BIO-8)	Sub-areas 20c-t				X		Post-treatment		
AQ-1: Dust emissions	Limit traffic speeds on any dirt access roads to 15 miles per hour. (AQ-1)	All sub-areas	X	X	X	X	X	Pre-treatment, during treatment, post-treatment		
AQ-3: Herbicide effects on air quality.	Implement ISP approved drift management plan (AQ-3; CM-3, 4)	Sub-areas, 20b, 20c-h, 20k-t		X				During treatment		
N-1: Disturbance of sensitive receptors	Comply with all local noise ordinances (N-1)	All sub-areas	X	X	X	X	X	During treatment		
HS-2: Worker Health effects from herbicide application.	Follow handling and application procedures as identified on product label (HS-2; CM-3)	All sub-areas	X	X	X	X	X	During treatment		
HS-3: Health effects to the public from herbicide application.	Minimize drift according to ISP drift management plan or equivalent (HS-3; CM-3, 4)	All sub-areas	X	X	X	X	X	During treatment		
	Post appropriate signage (see attached signage requirements) a minimum of 24 hours pre-treatment (HS-3)	All sub-areas	X	X	X	X	X	Pre-treatment		
HS-4: Health effects to workers or the public from accidents associated with treatment.	Avoid scheduling herbicide application near high public use areas during weekends or holidays, or close public access to area 24 hours before and after treatment (HS-3)	All sub-areas	X	X	X	X	X	Pre-treatment and during treatment		

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*Impact**	*Applicable Mitigation & Conservation Measures**	*Sub Area Included*	*Truck*	*Aerial*	*Boat*	*Argo*	*Back-pack*	*Implementation Timing*	*Verification Signatures*	
									Implementing Entity	*ISP Field Supervisor*
	Maintain ISP or approved equivalent Site Safety and Spill Prevention plan on site (HS-4; CM-3, 17)	All sub-areas	X	X	X	X	X	During treatment		
VIS-1: Alteration of views from removal of non-native cordgrass infestations.	Post appropriate signage according to ISP signage protocols (VIS-1)	All sub-areas	X	X	X	X	X	Pre-treatment, during treatment, post-treatment		
CUL-1: Disturbance or destruction of cultural resources from access and treatment.	Report all discovered prehistoric or historic resources to the ISP Field Supervisor and a qualified archeologist or historic resources consultant and suspend all work at site until archaeological mitigation has taken place (CUL-1)	All sub-areas	X		X	X	X	Pre-treatment and during treatment		
CUM-2: Cumulative damage to marsh plain vegetation	Coordinate treatment schedule with the Mosquito abatement district in order to minimize cumulative impacts (CUM-2)	Sub-areas 20c-t				X		Pre-treatment		
CM-7: Invasive species	Monitor cleared patches for recruitment of invasive plant species including perennial pepperweed until native vegetation has become dominant (CM-7)	All sub-areas	X	X	X	X	X	Post-treatment		

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SITE-SPECIFIC PROJECT IMPACT EVALUATION

Site Name: Ideal Marsh, Alameda County TSN: ISP-2005-21

*Impact**	*Applicable to Site*	*Applicable Mitigations* (by Treatment Method used at Site)*				*Comments/Analysis of Residual Impact at Site*	*Additional Mitigation Required*
		Back-pack	*Truck*	*Aerial*	*Amphibious Vehicle*		
GEO-1: Erosion or deposition of sediment at treatment site	NA/NE					NA/NE-Proposed activities will not elevate erosion above ambient levels	None
GEO-2: Erosion or topographic change of marsh and mudflat by vehicles used in eradication	A				GEO-2	LTS/NLTAE-Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R	None
GEO-3: Remobilization of sand in cordgrass-stabilized estuarine beaches	NA/NE					NA/NE – No excavation within estuarine beaches planned. Any cordgrass treated within this Site on estuarine beaches will be treated with herbicide leaving intact root masses. Root masses will naturally degrade on site.	None
GEO-4: Increased demand for sediment disposal and potential spread of invasive cordgrass via sediment disposal.	NA/NE					NA/NE-No dredging /sediment disposal proposed	None
GEO-5: Increased volume and velocity of tidal currents in channels due to the removal of invasive cordgrass.	A					No adverse impact (see PEIS/R GEO-5 discussion). Site conditions consistent with those anticipated in the PEIS/R.	None
GEO-6: Increased depth and turbulence of tidewaters impounded in salt marsh pans.	NA/NE					NA/NE-Proposed activities will not take place within salt marsh pans	None
WQ-1: Degradation of water quality due to herbicide application	A	WQ-1	WQ-1	WQ-1	WQ-1	LTS/NLTAE-Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R	None

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Impact*	Applica-ble to Site	Applicable Mitigations* (by Treatment Method used at Site)				Comments/Analysis of Residual Impact at Site	Additional Mitigation Required
		Back-pack	Truck	Aerial	Amphibious Vehicle		
WQ-2: Degradation of water quality due to herbicide spills	A	WQ-2	WQ-2	WQ-2	WQ-2	LTS/NLTAE-Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R	None
WQ-3: Degradation of water quality due to fuel or petroleum spills	A	WQ-3	WQ-3	WQ-3	WQ-3	LTS/NLTAE-Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R	None
WQ-4: Degradation of water quality due to contaminant remobilization	NA/NE					NA/NE-No dredging/excavation proposed for this site	None
WQ-5: Water quality effects resulting from sediment accretion	NA/NE					NA/NE-This impact only applies to PEIS/R Alternative 3	None
BIO-1.1: Effects on tidal marsh plant communities affected by salt-meadow cordgrass and English cordgrass.	NA/NE					NA/NE-Field surveys have found no Salt meadow or English cordgrass at this site	None
BIO-1.2: Effects on tidal marsh plant communities affected by Atlantic smooth cordgrass and its hybrids.	A	BIO-1.2	BIO-1.2	BIO-1.2	BIO-1.2	LTS/NLTAE-Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R	None
BIO-1.3: Effects on tidal marsh plant communities affected by Chilean cordgrass.	NA/NE					NA/NE-Field surveys have found no Chilean cordgrass at this site	None
BIO-1.4: Effects on submerged aquatic plant communities.	NA/NE					NA/NE-Field surveys have found no eelgrass or other submerged aquatic plants at this site	None
BIO-2: Effects on special-status plants (Soft bird's beak and/or Suisun thistle) in tidal marshes	NA/NE					NA/NE-Field surveys have found no special status plants at this site	None

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Impact*	Applica-ble to Site	Applicable Mitigations* (by Treatment Method used at Site)				Comments/Analysis of Residual Impact at Site	Additional Mitigation Required
		Back-pack	Truck	Aerial	Amphibious Vehicle		
BIO-3: Effects on shorebirds and waterfowl.	A	BIO-3	BIO-3	BIO-3	BIO-3	LTS/NLTAE-Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R	None
BIO-4.1: Effects on the salt marsh harvest mouse and tidal marsh shrew species.	A	BIO-4.1 as modified by USFWS BO	BIO-4.1 as modified by USFWS BO	BIO-4.1 as modified by USFWS BO	BIO-4.1 as modified by USFWS BO	LTS/NLTAE-Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R	None
BIO-4.2: Effects on resident harbor seal colonies of San Francisco Bay.	NA/NE					NA/NE-No harbor seal colonies at or near site	None
BIO-4.3: Effects on the southern sea otter.	NA/NE					NA/NE-Outside of the known range of the southern sea otter	None
BIO-5.1: Effects on the California clapper rail.	A	BIO-5.1	BIO-5.1	BIO-5.1	BIO-5.1	LTS/NLTAE-Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R	None
BIO-5.2: Effects on the California black rail.	A	BIO-5.2	BIO-5.2	BIO-5.2	BIO-5.2	LTS/NLTAE-Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R	None
BIO-5.3: Effects on tidal marsh song sparrow subspecies and the salt marsh common yellowthroat.	A	BIO-5.3	BIO-5.3	BIO-5.3	BIO-5.3	LTS/NLTAE-Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R	None
BIO-5.4: Effects on California least terns and western snowy plovers.	NA/NE					NA/NE-No California least terns or western snowy plovers within or near site	None
BIO-5.5: Effects on raptors (birds of prey).	A			BIO-5.5		LTS/NLTAE-Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R	None

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USFWS BO – US Fish & Wildlife Service Biological Opinion

Impact*	Applica-ble to Site	Applicable Mitigations* (by Treatment Method used at Site)				Comments/Analysis of Residual Impact at Site	Additional Mitigation Required
		Back-pack	Truck	Aerial	Amphibious Vehicle		
BIO-6.1: Effects on anadromous salmonids (winter-run and spring-run Chinook salmon, steelhead).	A	BIO-6.1	BIO-6.1	BIO-6.1	BIO-6.1	LTS/NLTAE-Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R	None
BIO-6.2: Effects on delta smelt and Sacramento splittail.	NA/NE					NA/NE-Outside of known range of delta smelt and Sacramento splittail	None
BIO-6.3: Effects on the tidewater goby.	NA/NE					NA/NE-Outside of the known range of the tidewater goby	None
BIO-6.4: Effects on estuarine fish populations of shallow submerged intertidal mudflats and channels.	A	BIO-6.4	BIO-6.4	BIO-6.4	BIO-6.4	LTS/NLTAE-with additional mitigation BIO-6(b) (Note: no mowing on site)	BIO-6.4(6) –R-11 will not be used adjacent to channel to minimize any potential adverse affects on estuarine fish
BIO-7: Effects on California red-legged frog and San Francisco garter snake.	NA/NE					NA/NE-Outside of habitat range of California Red Legged Frog and San Francisco Garter Snake	None
BIO-8: Effects of regional invasive cordgrass eradication on mosquito production.	A				BIO-8	LTS/NLTAE-Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R	None
BIO-9: Effects on tiger beetle species.	NA/NE					LTS/NLTAE- Site conditions consistent with those anticipated in the PEIS/R – no mitigation required	None
AQ-1: Dust Emissions.	A	AQ-1	AQ-1	AQ-1	AQ-1	LTS/NLTAE-Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R	None
AQ-2: Smoke Emissions.	NA/NE					NA/NE-No burning proposed	None
AQ-3: Herbicide Effects on air quality.	MA/NE					NA/NE-Aerial treatments not proposed for this site.	None

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Impact*	Applica-ble to Site	Applicable Mitigations* (by Treatment Method used at Site)				Comments/Analysis of Residual Impact at Site	Additional Mitigation Required
		Back-pack	Truck	Aerial	Amphibious Vehicle		
AQ-4: Ozone precursor emissions.	NA/NE					LTS/NLTAE-without mitigation	None
AQ-5: Carbon monoxide (CO) emissions.	NA/NE					LTS/NLTAE-without mitigation	None
N-1: Disturbance of sensitive re-ceptors	A	N-1	N-1	N-1	N-1	LTS/NLTAE-Potential impacts mitigated to less than significant. Site conditions consis-tent with those anticipated in the PEIS/R	None
HS-1: Worker Injury from acci-dents associated with manual and mechanical cordgrass treatment.	NA/NE					NA/NE-No manual or mechanical treatments proposed for this site.	None
HS-2: Worker health effects from herbicide application.	A	HS-2	HS-2	HS-2	HS-2	LTS/NLTAE-Potential impacts mitigated to less than significant. Site conditions consis-tent with those anticipated in the PEIS/R	None
HS-3: Health effects to the public from herbicide application.	A	HS-3	HS-3	HS-3	HS-3	LTS/NLTAE-Potential impacts mitigated to less than significant. Site conditions consis-tent with those anticipated in the PEIS/R	None
HS-4: Health effects to workers or the public from accidents associ-ated with treatment.	A	HS-4	HS-4	HS-4	HS-4	LTS/NLTAE-Potential impacts mitigated to less than significant. Site conditions consis-tent with those anticipated in the PEIS/R	None
VIS-1: Alteration of views from removal of non-native cordgrass Infestations.	A	VIS-1	VIS-1	VIS-1	VIS-1	SU-impacts addressed in the PEIS/r and CEQA findings. Site conditions consistent with those anticipated within in the PEIS/R	None
VIS-2: Change in views from na-tive marsh, mudflat, and open water to non-native cordgrass meadows and monocultures.	NA/NE					NA/NE-Applies only to PEIS/R Alternative 3 (No action)	None

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Impact*	Applica-ble to Site	Applicable Mitigations* (by Treatment Method used at Site)				Comments/Analysis of Residual Impact at Site	Additional Mitigation Required
		Back-pack	Truck	Aerial	Amphibious Vehicle		
LU-1: Land use conflicts between herbicide use and sensitive recep-tors	A	LU-1	LU-1	LU-1	LU-1	LTS/NLTAE-Limited to less than significant by HS, N & AQ mitigations	None
LU-2: Land use conflicts from me-chanical and burning treatment methods	A					NA/NE-methods not proposed for site	None
CUL-1: Disturbance or Destruction of Cultural Resources from Access and Treatment.	A				CUL-1	LTS/NLTAE-Potential impacts mitigated to less than significant. Site conditions consis-tent with those anticipated in the PEIS/R	None
CUL-2: Loss of Cultural Re-sources from Erosion.	NA/NE					NA/NE-Methods not proposed for this site	None
CUM-1: Effects of wetland restora-tion projects on spread of non-native cordgrass	NA/NE					NA/NE-Area is not near any current restora-tion efforts	None
CUM-2: Cumulative damage to marsh plain vegetation	A				CUM-2	LTS/NLTAE-Potential impacts mitigated to less than significant. Site conditions consis-tent with those anticipated in the PEIS/R	None

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SITE-SPECIFIC PROJECT MITIGATION

Site Name: Ideal Marsh, Alameda County TSN: ISP-2005-21

*Impact**	*Applicable Mitigation & Conservation Measures**	*Backpack*	*Truck*	*Amphibious vehicle*	*Implementation Timing*	*Verification Signatures*	
						Implementing Entity	*ISP Field Supervisor*
GEO-2: Erosion or topographic change of marsh and mudflat by vehicles used in eradication	Minimize vehicle travel in areas subject to erosion. (GEO-2; CM-1)			X	During treatment		
WQ-1: Degradation of Water Quality due to Herbicide Application	Apply herbicide directly to plant at low tide and according to label. (WQ-1; CM-3, 4)	X	X	X	During treatment		
WQ-2: Degradation of Water Quality due to Herbicide Spills	Apply under supervision of trained applicator (WQ-2; CM-3)	X	X	X	During treatment		
	Implement spill and containment plan provided or approved by ISP (WQ-2; CM-17)	X	X	X	During treatment		
WQ-3: Degradation of Water Quality due to Fuel or Petroleum Spills	Implement spill and containment plan provided or approved by ISP (WQ-3; CM-17)	X	X	X	During treatment		
BIO-1.2: Effects on tidal marsh plant communities affected by Atlantic smooth cordgrass and its hybrids.	Minimize entry and re-entry into marsh, define access points (BIO-1.2; CM-1)	X	X	X	During treatment		
	Avoid staging in high, dense vegetation such as gumplant or pickleweed (FWS GL)	X	X	X	During treatment		
	Avoid herbicide application to non-target vegetation adjacent to treatment area (BIO-1.2; CM-3, 4)	X	X	X	During treatment		

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Mitigations are from corresponding numbered mitigation in the same document,
CM - Conservation Measures as defined by USFWS Biological Opinions (general and site-specific)

*Impact**	*Applicable Mitigation & Conservation Measures**	*Backpack*	*Truck*	*Amphibious vehicle*	*Implementation Timing*	*Verification Signatures*	
						Implementing Entity	*ISP Field Supervisor*
BIO-3: Effects on shore-birds, waterfowl & marsh-land birds.	Avoid working within 1,000 feet of occupied mudflats during peak Pacific Flyway stopovers (BIO-3)	X	X	X	During treatment		
	Occupy treatment area soon after high tide, before mudflats emerge (BIO-3)	X	X	X	During treatment		
	Haze shorebirds to minimize potential direct contact with herbicide drift (BIO-3)	X	X	X	During treatment		
BIO-4.1: Effects on the salt marsh harvest mouse and tidal marsh shrew species.	Use shortest possible access route through any pickleweed habitat. Flag areas of repeated access (BIO-4.1; CM-15)	X	X	X	During treatment		
	Use protective mats or other covering over pickleweed in areas or repeated access (BIO-4.1; CM-15)	X	X	X	During treatment		
	Assume presence of SMHM on all suitable sites (CM 14)	X	X	X	During treatment		
	Whenever possible, schedule work after mass mortality events caused by extreme high tides (CM 16).	X	X	X	Pre- and during treatment		
BIO-5.1: Effects on California Clapper Rail	Perform work only during Sept 1 thru Feb 1 to avoid CLRA breeding season (BIO-5.1; CM-18)	X	X	X	During treatment		

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CM - Conservation Measures as defined by USFWS Biological Opinions (general and site-specific)

*Impact**	*Applicable Mitigation & Conservation Measures**	*Backpack*	*Truck*	*Amphibious vehicle*	*Implementation Timing*	*Verification Signatures*	
						Implementing Entity	*ISP Field Supervisor*
	For work within the CLRA breeding season, call counts will be performed in the early spring according to FWS protocols (CM-18)				Pre-treatment		
	Provide CLRA Field Biologist Supervision (BIO-5.1)	X	X	X	Pre-treatment and During treatment		
	Assure that field personnel are trained in general CLRA biology and identification as well as call detection (BIO-5.1)	X	X	X	Pre-treatment and During treatment		
	Report any CLRA activity immediately to ISP Field Supervisor and in post-treatment report (BIO-5.1)	X	X	X	During treatment and Post-treatment		
BIO-5.2: Effects on California Black Rail	Perform work only during Sept 1 thru Feb 1 to avoid CABR breeding season (BIO-5.2)	X	X	X	During treatment		
	For work within the CABR breeding season, call counts will be performed in the early spring according to FWS protocols (BIO-5.2)				Pre-treatment		
	Provide CABR Field Biologist Supervision (BIO-5.2)	X	X	X	Pre-treatment and During treatment		
	Assure that field personnel are trained in general CABR biology and identification as well as call detection (BIO-5.2)	X	X	X	Pre-treatment and During treatment		

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*Impact**	*Applicable Mitigation & Conservation Measures**	*Backpack*	*Truck*	*Amphibious vehicle*	*Implementation Timing*	*Verification Signatures*	
						Implementing Entity	*ISP Field Supervisor*
	Report any CABR activity immediately to ISP Field Supervisor and in post-treatment report (BIO-5.2)	X	X	X	During treatment and post-treatment		
BIO-5.3: Effects on tidal marsh song sparrow subspecies and the salt marsh common yellowthroat.	Report any SMSS and SCYE activity immediately to ISP Field Supervisor and in post-treatment report (BIO-5.3)	X	X	X	During and post- treatment		
	Perform work according to Bio 5.1, post Clapper Rail breeding season protocols (most restrictive) (Bio 5.1;CM 18)	X	X	X	During treatment		
	Avoid spraying or removing *Grindelia* plants in the marsh (BIO-5.3)	X	X	X	During treatment		
	Watch for Song Sparrow presence in the work area during early season treatment work (pre-August), especially in the smaller, upper reaches of channels (BIO-5.3)	X	X	X	During treatment		
BIO-6.1: Effects on anadromous salmonids (winter-run and spring-run Chinook salmon, steelhead).	Target herbicide applications to minimize herbicide use near channel (BIO-6.1).	X	X	X	During treatment		
	Avoid use of alkylphenol ethoxylate surfactants Dec 1 thru April 1 to avoid steelhead spawning. (BIO-6.1)	X	X	X	During treatment		
BIO-6.4: Effects on estuarine fish populations of shal-	Minimize spraying near channels (BIO-6.4)	X	X	X	During treatment		

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*Impact**	*Applicable Mitigation & Conservation Measures**	*Backpack*	*Truck*	*Amphibious vehicle*	*Implementation Timing*	*Verification Signatures*	
						Implementing Entity	*ISP Field Supervisor*
low submerged intertidal mudflats and channels.	Avoid use of alkylphenol ethoxylate surfactants adjacent to channel to minimize any potential adverse affects on estuarine fish (FWS BO)	X	X	X	During treatment		
BIO-8: Effects of regional invasive cordgrass eradication on mosquito production.	Monitor access route for the formation of undrained depressions in tire ruts or foot trails (BIO-8)			X	During treatment and post-treatment		
AQ-1: Dust emissions	Limit speeds on dirt roads to 15 miles per hour (AQ-1)	X	X	X	During treatment		
AQ-3: Herbicide Effects on Air Quality.	Implement ISP herbicide drift management plan for aerial applications of herbicide (AQ-3; CM-3, 4)				During treatment		
N-1: Disturbance of Sensitive Receptors	Comply with all local noise ordinances (N-1)	X	X	X	During treatment		
HS-2: Worker Health Effects from Herbicide Application.	Follow handling and application procedures as identified on product label (HS-2;CM-3)	X	X	X	During treatment		
HS-3: Health Effects to the Public from Herbicide Application.	Minimize drift according to ISP drift management plan (HS-3;CM-3,4)	X	X	X	During treatment		
	Post appropriate signage (see attached signage requirements) a minimum of 24 hours pre-treatment (HS-3)	X	X	X	Pre-treatment		

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*Impact**	*Applicable Mitigation & Conservation Measures**	*Backpack*	*Truck*	*Amphibious vehicle*	*Implementation Timing*	*Verification Signatures*	
						Implementing Entity	*ISP Field Supervisor*
	Avoid scheduling herbicide application near high public use areas during weekends or holidays, or close public access to area 24 hours before and after treatment (HS-3)	X	X	X	Pre-treatment and during treatment		
HS-4: Health effects to workers or the public from accidents associated with treatment.	Maintain ISP or approved equivalent Site Safety and Spill Prevention plan on site (HS-4;CM-3,4,17)	X	X	X	During treatment		
VIS-1: Alteration of Views from Removal of Non-native Cordgrass Infestations.	Post appropriate signage according to ISP signage protocols (VIS-1)	X	X	X	Pre-treatment, during treatment, post-treatment		
CUL-1: Disturbance or Destruction of Cultural Resources from Access and Treatment.	Report all discovered prehistoric or historic resources to the ISP Field Supervisor and a qualified archeologist or historic resources consultant and suspend all work at site until archaeological mitigation has taken place (CUL-1)			X	During treatment		
CUM-2: Cumulative damage to marsh plain vegetation	Coordinate treatment schedule with the Mosquito abatement district in order to minimize cumulative impacts (CUM-2)			X	During and Post treatment		
CM-7: Invasive Species	Monitor cleared patches for recruitment of invasive plant species including perennial pepperweed until native vegetation has become dominant (CM-7)	X	X		Post-treatment		

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SITE-SPECIFIC PROJECT IMPACT EVALUATION

Site Name: Two Points Complex, Contra Costa County TSN: ISP-2005-22

*Impact**	*Applicable to Site*	*Applicable to Sub-area*	*Applicable Mitigations* (by Treatment Method used at Site)*				*Comments/Analysis of Residual Impact at Site*	*Additional Mitigation Required*
			Backpack	*Truck*	*Aerial*	*Digging*		
GEO-1: Erosion or deposition of sediment at treatment site	NA/NE						NA/NE-Proposed activities will not elevate erosion above ambient levels	None
GEO-2: Erosion or topographic change of marsh and mudflat by vehicles used in eradication	A	Sub-areas 22d & 22e				GEO-2	NA/NE- No vehicles proposed for use in marsh within this site.	None
GEO-3: Remobilization of sand in cordgrass-stabilized estuarine beaches	NA/NE						NA/NE – No excavation within estuarine beaches planned. Any cordgrass treated within this Site on estuarine beaches will be treated with herbicide leaving intact root masses. Root masses will naturally degrade on site.	None
GEO-4: Increased demand for sediment disposal and potential spread of invasive cordgrass via sediment disposal.	NA/NE						NA/NE-No dredging /sediment disposal proposed	None
GEO-5: Increased volume and velocity of tidal currents in channels due to the removal of invasive cordgrass.	A	All Sub-areas					No adverse impact (see PEIS/R GEO-5 discussion). Site conditions consistent with those anticipated in the PEIS/R.	None
GEO-6: Increased depth and turbulence of tidewaters impounded in salt marsh pans.	NA/NE						NA/NE-Proposed activities will not take place within salt marsh pans	None

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*Impact**	*Applicable to Site*	*Applicable to Sub-area*	*Applicable Mitigations* (by Treatment Method used at Site)*				*Comments/Analysis of Residual Impact at Site*	*Additional Mitigation Required*
			Backpack	*Truck*	*Aerial*	*Digging*		
WQ-1: Degradation of water quality due to herbicide application	A	Sub-areas 22a-d, 22f	WQ-1	WQ-1	WQ-1		LTS/NLTAE-Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R	None
WQ-2: Degradation of water quality due to herbicide spills	A	Sub-areas 22a-d, 22f	WQ-2	WQ-2	WQ-2		LTS/NLTAE-Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R	None
WQ-3: Degradation of water quality due to fuel or petroleum spills	A	Sub-areas 22a-d, 22f	WQ-3	WQ-3	WQ-3		LTS/NLTAE-Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R	None
WQ-4: Degradation of water quality due to contaminant remobilization	NA/NE						NA/NE-No dredging/excavation proposed for this site	None
WQ-5: Water quality effects resulting from sediment accretion	NA/NE						NA/NE-This impact only applies to PEIS/R Alternative 3	None
BIO-1.1: Effects on tidal marsh plant communities affected by salt-meadow cordgrass and English cordgrass.	NA/NE						NA/NE-Field surveys have found no Salt meadow or English cordgrass at this site	None

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*Impact**	*Applicable to Site*	*Applicable to Sub-area*	*Applicable Mitigations* (by Treatment Method used at Site)*				*Comments/Analysis of Residual Impact at Site*	*Additional Mitigation Required*
			Backpack	*Truck*	*Aerial*	*Digging*		
BIO-1.2: Effects on tidal marsh plant communities affected by Atlantic smooth cordgrass and its hybrids.	A	All sub-areas	BIO-1.2	BIO-1.2	BIO-1.2	BIO-1.2	LTS/NLTAE-Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R	None
BIO-1.3: Effects on tidal marsh plant communities affected by Chilean cordgrass.	NA/NE						NA/NE-Field surveys have found no Chilean cordgrass at this site	None
BIO-1.4: Effects on submerged aquatic plant communities.	NA/NE						NA/NE-Field surveys have found no eelgrass or other submerged aquatic plants at this site	None
BIO-2: Effects on special-status plants (Soft bird's beak and/or Suisun thistle) in tidal marshes	NA/NE						NA/NE-Field surveys have found no special status plants at this site	None
BIO-3: Effects on shorebirds and waterfowl.	A	All sub-areas	BIO-3	BIO-3	BIO-3	BIO-3	LTS/NLTAE-Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R	None
BIO-4.1: Effects on the salt marsh harvest mouse and tidal marsh shrew species.	A	All sub-areas	BIO-4.1 as modified by USFWS BO	BIO-4.1 as modified by USFWS BO	BIO-4.1 as modified by USFWS BO	BIO-4.1 as modified by USFWS BO	LTS/NLTAE-Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R	None
BIO-4.2: Effects on resident harbor seal colonies of San Francisco Bay.	NA/NE						NA/NE-No harbor seal colonies at or near site	None

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Impact*	Applicable to Site	Applicable to Sub-area	Applicable Mitigations* (by Treatment Method used at Site)				Comments/Analysis of Residual Impact at Site	Additional Mitigation Required
			Backpack	Truck	Aerial	Digging		
BIO-4.3: Effects on the southern sea otter.	NA/NE						NA/NE-Outside of the known range of the southern sea otter	None
BIO-5.1: Effects on the California clapper rail.	A	All Sub-areas	BIO-5.1	BIO-5.1	BIO-5.1	BIO-5.1	LTS/NLTAE-Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R	None
BIO-5.2: Effects on the California black rail.	A	All Sub-areas	BIO-5.2	BIO-5.2	BIO-5.2	BIO-5.2	LTS/NLTAE-Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R	None
BIO-5.3: Effects on tidal marsh song sparrow subspecies and the salt marsh common yellowthroat.	A	All Sub-areas	BIO-5.3	BIO-5.3	BIO-5.3	BIO-5.3	LTS/NLTAE-Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R	None
BIO-5.4: Effects on California least terns and western snowy plovers.	NA/NE						NA/NE-No California least terns or western snowy plovers within or near site	None
BIO-5.5: Effects on raptors (birds of prey).	NA/NE						NA/NE- No aerial applications proposed within this site.	None

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*Impact**	*Applicable to Site*	*Applicable to Sub-area*	*Applicable Mitigations* (by Treatment Method used at Site)*				*Comments/Analysis of Residual Impact at Site*	*Additional Mitigation Required*
			Backpack	*Truck*	*Aerial*	*Digging*		
BIO-6.1: Effects on anadromous salmonids (winter-run and spring-run Chinook salmon, steelhead).	A	Sub-areas 22a-d, 22f	BIO-6.1	BIO-6.1	BIO-6.1		LTS/NLTAE-Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R	None
BIO-6.2: Effects on delta smelt and Sacramento splittail.	NA/NE						NA/NE-Outside of known range of delta smelt and Sacramento splittail	None
BIO-6.3: Effects on the tidewater goby.	NA/NE						NA/NE-Outside of the known range of the tidewater goby	None
BIO-6.4: Effects on estuarine fish populations of shallow submerged intertidal mudflats and channels.	A	Sub-areas 22a-d, 22f	BIO-6.4	BIO-6.4	BIO-6.4		LTS/NLTAE-with additional mitigation BIO-6(b) (Note: no mowing on site)	BIO-6.4(6) –R-11 will not be used adjacent to channel to minimize any potential adverse affects on estuarine fish
BIO-7: Effects on California red-legged frog and San Francisco garter snake.	NA/NE						NA/NE-Outside of habitat range of California Red Legged Frog and San Francisco Garter Snake	None
BIO-8: Effects of regional invasive cordgrass eradication on mosquito production.	NA/NE						NA/NE- No vehicles proposed for use in marsh within this site.	None

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*Impact**	*Applicable to Site*	*Applicable to Sub-area*	*Applicable Mitigations* (by Treatment Method used at Site)*				*Comments/Analysis of Residual Impact at Site*	*Additional Mitigation Required*
			Backpack	*Truck*	*Aerial*	*Digging*		
BIO-9: Effects on tiger beetle species.	NA/NE						LTS/NLTAE- Site conditions consistent with those anticipated in the PEIS/R – no mitigation required	None
AQ-1: Dust Emissions.	A	All Sub-areas	AQ-1	AQ-1	AQ-1	AQ-1	LTS/NLTAE-Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R	None
AQ-2: Smoke Emissions.	NA/NE						NA/NE-No burning proposed	None
AQ-3: Herbicide Effects on air quality.	NA/NE						NA/NE- No aerial applications proposed within this site.	None
AQ-4: Ozone precursor emissions.	NA/NE						LTS/NLTAE-without mitigation	None
AQ-5: Carbon monoxide (CO) emissions.	NA/NE						LTS/NLTAE-without mitigation	None
N-1: Disturbance of sensitive receptors	A	Sub-areas 22a-d, 22f	N-1	N-1	N-1		LTS/NLTAE-Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R	None
HS-1: Worker Injury from accidents associated with manual and mechanical cordgrass treatment.	NA/NE						NA/NE-No manual or mechanical treatments proposed for this site.	None

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*Impact**	*Applicable to Site*	*Applicable to Sub-area*	*Applicable Mitigations* (by Treatment Method used at Site)*				*Comments/Analysis of Residual Impact at Site*	*Additional Mitigation Required*
			Backpack	*Truck*	*Aerial*	*Digging*		
HS-2: Worker health effects from herbicide application.	A	Sub-areas 22a-d, 22f	HS-2	HS-2	HS-2		LTS/NLTAE-Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R	None
HS-3: Health effects to the public from herbicide application.	A	Sub-areas 22a-d, 22f	HS-3	HS-3	HS-3		LTS/NLTAE-Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R	None
HS-4: Health effects to workers or the public from accidents associated with treatment.	A	Sub-areas 22a-d, 22f	HS-4	HS-4	HS-4		LTS/NLTAE-Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R	None
VIS-1: Alteration of views from removal of non-native cordgrass Infestations.	A	All Sub-areas	VIS-1	VIS-1	VIS-1	VIS-1	SU-impacts addressed in the PEIS/r and CEQA findings. Site conditions consistent with those anticipated within in the PEIS/R	None
VIS-2: Change in views from native marsh, mudflat, and open water to non-native cordgrass meadows and monocultures.	NA/NE						NA/NE-Applies only to PEIS/R Alternative 3 (No action)	None
LU-1: Land use conflicts between herbicide use and sensitive receptors	A	Sub-areas 22a-d, 22f	LU-1	LU-1	LU-1		LTS/NLTAE-Limited to less than significant by HS,N & AQ mitigations	None

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*Impact**	*Applicable to Site*	*Applicable to Sub-area*	*Applicable Mitigations* (by Treatment Method used at Site)*				*Comments/Analysis of Residual Impact at Site*	*Additional Mitigation Required*
			Backpack	*Truck*	*Aerial*	*Digging*		
LU-2: Land use conflicts from mechanical and burning treatment methods	NA/NE						NA/NE-methods not proposed for site	None
CUL-1: Disturbance or Destruction of Cultural Resources from Access and Treatment.	A	All Sub-areas	CUL-1	CUL-1		CUL-1	LTS/NLTAE-Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R	None
CUL-2: Loss of Cultural Resources from Erosion.	NA/NE						NA/NE-Methods not proposed for this site	None
CUM-1: Effects of wetland restoration projects on spread of non-native cordgrass	NA/NE						NA/NE-Area is not near any current restoration efforts	None
CUM-2: Cumulative damage to marsh plain vegetation	NA/NE						NA/NE- No vehicles proposed for use in marsh within this site.	None

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SITE-SPECIFIC PROJECT MITIGATION

Site Name: Two Points Complex, Contra Costa County TSN: ISP-2005-22

*Impact**	*Applicable Mitigation & Conservation Measures**	*Applicable sub-areas*	*Backpack*	*Truck*	*Aerial*	*Digging*	*Implementation Timing*	*Verification Signatures*	
								Implementing Entity	*ISP Field Supervisor*
WQ-1: Degradation of Water Quality due to Herbicide Application	Apply herbicide directly to plant at low tide and according to label. (WQ-1; CM-3, 4)	Sub-areas 22a-d, 22f	X	X	X		During treatment		
WQ-2: Degradation of Water Quality due to Herbicide Spills	Apply under supervision of trained applicator (WQ-2; CM-3)	Sub-areas 22a-d, 22f	X	X	X		During treatment		
	Implement spill and containment plan provided or approved by ISP (WQ-2; CM-17)	Sub-areas 22a-d, 22f	X	X	X		During treatment		
WQ-3: Degradation of Water Quality due to Fuel or Petroleum Spills	Implement spill and containment plan provided or approved by ISP (WQ-3; CM-17)	Sub-areas 22a-d, 22f	X	X	X		During treatment		
BIO-1.2: Effects on tidal marsh plant communities affected by Atlantic smooth cordgrass and its hybrids.	Minimize entry and re-entry into marsh, define access points (BIO-1.2; CM-1)	Sub-areas 22a-d, 22f	X	X			During treatment		
	Avoid staging in high, dense vegetation such as gumplant or pickleweed (FWS GL)	Sub-areas 22a-d, 22f	X	X	X		During treatment		
	Avoid herbicide application to non-target vegetation adjacent to treatment area (BIO-1.2; CM-3, 4)	Sub-areas 22a-d, 22f	X	X	X		During treatment		
BIO-3: Effects on shorebirds, waterfowl & marshland birds.	Avoid working within 1,000 feet of occupied mudflats during peak Pacific Flyway stopovers (BIO-3)	Sub-areas 22a-d, 22f	X	X	X		During treatment		
	Occupy treatment area soon after high tide, before mudflats emerge (BIO-3)	Sub-areas 22a-d, 22f	X	X	X		During treatment		

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Mitigations are from corresponding numbered mitigation in the same document,
CM - Conservation Measures as defined by USFWS Biological Opinions (general and site-specific)

*Impact**	*Applicable Mitigation & Conservation Measures**	*Applicable sub-areas*	*Backpack*	*Truck*	*Aerial*	*Digging*	*Implementation Timing*	*Verification Signatures*	
								Implementing Entity	*ISP Field Supervisor*
	Haze shorebirds to minimize potential direct contact with herbicide drift (BIO-3)	Sub-areas 22a-d, 22f	X	X	X		During treatment		
BIO-4.1: Effects on the salt marsh harvest mouse and tidal marsh shrew species.	Use shortest possible access route through any pickleweed habitat. Flag areas of repeated access (BIO-4.1; CM-15)	All sub-areas	X	X	X	X	During treatment		
	Use protective mats or other covering over pickleweed in areas or repeated access (BIO-4.1; CM-15)	All sub-areas	X	X	X	X	During treatment		
	Assume presence of SMHM on all suitable sites (CM 14)	All sub-areas	X	X	X	X	During treatment		
	Whenever possible, schedule work after mass mortality events caused by extreme high tides (CM 16).	All sub-areas	X	X	X	X	Pre- and during treatment		
BIO-5.1: Effects on California Clapper Rail	Perform work only during Sept 1 thru Feb 1 to avoid CLRA breeding season (BIO-5.1; CM-18)	All sub-areas	X	X	X	X	During treatment		
	For work within the CLRA breeding season, call counts will be performed in the early spring according to FWS protocols (CM-18)	All sub-areas	X	X	X	X	Pre-treatment		
	Provide CLRA Field Biologist Supervision (BIO-5.1)	All sub-areas	X	X	X	X	Pre-treatment and During treatment		
	Assure that field personnel are trained in general CLRA biology and identification as well as call detection (BIO-5.1)	All sub-areas	X	X	X	X	Pre-treatment and During treatment		

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*Impact**	*Applicable Mitigation & Conservation Measures**	*Applicable sub-areas*	*Backpack*	*Truck*	*Aerial*	*Digging*	*Implementation Timing*	*Verification Signatures*	
								Implementing Entity	*ISP Field Supervisor*
	Report any CLRA activity immediately to ISP Field Supervisor and in post-treatment report (BIO-5.1)	All sub-areas	X	X	X	X	During treatment and Post-treatment		
BIO-5.2: Effects on California Black Rail	Perform work only during Sept 1 thru Feb 1 to avoid CABR breeding season (BIO-5.2)	All sub-areas	X	X	X	X	During treatment		
	For work within the CABR breeding season, call counts will be performed in the early spring according to FWS protocols (BIO-5.2)	All sub-areas	X	X	X	X	Pre-treatment		
	Provide CABR Field Biologist Supervision (BIO-5.2)	All sub-areas	X	X	X	X	Pre-treatment and During treatment		
	Assure that field personnel are trained in general CABR biology and identification as well as call detection (BIO-5.2)	All sub-areas	X	X	X	X	Pre-treatment and During treatment		
	Report any CABR activity immediately to ISP Field Supervisor and in post-treatment report (BIO-5.2)	All sub-areas	X	X	X	X	During treatment and post-treatment		
BIO-5.3: Effects on tidal marsh song sparrow subspecies and the salt marsh common yellowthroat.	Report any SMSS and SCYE activity immediately to ISP Field Supervisor and in post-treatment report (BIO-5.3)	All sub-areas	X	X	X	X	During and post- treatment		
	Perform work according to Bio 5.1, post Clapper Rail breeding season protocols (most restrictive) (Bio 5.1;CM 18)	All sub-areas	X	X	X	X	During treatment		
	Avoid spraying or removing *Grindelia* plants in the marsh (BIO-5.3)	All sub-areas	X	X	X	X	During treatment		

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*Impact**	*Applicable Mitigation & Conservation Measures**	*Applicable sub-areas*	*Backpack*	*Truck*	*Aerial*	*Digging*	*Implementation Timing*	*Verification Signatures*	
								Implementing Entity	*ISP Field Supervisor*
	Watch for Song Sparrow presence in the work area during early season treatment work (pre-August), especially in the smaller, upper reaches of channels (BIO-5.3)	All sub-areas	X	X	X	X	During treatment		
BIO-6.1: Effects on anadromous salmonids (winter-run and spring-run Chinook salmon, steelhead).	Target herbicide applications to minimize herbicide use near channel (BIO-6.1).	Sub-areas 22a-d, 22f	X	X	X		During treatment		
	Avoid use of alkylphenol ethoxylate surfactants Dec 1 thru April 1 to avoid steelhead spawning. (BIO-6.1)	Sub-areas 22a-d, 22f	X	X	X		During treatment		
BIO-6.4: Effects on estuarine fish populations of shallow submerged intertidal mudflats and channels.	Minimize spraying near channels (BIO-6.4)	Sub-areas 22a-d, 22f	X	X	X		During treatment		
	Avoid use of alkylphenol ethoxylate surfactants adjacent to channel to minimize any potential adverse affects on estuarine fish (FWS BO)	Sub-areas 22a-d, 22f	X	X	X		During treatment		
AQ-1: Dust emissions	Limit speeds on dirt roads to 15 miles per hour (AQ-1)		X	X	X	X	During treatment		
N-1: Disturbance of Sensitive Receptors	Comply with all local noise ordinances (N-1)	Sub-areas 22a-d, 22f	X	X	X		During treatment		
HS-2: Worker Health Effects from Herbicide Application.	Follow handling and application procedures as identified on product label (HS-2; CM-3)	Sub-areas 22a-d, 22f	X	X	X		During treatment		
HS-3: Health Effects to the Public from Herbicide Application.	Minimize drift according to ISP drift management plan (HS-3; CM-3, 4)	Sub-areas 22a-d, 22f	X	X	X		During treatment		
	Post appropriate signage (see attached signage requirements) a minimum of 24 hours pre-treatment (HS-3)	Sub-areas 22a-d, 22f	X	X	X		Pre-treatment		

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*Impact**	*Applicable Mitigation & Conservation Measures**	*Applicable sub-areas*	*Backpack*	*Truck*	*Aerial*	*Digging*	*Implementation Timing*	*Verification Signatures*	
								Implementing Entity	*ISP Field Supervisor*
	Avoid scheduling herbicide application near high public use areas during weekends or holidays, or close public access to area 24 hours before and after treatment (HS-3)	Sub-areas 22a-d, 22f	X	X	X		Pre-treatment and during treatment		
HS-4: Health effects to workers or the public from accidents associated with treatment.	Maintain ISP or approved equivalent Site Safety and Spill Prevention plan on site (HS-4; CM-3,4,17)	All Sub-areas	X	X	X	X	During treatment		
VIS-1: Alteration of Views from Removal of Non-native Cordgrass Infestations.	Post appropriate signage according to ISP signage protocols (VIS-1)	All Sub-areas	X	X	X	X	Pre-treatment, during treatment, post-treatment		
CUL-1: Disturbance or Destruction of Cultural Resources from Access and Treatment.	Report all discovered prehistoric or historic resources to the ISP Field Supervisor and a qualified archeologist or historic resources consultant and suspend all work at site until archaeological mitigation has taken place (CUL-1)	All Sub-areas	X	X		X	During treatment		
CM-7: Invasive Species	Monitor cleared patches for recruitment of invasive plant species including perennial pepperweed until native vegetation has become dominant (CM-7)	All sub-areas	X	X	X	X	Post-treatment		

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SITE-SPECIFIC PROJECT IMPACT EVALUATION

Site Name: Marin Outliers, Marin County TSN: ISP-2004-23

Impact*	Applicable to Site	Sub-Area Included	Applicable Mitigations* (by Treatment Method used at Site)				Comments/Analysis of Residual Impact at Site	Additional Mitigation Required
			Truck	Back-pack	Boat	Digging		
GEO-1: Erosion or deposition of sediment at treatment site	NA/NE						NA/NE – Proposed activities are not ground disturbing and will not elevate erosion above ambient levels.	None
GEO-2: Erosion or topographic change of marsh and mudflat by vehicles used in eradication	NA/NE						NA/NE – No vehicles will be used in the marsh for treatment on this Site.	None
GEO-3: Remobilization of sand in cordgrass-stabilized estuarine beaches	NA/NE						NA/NE – No excavation within estuarine beaches planned. Any cordgrass treated within this Complex on estuarine beaches will be treated with herbicide leaving intact root masses. Root masses will naturally degrade on site.	None
GEO-4: Increased demand for sediment disposal and potential spread of invasive cordgrass via sediment disposal.	A	Sub-areas 23a-d, 23f-h, 23l & 23n				GEO-4	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
GEO-5: Increased volume and velocity of tidal currents in channels due to the removal of invasive cordgrass.	A	All Sub-Areas	None	None	None	None	No adverse impact (see EIS/R GEO-5 discussion). Site conditions consistent with those anticipated in the PEIS/R.	None

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Impact*	Applicable to Site	Sub-Area Included	Applicable Mitigations* (by Treatment Method used at Site)				Comments/Analysis of Residual Impact at Site	Additional Mitigation Required
			Truck	Back-pack	Boat	Digging		
GEO-6: Increased depth and turbulence of tidewaters impounded in salt marsh pans.	NA/NE						NA/NE – No mitigation required for work near or in salt marsh pans.	None
WQ-1: Degradation of water quality due to herbicide application	A	All sub-areas except 23a & 23l	WQ-1	WQ-1	WQ-1		LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
WQ-2: Degradation of water quality due to herbicide spills	A	All sub-areas except 23a & 23l	WQ-2	WQ-2	WQ-2		LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
WQ-3: Degradation of water quality due to fuel or petroleum spills	A	All sub-areas except 23a & 23l	WQ-3	WQ-3	WQ-3		LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
WQ-4: Degradation of water quality due to contaminant remobilization	NA/NE						NA/NE – No dredging or other sediment-mobilizing activities proposed.	None
WQ-5: Water quality effects resulting from sediment accretion	NA/NE						NA/NE – This impact only applies to EIS/R Alternative 3.	None
BIO-1.1: Effects on tidal marsh plant communities affected by salt-meadow cordgrass and English cordgrass.	NA/NE						NA/NE – Field surveys found no salt-meadow or English cordgrass within this site.	None

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Impact*	Applicable to Site	Sub-Area Included	Applicable Mitigations* (by Treatment Method used at Site)				Comments/Analysis of Residual Impact at Site	Additional Mitigation Required
			Truck	Back-pack	Boat	Digging		
BIO-1.2: Effects on tidal marsh plant communities affected by Atlantic smooth cordgrass and its hybrids.	A	All sub-areas	BIO-1.2	BIO-1.2	BIO-1.2	BIO-1.2	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-1.3: Effects on tidal marsh plant communities affected by Chilean cordgrass.	A	Sub-Areas 23a, 23d, 23e	BIO-1.3	BIO-1.3	BIO-1.3	BIO-1.3	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-1.4: Effects on submerged aquatic plant communities.	NA/NE						NA/NE – Field surveys found no eelgrass or other submerged aquatic plants within site.	None
BIO-2: Effects on special-status plants (Soft bird's beak and/or Suisun thistle) in tidal marshes	NA/NE						NA/NE – Field surveys found no special-status plant species within site.	None
BIO-3: Effects on shorebirds and waterfowl.	A	All sub-areas	BIO-3	BIO-3	BIO-3	BIO-3	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-4.1: Effects on the salt marsh harvest mouse and tidal marsh shrew species.	A	Sub-Areas 23b, 23d, 23e, 23g, 23j	BIO-4.1	BIO-4.1		BIO-4.1	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-4.2: Effects on resident harbor seal colonies of San Francisco Bay.	NA/NE						LTS/NLTAE – No sub-areas within site contain harbor seal colonies.	None

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			Truck	Back-pack	Boat	Digging		
BIO-4.3: Effects on the southern sea otter.	NA/NE						NA/NE – Outside of known range of southern sea otters.	None
BIO-5.1: Effects on the California clapper rail.	A	Sub-Areas 23e, 23j	BIO-5.1 as modified by UFSWS BO	BIO-5.1 as modified by UFSWS BO		BIO-5.1 as modified by UFSWS BO	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-5.2: Effects on the California black rail.	NA/NE						NA/NE – Outside of known range black rails.	None
BIO-5.3: Effects on tidal marsh song sparrow subspecies and the salt marsh common yellowthroat.	A	Sub-Area 23e	BIO-5.3		BIO-5.3		LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-5.4: Effects on California least terns and western snowy plovers.	NA/NE						NA/NE – No least tern or western snowy plover within sub-areas of this site.	None
BIO-5.5: Effects on raptors (birds of prey).	NA/NE						NA/NE – No aerial applications proposed for any sub-areas in this Site.	None
BIO-6.1: Effects on anadromous salmonids (winter-run and spring-run Chinook salmon, steelhead).	A	All sub-areas	BIO-6.1	BIO-6.1	BIO-6.1	BIO-6.1	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-6.2: Effects on delta smelt and Sacramento splittail.	NA/NE						NA/NE – Outside of known delta smelt and Sacramento splittail range.	None

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Impact*	Applicable to Site	Sub-Area Included	Applicable Mitigations* (by Treatment Method used at Site)				Comments/Analysis of Residual Impact at Site	Additional Mitigation Required
			Truck	Back-pack	Boat	Digging		
BIO-6.3: Effects on the tidewater goby.	NA/NE						NA/NE – Outside of known range of tidewater goby.	None
BIO-6.4: Effects on estuarine fish populations of shallow sub-merged intertidal mudflats and channels.	A	All sub-areas ex-cept 23a & 23l	BIO-6.4 – mini-mize spraying	BIO-6.4 – mini-mize spraying	BIO-6.4 – mini-mize spraying		LTS/NLTAE with additional mitigation BIO-6.4(b) (Note: No mowing pro-posed because of unac-ceptable impacts to birds)	BIO-6.4(b) - R-11 will not be used ad-jacent to channel to minimize any poten-tial ad-verse af-fects on estuarine fish.
BIO-7: Effects on California red-legged frog and San Francisco garter snake.	NA/NE						NA/NE – Outside of known range of California red-legged frog and San Fran-cisco garter snake. Salini-ties of areas slated for treatment are too high.	None
BIO-8: Effects of regional inva-sive cordgrass eradication on mosquito production.	NA/NE						NA/NE – No equipment capable of causing perma-nent ruts in marsh will be used during treatment.	None
BIO-9: Effects on tiger beetle species.	NA/NE						LTS/NLTAE without mitiga-tion.	None
AQ-1: Dust emissions.	A	Sub-Area 23b	X				LTS/NLTAE – Potential impacts mitigated to less than significant. Site condi-tions consistent with those anticipated in the PEIS/R.	None

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Impact*	Applicable to Site	Sub-Area Included	Applicable Mitigations* (by Treatment Method used at Site)				Comments/Analysis of Residual Impact at Site	Additional Mitigation Required
			Truck	Back-pack	Boat	Digging		
AQ-2: Smoke emissions.	NA/NE						NA/NE – No burning proposed.	None
AQ-3: Herbicide effects on air quality.	NA/NE						NA/NE – Aerial treatment methods not proposed for this site.	None
AQ-4: Ozone precursor emissions.	NA/NE						LTS/NLTAE without mitigation.	None
AQ-5: Carbon Monoxide (CO) emissions.	NA/NE						LTS/NLTAE without mitigation.	None
N-1: Disturbance of sensitive receptors	A	All sub-areas	N-1	N-1	N-1		LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
HS-1: Worker injury from accidents associated with manual and mechanical cordgrass treatment.	A	Sub-areas 23a-23d, 23f-g, 23l & 23n				HS-1	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
HS-2: Worker health effects from herbicide application.	A	All sub-areas except 23a & 23l	HS-2	HS-2	HS-2		LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
HS-3: Health effects to the public from herbicide application.	A	All sub-areas except 23a & 23l	HS-3	HS-3	HS-3		LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None

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Impact*	Applicable to Site	Sub-Area Included	Applicable Mitigations* (by Treatment Method used at Site)				Comments/Analysis of Residual Impact at Site	Additional Mitigation Required
			Truck	Back-pack	Boat	Digging		
HS-4: Health effects to workers or the public from accidents associated with treatment.	A	All sub-areas	HS-4	HS-4	HS-4	HS-4	LTS/NLTAE – Potential impacts mitigated to less than. Site conditions consistent with those anticipated in the PEIS/R.	None
VIS-1: Alteration of views from removal of non-native cordgrass infestations.	A	All sub-areas	VIS-1	VIS-1	VIS-1	VIS-1	SU – Impacts addressed in EIS/R and CEQA findings. Site conditions consistent with those anticipated in the PEIS/R.	None
VIS-2: Change in views from native marsh, mudflat, and open water to non-native cordgrass meadows and monocultures.	NA/NE						NA/NE – Applies only to PEIS/R Alternative 3 (No Action)	None
LU-1: Land use conflicts between herbicide use and sensitive receptors	A	All sub-areas except 23a & 23l	LU-1	LU-1	LU-1		LTS/NLTAE – Limited to less than significant by HS, N and AQ mitigations.	None
LU-2: Land use conflicts from mechanical and burning treatment methods	NA/NE						NA/NE – Methods not proposed for site	None
CUL-1: Disturbance or destruction of cultural resources from access and treatment.	A	All sub-areas	CUL-1a	CUL-1a	CUL-1a	CUL-1a	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
CUL-2: Loss of cultural resources from erosion.	NA/NE						NA/NE – No erosion-producing activities proposed	None

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Impact*	Applicable to Site	Sub-Area Included	Applicable Mitigations* (by Treatment Method used at Site)				Comments/Analysis of Residual Impact at Site	Additional Mitigation Required
			Truck	Back-pack	Boat	Digging		
CUM-1- Effects of wetland restoration projects on spread of non-native cordgrass	NA/NE						NA/NE – No restoration projects with the potential to spread *Spartina* proposed within this Complex during the proposed treatment schedule	None
CUM-2- Cumulative damage to marsh plain vegetation	NA/NE						NA/NE – Vegetation disturbing machinery will not be used on this site.	None

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SITE-SPECIFIC PROJECT MITIGATION

Site Name: Marin Outliers, Marin County TSN: ISP-2005-23

*Impact**	*Applicable Mitigation & Conservation Measures**	*Sub Area Included*	*Truck*	*Backpack*	*Boat*	*Digging*	*Implementation Timing*	*Verification Signatures*	
								Implement-ing Entity	*ISP Field Supervisor*
GEO-4: Increased demand for sediment disposal and potential spread of invasive cordgrass via sediment disposal.	Dug plant material will be disposed of off-site on levee tops or other upland, non-aquatic areas to desiccate and die (GEO-4)	All sub-areas				X			
WQ-1: Degradation of water quality due to herbicide application	Apply herbicide directly to plant at low tide and according to label. (WQ-1; CM-3 & 4)	All sub-areas	X	X	X		During treatment		
WQ-2: Degradation of water quality due to herbicide spills	Apply under supervision of trained applicator (WQ-2; CM-3)	All sub-areas	X	X	X		During treatment		
	Implement spill and containment plan provided or approved by ISP (WQ-2; CM-17)	All sub-areas	X	X	X		During treatment		
WQ-3: Degradation of water quality due to fuel or petroleum spills	Implement spill and containment plan provided or approved by ISP (WQ-3; CM-17)	All sub-areas	X	X	X		During treatment		
BIO-1.2: Effects on tidal marsh plant communities affected by Atlantic smooth cordgrass and its hybrids.	Minimize entry and re-entry into marsh (BIO-1.2; CM-1)	All sub-areas	X	X	X	X	During treatment		
	Avoid staging in high, dense vegetation such as gumplant or pickleweed (FWS GL)	All sub-areas	X	X	X	X	During treatment		
	Avoid herbicide application to non-target vegetation adjacent to treatment area. (BIO-1.2; CM-3, 4)	All sub-areas	X	X	XX		During treatment		

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Mitigations are from corresponding numbered mitigation in the same document,
CM - Conservation Measures as defined by USFWS Biological Opinions (general and site-specific)

*Impact**	*Applicable Mitigation & Conservation Measures**	*Sub Area Included*	*Truck*	*Backpack*	*Boat*	*Digging*	*Implementation Timing*	*Verification Signatures*	
								Implement-ing Entity	*ISP Field Supervisor*
BIO-1.3: Effects on tidal marsh plant communi-ties affected by Chilean cordgrass.	Minimize entry and re-entry into marsh (BIO-1.2; CM-1)	Sub-Areas 23a, 23d, 23e	X	X	X	X	During treatment		
	Avoid herbicide application to non-target vegetation adjacent to treatment area. (BIO-1.2; CM-3, 4)	Sub-Areas 23a, 23d, 23e	X	X	X		During treatment		
BIO-3: Effects on shorebirds, waterfowl & marshland birds.	Avoid working within 1,000 feet of occupied mudflats during peak Pacific Flyway stopovers. (BIO-3)	All sub-areas	X	X	X	X	During treatment		
	Occupy treatment area soon after high tide, before mud-flats emerge. (BIO-3)	All sub-areas	X	X	X	X	During treatment		
	Haze shorebirds to minimize potential direct contact with herbicide drift. (BIO-3)	All sub-areas	X	X	X	X	During treatment		
BIO-4.1: Effects on the salt marsh harvest mouse and tidal marsh shrew species.	Use shortest possible ac-cess route through any pickleweed habitat. Flag areas of repeated access (BIO-4.1; CM-15)	Sub-Areas 23b, 23d, 23e, 23g, 23j	X	X		X	During treatment		
	Use protective mats or other covering over pickleweed in areas of repeated access (BIO-4.1; CM-15)	Sub-Areas 23b, 23d, 23e, 23g, 23j	X	X		X	During treatment		
	Assume presence of SMHM on all suitable sites (CM-14)	Sub-Areas 23b, 23d, 23e, 23g, 23j	X	X		X	During treatment		
	Whenever possible, sched-ule work after mass mortality events caused by extreme high tides (CM-16).	Sub-Areas 23b, 23d, 23e, 23g, 23j	X	X		X	Pre- and during treatment		

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CM - Conservation Measures as defined by USFWS Biological Opinions (general and site-specific)

*Impact**	*Applicable Mitigation & Conservation Measures**	*Sub Area Included*	*Truck*	*Backpack*	*Boat*	*Digging*	*Implementation Timing*	*Verification Signatures*	
								Implement-ing Entity	*ISP Field Supervisor*
BIO-5.1: Effects on California clapper rail.	Perform work only during Sept 1 thru Feb 1 to avoid CLRA breading season (BIO-5.1; CM-18)	Sub-Areas 23e, 23j	X	X		X	During treatment		
	For work within the Clapper Rail breeding season, call counts will be performed in the early spring according to FWS protocols (CM-18)	Sub-Areas 23e, 23j	X	X		X	During treatment		
	Provide CLRA Field biologist supervision (BIO-5.1)	Sub-Areas 23e, 23j	X	X		X	During treatment		
	Assure that field personnel are trained in general CLRA biology and CLRA identification and call detection (BIO-5.1)	Sub-Areas 23e, 23j	X	X		X	During treatment		
	Report any CLRA activity immediately to ISP Field Supervisor and in post-treatment report (BIO-5.1)	Sub-Areas 23e, 23j	X	X		X	During treatment		
BIO-5.3: Effects on tidal marsh song sparrow subspecies and the salt marsh common yellow-throat.	Report any SMSS and SCYE activity immediately to ISP Field Supervisor and in post-treatment report (BIO-5.3)	Sub-Area 23e	X		X		During and post-treatment		
	Avoid spraying or removing *Grindelia* plants in the marsh (BIO-5.3)	Sub-Area 23e	X		X		During treatment		
	Watch for Song Sparrow presence in the work area during early season treatment work (pre-August), especially in the smaller, upper reaches of channels (BIO-5.3)	Sub-Area 23e	X		X		During treatment		

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*Impact**	*Applicable Mitigation & Conservation Measures**	*Sub Area Included*	*Truck*	*Backpack*	*Boat*	*Digging*	*Implementation Timing*	*Verification Signatures*	
								Implement-ing Entity	*ISP Field Supervisor*
BIO-6.1: Effects on anadromous salmonids (winter-run and spring-run Chinook salmon, steelhead).	Target herbicide applications to minimize herbicide use near channel (BIO-6.1).	All sub-areas	X	X	X	X	During treatment		
	Avoid use of alkylphenol ethoxylate surfactants Dec 1 thru April 1 to avoid steel-head spawning. (BIO-6.1)	All sub-areas	X	X	X	X	During treatment		
BIO-6.4: Effects on es-tuarine fish populations of shallow submerged intertidal mudflats and channels.	Minimize spraying near in-tertidal mudflats and chan-nels (BIO-6.4)	All sub-areas	X	X	X		During treatment		
	Avoid use of alkylphenol ethoxylate surfactants adja-cent to channel to minimize any potential adverse affects on estuarine fish (BIO-6.4)	All sub-areas	X	X	X		During treatment		
AQ-1: Dust Emissions	Maintain 15 mph speed limit when traveling on unpaved levees or access roads (AQ-1)	Sub-Area 2b	X				During treatment		
N-1: Disturbance of sensitive receptors	Comply with all local noise ordinances (N-1)	All sub-areas	X	X	X		During treatment		
HS-1: Worker injury from accidents associ-ated with manual and mechanical cordgrass treatment.	Appropriate safety proce-dures and equipment shall be used by workers to mini-mize risks associated with manual and mechanical treatment methods (HS-1)	Sub-areas 23a-23d, 23f-g, 23l & 23n				X			
HS-2: Worker Health effects from herbicide application.	Follow handling and applica-tion procedures as identified on product label (HS-2; CM-3)	Sub-areas 23a-23d, 23f-g, 23l & 23n	X	X	X		During treatment		

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*Impact**	*Applicable Mitigation & Conservation Measures**	*Sub Area Included*	*Truck*	*Backpack*	*Boat*	*Digging*	*Implementation Timing*	*Verification Signatures*	
								Implement-ing Entity	*ISP Field Supervisor*
HS-3: Health effects to the public from herbi-cide application.	Minimize drift according to ISP drift management plan or equivalent (HS-3; CM-3,4)	All sub-areas	X	X	X		During treatment		
	Post appropriate signage (see attached signage re-quirements) a minimum of 24 hours pre-treatment (HS-3)	All sub-areas	X	X	X		Pre-treatment		
	Avoid scheduling herbicide application near high public use areas during weekends or holidays, or close public access to area 24 hours before and after treatment (HS-3)	All sub-areas	X	X	X		Pre-treatment and during treatment		
HS-4: Health effects to workers or the public from accidents associ-ated with treatment.	Maintain ISP or approved equivalent Site Safety and Spill Prevention plan on site (HS-4; CM-3, 17)	All sub-areas	X	X	X	X	During treatment		
VIS-1: Alteration of views from removal of non-native cordgrass infestations.	Post appropriate signage according to ISP signage protocols (VIS-1)	All sub-areas	X	X	X	X	Pre-treatment, during treatment, post-treatment		
CUL-1: Disturbance or destruction of cultural resources from access and treatment.	Report all discovered prehis-toric or historic resources to the ISP Field Supervisor and a qualified archeologist or historic resources consultant and suspend all work at site until archaeological mitiga-tion has taken place (CUL-1)	All sub-areas	X	X	X	X	Pre-treatment and during treatment		

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*Impact**	*Applicable Mitigation & Conservation Measures**	*Sub Area Included*	*Truck*	*Backpack*	*Boat*	*Digging*	*Implementation Timing*	*Verification Signatures*	
								Implement-ing Entity	*ISP Field Supervisor*
CM-7: Invasive species	Monitor cleared patches for recruitment of invasive plant species including perennial pepperweed until native vegetation has become dominant (CM-7)	All sub-areas	X	X	X	X	Post-treatment		

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SITE-SPECIFIC PROJECT IMPACT EVALUATION

Site Name: Petaluma River Complex, Sonoma County TSN: ISP-2007-24

*Impact**	*Appli-cable to Site*	*Sub-Area Included*	*Applicable Mitigations* (by Treatment Method used at Site)*				*Comments/Analysis of Re-sidual Impact at Site*	*Additional Mitigation Required*
			Backpack	*Boat*	*Truck*	*Amphibious Vehicle*		
GEO-1: Erosion or deposition of sediment at treatment site	NA/NE						NA/NE – Proposed activities are not ground disturbing and will not elevate erosion above ambient levels.	None
GEO-2: Erosion or topographic change of marsh and mudflat by vehicles used in eradication	NA/NE						NA/NE – No equipment will be working on marsh or mudflat surfaces	None
GEO-3: Remobilization of sand in cordgrass-stabilized estuarine beaches	NA/NE						NA/NE – Proposed activities will not take place within an estuarine beach.	None
GEO-4: Increased demand for sediment disposal and potential spread of invasive cordgrass via sediment disposal.	NA/NE						NA/NE – No dredg-ing/sediment disposal pro-posed	None
GEO-5: Increased volume and velocity of tidal currents in chan-nels due to the removal of invasive cordgrass.	A	All Sub-Areas	GEO-5	GEO-5	GEO-5	GEO-5	No adverse impact (see EIS/R GEO-5 discussion). Site conditions consistent with those anticipated in the PEIS/R.	None
GEO-6: Increased depth and tur-bulence of tidewaters impounded in salt marsh pans.	NA/NE						NA/NE – Proposed activities will not take place within salt marsh pans.	None

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Impact*	Applicable to Site	Sub-Area Included	Applicable Mitigations* (by Treatment Method used at Site)				Comments/Analysis of Residual Impact at Site	Additional Mitigation Required
			Backpack	Boat	Truck	Amphibious Vehicle		
WQ-1: Degradation of Water Quality due to herbicide application	A	All Sub-Areas	WQ-1	WQ-1	WQ-1	WQ-1	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
WQ-2: Degradation of Water Quality due to herbicide spills	A	All Sub-Areas	WQ-2	WQ-2	WQ-2	WQ-2	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
WQ-3: Degradation of Water Quality due to fuel or petroleum spills	A	All Sub-Areas	WQ-3	WQ-3	WQ-3	WQ-3	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
WQ-4: Degradation of Water Quality due to Contaminant Remobilization	NA/NE						NA/NE – No dredging or other sediment-mobilizing activities proposed.	None
WQ-5: Water Quality Effects Resulting from Sediment Accretion	NA/NE						NA/NE – This impact only applies to EIS/R Alternative 3.	None
BIO-1.1: Effects on tidal marsh plant communities affected by salt-meadow cordgrass and English cordgrass.	NA/NE						NA/NE – Field surveys found no salt-meadow or English cordgrass at this site.	None
BIO-1.2: Effects on tidal marsh plant communities affected by Atlantic smooth cordgrass and its hybrids.	A	All Sub-Areas	BIO-1.2	BIO-1.2	BIO-1.2	BIO-1.2	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None

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Impact*	Applicable to Site	Sub-Area Included	Applicable Mitigations* (by Treatment Method used at Site)				Comments/Analysis of Residual Impact at Site	Additional Mitigation Required
			Backpack	Boat	Truck	Amphibious Vehicle		
BIO-1.3: Effects on tidal marsh plant communities affected by Chilean cordgrass.	NA/NE						NA/NE – Field surveys found no Chilean cordgrass at site.	None
BIO-1.4: Effects on submerged aquatic plant communities.	NA/NE						NA/NE – Field surveys found no eelgrass or other submerged aquatic plants at site.	None
BIO-2: Effects on special-status plants (Soft bird's beak and/or Suisun thistle) in tidal marshes	NA/NE						NA/NE – Field surveys found no special-status plant species at site.	None
BIO-3: Effects on shorebirds and waterfowl.	A	All Sub-Areas	BIO-3	BIO-3	BIO-3	BIO-3	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-4.1: Effects on the salt marsh harvest mouse and tidal marsh shrew species.	A	All Sub-Areas	BIO-4.1	BIO-4.1	BIO-4.1	BIO-4.1	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-4.2: Effects on resident harbor seal colonies of San Francisco Bay.	NA/NE						NA/NE – Outside of known range of harbor seal.	None
BIO-4.3: Effects on the southern sea otter.	NA/NE						NA/NE – Outside of known range of southern sea otters.	None

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Impact*	Applicable to Site	Sub-Area Included	Applicable Mitigations* (by Treatment Method used at Site)				Comments/Analysis of Residual Impact at Site	Additional Mitigation Required
			Backpack	Boat	Truck	Amphibious Vehicle		
BIO-5.1: Effects on the California clapper rail.	A	All Sub-Areas	BIO-5.1 as modified by UFSWS BO	BIO-5.1 as modified by UFSWS BO	BIO-5.1 as modified by UFSWS BO	BIO-5.1 as modified by UFSWS BO	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-5.2: Effects on the California black rail.	A	All Sub-areas	BIO-5.2 as modified by UFSWS BO	BIO-5.2 as modified by UFSWS BO	BIO-5.2 as modified by UFSWS BO	BIO-5.2 as modified by UFSWS BO	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-5.3: Effects on tidal marsh song sparrow subspecies and the salt marsh common yellowthroat.	A	All Sub-Areas	BIO-5.3 as modified by UFSWS BO	BIO-5.3 as modified by UFSWS BO	BIO-5.3 as modified by UFSWS BO	BIO-5.3 as modified by UFSWS BO	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-5.4: Effects on California least terns and western snowy plovers.	A	Sub-Areas 5c and 5d	BIO-5.4 as modified by UFSWS BO	BIO-5.4 as modified by UFSWS BO	BIO-5.4 as modified by UFSWS BO	BIO-5.4 as modified by UFSWS BO	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-5.5: Effects on raptors (birds of prey).	A	All Sub-Areas					LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None

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*Impact**	*Applicable to Site*	*Sub-Area Included*	*Applicable Mitigations* (by Treatment Method used at Site)*				*Comments/Analysis of Residual Impact at Site*	*Additional Mitigation Required*
			Backpack	*Boat*	*Truck*	*Amphibious Vehicle*		
BIO-6.1: Effects on anadromous salmonids (winter-run and spring-run Chinook salmon, steelhead).	A	All Sub-Areas	BIO-6.1 as modified by UFSWS BO	BIO-6.1 as modified by UFSWS BO	BIO-6.1 as modified by UFSWS BO	BIO-6.1 as modified by UFSWS BO	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-6.2: Effects on delta smelt and Sacramento splittail.	A	All Sub-Areas	Bio-6.2	Bio-6.2	Bio-6.2	Bio-6.2	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-6.3: Effects on the tidewater goby.	NA/NE						NA/NE – Outside of known range of tidewater goby.	None
BIO-6.4: Effects on estuarine fish populations of shallow submerged intertidal mudflats and channels.	A	All Sub-Areas	BIO-6.4 – minimize spraying	BIO-6.4 – minimize spraying	BIO-6.4 – minimize spraying	BIO-6.4 – minimize spraying	LTS/NLTAE with additional mitigation BIO-6.4(b) (Note: no mowing proposed accept in test plots because of unacceptable impacts to birds)	BIO-6.4(b) - R-11 will not be used adjacent to channel to minimize any potential adverse affects on estuarine fish.
BIO-7: Effects on California red-legged frog and San Francisco garter snake.	NA/NE						NA/NE – Outside of known range of California red-legged frog and San Francisco garter snake.	None
BIO-8: Effects of regional invasive cordgrass eradication on mosquito production.	NA/NE						NA/NE – Site activities will not create additional mosquito habitat.	None
BIO-9: Effects on tiger beetle species.	NA/NE						NA/NE – no potential tiger beetle habitat will be affected.	None

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Impact*	Applicable to Site	Sub-Area Included	Applicable Mitigations* (by Treatment Method used at Site)				Comments/Analysis of Residual Impact at Site	Additional Mitigation Required
			Backpack	Boat	Truck	Amphibious Vehicle		
AQ-1: Dust Emissions.	A	All Sub-Areas	AQ-1	AQ-1	AQ-1	AQ-1	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
AQ-2: Smoke Emissions.	NA/NE						NA/NE – no burning proposed.	None
AQ-3: Herbicide Effects on Air Quality.	NA/NE	All Sub-Areas	AQ-3	AQ-3	AQ-3	AQ-3	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
AQ-4: Ozone Precursor Emissions.	NA/NE						LTS/NLTAE without mitigation.	None
AQ-5: Carbon monoxide (CO) Emissions.	NA/NE						LTS/NLTAE without mitigation.	None
N-1: Disturbance of Sensitive Receptors	A	Sub-Area 24a	N-1	N-1	N-1	N-1	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
HS-1: Worker Injury from Accidents Associated with Manual and Mechanical Cordgrass Treatment.	NA/NE						NA/NE – Methods not proposed for site.	None
HS-2: Worker Health Effects from Herbicide Application.	A	All Sub-Areas	HS-2	HS-2	HS-2	HS-2	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None

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*Impact**	*Applicable to Site*	*Sub-Area Included*	*Applicable Mitigations* (by Treatment Method used at Site)*				*Comments/Analysis of Residual Impact at Site*	*Additional Mitigation Required*
			Backpack	*Boat*	*Truck*	*Amphibious Vehicle*		
HS-3: Health Effects to the Public from Herbicide Application.	A	All Sub-Areas	HS-3	HS-3	HS-3	HS-3	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
HS-4: Health effects to workers or the public from accidents associated with treatment.	A	All Sub-Areas	HS-4	HS-4	HS-4	HS-4	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
VIS-1: Alteration of Views from Removal of Non-native Cordgrass Infestations.	A	All Sub-Areas	VIS-1	VIS-1	VIS-1	VIS-1	SU – impacts addressed in EIS/R and CEQA findings. Site conditions consistent with those anticipated in the PEIS/R.	None
VIS-2: Change in Views from Native Marsh, Mudflat, and Open Water to Non-native Cordgrass Meadows and Monocultures.	NA/NE						NA/NE – Applies only to PEIS/R Alternative 3 (No Action)	None
LU-1: Land Use Conflicts Between Herbicide Use and Sensitive Receptors	A	All Sub Areas					LTS/NLTAE – Limited to less than significant by HS, N and AQ mitigations.	None
LU-2: Land Use Conflicts from Mechanical and Burning Treatment Methods	NA/NE						NA/NE – Methods not proposed for site	None
CUL-1: Disturbance or Destruction of Cultural Resources from Access and Treatment.	A	All Sub-Areas				CUI-1	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None

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LTS/NLTAE – Less Than Significant impact/Not Likely to Adversely Effect
SU – Significant but unmitigable impact
USFWS BO – US Fish & Wildlife Service Biological Opinion

Impact*	Applicable to Site	Sub-Area Included	Applicable Mitigations* (by Treatment Method used at Site)				Comments/Analysis of Residual Impact at Site	Additional Mitigation Required
			Backpack	Boat	Truck	Amphibious Vehicle		
CUL-2: Loss of Cultural Resources from Erosion.	NA/NE						NA/NE – No erosion-producing activities proposed	None
CUM-1: Effects of wetland restoration projects on spread of non-native cordgrass	A	24b	CUM-1	CUM-1	CUM-1	CUM-1	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
CUM-2: Cumulative damage to marsh plain vegetation	NA/NE						NA/NE – Without mitigation	None

Key: * Impact and mitigation numbering from ISP Control Program Programmatic EIS/R, August 2003
A - Applicable
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LTS/NLTAE – Less Than Significant impact/Not Likely to Adversely Effect
SU – Significant but unmitigable impact
USFWS BO – US Fish & Wildlife Service Biological Opinion

SITE-SPECIFIC PROJECT MITIGATION

Site Name: Petaluma River Complex, Sonoma County TSN: ISP-2007-24

*Impact**	*Applicable Mitigation & Conservation Measures**	*Applicable Sub-area*	*Backpack*	*Boat*	*Truck*	*Amphibious Vehicle*	*Implementation Timing*	*Verification Signatures*	
								Implementing Entity	*ISP Field Supervisor*
WQ-1: Degradation of water quality due to herbicide application	Apply herbicide directly to plant at low tide and according to label. (WQ-1; CM-3, 4)	All sub-areas	X	X	X	X	During treatment		
WQ-2: Degradation of water quality due to herbicide spills	Apply under supervision of trained applicator (WQ-2; CM-3)	All sub-Areas	X	X	X	X	During treatment		
	Implement spill and containment plan provided or approved by ISP (WQ-2; CM-3, 17)	All sub-areas	X	X	X	X	During treatment		
WQ-3: Degradation of Water Quality due to Fuel or Petroleum Spills	Implement spill and containment plan provided or approved by ISP (WQ-3; CM-17)	All sub-areas	X	X	X	X	During treatment		
BIO-1.2: Effects on tidal marsh plant communities affected by Atlantic smooth cordgrass and its hybrids.	Minimize entry and re-entry into marsh, define access points (BIO-1.2; CM-1)	All Sub-areas	X	X	X	X	During treatment		
	Avoid staging in high, dense vegetation such as gumplant or pickleweed (FWS GL)	All sub-areas	X	X	X	X	During treatment		
	Avoid herbicide application to non-target vegetation adjacent to treatment area (BIO-1.2; CM-3, 4)	All sub-areas	X	X	X	X	During treatment		

*Impact numbering from ISP Control Program Programmatic EIS/R, September 2003.
Mitigations are from corresponding numbered mitigation in the same document,
CM - Conservation Measures as defined by USFWS Biological Opinions (general and site-specific)

*Impact**	*Applicable Mitigation & Conservation Measures**	*Applicable Sub-area*	*Backpack*	*Boat*	*Truck*	*Amphibious Vehicle*	*Implementation Timing*	*Verification Signatures*	
								Implementing Entity	*ISP Field Supervisor*
BIO-3: Effects on shorebirds, waterfowl & marshland birds.	Avoid working within 1,000 feet of occupied mudflats during peak Pacific Flyway stopovers (BIO-3)	All sub-areas	X	X	X	X	During treatment		
	Occupy treatment area soon after high tide, before mudflats emerge (BIO-3)	All sub-areas	X	X	X	X	During treatment		
	Haze shorebirds to minimize potential direct contact with herbicide drift (BIO-3)	All sub-areas	X	X	X	X	During treatment		
BIO-4.1: Effects on the salt marsh harvest mouse and tidal marsh shrew species.	Use shortest possible access route through any pickleweed habitat. Flag areas of repeated access (BIO-4.1; CM-15)	All sub-areas	X	X	X	X	During treatment		
	Use protective mats or other covering over pickleweed in areas or repeated access (BIO-4.1; CM-15)	All sub-areas	X	X	X	X	During treatment		
	Assume presence of SMHM on all suitable sites (CM 14)	All sub-areas	X	X	X	X	During treatment		
	Whenever possible, schedule work after mass mortality events caused by extreme high tides (CM 16).	All sub-areas	X	X	X	X	Pre- and during treatment		
BIO-5.1: Effects on California clapper rail.	Perform work only during Sept 1 thru Feb 1 to avoid CLRA breading season (BIO-5.1; CM-18)	All sub-areas	X	X	X	X	During treatment		

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Mitigations are from corresponding numbered mitigation in the same document,
CM - Conservation Measures as defined by USFWS Biological Opinions (general and site-specific)

*Impact**	*Applicable Mitigation & Conservation Measures**	*Applicable Sub-area*	*Backpack*	*Boat*	*Truck*	*Amphibious Vehicle*	*Implementation Timing*	*Verification Signatures*	
								Implementing Entity	*ISP Field Supervisor*
	For work within the Clapper Rail breeding season, call counts will be performed in the early spring according to FWS protocols (CM-18)	All sub-areas					Pre-treatment		
	Provide CLRA Field biologist supervision (BIO-5.1)	All sub-areas	X	X	X	X	During treatment		
	Assure that field personnel are trained in general CLRA biology and CLRA identification and call detection (BIO-5.1)	All sub-areas	X	X	X	X	Pre-treatment and during treatment		
	Report any CLRA activity immediately to ISP Field Supervisor and in post-treatment report (BIO-5.1)	All sub-areas	X	X	X	X	During and post-treatment		
BIO-5.2: Effects on California Black Rail	Conform with BIO-5.1	All sub-areas	X	X	X	X	Pre-, during, and post-treatment		
BIO-5.3: Effects on tidal marsh song sparrow subspecies and the salt marsh common yellowthroat.	Report any SMSS and SCYE activity immediately to ISP Field Supervisor and in post-treatment report (BIO-5.3)	All sub-areas	X	X	X	X	During and post-treatment		
	Avoid spraying or removing *Grindelia* plants in the marsh (BIO-5.3)	All sub-areas	X	X	X	X	During treatment		
	Watch for Song Sparrow presence in the work area during early season treatment work (pre-August), especially in the smaller, upper reaches of channels (BIO-5.3)	All sub-areas	X	X	X	X	During treatment		

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CM - Conservation Measures as defined by USFWS Biological Opinions (general and site-specific)

*Impact**	*Applicable Mitigation & Conservation Measures**	*Applicable Sub-area*	*Backpack*	*Boat*	*Truck*	*Amphibious Vehicle*	*Implementation Timing*	*Verification Signatures*	
								Implementing Entity	*ISP Field Supervisor*
BIO-5.4: Effects on California least terns and western snowy plovers.	Survey access levees for nesting CALT and WSPL prior to entry (BIO-5.4; CM-20)	All sub-areas	X	X	X	X	Pre-treatment		
	Report any CALT and WSPL activity immediately to ISP Field Supervisor and in post-treatment report (BIO-5.4)	All sub-areas	X	X	X	X	During and post-treatment		
BIO-6.1: Effects on anadromous salmonids (winter-run and spring-run Chinook salmon, steelhead).	Minimize herbicide applications (BIO-6.1)	All sub-areas	X	X	X	X	During treatment		
	Avoid use of alkylphenol ethoxylate surfactants adjacent to channel to minimize any potential adverse affects on estuarine fish (BIO-6.1)	All sub-areas	X	X	X	X	During treatment		
BIO-6.4: Effects on estuarine fish populations of shallow submerged intertidal mudflats and channels.	Minimize spraying near channels (BIO-6.4)	All sub-areas	X	X	X	X	During treatment		
	Avoid use of alkylphenol ethoxylate surfactants adjacent to channel to minimize any potential adverse affects on estuarine fish (BIO-6.4)	All sub-areas	X	X	X	X	During treatment		
AQ-1: Dust emissions	Limit speeds on dirt roads to 15 miles per hour (AQ-1)	All sub-areas	X	X	X	X	During treatment		

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Mitigations are from corresponding numbered mitigation in the same document,
CM - Conservation Measures as defined by USFWS Biological Opinions (general and site-specific)

*Impact**	*Applicable Mitigation & Conservation Measures**	*Applicable Sub-area*	*Backpack*	*Boat*	*Truck*	*Amphibious Vehicle*	*Implementation Timing*	*Verification Signatures*	
								Implementing Entity	*ISP Field Supervisor*
AQ-3: Herbicide effects on air quality.	Implement ISP approved drift management plan (AQ-3; CM-3, 4)	All sub-areas	X	X	X	X	During treatment		
N-1: Disturbance of Sensitive Receptors	Comply with all local noise ordinances (N-1)	Sub-Area 24a	X	X	X	X	During treatment		
HS-2: Worker Health Effects from Herbicide Application.	Follow handling and application procedures as identified on product label (HS-2; CM-3, 4)	All sub-areas	X	X	X	X	During treatment		
HS-3: Health Effects to the Public from Herbicide Application.	Minimize drift according to ISP drift management plan (HS-3; CM-3, 4)	All sub-areas	X	X	X	X	During treatment		
	Post appropriate signage (see attached signage requirements) a minimum of 24 hours pre-treatment (HS-3)	All sub-areas	X	X	X	X	Pre-treatment		
HS-4: Health effects to workers or the public from accidents associated with treatment.	Maintain ISP or approved equivalent Site Safety and Spill Prevention plan on site (HS-4; CM-3, 4,17)	All sub-areas	X	X	X	X	During treatment		
VIS-1: Alteration of Views from Removal of Non-native Cordgrass Infestations.	Post appropriate signage according to ISP signage protocols (VIS-1)	All sub-areas	X	X	X	X	Pre-treatment, during treatment, post-treatment		
CUL-1: Disturbance or Destruction of Cultural Resources from Access and Treatment.	Report all discovered prehistoric or historic resources to the ISP Field Supervisor and a qualified archeologist or historic resources consultant and suspend all work at site until archaeological mitigation has taken place (CUL-1)	All sub-areas				X	Pre-treatment and during treatment		

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CM - Conservation Measures as defined by USFWS Biological Opinions (general and site-specific)

*Impact**	*Applicable Mitigation & Conservation Measures**	*Applicable Sub-area*	*Backpack*	*Boat*	*Truck*	*Amphibious Vehicle*	*Implementa-tion Timing*	*Verification Signatures*	
								Implement-ing Entity	*ISP Field Supervisor*
CM-7: Invasive Species	Monitor cleared patches for recruitment of invasive plant species including perennial pepperweed until native vegetation has become dominant (CM-7)	All sub-areas	X	X	X	X	Post-treatment		

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Mitigations are from corresponding numbered mitigation in the same document,
CM - Conservation Measures as defined by USFWS Biological Opinions (general and site-specific)

SITE-SPECIFIC PROJECT MITIGATION

Site Name: North San Pablo Bat Complex, Napa and Solano Counties TSN: ISP-2008-26

*Impact**	*Applicable Mitigation & Conservation Measures**	*Applicable Sub-area*	*Back-pack*	*Boat*	*Implementation Timing*	*Verification Signatures*	
						Implement-ing Entity	*ISP Field Supervisor*
WQ-1: Degradation of water quality due to herbicide application	Apply herbicide directly to plant at low tide and according to label. (WQ-1; CM-3, 4)	All sub-areas	X	X	During treatment		
WQ-2: Degradation of water quality due to herbicide spills	Apply under supervision of trained applicator (WQ-2; CM-3)	All sub-Areas	X	X	During treatment		
	Implement spill and containment plan provided or approved by ISP (WQ-2; CM-3, 17)	All sub-areas	X	X	During treatment		
WQ-3: Degradation of Water Quality due to Fuel or Petroleum Spills	Implement spill and containment plan provided or approved by ISP (WQ-3; CM-17)	All sub-areas	X	X	During treatment		
BIO-1.2: Effects on tidal marsh plant communities affected by Atlantic smooth cordgrass and its hybrids.	Minimize entry and re-entry into marsh, define access points (BIO-1.2; CM-1)	All Sub-areas	X	X	During treatment		
	Avoid staging in high, dense vegetation such as gumplant or pickleweed (FWS GL)	All sub-areas	X	X	During treatment		
	Avoid herbicide application to non-target vegetation adjacent to treatment area (BIO-1.2; CM-3, 4)	All sub-areas	X	X	During treatment		
BIO-3: Effects on shorebirds, waterfowl & marshland birds.	Avoid working within 1,000 feet of occupied mudflats during peak Pacific Flyway stopovers (BIO-3)	All sub-areas	X	X	During treatment		
	Occupy treatment area soon after high tide, before mudflats emerge (BIO-3)	All sub-areas	X	X	During treatment		
	Haze shorebirds to minimize potential direct contact with herbicide drift (BIO-3)	All sub-areas	X	X	During treatment		

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Mitigations are from corresponding numbered mitigation in the same document,
CM - Conservation Measures as defined by USFWS Biological Opinions (general and site-specific)

*Impact**	*Applicable Mitigation & Conservation Measures**	*Applicable Sub-area*	*Back-pack*	*Boat*	*Implementation Timing*	*Verification Signatures*	
						Implement-ing Entity	*ISP Field Supervisor*
BIO-4.1: Effects on the salt marsh harvest mouse and tidal marsh shrew species.	Use shortest possible access route through any pickleweed habitat. Flag areas of repeated access (BIO-4.1; CM-15)	All sub-areas	X	X	During treatment		
	Use protective mats or other covering over pickleweed in areas or repeated access (BIO-4.1; CM-15)	All sub-areas	X	X	During treatment		
	Assume presence of SMHM on all suitable sites (CM 14)	All sub-areas	X	X	During treatment		
	Whenever possible, schedule work after mass mortality events caused by extreme high tides (CM 16).	All sub-areas	X	X	Pre- and during treatment		
BIO-5.1: Effects on California clapper rail.	Perform work only during Sept 1 thru Feb 1 to avoid CLRA breading season (BIO-5.1; CM-18)	All sub-areas	X	X	During treatment		
	For work within the Clapper Rail breeding season, call counts will be performed in the early spring according to FWS protocols (CM-18)	All sub-areas			Pre-treatment		
	Provide CLRA Field biologist supervision (BIO-5.1)	All sub-areas	X	X	During treatment		
	Assure that field personnel are trained in general CLRA biology and CLRA identification and call detection (BIO-5.1)	All sub-areas	X	X	Pre-treatment and during treatment		
	Report any CLRA activity immediately to ISP Field Supervisor and in post-treatment report (BIO-5.1)	All sub-areas	X	X	During and post-treatment		
BIO-5.2: Effects on California Black Rail	Conform with BIO-5.1	All sub-areas	X	X	Pre-, during, and post-treatment		
BIO-5.3: Effects on tidal marsh song sparrow subspecies and the salt	Report any SMSS and SCYE activity immediately to ISP Field Supervisor and in post-treatment report (BIO-5.3)	All sub-areas	X	X	During and post-treatment		

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*Impact**	*Applicable Mitigation & Conservation Measures**	*Applicable Sub-area*	*Back-pack*	*Boat*	*Implementation Timing*	*Verification Signatures*	
						Implement-ing Entity	*ISP Field Supervisor*
marsh common yellow-throat.	Avoid spraying or removing *Grindelia* plants in the marsh (BIO-5.3)	All sub-areas	X	X	During treatment		
	Watch for Song Sparrow presence in the work area during early season treat-ment work (pre-August), especially in the smaller, upper reaches of channels (BIO-5.3)	All sub-areas	X	X	During treatment		
BIO-5.4: Effects on California least terns and western snowy plovers.	Survey access levees for nesting CALT and WSPL prior to entry (BIO-5.4; CM-20)	All sub-areas	X	X	Pre-treatment		
	Report any CALT and WSPL activity immediately to ISP Field Supervisor and in post-treatment report (BIO-5.4)	All sub-areas	X	X	During and post-treatment		
BIO-6.1: Effects on anadromous salmonids (winter-run and spring-run Chinook salmon, steelhead).	Minimize herbicide applications (BIO-6.1)	All sub-areas	X	X	During treatment		
	Avoid use of alkylphenol ethoxylate surfactants adjacent to channel to minimize any potential adverse affects on estuarine fish (BIO-6.1)	All sub-areas	X	X	During treatment		
BIO-6.4: Effects on es-tuarine fish populations of shallow submerged intertidal mudflats and channels.	Minimize spraying near channels (BIO-6.4)	All sub-areas	X	X	During treatment		
	Avoid use of alkylphenol ethoxylate surfactants adjacent to channel to minimize any potential adverse affects on estuarine fish (BIO-6.4)	All sub-areas	X	X	During treatment		
AQ-1: Dust emissions	Limit speeds on dirt roads to 15 miles per hour (AQ-1)	All sub-areas	X	X	During treatment		

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CM - Conservation Measures as defined by USFWS Biological Opinions (general and site-specific)

*Impact**	*Applicable Mitigation & Conservation Measures**	*Applicable Sub-area*	*Back-pack*	*Boat*	*Implementation Timing*	*Verification Signatures*	
						Implement-ing Entity	*ISP Field Supervisor*
AQ-3: Herbicide effects on air quality.	Implement ISP approved drift management plan (AQ-3; CM-3, 4)	All sub-areas	X	X	During treatment		
N-1: Disturbance of Sensitive Receptors	Comply with all local noise ordinances (N-1)	Sub-Area 24a	X	X	During treatment		
HS-2: Worker Health Effects from Herbicide Application.	Follow handling and application procedures as identified on product label (HS-2; CM-3, 4)	All sub-areas	X	X	During treatment		
HS-3: Health Effects to the Public from Herbicide Application.	Minimize drift according to ISP drift management plan (HS-3; CM-3, 4)	All sub-areas	X	X	During treatment		
	Post appropriate signage (see attached signage requirements) a minimum of 24 hours pre-treatment (HS-3)	All sub-areas	X	X	Pre-treatment		
HS-4: Health effects to workers or the public from accidents associated with treatment.	Maintain ISP or approved equivalent Site Safety and Spill Prevention plan on site (HS-4; CM-3, 4,17)	All sub-areas	X	X	During treatment		
VIS-1: Alteration of Views from Removal of Non-native Cordgrass Infestations.	Post appropriate signage according to ISP signage protocols (VIS-1)	All sub-areas	X	X	Pre-treatment, during treatment, post-treatment		
CUL-1: Disturbance or Destruction of Cultural Resources from Access and Treatment.	Report all discovered prehistoric or historic resources to the ISP Field Supervisor and a qualified archeologist or historic resources consultant and suspend all work at site until archaeological mitigation has taken place (CUL-1)	All sub-areas			Pre-treatment and during treatment		
CM-7: Invasive Species	Monitor cleared patches for recruitment of invasive plant species including perennial pepperweed until native vegetation has become dominant (CM-7)	All sub-areas	X	X	Post-treatment		

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Mitigations are from corresponding numbered mitigation in the same document,
CM - Conservation Measures as defined by USFWS Biological Opinions (general and site-specific)

SITE-SPECIFIC PROJECT IMPACT EVALUATION

Site Name: North San Pablo Bay Complex, Napa and Solano Counties TSN: ISP-2008-26

*Impact**	*Applicable to Site*	*Sub-Area Included*	*Applicable Mitigations* (by Treatment Method used at Site)*		*Comments/Analysis of Residual Impact at Site*	*Additional Mitigation Required*
			Backpack	*Boat*		
GEO-1: Erosion or deposition of sediment at treatment site	NA/NE				NA/NE – Proposed activities are not ground disturbing and will not elevate erosion above ambient levels.	None
GEO-2: Erosion or topographic change of marsh and mudflat by vehicles used in eradication	NA/NE				NA/NE – No equipment will be working on marsh or mudflat surfaces	None
GEO-3: Remobilization of sand in cordgrass-stabilized estuarine beaches	NA/NE				NA/NE – Proposed activities will not take place within an estuarine beach.	None
GEO-4: Increased demand for sediment disposal and potential spread of invasive cordgrass via sediment disposal.	NA/NE				NA/NE – No dredging/sediment disposal proposed	None
GEO-5: Increased volume and velocity of tidal currents in channels due to the removal of invasive cordgrass.	A	All Sub-Areas	GEO-5	GEO-5	No adverse impact (see EIS/R GEO-5 discussion). Site conditions consistent with those anticipated in the PEIS/R.	None
GEO-6: Increased depth and turbulence of tidewaters impounded in salt marsh pans.	NA/NE				NA/NE – Proposed activities will not take place within salt marsh pans.	None
WQ-1: Degradation of Water Quality due to herbicide application	A	All Sub-Areas	WQ-1	WQ-1	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None

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USFWS BO – US Fish & Wildlife Service Biological Opinion

Impact*	Applicable to Site	Sub-Area Included	Applicable Mitigations* (by Treatment Method used at Site)		Comments/Analysis of Residual Impact at Site	Additional Mitigation Required
			Backpack	Boat		
WQ-2: Degradation of Water Quality due to herbicide spills	A	All Sub-Areas	WQ-2	WQ-2	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
WQ-3: Degradation of Water Quality due to fuel or petroleum spills	A	All Sub-Areas	WQ-3	WQ-3	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
WQ-4: Degradation of Water Quality due to Contaminant Remobilization	NA/NE				NA/NE – No dredging or other sediment-mobilizing activities proposed.	None
WQ-5: Water Quality Effects Resulting from Sediment Accretion	NA/NE				NA/NE – This impact only applies to EIS/R Alternative 3.	None
BIO-1.1: Effects on tidal marsh plant communities affected by salt-meadow cordgrass and English cordgrass.	NA/NE				NA/NE – Field surveys found no salt-meadow or English cordgrass at this site.	None
BIO-1.2: Effects on tidal marsh plant communities affected by Atlantic smooth cordgrass and its hybrids.	A	All Sub-Areas	BIO-1.2	BIO-1.2	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-1.3: Effects on tidal marsh plant communities affected by Chilean cordgrass.	NA/NE	Sub-area 26a	BIO-1.3	BIO-1.3	NA/NE – Field surveys found no Chilean cordgrass at site.	None
BIO-1.4: Effects on submerged aquatic plant communities.	NA/NE				NA/NE – Field surveys found no eelgrass or other submerged aquatic plants at site.	None
BIO-2: Effects on special-status plants (Soft bird's beak and/or Suisun thistle) in tidal marshes	NA/NE	All Sub-areas	BIO-2	BIO-2	NA/NE – Field surveys found no special-status plant species at site.	None

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Impact*	Applicable to Site	Sub-Area Included	Applicable Mitigations* (by Treatment Method used at Site)		Comments/Analysis of Residual Impact at Site	Additional Mitigation Required
			Backpack	Boat		
BIO-3: Effects on shorebirds and waterfowl.	A	All Sub-Areas	BIO-3	BIO-3	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-4.1: Effects on the salt marsh harvest mouse and tidal marsh shrew species.	A	All Sub-Areas	BIO-4.1	BIO-4.1	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-4.2: Effects on resident harbor seal colonies of San Francisco Bay.	NA/NE				NA/NE – Outside of known range of harbor seal.	None
BIO-4.3: Effects on the southern sea otter.	NA/NE				NA/NE – Outside of known range of southern sea otters.	None
BIO-5.1: Effects on the California clapper rail.	A	All Sub-Areas	BIO-5.1 as modified by UFSWS BO	BIO-5.1 as modified by UFSWS BO	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-5.2: Effects on the California black rail.	A	All Sub-areas	BIO-5.2 as modified by UFSWS BO	BIO-5.2 as modified by UFSWS BO	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-5.3: Effects on tidal marsh song sparrow subspecies and the salt marsh common yellowthroat.	A	All Sub-Areas	BIO-5.3 as modified by UFSWS BO	BIO-5.3 as modified by UFSWS BO	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None

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Impact*	Applicable to Site	Sub-Area Included	Applicable Mitigations* (by Treatment Method used at Site)		Comments/Analysis of Residual Impact at Site	Additional Mitigation Required
			Backpack	Boat		
BIO-5.4: Effects on California least terns and western snowy plovers.	A	Sub-Areas 5c and 5d	BIO-5.4 as modified by UFSWS BO	BIO-5.4 as modified by UFSWS BO	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-5.5: Effects on raptors (birds of prey).	A	All Sub-Areas			LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-6.1: Effects on anadromous salmonids (winter-run and spring-run Chinook salmon, steelhead).	A	All Sub-Areas	BIO-6.1 as modified by UFSWS BO	BIO-6.1 as modified by UFSWS BO	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-6.2: Effects on delta smelt and Sacramento splittail.	A	All Sub-Areas	Bio-6.2	Bio-6.2	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
BIO-6.3: Effects on the tidewater goby.	NA/NE				NA/NE – Outside of known range of tidewater goby.	None
BIO-6.4: Effects on estuarine fish populations of shallow submerged intertidal mudflats and channels.	A	All Sub-Areas	BIO-6.4 – minimize spraying	BIO-6.4 – minimize spraying	LTS/NLTAE with additional mitigation BIO-6.4(b) (Note: no mowing proposed accept in test plots because of unacceptable impacts to birds)	BIO-6.4(b) - R-11 will not be used adjacent to channel to minimize any potential adverse affects on estuarine fish.
BIO-7: Effects on California red-legged frog and San Francisco garter snake.	NA/NE				NA/NE – Outside of known range of California red-legged frog and San Francisco garter snake.	None

Key: * Impact and mitigation numbering from ISP Control Program Programmatic EIS/R, August 2003
A - Applicable
NA/NE – Not Applicable/No Effect
LTS/NLTAE – Less Than Significant impact/Not Likely to Adversely Effect
SU – Significant but unmitigable impact
USFWS BO – US Fish & Wildlife Service Biological Opinion

Impact*	Applicable to Site	Sub-Area Included	Applicable Mitigations* (by Treatment Method used at Site)		Comments/Analysis of Residual Impact at Site	Additional Mitigation Required
			Backpack	Boat		
BIO-8: Effects of regional invasive cordgrass eradication on mosquito production.	NA/NE				NA/NE – Site activities will not create additional mosquito habitat.	None
BIO-9: Effects on tiger beetle species.	NA/NE				NA/NE – no potential tiger beetle habitat will be affected.	None
AQ-1: Dust Emissions.	NA/NE				NA/NE - Access to treatment areas on paved roads of via water.	None
AQ-2: Smoke Emissions.	NA/NE				NA/NE – no burning proposed.	None
AQ-3: Herbicide Effects on Air Quality.	NA/NE	All Sub-Areas	AQ-3	AQ-3	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
AQ-4: Ozone Precursor Emissions.	NA/NE				LTS/NLTAE without mitigation.	None
AQ-5: Carbon monoxide (CO) Emissions.	NA/NE				LTS/NLTAE without mitigation.	None
N-1: Disturbance of Sensitive Receptors	A	All Sub-areas	N-1	N-1	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
HS-1: Worker Injury from Accidents Associated with Manual and Mechanical Cordgrass Treatment.	NA/NE				NA/NE – Methods not proposed for site.	None
HS-2: Worker Health Effects from Herbicide Application.	A	All Sub-Areas	HS-2	HS-2	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None

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Impact*	Applicable to Site	Sub-Area Included	Applicable Mitigations* (by Treatment Method used at Site)		Comments/Analysis of Residual Impact at Site	Additional Mitigation Required
			Backpack	Boat		
HS-3: Health Effects to the Public from Herbicide Application.	A	All Sub-Areas	HS-3	HS-3	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
HS-4: Health effects to workers or the public from accidents associated with treatment.	A	All Sub-Areas	HS-4	HS-4	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
VIS-1: Alteration of Views from Removal of Non-native Cordgrass Infestations.	A	All Sub-Areas	VIS-1	VIS-1	SU – impacts addressed in EIS/R and CEQA findings. Site conditions consistent with those anticipated in the PEIS/R.	None
VIS-2: Change in Views from Native Marsh, Mudflat, and Open Water to Non-native Cordgrass Meadows and Monocultures.	NA/NE				NA/NE – Applies only to PEIS/R Alternative 3 (No Action)	None
LU-1: Land Use Conflicts Between Herbicide Use and Sensitive Receptors	A	All Sub Areas			LTS/NLTAE – Limited to less than significant by HS, N and AQ mitigations.	None
LU-2: Land Use Conflicts from Mechanical and Burning Treatment Methods	NA/NE				NA/NE – Methods not proposed for site	None
CUL-1: Disturbance or Destruction of Cultural Resources from Access and Treatment.	A	All Sub-Areas			LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None
CUL-2: Loss of Cultural Resources from Erosion.	NA/NE				NA/NE – No erosion-producing activities proposed	None
CUM-1: Effects of wetland restoration projects on spread of non-native cordgrass	A	All Sub-areas	CUM-1	CUM-1	LTS/NLTAE – Potential impacts mitigated to less than significant. Site conditions consistent with those anticipated in the PEIS/R.	None

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LTS/NLTAE – Less Than Significant impact/Not Likely to Adversely Effect
SU – Significant but unmitigable impact
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Impact*	Appli-cable to Site	Sub-Area Included	Applicable Mitiga-tions* (by Treatment Method used at Site)		Comments/Analysis of Residual Impact at Site	Additional Mitigation Required
			Backpack	Boat		
CUM-2: Cumulative damage to marsh plain vegetation	NA/NE				NA/NE – Without mitigation	None

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LTS/NLTAE – Less Than Significant impact/Not Likely to Adversely Effect
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Attachment 2

Documentation of Compliance with Conservation Measures during Treatment of Non-Native *Spartina*

Documentation of Compliance with Conservation Measures during Treatment of Non-Native *Spartina* at Sites Authorized under 2014 ISP Biological Opinion dated March 6, 2014

Location name(s): _____

Date(s) of treatment: _____

Responsible party/agency: _____

2014-2015 BO Conservation Measures
1. *Minimize disturbance*. While traversing through the marsh, noise will be kept to a minimum. Workers will avoid using multiple pathways through the marsh, and will use berms, boardwalks, or roads if they exist. Routes will be planned and mapped prior to entry in the marsh to minimize time spent in the marsh and to decrease chance of running into hazards/barriers such as large channels. Workers will be observant of their environment to minimize disturbance.
2. *Avoid potential nesting habitat*. Workers will avoid traversing through thick vegetation or areas where the ground is not visible, as well as thick wrack areas where salt marsh harvest mice may nest. Workers will be trained to identify suitable California clapper rail nesting substrate, and will minimize disturbance of these areas (e.g., stands of *Grindelia* and tall pickleweed).
3. *Minimize activities along channels*. When looking for a suitable place to cross a channel, such as an area of sparse vegetation, workers will avoid traveling along the edge of the channel/slough because these areas provide nesting habitat for California clapper rails. To find an alternate channel crossing site, workers will move away from the channel to a distance where vegetation is lower in height and where visibility of the ground surface is greater, then travel parallel to the channel (e.g., avoid *Grindelia*).
4. *Avoid extreme high tides*. Activities will be scheduled to avoid work during extreme high tides when areas of tidal marsh vegetation are inundated. These are periods when California clapper rails and salt marsh harvest mice are at greatest risk (e.g., of predation). If work during an extreme high tide is necessary (e.g., for boat access to a site), activities will not occur in or near high marsh vegetation or upland/marsh transitions potentially used by California clapper rails and salt marsh harvest mice as high tide refugia.
Additional Conservation Measures for all work during clapper rail breeding season (February 1 – August 31):
7. *Bird behavior*. If a California clapper rail vocalizes or flushes within close range (e.g.,< 10m), it is possible that a nest or young are nearby. If an alarmed bird or a nest is detected, work will be stopped, and workers will leave the immediate area carefully and quickly. An alternate route will be selected that avoids this area, and the location of the sighting will be recorded to inform future activities in the area.
8. All biologists accessing the tidal marsh will be trained in California clapper rail biology and vocalizations, and familiar with California clapper rails and their nests.

2014-2015 BO Conservation Measures
9. All crews working in the marsh during the California clapper rail breeding season will be trained and supervised by a California clapper rail biologist.
10. At sub-areas where California clapper rail habitat and/or California clapper rail are potentially present and where any activities may need to be conducted during California clapper rail breeding season, call counts will be conducted to determine rail locations and rail territories.
11. If any activities will be conducted during the California clapper rail breeding season in California clapper rail occupied marshes, biologists will have maps or GPS locations (where available) of the most current clapper rail occurrences at the site, and will proceed cautiously and minimize time spent in areas where clapper rail were detected.
12. All personnel walking in the marsh will be r3equired to limit tie spent within 50 meters of an identified California clapper rail callijng center to half an hour or less.
Conservation Measure specific to soft bird's beak and Suisun thistle:
13. Pre-project surveys for soft bird's beak and Suisun thistle shall be conducted the same year as eradication work at treatment sites. GPS locations of sensitive plant populations shall be recorded, and field crews on foot or in vehicles shall be instructed to avoid and protect sensitive populations. A Service-approved biologist shall be required on-site if sensitive plants occur in the vicinity of eradication work.
Conservation Measure specific to Spartina treatment activities (in addition to Conservation Measures 1-13):
16. Pre-treatment *Spartina* and clapper rail monitoring data will be used to inform treatment crews operating within the marsh. GPS-mapped *Spartina* and clapper rail locations will be provided to treatment crews to avoid rail disturbance and minimize the *Spartina* search footprint during treatment work.

I confirm that the applicable 2014-2015 conservation measures listed above were implemented as appropriate at the sites indicated above that were under my supervision.

_____ _____

Signature Date

_____

Printed Name and Title

_____

ISP Representative Name

Attachment 3

Spartina Treatment Plan Tables with Section 7 Biological Opinion and CEQA Review

2014 *SPARTINA* TREATMENT TABLE

Sub-Area #	Sub-Area Name	2012 BO Group*	CLRA Habitat[1] (Acres)	2012 *Spartina* Cover[2] (unit shown)	2013 *Spartina* Cover[2] (unit shown)	CLRA Detected in 2014 (Draft)[3]	Treatment Entry Date[4]	Existing High-tide Refugia & Nesting Habitat	Treatment Methods[5]	CEQA Finding	2012-2013 BO Assigned Take of CLRA [6,7]	Enhancements Completed (ISP 2011-2012, 2012-2013, and 2013-2014) [8,9]
01a	AFCC - Mouth	2	23.59	0.01 ac	32.7 m^2	0	June 1	▪ Mature *Grindelia* on levees adjacent to Alameda Creek Regional Trail	Backpack	C-1	0	▪ Installed over 5,000 *Grindelia stricta, Distichlis spicata* and *Spartina foliosa* in 01a, 01b and 01c between winters 2011-12 and 2013-14
01b	AFCC – Lower	2	135.02	0.06 ac	0.13 ac	1 – 2	Aug. 12	▪ Mature *Grindelia* on levees adjacent to Alameda Creek Regional Trail	Backpack	C-1	0	▪ Installed over 5,000 *Grindelia stricta, Distichlis spicata* and *Spartina foliosa* in 01a, 01b and 01c between winters 2011-12 and 2013-14
01c	AFCC - Upper	2	75.30	0.03 ac	0.05 ac	0	June 1	▪ Mature *Grindelia* on levees adjacent to Alameda Creek Regional Trail	Backpack	C-1	0	▪ Installed over 5,000 *Grindelia stricta, Distichlis spicata* and *Spartina foliosa* in 01a, 01b and 01c between winters 2011-12 and 2013-14
01d	AFCC - to I-880	3	35.79	0.11 ac	0.08 ac	0	June 1		Backpack	C-1	0	
01e	AFCC - Strip Marsh	3	15.37	4 m^2	23.4 m^2	0	June 1		Backpack	C-1	0	
01f	AFCC - Pond 3	2	130.93	16 m^2	16.7 m^2	2 – 4	Aug. 12	▪ Mature *Grindelia* on berms adjacent to Alameda Creek Regional Trail and the north side of the site	Backpack	C-1	0	▪ Installed over 800 *Grindelia stricta* and *Spartina foliosa* along channels between winters 2011-12 and 2013-14
02a.1a	Belmont Slough	1	53.99	2.36 ac	1.16 ac	2	Aug. 12	▪ High-quality refugia along established berms vegetated extensively with dense, mature *Grindelia*	Airboat, Truck	C-1	0	▪ Installed one artificial floating island in 2012 and removed in fall 2013 (USGS) ▪ Constructed one pilot high tide refuge island planted with *Grindelia stricta* in winter 2012-13 ▪ Cut off two berms from shore to reduce mammalian predator access and create islands by making multiple cuts in berms ▪ Remove four raptor perches (posts and trees) adjacent to slough
02a.1b	Belmont Slough South	1	14.25	1.39 ac	0.49 ac	3 - 8	Aug. 12	▪ Vegetation, including mature *Grindelia*, on Belmont Slough levee	Airboat, Truck	C-1	0	▪ Installed one artificial floating island in 2012 and removed in fall 2013 (USGS) ▪ Constructed one high tide refuge island planted with *Grindelia stricta* in winter 2012-13
02a.2	Belmont Sl to Steinberger Sl	2	136.46	1.78 ac	3.79 ac	0	Aug. 12	▪ Mature *Grindelia* on adjacent levees and along tidal channels ▪ Extensive *Spartina foliosa*	Airboat	C-1	0	None
02a.3	Bird Island	1	91.35	0.87 ac	0.15 ac	0	Aug. 12	▪ *Grindelia* on berm on west side of Bird Island ▪ Vegetation around dredge lock immediately adjacent on mainland (this is where rails are often seen during king tides)	Airboat	C-1	0	▪ Installed one artificial floating island in 2012 and removed in fall 2013 (USGS) ▪ Remove raptor perches (many poles) ▪ Constructed one high tide refuge island planted with *Grindelia stricta* in winter 2012-13 ▪ Installed over 500 *Grindelia stricta* along channel edges in winter 2013-14
02a.4	Redwood Shores Mitigation Bank	New 2012	88.86	32 m^2	30.8 m^2	0	June 1	n/a	Backpack	C-1	n/a	n/a

Sub-Area #	Sub-Area Name	2012 BO Group*	CLRA Habitat[1] (Acres)	2012 *Spartina* Cover[2] (unit shown)	2013 *Spartina* Cover[2] (unit shown)	CLRA Detected in 2014 (Draft)[3]	Treatment Entry Date[4]	Existing High-tide Refugia & Nesting Habitat	Treatment Methods[5]	CEQA Finding	2012-2013 BO Assigned Take of CLRA [6,7]	Enhancements Completed (ISP 2011-2012, 2012-2013, and 2013-2014) [8,9]
02b.1	Corkscrew Slough	2	135.83	1.04 ac	0.75 ac	16 - 20	Aug. 12	▪ Mature *Grindelia* on adjacent levees and along tidal channels ▪ Extensive *Spartina foliosa* ▪ Extensive tidal channel network with substantial foraging habitat	Airboat	C-1	0	None
02b.2	Steinberger Sl to Redwood Crk	2	271.19	2.36 ac	1.02 ac	0	June 1	▪ Mature *Grindelia* on adjacent levees and along tidal channels ▪ Extensive *Spartina foliosa*	Airboat	C-1	0	None
02c.1a	B2 North Quadrant West	1	147.57	7.60 ac	4.16 ac	0	Aug. 12	▪ Mature *Grindelia* on adjacent berms ▪ *Grindelia* and upland transition plantings (1150 plants); planted in 2012, will provide cover by winter 2013/2014	Airboat	C-1	2	▪ Installed one artificial floating island in 2012 and removed in fall 2013 (USGS) ▪ Constructed two high tide refuge islands planted with *Grindelia stricta*, one in winter 2012-13 and one in winter 2013-14 ▪ Over 5,000 *Grindelia stricta* and upland transition zone plants installed on channel edges and levee/berms between winters 2011-12 and 2013-14
02c.1b	B2 North Quadrant East	1	136.04	13.17 ac	10.77 ac	5 - 10	Aug. 12	▪ Mature *Grindelia* on adjacent berms	Helicopter (seed suppress only)	C-1	4	▪ Installed three artificial floating islands in 2012 and removed in fall 2013 (USGS) ▪ Constructed three high tide refuge island planted with *Grindelia*, one in winter 2011-12 and two in winter 2012-13 ▪ Installed over 100 *Grindelia stricta* on channel edges and berms in winter 2013-14
02c.2	B2 North Quadrant	2	208.62	5.00 ac	8.11 ac	0	Aug. 12	▪ Mature *Grindelia* on adjacent berms ▪ Extensive *Spartina foliosa* ▪ PG&E boardwalk	Airboat	C-1	0	▪ Installed over 1600 *Grindelia stricta* on channels edges and berms in winter 2013-14
02d.1a	B2 South Quadrant West	1	38.28	4.91 ac	1.28 ac	2	Aug. 12	▪ Some mature *Grindelia*, weedy vegetation along upland edge in NE corner and adjacent berms	Airboat	C-1	4	▪ Installed two artificial floating islands in 2012 and removed in fall 2013 (USGS) ▪ Installed two high tide refuge islands planted with *Grindelia stricta* in winter 2013-14 ▪ Remove red fox via trapping by USDA
02d.1b	B2 South Quadrant East	1	23.19	0.58 ac	0.07 ac	1 - 2	June 1	▪ Some mature *Grindelia*, weedy vegetation along upland edge in eastern corner and adjacent berms	Airboat	C-1	0	▪ Plant *Grindelia stricta* on channel edges, berms and along upland edge to north (in cages to prevent browsing by jackrabbits) ▪ Remove red fox via trapping by USDA
02d.2	B2 South Quadrant (2)	2	58.75	0.68 ac	0.34 ac	1 - 2	Aug. 12	▪ Some mature *Grindelia*, weedy vegetation along upland edge and adjacent berms	Backpack	C-1	0	▪ Installed one artificial floating island in 2012 and removed in fall 2013 (USGS) ▪ Constructed two high tide refuge islands planted with *Grindelia stricta*, one in winter 2012-13 and one in winter 2013-14 ▪ Over 5,000 *Grindelia stricta* and upland transition zone plants installed on channel edges and levee/berms between winters 2011-12 and 2013-14
02d.3	B2 South Quadrant (3)	3	67.86	0.16 ac	0.10 ac	0	June 1		Backpack	C-1	0	▪ Installed over 700 *Grindelia stricta* on channel edges and levee/berm in winter 2013-14 (caged to prevent browsing by jackrabbits)
02e	West Point Slough NW	1	4.92	0.95 ac	0.24 ac	0	June 1		Airboat	C-1	0	None

Sub-Area #	Sub-Area Name	2012 BO Group*	CLRA Habitat[1] (Acres)	2012 *Spartina* Cover[2] (unit shown)	2013 *Spartina* Cover[2] (unit shown)	CLRA Detected in 2014 (Draft)[3]	Treatment Entry Date[4]	Existing High-tide Refugia & Nesting Habitat	Treatment Methods[5]	CEQA Finding	2012-2013 BO Assigned Take of CLRA [6,7]	Enhancements Completed (ISP 2011-2012, 2012-2013, and 2013-2014) [8,9]
02f	Greco Island - North	2	498.50	4.94 ac	2.45 ac	6 – 8	Aug. 12	▪ Extensive, mature *Grindelia* throughout the site ▪ Extensive *Spartina foliosa* ▪ Extensive tidal channel network with substantial foraging habitat ▪ PG&E boardwalk	Airboat	C-1	0	▪ Installed over 8,000 *Grindelia stricta* along channel and berm/island edges between winters 2011-12 and 2013-14
02g	West Point Slough - SW/ E	2	40.90	0.36 ac	0.17 ac	0	Aug. 12		Backpack	C-1	0	None
02h	Greco Island - South	2	233.02	3.50 ac	0.78 ac	32 – 46	Aug. 12	▪ Extensive, mature *Grindelia* throughout the site ▪ Extensive *Spartina foliosa* ▪ Extensive tidal channel network with substantial foraging habitat	Airboat	C-1	0	None
02i	Ravenswood Slough & Mouth	1	117.65	5.94 ac	3.99 ac	2 – 4	Aug. 12	▪ Extensive, mature *Grindelia* along toe of levee and present along small channels in numerous areas along slough	Airboat; Truck	C-1	0	▪ Install raptor deterrents on poles
02j	Ravenswood Open Space Preserve	3	23.63	0.07 ac	0.30 ac	0	June 1		Airboat	C-1	0	
02k	Deepwater Slough	2	421.75	1.47 ac	1.35 ac	35 - 50	Aug. 12	▪ Mature *Grindelia* on adjacent berms ▪ Extensive *Spartina foliosa* ▪ Upland areas on eastern portion of the site ▪ PG&E boardwalk	Airboat	C-1	0	None
02l	Inner Bair Island Restoration	3	59.64	0.05 ac	0.06 ac	0	June 1		Backpack	C-1	0	
02m	Pond B3 Bair Island Restoration	3	411.84	0.43 ac	0.88 ac	0	June 1		Airboat	C-1	0	
02n	SF2	New 2012	242.61	25 m^2	15.5 m^2	0	June 1	n/a	Backpack	C-1	n/a	n/a
03a	Blackie's Creek	3	0.55	3 m^2	1.3 m^2	0	June 1		Digging	C-1	0	
03b	Blackie's Creek Mouth	3	0.98	39 m^2	28.4 m^2	0	June 1		Backpack, Digging	C-1	0	
04a	CMC Marsh Reserve	2	77.12	144 m^2	14.3 m^2	45	Sep. 1	▪ An island and berms with mature *Grindelia* and other native marsh vegetation ▪ PG&E boardwalk	Backpack, Digging	C-1	0	None
04b	College of Marin	3	4.43	1 m^2	22.4 m^2	0	June 1		Digging	C-1	0	

Sub-Area #	Sub-Area Name	2012 BO Group*	CLRA Habitat[1] (Acres)	2012 *Spartina* Cover[2] (unit shown)	2013 *Spartina* Cover[2] (unit shown)	CLRA Detected in 2014 (Draft)[3]	Treatment Entry Date[4]	Existing High-tide Refugia & Nesting Habitat	Treatment Methods[5]	CEQA Finding	2012-2013 BO Assigned Take of CLRA [6,7]	Enhancements Completed (ISP 2011-2012, 2012-2013, and 2013-2014) [8,9]
04c	Piper Park - East	2	10.11	8 m^2	2.3 m^2	2	Sep. 1	▪ Patches of mature *Grindelia* along tidal channels and marsh/upland transition zone	Digging	C-1	0	None
04d	Piper Park - West	2	13.83	2 m^2	0.5 m^2	2	Sep. 1	▪ Patches of mature *Grindelia* along tidal channels and interior of marsh	Digging	C-1	0	None
04e	Larkspur Ferry Landing Area	3	1.03	1 m^2	1.6 m^2	0	June 1		Backpack, Digging	C-1	0	
04f	Riviera Circle	3	3.85	0.01 ac	74.1 m^2	0	June 1		Backpack, Digging	C-1	0	
04g	Creekside Park	2	20.75	0.09 ac	0.03 ac	9 - 10	June 1 to treat *densiflora*	▪ *Grindelia* plantings (600 plants) planted in 2011/2012, will provide cover by 2013/2014 ▪ Extensive *Spartina foliosa* along channels ▪ A large island with weedy vegetation ▪ Water control structure prevents extreme high tides	Backpack, Digging	C-1	0	▪ Extensive *Grindelia stricta* planted by Friends of Corte Madera Creek between winters 2011-12 and 2013-14.
04h	CMC - Upper	2	13.67	0.01 ac	0.02 ac	2	Sep. 1	▪ Patches of *Grindelia* on adjacent berms	Backpack, Digging	C-1	0	None
04i	CMC – Lower	3	15.91	0.09 ac	0.04 ac	0	June 1		Backpack, Digging	C-1	0	
04j.1	CMC-Mouth North Bank	1	5.96	0.23 ac	0.08 ac	1	June 1 to treat *densiflora* Aug. 12 to treat *alterniflora*	▪ An island and several berms with mature *Grindelia*, *Frankenia*, and other native marsh vegetation	Backpack, Digging	C-1	4	▪ Installed two artificial floating islands in 2012 and removed in fall 2013 (USGS)
04j.2	CMC - Mouth South Bank	2	12.20	0.05 ac	18.0 m^2	1	June 1	▪ Patches of *Grindelia* along channels ▪ Boardwalks ▪ Extensive *Spartina foliosa* along channels	Backpack, Digging	C-1	0	None
04k	Boardwalk No. 1	2	8.44	25 m^2	6.6 m^2	0	Sep. 1	▪ Patches *Grindelia* along the channel ▪ Boardwalks	Digging	C-1	0	None
04l	Murphy Creek	3	4.53	1 m^2	0	0	June 1		Digging	C-1	0	
05a.1	Mowry Marsh & Slough	2	821.08	1.52 ac	0.85 ac	19	Aug. 12	▪ Extensive mature *Grindelia* along channels and levees throughout the site ▪ Extensive *Spartina foliosa* along channels and in marsh plain	Airboat	C-1	0	None

Sub-Area #	Sub-Area Name	2012 BO Group*	CLRA Habitat[1] (Acres)	2012 *Spartina* Cover[2] (unit shown)	2013 *Spartina* Cover[2] (unit shown)	CLRA Detected in 2014 (Draft)[3]	Treatment Entry Date[4]	Existing High-tide Refugia & Nesting Habitat	Treatment Methods[5]	CEQA Finding	2012-2013 BO Assigned Take of CLRA [6,7]	Enhancements Completed (ISP 2011-2012, 2012-2013, and 2013-2014) [8,9]
05a.2	Calaveras Marsh	1	451.91	6.7 ac	2.6 ac	16 – 18	Aug. 12	▪ Extensive *Grindelia* on toe of levees; many acres of thick bulrush stands throughout center of marsh *Grindelia* and bulrush along channels ▪ PG&E boardwalk	Airboat, Marsh Master	C-1	6	▪ Installed three artificial floating islands in 2012 and removed in fall 2013 (USGS)
05b	Dumbarton/ Audubon	2	747.88	0.97 ac	0.62 ac	21 – 30	Aug. 12	▪ Extensive *Grindelia* throughout marsh and vegetation at upland edge of old railroad tracks ▪ Extensive *Spartina foliosa* along channels and in marsh plain ▪ PG&E boardwalk	Airboat	C-1	0	None
05c.1	Newark Slough West	2	140.07	0.13 ac	0.07 ac	2 – 4	June 1	▪ Extensive *Grindelia* along channel edges and on adjacent berms ▪ Extensive *Spartina foliosa* throughout the site	Airboat	C-1	0	None
05c.2	Newark Slough East	2	92.14	0.25 ac	0.07 ac	1 - 2	Aug. 12	▪ Extensive *Grindelia* along channel edges and on adjacent berms ▪ Extensive *Spartina foliosa* throughout the site	Airboat	C-1	0	None
05d	LaRiviere Marsh	2	94.69	0.20 ac	0.26 ac	11 – 16	Aug. 12	▪ Extensive *Grindelia*, *Spartina foliosa, and Bolboschoenus maritimus* throughout the site ▪ Vegetated berms throughout the marsh	Backpack	C-1	0	None
05e	Mayhew's Landing	3	27.94	0.15 ac	0.10 ac	0	June 1		Backpack	C-1	0	
05f	Coyote Creek	2	703.54	0.01 ac	0	0	June 1	▪ Extensive *Grindelia*, *Bolboschoenus maritimus*, and extensive *Spartina foliosa* throughout the site ▪ Numerous vegetated levees bordering the site	Airboat	C-1	0	None
05g	Cargill Pond (W Suites Hotel)	3	18.19	0.01 ac	32.8 m^2	0	June 1		Backpack	C-1	0	
05h	Plummer Creek Mitigation	2	16.63	0.01 ac	56.0 m^2	0	June 1	▪ Extensive *Grindelia* throughout the tidal channel and along adjacent levees ▪ Extensive *Bolboschoenus maritimus* and *Spartina foliosa* throughout the site	Backpack	C-1	0	None
05i	Island Ponds (A21-A19)	New 2012	510.35	39 m^2	176.4 m^2	0	June 1	n/a	Airboat	C-1	n/a	n/a
06a	Emeryville Crescent - East	2	54.20	0.07 ac	116.7 m^2	0	June 1	▪ Patches of mature *Grindelia* along tidal channels and interior of marsh ▪ Extensive *Spartina foliosa* throughout the site ▪ Numerous vegetated upland areas in and surrounding the site	Backpack	C-1	0	None

Sub-Area #	Sub-Area Name	2012 BO Group*	CLRA Habitat[1] (Acres)	2012 *Spartina* Cover[2] (unit shown)	2013 *Spartina* Cover[2] (unit shown)	CLRA Detected in 2014 (Draft)[3]	Treatment Entry Date[4]	Existing High-tide Refugia & Nesting Habitat	Treatment Methods[5]	CEQA Finding	2012-2013 BO Assigned Take of CLRA [6,7]	Enhancements Completed (ISP 2011-2012, 2012-2013, and 2013-2014) [8,9]
06b	Emeryville Crescent - West	2	31.51	19 m^2	18.2 m^2	2	June 1	▪ Numerous vegetated upland areas surround the site	Backpack	C-1	0	None
07a	Oro Loma - East	2	197.05	0.34 ac	0.16 ac	1 – 2	Sep.1	▪ Berms vegetated with *Grindelia* on the interior of the site	Airboat	C-1	0	▪ Installed over 3,400 *Grindelia stricta* and *Distichlis spicata* along channel and island edges between winters 2011-12 and 2013-14
07b	Oro Loma – West	2	130.73	0.68 ac	1.16 ac	0	Sep. 1	▪ Berms vegetated with *Grindelia* on the interior of the site	Airboat	C-1	0	▪ Installed over 2,900 *Grindelia stricta* and *Distichlis spicata* on berm/island edges between winters 2011-12 and 2013-14
08	Palo Alto Baylands	2	217.78	0.97 ac	0.92 ac	32	Aug. 12	▪ Extensive *Grindelia* throughout the site and on adjacent levees ▪ Extensive *Spartina foliosa* and *Bolboschoenus maritimus* throughout the site ▪ PG&E boardwalk	Backpack	C-1	1-2	▪ Installed one artificial floating island in 2012 and removed in fall 2013 (USGS)
09	Tiscornia Park	2	15	26 m^2	1.5 m^2	0	Sep. 1	▪ Patches of *Grindelia* along channels ▪ Extensive *Spartina foliosa* throughout the channels and fringe of this site ▪ Boardwalks	Digging, Backpack	C-1	0	None
10a	Whittel Marsh	2	74.0	1 m^2	4.5 m^2	0	Sep. 1	▪ Patches of *Grindelia* along channels	Digging	C-1	0	None
10b	Southern Marsh	3	7.63	0.01 ac	35.4 m^2	0	June 1		Backpack, Digging	C-1	0	
10c	Giant Marsh	2	29.03	0.01 ac	75.9 m^2	1 – 2	Sep. 1	▪ Patches of *Grindelia* along channels	Backpack, Digging	C-1	0	None
11	Southampton Marsh	2	163.12	0.08 ac	0.10 ac	0	Sep. 1	▪ Patches of Grindelia along channels ▪ Extensive *Bolboschoenus maritimus* and *Spartina foliosa* throughout the site ▪ Extensive transition zone vegetation in the northeast corner of the site	Backpack	C-1	0	None
12a	Pier 94	3	4.16	1 m^2	0.4 m^2	0	June 1		Backpack	C-1	0	
12b	Pier 98/Heron's Head	2	10.91	0.09 ac	0.11 ac	1 – 2	Sep.1	▪ Island with sparse vegetation ▪ Sparse vegetation along trail	Backpack	C-1	0	None
12c	India Basin	3	2.10	1 m^2	0.5 m^2	0	June 1		Backpack	C-1	0	
12d	Hunters Point Naval Reserve	3	1.25	6 m^2	0	0	June 1		Backpack	C-1	0	
12e	Yosemite Channel	3	3.31	0.01 ac	14.3 m^2	0	June 1		Backpack	C-1	0	

Sub-Area #	Sub-Area Name	2012 BO Group*	CLRA Habitat[1] (Acres)	2012 *Spartina* Cover[2] (unit shown)	2013 *Spartina* Cover[2] (unit shown)	CLRA Detected in 2014 (Draft)[3]	Treatment Entry Date[4]	Existing High-tide Refugia & Nesting Habitat	Treatment Methods[5]	CEQA Finding	2012-2013 BO Assigned Take of CLRA [6,7]	Enhancements Completed (ISP 2011-2012, 2012-2013, and 2013-2014) [8,9]
12f	Candlestick Cove	2	1.85	1 m^2	0.4 m^2	0	June 1	▪ Ruderal and upland vegetation on outer berm	Backpack	C-1	0	None
12g	Crissy Field	3	14.24	5 m^2	0.1 m^2	0	June 1		Backpack	C-1	0	
12h	Yerba Buena Island	3	11.05	0	0.2 m^2	0	June 1		Backpack	C-1	0	
12i	Mission Creek	3	2.93	1 m^2	0.1 m^2	0	June 1		Backpack	C-1	0	
13a	OAC - North Bank	2	27.52	15 m^2	0.8 m^2	1 – 2	Sep. 1	▪ Mature *Grindelia* and other vegetation on adjacent levees ▪ ISP *Grindelia* and *Spartina foliosa* plantings planted at adjacent 13b will provide cover by 2013/2014	Backpack	C-1	0	None
13b	OAC - Island	2	93.74	0.06 ac	0.09 ac	4 – 8	Sep. 1	▪ Mature *Grindelia* and other vegetation on adjacent levees (along 13a and 13c) ▪ ISP *Grindelia* plantings (700 plants), *Spartina foliosa* plantings (400 plants) planted in 2011/2012 at 13b will provide cover by 2013/2014	Backpack	C-1	0	None
13c	OAC - South Bank	2	24.09	8 m^2	43.8 m^2	0	June 1	▪ Mature *Grindelia* and other vegetation on adjacent levees ▪ *Grindelia* and *Spartina foliosa* plantings planted at adjacent 13b will provide cover by 2013/2014	Backpack	C-1	0	None
13d	Whale's Tail - North	2	149.34	0.21 ac	45.6 m^2	3 – 6	Sep.1	▪ Mature *Grindelia* along channels and levees	Backpack	C-1	0	▪ Installed over 3,900 *Grindelia stricta* and *Spartina foliosa* on marsh between winters 2011-12 and 2013-14
13e	Whale's Tail - South	2	149.35	0.01 ac	29.4 m^2	1 – 2	Aug. 12	▪ Mature *Grindelia* along channels and levees	Backpack	C-1	0	▪ Installed over 13,400 *Grindelia stricta*, *Distichlis spicata, Spartina foliosa* and upland transition zone plants between winters 2011-12 and 2013-14
13f	Cargill Mitigation Marsh	3	47.18	0.03 ac	72.6 m^2	0	June 1		Backpack	C-1	0	▪ Installed over 1,600 *Grindelia stricta* and *Spartina foliosa* between winters 2012-13 and 2013-14
13g	OAC - Upstream 20 Tide Gates	3	22.17	0	2.9 m^2	0	June 1		Backpack	C-1	0	
13h	Eden Landing - North Creek	3	35.86	0.01 ac	0.6 m^2	0	June 1		Backpack	C-1	0	
13i	Eden Landing - Pond 10	3	216.12	0	7.8 m^2	0	June 1		Backpack	C-1	0	

Sub-Area #	Sub-Area Name	2012 BO Group*	CLRA Habitat[1] (Acres)	2012 *Spartina* Cover[2] (unit shown)	2013 *Spartina* Cover[2] (unit shown)	CLRA Detected in 2014 (Draft)[3]	Treatment Entry Date[4]	Existing High-tide Refugia & Nesting Habitat	Treatment Methods[5]	CEQA Finding	2012-2013 BO Assigned Take of CLRA [6,7]	Enhancements Completed (ISP 2011-2012, 2012-2013, and 2013-2014) [8,9]
13j	Eden Landing - Mt Eden Creek	2	124.83	210 ft^2	29.6 m^2	0	June 1	▪ Mature *Grindelia* along channels and levees	Backpack	C-1	0	▪ Installed over 5,100 *Grindelia stricta, Distichlis spicata* and *Spartina foliosa* between winters 2011-12 and 2013-14
13k	Eden Reserve South (North Cr Marsh)	3	239.40	19 m^2	13.1 m^2	0	June 1		Backpack	C-1	0	▪ Installed over 10,400 *Grindelia stricta*, *Distichlis spicata, Spartina foliosa* and upland transition zone plants between winters 2011-12 and 2013-14
13l	Eden Reserve North (Eden Cr Marsh)	3	229.78	5 m^2	33.9 m^2	0	June 1		Backpack	C-1	0	▪ Installed over 900 *Spartina foliosa* in winter 2013-14
15a.1	Charleston Slough to Mt. View Sl	2	97.27	0.08 ac	0.09 ac	1 – 2	Aug. 12	▪ Mature *Grindelia* along levees ▪ Extensive robust *Spartina foliosa* throughout the site ▪ PG&E boardwalk	Truck, Backpack	C-1	0	None
15a.2	Stevens Ck. to Guadalupe Sl*	3	59.52	0.05 ac	0.04 ac	0	June 1		Truck, Backpack	C-1	0	
15a.3	Guadalupe Slough	2	316.20	0.30 ac	0.12 ac	1 – 2	Aug. 12	▪ Mature *Grindelia* along levees ▪ Extensive *Bolboschoenus maritimus* and robust *Spartina foliosa* throughout the site	Truck, Backpack	C-1	0	None
15a.4	Alviso Slough	1	412.80	3.74 ac	1.88 ac	2 – 4	Aug. 12	▪ Extensive *Grindelia* mixed with tall bulrush on west side of slough, at toe of levees, and along channel, with extensive bulrush and *Lepidium* just upstream from 2011 rail locations ▪ PG&E boardwalk	Airboat	C-1	2	▪ Installed one artificial floating island in 2012 and removed in fall 2013 (USGS)
15a.5	Coyote Ck to Artesian Slough	2	442.42	0.04 ac	0.05 ac	8 – 10	Aug. 12	▪ Mature *Grindelia* along levees ▪ Extensive *Bolboschoenus maritimus* and *Spartina foliosa* throughout site	Airboat	C-1	0	None
15a.6	Knapp Tract (Pond A6)	New 2013	382.88	n/a	0.1 m^2	0	June 1	n/a	Airboat	C-1	n/a	n/a
15b	Faber/ Laumeister Marsh	2	197.34	0.26 ac	0.14 ac	78	Aug. 12	▪ Mature *Grindelia* and extensive *Spartina foliosa* throughout the entire marsh and along levees ▪ PG&E boardwalk	Backpack	C-1	0	None
15c	Shoreline Regional Park	3	47.27	0.27 ac	0.37 ac	0	June 1		Backpack	C-1	0	
16.1	Cooley Landing Central	1	41.95	7.64 ac	1.19 ac	2 – 4	Aug. 12	▪ Some *Grindelia* in southwest corner, more extensive *Grindelia* in marsh immediately to west ▪ Extensive *Grindelia* in adjacent Laumeister Tract ▪ PG&E boardwalk	Truck, Airboat	C-1	2	▪ Installed one artificial floating island in 2012 and removed in fall 2013 (USGS) ▪ Constructed two high tide refuge island planted with *Grindelia stricta* winter *2013-14* ▪ Plant *Grindelia stricta* on “island” of cut-off outer levee (to the east of the sub-area boundary)

Sub-Area #	Sub-Area Name	2012 BO Group*	CLRA Habitat[1] (Acres)	2012 *Spartina* Cover[2] (unit shown)	2013 *Spartina* Cover[2] (unit shown)	CLRA Detected in 2014 (Draft)[3]	Treatment Entry Date[4]	Existing High-tide Refugia & Nesting Habitat	Treatment Methods[5]	CEQA Finding	2012-2013 BO Assigned Take of CLRA [6,7]	Enhancements Completed (ISP 2011-2012, 2012-2013, and 2013-2014) [8,9]
16.2	Cooley Landing East	2	135.85	3.46 ac	3.12 ac	4	June 1	▪ Some *Grindelia* in southwest corner, more extensive *Grindelia* in marsh immediately to west ▪ Extensive *Grindelia* in adjacent Laumeister Tract ▪ PG&E boardwalk	Airboat	C-1	0	▪ Plant *Grindelia stricta* on "island" of cut-off outer levee (depicted in Figure 10B)
17a	Elsie Roemer	3	17.94	0.43 ac	0.28 ac	0	June 1		Backpack	C-1	0	▪ Installed over 1,000 *Spartina foliosa* between winters 2011-12 and 2013-14 (ISP and research partner Romberg-Tiburon Center)
17b	Bay Farm Island	3	7.59	0.15 ac	22 m^2	0	June 1		Backpack	C-1	0	
17c.1	Arrowhead Marsh West	1	20.17	7.13 ac	2.46 ac	2	Sep. 1	▪ *Grindelia* and *Triglochin* plantings (1800 plants in 2011) ▪ USGS artificial islands (35) between 17c.1 and 17c.2	Airboat	C-1	0	▪ Constructed two high tide refuge islands planted with *Grindelia stricta* in winter 2013-14 ▪ Installed over 500 *Grindelia stricta* plants along channel edges in winter 2013-14
17c.2	Arrowhead Marsh East (including eastern island)	4	23.74	15.9 ac	TBD	33 – 42	n/a		n/a	C-1	n/a	▪ USGS installed 30 artificial floating islands between 17c.1 and 17c.2 in winters 2011-12 and 2012-13
17d.1	MLK Regional Shoreline-Fan Marsh Shore	1	2.91	0.49 ac	0.10 ac	0	June 1	▪ *Grindelia* and weedy vegetation along shore	Airboat	C-1	0	None
17d.2	Airport Channel - MLK Shoreline	3	4.60	0.61 ac	0.02 ac	0	June 1		Backpack	C-1	0	
17d.3	East Creek - MLK Shoreline	3	11.34	0.02 ac	0.08 ac	0	June 1		Airboat	C-1	0	
17d.4	MLK Regional Shoreline-Damon Marsh	4	10.60	1.47 ac	TBD	2	n/a		n/a	C-1	n/a	▪ *Grindelia, Baccharis*, and other upland transition zone species installed along edge of marsh (Save the Bay) in 2011 and 2012 ▪ Installed 470 *Grindelia stricta* along channel edges in winter 2012-13
17d.5	Damon Slough/ Elmhurst Cr - MLK Shoreline	3	6.38	0.04 ac	0.04 ac	0	June 1		Backpack	C-1	0	
17e.1	San Leandro Creek North	1	2.04	10 m^2	6.7 m^2	0	June 1	▪ Extensive *Grindelia* and other vegetation along channel	Backpack	C-1	0	None
17e.2	San Leandro Creek South	3	5.34	0.02 ac	0.04 ac	0	June 1		Backpack	C-1	0	
17f	Oakland Inner Harbor	3	180	0.21 ac	0.04 ac	0	June 1		Backpack	C-1	0	
17g	Coast Guard Island	3	3.11	8 m^2	4.5 m^2	0	June 1		Backpack	C-1	0	

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17h	MLK New Marsh	4	34.32	13.9 ac	TBD	25 - 28	n/a		n/a	n/a	n/a	▪ *Grindelia stricta, Baccharis* and other upland transition zone species installed along edge of marsh (Save the Bay) in winter 2011 and 2012 ▪ Installed 200 *Grindelia stricta* along edge of eastern island in winter 2012-13 ▪ Installed three artificial floating islands (USGS) and one pilot high tide refuge island planted with *Grindelia stricta* in winter 2012-14 ▪ Installed two high tide refuge islands in winter 2013-14
17i	Coliseum Channels	3	13.41	0.14 ac	0.05 ac	0	June 1		Backpack	C-1	0	
17j	Fan Marsh	4	13.23	2.52 ac	TBD	4 – 6	n/a		n/a	n/a	n/a	None
17k	Airport Channel	3	4.06	0.02 ac	41.3 m^2	0	June 1		Backpack	C-1	0	
17l	Doolittle Pond	3	3.30	0.02 ac	21.9 m^2	0	June 1		Backpack	C-1	0	
17m	Alameda Island – East	3	5.67	0.7 ac	0.09 ac	0	June 1		Backpack	C-1	0	
18a	Colma Creek	3	6.93	9 m^2	11.4 m^2	0	June 1		Backpack	C-1	0	▪ Installed 168 *Spartina foliosa* in winter 2011-12 (all planting by research partner Romberg-Tiburon Center)
18b	Navigable Slough	2	3.09	14 m^2	13.2 m^2	0	June 1	▪ Mature *Grindelia* along channels and levees ▪ *Grindelia* and ISP *Spartina foliosa* plantings in adjacent sites, including San Bruno Marsh (18a) and Colma Creek (18g)	Backpack	C-1	0	None
18c	Old Shipyard	3	4.71	3 m^2	1.4 m^2	0	June 1		Backpack	C-1	0	
18d	Inner Harbor	3	8.05	4 m^2	0.4 m^2	0	June 1		Backpack	C-1	0	
18e	Sam Trans Peninsula	3	14.28	0.01 ac	8.5 m^2	0	June 1		Airboat	C-1	0	
18f	Confluence Marsh	1	7.21	0.05 ac	2.2 m^2	0	June 1	▪ *Grindelia* and *Baccharis* along the toe of the levee and across creek to north where existing berms are proposed for enhancement	Airboat	C-1	0	None
18g	San Bruno Marsh	3	28.49	0.02 ac	54.3 m^2	0	June 1		Airboat	C-1	0	▪ Installed 150 *Grindelia stricta* and 218 *Spartina foliosa* in winter 2012-13 (all planting by research partner Romberg-Tiburon Center)

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18h	San Bruno Creek	3	5.08	0.04 ac	0.03 ac	0	June 1		Backpack, Mowing	C-1	0	
19a	Brisbane Lagoon	3	10.36	12 m^2	4.5 m^2	0	June 1		Backpack	C-1	0	
19b	Sierra Point	3	2.41	14 m^2	3.4 m^2	0	June 1		Backpack	C-1	0	
19c	Oyster Cove	3	3.06	5 m^2	20.7 m^2	0	June 1		Backpack	C-1	0	
19d	Oyster Point Marina	3	1.66	2 m^2	0.6 m^2	0	June 1		Backpack	C-1	0	
19e	Oyster Point Park	3	2.37	6 m^2	3.5 m^2	0	June 1		Backpack	C-1	0	
19f	Point San Bruno	3	4.52	0.02 ac	9.5 m^2	0	June 1		Backpack	C-1	0	
19g	Seaplane Harbor	3	4.12	0.01 ac	5.5 m^2	0	June 1		Airboat	C-1	0	
19h	SFO shoreline	1	25.15	0.43 ac	0.37 ac	3 – 4	Sep. 1	▪ Invasive *Spartina* accounts for the majority of high-tide refugia and nesting habitat at this location.	Airboat	C-1	4	None
19i	Mills Creek Mouth	3	2.75	0.01 ac	25.9 m^2	0	June 1		Airboat	C-1	0	
19j	Easton Creek Mouth	3	6.17	13 m^2	12.1 m^2	0	June 1		Airboat	C-1	0	
19k	Sanchez Marsh	3	15.17	0.34 ac	0.64 ac	0	June 1		Airboat, Digging	C-1	0	
19l	Burlingame Lagoon	3	5.34	0.05 ac	72.8 m^2	0	June 1		Airboat, Digging	C-1	0	
19m	Fisherman's Park	3	1.32	0	0	0	June 1		n/a	n/a	0	
19n	Coyote Point Marina	3	11.99	2 m^2	18.5 m^2	0	June 1		Backpack	C-1	0	
19o	San Mateo Creek	3	3.02	11 m^2	18.2 m^2	0	June 1		Backpack	C-1	0	

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19p.1	Seal Slough Mouth-Central Marsh	1	37.75	2.67 ac	0.46 ac	0	Sep. 1	▪ *Grindelia* along shore, north/south berm and PG&E boardwalk	Airboat	C-1	4	▪ Two artificial floating islands installed in 2012 and removed in fall 2013 (USGS) ▪ Cut berm to create several raised berms ▪ Plant berms/islands with *Grindelia stricta* and other plants
19p.2	Seal Slough Mouth-Peripheral Marshes	3	30.81	0.26 ac	0.41 ac	0	June 1		Backpack	C-1	0	
19q	Foster City	3	5.41	2 m^2	0.6 m^2	0	June 1		Backpack	C-1	0	
19r	Anza Lagoon	3	4.39	1 m^2	1.1 m^2	0	June 1		Backpack	C-1	0	
19s	Maple Street Channel	3	0.74	11 m^2	0.5 m^2	0	June 1		Digging	C-1	0	
20a	Oyster Bay Regional Shoreline	3	14.23	0.13 ac	0.17 ac	0	June 1		Airboat	C-1	0	
20b	Oakland Golf Links	3	1.92	0.42 ac	0.30 ac	0	June 1		Backpack	C-1	0	
20c	Dog Bone Marsh	3	7.04	0.02 ac	27.3 m^2	0	June 1		Backpack	C-1	0	
20d.1	Citation Marsh South	1	44.35	0.14 ac	20.6 m^2	0	Sep. 1	▪ Three islands and berms with dense weedy vegetation ▪ Fairly extensive *Grindelia* along some channels ▪ Tidal action is muted, so even at king tides, extensive high-tide refugia are available	Backpack	C-1	0	▪ Installed over 1,200 *Grindelia stricta* along channel edges in winters 2012-13 and 2013-14
20d.2	Citation Marsh North	4	67.07	4.12 ac	TBD	9 – 10	n/a		n/a	n/a	n/a	▪ Installed over 250 *Grindelia stricta* on existing islands in winters 2012-14 and 2013-14
20e	East Marsh	2	37.16	2 m^2	12.5 m^2	2 - 4	June 1	▪ Patches of *Grindelia* along channels and levees ▪ Water control structure prevents extreme high tides	Backpack	C-1	0	None
20f	North Marsh	4	88.94	4.04 ac	TBD	7 - 12	n/a		n/a	n/a	n/a	▪ Installed 420 *Grindelia stricta* on existing islands in winter 2012-13 ▪ Installed 490 *Grindelia stricta* along channel edges in winter 2012-13
20g	Bunker Marsh	4	35.81	0.62 ac	TBD	6 – 8	n/a		n/a	n/a	n/a	▪ Installed 400 *Grindelia stricta* along channel edges in winter 2012-13 ▪ Installed two high tide refuge islands planted with *Grindelia stricta* in winter 2013-14

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20h.1	San Lorenzo Cr & Mouth North	4	8.00	0.17 ac	TBD	1 – 2	n/a		n/a	n/a	n/a	▪ Installed over 6000 *Grindelia stricta* and *Distichlis spicata* along channel and island edges in winter 2012-13
20h.2	San Lorenzo Cr & Mouth South	3	25.57	0.11 ac	0.07 ac	0	June 1		Backpack	C-1	0	
20i	Bockmann Channel	3	2.50	2 m^2	2.9 m^2	0	June 1		Backpack	C-1	0	
20j	Sulphur Creek	3	8.37	4 m^2	3.2 m^2	0	June 1		Backpack	C-1	0	
20k	Hayward Landing	2	11.61	1 m^2	0.1 m^2	0	June 1	▪ Mature *Grindelia* along channels and levees	Backpack	C-1	0	None
20l	Johnson's Landing	3	10.12	1 m^2	8.1 m^2	0	June 1		Backpack	C-1	0	
20m	Cogswell Marsh - Quadrant A	2	35.00	0.04 ac	81.1 m^2	0	June 1	▪ Two large islands vegetated with dense weedy vegetation	Backpack	C-1	0	▪ Installed over 8,500 *Grindelia stricta, Distichlis spicata*, *Spartina foliosa* and upland transition zone species between winters 2012-13 and 2013-14
20n	Cogswell Marsh - Quadrant B	4	100.16	10.08 ac	TBD	13 - 18	n/a		n/a	n/a	n/a	▪ Installed over 5,800 *Grindelia stricta*, *Triglochin maritima* and *Distichlis spicata* along channel and island edges between winters 2012-13 and 2013-14 ▪ Install three artificial floating islands and three high tide refuge islands planted with *Grindelia*
20o	Cogswell Marsh - Quadrant C	4	49.78	1.54 ac	TBD	2	n/a		n/a	n/a	n/a	▪ Installed over 5,900 *Grindelia stricta*, *Triglochin maritima* and *Distichlis spicata* along channel and island edges between winters 2012-13 and 2013-14 ▪ Contruct three high tide refuge islands planted with *Grindelia stricta* in winter 2013-14
20p	Hayward Shoreline Outliers	3	3.87	0	7.4 m^2	0	June 1		Backpack	C-1	0	
20q	San Leandro Shoreline Outliers	3	11.58	0.35 ac	0.25 ac	0	June 1		Backpack	C-1	0	
20r	Oakland Airport	3	22.53	0.25 ac	0.21 ac	0	June 1		Backpack	C-1	0	
20s	HARD Marsh	2	65.86	8 m^2	27.5 m^2	1 – 2	Aug. 12	▪ Patches of *Grindelia* along channels and levees	Backpack	C-1	0	▪ Installed over 2,000 *Grindelia stricta* and *Spartina foliosa* in winter 2013-14
20t	San Leandro Marina	3	9.71	3 m^2	0.3 m^2	0	June 1		Backpack	C-1	0	

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20u	Estudillo Creek Channel	3	14.36	0.02 ac	20.5 m^2	0	June 1		Backpack	C-1	0	
20v	Hayward Landing Canal	3	5.63	0.06 ac	0.04 ac	0	June 1		Backpack	C-1	0	
20w	Triangle Marsh - Hayward	2	12.35	0	0	0	June 1	▪ Patches of *Grindelia* along eastern levee	n/a	n/a	0	▪ Installed over 700 *Grindelia stricta* and *Spartina foliosa* in winter 2013-14
21a	Ideal Marsh – North*	3	41.85	0.09 ac	0.30 ac	0	June 1		Backpack	C-1	0	
21b	Ideal Marsh - South	2	131.23	1.02 ac	0.29 ac	8 – 14	Aug. 12	▪ Mature *Grindelia* along channels and eastern levee	Backpack	C-1	0	None
22a	Wildcat Marsh	2	333.53	0.24 ac	0.04 ac	31	Sep. 1	▪ *Grindelia* along channels and levees ▪ Extensive *Spartina foliosa* throughout the site ▪ PG&E boardwalk	Airboat	C-1	0	None
22b.1	San Pablo Marsh East	1	20.62	1.05 ac	0.21 ac	30	Sep. 1	▪ Extensive *Grindelia* and other tall vegetation in northeast and south-central areas and along the tidal channels	Airboat	C-1	4	None
22b.2	San Pablo Marsh West	2	130.53	0.82 ac	0.38 ac	3 - 4	Sep.1	▪ Extensive *Grindelia*, and other tall vegetation along the tidal channels ▪ Extensive robust *Spartina foliosa* and *Bolboschoenus maritimus* throughout the site ▪ PG&E boardwalk	Airboat	C-1	0	None
22c	Breuner Marsh/ Rheem Creek	2	35.77	0.26 ac	0.18 ac	4 – 6	Sep.1	▪ Patches of *Grindelia* and other tall vegetation, particularly on the northern portion of the site ▪ Extensive *Spartina foliosa* throughout the site	Backpack	C-1	0	None (Note: this is a planned East Bay Regional Park District restoration site)
22d	Stege Marsh	2	52.28	0.02 ac	57.4 m^2	6	Sep.1	▪ Large island on northeast portion of the site ▪ Patches *Grindelia* and other vegetation on the marsh edges ▪ Extensive *Spartina foliosa* throughout the site	Backpack	C-1	0	None
22e	Hoffman Marsh	2	36.04	2 m^2	0.3 m^2	0	June 1	▪ *Grindelia* and other vegetation on berms and marsh edges ▪ Extensive *Spartina foliosa* throughout the *site* ▪ Upland vegetation along trail	Backpack	C-1	0	None
22f	Richmond/ Albany Shoreline	3	34.21	0.05 ac	57.5 m^2	0	June 1		Backpack	C-1	0	

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23a	Brickyard Cove	3	1.68	6 m^2	32.7 m^2	0	June 1		Digging, Backpack	C-1	0	
23b	Beach Drive	3	8.69	0.05 ac	84.8 m^2	0	June 1		Backpack	C-1	0	
23c	Loch Lomond Marina	3	4.60	6 m^2	8.9 m^2	0	June 1		Backpack	C-1	0	
23d.1	San Rafael Canal Mouth North East	2	3.10	0.03 ac	64.6 m^2	1 - 2	Sep.1	▪ Patches of *Grindelia* and upland/ornamental vegetation on marsh edge ▪ Extensive *Spartina foliosa* in the portions of the site that are occupied by rails	Backpack	C-1	0	None
23d.2	San Rafael Canal Mouth North West	2	3.60	32 m^2	24.5 m^2	0	June 1	▪ Patches of *Grindelia* and upland/ornamental vegetation on marsh edge ▪ Extensive *Spartina foliosa*	Digging, Backpack	C-1	0	
23e	Muzzi and Martas Marsh	2	177.04	0.08 ac	0.03 ac	30	June 1 to treat *densiflora* Sep. 1 to treat *alterniflora*	▪ Patches of *Grindelia* along channels and marsh edge ▪ Extensive *Spartina foliosa* throughout the site ▪ Island in west-central portion of the site ▪ PG&E boardwalk	Digging, Backpack	C-1	0	None
23f	Paradise Cay	3	22.35	7 m^2	1.0 m^2	0	June 1		Digging	C-1	0	
23g	Greenwood Beach	3	3.95	6 m^2	1.8 m^2	0	June 1		Digging	C-1	0	
23h	Strawberry Point	3	13.76	3 m^2	1.1 m^2	0	June 1		Digging	C-1	0	
23i	Strawberry Cove	3	10.55	0.03 ac	36.1 m^2	0	June 1		Backpack	C-1	0	
23j	Bothin Marsh	2	106.16	15 m^2	1.3 m^2	2	Sep. 1	▪ Patches of *Grindelia* along channels and berms ▪ Extensive *Spartina foliosa* throughout the site ▪ PG&E boardwalk	Backpack	C-1	0	None
23k	Sausalito	3	22.66	4 m^2	0.7 m^2	0	June 1		Backpack	C-1	0	
23l	Starkweather Park	3	8.31	1 m^2	0.01 m^2	0	June 1		Digging	C-1	0	

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23m	Novato	2	1023.51	19 m^2	3.7 m^2	125	Sep. 1	▪ Mature *Grindelia* along extensive network of channels and along levees ▪ Extensive *Spartina foliosa* throughout the *site* ▪ PG&E boardwalk	Backpack	C-1	0	▪ Installed two artificial floating islands in 2012 and removed in fall 2013 (USGS)
23n	Triangle Marsh - Marin	2	19.10	4 m^2	2.5 m^2	0	June 1	▪ Patches of *Grindelia* along channels and berms	Backpack	C-1	0	
23o	China Camp	2	243.53	0	0	28 – 30	Sep. 1	▪ Mature *Grindelia* along extensive network of channels and along levees ▪ Extensive *Spartina foliosa* and *Bolboschoenus maritimus* throughout the site ▪ PG&E boardwalk ▪ Large island with upland vegetation on southern portion of the site ▪ Three upland areas with vegetation protrude into the marsh	n/a	n/a	0	None
24a	Petaluma River - Upper	2	138.15	77 m^2	0.11 ac	2	Sep.1	▪ Patches of *Grindelia* along *channels* and throughout the site ▪ Extensive *Spartina foliosa* and *Bolboschoenus maritimus* throughout site ▪ Patches of upland vegetation along the marsh edge	Airboat	C-1	0	None
24b	Grey's Field	3	108.58	0	0	0	June 1		n/a	C-1	0	
24c	Petaluma Marsh	2	3514.15	10 m^2	35.2 m^2	10 – 11	Sep. 1	▪ Patches of *Grindelia* in the marsh and on the eastern levee bank	Airboat	C-1	0	None
24d	Petaluma River - Lower	2	1159.38	0	0	39 - 43	Sep. 1	▪ Patches of *Grindelia* along well-developed channel network and along levees	n/a	n/a	0	None
26a	White Slough/Napa River	3	563.65	0	0	0	June 1		n/a	n/a	0	
26b	San Pablo Bay NWR Shoreline	3	2577.66	0.01 ac	0.13 ac	0	June 1		Airboat, Digging	C-1	0	
26c	Sonoma Creek	3	1048.11	0.10 ac	0.03 ac	0	June 1		Backpack	C-1	0	
26d	Sonoma Baylands	2	1334.45	0	0	6	Sep. 1	▪ Extensive areas of *Grindelia* throughout the marsh ▪ Extensive *Spartina foliosa* has colonized the site since breaching ▪ Berms vegetated with *Grindelia* and *Baccharis*	n/a	n/a	0	None

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Key

*	2012 Biological Opinion Group/Table (1= 2011 no treatment (now permitted after 2012), 2= treated rail sites, 3=non-rail sites, 4= 2011-2014 no treatment sites)
1	California clapper rail habitat area calculated from heads-up digitizing in GIS of site/sub-area boundaries by clapper rail biologists experienced with site-specific conditions, with exclusion of unvegetated areas or habitat unsuitable for clapper rail use (e.g., open mudflats, rip rap).
2	*Spartina* cover is based on the mapped extent of hybrid *Spartina* in 2013, and is provided as a proxy for "2014 Treatment Area". Actual current year (2014) inventory and treatment data will not be available until 2015. Sites with *Spartina densiflora* and hybrid *Spartina alterniflora* infestations have separate acreages associated with each species.
3	Numbers are derived from draft data from California clapper rail surveys conducted by ISP, Pt. Blue Conservation Science, USFWS and others in 2014, and best professional judgment by the surveyors regarding the potential for single detections to represent a single bird vs. a pair.
4	Earliest possible entry date from the Biological Opinion is listed for the site. Entry date of June 1 is required at sites with *Spartina densiflora* to prevent seeding.
5	Backpack spraying may accompany all airboat, truck, and Marsh Master use where that method is more efficient and/or more sensitive, and thus backpack spraying is noted here only when no other herbicide treatment method is proposed.
6	Take estimates (harm) are based on the estimated number of California clapper rails that may be lost from the sub-area after invasive *Spartina* is treated, and after the treated *Spartina* disappears (which will likely not occur until at least the winter after treatment).
7	Take estimates are based on best professional judgment; although a range may be more accurate (i.e., a range would more likely encompass the actual number of rails taken), a specific take number was chosen in order to determine the appropriate level of habitat enhancement (such as number of artificial floating islands) at each site.
8	Exact positioning of artificial floating islands is determined at the time of deployment based on habitat conditions, channel morphology, and other factors assessed by biologists experienced with clapper rail ecology. The exact positioning of high tide refuge islands is also determined based on the factors described above. Six "pilot high tide refuge islands" were installed during the fall/winter of 2012; 16 islands were installed in the fall/winter of 2013. In winter 2014-15 approximately 74,000 plants and 20 high tide refuge islands are slated to be installed.
9	Proposed restoration opportunities in addition to floating and high tide refuge islands (e.g., berm excavation, *Grindelia stricta* plantings) are preliminary and will be designed further contingent on funding and if landowner permission is granted. These additional restoration opportunities are not required by USFWS (unlike floating and high tide refuge islands) but may be initiated in an effort to increase California clapper rail populations.

CEQA Findings:

C-1	Treatment plan includes only methods, environments, locations, or potential impacts that were previously evaluated in the 2003 in a combined Programmatic Environmental Impact Report/Environmental Impact Assessment (SCH #2001042058; "PEIR", www.spartina.org/project_documents/eis_final.htm) or the 2005 addendum to the PEIR (http://www.spartina.org/2005Addendum.htm). There are no new or previously unevaluated potential impacts from implementation of this plan.
C-2	Treatment plan includes a new treatment method not previously evaluated, or an existing method in a manner that varies substantially from the previously-evaluated method.
C-3	Treatment plan includes treatment at a location that differs in character substantially from the scenarios evaluated in the PEIR and Addendum.
C-4	Treatment plan includes a previously-evaluated treatment method that is suspected or found to have a significant effect that had not been anticipated or evaluated at the time of the PEIR and Addendum.
C-5	Treatment plan includes implementation of treatment under the auspices of the ISP Treatment Program outside of the Geographic scope covered by the PEIR and Addendum.