



# United States Department of the Interior




FISH AND WILDLIFE SERVICE  
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## Memorandum

To: Refuge Manager, San Francisco Bay National Wildlife Refuge Complex (Refuge),  
Fremont, California

From:  Field Supervisor, Sacramento Fish and Wildlife Office, Sacramento, California

Subject: Amendment to Consultation for the Proposed San Francisco Estuary Invasive  
*Spartina* Project in Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo,  
Santa Clara, Solano, and Sonoma Counties, California

This memorandum represents an amendment to the intra-U.S. Fish and Wildlife Service (Service) section 7 consultation for the proposed California State Coastal Conservancy's (Conservancy) San Francisco Bay Estuary (Estuary) Invasive *Spartina* Program (ISP) in Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma Counties, California. Though the project covers the counties listed above, this amendment pertains to only activities in Southampton Marsh (also known as Benicia State Recreation Area), Solano County, California. This memorandum addresses the proposed substitution of treatment methods from tarping to herbicide use at Southampton Marsh in treating *Spartina patens*. At issue are the potential adverse effects of the revised treatment method to the endangered California clapper rail (*Rallus longirostris obsoletus*), endangered salt marsh harvest mouse (*Reithrodontomys raviventris raviventris*), and endangered soft bird's beak (*Chloropyron molle* ssp. *molle*). This memorandum is issued under the authority of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*) (Act).

### Project Background

The Conservancy and the Service initiated the ISP in 2000 to curtail the spread of non-native cordgrass (*Spartina alterniflora*, *S. anglica*, *S. densiflora*, *S. patens*; including hybrids of *S. alterniflora* and native *S. foliosa*) and to prevent it from establishing at newly restored tidal marshes. The ISP is a regionally coordinated effort of Federal, State, and local agencies, private landowners, and other interested parties. The geographic focus of the ISP includes approximately 50,000 acres of tidal marsh and tidal flats on the shores of nine San Francisco Bay Area counties, including Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma Counties.

Work conducted by the ISP includes the Estuary-wide coordination of landowners and partners for *Spartina* treatment, monitoring, and habitat enhancement. Non-native *Spartina* treatment primarily involves the application of the herbicide Imazapyr by aerial and land-based application methods. In addition to the treatment of non-native *Spartina*, ISP and the Conservancy have been coordinating with the Service on the revegetation of areas where non-native *Spartina* has been successfully

controlled. This effort has been undertaken to accelerate revegetation of treated marshes and restore nesting habitat and high tide refugia for California clapper rails.

Due to a strong correlation between the treatment of non-native *Spartina* and precipitous declines in populations of California clapper rails at treated marshes, it was determined in the 2003 Final Programmatic Environmental Impact Statement/Environmental Impact Report for the project that non-native *Spartina* treatment would be phased to allow for California clapper rail habitat restoration. Since then, the Service issued a Programmatic Biological Opinion in 2003, and six tiered Biological Opinions (BO) for the treatment of non-native *Spartina* in the Estuary. Most recently, the Service issued a BO for non-native *Spartina* treatment in 2012, authorizing the treatment of 188 sites and the harm of 43 California clapper rails as a result of the elimination of nesting and high tide refugia habitats by the treatments. In addition, continued treatment for non-native *Spartina* was allowed in 2013 and then in 2014 with no additional take than that authorized in the 2012 BO if: 1) such treatment is consistent with the methods and timing defined in Tables 1, 2, 3, and 4 of the 2012 BO and 2) the conservation measures defined in the project description of the 2012 BO continue to be implemented.

The ISP proposes to follow the refined (draft) *Spartina patens* management plan for Southampton Bay which was developed by Brenda Grewell (USDA-ARS) and Drew Kerr (ISP), in consultation with Jules Evens (Avocet Research Associates) and Christina Freeman (State Parks, the landowner and manager of the site). When the original plan was developed in 2011, a clapper rail had just been detected by Jules Evens at Southampton Marsh for the first time in many years, and State Parks adopted a set of marsh entry restrictions in hopes of fostering a new population of clapper rail at the site. The main impact to invasive plant management from the restrictions was that there was no entry to the majority of the infested areas from Feb 1-Sept 30, which precluded the use of herbicide because it could not be applied to the *Spartina* at the appropriate time (*S. patens* flowers and seeds in spring, and is senescent by Sept/Oct). Therefore the original plan relied on other methods from the toolbox out of necessity, mainly tarping/solarization of the big patches and manual removal of the small discrete plants. However, field investigation by Brenda Grewell and Drew Kerr in October 2012 revealed high-quality stands of *Grindelia* important to clapper rails and song sparrows had established in areas of recent *Lepidium* control, which increased the impacts that would result from tarping the core *S. patens* infestations along the channels. To avoid these impacts, and due to various other delays, the original plan has still not been implemented. In the absence of treatment, the infestation expanded and ISP biologists mapped 370 square meters of *S. patens* in 2013, compared to 94 square meters in 2011.

Clapper rails have not been detected at the site now for three years (2012-2014). Their absence has allowed California State Parks to move forward with their spring *Lepidium* management throughout the marsh by having a clapper rail biologist clear the areas ahead of the herbicide applicator. Around the endangered annual plant soft bird's beak (*Chloropyron molle* ssp. *Molle*), they have had great success avoiding adverse effects by wicking the herbicide on to target plants within a meter of CHMO and spraying only those that are greater than a meter away from any soft bird's beak. The ISP's refined *S. patens* plan utilizes these precedents to gain access to the infestation at the appropriate phenology for an herbicide application, and relies on these herbicide application methods around soft bird's beak, which have effectively avoided adverse effects. Of its current 370 square meter distribution in Southampton marsh, *S. patens* overlaps with soft bird's beak for 63 square meters, approximately 1.2 percent of the latter's occupied habitat. The use of herbicides at this location, instead of mechanical methods (as proposed in the 2012 ISP BO) will actually reduce potential impacts to soft bird's beak, by more selectively removing the *S. patens* than would have the tarping method. First, utilizing herbicide instead of tarping should eliminate impacts to the soft bird's beak

seedbank that normally result from the solarization of the substrate, which should reduce the time to passive soft bird's beak re-establishment. Secondly, it will preserve more of the host plants for soft bird's beak, a hemiparasite, compared to tarping which would have stayed in place for two years. In addition, the work will be conducted at the same time as the *Lepidium* treatment (same applicator, same herbicide) so that there is no significant increase in the potential disturbance due to walking in the marsh.

This year's drought has resulted in shifts to the phenology of the *Lepidium*, the key driver on timing for this integrated vegetation management plan, forcing State Parks to move up their application schedule to mid-April lest they miss the very narrow window of opportunity for treating this species. Since treatment of *S. patens* should occur at the same time to reduce disturbance, ISP also needs to adjust their schedule. Cherilyn Burton from California Department of Fish and Wildlife's native plant program and/or Brenda Grewell, will be onsite to assist with soft bird's beak impact reduction.

Effects to salt marsh harvest mice from the herbicide spraying would be similar to those resulting from tarping and mechanical, since they would be due to personnel traveling in the marsh. Therefore, no additional take of salt marsh harvest mice is anticipated. The selective use of herbicides is expected to retain more native vegetative cover than would tarping, which would cover entire sections of the marsh for up to 2 years. Since no clapper rails are present, there would be no additional effect to rails.

### Conclusion

The proposed substitution of methodology at this location would result in no additional effects beyond that described in the 2012 BO for California clapper rail, salt marsh harvest mouse, or soft bird's beak. Therefore, the 2012 BO is amended as described above for substitution of treatment method (from tarping to herbicide) to control *S. patens* at Southampton marsh.

### **CLOSING STATEMENT**

As provided in 50 CFR 402.16, reinitiating of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must immediately cease, pending reinitiation.

If you have any questions regarding this amendment to the consultation on the Proposed Estuary Invasive *Spartina* Project, please contact Bjorn Erickson, Biologist or Ryan Olah, Coast Bay/Forest Foothills Division Chief, at the letterhead address, telephone (916) 414-6600, or electronic mail at Peter\_Erickson@fws.gov or Ryan\_Olah@fws.gov.

cc:

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