

**Proposal for Bay-Delta Science Consortium
Science Support Funds**

Project Title: **Third International Invasive *Spartina* Conference**

Amount Requested: \$25,000

Primary Applicant: San Francisco Estuary Invasive *Spartina* Project

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ISP Co-sponsor

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Workshop planning assistance

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Workshop planning assistance

* Partners marked with an asterisk are Bay-Delta Science Consortium Member Organizations. Although not listed as partners for the purpose of this proposal, the Invasive *Spartina* Project (ISP) also has research and/or management partnerships with other Consortium members, including: California Department of Fish and Game; Point Reyes Bird Observatory; San Francisco State University, Romberg Tiburon Center; and the San Francisco Estuary Institute.

- 1. ISSUE STATEMENT:** In recent years, marshes around the San Francisco Estuary have been invaded by four species of non-native cordgrass (*Spartina* sp.). One of these introduced species has hybridized with our native cordgrass, *S. foliosa*, causing an accelerated invasion by a “hybrid swarm.” The hybrid swarm has now infested more than 700 acres of the Estuary’s tidal marsh. Some of the potential impacts of this event include genetic assimilation and extinction of native *S. foliosa*; extensive regional loss of tidal flats and critical foraging habitat for migratory birds; failure of planned salt pond restoration projects to restore native habitat; regional loss of tidal sloughs and channels (and increased dredging costs); loss of critical endangered species habitat; and potential spread of these invasive *Spartina* species to other California estuaries. These and other potential impacts are described in the San Francisco Estuary Invasive *Spartina* Project’s Programmatic EIS/R (CCC & USFWS 2003, www.spartina.org), and in greater detail in *A Review and Assessment of Potential Long-term Ecological Consequences of the Introduced Cordgrass Spartina alterniflora in the San Francisco Estuary* (Baye, *in press*).

In 2000, the California Coastal Conservancy and the U.S. Fish and Wildlife Service initiated the San Francisco Estuary Invasive *Spartina* Project (*Spartina* Project); a collaborative effort between federal, state, and local agencies, to control and reverse the spread of non-native *Spartina* in the Estuary. The Project has developed an aggressive control program, which will kick off this summer with treatment of more than 260 acres around the Bay. The Project expects to gain control of the invasion in the next four years, and to have achieved “eradication” by 2010.

Throughout the *Spartina* Project’s planning phase, numerous scientific questions have been raised concerning the nature and extent of potential impacts of the invasion, the treatment methods, and the potential for success. The *Spartina* Project has turned to the literature, queried the researchers, and studied *Spartina* invasions of other estuaries throughout the world to answer important questions and guide the Project’s control objectives.

The San Francisco Estuary is not the first place to be troubled by invasive *Spartina*; the problem has occurred around the world. In 1990, as the State of Washington was just beginning to address a devastating century-old *Spartina* invasion in its estuaries, a number of agencies and individuals got together for the First International *Spartina* Conference, in Seattle. The purpose of this conference was to bring together people from around the world with knowledge of these plants in their native and adopted habitats, to share information and potential solutions. In the years following the conference, “debates on policy and science, risk assessment, control practices and strategies, cause and effect, and impacts of action vs. no action ... raged on, while *spartina* continued to spread” (WSU 1997, Introduction). In 1997, the Second International *Spartina* Conference was held in Olympia, Washington, with attendance by over 130 people from five countries (including eight representatives from the San Francisco Bay Area). Many excellent presentations provided new insights based on field experience and scientific studies, and helped provide clearer direction for the ongoing control effort. Since 1997, much experience has been gained in *Spartina* control in Washington, Oregon, Tasmania, and New Zealand, and substantial research completed in the United Kingdom, France, Netherlands, Tasmania, and here (University of California, Davis; San Francisco State University; Point Reyes Bird Observatory; San Francisco Estuary Institute; U.S. Department of Agriculture; and others). Now, in 2004, the kick-off of the San Francisco *Spartina* Control Program marks the perfect opportunity for a third international *Spartina* conference to bring together the *Spartina* experts to present and discuss the most current scientific and technical information, and to help better inform our efforts.

- 2. APPROACH FOR ADDRESSING THE ISSUE:** The *Spartina* Project partners propose to host the Third International *Spartina* Conference in San Francisco. The purposes of the confer-

ence will be to (1) provide a venue for presentation of the latest international research findings; (2) provide a forum for managers and scientists discuss pressing issues regarding non-native *Spartina*; (3) provide commercial vendors an opportunity to present and demonstrate *Spartina* control products to interested land managers; (4) bring international scientific attention to bear on the San Francisco Estuary *Spartina* invasion, with the expectation that we may reap immeasurable benefits from the knowledge and experience of others, and form useful partnerships for future work. The location for the conference has not been finalized, as it will depend in part on the success of our fund-raising efforts. Potential venues include the Presidio, Palace of Fine Arts, or Fort Mason in San Francisco, or Oakland Museum or Preservation Park in Oakland.

The Conference agenda is being developed with assistance from a highly qualified team of researchers and managers (see Qualifications, Item 9). Key speakers will be invited from around the world, including France, United Kingdom, Tasmania, Washington, Massachusetts, Louisiana, Texas, Georgia, and California. In addition to invited speakers, there will be a general call for papers and posters to round out the agenda. There will be a variety of field trip options, including helicopter tours. We will contract with appropriate qualified entity(ies) for assistance with administering the conference and preparing proceedings. Scientists, weed and land managers, policy makers, and environmental interests, and academics will be invited. Registration will be charged, but, if budget permits, we will provide “scholarships” for people at a distance from the Bay Area to be able to attend and participate in the conference.

3. **RELEVANCE TO THE CALFED BAY-DELTA PROGRAMS:** The *Spartina* Conference directly supports CALFED ERP Goal #5 (“to prevent the establishment and spread of additional non-native invasive species into the ecosystems of the Sacramento/San Joaquin Rivers and their watersheds), and NIS Goals I, II, and III (“preventing new introductions,” “limiting spread or eliminating populations through management,” and “reducing harmful ecological, economic, social, and public health impacts resulting from infestation of NIS through appropriate management,” respectively). In addition, the Conference will address CALFED-identified scientific uncertainty regarding the potential impact of *Spartina* on the San Francisco Bay-Delta ecosystem. Finally, the stakeholders of the San Francisco Estuary Project ranked control of non-native invasive plants and animals a number one priority in 2003.
4. **PRODUCTS AND OUTCOMES:** The tangible products of the conference will include full conference proceedings (containing full-length papers) and a list of contacts. Less tangible will be the direct benefit to the *Spartina* Project from expert information and dialogue, and from connections made with contractors and commercial vendors. Finally, the conference will provide local stakeholders, including policy makers, managers, and scientists, critical information needed to continue making decisions about *Spartina* control in the San Francisco Estuary.
5. **TIMELINE:**

3/08/04	Save-the-Date mailed to 500 (minimum) invitees
3/22/04	Draft agenda completed and key speakers identified
4/01/04	Invitations sent to key speakers
	Call for papers, posters, displays sent out, due 6/01/04
6/18/04	Papers/posters selected, agenda finalized, location selected
6/30/04	Invitation, agenda, registration mailed to invitees
10/08/04	First day of conference
1/14/05	Conference proceedings mailed to attendees
6. **BUDGET:** The budget is flexible at this point, and will be adjusted based on our success with fundraising. Please see **Attachment 1** for the current budget estimate.

7. RESULTS FROM PREVIOUS CALFED FUNDING: The Invasive *Spartina* Project has received \$2,118,661 in CALFED funding through the Coastal Conservancy since February 15, 2001 (Contracts 11332-0-J001 and 4600001875). The funding was used to staff the project, prepare environmental compliance documents, develop a project website, identify and map non-native *Spartina*, educate stakeholders, develop partnerships and an eradication strategy, and prepare and implement site-specific control plans for sites totaling greater than 260 acres. The *Spartina* Project has also received funding from Coastal Conservancy, U.S. Fish and Wildlife Service, and National Fish and Wildlife Foundation, and in-kind contributions from numerous local agencies. Additional information regarding any of these funds and their application will gladly be provided on request.

8. QUALIFICATIONS OF INVESTIGATORS:

Peggy Olofson, P.E., *Spartina* Project Director and lead planner. As manager of the San Francisco Bay Area Wetlands Ecosystem Goals Project (1995-2000), Ms. Olofson organized many successful large-scale project workshops and public meetings, co-authored the project's primary report (Goals Project 1999), and was editor of the Baylands Ecosystem Species and Community Profiles (Goals Project 2000). As a member of the Alameda Watershed Management Group, Ms. Olofson organized the first Alameda Creek Flows Workshop in 2001, for the first time bringing together watershed managers, creek restorationists, and other stakeholders to discuss sensitive issues of flows management within the watershed.

U.C. Davis *Spartina* Research Team: Drs. Don Strong, Debra Ayres, Allen Hastings, Ted Grosholz. Dr. Strong has broad knowledge of the current *Spartina* research and personal relationships with many of the researchers, and Dr. Ayres is a leading researchers in *Spartina* genetics. Dr. Hastings teaches Environmental Science and Policy, and has been active in *Spartina* research for the past several years. Dr. Grosholz is an expert in invasion biology and runs the cooperative extension program for the Department of Environmental Science and Policy at U.C. Davis. His work there involves educating non-governmental organizations, tribal councils, volunteer groups, etc. on a variety of complex environmental issues.

Dr. Kim Patten, Long Beach Research and Extension Unit, University of Washington. Dr. Patten planned and organized the first and second international *Spartina* conferences, and has been researching and controlling non-native *Spartina* as the Director of the Long Beach Research and Extension Unit for 15 years.

Paul Hedge, Department of Primary Industries, Water and Environment, Tasmania. Mr. Hedge has extensively studied policy, legislation, ecology, impacts and management of exotic *Spartina* in Australia, and worked for five months on *Spartina* control in Willapa, Washington.

Dr. Peter Baye. Dr. Baye has been active in wetlands and coastal plant ecology in the San Francisco Estuary for 15 years. The author of the tidal marsh, diked baylands, and salt pond chapters of the Baylands Ecosystem Species and Community Profiles (Goals Project 2000), he has intimate understanding of San Francisco Bay ecology, and broad knowledge of historic and current *Spartina* issues.

9. REFERENCES:

- Michael Monroe, U.S. Environmental Protection Agency, (415) 972-3453
- Richard Wetzig, Alameda County Clean Water Program, (510) 670-5702
- Nadine Hitchcock, California Coastal Conservancy, (510) 286-4176
- Marcia Brockbank, San Francisco Estuary Project, (510) 622-2325
- Richard Morat, U.S. Fish and Wildlife Service, (916) 414-6571

BUDGET

ATTACHMENT 1

	time/ unit	rate	Cost	MATCH	Requested Amount
PERSONNEL					
P.Olofson	160	\$75	12,000	12,000	
P. Baye	20	\$75	1,500	1,500	
M. Spellman	40	\$75	3,000	3,000	
U.C. Davis Team	50	\$100	5,000	5,000	
K. Patton	10	\$100	1,000	1,000	
P. Hedge	10	\$100	1,000	1,000	
Admin support	20	\$50	1,000	1,000	
TOTAL PERSONNEL			\$24,500	\$24,500	\$0
DIRECT EXPENSES					
Shipping	2,000	\$0.37	740	740	
Shipping	200	\$5	1,000	1,000	
Materials			3,000	3,000	
Honoraria	6	\$2,500	15,000	11,450	3,550
Scholarships	20	\$500	10,000	10,000	
TOTAL DIRECT EXPENSES			\$29,740	\$26,190	\$3,550
CONTRACTS					
Online registration, website, call for papers	150	\$25	3,750	1,500	2,250
Conference Facility	5	\$1,500	7,500	4,125	3,375
Field Trip Busses	12	\$100	1,200	0	1,200
Helicopter Tours	4	\$200	800	800	
Catering	450	\$30	13,500	0	13,500
Program & Abstract	150	\$15	2,250	1,125	1,125
Proceedings Volume	200	\$50	10,000	10,000	
TOTAL CONTRACTS			\$39,000	\$17,550	\$21,450
TOTAL COSTS			\$93,240	\$68,240	\$25,000