



Spartina DISPATCH

Quarterly Newsletter of the San Francisco Estuary Invasive *Spartina* Project

Director's Note

With barely a pause for breath over the winter holidays, ISP staff are again immersed in the annual cycle of intensive analysis, reporting, planning, and permitting necessary to prepare for next season's *Spartina* control efforts.

This winter is especially busy, as we are updating all site-specific control plans and initiating a new endangered species consultation with USFWS. One of the big things we hope to gain from this consultation is that ISP partners may be allowed to initiate treatment at key marshes several weeks earlier in the year, after the majority of clapper rail nesting is complete, but before the official end of the nesting season. This slightly earlier treatment will allow partners to kill *Spartina* plants before they go to seed, halting the slow continued spread in certain areas, such as near the planned South Bay Salt Pond Restoration sites.

This issue of the Dispatch focuses on the many new project reports that are available and forthcoming on the ISP website (www.spartina.org). Please be sure to drop by and check out what we are up to!

Peggy Olofson

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ISP staff are staying occupied during the winter months analyzing data, acquiring permits and writing ISP reports. Clockwise from top left are Clapper Rail Monitoring Manager Jen McBroom, Assistant Field Operations Manager Drew Kerr, Monitoring Program Manager Ingrid Hogle and Field Operations Manager Erik Grijalva.

Photos by O. Bernstein/ISP

Revised site plans, geodatabase to boost *Spartina* control

New site-specific *Spartina* control plans covering the next three years of treatment seasons are in the pipeline, one of several projects currently undertaken by ISP field operations staff to prepare the ISP and its partners for the 2008-2010 control seasons. These plans, which ISP expects to submit to the U.S. Fish and Wildlife Service in early March, comprise ISP's approximately 160 treatment sub-areas. USFWS will then issue its environmental assessment and a new biological opinion necessary for ISP's *Spartina* control work to continue.

The new plans, which are revisions of

the ISP's initial site plans prepared in 2005, include updated approaches to control operations and mitigations that reflect the knowledge and experience ISP gained from the last three years of treatment, including timing and treatment techniques.

Data on *Spartina* control at each site and lessons learned will be presented in the field operations report for the 2006-2007 treatment seasons, also in development. In contrast to ISP's previous treatment seasons, these two seasons represent a complete, estuary-wide approach to *Spartina* control in the Bay.

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Report shows check of invasion spread

New pilot project looks to post-ISP world

ISP's success in its 2005 treatment season is now documented and detailed in its 2006 monitoring season report, completed in January and now available on ISP's website. A similar analysis of ISP's monitoring data from 2007 is underway.

The 2006 results compare favorably with those of ISP's 2004-2005 monitoring season. At that time, invasive *Spartina* was still spreading in the San Francisco Estuary, its net area increasing by 10 percent from 2004 to 2005.

In contrast, the 2006 monitoring efforts found an overall decrease of 27 percent in the infestation's net area following the 2005 treatment season. Net area is a precise measurement of the amount of *Spartina*, calculated as if all the non-native plants were compacted into one area.

ISP staff also recently completed a report that looks at monitoring program quality control and assurance procedures in both vegetation and California clapper rail programs. The document is available on the ISP website.

Meanwhile, the monitoring program has launched a pilot project to set up an "expert system," a computer program that can analyze digital aerial imagery to identify *Spartina*, possibly distinguishing non-native species and hybrids. Presently, ISP's trained biologists analyze such images visually. Geospatial Data Analysis Corporation in Pennsylvania is working with ISP to develop the expert system.

If successful, the system would analyze images significantly faster than the present method can, and would not require the same level of knowledge and training by its users. This capability will be especially important for monitoring in future years beyond the life of the ISP. It would help guard against the spread of any new infestations that might crop up after the anticipated eradication of the weed throughout the estuary.

To view monitoring program documents visit www.Spartina.org and go to "Project Documents."

Drift cards — Round Two

ISP launched a second round of drift card releases in December to continue its study of how rafts of floating *Spartina* wrack might disperse seeds around the estuary and to the outer coast. (See May 2007.)

A first round of buoyant wooden cards released last spring and summer from seven Bay locations has yielded some interesting results. A few cards from Marin traveled westward through the Golden Gate and a surprising number of cards crossing the Bay from west to east. Cards released at many Central Bay sites landed in the Don Edwards National Wildlife Refuge, which is near the South Bay Salt Ponds Restoration Project.

ISP began releasing a new round of cards in December, seeking to discover how seeds might travel in different directions during the winter wet season, when tidal action is affected by more fresh water flowing in from creeks around the Bay. Winter is also the peak dispersal period for *Spartina* seeds.

Most of the seven new release sites in the second round are near those in the first to make comparisons meaningful. But two of them now add the North Bay and the far South Bay to the study.

For information on release sites and dates, visit www.Spartina.org/drift_form/driftcard_study.htm.

Site plans

Continued from page 1

Included within the field operations report will be treatment summaries, efficacy estimates, cost figures, acres treated, and other relevant information. ISP expects the completed report to be available on its website in April.

A new ISP geographic information systems (GIS) geodatabase is generating the core information for both the site specific plan revisions and the 2006-2007 field operations report. Developed over the last several

months, the geodatabase efficiently compiles treatment information and allows it to be analyzed and manipulated graphically in a GIS format. The geodatabase will be ready for the 2008 treatment season, providing quicker, easier access to detailed site information.

All three projects—the site-specific control plan updates, completion of the field operations report, and development of the geodatabase—are interlinked, and will provide a greater ability to target remnant *Spartina* stands in 2008 and beyond.



2560 9th St., Suite 216
Berkeley, CA, 94710
(510) 548-2461
www.spartina.org

The San Francisco Estuary Invasive *Spartina* Project (ISP) is a coordinated regional effort to address the rapid spread of four introduced and highly invasive *Spartina* (cordgrass) species in our bay.

Established by the California State Coastal Conservancy in 2000, the project is progressing toward its goal of eliminating this aggressive introduced species, working in close collaboration with its many partners around the Bay. This newsletter helps keep our partners informed about project news and activities.

Current ISP funding comes from the CAL-FED Bay-Delta Program, the California Wildlife Conservation Board, and the California State Coastal Conservancy. Previous major funders also include U.S. Fish and Wildlife Service and National Fish and Wildlife Foundation.

PROJECT DIRECTOR
PEGGY OLOFSON

FIELD OPERATIONS MANAGER
ERIK GRIJALVA

FIELD OPERATIONS ASSISTANT MANAGER
DREW KERR

MONITORING PROGRAM MANAGER
INGRID HOGLE

CLAPPER RAIL MONITORING MANAGER
JENNIFER McBROOM

NEWSLETTER WRITER, EDITOR & DESIGNER
STEPHANIE ERICSON

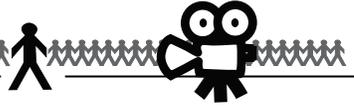
STATE COASTAL CONSERVANCY PROJECT MANAGER
MAXENE SPELLMAN



Coastal
Conservancy

ISP Partners – Current Grant Recipients

ALAMEDA COUNTY PUBLIC WORKS DEPT.
CALIFORNIA DEPT. OF PARKS & RECREATION
CALIFORNIA WILDLIFE FOUNDATION
CITY OF ALAMEDA
CITY OF PALO ALTO
CITY OF SAN LEANDRO
EAST BAY REGIONAL PARKS DISTRICT
FRIENDS OF CORTE MADERA CREEK WATERSHED
FRIENDS OF PETALUMA RIVER
U.S. FISH & WILDLIFE SERVICES, DON EDWARDS
NATIONAL WILDLIFE REFUGE
SAN MATEO COUNTY MOSQUITO ABATEMENT DISTRICT



U.S. Fish and Wildlife Service

Don Edwards San Francisco Bay National Wildlife Refuge

Wildlife biologist Joy Albertson has worked closely with Invasive *Spartina* Project since the beginning... make that *before* the beginning.

She and others at the Don Edwards San Francisco Bay National Wildlife Refuge were among the first to sound the alarm about invasive *Spartina* in the bay and helped midwife the Invasive *Spartina* Project into being.

"It was the Fish and Wildlife Service, in conjunction with the (California) Coastal Conservancy that put together this project, a coordinated baywide effort to go after the *Spartina* in 2000," said ISP Field Operations Manager Erik Grijalva. The refuge, operated by the U.S. Fish and Wildlife Service, remains a strong and active partner in ISP's work today.

The Don Edwards refuge presently spans approximately 35,000 acres of a variety of estuary habitats in the southern San Francisco Bay. It was here that Albertson first became acquainted with invasive *Spartina* and helped alert others to the danger.

"In the early nineties we began noticing the big grass out in the marsh more and more," recalled Albertson. Aware of the invasive cordgrass problem from research reports, USFWS staff investigated further and discovered its presence elsewhere in the South Bay, especially in the nearby Alameda County Flood Control Channel.

Albertson and her colleagues initiated manual control measures, using a hand mower and tarp, but found it was very difficult to get all the dispersed sites.

"With the extent of the invasive cordgrass, we quickly realized that this way wasn't really controlling much," she said. "Logistically, it was too hard to get to the areas with tarping—walking through marsh carrying tarps, stakes, mallet and weed whacker. It was very labor intensive and dangerous to people."

Next they tried limited applications of the herbicide Rodeo (glyphosate), spraying from airboats, trucks and backpacks. This method was about 75 percent effective in some eastern refuge marshes, said Albertson, but later helicopter spraying on harder-to-reach *Spartina* pockets at lower elevations of the flood control channel resulted in only

50 percent efficacy. Moreover, the problem of re-infestation from other sites continued. Funding and permitting complications added other obstacles.

"Our project had gotten to the level where we felt it needed to go through public environmental review, and it was beyond what I could do here at the refuge," explained Albertson. "We knew it had to be a bigger project.... We didn't have the resources, nor was it appropriate. It wasn't (all) our land." She and Marge Kolar, project leader of the seven-refuge complex that includes Don Edwards, sought another agency to develop a project to coordinate *Spartina* control efforts baywide. Other agencies, such as the East Bay Regional Parks District and the state's Department of Fish and Game, also expressed concern about the invasive weed, said Albertson.

Albertson was very happy when the California Coastal Conservancy agreed to undertake the task, launching the ISP in 2000.

"They helped throughout the process," Grijalva said of the Fish and Wildlife Service, "from pushing to get this project together and finding funding for it, to assisting with putting together the environmental documentation and permitting on the federal level that is necessary for this work." The federal agency helped ISP develop models on impacts on wildlife, including endangered species, from *Spartina* treatment, and protocols to minimize those impacts, he noted.

Today USFWS continues to provide advice and consultation on habitat and protected and endangered species. Albertson, who studied the California clapper rail for her Masters thesis at San Francisco State University, continues to conduct rail surveys on the refuge, providing part of the annual data that the ISP collects on these birds living on *Spartina* treatment sites.

The federal agency continues to be involved in *Spartina* control. On the eastern side of the Bay, Albertson directs the refuge's control efforts, primarily conducted from the ground or from boats. Most of the actual treatment is contracted out, but Albertson undertakes some of it herself. On infested refuge areas on the Bay's west side, most control work is coordinated by the San Mateo



Photo by D. Kerr/ISP

USFWS wildlife biologist Joy Albertson applies herbicide to some invasive *Spartina*, one of many ways she aids *Spartina* control efforts.

County Mosquito Abatement District, which also treats adjacent areas in that county.

However, ground-based treatment has shortcomings, especially where the infestation comprises scattered, small patches. So these refuge areas became ideal territory to try out a new technique—the sprayball—in 2006.

A large round pendulum hanging 10-15 feet above the vegetation from a helicopter, the sprayball can, like ground treatment, target patches precisely and economically. But it does it more quickly and avoids trampling vegetation and disturbing wildlife.

ISP's use of the sprayball for ecological purposes—combating an invasive species—is a first, said Assistant Field Operations Manager Drew Kerr. It was previously used by law enforcement in California and Hawaii to control cannabis, he explained. Constructed from a PG&E power line ball, the sprayball had been dismantled and was rebuilt for ISP's use.

New concerns about invasive *Spartina* loom on the horizon. Additional refuge land will be restored and reconnected to the Bay's tidal waters in coming decades as part of a 15,000-acre restoration plan underway in the South Bay Salt Ponds. Such areas, said Albertson, will be very vulnerable to *Spartina* invasion.

Therefore Albertson and the rest of the staff at the Don Edwards refuge won't rest easy until invasive *Spartina* is fully eradicated, allowing unimpeded restoration of the salt ponds. Until that day arrives they remain committed to thorough monitoring and control of the weed.

ISP finds clapper rail population stable

Three year analysis completed; new survey season begins

Populations of California clapper rail at *Spartina* treatment sites around the San Francisco Estuary appear stable overall, according to a recent ISP report analyzing the past three years of rail monitoring data.

ISP clapper rail surveys and those of collaborating agencies meet regulatory requirements and assess any impacts of *Spartina* treatment on the endangered rail. ISP's control program takes steps to minimize disturbing these shy birds, including appropriate seasonal timing of ground treatments and phasing treatments in some rail habitats.

Looking at population trends, as revealed by survey counts of bird calls over the last three years, ISP Clapper Rail Monitoring Manager Jen McBroom concluded that rail communities at some individual subsites appear to be increasing and others declining. But as a whole, the population is stable or slightly increasing, she reported. Furthermore, this initial look at rail trends reveals no link between *Spartina* control operations and any population changes.

McBroom cautions that these results

aren't definitive. Experts in the field, she said, contend that five years of data are necessary to confidently ascertain bird population trends because of natural variability from year to year.

Yet, the results are nevertheless encouraging, launching the 2008 survey season on a positive note. From mid-January to mid-April, four specially trained biologists will conduct this year's surveys. During this time period rails vocalize as they establish territories, so surveys reflect numbers of breeding adult rails more accurately. Surveyors will visit about 70 ISP sites at dawn and dusk, when the rails are most likely to be active and vocal.

In contrast with past years, McBroom will directly supervise and coordinate all the ISP surveyors. She anticipates that this will ensure greater standardization in conducting surveys, since all are trained in the same methods and will enjoy closer day-to-day communication amongst them all. ISP also looks at survey data from 20 other sites provided by Point Reyes Bird Observatory and US Fish and Wildlife Service staff each year.

Meanwhile, ISP continues to support



A California clapper rail looks for food in shallow waters.

Photo by S. Ericson/ISP

the ongoing clapper rail telemetry study by the U.S. Geological Survey. (See May 2007 issue.) Many of the initial 30 rails in the study's three marshes have been lost to predation or radio failures, so project biologists are presently engaged in catching more birds and putting radio backpacks on them. In some cases, birds have been recaptured and failed transmitters replaced, making it possible to monitor individual birds over a longer time period.

Clapper rail reports can be viewed at www.Spartina.org/project.htm#rail.



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2560 9th St., Suite 216
Berkeley, CA 94710