

Agenda Item No. 6

Supporting Document No. 3

Attachment A to Order No. R9-2011-0057,
Supplemental Environmental Project (SEP) Information, Budget & Milestones

**SANTA MARGARITA WATER DISTRICT SEP INFORMATION,
BUDGET & MILESTONES**

Attachment A to Order No. R9-2011-0057

Project Name:

Invasive Control, Restoration, Monitoring, and Education at Audubon Starr Ranch Sanctuary

Project Developed by:

Audubon Starr Ranch Sanctuary

Project to be Performed by:

- Audubon Starr Ranch Sanctuary – Dr. Sandy DeSimone, Director of Research and Education will be project manager and oversee seasonal interns and Orange County Conservation Corps (OCCC) crews.
- Pete DeSimone, Manager will supervise volunteers from local communities with stream bioassessment sampling.
- Quarterly progress Reports: Santa Margarita Water District will provide quarterly correspondence to the San Diego Water Board and the State Water Board's Division of Financial Assistance based on input from the Audubon Starr Ranch Sanctuary.

Contacts:

Pete DeSimone, Manager
Audubon Starr Ranch Sanctuary
100 Bell Canyon Road, Trabuco Canyon, CA 92679
pdesimone@audubon.org
(949) 858-0309

Compliance with SEP Criteria:

1. This section must address how the project meets all the following SEP criteria. The SEP directly benefits or studies groundwater or surface water quality or quantity, and the beneficial uses of the waters of the State in the following category:

Habitat restoration or enhancement – Starr Ranch is one of the few remaining large, protected open space areas in southern California and the Bell Canyon riparian corridor is one of the few largely pristine, protected wildlife corridors in the region. A majority of Starr Ranch protects a mosaic of healthy native habitat types (coastal sage scrub, needlegrass grassland, sycamore riparian woodland, oak woodland, and chaparral). However, all wild lands now face the continuing threat of invasive plants, which requires active management to restore to native. Returning the Bell Canyon watershed to its native state without the use of toxic chemicals will help protect aquatic environments from pollution and erosion, supply shelter and food for wildlife, and help regulate water temperature. When riparian areas are damaged by agriculture or urbanization, water quality can suffer because of toxic runoff that can pollute surface groundwater which in turn damages ecosystems and negatively impacts human health. Healthy riparian areas replenish soil, filter surface runoff, and provide wildlife corridors that enable animals and aquatic organisms to move along river systems.

2. The SEP contains only measures that go above and beyond applicable obligations of the discharger. Correct

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3. The SEP does not directly benefit, in a fiscal manner, a Water Board's functions, its members, or its staff. Correct
4. The SEP has nexus to the violation(s), such as SEP is located within the same watershed in which the violation(s) occurred or SEP reduces likelihood of similar violations in the future.

Consistent with the SWRCB Policy on Supplemental Environmental Projects, the proposed SEP is located within the San Juan Creek Watershed, which is the same watershed in which the sewage discharge occurred. The SEP will restore and enhance the same types of riparian habitat which were impacted by the sewage discharge.

Description of Project:

1. Provide a concise description of the SEP, addressing the following
The goal(s) of the SEP:

The Starr Ranch invasive control and restoration project is completely non-chemical, research-based (i.e. uses adaptive management), and landscape scale (i.e. both riparian and upland). The riparian project is supervised by the Director of Research and Education and staffed by two seasonal interns, recent college graduates who live on site for eight months. Interns recruit and supervise volunteers and, when funding is available, Orange County Conservation Corps (OCCC) crews, to remove priority invasives and also to do active and passive restoration in 0.5 – 2.0 new acres per year along the Bell Canyon riparian corridor, which is 4.7 miles long and approximately 232 acres. For the project period (three years), an OCCC crew will assist with invasive removal at the height of the growing season in spring for one month. Interns also do bi-weekly walks to cover the entire riparian corridor to map and remove targeted invasive species.

Interns write work plans, protocols, and final reports. Quantitative and qualitative (i.e. photopoints) monitoring results will indicate success of invasive control and passive and active restoration

Since 2003, Starr Ranch biologists have trained volunteers from local communities to assist with stream bioassessment using aquatic invertebrates. Sampling will be supervised by the Assistant Director of Research and Education and will take place in pristine reaches of Bell Creek to compare with samples in stretches impacted by urban runoff from the adjacent golf course community. Since pumps were installed in 2007 to divert runoff for reclamation by Santa Margarita and Trabuco Water Districts, an improvement in water quality in the formerly impacted stretches is expected. Staff will continue to survey every year in May or June and expect an increase in IBI (Index of Biological Integrity) scores in the impacted stretches over time. Additionally, in spring 2011 staff will initiate long term surveys of aquatic vertebrates in Bell Creek as well an annual survey of perennial pools.

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The Starr Ranch upland project removes invasives and restores two rare habitats, coastal sage scrub (CSS) and native grassland. A seasonal field crew of five recent college graduates, who also live on site, add 20 - 30 new upland acres per year and use experimentally-derived methods to control artichoke thistle annually. As of 2011 the crew is working in about 500 acres of the 700 total acres targeted for eventual inclusion in the upland project. After the first year of artichoke thistle treatment, the crew also controls other invasives and begins rare habitat restoration. Long term monitoring has shown that crews reduce artichoke thistle cover by 95 percent per site after one year of treatment. Additionally active CSS restoration sites reach a mean of 60 percent or more total native cover after 1 – 4 years of restoration. If, after two seasons, there is low native germination, staff will switch to passive monitoring, in which they have had some success, as indicated by trends of increasing total native cover over time (DeSimone 2011). Staff research on wildlife, habitats, and restoration is integrated into education programs for kids and adults.

This landscape scale invasive control and restoration project as well as the unique Starr Ranch education programs were created and are now directed by Dr. Sandy DeSimone (Director of Research and Education), who was the recipient of the 2010 California Invasive Plant Council's Land Manager of the Year award.

2. Key personnel involved in SEP
 - a. Dr. Sandy DeSimone, Audubon Starr Ranch Sanctuary
 - b. Pete DeSimone – Audubon Starr Ranch Sanctuary
 - c. Scott Gibson – Audubon Starr Ranch Sanctuary
 - d. Seasonal Interns
 - e. Orange County Conservation Corps

3. Plans to continue and/or maintain the SEP beyond the SEP-funded period
How maintenance and other continued activities will be funded? Audubon Starr Ranch Sanctuary will seek out alternative funding sources for years two and three of the project.

4. If applicable, include documented support by one of the following:
 - a. Other agencies – Exhibits 1 & 2 to Attachment A are letters of support for the SEP provided by the United States Fish & Wildlife Service and the Natural Resources Conservation Service.

Project Milestones and Budget:

Include a time schedule for implementation with milestones together with a detailed budget for the SEP. implementation of the SEP with milestones together with a detailed budget indicating project elements funded by Santa Margarita Water District (Year 1) are provided in the two Tables that follow.

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Also, include procedures for accounting of all costs and expenses incurred by the SEP, and provisions that any funds left over after the successful completion of the SEP must be turned over to the State Cleanup and Abatement Account. Santa Margarita Water District and/or Audubon Starr Ranch Sanctuary will provide this information to the San Diego Water Board on a quarterly basis.

Table 1: SEP Budget

Description	Year 1	Year 2	Year 3	Notes
Riparian Intern	18,500	18,500	18,500	FT/8 months/year*
Riparian Intern	18,500	18,500	18,500	FT/8 months/year*
Dir R&E	63,000	63,000	63,000	2.5 days/week/year*
Asst Dir R&E	24,000	24,000	24,000	1 days/week/year*
Orange County Conservation Corp	12,000	12,000	12,000	560 hrs/year
Brushcutters	1,500	0	0	
Bioassessment equipment	1,000	0	0	
Bioassessment analysis	500	1,000	500	
Tyvek Suits	1,000	1,000	1,000	for protection vs. poison oak
Totals	140,000	138,000	137,500	

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Table 2: SEP Project Timeline and tasks (to be repeated annually but with first year funding only from this SEP)

Fall:

Riparian - interns start recruiting Weed Warrior volunteers for riparian invasive control
Riparian - interns collect seed for riparian herbaceous seeding in active restoration sites
Riparian - interns identify new acreage (0.5 – 2.0 acres) for invasive removal and monitoring
Upland - prepare coastal sage scrub (CSS) restoration sites (20 – 25 acres) for direct seeding then seed and tamp.

Submit quarterly report:

December – May:

Riparian – invasive removal by interns, Weed Warriors
Riparian – interns do December and January herbaceous native seed planting
Riparian - biweekly Bell Creek walks to map and remove targeted invasives
Riparian – Orange County Conservation Corps spends one month removing targeted invasives
Riparian – biweekly monitoring of active restoration site (start in January, see below)
Upland - repeated cutting of artichoke thistle leafy rosettes (every 3 – 4 weeks) in new acreage (20 – 30 acres)
Upland - non-chemical control of invasives in restoration areas

Starr Ranch staff instructs *Stream Biosurvey* to kids and adults by reservation during the school year

January:

Riparian – collection and planting of native woody cuttings in restoration site
Upland - late seeding in CSS restoration sites

2012: Project director (Dr. DeSimone) will give an invited talk on science-based restoration at the annual California Native Plant Society annual meeting in San Diego

Submit quarterly report

April:

Riparian – passive restoration plot monitoring
Upland - monitoring of needlegrass grassland vegetation and songbird indicators of grassland habitat quality

May:

Riparian – interns do final reports on invasive control and restoration projects
Upland - quantitative and qualitative monitoring of CSS restoration sites

Submit quarterly report

May-June

Riparian – bioassessment volunteer training and sampling
Riparian – aquatic vertebrate sampling

Starr Ranch staff offers *Ecology of Bell Creek* summer session to Starr Ranch Junior Biologists ages 8 – 13

July-September

Riparian - Perennial pool survey
Upland – analysis of monitoring data

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Submit final quarterly report: at the end of the season (in summer) and, after year one, expect:

1. trend of increasing native cover and woody plant density and decreasing invasive species cover in riparian plots
2. trend of increasing IBI scores in stretches of Bell Creek affected by pumping of urban runoff
3. baseline data on fish and frog populations of Bell Creek, especially rare species – after three years aquatic vertebrate sampling completed for entire Bell Creek riparian corridor so that long term monitoring will indicate trends in vertebrate populations
4. GIS maps of perennial pool and reach distribution for future fish, reptile, and amphibian sampling
5. GIS maps of aquatic vertebrate distributions (after one year, for 15-20 reaches of 32 reaches in Bell Creek within Starr Ranch)
6. ≥ 60 percent total native cover in CSS restoration sites after third season (first year total native cover highly dependent on annual precipitation level – past monitoring indicates a range of 0 – 80 percent after one year of restoration)

Project Performance Measures:

Describe measures or indicators for the success of the SEP, and procedures to evaluate compliance with the performance measures or indicators. Restoration success in semiarid regions is dependent on the highly variable timing and amount of annual precipitation (Bakker et al. 2003) Audubon Starr Ranch Sanctuary feels it is unrealistic to set quantitative performance standards. Instead they will measure performance as trends in total native cover and woody native plant density, with an increasing trend indicative of success. If no increasing native trends are observed after three seasons, measures will be taken to reverse trends by intensifying invasive plant control and/or increasing active restoration acreage. Though a trend of increasing native cover after 3 – 5 years is expected, researchers recommend that, because of the high costs and potential for failure of active riparian restoration in the western U.S., land managers monitor the natural recovery process for an appropriate period of time (e.g., 10 years) before implementation of active restoration projects (Kauffman et. al.1997).

Reports to the Water Board:

At a minimum, the SEP must include quarterly reports on the progress of completion of the SEP to the Regional Water Board, a third party oversight organization, and the State Water Board's Division of Financial Assistance. Santa Margarita Water District will provide quarterly reports of progress based on input from Audubon Starr Ranch Sanctuary commencing 90 days after the Stipulation Order becomes final and continuing through submittal of the final report certifying completion of the SEP. If no activity occurred during a particular quarter, a quarterly report so stating will be submitted.

Additionally, the SEP must include a final report documenting completion of the SEP, and addressing how performance measures were met, along with a copy of accounting records of expenditures. On or before 12/1/12 (or 12/1/13, if an extension to the completion date is granted), Santa Margarita Water will submit a certified statement of completion of the SEP. In addition, by 12/1/13 (or 12/1/14, if an extension to the completion date is granted), Santa Margarita Water District will submit a final report to the Regional Water Board which includes a discussion of the monitoring activities conducted and the results during the year following completion of the SEP.

SANTA MARGARITA WATER DISTRICT SEP INFORMATION,
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Exhibit 1

United States Department of Agriculture



Natural Resources Conservation Service
Escondido Field Office
332 South Juniper St, Suite #110
Escondido, CA 92025
(760)745-2081
(760)745-3210 fax

May 19, 2011

California Water Quality Control Board - San Diego Region
9174 Sky Park Court, Suite 100
San Diego, CA 92123-4340

To: Whomever it may concern,

It is my pleasure to write a letter in support of the proposal submitted for funding through the Supplemental Environmental Project from the State Water Resource Control Board by National Audubon at Starr Ranch.

I became familiar with the restoration work conducted at Starr Ranch by Sandy and Peter DeSimone in 2009. I was immediately impressed with the innovative methods of invasive vegetation eradication using various non-chemical approaches in combination with passive and active restoration techniques. Starr Ranch prioritized sound scientific monitoring methods to drive restoration as well as integrating a strong educational component by employing graduate and undergraduate students to facilitate restoration. National Audubon at Starr Ranch applied for funding through one of our Farm Bill programs entitled the Wildlife Habitat Incentives Program in 2009. Because of the vast natural resources within the preserve and the landscape-level importance of the canyon, their application was a top priority for funding. In 2011 Starr Ranch was able to receive continued funding due to their ability to exceed deliverables within their previous project and the need for them to continue restoration within the large acreage of their preserved lands. Funding through the State Water Resource Control Board would provide much needed support for the National Audubon to continue restoring the extensive acres of habitat that exists within this watershed. The importance of restoration within this section of the watershed is not limited to wildlife habitat but extends to water quality, fire protection and natural resource education and technical experience.

In conclusion, I fully support the efforts of the National Audubon as they seek external funding to support a program designed to restore sustainability to natural resources on a watershed scale.

Sincerely,

Shea O'Keefe

Shea O'Keefe
NRCS Wildlife Biologist

Helping People Help the Land
An Equal Opportunity Provider and Employer

SANTA MARGARITA WATER DISTRICT SEP INFORMATION,
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Exhibit 2

May 19, 2011

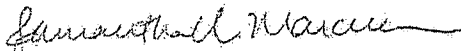
California Environmental Protection Agency
San Diego Regional Water Quality Control Board
9174 Sky Park Court, Suite 100
San Diego, California 92123-4340

Dear Sir or Madame:

I am writing to you to express support for the Audubon Starr Ranch Sanctuary (Starr Ranch) SEP proposal: "Santa Margarita Water District Supplemental Environmental Project, Invasive Control and Restoration at Audubon Starr Ranch Sanctuary." Currently, I am the Acting Habitat Restoration Division Chief for the U.S. Fish & Wildlife Service (USFWS) Pacific Southwest Region. Previously, I was the Partners for Fish and Wildlife Program Coordinator for southern California, and I have worked closely with Starr Ranch on numerous habitat restoration projects since 2006. The Starr Ranch invasive control and restoration programs are completely non-chemical, research-based, and landscape scale. The programmatic holistic approach of Starr Ranch is unique to any other group that we work with in California, Nevada, or the Klamath Basin of Oregon. We recognize Starr Ranch as an important partner for the USFWS that is helping to lead the way for other groups to adopt similar methods for habitat restoration and enhancement. In addition to conducting non-chemical, research-based restoration, Starr Ranch also incorporates community outreach, Conservation Corps involvement, internships for volunteers, and education for school-age children into their programs. The USFWS presented Starr Ranch with a Certificate of Recognition in 2009, and we continue to highlight their work and our successful partnership on a local, Regional, and National level.

Starr Ranch's proposed SEP invasive plant control and restoration project will benefit numerous rare species, as indicated in their application. This is particularly important in southern California, where there is so much urbanization and so many threatened, endangered, and/or other rare species. Starr Ranch is one of the few remaining large, protected open space areas in southern California and Bell Canyon is one of the few protected wildlife corridors in the area. Returning the Bell Canyon watershed to its native state without the use of herbicides will help to protect aquatic environments from pollution and erosion, to supply shelter and food for wildlife, and to regulate water temperature. The proposed invasive plant control and restoration on Starr Ranch is vital for the lands, waters, and species on and surrounding the property and for all areas and species downstream of the property. The work conducted on Starr Ranch reaches adults and children in the local community, researchers at restoration conferences, and it is recognized on a Regional and National scale for the U.S. Fish & Wildlife Service. I cannot speak highly enough of Sandy and Pete DeSimone, and all of the staff and volunteers at Starr Ranch. I highly recommend that you fund the SEP proposal for Audubon Starr Ranch Sanctuary. Please do not hesitate to contact me if you would like to discuss this further.

Sincerely,



Samantha N. Marcum
Acting Habitat Restoration Division Chief &
Coastal Program Regional Coordinator
U. S. Fish & Wildlife Service
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