

Attachment H

COVER SHEET (PAGE 1 of 2)

May 1998 CALFED ECOSYSTEM RESTORATION PROPOSAL SOLICITATION

Proposal Title: Water Hyacinth Education Program
 Applicant Name: Bryan J. Young, SRCSD
 Mailing Address: 8521 Laguna Station Rd, Elk Grove CA 95758
 Telephone: (916) 875-9273
 Fax: (916) 875-9163

Amount of funding requested: \$ 9,600 for 3 years

Indicate the Topic for which you are applying (check only one box). Note that this is an important decision: see page ___ of the Proposal Solicitation Package for more information.

- | | |
|---|---|
| <input type="checkbox"/> Fish Passage Assessment | <input type="checkbox"/> Fish Passage Improvements |
| <input type="checkbox"/> Floodplain and Habitat Restoration | <input type="checkbox"/> Gravel Restoration |
| <input type="checkbox"/> Fish Harvest | <input type="checkbox"/> Species Life History Studies |
| <input type="checkbox"/> Watershed Planning/Implementation | <input checked="" type="checkbox"/> Education |
| <input type="checkbox"/> Fish Screen Evaluations - Alternatives and Biological Priorities | |

Indicate the geographic area of your proposal (check only one box):

- | | |
|---|---|
| <input type="checkbox"/> Sacramento River Mainstem | <input type="checkbox"/> Sacramento Tributary: _____ |
| <input type="checkbox"/> Delta | <input type="checkbox"/> East Side Delta Tributary: _____ |
| <input type="checkbox"/> Suisun Marsh and Bay | <input type="checkbox"/> San Joaquin Tributary: _____ |
| <input type="checkbox"/> San Joaquin River Mainstem | <input checked="" type="checkbox"/> Other: <u>Sacramento County</u> |
| <input type="checkbox"/> Landscape (entire Bay-Delta watershed) | <input type="checkbox"/> North Bay: _____ |

Indicate the primary species which the proposal addresses (check no more than two boxes):

- | | |
|--|--|
| <input type="checkbox"/> San Joaquin and East-side Delta tributaries fall-run chinook salmon | <input type="checkbox"/> Spring-run chinook salmon |
| <input type="checkbox"/> Winter-run chinook salmon | <input type="checkbox"/> Fall-run chinook salmon |
| <input type="checkbox"/> Late-fall run chinook salmon | <input type="checkbox"/> Longfin smelt |
| <input type="checkbox"/> Delta smelt | <input type="checkbox"/> Steelhead trout |
| <input checked="" type="checkbox"/> Splittail | <input type="checkbox"/> Striped bass |
| <input type="checkbox"/> Green sturgeon | |
| <input checked="" type="checkbox"/> Migratory birds | |

COVER SHEET (PAGE 2 of 2)

May 1998 CALFED ECOSYSTEM RESTORATION PROPOSAL SOLICITATION

Indicate the type of applicant (check only one box):

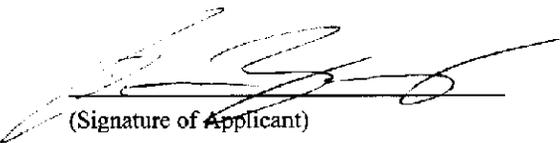
- | | |
|---|---|
| <input type="checkbox"/> State agency | <input type="checkbox"/> Federal agency |
| <input type="checkbox"/> Public/Non-profit joint venture | <input type="checkbox"/> Non-profit |
| <input checked="" type="checkbox"/> Local government/district | <input type="checkbox"/> Private party |
| <input type="checkbox"/> University | <input type="checkbox"/> Other: _____ |

Indicate the type of project (check only one box):

- | | |
|-------------------------------------|--|
| <input type="checkbox"/> Planning | <input checked="" type="checkbox"/> Implementation |
| <input type="checkbox"/> Monitoring | <input checked="" type="checkbox"/> Education |
| <input type="checkbox"/> Research | |

By signing below, the applicant declares the following:

- (1) the truthfulness of all representations in their proposal;
- (2) the individual signing the form is entitled to submit the application on behalf of the applicant (if applicant is an entity or organization); and
- (3) the person submitting the application has read and understood the conflict of interest and confidentiality discussion in the PSP (Section II.K) and waives any and all rights to privacy and confidentiality of the proposal on behalf of the applicant, to the extent as provided in the Section.


(Signature of Applicant)

Executive Summary

a. Water Hyacinth Education Program

Applicant: Bryan J. Young, Sacramento Regional County Sanitation District

b. Project Description and Primary Biological/Ecological Objectives

The Stone Lakes water hyacinth control effort is an ongoing project intended to eradicate water hyacinth from the Stone Lakes Basin (SLB) and prevent the expansion of this destructive weed. The Stone Lakes Water Hyacinth Control Group (SLWHCG), comprised of government agencies, land owners and local businesses, operated from 1996 to 1998 through Sacramento County emergency funds and contributions from group members. While SLWHCG efforts have substantially reduced hyacinth in the Basin, widespread control throughout the Delta can only occur by informing the public of the deleterious effects of the invasive plant, and calling for public action to cease the spread of the plant. The Sacramento Regional County Sanitation District (SRCSD) is now seeking CALFED funding for an educational program, which the District intends to lead on behalf of the SLWHCG.

The hyacinth now occupying SLB and other Delta tributaries is spreading at an alarming rate. However, SLWHCG education and public outreach efforts, combined with a comprehensive control program, aims to reduce the transport of hyacinth throughout the region, and eradicate water hyacinth in SLB. After the competitive, dense hyacinth is removed, ecologically essential native plants upon which many organisms depend will return, and oxygen levels will substantially increase. The program aims to expand habitat, and increase food resources (e.g., invertebrates) for all Delta fish species and migratory birds. The SLWHCG program will continue to prevent the expansion of this fast-growing plant into habitats of concern including instream aquatic and shaded riverine aquatic which are in danger of being ecologically damaged and eventually lost due to the high siltation rates caused by this plant.

c. Approach/Tasks/Schedule

Members of the local community, who are unaware of the destructive potential of hyacinth, often inadvertently spread the plant. Hyacinth transport causes the continuous spread of the plant, and the re-infestation of areas where eradication has already occurred. Once the public is informed, control efforts will be more effective.

As soon as funds are available, SLWHCG will develop a color flyer which will describe the deleterious effects of hyacinth, offer advice on prevention of its dispersal, and present photos and identification characteristics. The flyer will be based on a temporary flyer developed by SLWHCG (Appendix A). Throughout Sacramento County, bait shops, marinas, boat stores and aquatic plant retailers have pledged their assistance in dispersing the flyer. The U.S. Fish and Wildlife Service (USFWS) and the SRCSD will present displays and materials at weekend tours and annual public events at the Stone Lakes National Wildlife Refuge (SLNWR). SRCSD will host a "Water Hyacinth Alert" web page which will feature information similar to that contained in the flyer.

Most local nurseries still sell water hyacinth for use in ponds. The plant quickly outgrows a pond environment, and some pond owners, unaware that the plant is destructive, dump the plants in local waterways. SLWHCG members will meet with nursery owners to discuss the effects of hyacinth on the natural waterways, and encourage them to either cease the sale of the plants or inform buyers of the risks of improper disposal.

d. Justification for Project and Funding by CALFED

Prior to 1996, approximately 35% of the Stone Lakes Basin's water surface was covered with hyacinth. In 1996, SLWHCG treated five large mats which covered approximately 50 acres of the Southern Pacific Borrow Channel. The mats are now completely dissolved and plant density adjacent to the banks has been significantly decreased. It is now apparent that a potential exists for the complete

eradication of hyacinth in the SLB. Last year the Department of Boating and Waterways (DBW) treated ,000 acres of water hyacinth throughout the Delta. However, eradication cannot be completed without the cooperation of the community. If the public is not informed of the danger of hyacinth the plant will continue to be spread throughout the Delta.

e. Budget Costs and Third Party Impacts

Budget costs: The SRCSD is requesting \$9,600 from the CALFED program. This amount accounts for SRCSD's cost to run a three-year education program which includes 1) development, printing and distribution of flyers, 2) correspondence with local nursery owners, and 3) monitoring and reporting. Other components of the education program for which CALFED funding is not being sought, including the web page and event displays, will be supported by SRCSD. Other participants of the SLWHCG have volunteered to supplement the SRCSD public outreach efforts by distributing flyers.

Third Party Impacts: Since this program consists of education and voluntary action, no third party impacts are foreseen.

f. Applicant Qualifications

The SRCSD applicant, Bryan J. Young, is a licensed Pest Control Advisor and State Certified Applicator for aquatic situations. He has supervised a successful SRCSD water hyacinth eradication program, developed numerous integrated pest management programs for other noxious weeds, and acted as the SLWHCG project coordinator for over two seasons.

Other members of the SLWHCG have special qualifications and experience related to hyacinth control. The majority of the program's activities will be performed by SRCSD employees working under the applicant's supervision. These employees have been actively educating visitors to SLNWR by familiarizing visitors with the plant, explaining its effects on the Delta, and demonstrating how its transport may be avoided. SRCSD staff created a display booth and temporary flyer for annual SLNWR events. SRCSD employees have performed extensive research on water hyacinth, and examined public outreach programs in other states where government agencies are battling hyacinth.

g. Monitoring and Data Evaluation

Success of the education program will include an evaluation of 1) the number of waterway users contacted, either directly through tours and display booths, or indirectly through flyers, and 2) the degree of approbation of nursery owners. All activities will be summarized and distributed to the funding agency and SLWHCG members for review and comments.

h. Local Support/Coordination with other Programs/ Compatibility with CALFED Objectives

The SLWHCG includes representatives of government agencies, local businesses and private landowners who are concerned with problems of hyacinth in Delta waters. SLWHCG efforts are coordinated with those of DBW which is attempting to control hyacinth in water bodies throughout the Delta region. Local support for the project is widespread, with land owners, agencies, and local businesses having much to gain from the eradication of this destructive weed. Letters of support are included in Appendix B. Local marinas, boat shops, and aquatic plant nurseries have volunteered to dispense educational materials. SRCSD staff have already started to compile a list of those in the business community who are willing to participate (Appendix C). These education efforts will be coordinated with those of DBW. DBW sends a "Boater Alert" flyer with every boater registration.

The hyacinth eradication program meets CALFED goals by promoting public action to preserve the aquatic environment. Hyacinth may always exist within the waters of the Delta system; therefore, a standardized long-term education/eradication policy is an essential component of the CALFED program. In the Ecosystem Restoration Project Plan (ERPP), Vol. II, CALFED designated control of water hyacinth as a priority for the Sacramento-San Joaquin Delta Ecological Zone (page 59-60). The control of water hyacinth in the Stone Lakes-Snodgrass Slough-Lower Cosumnes/Mokelumne complex was designated as part of the vision for the North Delta Ecological Unit (page 28).

HI. a. Water Hyacinth Education Program

b. Applicant/Principal Investigator:

Bryan J. Young, Sacramento Regional County Sanitation District (SRCSD)
8521 Laguna Station Rd., Elk Grove, CA 95758
Ph# (916)875-9273
Fax# (916)875-9163
E-mail: YOUNGB@pwa.co.sacramento.ca.us

c. Type of organization: County **Tax status:** Government

d. Tax identification number: 94-60000529

e. Participants and collaborators: Stone Lakes Water Hyacinth Control Group, which includes:

U.S. Fish and Wildlife Service
2233 Watt Ave., Suite 375
Sacramento, CA 95825-0509

California Dept. of Boating and Waterways
1629 S St.
Sacramento, CA 95814

Cal Trans, Dept. of Transportation, District 3,
Sacramento Environmental Branch C
P.O. Box 942874, MS-41
Sacramento, CA 94274-0001

Sac-Yolo Mosquito and Vector Control District
8631 Bond Rd
Elk Grove, CA 95624

Florin Resource Conservation District
8200 Short Rd.
Sacramento, CA 95828

Beach Lake Ski Club
6 Alstan Ct.
Sacramento, CA 95831

Al Kuhn
10140 Bruceville Rd.
Elk Grove, CA 95758

Galen Whitney
P.O. Box 38
Hood, CA 95639

Richard Samara
1624 Hood-Franklin Rd.
Elk Grove, CA 95758

Steve Samara
P.O. Box 74
Hood, CA 95639

LaRue Shock
10808 Stone Lake Rd.
Elk Grove, CA 95758

Sacramento Regional County Sanitation
District (address above)
Hyacinth control staff: Shawn Petrash, Steven Scott,
Jennifer Albright, Shannon Brown, Roger Jones,
Chris Conard

Additional participants are listed in Appendix C.

IV. Project Description

a. PROJECT DESCRIPTION AND APPROACH

Project Description

The Stone Lakes water hyacinth program is an integrated education/control effort intended to eradicate water hyacinth from the Stone Lakes Basin (SLB), and reduce the rate of expansion of this destructive weed into Delta waters. The Stone Lakes Water Hyacinth Control Group (SLWHCG) includes representatives of government agencies, local businesses and private landowners who are concerned with the problems of hyacinth in Delta waters. The Sacramento Regional County Sanitation District (SRCSD) is a participant in the project, with Natural Resource Specialist, Bryan J. Young as the District's representative. The objective of this proposal is to obtain CALFED funding for the initiation of a County-wide public outreach effort aimed to alert the public to the danger of hyacinth infestation, and call for public action to cease its spread.

The cost of SRCSD's portion of the 1999 – 2001 education program is \$9,600. This amount includes costs for 1) the development, printing and distribution of flyers, 2) correspondence with local nursery owners, and 3) monitoring and reporting. Other components of the education program for which CALFED funding is not being sought, including the web page and event displays, will be supported by SRCSD. Additional support will come from SLWHCG member's who have volunteered to distribute flyers.

Intended Approach to the Problem of Water Hyacinth Invasion

Education: In an attempt to increase the effectiveness of hyacinth reduction operations throughout the Delta, the SLWHCG will promote public awareness and call for community assistance in the control of the plant. The SLWHCG will develop a flyer, modeled after a successful Florida Resource Conservation District flyer and a temporary SLWHCG flyer (Appendix A), describing the deleterious effects of hyacinth and offering advice on preventing its dispersal. Throughout the Delta, bait shops, marinas, boat stores and aquatic plant retailers have pledged their assistance in dispersing the flyer (Appendix C).

Most local nurseries still sell water hyacinth for use in ponds. The plant quickly outgrows a pond environment, and some pond owners, unaware that the plant is destructive, dump the plants in local waterways. SLWHCG members will meet with nursery owners to discuss the effects of hyacinth on the natural waterways, and encourage them to either cease the sale of the plants or inform buyers of the risks of improper disposal.

The CALFED funded portion of the education program will be coordinated with additional outreach efforts. The U.S. Fish and Wildlife Service (USFWS) will present displays and materials at weekend tours and annual public events (e.g., Walk on the Wildside). SRCSD will host a "Water Hyacinth Alert" web page which will feature information similar to that contained in the flyer. The Department of Boating and Waterways (DBW) will continue to send a "Boater Alert" notification with boater registration cards.

Removal: The SLWHCG education and public outreach program will also be coordinated with water hyacinth control operations in the Delta region. The SLWHCG operates an integrated control program within the SLB, which is designed to optimize effectiveness while maintaining the lowest potential for environmental harm. DBW, having treated 17,000 acres of hyacinth last year, operates a large-scale control program that extends throughout Delta region.

b. PROPOSED SCOPE OF WORK

Flyers: SLWHCG will develop a color flyer which will describe the deleterious effects of hyacinth, offer advice on prevention of its dispersal, and present photos and identification characteristics. The flyer will be based on the temporary flyer developed by SLWHCG, presented in Appendix A. Throughout the Delta, bait shops, marinas, boat stores and aquatic plant retailers have pledged their assistance in dispersing the flyer (examples of the participants in Appendix C).

Events: The Stone Lakes Basin is an integral part of our natural history, and provides excellent birding and nature walk opportunities. Many local residents attend weekend refuge tours sponsored by the USFWS. An annual public event, "Walk on the Wildside," is sponsored by representatives of SRCSD, USFWS, Caltrans, National Audubon Society, County Parks and Recreation Department and others, and includes tours and displays from many other organizations. This high profile event and other refuge tours attract thousands annually. Attendance is expected to grow each year. During annual and regular weekend tours, the SLWHCG will demonstrate the benefits of hyacinth control, and promote awareness of the damage this invasive plant may cause.

Nursery Correspondence: Most local nurseries still sell water hyacinth for use in ponds. The plant quickly outgrows a pond environment, and some pond owners, unaware that the plant is destructive, dump the plants in local waterways. SLWHCG members will meet with nursery owners to discuss the effects of hyacinth on the natural waterways, and encourage them to either cease the sale of the plants or inform buyers of the risks of improper disposal.

Web Site: SRCSD will host a "Water Hyacinth Alert" web page which will feature information similar to that contained in the flyer. The web page will be linked to other web pages related to recreational water use and landscape pond maintenance. SRCSD has already allocated space for such a page and will not be requesting funds for web page support.

Reporting: Monitoring results will be presented to CALFED four times per year, on February 28, May 31, September 30, and December 31 of each year (see section IV. f – Monitoring and Evaluation).

c. LOCATION AND GEOGRAPHIC BOUNDARIES OF PROJECT

SLWHCG will distribute flyers to businesses and agencies throughout Sacramento County. SRCSD staff will identify and contact all businesses within Sacramento County that sell water hyacinth for ornamental ponds.

d. EXPECTED BENEFITS

In Florida, a public awareness campaign against hyacinth transport has effectively reduced the expansion of the plant. In the Delta region, educational materials will encourage local residents to help achieve long-term control of hyacinth in the Delta region. Once waterway users in the community are informed they will be more likely to prevent the intentional or unintentional spread of the plant, and to report sightings of the plant.

Ecological: Stressors Addressed

- **Undesirable species interactions; competition from introduced plants:** Ecologically essential native plants, upon which many organisms depend, are prevented from germinating by the hyacinth which blocks almost all light and out competes native plants. The program will address this stressor by enlisting the help of the public, and preventing the spread of the invasive plant in the Delta.
- **Water quality; low dissolved oxygen conditions:** One acre of hyacinth can deposit approximately 500 tons of rotting plant material each year, burying benthic organisms and decreasing the water's oxygen supply (Raynes 1964). Large-scale fish kills have resulted from complete depletion of oxygen under hyacinth mats (Timmer and Weldon 1967; Sharma et al. 1978). The integrated program will reduce this stressor by preventing the spread of hyacinth.
- **Channel form changes; channel aggradation due to fine sediments:** Siltation rates within the Delta's shallow sloughs and channels will decrease after the dense, continuously decaying and sediment trapping hyacinth mats are reduced.
- **Long-term reduction of stressors:** Long-term reduction of the stressors will be accomplished when recreational water users and others no longer transport hyacinth plants into the region. Our educational program informs local residents of the serious ecological, recreational and economic consequences of hyacinth proliferation, thus encouraging them to report occurrences, and reducing the likelihood that residents will purposely or unintentionally place hyacinth into waterways.

Ecological: Species of Concern

Fish are adversely affected by increasing hyacinth density which causes a decline in critical and significant food sources, zooplankton and phytoplankton (Gopal et al. 1984; Scott et al. 1979). In shallow water, where tidal action sweeps hyacinth roots across the substrate, benthic communities are disturbed as turbidity is increased. In addition to increased oxygen levels, the program will result in a long-term increase in benthic and planktonic invertebrates, encouraging the return and expansion of many fish populations. The return of beneficial aquatic plants, including native species, will enhance food and shelter for fish and waterfowl.

- **Sacramento splittail:** *Pogonichthys macrolepidotus* adults prefer large stretches of open water. However, hyacinth covers many of the most ideal stretches, and displaces emergent vegetation that the splittail requires for spawning. Hyacinth control would allow for an increase in total habitat area for the splittail.
- **Striped bass:** *Morone saxatilis*, a sought-after sport fish, requires open water in which to feed and broadcast-spawn their floating eggs. By reducing floating aquatic vegetation, the integrated program will improve habitat conditions for striped bass within the basin.
- **Migratory birds:** Few birds are capable of utilizing hyacinth-invaded habitat. It is nearly impossible to swim through, and provides only low-quality foraging habitat. Hyacinth reduction would open water surface for foraging waterfowl, while allowing for the enhancement of the aquatic food base (fish and invertebrates) that the waterfowl require.

Ecological: Habitats of Concern

* **Instream aquatic; shaded riverine aquatic; and tidal perennial aquatic habitat:** Water hyacinth's living and dead roots within the water column create a continuous vertical net which traps fine sediment. This sediment, along with a constant supply of decaying organic material, accumulates under mats, creating islands, and increasing siltation rates (Mitsch 1977). Lakes, sloughs, and small channels eventually fill in and disappear. However, with control of hyacinth, siltation rates will decrease, aggradation will slow, and the loss of these valuable habitats will be prevented.

Social:

* **Recreation:** Boat access is impeded and engines are damaged in areas where hyacinth mats have blocked channels or launch ramps. The potential for recreational fishing is decreased due to the reduced fish populations; and fishing access is lost when dense mats cover the water surface. Boating and fishing potential within the Delta will increase as public awareness increases and hyacinth cover is reduced.

* **Human health:** Hyacinth provides ideal habitat for mosquitoes, a vector of human diseases (Sucharit et al. 1981). Public efforts to control water hyacinth will aid in the control of mosquito populations.

Economical:

* **Reduced damage to agricultural equipment, irrigation structures, and channels:** Hyacinth can damage pumps, and reduce flow through irrigation canals by 40% to 95% (Bogart 1949; Guscio et al. 1965). Agencies and farmers have reported economic losses due to increased labor costs (for hyacinth removal) and repair costs. Control efforts of landowners are sometimes hampered by new infestations, such as those that occur when a boater trails hyacinth through the channels. Once the public is taking care to avoid such transport a reduction in long-term costs, including the costs of large-scale channel dredging and pump repair will follow.

* **Increased water supplies:** The high evapo-transpiration rate of hyacinth, plus its large storage capacity, accounts for a loss of up to 38.68 acre-inches of water per month over the normal evaporation rate of an acre of open water. This amount of water could irrigate an acre of corn for one year. Hyacinth removal will result in a reduction in evapotranspiration and sedimentation rates, and more water will be available to farmers as well as wildlife.

* **Businesses:** Marinas will benefit from reduced control costs and increased facility use.

* **Flood protection:** Economic losses have resulted from flooding which occurs when dense mats hinder water conveyance. A longterm benefit of hyacinth control will be the prevention of such flooding.

Adaptive Management:

* **CALFED Comprehensive Monitoring, Assessment and Research Program:** Water hyacinth may always exist within the waters of the Delta system; therefore, a standardized long-term education/eradication policy is an essential component of the CALFED program. The results of this project will provide information which may be used to better manage other education efforts.

e. BACKGROUND AND BIOLOGICAL/TECHNICAL JUSTIFICATION

Background:

Water hyacinth, a non-native plant, is often grown in landscaped ponds, only to be dumped in local waters when the plant overtakes its home. Boaters can accidentally transport the plant on trailers or in bilge pumps. Hyacinth reproduces at an astounding rate. In one growing season twenty-five plants can expand to cover 10,000 square meters of water surface (Barret 1989). At locations throughout the Delta, hyacinth infests water and degrades habitat. While the public remains uniformed as to the

devastating effects of hyacinth, new infestations occur into the remaining clear waterbodies. In the Ecosystem Restoration Project Plan, Vol. II (ERPP v.II), CALFED designated control of water hyacinth as a priority for the Sacramento-San Joaquin Delta Ecological Zone, under Implementation Objectives, Targets, and Programmatic Actions: Reducing or Eliminating Stressors (page 59-60). The control of water hyacinth in the Stone Lakes-Snodgrass Slough-Lower Cosumnes/Mokelumne complex was designated as part of the vision for the North Delta Ecological Unit (ERPP v.II, page 28).

Technical Justification: The people who spread water hyacinth are the very same people who would benefit from its control. Recreational boaters and fishermen have had their sport impacted for years by the plant, but many are unaware that the plant is an unnatural part of the system that can, with a lot of cooperation, be controlled. Once these water users are instructed as to how they may prevent the spread of the plant, we expect them to take such precautions. Likewise, people who appreciate ponds at home would, once informed, want to keep natural ponds healthy. Therefore, we expect information offered through nurseries to be well received. If control efforts are supplemented by an expanded public outreach program, the potential exists for complete hyacinth eradication in the Stone Lakes Basin. Additionally, the control efforts of DBW and other agencies, landowners, and water users would be more effective, and less costly, if the community would prevent the spread of the plant.

Progress, accomplishments, expenditures to date: Members of SLWHCG have supported extensive control operations in the Delta, with labor, equipment, and materials costing over \$400,000. Until control efforts began in 1996, hyacinth covered approximately 35% of the water surface in SLB, and was rapidly expanding, causing harmful effects to wildlife and great economic loss to local farmers. Between the months of July and December, 1996, the SLWHCG reduced hyacinth cover by 85%. Five large mats, which covered approximately 50 acres of the north Southern Pacific Borrow Channel, were treated and dissolved. The USFWS now employs a full-time water hyacinth control team to treat hyacinth throughout the SLB. Last year DBW sprayed 17,000 acres of water hyacinth, and included a "Boater Alert" flyer on non-native plants with every boater registration. The SLWHCG prepared a temporary flyer for SLNWR public events, and erected a display booth at the annual "Walk on the Wildside" event at SLNWR.

f. MONITORING AND EVALUATION

Program Evaluation: Success of the education program will include an evaluation of 1) the number of waterway users contacted, either directly through tours and display booths, or indirectly through flyers, and 2) the degree of approbation of nursery owners. Monitoring results will be summarized and distributed to the funding agency and SLWHCG members four times per year, on February 28, May 31, September 30, and December 31 of each year.

Financial reports: SRCSD program expenditures will be tracked by the Sacramento County Accounting and Recording System, and results will be compiled in a quarterly report to CALFED. Reports will include monthly SRCSD expense summaries and "expenditures to date" information, with the year-end quarterly report also containing the total expense outlay from other agencies of the SLWHCG.

g. IMPLEMENTABILITY

The SLWHCG has obtained all permits, and complied with all applicable laws and regulations. The project complies with, and supports ecosystem enhancement goals set forth in the NEPA document, Stone Lakes National Wildlife Refuge EIS (1991) and in the ERPP Volume II under "Visions for Reducing or Eliminating Stressors," page 33.

Local support for project activities is widespread, with land owners, agencies, and local

businesses working cooperatively. Letters of support are included in Appendix B. The education program will be facilitated by local merchants. Managers of many boat shops, marinas, and aquatic plant nurseries have volunteered to post publications in their places of business (Appendix C).

V. Costs and Schedule to Implement Proposed Project

a. BUDGET COSTS

CALFED Funding Request: Over the next three years, an estimated \$9,600 will be needed for the SLWHCG public outreach and education efforts. The Sacramento Regional County Sanitation District (SRCSD) is requesting this amount from CALFED on behalf of the group, and will act as director of the program. Table 1 specifies the breakdown of costs for each project task for which CALFED funding is requested.

Basis/Need for CALFED Funding: While SLWHCG members have contributed over \$400,000 to the control program, all expenditures have been for the emergency removal of hyacinth. The group does not have, and does not expect to receive funding for an extensive education effort.

Even in the absence of CALFED funding, the participants of the SLWHCG will likely continue their much smaller scale voluntary education efforts. However, the lack of a larger scale public outreach effort will allow for the continued transport of the plant, and continued ecological and economical impact.

Potential for Incremental CALFED Funding for Distinct Project Phases: While the education program is intended to run for three years, the separate tasks will occur in phases. The development and printing of flyers will occur between Jan. 1, 1999 and Feb. 30, 1999, followed by the distribution of flyers from Mar. 1, 1999 to Dec. 31, 2001 (Table 2). These two tasks could be funded separately from the task of nursery correspondence which will occur between Mar. 1, 1999 to Dec. 31, 2001. However, a nursery task would be less effective without a flyer to distribute.

Contingency Planning: If CALFED funds for the expansion of the water hyacinth education program are not granted, the SLWHCG is likely to continue a small scale localized public outreach effort which would include voluntary displays at SLNWR events. In the next CALFED funding round SLWHCG will attempt to obtain funding for 2000-2002 control activities for SLB. If the education program is not funded in the present round, education funding will be sought in the next round.

Funding Partnership Needs and Commitments: During the 1996 hyacinth control season, contributions of labor, equipment, and materials from SLWHCG members other than SRCSD, totaled approximately \$82.5K (Sacramento Regional County Sanitation District 1996). Attached letters of support from the participants of SLWHCG indicate that they are willing to continue to support the control effort at past levels. SRCSD intends to support the majority of the education efforts, while other members of the SLWHCG support control efforts. Other Members have, however, volunteered to assist SRCSD in the distribution of educational materials.

Subcontract Bid and Evaluation Process: Implementation of this project requires purchasing goods and services from private vendors. No single purchase shall exceed \$3000. Items totaling \$3,000 will require a minimum of three competitive bids including one from a minority or woman owned business (M/WBE). Items totaling \$1,000 to \$2,999 will require a minimum of two bids including one from a

M/WBE. Items totaling \$301 to \$999 require at least one bid from a M/WBE. All bids will be evaluated by deducting 5% from the M/WBE bid, and selecting the lowest bid.

b. SCHEDULE MILESTONES

Start / Completion Dates of Specific Tasks: See Table 2

Payments vs. Milestones The program would commence as soon as CALFED funds were made available. The entire cost of flyer development/printing would be required at the beginning of the first year of the program, while one third of the total cost of all other tasks would be required at the beginning of each of the three years that the program runs. Payment for the first year of the program will be needed by Jan 1, 1999. Payments for year two and three will also be needed prior to the start of each year's water hyacinth monitoring programs, scheduled for Jan. 1, 2000 and Jan. 1, 2001 respectively.

c. THIRD PARTY IMPACTS

Since this program consists of education and voluntary action, no third party impacts are foreseen.

TABLE 1.
Breakdown of Cost Estimates for
Proposed Education Program

Costs for three-year program	Direct Labor Hours	Direct Salary and Benefits(\$)	Overhead Labor(\$)	Service Contracts(\$)	Materials(\$)	Miscellaneous and other Direct Costs(\$)	Total Task Cost(\$)
Flyer development and printing	100	1,740	435	3,000	200	150	5,525
Distribution of flyers	90	1,570	390	0	0	50	2,010
Correspondence with nursery owners	50	870	220	0	0	50	1,140
Monitoring and reporting	40	700	175	0	0	50	925
						Total Program Cost	\$9,600

Direct Labor Hours - total number of person hours projected to accomplish the designated task.

Direct Salary and Benefits - total amount of funding needed to compensate (in salary and benefits) direct labor hours necessary to accomplish the designated task.

Overhead Labor - indirect overhead costs: payroll, insurance costs, processing, and general administration.

Service Contracts - funding needed to contract with outside entities to accomplish tasks that cannot be completed in-house, including printing costs.

Materials - funding needed to cover predictable material costs.

Miscellaneous and other Direct Costs - funding needed to cover miscellaneous costs.

TABLE 2.
Duration of Specific Education Program Tasks

Task	Year 1	Year 2	Year 3
Flyer development and printing	Jan. 1, 1999 / Feb. 30, 1999		
Distribution of flyer	Mar. 1, 1999 / Dec. 31, 1999	Jan. 1, 2000 / Dec. 31, 2000	Jan. 1, 2001 / Dec. 31, 2001
Correspondence with nursery owners	Mar. 1, 1999 / Dec. 31, 1999	Jan. 1, 2000 / Dec. 31, 2000	Jan. 1, 2001 / Dec. 31, 2001
Monitoring and reporting	Jun. 31, 1999 / Nov. 1, 1999	Jun. 31, 2000 / Nov. 1, 2000	Jun. 31, 2001 / Nov. 1, 2001

VI. Applicant Qualifications

The majority of the program's activities will be performed by Sacramento County employed Maintenance Helpers and Park Maintenance Workers under the supervision of a Sacramento County employed Natural Resource Specialist. These employees have been actively educating visitors to the Stone Lakes Refuge by familiarizing visitors with water hyacinth, explaining its effects on the Delta, and demonstrating how its transport may be avoided. SRCSD staff created a display booth and a temporary flyer for annual SLNWR events. SRCSD employees have performed extensive research on water hyacinth, and examined public outreach programs in other states where the plant is rapidly degrading habitat.

Biosketches of Key Participant

Bryan Young - Sacramento County Natural Resource Specialist

Education: B.S. Wildlife and Fisheries Biology, University of California, Davis

Licenses:

State of California, Qualified Applicator Certificate

State of California, Agricultural Pest Control Advisor License

Hyacinth Experience:

1996-Present Coordinates a multi-agency hyacinth control program on over 250 acres of open water habitat in the Stone Lakes Basin. 1996 effort resulted in an approximate 90% reduction of water hyacinth. Also, conducts or coordinates all necessary training, monitoring, and reporting.

1993 - 1994 Conducted a successful water hyacinth eradication campaign within a 45 acre mitigation wetland area on the Sacramento Regional Wastewater Treatment Plant (SRWTP) property.

Related Experience

1993-Present Devises and implements integrated pest management (IPM) programs targeting various exotic plant species on approximately 2,500 acres of SRWTP property. A large portion of this property is currently being developed as a wildlife area. Targeted weeds include yellow star thistle, perennial pepper weed, and Bermuda grass. Programs include mowing, burning, discing, and chemical applications for the establishment and maintenance of native grassland, riparian forest, and

- wetland restoration projects.
- 1993-Present Conduct vegetation monitoring programs to discern the success of native plant restoration projects and to evaluate IPM programs used in the establishment and maintenance of these projects. Performs quadrat sampling, step-point, and line-intercept vegetation sampling methods.
- 1992 - 1993 Devised and implemented integrated pest management (IPM) programs targeting common agricultural weeds for a commercial native grass seed farm (Hedgerow Farms). Programs included mowing, burning, discing, and chemical application.

References

Roy Nelson, SRWTP, Bufferlands Manager - (916)-362-7740
 Dr. John Anderson, Hedgerow Farms Manager - (916)-662-4570

VII. Compliance with Standard Terms and Conditions

The applicant /principal investigator, Bryan J. Young, as a representative of the Sacramento Regional County Sanitation District, is agreeable to and able to comply with all terms and conditions set forth in the 1997 Category III Request for Proposals. PSP Table D indicates that the applicant is required to submit item 8. Nondiscrimination Compliance Statement (attachment).

References

- Barrett, S.C.H. 1989. Waterweed Invasions. Scientific American, October:90-97.
- Bogart, D.B. 1949. The effect of aquatic weeds on flow in Everglades canals. Proceeds of the Soil Science Society of Florida, 9:32-52.
- Environmental Impact Statement for the Proposed Stone Lakes National Wildlife Refuge. 1991. U.S. Fish and Wildlife Service.
- Gopal, B., R.K. Trivedy, and P.K. Goel. 1984. Influence of water hyacinth cover on the physicochemical characteristics of water and phytoplankton in a reservoir near Jaipur (India). Int. Rev. ges. Hydrobiol, 69: 859-865.
- Guscio, F.J., T.R. Bartley, and A.N. Beck 1965. Water resources problems generated by obnoxious plants. Journal of the Waterways Harb. Div., American Society of Civil Engineers, 10:47-60.
- Mitsch, W.J. 1977. Hyacinth (*Eichhornia crassipes*) nutrient uptake and metabolism in a north central Florida marsh. Arch. Hydrobiol. 81: 188-210.
- Raynes, J.J. 1964. Aquatic plant control. Water Hyacinth Control Journal, 3:2-4.
- Sacramento Regional County Sanitation District. 1996. Report to the Stone Lakes Water Hyacinth Control Group.
- Scott, W.E., P.J. Ashton, and D.J. Steyn. 1979. The chemical control of the water hyacinth on Hartbeespoort Dam. Water Research Commission, Pretoria. 84 pp.
- Sharma, K.P., P.K. Goel, and B. Gopal. 1978. Limnological studies of polluted freshwaters. I. Physicochemical characteristics. Integrated Journal of Ecological Environmental Science, 4:89-105.
- Sucharit, S., C. Harinasuta, T. Deesin, and S. Vutikes. 1981. Studies of aquatic plants and grasses as breeding hosts for mosquitoes. SE Asian Journal of Tropical Medical Public Health, 12(3): 462-463.
- Timmer, E. and L.W. Weldon. 1967. Evapotranspiration and pollution of water by water hyacinth. Water Hyacinth Control Journal, 6:34-37.

Appendix A –

**Temporary flyer developed by Sacramento Regional County Sanitation District
staff, for the Stone Lakes Water Hyacinth Control Group
(following page)**

THE STONE LAKES WATER HYACINTH CONTROL PROGRAM

Until control efforts began in 1996, hyacinth covered approximately 35% of the water surface in Stone Lakes Basin, and was rapidly expanding. The Stone Lakes water hyacinth control effort, led by the Sacramento Regional County Sanitation District (SRCSB), is eradicating water hyacinth from the Stone Lakes Basin and preventing the expansion of this destructive weed. The Stone Lakes Water Hyacinth Control Group (SLWHCG), comprised of government agencies, land owners and local businesses, operated in 1996 and 1997 through Sacramento County emergency funds and contributions from group members. SLWHCG efforts have substantially reduced hyacinth in the Basin. SLWHCG is currently applying for further funding to continue operation. SLWHCG's goal is complete eradication of this noxious weed from the Stone Lakes Basin.

WHAT ARE THE RESULTS OF THE CONTROL PROGRAM?

- Ecologically essential native plants, upon which many organisms depend, are returning.

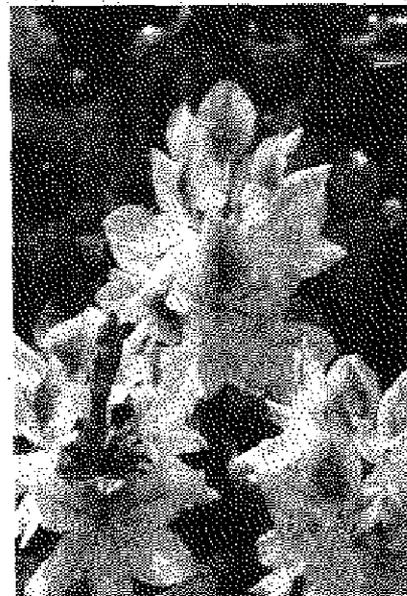
- Oxygen levels in the water are substantially increasing.
- Habitat area will expand and food resources (e.g., invertebrates) are increasing, benefiting fish, waterfowl, and all wildlife.
- Downstream fish and waterfowl are benefiting indirectly due to the reduction of migrating hyacinth.

WHO ARE THE MEMBERS OF THE STONE LAKES WATER HYACINTH CONTROL GROUP?

Sacramento Regional County Sanitation District
U.S. Fish and Wildlife Service
California Dept. of Boating and Waterways
Cal Trans, Dept. of Transportation
Sac-Yolo Mosquito and Vector Control District
Florin Resource Conservation District
Beach Lake Ski Club
Al Kuhn
Galen Whitney
Richard Samara
Steve Samara
LaRue Shock

For more information contact:

Bryan Young, SRWTP (916)875-9273
Sally Davis, CalEPPC (714)888-8347



WEED ALERT!

WHAT IS WATER HYACINTH?

Water hyacinth (*Eichhornia crassipes*), a South American import, was first reported in California in the early 1900's. This floating aquatic plant has showy lavender flowers, and shiny round leaves with inflated petioles. You will find water hyacinth in lakes, canals, sloughs, and slow moving creeks. The plants quickly spread across the water's surface, forming large floating mats, which consist of live and decaying material up to two meters thick.

WHY SHOULD WE WORRY ABOUT WATER HYACINTH?

Ecological Harm: One acre of hyacinth can deposit approximately 500 tons of rotting plant material each year, burying bottom dwelling plants and animals, and decreasing the water's oxygen supply.

Food reduction and oxygen depletion results in large-scale fish kills. Waterfowl and other wildlife are unable to forage for food through the thick mats.

Ecologically essential native plants, upon which many organisms depend, are killed when the mats block almost all sunlight.

In shallow water, tidal action sweeps hyacinth roots across the bottom, muddying-up the water and *harming bottom dwelling animals.*

The roots create a continuous vertical net, which traps fine sediment, increasing siltation rates. Lakes, sloughs, and small channels eventually fill in and disappear.

Human Health Hazard: Hyacinth provides ideal habitat for mosquitoes, a known vector of human diseases.

Recreational Losses: Boat access is impeded and engines are damaged in areas where hyacinth mats have blocked channels or launch ramps. The potential for recreational fishing is decreased due to the reduced fish populations; and fishing access is lost when dense mats cover the water surface.

Costly Damage: Hyacinth can damage pumps, and reduce flow through irrigation canals by 40% to 95%. Agencies and farmers have reported large economic losses due to increased labor costs (for hyacinth removal) and repair costs for pumps.

Decreased Water Supplies: The high evapo-transpiration rate of hyacinth, plus its large storage capacity, accounts for a loss of up to 38.68 acre-inches of water per month over the normal rate of an acre of open water. This amount of water could irrigate an acre of corn for one year. In California, the hundreds of acres of water hyacinth *substantially decrease the amount of water available to water users - You!*

Flooding: Economic losses have resulted from flooding when dense mats hinder water flow.

HOW IS WATER HYACINTH SPREAD?

- Water hyacinth is often grown in landscaped ponds, only to be dumped in local waters when the plant overtakes its home.
- Boaters can accidentally transport the plant on trailers and boats, or in bilge water.
- Hyacinth reproduces at an astounding rate. In one growing season twenty-five plants can expand to cover 10,000 square meters of water surface.

WHAT CAN YOU DO?

- Do not place water hyacinth in ornamental ponds.
- Do not transport water hyacinth.
- Check bilge pumps and boat equipment for pieces of water hyacinth before leaving an infested area.
- Do not sell/buy water hyacinth as an ornamental plant.
- Do not dispose of water hyacinth in ponds or rivers.
- If you see water hyacinth in a pond or slough, report it to:
Dept. of Boating and Waterways:
(916)322-1808

Appendix B -

Letters of Support and Pledges to Assist
(following 10 pages)

From:

Thomas E. Harvey, Project Leader, Stone Lakes National Wildlife Refuge, U.S. Fish and Wildlife Service

John D. Webb, Chief, Office of Environmental Management, Department of Transportation

Frank E. Carl, Agricultural Commissioner, County of Sacramento

David Brown, Manager, Sacramento-Yolo Mosquito & Vector Control District

Galen Whitney, landowner and farm operator, Stone Lakes Basin

LaRue Shock, landowner and farm operator, Stone Lakes Basin

Carl P. Amundson, Director, Florin Resource Conservation District

Valerie VanWay, Aquatic Pest Control Supervisor, California Department of Boating and Waterways



IN REPLY REFER TO:

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Stone Lakes National Wildlife Refuge
2233 Watt Avenue, Suite 375
Sacramento, California 95825-0509

July 25, 1997

To whom it may concern:

On behalf of the U.S. Fish and Wildlife Service (Service), I wish to express our support for the ongoing water hyacinth control program in the Stone Lakes Basin and the efforts of the Sacramento Regional County Sanitation District (District) to secure additional funding for this project.

In addition to exacerbating flooding and impeding the conveyance of water for farming and habitat management in the basin, water hyacinth poses a significant threat to fish and wildlife populations and could eventually eliminate all open water habitat in the Stone Lakes Basin. As a result of these threats to natural resources, the Service's Stone Lakes National Wildlife Refuge (NWR) has actively participated in the cooperative hyacinth control program in the basin. With the support of private landowners, local and state agencies, and the Service, the District has successfully coordinated a program that has made substantial headway towards ultimately eradicating water hyacinth in the Stone Lakes area. Stone Lakes NWR staff intend to remain active partners in the control project while contributing both funding and in-kind assistance. For this successful campaign to continue, I believe it is most appropriate for the District to continue as lead agency responsible for coordinating the effort.

In conclusion, I urge you to consider providing additional financial assistance so that this worthwhile and cooperative program can continue. Please contact me (916/979-2085) if you require additional information.

Sincerely,

Thomas E. Harvey
Project Leader

DEPARTMENT OF TRANSPORTATION

DISTRICT 3, SACRAMENTO AREA OFFICE - MS 41
P.O. BOX 942874
SACRAMENTO, CA 94274-0001
TDD Telephone (916) 741-4509
FAX (916) 323-7669
Telephone (916)324-5150



July 23, 1997

To Whom It May Concern:

The California Department of Transportation (Caltrans) supports the Sacramento Regional County Sanitation District (SRCSD) proposal for funding of the Stone Lakes Basin, Water Hyacinth Eradication Program. This program was started in 1996 and has achieved a high level of success in establishing an initial level of control on water hyacinth. However, without continued efforts, eradication of this noxious pest species would be impossible thereby resulting in *significant environmental and economic damage* to the waterways of the Stone Lakes basin.

The explosive reproductive capabilities of water hyacinth were demonstrated in 1995 with the *first appearance of large numbers* of hyacinth in the upper reaches of the Stone Lakes basin. During that year, the primary water source for Caltrans' Beach Lake Mitigation Bank (Lower Beach Lake) was rapidly covered by mats of the hyacinth. This resulted in severely impaired pumping abilities into the restored wetlands as well as overall reduction in use of the habitats at Beach Lake by various animals. The detrimental effects to habitat restoration efforts and to the existing wildlife values of the site amplified the need for control of this pest species.

The recognition that water hyacinth poses a severe threat to the ecological and economic health of the area has resulted in the establishment of a unique cooperative effort among various governmental agencies at Federal, State, and Local levels and private individuals. As a result of the 1996 and 1997 efforts, water hyacinth populations in the upper reaches of the waterways in the Stone Lakes basin have been substantially reduced. Continued control activities would result in further reduction and probable eradication of the hyacinth from this basin. The leadership provided by the SRCSD has been instrumental in the level of control achieved to date and Caltrans supports the continued leadership of the SRCSD in this effort.

Sincerely,

A handwritten signature in cursive script, appearing to read "John D. Webb".

JOHN D. WEBB, Chief
Office of Environmental Management, Sacramento



COUNTY OF SACRAMENTO

AGRICULTURAL COMMISSIONER WEIGHTS AND MEASURES

Frank E. Carl
Agricultural Commissioner
Director of Weights & Measures

Phone (916) 875-6603

4137 Branch Center Road ♦ Sacramento, California 95827-3897

Fax (916) 875-6150

July 15, 1997

To whom it may concern:

Eradication of water hyacinth from the Sacramento/San Joaquin River Delta region has been a coordinated effort over the last ten to fifteen years involving state, local and private resources to attempt to remove this menace from the waterways. In the last three years this pest weed has been introduced to the Stone Lakes Basin in southern Sacramento County.

Water hyacinth, (*Eichornia crassipes*), has proven to be a very troublesome weed, clogging waterways, destroying habitat for fish and water birds, blocking pump intakes for irrigation and flood control, and slowing water flow allowing mosquitos to breed and flourish. There has been a concerted effort coordinated by the California Department of Boating and Waterways to eradicate this troublesome pest. When the weed was first discovered in the Stone Lakes Basin, it was this agency, with the cooperation of affected land owners that launched the initial attack to prevent the pest from becoming established in the basin. Since that time, the Sacramento Regional County Sanitation District has taken the lead to eradicate water hyacinth from the Stone Lakes Basin, with the Department of Boating and Waterways concentrating their resources on adjacent areas to prevent re-introduction. It is only through this kind of coordinated effort that there is hope that eradication of water hyacinth from the Stone Lakes Basin and the rest of the Delta will be successful; and it is absolutely essential that this effort be successful.

If this effort should fail, the Stone Lakes Wildlife Refuge will suffer extreme habitat loss, making the area unsuitable for the water fowl that depend on the area as a winter resting area. The water hyacinth is so prolific that it would cover the entire water surface in one or two seasons. In addition, the connecting sloughs and drainages that provide both irrigation for agricultural crops, flood drainage in the winter, and year round recreational opportunities will become hopelessly clogged. Perhaps most importantly, this area would serve as a continuing source of contaminant for the Sacramento/San Joaquin Delta through both the Sacramento and San Joaquin river systems making the efforts to eradicate this pest from those areas hopeless. It is essential that these eradication efforts be coordinated with specific lead agencies taking responsibility for the geographic areas within their jurisdiction. The responsible lead agencies cannot be allowed to fail. They must continue to coordinate their effort and to enlist the aid and support of local land owners in the project. The Sacramento Regional County Sanitation District has adopted this role and has provided the necessary leadership over the last two years to make this program successful. If they are able to obtain the necessary funding to carry on their efforts, eradication is more than just possible, it is likely.

It is my hope that the Sacramento Regional Sanitation District will find the necessary funding to carry on this important eradication effort. It is my belief, that if they are able to continue, they will be successful in their eradication effort, to the benefit of the entire Delta Region and all who use or depend on it.

Sincerely,



Frank E. Carl
Agricultural Commissioner

SACRAMENTO-YOLO
MOSQUITO
& VECTOR
CONTROL
DISTRICT



S.R.W.T.P. Bufferlands
Attn: Bryan Young
8521 Laguna Station Road
Elk Grove, CA 95758-9550

July 21, 1997

2 8631
Bond Road
Elk Grove,
California
95624
Telephone
916.685.1022
Fax
916.685.5464

To whom it may concern:

I am writing this letter to provide an endorsement of support toward the continued efforts to eradicate water hyacinth in the Stone Lakes Basin and surrounding areas. Dense floating vegetation likely harbors adult mosquitoes and promotes larval mosquito development. This canopy prevents effective larval treatment and adult mosquito control is very difficult when it needs to be achieved over a waterway. Eradication of water hyacinth allows biological control measures such as mosquitofish to be more effective and can minimize the need for pesticides.

The efforts of all of the agencies involved has been incredible! It is a challenge to coordinate different agencies with different objectives to come together towards a common goal, but the effort regarding the water hyacinth eradication program has been impressive. It is a testament to the willingness of governmental agencies to work together to solve a problem that can benefit all concerned.

A special thanks should be granted to the Sacramento Regional County Sanitation District, which has taken on the responsibility of coordinating all the efforts of the participating agencies. It has been through their diligence and direction that the efforts to date have been so successful. We intend to continue doing our part by providing personnel and equipment when it is feasible for us to do so.

MANAGER
David Brown

Please inform us as to the status of this very important program. I can be reached at (916) 685-1022 ext. 559 if you need further information regarding our support.

1997
BOARD OF TRUSTEES
Basil DeAnda, *President*
West Sacramento
Vern C. Bruhn, *Vice President*
Winters
April E. Manatt, *Secretary*
Sacramento
Craig R. Burnett
Folsom
Cedro Casado
Galt
Rosemarie Buder
Milton
Frank L. Lang
Yuba County
John L. Lewallen
Sacramento County
Richard L. Walker
Woodland
Robert K. Washino
Davis

Sincerely,

David Brown
David Brown
Manager

Member of the Mosquito and Vector Control Association of California

I - 0 1 2 7 2 9

I-012729

WATER HYACINTH ERADICATION PROGRAM

July 21, 1997

To Whom It May Concern

This letter is intended to explain the need to pursue the eradication of water hyacinth in Stone Lake and its tributaries.

For the past fifty-one years I have lived on and owned a farming operation at Stone Lake. Throughout the fifty-one year period we have observed intrusion of a number of various water plants which covered small areas of water surface and clogged channels to some extent, but none even closely compared to the nearly total coverage we experienced in 1995 and 1996.

I observed a small number of water hyacinth plants entering Stone Lake through the Lambert Road Bridge/Floodgate Structure in late 1993. Not being familiar with this very destructive water plant I had little concern for the intrusion.

In 1994 the plants drifted about the lake and connecting channels. In 1995 it became well established in the lakes and channels to the north including Beach Lake, Morrison and Laguna Creeks. In August, September and October of 1995 the explosive growth proved the warm water with its high organic content was the fertile habitat for the plant to establish itself.

The result was clogged channels and ditches, several pumps were damaged, fish and wildlife were displaced and indigenous plants damaged and destroyed. In the summer of 1995 Valerie Van Way, water hyacinth control supervisor for the California Department of Boating and Waterways, came on the scene bringing a great deal of experience, knowledge and research to our serious situation.

Val and her people had been working to control the hyacinth problem in the South Delta and was a driving force in bringing the seriousness of the problem to the Sacramento County Board of Supervisors, Agriculture Commissioner, Resource Conservation District, U.S. Fish & Wildlife, County Public Works Department and private property owners.

All public agencies at the urging of Supervisor Don Nottoli mounted an effort with funding directed through S.R.C.S.D Bufferlands as the lead agency. In my many years of dealing with government agencies I have never seen a better cooperative effort between government and the private sector.

While the very successful eradication effort in the summer of 1996 and flood of January 1997 moved the bulk of hyacinth out of the waterways a small number of plants

Page 2
Water Hyacinth
July 21, 1997

remained in all areas. To date, spot spraying of the remaining plants in the waterways has kept the growth to a minimum, but there still remain many isolated small patches of hyacinth which will provide a new seed supply when high water again covers these areas and distributes this seed along the waterways.

A lead agency is therefore needed to continue the eradication effort for as much as 5 years or more at an ever decreasing rate.

I will continue a personal effort to control the hyacinth growth on my private property and its perimeter. Also, as a director of the Resource Conservation District I will keep my fellow directors informed and solicit their help in channeling funds and equipment to the continuing eradication campaign.

Sincerely,

A handwritten signature in cursive script that reads "Galen Whitney". The signature is written in black ink and is positioned above the printed name.

Galen Whitney

LARUE SCHOCK
10808 Stone Lake Rd.
Elk Grove, CA 95738
(916)-775-1334

To whom it may concern,

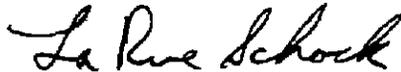
In this letter, I would like to explain the critical importance of controlling and eliminating water hyacinth from the Stone Lakes waterway system.

I live and farm on these waterways and when the water hyacinth began to clog our lake and channels, I naturally tried to control it. I tried removing it by hand and spraying it with herbicides, but I quickly lost the battle. Even with a new 55 gallon sprayer mounted in a boat, I could not keep up. I also tried removing hyacinth with a large excavator, but this only proved to be very expensive and not very effective.

Water hyacinth has an explosive growth rate. In a matter of weeks it can double and quadruple in size, adding tons and tons of material to the waterway. Uncontrolled, it will completely cover large areas of water surface. Once the water surface is covered it then begins to grow upwards, forming mats up to 8 feet thick. At this point, it is the effective end of the waterway for irrigation of crops, water conveyance for flood control, and usefulness for wildlife.

With all our cooperative efforts (especially SRCSD) and with nature's help (a large 1996/1997 flood event), we have an excellent opportunity to control this very invasive plant. However, to accomplish this goal, it will take a serious ongoing eradication program.

Sincerely,



LaRue Schock

July 27, 1997

TO WHOM IT MAY CONCERN

SUBJECT: Water Hyacinth Eradication Program (Grant)

The major water transfer system is the center area of the Sacramento River Delta between the community of Hood to the City of Isleton.

Through the years the creeks and smaller channels have become clogged with this voracious water weed (known as water hyacinth). This water plant reseeds every 26 days and it has a prolonged growing period. Only a major freeze will kill the plant.

The eradication program was started two years ago by volunteers and local government agencies. This joint venture has been extremely successful which demonstrates that this combination work force can be beneficial to the entire system of waterways.

In our judgement it is imperative that we keep this program going in order to keep the water ways free from this plant.

Grant funding is needed to keep this plant in check or we once again will see clogged waterways which restrict irrigation systems. This weed adversely affects a variety of businesses such as boating, fishing, the ECOS systems and agriculture. We must keep the water flowing freely in the Delta area.

Thank you.



Carl P. Amundson, Director
Florin Resource Conservation District

DEPARTMENT OF BOATING AND WATERWAYS

1629 G STREET
SACRAMENTO, CA 95814-7291
(916) 322-1806 FAX 322-1831



TO WHOM IT MAY CONCERN

July 22, 1997

On behalf of the California Department of Boating and Waterways (DBW) Aquatic Weed Control Program, I would like to commend the Sacramento Regional County Sanitation District (SRCSD) for its efforts to control waterhyacinth growth in Stone Lakes National Wildlife Refuge, and to declare solid support for its bid to intensify the effort and possibly eliminate the weed altogether.

Waterhyacinth is seriously detrimental to wetland habitat, impairing nearly all beneficial uses of the water, including water conveyance and flood control, wildlife and aquatic habitat, agricultural irrigation, and recreation such as fishing, hunting, boating and waterskiing. Waterhyacinth also serves as a habitat for mosquito populations and their associated diseases.

Up until the summer of 1996, ad hoc waterhyacinth control activities were intense but inefficient. Since taking the lead last year, the SRCSD, with a cooperative coalition of federal, state and local agencies and private parties, brought the waterhyacinth population to a manageable level. The SRCSD has proved so effective to date that DBW believes it should be the lead agency to bring about successful eradication, if feasible.

DBW believes waterhyacinth can be eradicated in the Stone Lakes Refuge because the infestation is geographically limited, does not reinfest from upstream, and the landowner base supports the use of effective integrated methods available to control it. Resources needed are basically for manpower to intensify a coordinated program of chemical treatment and physical removal.

Complete removal of hyacinths would benefit efforts of restoring the wetlands and its natural diversity as originally intended by all the cooperating agencies. Cost benefits will be realized with implementation of a low maintenance control program after initial steps of mapping, acquiring spray equipment and reducing the current biomass levels.

DBW will continue to support SRCSD and other program participants in their efforts to rid Stone Lakes of waterhyacinth and restore this wetland habitat to its natural state.

Sincerely,

A handwritten signature in cursive script that reads "Valerie Van Way".

Vaierie Van Way
Aquatic Pest Control Supervisor
Water Hyacinth Control Program

Appendix C -

**Local Businesses which have Pledged to Assist in the Dispersal of
Educational Materials**

Name of Business	Contact	Phone Number
Auburn Outboard Marine	Matt	(916) 652-1660
Boathouse Marine Repair	Kurt	(916) 776-2028
Brother's Boats	Chris	(916) 393-2628
California Custom Marine	Jim	(916) 646-1234
Cliff's Marina	Alvin	(916) 665-1611
Cornflower Farms	Ann	(916) 689-1015
Fisherman's Warehouse	Cynthia	(916) 362-1200
Flora Tropicana Aquatic Plant Nursery	Marco	(916) 362-6074
Fly Fishing Specialties		(916) 366-9252
Freeport Marina	Susan	(916) 665-1555
Freeport Bait	Reggie	(916) 665-1935
Just Fishin'	Lorraine	(916) 485-3474
Page's Fountains and Water Gardens	Ron	(916) 331-7205
Penny Rod and Bait	Ed	(916) 372-8813
Sherwood Harbor Marina	Linda	(916) 371-3471

NONDISCRIMINATION COMPLIANCE STATEMENT

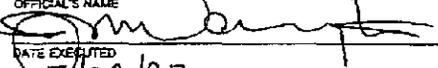
COMPANY NAME

Sacramento Regional County Sanitation District

The company named above (hereinafter referred to as "prospective contractor") hereby certifies, unless specifically exempted, compliance with Government Code Section 12990 (a-f) and California Code of Regulations, Title 2, Division 4, Chapter 5 in matters relating to reporting requirements and the development, implementation and maintenance of a Nondiscrimination Program. Prospective contractor agrees not to unlawfully discriminate, harass or allow harassment against any employee or applicant for employment because of sex, race, color, ancestry, religious creed, national origin, disability (including HIV and AIDS), medical condition (cancer), age, marital status, denial of family and medical care leave and denial of pregnancy disability leave.

CERTIFICATION

I, the official named below, hereby swear that I am duly authorized to legally bind the prospective contractor to the above described certification. I am fully aware that this certification, executed on the date and in the county below, is made under penalty of perjury under the laws of the State of California.

JANESE H. WARRINGTON, ADMINISTRATIVE SERVICES OFFICER <small>OFFICIAL'S NAME</small>	
7/29/07 <small>DATE EXECUTED</small>	SACRAMENTO <small>EXECUTED IN THE COUNTY OF</small>
 <small>PROSPECTIVE CONTRACTOR'S SIGNATURE</small>	
Natural Resource Specialist <small>PROSPECTIVE CONTRACTOR'S TITLE</small>	
Sacramento Regional County Sanitation District <small>PROSPECTIVE CONTRACTOR'S LEGAL BUSINESS NAME</small>	