

November 23, 2011

Moore & Van Allen

VIA ELECTRONIC FILING

The Honorable Kimberly D. Bose
Secretary
Federal Energy Regulatory Commission
888 First Street N.E.
Washington, DC 20426

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**Re: Columbia Hydroelectric Project; FERC Project No. 1895
2011 Rocky Shoals Spider Lily Enhancement
and Monitoring Plan Annual Report**

Dear Secretary Bose:

On behalf of the City of Columbia, South Carolina, licensee of the 10.6-megawatt Columbia Project No. 1895, enclosed for filing is the 2011 Rocky Shoals Spider Lily (RSSL) Enhancement and Monitoring Plan Final Report (Report). The Report is required under Article 409 of the current license for the Columbia Hydroelectric Project and was prepared by Kleinschmidt Associates.

The enclosed Report was prepared per the requirements contained in the Rocky Shoals Enhancement and Monitoring Plan (Plan) filed with and approved by the Federal Energy Regulatory Commission on July 19, 2006. The report outlines the status of the RSSL populations within the project boundary and contains information on those enhancement and public outreach activities conducted during 2011. As required by the Plan, the Report was prepared in consultation with the South Carolina Department of Natural Resources, United States Fish and Wildlife Service, Riverbanks Zoo and Botanical Gardens and the City of Columbia. The final report was modified to reflect comments and recommendations by commenting agencies and stakeholders. Further, the report reflects correspondence generated during the preparation and review phases of the process.

If you have any questions about these figures or need further information, please contact Alan Stuart, Project Manager at Kleinschmidt Associates, at 803.462.5627 or via email at Alan.Stuart@Kleinschmidtusa.com, or Jim Seay, Lockhart Power Company, at (864) 545-2211.

Sincerely,

s/ Mindy L. Vervais
Mindy L. Vervais

MLV/bao

Enclosures

cc: OEP Atlanta Regional Office

November 22, 2011

VIA E-MAIL

Mr. Jim Seay
Lockhart Power Company
420 River Street
Lockhart, SC 29634

Columbia Hydroelectric Project (FERC Project No. 1895)
Article 409 – 2011 Rocky Shoals Spider Lily Enhancement and Monitoring Plan Annual Report

Dear Jim:

Kleinschmidt Associates hereby submits the 2011 Rocky Shoals Spider Lily (RSSL) Enhancement and Monitoring Plan Final Report (Report) as required under Article 409 of the current license for the Columbia Hydroelectric Project FERC No. 1895. The enclosed final report was prepared per the requirements contained in the Rocky Shoals Enhancement and Monitoring Plan (Plan) filed with and approved by the Federal Energy Regulatory Commission on July 19, 2006.

The report outlines the status of the RSSL populations within the project boundary and contains information on those enhancement and public outreach activities conducted during 2011. As required by the Plan, the Report was prepared in consultation with the South Carolina Department of Natural Resources, United States Fish and Wildlife Service, Riverbanks Zoo and Botanical Gardens and City of Columbia. The final report was modified to reflect comments and recommendations by commenting agencies and stakeholders. Further, the report reflects all correspondence generated by during the preparation and review phases of the process.

We appreciate the opportunity to serve Lockhart Power Company and the City of Columbia on this project. If you have any questions, please call me at 803.462.5627 or via email at Alan.Stuart@Kleinschmidtusa.com.

Sincerely,

KLEINSCHMIDT ASSOCIATES



Alan W. Stuart
Project Manager
AWS:CLB

Attachments: 2011 Rocky Shoals Spider Lily Enhancement and Monitoring Plan Final Report

cc: Bill Marshal, South Carolina Department of Natural Resources
Amanda Hill, United States Fish and Wildlife Service
Andy Cabe, Riverbanks Zoo and Botanical Gardens
Karen Kustifak, City of Columbia
File

2011 ANNUAL REPORT

**ROCKY SHOALS SPIDER LILY
ENHANCEMENT AND MONITORING
PLAN**

BROAD RIVER, CONGAREE RIVER, AND SALUDA RIVER

COLUMBIA HYDROELECTRIC PROJECT

FERC PROJECT NO. 1895

2011 ANNUAL REPORT

ROCKY SHOALS SPIDER LILY ENHANCEMENT AND MONITORING PLAN

BROAD RIVER, CONGAREE RIVER, AND SALUDA RIVER

COLUMBIA HYDROELECTRIC PROJECT

FERC PROJECT NO. 1895

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2011 ANNUAL REPORT
ROCKY SHOALS SPIDER LILY ENHANCEMENT AND MONITORING PLAN
BROAD RIVER, CONGAREE RIVER, AND SALUDA RIVER
COLUMBIA HYDROELECTRIC PROJECT
FERC PROJECT NO. 1895

The Federal Energy Regulatory Commission (FERC) issued a new license for the Columbia Hydroelectric Project, FERC Project No. 1895, on May 30, 2002. Article 409 of that license, an order granting an extension of time until June 1, 2006, and the order approving the Rocky Shoals Spider Lily (RSSL) Enhancement and Monitoring Plan issued on July 19, 2006, requires that the City of Columbia (Licensee) file an annual report. The report is to be filed by November 30th of each year with the FERC after consultation with the South Carolina Department of Natural Resources (SCDNR), the U.S. Fish and Wildlife Service (USFWS), the River Alliance, and the Riverbanks Zoo and Botanical Gardens (Riverbanks Zoo). The purpose of this report is to detail the status of the educational and public outreach programs, the monitoring and enhancement of the RSSL project, and monitoring schedules.

1.0 EDUCATIONAL AND PUBLIC OUTREACH PROGRAMS

A meeting was convened on February 17, 2011, to discuss outreach efforts for the project in 2011. Copies of the minutes are provided in [Appendix A](#) of this report. Detailed information regarding our experiences with the outreach program during the past year is included below.

1.1 REACHING RECREATIONAL RIVER USERS

As noted in the 2010 report, the Rocky Shoals Spider Lily Preservation Team (Team), composed of representatives from the Licensee, South Carolina Electric & Gas Company (SCE&G), SCDNR, Riverbanks Zoo and USFWS, chose to alter the RSSL public outreach strategy following the Rocky Shoals Spider Lily Festivals held in 2008 and 2009. While the festivals were a good source of community fun and engagement, they also required a large investment in staff time and were potentially not reaching the appropriate target audience.

In the vicinity of Columbia Hydroelectric Project, the vast majority of RSSL colonies are located near islands or on rocky shoals in the middle of the stream channels at the confluence of the Broad and Saluda Rivers, and at the beginning of the Congaree River. The RSSL tend not to be located along the shore line, so the only practical ways of accessing local RSSL colonies is by boat or tube. Because of the limited ability for the general public to access RSSL colonies, the Team determined that paddlers and tubers were likely to have the most impact on local RSSL populations. As a result, the Team decided to discontinue the Rocky Shoals Spider Lily Festivals and, beginning in 2010, focus their outreach efforts on the paddling and tubing community. The Team observed that many of these paddlers and tubers use a limited number of outfitters in the area to prepare for personal trips or to take guided tours of the Three Rivers. The Team then decided to use local outfitters as a secondary audience to help reach paddlers and tubers for the outreach efforts.

Regarding the message to be communicated about the RSSL in education and public outreach programs, the Team wanted to go beyond informing the public about efforts to preserve the RSSL, the Team wanted to give people actionable advice on how they could help preserve local RSSL colonies. The Team determined that the most important things the public could do to help preserve RSSL colonies were:

- To not pick RSSL blooms;
- To not try and transplant RSSL plants; and
- To not trample on RSSL colonies.

The Team also decided to encourage appreciation for the local RSSL colonies, and to offer an alternative to picking or transplanting RSSL blooms and plants. The Team chose to encourage local residents to take only pictures of RSSL blooms and plants and to plant a different species of spider lily (*Hymenocallis caribaea* “Tropical Giant”) if they wanted a similar look in their yard.

1.1.1 STRATEGIES

Many local tubers and paddlers stop in at local outfitters to rent equipment, buy equipment or sign up for guided tours of the Three Rivers. This made local outfitters the ideal place to reach the paddling and tubing community with outreach materials and educational opportunities through guided tours.

The Team's main strategy again in 2011 was to work with local outfitters to provide guided tours of the lilies during the May blooming season. A training session for outfitters regarding important facts about the RSSL was held on May 10, 2011. City of Columba staff also distributed additional copies to outfitters of the following RSSL educational materials, which were developed as part of the 2010 effort:

- Laminated cards with talking points on RSSL for tour guides ([Figure 1](#));
- Fliers that describe RSSL and a map that shows where RSSL colonies can be seen and where local river access points are ([Figure 2](#)); and
- Informational posters outfitters could hang in their shops explaining the RSSL life cycle and actions that people can do to protect the lilies ([Figure 3](#) and [Figure 4](#)).

As in years past, the Team promoted the list of outfitters who agreed to give RSSL tours or promote preservation of the RSSL by providing a list of these outfitters to people at various venues (see Reaching the General Public below for details).

1.1.2 OUTCOMES

- One outfitter company was represented at the training session, with one additional outfitter receiving one-on-one training from a University of South Carolina researcher with RSSL expertise.
- Two (2) outfitter companies continue to give guided RSSL tours.
- Four (4) outfitters talked to customers about RSSL, talked about ways to preserve them and handed out the fliers with maps so customers could appreciate the plants while on the water.
- Nearly six times as many people went on RSSL tours or rented tubes specifically to see the lilies in 2011 (410) compared to 2010 (71).
- At least 2000 additional people were exposed to RSSL outreach material or heard about RSSL while on other boating tours.

1.1.3 LESSONS LEARNED

Overall, the local outfitters continue to be supportive of the RSSL tour efforts. They found the informational posters helpful in describing the RSSL to customers. Those who attended the training session also found it helpful. Outfitters that gave guided tours liked having the talking point cards. One even recommends having more cards available to outfitters to make sure all the guides have one. All of the outfitters found the flier with the map showing RSSL colony locations helpful for showing customers where they could see the lilies although one outfitter recommended making the directions to river access points more clear.

The tours, though, faced some challenges, mostly centering on cost and safety. One outfitter explained that getting to the RSSL colonies requires more boating skill than a novice would have. Another outfitter suggested it would be less costly for outfitters giving guided tours if there were safe and predictable routes. Another noted that their company had to use two guides on each RSSL tour due to safety concerns even if there were only a few people signed up for the tour. Overall, outfitters thought the put-in and take-out access points were challenging for novice boaters.

A related challenge faced by one outfitter was that the age groups who seemed to be most interested in the lilies did not seem to be the same age group as those who paddle. The RSSL tours seemed to appeal mostly to people who had interests in gardening, not paddling. One outfitter suggested having bigger Saluda or Broad River ecology tours with RSSL as one of the topics to give such tours more general appeal.

The outfitters also tended to recommend promoting the RSSL tours earlier in the year. Some outfitters reported people coming in and asking about RSSL tours after the lilies had completed blooming. While one outfitter continued to show where the colonies were on tours throughout the summer, the general consensus was that the tours should be promoted earlier in the spring so people would have time to ask about them before the lilies went into bloom. On a related note, it might be useful to work with outfitters to develop talking points for use outside of the blooming season.

1.2 REACHING THE GENERAL PUBLIC

The Team believes that an important component of the outreach strategy is continuing to educate the general public about local RSSL colonies. The Team felt it was important for people to understand and value a local treasure. Talking to non-paddlers about the RSSL was also an opportunity to encourage them to get on the water and see the lilies for themselves.

1.2.1 STRATEGIES

As part of the 2010 efforts, a new reusable vinyl poster display ([Figure 5](#)) was designed that included:

- An introduction to the RSSL;
- The life cycle of the RSSL, emphasizing the importance of leaving blooms on the plants and not disturbing the seeds or root mat; and
- What people could do to help protect the RSSL, including taking only pictures, leaving plants and blooms, and planting *Hymenocallis caribaea* “Tropical Giant” as an alternative to RSSL in the home garden.

In 2011, the Team again presented this display as well as fliers with maps ([Figure 5](#)) at events where people could see RSSL colonies. The Team also encouraged people to take a RSSL tour and experience the lilies first-hand by handing out lists of outfitters who agreed to give tours.

1.2.2 OUTCOMES

The Team again presented the display and fliers at two festivals in South Carolina during 2011:

- Springtime in the Garden Festival, held at the Riverbanks Zoo and Garden in Columbia, SC, on March 26, 2011.
- River Rocks Festival, held at the City of Columbia’s Riverfront Park adjacent to the Project on May 28, 2011.

1.2.3 LESSONS LEARNED

As noted in previous reports, local festivals and other similar events continue to provide an excellent avenue to reach members of the general public interested in observing and preserving species such as the RSSL. Experiences during 2011 reinforced previous assertions that increased attendance at such events would be advantageous for enhancing education and outreach opportunities.

FIGURE 1 LAMINATED CARDS WITH TALKING POINTS ON RSSL FOR TOUR GUIDES

ROCKY SHOALS SPIDER LILY (RSSL)

Hymenocallis coronaria

INTERESTING FACTS

• A FEDERAL SPECIES OF CONCERN

- Only in 50 locations worldwide
- Native to SC, GA & AL
- The seeds sink
- Water willow and river reed help seeds get a toe-hold
- Thick root system anchors it to rocks
- Likes shallow, flowing, well-oxygenated water (i.e. River shoals)
- Flowers open up at night – thought to be pollinated by a moth
- Big rains or tropical storms can dislodge seedlings

BIGGEST THREATS

- Loss or degradation of water habitat
- River users not following the 3 RSSL Rules

3 RSSL RULES

- 1. Take pictures, not flowers!**
Don't pick the lilies! If you pick them, they can't form a seed.
- 2. Leave the lilies where they live!**
Leave it! They like living on the Rocky Shoals. They don't like your garden.
- 3. Watch where you walk!**
Don't walk on their islands! You might crush them. It is better to view them from your boat, tube or the river banks.

Don't forget!
Keep track of how many people you take on RSSL tours!

FIGURE 2 RSSL INFORMATIONAL FLYER AND MAP

The Rocky Shoals Spider Lily

A Southern Beauty

About This Beautiful Plant!

The Rocky Shoals Spider Lily (RSSL) (*Hymenocallis coronaria*), also called the Cahaba Lily, is a flowering aquatic plant. It is native to large streams and rivers in South Carolina, Georgia and Alabama. As the name would suggest, these areas usually consist of rocky shoals and bedrock outcrops that provide anchor points for the RSSL's roots and bulbs. RSSL grows best in constantly flowing, shallow water.

The Rocky Shoals Spider Lily is considered a **FEDERAL SPECIES OF CONCERN** by the United States Fish & Wildlife Service. Historically, their decline has been attributed to man-made changes in river and stream channels that lead to loss of shoal habitat. Current populations are still threatened by modification of river flows and fluctuating water levels resulting from dam operations, water pollution and people trying to collect them for use in gardens.

The Rocky Shoals Spider Lily is considered a **FEDERAL SPECIES OF CONCERN**.

Experience The Rocky Shoals Spider Lily!

Columbia Riverfront Park has excellent vantage points to view the Rocky Shoals Spider Lilies. The lilies are in the island complex at the confluence of the Broad and Saluda rivers and just upstream of the confluence in the bypass reach of the Broad River downstream of the Columbia Diversion Dam. Each spring from mid-April to May in this section of the Broad River, one to three stalks will emerge from a RSSL bulb and each will produce a group of six to nine beautiful white flowers. Peak flowering usually occurs from mid-May to mid-June.

Help Out By Following These Rules

- Don't pick the lilies! Leave the flowers to form new seeds.
- Leave the lily plants! Don't try and replant them at home.
- Don't walk on their islands! You might crush them.

Map of Rocky Shoals Spider Lily Colonies

About The Rocky Shoals Spider Lily Preservation Team!

The City of Columbia, South Carolina Electric & Gas Company (SCE&G), the South Carolina Department of Natural Resources (SCDNR), the Riverbanks Zoo and Garden, and the US Fish and Wildlife Service (USFWS) have joined together to form a Rocky Shoals Spider Lily preservation team. Our goal is to reestablish Rocky Shoals Spider Lilies along stretches of the Broad, lower Saluda, and Congaree Rivers and to raise public awareness about them.

Front

Back

FIGURE 3 RSSL INFORMATIONAL POSTER DISTRIBUTED TO OUTFITTERS (FRONT)

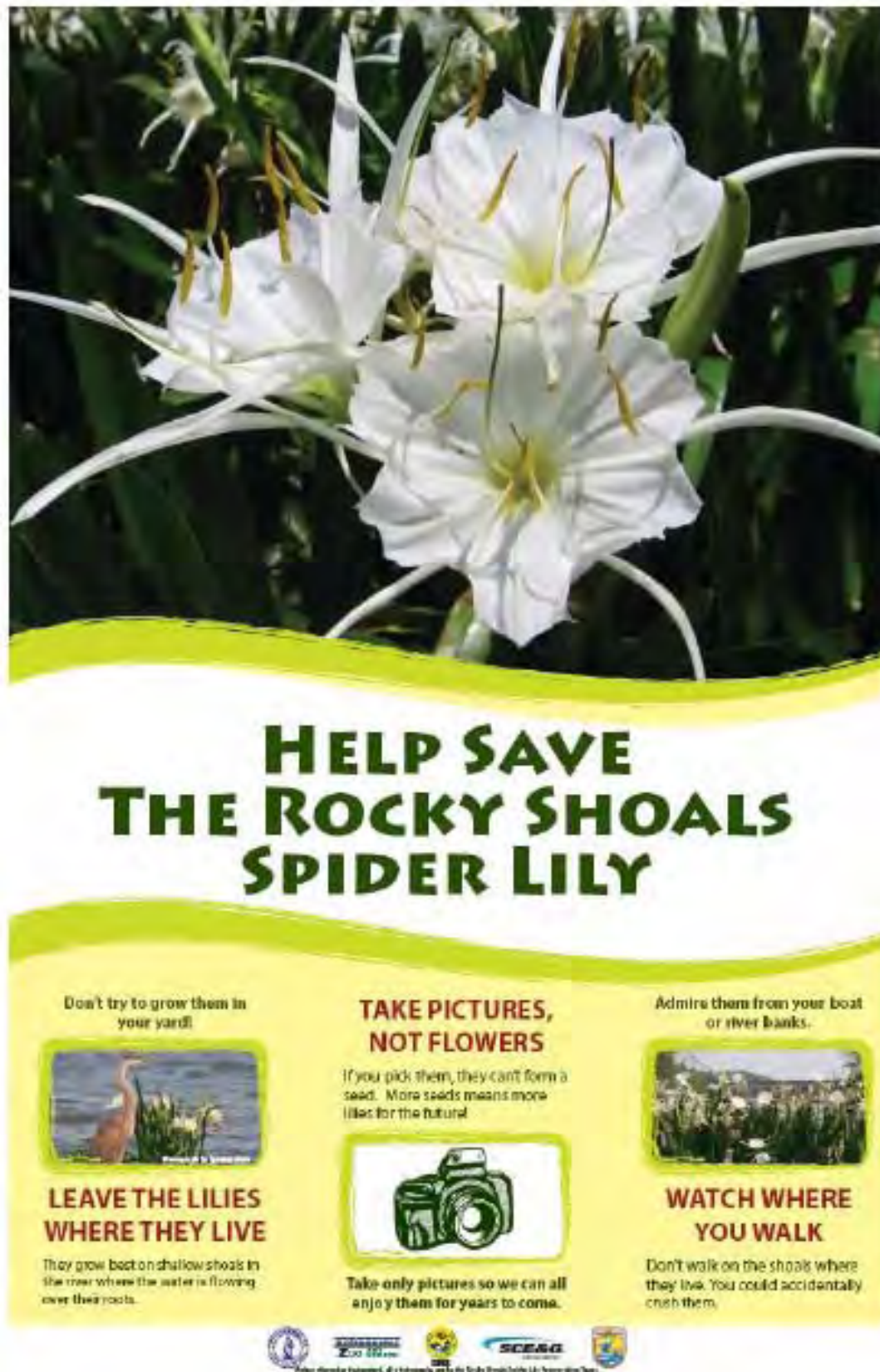


FIGURE 4 RSSL INFORMATIONAL POSTER DISTRIBUTED TO OUTFITTERS (BACK)

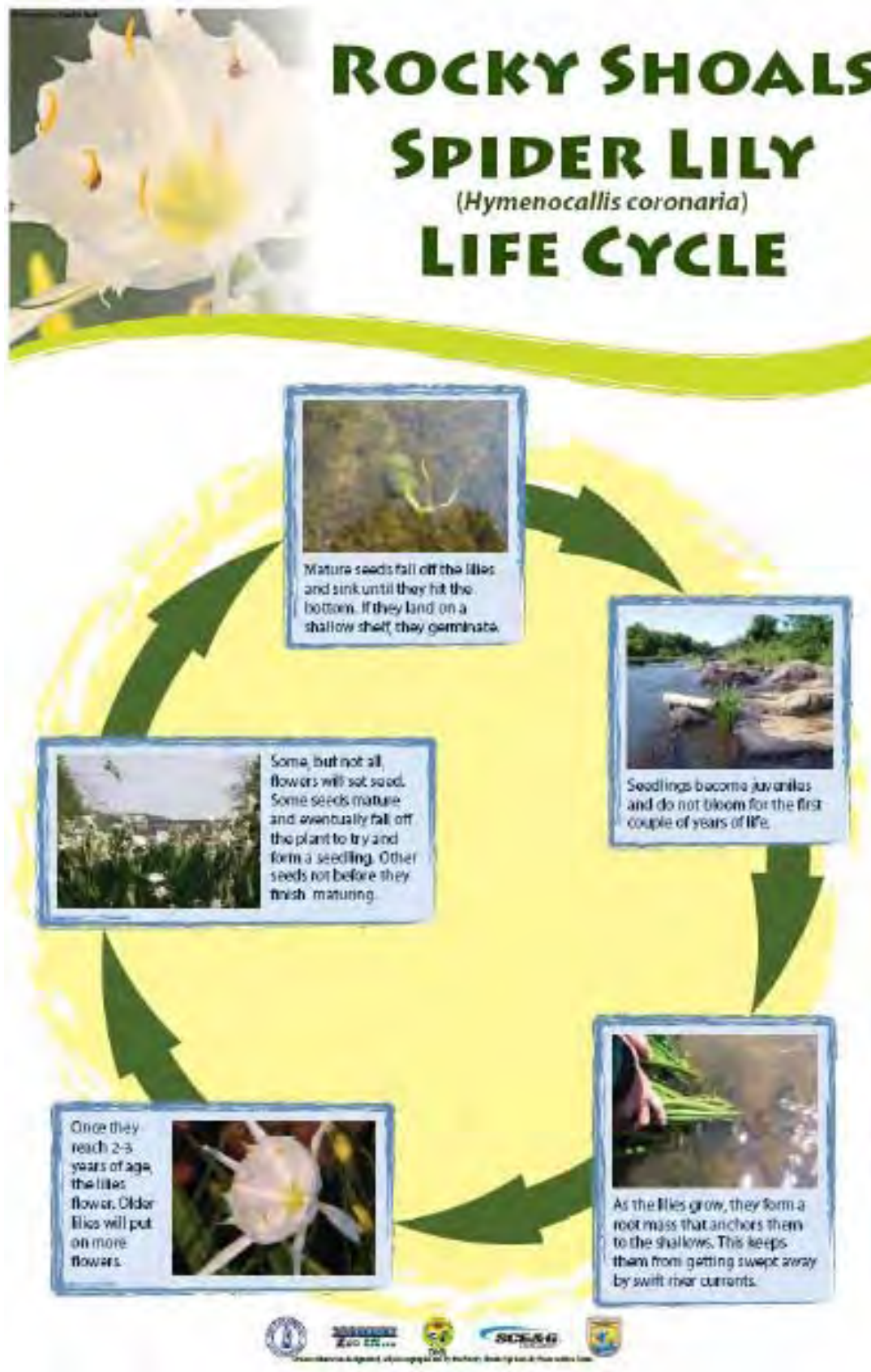


FIGURE 5 VINYL POSTER DEVELOPED FOR OUTREACH AT FESTIVALS



2.0 MONITORING AND ENHANCEMENT

A meeting was convened on May 13, 2011, to organize for the survey to be conducted on the Broad and Congaree Rivers (see presentation included in [Appendix B](#)). Representatives from the City of Columbia, University of South Carolina, SCDNR, Riverbanks Zoo and Garden, SCE&G and Lockhart Power participated in collecting data for RSSL colonies located on the Broad and Congaree Rivers from the diversion dam of the Broad River to approximately the Gervais Street Bridge on the Congaree River. This section is approximately 2.5 river miles in length (See Study Area Map in [Appendix C](#)).

2.1 METHODS

RSSL Surveys

For surveying purposes, the study area was divided into four segments: Diversion dam (DD), Broad River (BR), Interstate 126 (IS), and Confluence. The Diversion dam section extended from the diversion dam to the bridge at U.S. 176. The Broad River section extended from the U.S. 176 Bridge to the rock outcroppings upriver of the I-126 Bridge. The Interstate section went from the rock outcroppings upstream of I-126 Bridge to the confluence of the Saluda and Broad Rivers downstream of the Bridge. The area beyond the confluence that was downstream of the I-126 Bridge to the bridge at Jarvis Klapman Boulevard (SC Hwy 12) was identified as the Confluence section.

Field surveys were conducted on May 17 and 18, 2011. RSSLs encountered within each survey area were assigned a unique alphanumeric code and their locations documented using Global Positioning System (GPS) units capable of sub-meter accuracy (*e.g.*, Trimble GeoXH/XT/XM). Photographs were taken for most of the points collected and will be included in the Geographical Information System (GIS) data that is maintained by the Licensee ([Figure 6](#)).

In addition to GPS locations, the following parameters were also collected for each RSSL colony encountered:

- Elliptical area of colony;
- Average height of leaves;

- Type of substrate;
- Estimated number of blooms and/or scapes;
- Other aquatic plant species present within or immediately adjacent to the colony;
- Condition of the plant, i.e. health (good, fair, poor);
- Water depth; and
- Presence of outlying plants or seedling in close proximity.

Enhancement Efforts

As discussed in the 2010 report, planting strategies for 2011 focused on planting RSSL “mats” containing several mature bulbs ([Figure 7](#)), as opposed to planting seeds or seedlings, which had proven ineffective in previous years. On June 27, 2011, a field crew led by a botanist from Riverbanks Zoo and Gardens, transplanted approximately 15 of these mats into suitable in the DD, IS and CF segments of the study area. Each of these mats consisted of a dozen or more bulbs that had been growing for at least one year at the Riverbanks Zoo and Gardens greenhouse in a pot containing a substrate gravel and sand (for extra mass). The premise behind the mats was that the established interwoven network of roots would hold the plants and substrate together and enhance their potential of becoming established in the river.

The team also attempted to install “anchor cages” constructed of rebar over the planted mats in an effort to stake the mats to the riverbed and protect them from being dislodged by high river flows. Installation of the cages proved largely unsuccessful, however, as rocky substrates generally prevented the cages from being driven into the substrate. The Team ultimately determined that weighing down planted mats with cobble was likely the best approach ([Figure 8](#)).

2.2 RESULTS AND DISCUSSION

For each of the river sections where RSSL populations were present in the 2010 survey, populations were still found in 2011. Large decreases have not been observed in areas that support suitable habitat. As noted in the 2010 report, some populations appear to be shifting downstream in some locations such as areas just below the diversion dam and at the head of several islands in the river. It is also evident from the survey that a small number of plantings from past years have survived and were documented in this year’s survey. [Appendix C](#) of this report includes maps showing locations of all RSSL colonies documented during 2011 surveys

(Maps C-4 through C-7), as well as maps depicting 2009 and 2008 survey results for each area for comparison purposes (Maps C-8 through C-11).

As noted in the 2010 report, the Team has worked over the past two years to institute a system of consistent numbering so that year-to-year comparisons can be made for specific plant colonies. In addition, the team has also been working to refine collection methods so that the parameters collected for each plant colony (*i.e.*, elliptical area, number of flowering stems, plant height, water depth, etc. – See Methods above) are collected in a consistent and comparable manner. To this end, the Team is currently working to reconcile multiple years of data, some of which have been recorded electronically and some hand written. Because this effort is still in progress, no specific conclusion can be drawn from the attribute data.

2.3 2012 MONITORING AND ENHANCEMENT SCHEDULE

The Team anticipates conducting the 2012 survey during the blooming season of mid-May to late June. A meeting of the Team will be scheduled for February 2012 to discuss experiences from 2011 and plans and schedules for 2012. This meeting will also address consistent methods for collecting attributes, as discussed in the “Methods” section of this report in order to collect data that enables year-to-year comparison of plants and the overall population. Exact schedules cannot be set at this time since much of the work is dependent upon the weather and personnel availability.

FIGURE 6 **TYPICAL RSSL COLONY ENCOUNTERED IN STUDY AREA**



**FIGURE 7 RSSL “MATS” PLANTED DURING 2011 ENHANCEMENT EFFORTS (NOTE
EXPERIMENTAL ANCHOR CAGES IN BACKGROUND)**



FIGURE 8 EXAMPLE OF FRESHLY PLANTED RSSL “MAT” ANCHORED WITH COBBLE



APPENDIX A

MEETING MINUTES

FEBRUARY 17, 2011 MEETING MINUTES
COLUMBIA HYDRO – ROCKY SHOALS SPIDER LILY PROGRAM

ATTENDEES

Karen Kustafik (City of Columbia)	Victoria Kramer (City of Columbia)
Jon Sherer (City of Columbia)	Herrick Brown (SCDNR)
Amy Bresnahan (SCE&G)	

DISCUSSION

The meeting began by introducing Jon Sherer with the City of Columbia. He will now be the one of the primary contacts for the City for items related to the Columbia Hydroelectric Project. Next the discussions focused on our outreach efforts to be done for 2011. There are three festivals which we plan to attend as a vendor; Springtime at the Garden Festival at Riverbanks Zoo and Gardens on March 26, the Landsford Canal Lilyfest on May 15, and River Rocks on May 28. We will be contacting the committee members to find time to work the booth at the various festivals this year. Next Karen and Victoria brought up the outreach with the local outfitters. Victoria received feedback from the outfitters and one suggestion was to start the focus on the RSSL earlier than was done last year. Victoria also discussed the idea of creating a web page for the RSSL on its own domain since the City has a 501(c) organization for fundraising related to the RSSL project. This would provide much of the information given to the outfitters and handed out at the festivals during 2010. It could also have links to the specific outfitters offering RSSL tours. This web site could also provide a portal for contributions and fundraising to support the RSSL Enhancement and Monitoring Plan. Victoria will research the idea.

There were also discussions on planting and surveying the lilies. Karen mentioned that Andy Cabe may have some lilies ready for planting soon. Thoughts were to trying using some type of anchoring material, maybe coconut husk matting or something similar. It was suggested to seek consultation with Bill Stangler and Andy Cabe on a planting schedule. Dates will be set soon for a surveying trip for 2011 and the plan is to conduct pre-survey training with participants.

APPENDIX B

PRESENTATION FROM 2011 COLUMBIA RSSL SURVEY TRAINING



2011
Rocky Shoals
Spider Lily
Survey





Introductions

- Please be sure that you have signed in
- Participants this year include City of Columbia staff for mapping and boating support
- The City of Columbia owns the Hydro and now contracts with Lockhart Power for operation



Federal Energy Regulatory Commission: FERC

- FERC: licensees must comply with terms for beneficial public uses of hydropower units
- Protect, mitigate or enhance environmental resources (PM&E Measures)
- FERC issued the license for the Columbia Canal Hydro in 2002



PM&E Requirements for Columbia Hydro

- Conditions to protect and enhance riparian habitat
 - Minimum flow requirements for the bypass reach (seasonally 500, 700, 900 c.f.s.)
 - Construction of fish passages at the Diversion Dam and Hydro
 - American Shad, Blueback Herring, Atlantic Sturgeon
 - American Eel study
 - Monitoring plan for Rocky Shoals Spider Lily



FERC RSSL Requirements

- Survey the population
 - Diversion Dam downstream to Hydro
- Consult with agencies
 - U.S. Fish and Wildlife
 - S.C. Department of Natural Resources
- If appropriate, propose additional measures to protect and enhance RSSL population



FERC RSSL

Requirements, cont.

- A detailed plan to establish an interpretative display in an area with well established plants to further public understanding about Rocky Shoals Spider Lilies and their status
- Inform FERC and consult with agencies prior to any planned action in the river corridor that might adversely affect the lilies



Lessons Learned

- Natural seeding occurs well during dry summers
- December planting is **NOT** effective
- Festivals may be fun, but:
 - Time intensive for staff and costly
 - Not the most effective way to inform the public about lilies...
 - Outreach to recreational river users may be more effective activity to protect lily populations.



Who Has Been Involved to Date?

- S.C. Department of Natural Resources
- U.S. Fish & Wildlife
- SCE&G
- Riverbanks Zoo and Garden
- City of Columbia



APPENDIX C


MAPS OF RSSL MONITORING AND ENHANCEMENT AREA



The City of Columbia, SC has made reasonable effort to verify the accuracy of this map. However, a degree of error is inherent in all maps. This map may contain errors in scale, position, accuracy, developmental methodology, interpretation of source data and other occurrences. This map is date specific and intended for reference use only.

2011 Survey and Planting Areas with Divisions **FERC project 1895, article 409** **Rocky Shoals Spider Lily**

MAP C-1

 RSSL Survey Area



+++++
1,000 Feet



The City of Columbia, SC has made reasonable effort to verify the accuracy of this map. However, a degree of error is inherent in all maps. This map may contain errors in scale, position, accuracy, developmental methodology, interpretation of source data and other occurrences. This map is date specific and intended for reference use only.

COC Engineering Division /KASK 2011

2011 Planting Area: Diversion Dam FERC project 1895, article 409 Rocky Shoals Spider Lily



100 Feet

MAP C-2

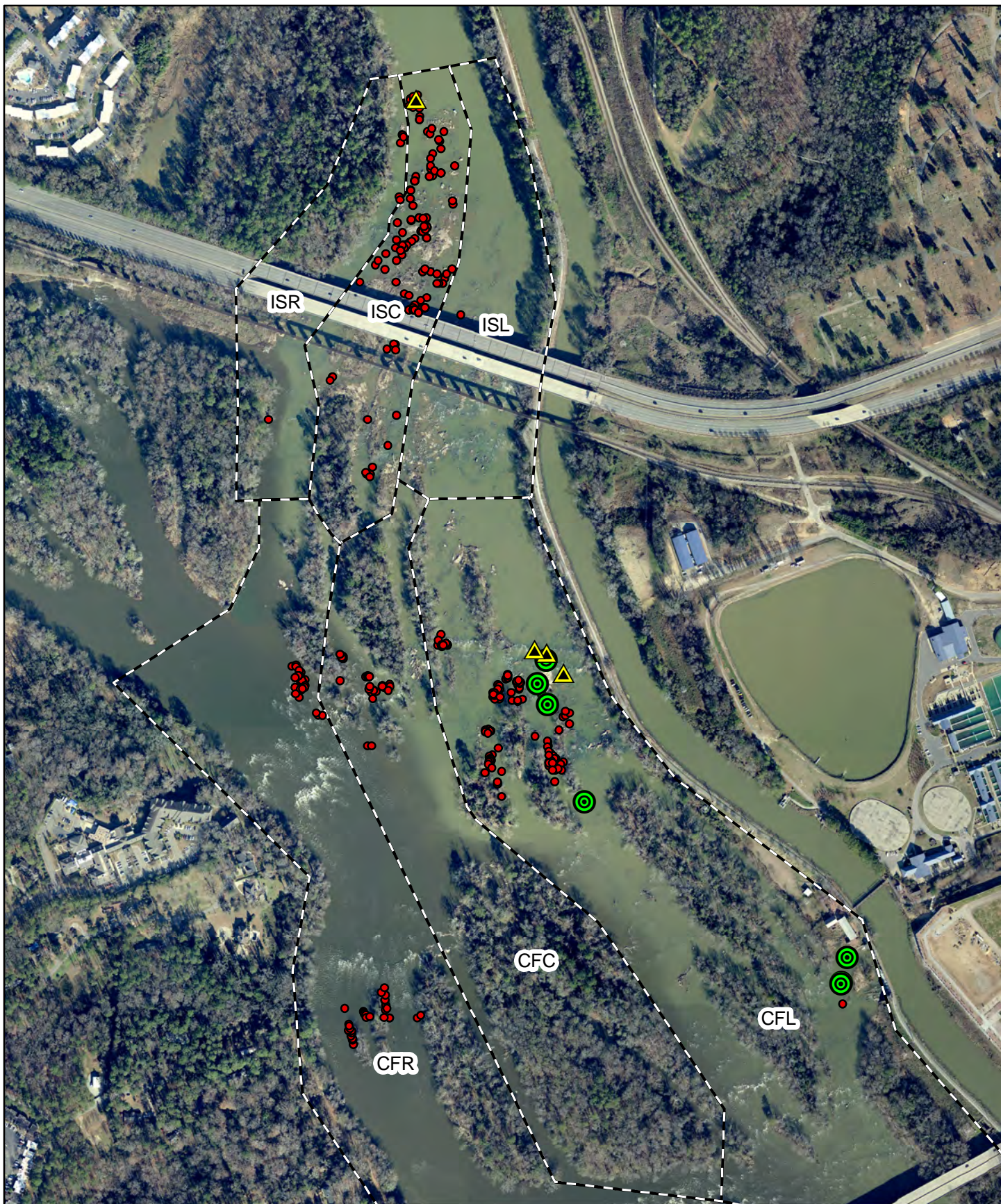
Planting Locations

Planted 2011

Planted 2010

RSSL Location

RSSL Survey Area



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2011 RSSL Planting at Interstate and Confluence FERC project 1895, article 409 Rocky Shoals Spider Lily



200 Feet

- MAP C-3**
- Planting Locations**
- Planted 2011
 - Planted 2010
 - RSSL Location
 - RSSL Survey Area



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**2011 Existing Plants in Diversion Dam Area
FERC project 1895, article 409
Rocky Shoals Spider Lily**



200 Feet

MAP C-4

● RSSL Location

▭ RSSL Survey Area



The City of Columbia, SC has made reasonable effort to verify the accuracy of this map. However, a degree of error is inherent in all maps. This map may contain errors in scale, position, accuracy, developmental methodology, interpretation of source data and other occurrences. This map is date specific and intended for reference use only.

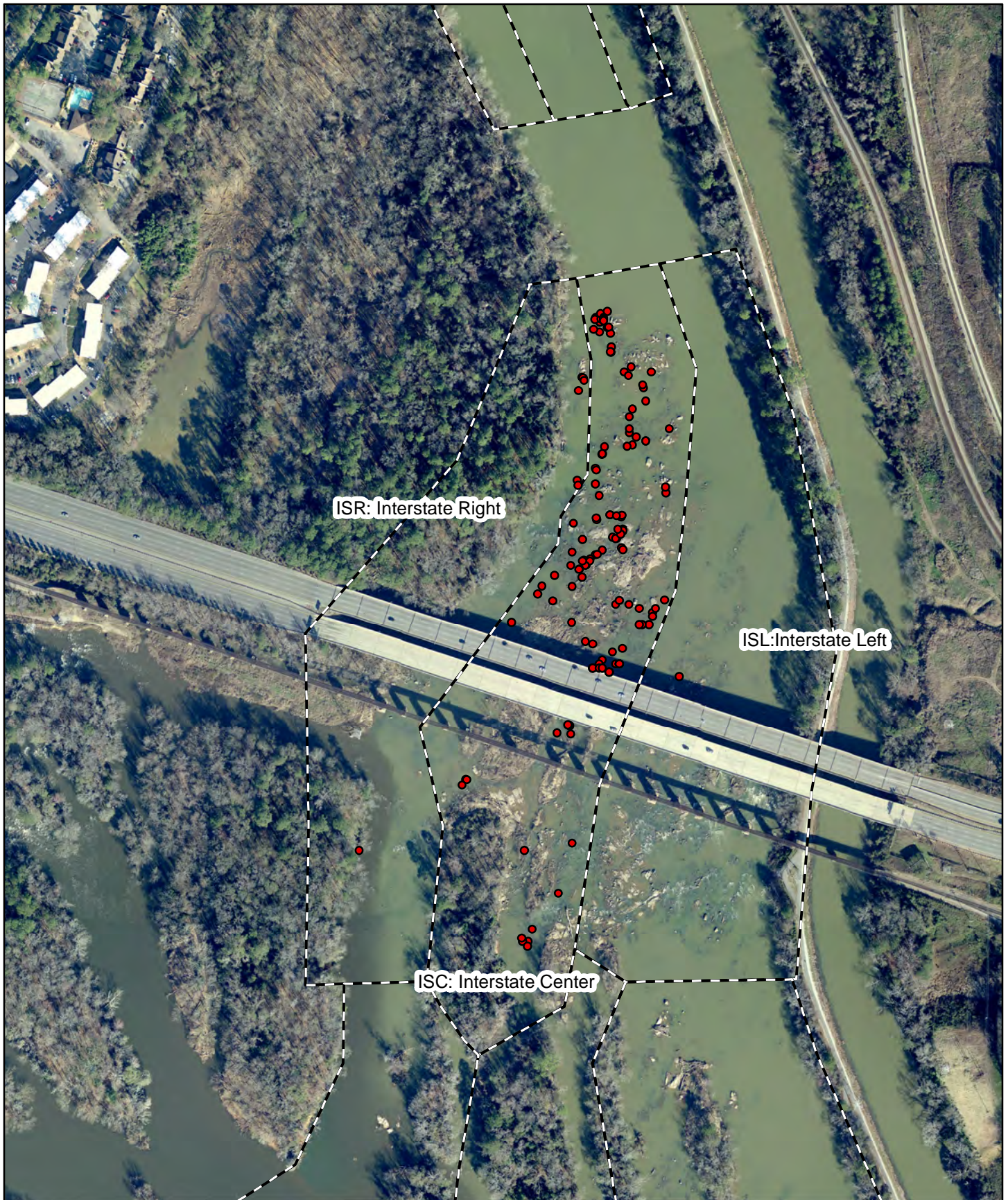
2011 Existing Plants in Broad River Area **FERC project 1895, article 409** **Rocky Shoals Spider Lily**



200 Feet

MAP C-5

- RSSL Location
- ▭ RSSL Survey Area



The City of Columbia, SC has made reasonable effort to verify the accuracy of this map. However, a degree of error is inherent in all maps. This map may contain errors in scale, position, accuracy, developmental methodology, interpretation of source data and other occurrences. This map is date specific and intended for reference use only.

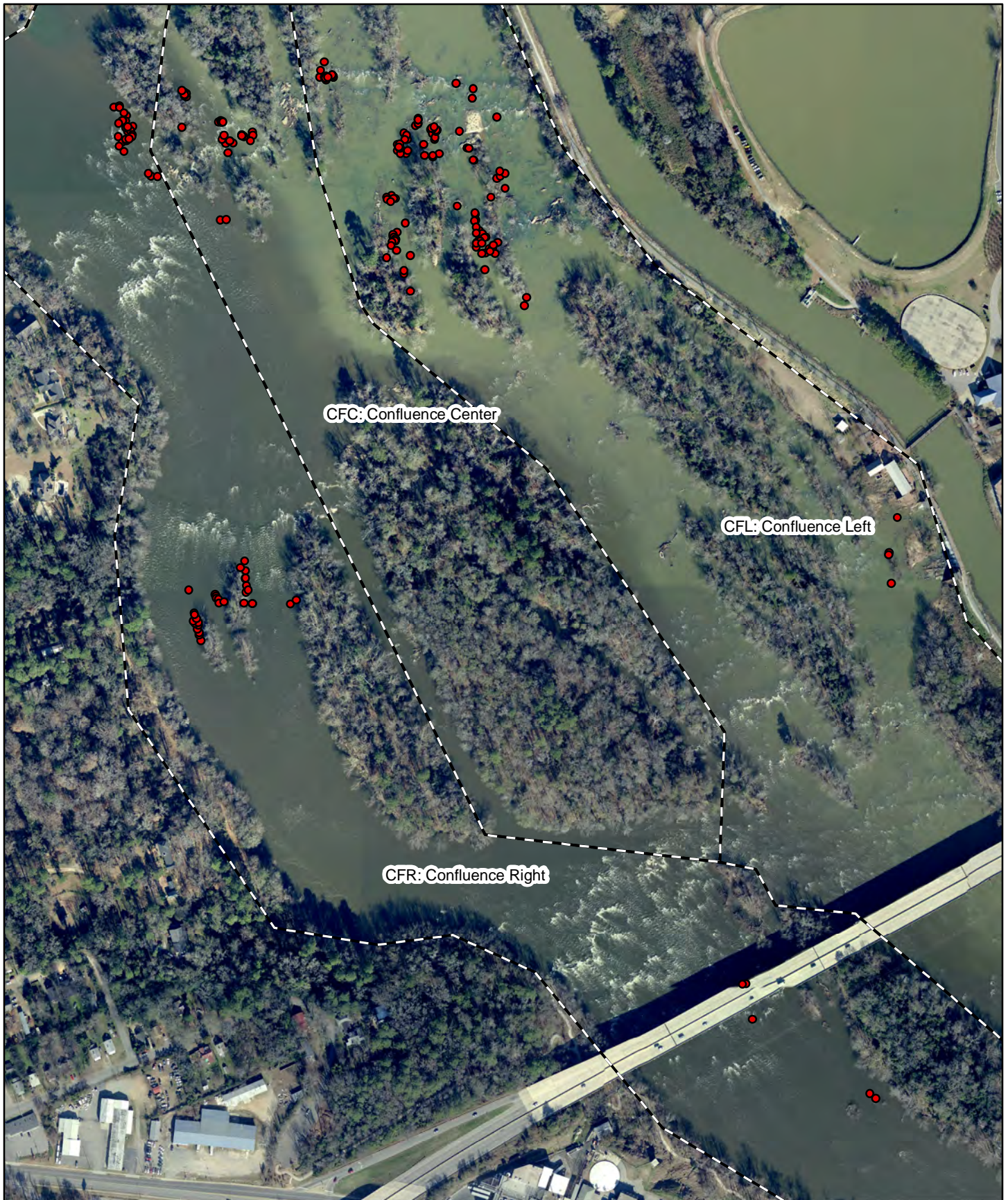
**2011 Existing Plants in Interstate Area
FERC project 1895, article 409
Rocky Shoals Spider Lily**

MAP C-6

- RSSL Location
- RSSL Survey Area



300 Feet




The City of Columbia, SC has made reasonable effort to verify the accuracy of this map. However, a degree of error is inherent in all maps. This map may contain errors in scale, position, accuracy, developmental methodology, interpretation of source data and other occurrences. This map is date specific and intended for reference use only.

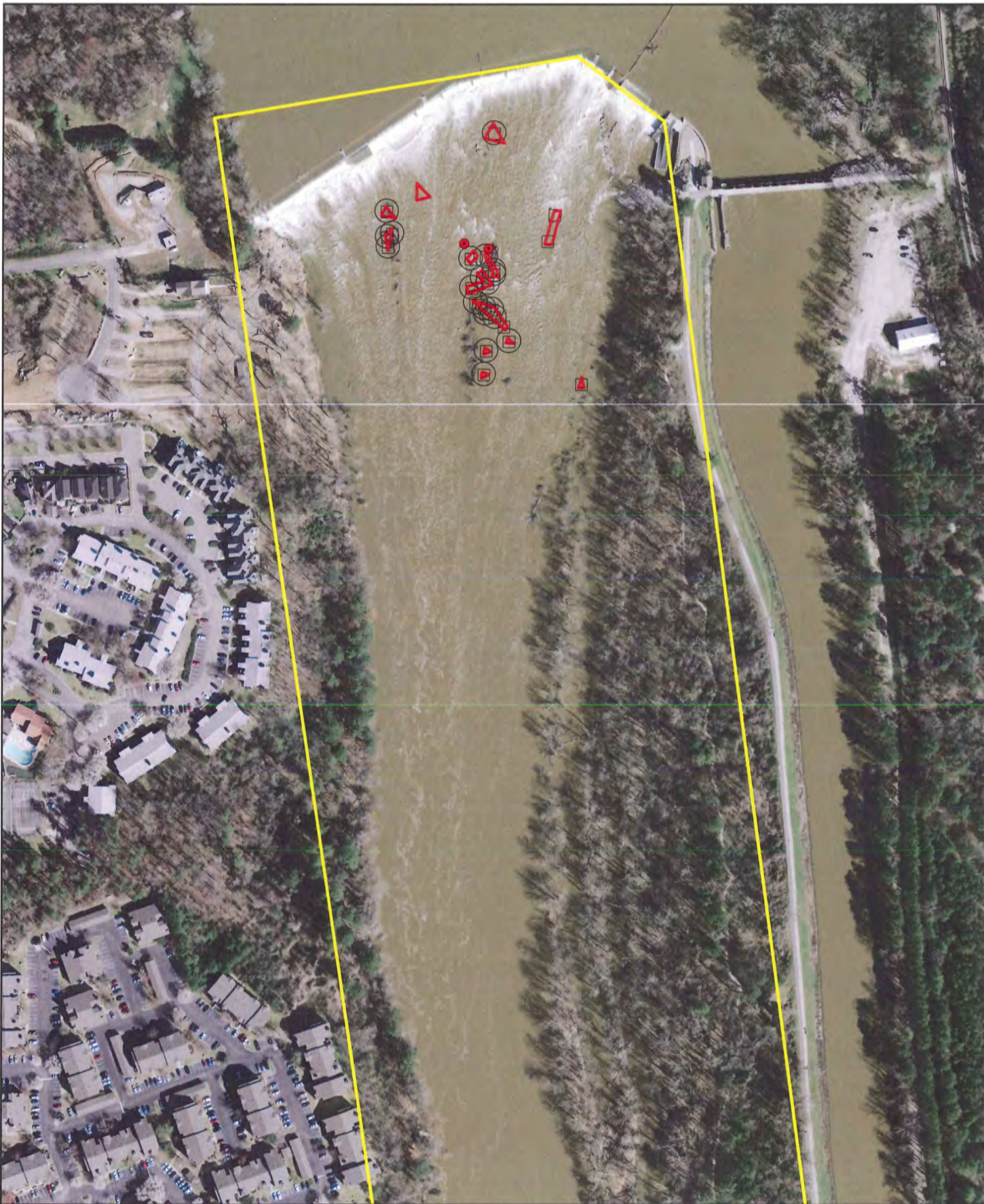
2011 Existing Plants in Confluence Area FERC project 1895, article 409 Rocky Shoals Spider Lily



300 Feet

MAP C-7

● RSSL Location
 RSSL Survey Area



THE CITY OF COLUMBIA, SC HAS MADE REASONABLE EFFORT TO VERIFY THE ACCURACY OF THIS MAP. HOWEVER, A DEGREE OF ERROR IS INHERENT IN ALL MAPS. THIS MAP MAY CONTAIN ERRORS IN SCALE, POSITION ACCURACY, DEVELOPMENTAL METHODOLOGY, INTERPRETATION OF SOURCE DATA AND OTHER OCCURRENCES. MAP IS DATE SPECIFIC AND SHOULD BE USED AS A REFERENCE ONLY.

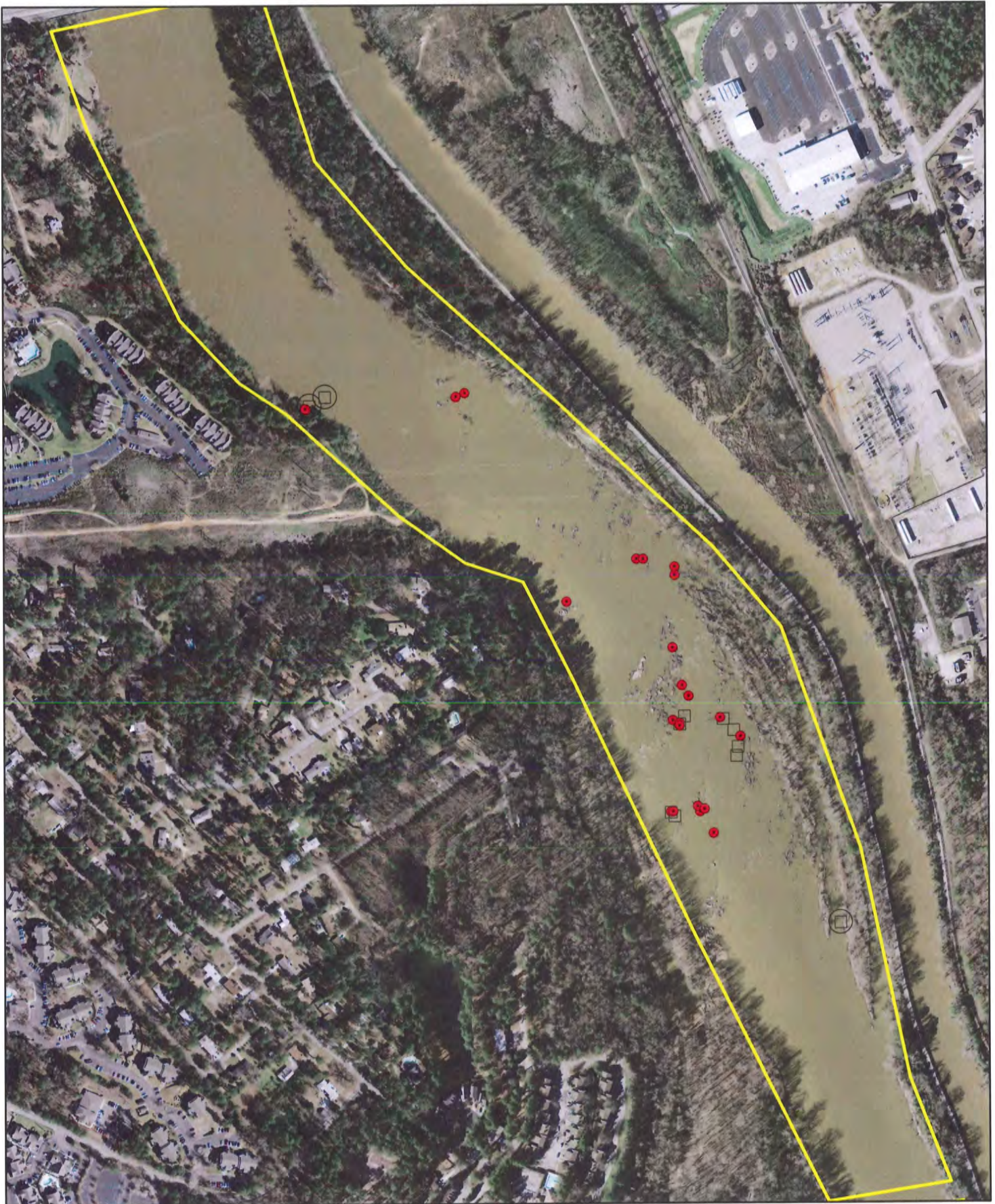
COC ENGINEERING DIVISION /KASK 2010

500 Feet

2010 RSSL Survey Area: Diversion Dam
FERC project 1895, article 409
Rocky Shoals Spider Lily

MAP C-8

- RSSL 2010 locations
- ◻ RSSL 2010 locations 2
- ◻ 2008 RSSL Locations
- 2007 RSSL locations



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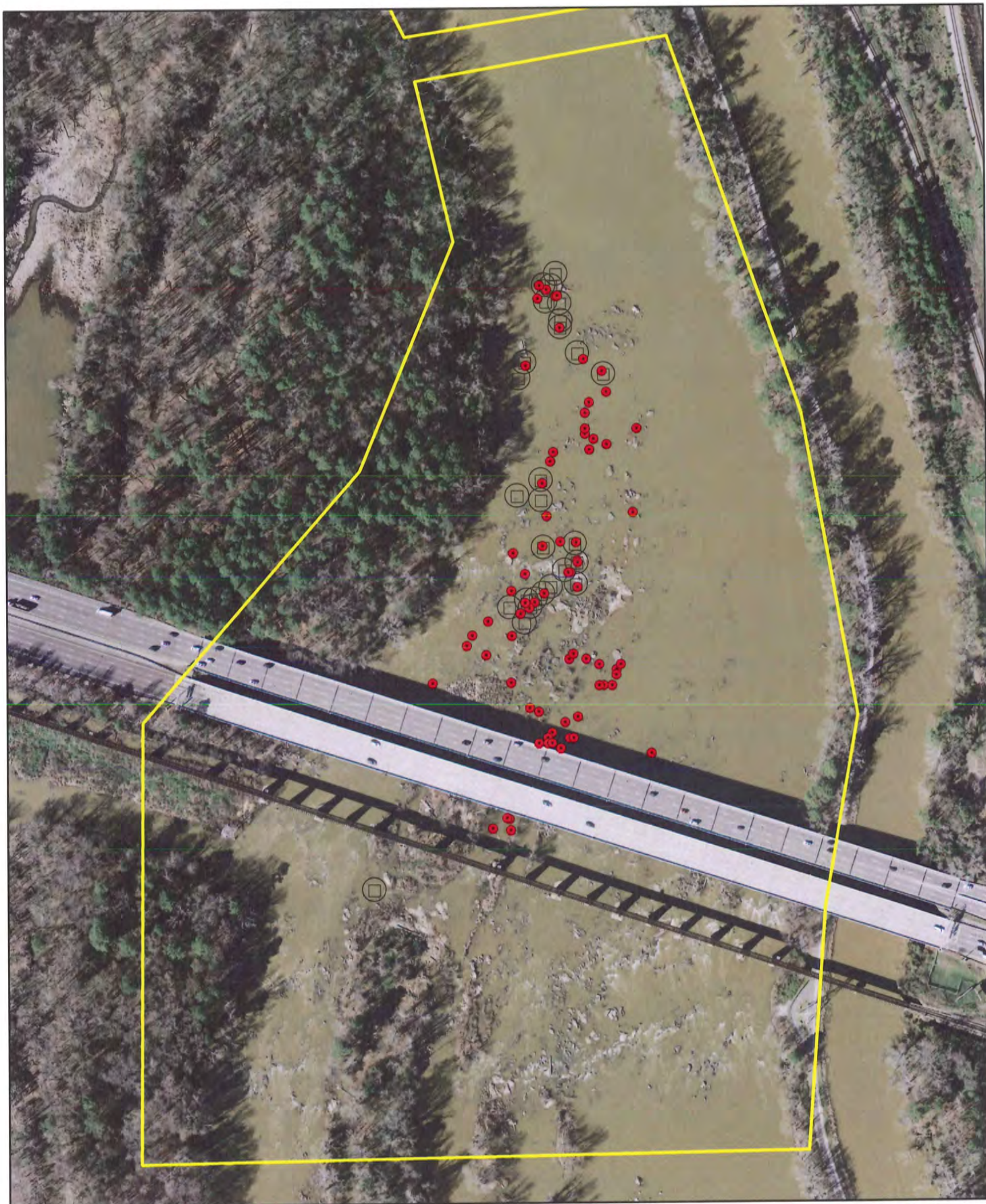
COC ENGINEERING DIVISION /KASK 2010

500 Feet

2010 RSSL Survey Area: Broad River
FERC project 1895, article 409
Rocky Shoals Spider Lily

MAP C-9

- RSSL 2010 locations
- RSSL 2010 locations 2
- 2008 RSSL Locations
- 2007 RSSL locations



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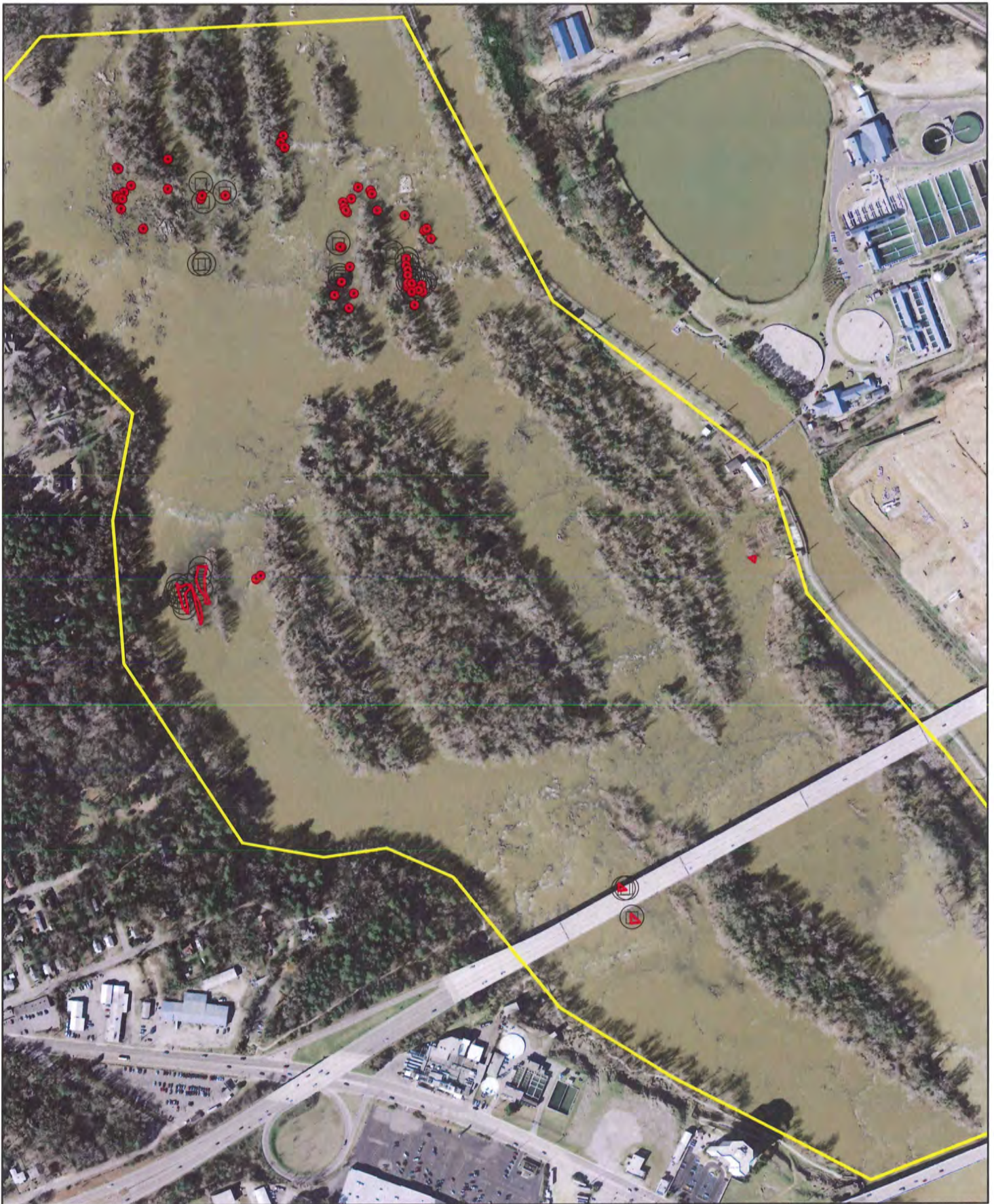
COC ENGINEERING DIVISION /KASK 2010

500 Feet

**2010 RSSL Survey Area: Interstate I-126
FERC project 1895, article 409
Rocky Shoals Spider Lily**

MAP C-10

- RSSL 2010 locations
- RSSL 2010 locations 2
- 2008 RSSL Locations
- 2007 RSSL locations



THE CITY OF COLUMBIA, SC HAS MADE REASONABLE EFFORT TO VERIFY THE ACCURACY OF THIS MAP. HOWEVER, A DEGREE OF ERROR IS INHERENT IN ALL MAPS. THIS MAP MAY CONTAIN ERRORS IN SCALE, POSITION ACCURACY, DEVELOPMENTAL METHODOLOGY, INTERPRETATION OF SOURCE DATA AND OTHER OCCURRENCES. MAP IS DATE SPECIFIC AND SHOULD BE USED AS A REFERENCE ONLY.

COC ENGINEERING DIVISION /KASK 2010

500 Feet

2010 RSSL Survey Area: Confluence
FERC project 1895, article 409
Rocky Shoals Spider Lily

MAP C-11

- RSSL 2010 locations
- RSSL 2010 locations 2
- 2008 RSSL Locations
- 2007 RSSL locations

APPENDIX D

CORRESPONDENCE

Cheryl Balitz

From: Bill Marshall [MarshallB@dnr.sc.gov]
Sent: Wednesday, November 09, 2011 11:44 AM
To: Shane Boring; Jim Seay
Cc: Vivianne Vejdani; Bert Pittman; Herrick Brown
Subject: RE: 2011 Columbia Hydro Project Rocky Shoals Spider Lily Report and proposed meeting dates
Attachments: 2011 RSSL Annual Report (marshall edits).docx

Shane and Jim,

I think the contents of the 2011 RSSL report are fine. My comments, presented as track changes within the attached, provide mainly suggestions for wording changes in the report. Thank you for your work on this and providing the opportunity to review and comment.

Bill Marshall
SCDNR
803-734-9096

From: Shane Boring [mailto:Shane.Boring@KleinschmidtUSA.com]
Sent: Monday, October 24, 2011 3:44 PM
To: Amanda_Hill@fws.gov; Vivianne Vejdani; Bill Marshall; acabe@riverbanks.org; Bert Pittman; jdjaco@columbiasc.net; info@riveralliance.org
Cc: Kustafik, Karen; Alan Stuart; Jim Seay
Subject: 2011 Columbia Hydro Project Rocky Shoals Spider Lily Report and proposed meeting dates

All:

The draft 2011 Annual Rocky Shoals Spider Lily Enhancement and Monitoring Plan Report for the Columbia Hydroelectric Project (FERC No. 1895) is attached for your review and approval. This report was prepared pursuant to Article 409 of the project license and is submitted on behalf of Lockhart Power Co., the operating contractor for the project.

Please review the attached report and provide us with your comments by **Wednesday, November 23, 2011**. Comments can be sent to me via email or by mail to:

James H. Seay, Jr.
Lockhart Power Co.
420 River St.
P.O. Box 10
Lockhart, SC 29364

Lockhart would like to host a meeting to discuss the report and the overall monitoring and enhancement program during the second week of November. As such, please let me know of your availability on the following dates:

- Tuesday, November 8th
- Thursday, November 10th

Once I get a feel for meeting date preference, I will send out a formal meeting invitation with location and times. Thanks to you all for your continued interest in preserving RSSL at Columbia, and please don't hesitate to call with questions.

C. Shane Boring
Environmental Scientist
Kleinschmidt Associates
204 Caughman Farm lane, Suite 301
Lexington, SC 29072
Phone: (803) 462-5620
Fax: (803) 462-5619
Direct: (803) 462-5625
<http://www.kleinschmidtusa.com>

2011 ANNUAL REPORT

ROCKY SHOALS SPIDER LILY

ENHANCEMENT AND MONITORING

PLAN

BROAD RIVER, CONGAREE RIVER, AND SALUDA RIVER

COLUMBIA HYDROELECTRIC PROJECT

FERC PROJECT NO. 1895

2011 ANNUAL REPORT

ROCKY SHOALS SPIDER LILY ENHANCEMENT AND MONITORING PLAN

BROAD RIVER, CONGAREE RIVER, AND SALUDA RIVER

COLUMBIA HYDROELECTRIC PROJECT

FERC PROJECT NO. 1895

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Appendix B	Presentation from 2011 Columbia RSSL Survey Training
Appendix C	Maps of RSSL Monitoring and Enhancement Area

C:\Documents and Settings\Cheryl Balitz\Desktop\2011 RSSL Annual Report (marshall edits) (2).docx

Comment [SCDNR1]: Should not 1.2, “Reaching the General Public” be outlined the same as 1.1, “Reaching Recreational Users” with Outcomes and Lessons as common subheadings??

2011 ANNUAL REPORT
ROCKY SHOALS SPIDER LILY ENHANCEMENT AND MONITORING PLAN
BROAD RIVER, CONGAREE RIVER, AND SALUDA RIVER
COLUMBIA HYDROELECTRIC PROJECT
FERC PROJECT NO. 1895

The Federal Energy Regulatory Commission (FERC) issued a new license for the Columbia Hydroelectric Project, FERC Project No. 1895, on May 30, 2002. Article 409 of that license, an order granting an extension of time until June 1, 2006, and the order approving the Rocky Shoals Spider Lily (RSSL) Enhancement and Monitoring Plan issued on July 19, 2006, require that the City of Columbia (Licensee) file an annual report. The report is to be filed by November 30th of each year with the FERC after consultation with the South Carolina Department of Natural Resources (SCDNR), the U.S. Fish and Wildlife Service (USFWS), the River Alliance, and the Riverbanks Zoo and Botanical Gardens (Riverbanks Zoo). The purpose of this report is to detail the status of the educational and public outreach programs, the monitoring and enhancement of the RSSL project, and monitoring schedules.

1.0 EDUCATIONAL AND PUBLIC OUTREACH PROGRAMS

A meeting was convened on February 17, 2011, to discuss outreach efforts for the project in 2011. Copies of the minutes are provided in [Appendix A](#) of this report. Detailed information regarding our experiences with the outreach program during the past year is included below.

1.1 REACHING RECREATIONAL RIVER USERS

As noted in the 2010 report, the Rocky Shoals Spider Lily Preservation Team (Team), composed of representatives from the Licensee, South Carolina Electric & Gas Company (SCE&G), SCDNR, Riverbanks Zoo and USFWS, chose to alter the RSSL public outreach strategy following the Rocky Shoals Spider Lily Festivals held in 2008 and 2009. While the festivals were a good source of community fun and engagement, they also required a large investment in staff time and were potentially not reaching the appropriate target audience.

In the vicinity of Columbia Hydroelectric Project, the vast majority of RSSL colonies are located near islands or on rocky shoals in the middle of the stream channels at the confluence of the Broad and Saluda Rivers, and at the beginning of the Congaree River. The RSSL tend not to be located along the shore line, so the only practical ways of accessing local RSSL colonies is by boat or tube. Because of the limited ability for the general public to access RSSL colonies, the Team determined that paddlers and tubers were likely to have the most impact on local RSSL populations. As a result, the Team decided to discontinue the Rocky Shoals Spider Lily Festivals and, beginning in 2010, focus their outreach efforts on the paddling and tubing community. The Team observed that many of these paddlers and tubers use a limited number of outfitters in the area to prepare for personal trips or to take guided tours of the Three Rivers. The Team then decided to use local outfitters as a secondary audience to help reach paddlers and tubers for the outreach efforts.

Comment [SCDNR2]: Don't think Three Rivers is a proper noun. Thought it would be appropriate to reference the hydro project and then list the three rivers by name in later sentence.

Deleted: Three Rivers

Deleted: area

Deleted: Three Rivers

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Regarding the message to be communicated about the RSSL in education and public outreach programs, the Team wanted to go beyond informing the public about efforts to preserve the RSSL, the Team wanted to give people actionable advice on how they could help preserve local RSSL colonies. The Team determined that the most important things the public could do to help preserve RSSL colonies were:

Comment [SCDNR3]: This section seemed a little awkward or out of place because we are talking about "river users" then we mention "local area residents" and this seemed to be a change of audience. May be better transition as edited, speaking directly to the education message without changed audience reference. Also, may want to refer to "public" rather than "local residents"

Deleted: Beyond simply educating local area residents

Deleted: and

Deleted: them

Deleted: local residents

- To not pick RSSL blooms;
- To not try and transplant RSSL plants; and
- To not trample on RSSL colonies.

The Team also decided to encourage appreciation for the local RSSL colonies, and to offer an alternative to picking or transplanting RSSL blooms and plants. The Team chose to encourage local residents to take only pictures of RSSL blooms and plants and to plant a different species of spider lily (*Hymenocallis caribaea* "Tropical Giant") if they wanted a similar look in their yard.

1.1.1 STRATEGIES

Many local tubers and paddlers stop in at local outfitters to rent equipment, buy equipment or sign up for guided tours of the Three Rivers. This made local outfitters the ideal place to reach the paddling and tubing community with outreach materials and educational opportunities through guided tours.

The Team's main strategy again in 2011 was to work with local outfitters to provide guided tours of the lilies during the May blooming season. A training session for outfitters regarding important facts about the RSSL was held on May 10, 2011. City of Columba staff also distributed additional copies to outfitters of the following RSSL educational materials, which were developed as part of the 2010 effort:

- Laminated cards with talking points on RSSL for tour guides ([Figure 1](#));
- Fliers that describe RSSL and a map that shows where RSSL colonies can be seen and where local river access points are ([Figure 2](#)); and
- Informational posters outfitters could hang in their shops explaining the RSSL life cycle and actions that people can do to protect the lilies ([Figure 3](#) and [Figure 4](#)).

As in years past, the Team promoted the list of outfitters who agreed to give RSSL tours or promote preservation of the RSSL by providing a list of these outfitters to people at various venues (see Reaching the General Public below for details).

1.1.2 OUTCOMES

- One outfitter company was represented at the training session, with one additional outfitter receiving one-on-one training from one of the Team members.
- Two (2) outfitter companies continue to give guided RSSL tours.
- Four (4) outfitters talked to customers about RSSL, talked about ways to preserve them and handed out the fliers with maps so customers could appreciate the plants while on the water.
- Nearly six times as many people went on RSSL tours or rented tubes specifically to see the lilies in 2011 (410) compared to 2010 (71).
- At least 2000 additional people were exposed to RSSL outreach material or heard about RSSL while on other boating tours.

1.1.3 LESSONS LEARNED

Overall, the local outfitters continue to be supportive of the RSSL tour efforts. They found the informational posters helpful in describing the RSSL to customers. Those who attended the training session also found it helpful. Outfitters that gave guided tours liked having the talking point cards. One even [recommends](#) having more cards available to outfitters to make sure all the guides have one. All of the outfitters found the flier with the map showing RSSL colony locations helpful for showing customers where they could see the lilies although one outfitter recommended making the directions to river access points more clear.

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The tours, though, faced some challenges, mostly centering on cost and safety. One outfitter explained that getting to the RSSL colonies requires more boating skill than a novice would have. Another outfitter suggested it would be less costly for outfitters giving guided tours if there were safe and predictable routes. Another noted that their company had to use two guides on each RSSL tour due to safety concerns even if there were only a few people signed up for the tour. Overall, outfitters thought the put-in and take-out access points were challenging for novice boaters.

A related challenge faced by one outfitter was that the age groups who seemed to be most interested in the lilies did not seem to be the same age group as those who paddle. The RSSL tours seemed to appeal mostly to people who had interests in gardening, not paddling. One outfitter suggested having bigger Saluda or Broad River ecology tours with RSSL as one of the topics to give such tours more general appeal.

The outfitters also tended to recommend promoting the RSSL tours earlier in the year. Some outfitters reported people coming in and asking about RSSL tours after the lilies had completed blooming. While one outfitter continued to show where the colonies were on tours throughout the summer, the general consensus was that the tours should be promoted earlier in the spring so people would have time to ask about them before the lilies went into bloom. On a related note, it might be useful to work with outfitters to develop talking points for use outside of the blooming season.

1.2 REACHING THE GENERAL PUBLIC

The Team ~~believes that an important component of the outreach strategy is~~ continuing to educate the general public about local RSSL colonies. The Team felt it was important for people to understand and value a local treasure. Talking to non-paddlers about the RSSL was also an opportunity to encourage them to get on the water and see the lilies for themselves.

Deleted: also saw

Deleted: as an important component of the outreach strategy

1.2.1 STRATEGIES

As part of the 2010 efforts, a new reusable vinyl poster display ([Figure 5](#)) was designed that included:

- An introduction to the RSSL;
- The life cycle of the RSSL, emphasizing the importance of leaving blooms on the plants and not disturbing the seeds or root mat; and
- What people could do to help protect the RSSL, including taking only pictures, leaving plants and blooms, and planting *Hymenocallis caribaea* “Tropical Giant” as an alternative to RSSL in the home garden.

In 2011, the Team again presented this display as well as fliers with maps ([Figure 5](#)) at events where people could see RSSL colonies. The Team also encouraged people to take a RSSL tour and experience the lilies first-hand by handing out lists of outfitters who agreed to give tours.

1.2.2 OUTCOMES

The Team again presented the display and fliers at two festivals in South Carolina during 2011:

- Springtime in the Garden Festival, held at the Riverbanks Zoo and Garden in Columbia, SC, on March 26, 2011.
- River Rocks Festival, held at the City of Columbia’s Riverfront Park adjacent to the Project on May 28, 2011.

1.2.3 LESSONS LEARNED

As noted in previous reports, local festivals and other similar events continue to provide an excellent avenue to reach members of the general public interested in observing and preserving species such as the RSSL. Experiences during 2011 reinforced previous assertions that increased attendance at such [events](#) would be advantageous for enhancing education and outreach opportunities.

Comment [SCDNR4]: Should these header numbers be consistent with those under 1.1? Use 1.2.2 rather than 1.3 and so on...??

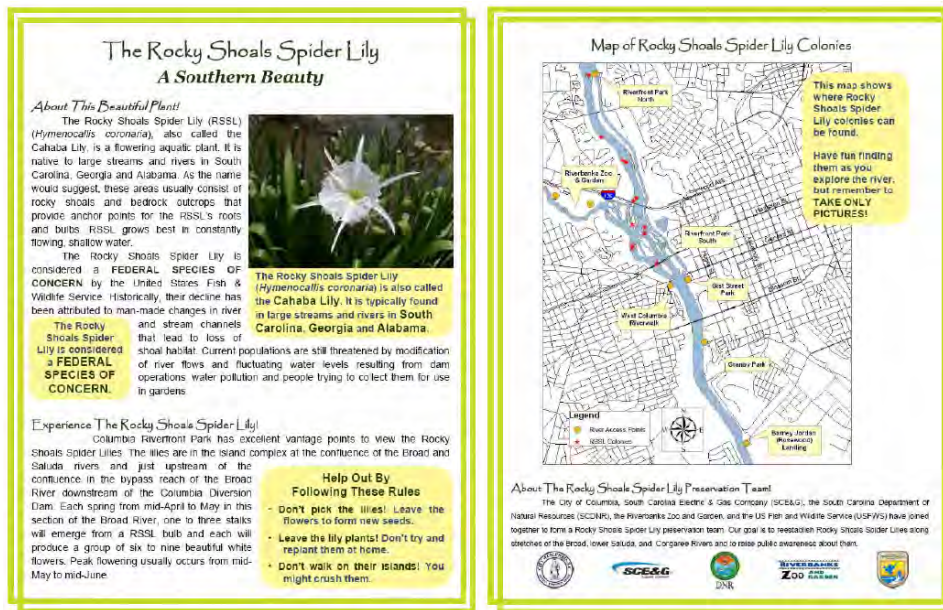
Formatted: Heading 3, Don't adjust space between Latin and Asian text

FIGURE 1 LAMINATED CARDS WITH TALKING POINTS ON RSSL FOR TOUR GUIDES



Comment [SCDNR5]: Question: Regarding the talking point about "Big rains or tropical storms" – should this be more accurately stated to be "Flood waters and floating debris"??? If so, we may want to revise future printings of this card.

FIGURE 2 RSSL INFORMATIONAL FLIER AND MAP



Front

Back

FIGURE 3 RSSL INFORMATIONAL POSTER DISTRIBUTED TO OUTFITTERS (FRONT)

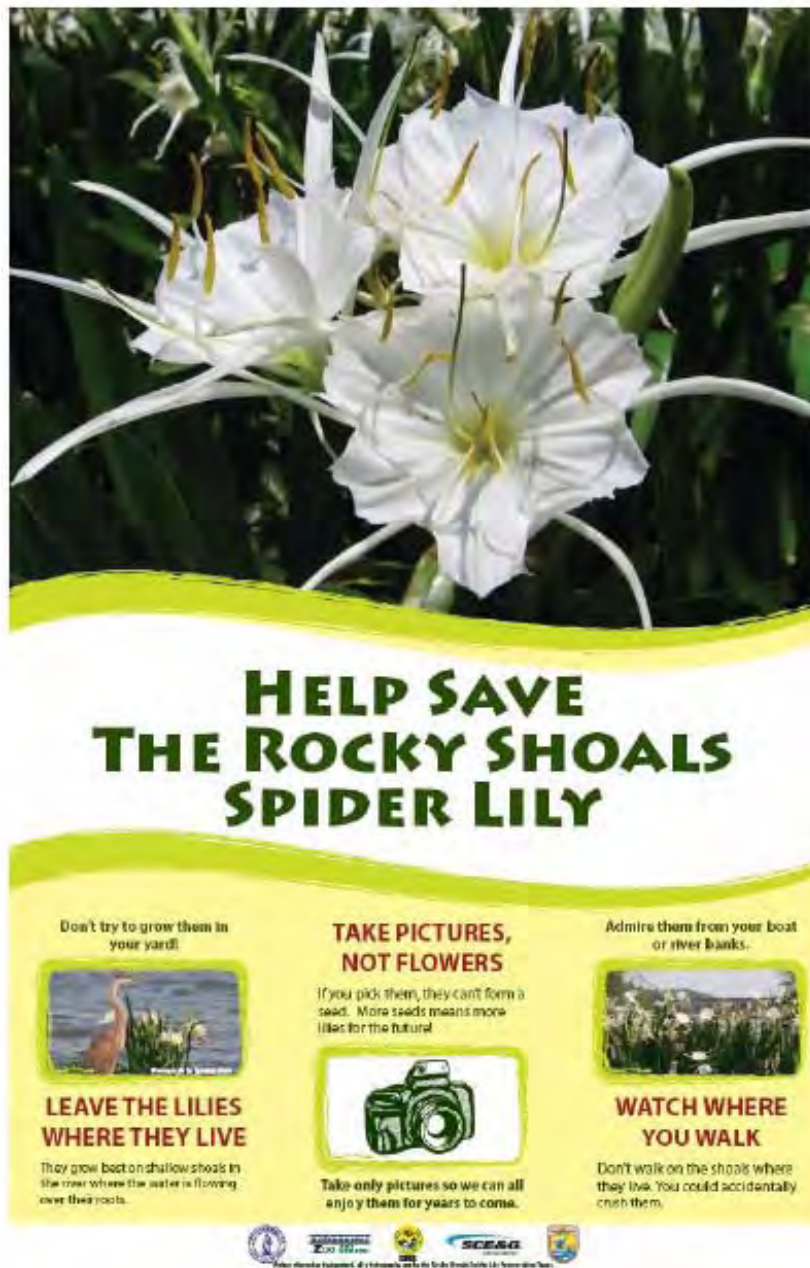


FIGURE 4 RSSL INFORMATIONAL POSTER DISTRIBUTED TO OUTFITTERS (BACK)

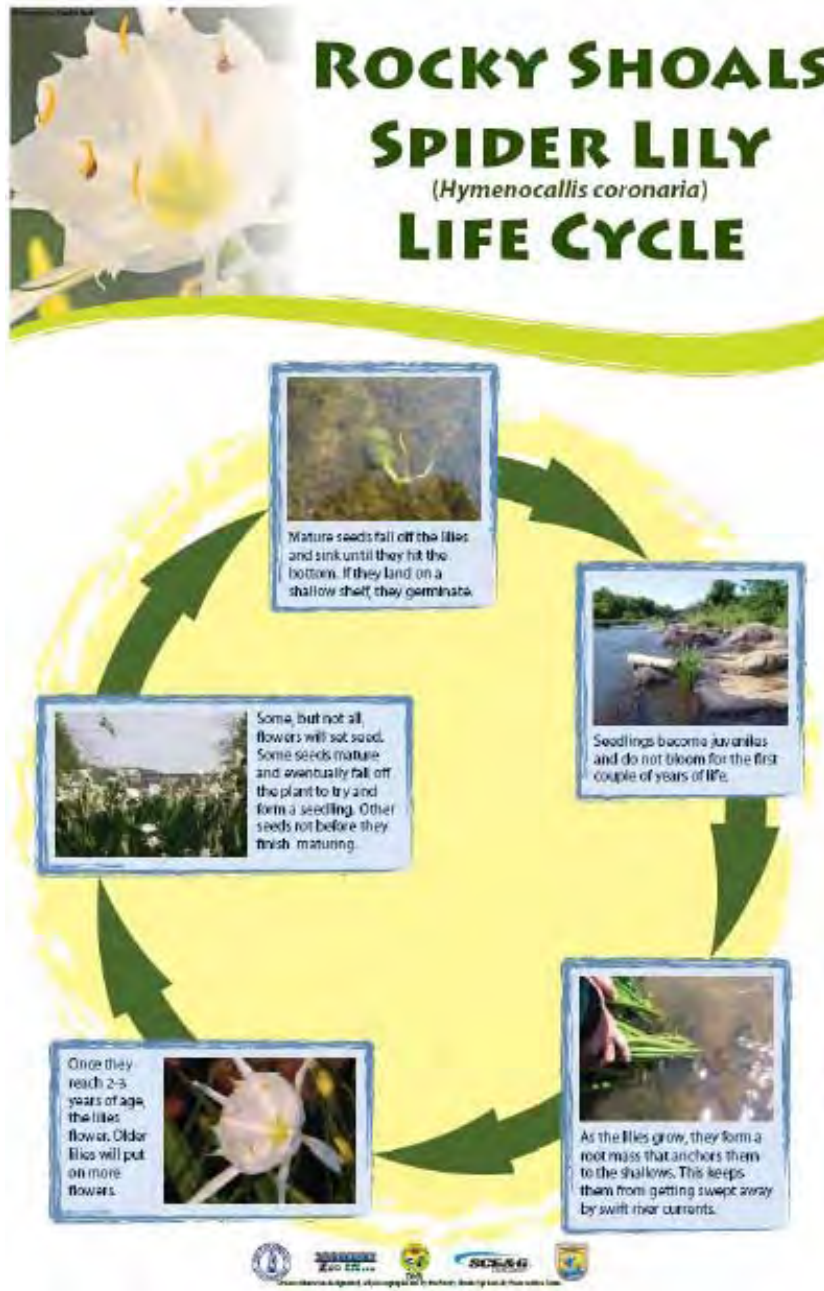


FIGURE 5 VINYL POSTER DEVELOPED FOR OUTREACH AT FESTIVALS



2.0 MONITORING AND ENHANCEMENT

A meeting was convened on May 13, 2011, to organize for the survey to be conducted on the Broad and Congaree Rivers (see presentation included in [Appendix B](#)). Representatives from the City of Columbia, University of South Carolina, SCDNR, Riverbanks Zoo and Garden, SCE&G and Lockhart Power participated in collecting data for RSSL colonies located on the Broad and Congaree Rivers from the diversion dam of the Broad River to approximately the Gervais Street Bridge on the Congaree River. This section is approximately 2.5 river miles in length (See Study Area Map in [Appendix C](#)).

2.1 METHODS

RSSL Surveys

For surveying purposes, the study area was divided into four segments: Diversion dam (DD), Broad River (BR), Interstate 126 (IS), and Confluence. The Diversion dam section extended from the diversion dam to the bridge at U.S. 176. The Broad River section extended from the U.S. 176 Bridge to the rock outcroppings upriver of the I-126 Bridge. The Interstate section went from the rock outcroppings upstream of I-126 Bridge to the confluence of the Saluda and Broad Rivers downstream of the Bridge. The area beyond the confluence that was downstream of the I-126 Bridge to the bridge at Jarvis Klapman Boulevard (SC Hwy 12) was identified as the Confluence section.

Field surveys were conducted on May 17 and 18, 2011. RSSLs encountered within each survey area were assigned a unique alphanumeric code and their locations documented using Global Positioning System (GPS) units capable of sub-meter accuracy (*e.g.*, Trimble GeoXH/XT/XM). Photographs were taken for most of the points collected and will be included in the Geographical Information System (GIS) data that is maintained by the Licensee ([Figure 6](#)).

In addition to GPS locations, the following parameters were also collected for each RSSL colony encountered:

- Elliptical area of colony;
- Average height of leaves;

- Type of substrate;
- Estimated number of blooms and/or scapes;
- Other aquatic plant species present within or immediately adjacent to the colony;
- Condition of the plant, i.e. health (good, fair, poor);
- Water depth; and
- Presence of outlying plants or seedling in close proximity.

Enhancement Efforts

As discussed in the 2010 report, planting strategies for 2011 focused on planting RSSL “mats” containing several mature bulbs ([Figure 7](#)), as opposed to planting seeds or seedlings, which had proven ineffective in previous years. On July 7, 2011, a field crew led by a botanist from Riverbanks Zoo and Gardens, transplanted approximately 15 of these mats into suitable in the DD, IS and CF segments of the study area. Each of these mats consisted of a dozen or more bulbs that had been growing for at least one year at the Riverbanks Zoo and Gardens greenhouse in a pot containing a substrate gravel and sand (for extra mass). The premise behind the mats was that the established interwoven network of roots would hold the plants and substrate together and enhance their potential of becoming established in the river.

The team also attempted to install “anchor cages” constructed of rebar over the planted mats in an effort to stake the mats to the riverbed and protect them from being dislodged by high river flows. Installation of the cages proved largely unsuccessful, however, as rocky substrates generally prevented the cages from being driven into the substrate. The Team ultimately determined that weighing down planted mats with cobble was likely the best approach ([Figure 8](#)).

2.2 RESULTS AND DISCUSSION

For each of the river sections where RSSL populations were present in the 2010 survey, populations were still found in 2011. Large decreases have not been observed in areas that support suitable habitat. As noted in the 2010 report, some populations appear to be shifting downstream in some locations such as areas just below the diversion dam and at the head of several islands in the river. It is also evident from the survey that a small number of plantings from past years have survived and were documented in this year’s survey. [Appendix C](#) of this report includes maps showing locations of all RSSL colonies documented during 2011 surveys

(Maps C-4 through C-7), as well as maps depicting 2009 and 2008 survey results for each area for comparison purposes (Maps C-8 through C-11).

As noted in the 2010 report, the Team has worked over the past two years to institute a system of consistent numbering so that year-to-year comparisons can be made for specific plant colonies. In addition, the team has also been working to refine collection methods so that the parameters collected for each plant colony (*i.e.*, elliptical area, number of flowering stems, plant height, water depth, etc. – See Methods above) are collected in a consistent and comparable manner. To this end, the Team is currently working to reconcile multiple years of data, some of which have been recorded electronically and some hand written. Because this effort is still in progress, no specific conclusion can be drawn from the attribute data.

2.3 2012 MONITORING AND ENHANCEMENT SCHEDULE

The Team anticipates conducting the 2012 survey during the blooming season of mid-May to late June. A meeting of the Team will be scheduled for February 2012 to discuss experiences from 2011 and plans and schedules for 2012. This meeting will also address consistent methods for collecting attributes, as discussed in the “Methods” section of this report in order to collect data that enables year-to-year comparison of plants and the overall population. Exact schedules cannot be set at this time since much of the work is dependent upon the weather and personnel availability.

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FIGURE 6 **TYPICAL RSSL COLONY ENCOUNTERED IN STUDY AREA**



FIGURE 7 RSSL “MATS” PLANTED DURING 2011 ENHANCEMENT EFFORTS (NOTE
EXPERIMENTAL ANCHOR CAGES IN BACKGROUND)



FIGURE 8 **EXAMPLE OF FRESHLY PLANTED RSSL “MAT” ANCHORED WITH COBBLE**



APPENDIX A
MEETING MINUTES

FEBRUARY 17, 2011 MEETING MINUTES
COLUMBIA HYDRO – ROCKY SHOALS SPIDER LILY PROGRAM

ATTENDEES

Karen Kustafik (City of Columbia)	Victoria Kramer (City of Columbia)
Jon Sherer (City of Columbia)	Herrick Brown (SCDNR)
Amy Bresnahan (SCE&G)	

DISCUSSION

The meeting began by introducing Jon Sherer with the City of Columbia. He will now be the one of the primary contacts for the City for items related to the Columbia Hydroelectric Project. Next the discussions focused on our outreach efforts to be done for 2011. There are three festivals which we plan to attend as a vendor; Springtime at the Garden Festival at Riverbanks Zoo and Gardens on March 26, the Landsford Canal Lilyfest on May 15, and River Rocks on May 28. We will be contacting the committee members to find time to work the booth at the various festivals this year. Next Karen and Victoria brought up the outreach with the local outfitters. Victoria received feedback from the outfitters and one suggestion was to start the focus on the RSSL earlier than was done last year. Victoria also discussed the idea of creating a web page for the RSSL on its own domain since the City has a 501(c) organization for fundraising related to the RSSL project. This would provide much of the information given to the outfitters and handed out at the festivals during 2010. It could also have links to the specific outfitters offering RSSL tours. This web site could also provide a portal for contributions and fundraising to support the RSSL Enhancement and Monitoring Plan. Victoria will research the idea.

There were also discussions on planting and surveying the lilies. Karen mentioned that Andy Cabe may have some lilies ready for planting soon. Thoughts were to trying using some type of anchoring material, maybe coconut husk matting or something similar. It was suggested to seek consultation with Bill Stangler and Andy Cabe on a planting schedule. Dates will be set soon for a surveying trip for 2011 and the plan is to conduct pre-survey training with participants.

APPENDIX B

PRESENTATION FROM 2011 COLUMBIA RSSL SURVEY TRAINING

APPENDIX C

MAPS OF RSSL MONITORING AND ENHANCEMENT AREA

Cheryl Balitz

From: BRESNAHAN, AMY [Amy.Bresnahan@scana.com]
Sent: Wednesday, November 09, 2011 4:06 PM
To: Shane Boring
Cc: BARGENTIERI@scana.com
Subject: RE: 2011 Columbia Hydro Project Rocky Shoals Spider Lily Report and proposed meeting dates

Shane,
Comments on the report....as was discussed briefly yesterday I'd recommend some numbers associated with attendees to the festivals where the RSSL display was present. Andy Cabe has the #'s for Garden Festival and Karen may know where to get estimates for River Rocks Festival. There was also a survey training session at the City on May 13 prior to the river survey on the 17, 18th. my records show that the planting occurred on June 27.

Thanks,
Amy I. Bresnahan
SCE&G - Fossil/Hydro Technical Services
(803) 217-9965

From: Shane Boring [mailto:Shane.Boring@KleinschmidtUSA.com]
Sent: Wednesday, October 26, 2011 4:36 PM
To: BRESNAHAN, AMY
Subject: FW: 2011 Columbia Hydro Project Rocky Shoals Spider Lily Report and proposed meeting dates

Amy:

I meant to include you on this. My apologies. Hope that all is well.

Shane

C. Shane Boring
Environmental Scientist
Kleinschmidt Associates
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Lexington, SC 29072
Phone: (803) 462-5620
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From: Shane Boring
Sent: Monday, October 24, 2011 3:44 PM
To: 'Amanda_Hill@fws.gov'; 'Vivianne Vejdani'; 'Bill Marshall'; 'acabe@riverbanks.org'; 'pittmanb@dnr.sc.gov'; 'jdjaco@columbiasc.net'; 'info@riveralliance.org'
Cc: 'Kustafik, Karen'; Alan Stuart; 'Jim Seay'
Subject: 2011 Columbia Hydro Project Rocky Shoals Spider Lily Report and proposed meeting dates

All:

The draft 2011 Annual Rocky Shoals Spider Lily Enhancement and Monitoring Plan Report for the Columbia Hydroelectric Project (FERC No. 1895) is attached for your review and approval. This report was prepared pursuant to Article 409 of the project license and is submitted on behalf of Lockhart Power Co., the operating contractor for the project.

Please review the attached report and provide us with your comments by **Wednesday, November 23, 2011**.

Comments can be sent to me via email or by mail to:

James H. Seay, Jr.
Lockhart Power Co.
420 River St.
P.O. Box 10
Lockhart, SC 29364

Lockhart would like to host a meeting to discuss the report and the overall monitoring and enhancement program during the second week of November. As such, please let me know of your availability on the following dates:

- Tuesday, November 8th
- Thursday, November 10th

Once I get a feel for meeting date preference, I will send out a formal meeting invitation with location and times. Thanks to you all for your continued interest in preserving RSSL at Columbia, and please don't hesitate to call with questions.

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CERTIFICATE OF SERVICE

The undersigned hereby certifies that a copy of the attached report is being served this date upon the parties to this docket electronically or by depositing a copy of the same in the United States Mail, First Class Postage Prepaid, at the addresses contained in the official service list in this proceeding.

This the 23rd day of November, 2011.

s/ Melinda L. Vervais
Melinda L. Vervais