1. Describe what progress you have made toward each of your grant objectives since your last status report. Did you meet your goals for this period? Please be specific.

The Niagara Riparian Restoration Program has five main objectives. Over the current reporting period (October 2015 - September 2016) progress has been made on all five objectives. Detailed descriptions of progress under each objective are provided below.

**Objective 1. Implement 5-8 riparian forest buffer and shoreline restoration projects.**
Considerable progress was made under this objective throughout Year 4. Living Shoreline construction is complete at the Sandy Beach Park Club on Grand Island, and the project team is moving forward with advancing implementation at two additional sites.

*Sandy Beach Park Club:* During Year 4 living shoreline construction and planting were completed. The project included removal of nearly 100 feet of concrete bulkhead along the Niagara River and creation of a transitional living shoreline alongside a gradual sandy beach area. Features also included creation of in-water habitat structures and plantings throughout the project area. The one year period-of-establishment monitoring will continue through August 2017.

*Hyde Park Lake:* During Year 4 a MOA was executed with the City of Niagara Falls to complete living shoreline restoration along the shoreline of Hyde Park Lake. Through discussions with city representatives, a project area was selected and project design developed. Permitting and contractor selection have been completed, and project construction will begin in November with final work and plantings of occur in spring of 2017. Invasive species control has also occurred at the site.

*Ellicott Creek Park:* A MOA has been finalized between BNR and Erie County to complete a living shoreline restoration project along the shoreline of Ellicott Creek. The design is currently being finalized and the project is scheduled to go out to bid before the end of the year with all restoration work to be completed in the 2017 field season.

*Selection of 4th Site:* BNR is currently pursuing a MOA with the City of Buffalo in order to move forward with a living shoreline project at Tifft Nature Preserve. The project team is considering additional sites in the case that an agreement cannot be executed within a reasonable amount of time. Construction of the 4th site is anticipated to be completed in 2018.

Several setbacks prevented the ability to meet the goals as outlined in the original grant application. These include the delay in hiring a project manager in Years 1 & 2, as well as holdups with making progress on sites such as the Botanical Gardens and securing MOAs with landowners. However, considerable progress was made this year, and the project team is on track to complete all goals under this objective before the end of 2018.

**Objective 2. Implement the Native Niagara: Ready! Set! Grow! Native seed collection and grow-out program.**
Riverkeeper continued to develop the Native Niagara program throughout Year 4 and has successfully established the program with many area collaborations between Riverkeeper staff, interns, and volunteers, along with several local partners. All program goals have been met for this objective.
Throughout the duration of the program, the following accomplishments have been made:

SEED COLLECTION
- Developed Target Site List and Plant Species List
- Developed Site Assessment Form (Attachment A), Assessment Guidelines and Checklist (Attachment B)
- Completed 65 site assessments (21 in 2013, 36 in 2014, 8 in 2015) to document native plant populations at 25 different natural areas in Western New York, generating GPS tags for 2,442 individual native plants (Attachment C)
- Completed 30 seed collection events (7 in 2013, 7 in 2014, 15 in 2015, 1 in 2016) with 16 volunteer groups, and a total amount of 278 participants
- Collected approximately 51,305 seeds and 158 live stakes and transplants from 62 species of native plants

DATA TRACKING
- Created a species database detailing; seed ripening and dispersion times, along with collection, storage, and propagation requirements (Attachment D)
- Created a spreadsheet to track seed collection information including detailed data on plants propagated locally, transferred to other sites, and used in restoration plantings (Attachment E)

PLANT PROPAGATION
- Seeds collected in 2013 were sent to Saratoga Springs NYSDEC Nursery for propagation, 200 bare root plants of 5 species were returned in 2015, and 425 in 2016
- In addition to propagation at the Saratoga Nursery, seeds collected were propagated at the Buffalo State College greenhouse
- Temporary storage areas were established to house plants until restoration plantings occur, and include the Buffalo State College greenhouse, Guard Farm (local private land partner), a community garden within the Riverside community through a partnership with Grassroots Gardens WNY and the Black Rock Riverside Alliance, and the North Tonawanda Wastewater Treatment plant through a partnership with the City of North Tonawanda

EDUCATION AND OUTREACH
- Field Reference Sheets for species identification developed with assistance from volunteers and interns for use during seed collection events (Attachment F)
- Conducted educational lectures and discussions on native plant heritage, conservation, biology, and ecology at programs including the River Academy college credit course, Young Environmental Leaders Program high school environmental course, and a variety of hiking, biking, and kayak tours

PARTNERSHIPS
- Throughout the project, partnerships were initiated with the following entities:
  - Erie Community College- River Academy, Environmental Club, Dr. Thamby Ninan via the Flora of Western New York course, Scott Lembitz via the Field Ecology course
  - Erie County Department of Social Services
  - West Seneca Oxbow Field Club
  - West Seneca West Key Club
  - Town of West Seneca
RESOURCES LEVERAGED
- Recruited and trained 12 student interns to assist with project objectives
- Plants from the stock generated were used in 8 restoration plantings, utilizing 329 plants and 750 seeds from 18 species

Objective 3. Coordinate Nine Water Chestnut Pull events to assist in controlling the invasive species in Tonawanda Creek.
All goals under this objective have been met. As of the summer of 2016, very few Water chestnuts were observed in Tonawanda Creek indicating that the early detection and removal efforts were a success. Local residents will continue to monitor the area surrounding Ellicott Island Park, however no further action under this objective is anticipated. A summary of accomplishments under this objective throughout the duration of the program is provided below.

Each summer from 2013-2015, USFWS commissioned an aquatic mechanical harvester to remove tons of the Water chestnut plants for a week before seed dispersal. Successful removal also required manual removal of plants from canoes and boats for nearshore and shallow water areas that are inaccessible by the harvester. Riverkeeper assisted USFWS in scouting and removal efforts. Riverkeeper’s contributions included:
- Met with Mike Goehle of USFWS to develop strategy for invasive Water Chestnut eradication
- Conducted 18 Riverkeeper staff inspections by kayak and canoe at suspected shallow-water Water chestnut hotspots inaccessible to the USFWS equipment, with a special focus on identifying remnant colonies in Tonawanda Creek and tributaries (3 in 2013, 12 in 2014, 3 in 2015)
- Recruited and trained multiple volunteer groups to conduct Water chestnut scouting and reporting in the Niagara River watershed
- Conducted 9 Water chestnut removal and scouting events with Riverkeeper staff and volunteers (3 in 2013, 2 in 2014, 4 in 2015)
• Documented the near eradication of Water chestnut from the Lower Tonawanda Creek watershed
• Volunteers that participated in these efforts include:
  o Youthworks teen service organization
  o Members of the local paddling community
  o River Academy in partnership with Erie Community College
  o Local residents

**Objective 4. Conduct a third-party evaluation of the NRRP program and coordinate the Niagara Greenway Graduate Internship Program to support program development and NRRP implementation.**
During Year 4 post construction monitoring was completed at Sandy Beach Park Club. Results from that effort are included as Attachment G. Buffalo State College also completed pre-construction surveys at both Hyde Park (although a pre-construction assessment was completed at Hyde Park in Year 3, a new survey was required due to a change in project area) and Ellicott Creek Park. This report is included as Attachment H.

Progress under this component is on time and ready to move ahead as progress under Objective 1 is made.

**Objective 5. Utilize the website and educational materials to provide waterfront landowners and stakeholders with technical information and to profile the NRRP projects.**
The project team completed the updated version of the waterfront landowner stewardship guide early in 2016. The guide provides a user friendly overview of the importance of living shorelines and how landowners can achieve a healthy and functioning shoreline ecosystem on their waterfront property. The guide is available both online and in print form. Funds for printing additional copies of the guide and completing distribution were leveraged from several Riverkeeper grants (Improving Coastal Resilience and Community Stewardship on Grand Island funded by New York Sea Grant and Inspire Green Stormwater from the New York State Pollution Prevention Institute Community Grants Program). We have received positive feedback and recognition from partners throughout the Great Lakes on the quality of the content and usefulness of this resource. The finalized version of this document is included as Attachment I. We have also continued to promote and distribute the Western New York Guide to Native Plants for Your Garden publication.

With matching resources from the project titled Improving Coastal Resilience and Community Stewardship on Grand Island which was funded by New York Sea Grant, a series of posters were developed as a tool for communicating the function and benefits associated with each habitat zone found within a living shoreline. This is included as Attachment J.

The project team has continued to keep the project website up to date and plan to issue press releases and utilize social media to engage with the public on project progress.

All goals were met under this objective.

2. How did you measure your progress since your last status report? What kind of data has been collected to determine whether progress is being made or not being made? What results have been obtained since your last status report?
Data collected under Objectives is measured based on the specific deliverables under each objective. For example, progress under Objective #2 can be measured by the number of sites scouted for seed collection, or the number of meetings held with partners to assist in developing targeted site lists and plant species lists. Since this grant is less about data collection and more about on the ground progress, we propose that the bullets listed under each objective serve as the measurements of progress towards a specific activity or milestone within each objective.

3. What challenges have you encountered since your last status report? How are you addressing these challenges?

One objective of the program is to complete demonstration projects on public lands that are highly visible to community members. The project team has encountered challenges in finding sites on public lands that are eroding or hardened, fit within our target restoration budget, and where the landowner is interested in partnering on the project. Advancement of restoration on several priority sites along Tonawanda Creek are also temporarily stalled until hydrilla treatment is complete, and progress with a site along Grand Island’s West River is postponed until logistics of a proposed bike trail are determined. Despite these challenges, the team has selected several sites on public land to pursue for the 4th restoration site. Although they were not the first choice, they still meet the goals of the program and now a suite of several sites exist for implementation in the future.

One challenge related to the Native Niagara program encountered during this phase of the project was the need to find a location to hold plants until they are ready to be installed at a restoration site. A partnership was successfully established with several local partners including Buffalo State College, Grassroots Gardens WNY, the Black Rock Riverside Alliance, and the City of North Tonawanda in order to provide for ongoing propagation of plants beyond the scope of this grant.

The funding provided through this grant allowed for Native Niagara to successfully become established as a native seed grow out program. Due to the success, community support, and interest of local partners in the grow-out process Riverkeeper is committed to continuing to develop the program beyond the current source of funding. The project team is working to advance the next phase of Native Niagara with the goal of having a long-term, self-sustaining program that is executed locally that includes a community-wide network of partners, volunteers, and landowners. Continued engagement of partners and identification of potential funding sources will be ongoing until sufficient resources are secured to support the program fully. In the meantime, Riverkeeper will continue the program as an educational endeavor through the Water Academy college service learning curriculum and the Young Environmental Leadership Program.

4. Are you on schedule to complete your project in the proposed timeline? If not, please explain why you are ahead or behind schedule.

Progress for the riparian restoration projects (Objective 1) are behind schedule due to the setbacks that occurred in previous years. However, the rest of the objectives are on track or have been completed.

A no-cost time extension is anticipated, to continue the project through 2018. Construction and planting at Hyde Park and Ellicott Creek Park will be complete in 2017, and implementation of the 4th and final
site is planned for 2018. The extension will allow for time to complete the project in an exemplary manner. We are confident we will meet this new project schedule.

5. Please use the table below to report your expenditures since your last status report. Include in-kind support from other resources you have used since your last report below the table. Please explain any differences between anticipated and actual expenditures. Attach copies of any relevant receipts or invoices to this report.

A current snapshot of the grant budget is shown below. Originally the grant was planned to be complete at the end of Year 3, however setbacks encountered throughout this phase of the project have left approximately $141,600 currently remaining. These funds will be used to complete the remaining riparian restoration projects as discussed previously.

<table>
<thead>
<tr>
<th>Budget Categories</th>
<th>GESC-approved budget</th>
<th>Funds or in-kind support from other resources</th>
<th>Total expenses to date (as of 10/31/2016)</th>
<th>Remaining balance</th>
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<td>Salaries and Benefits</td>
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<td>$598,119.00</td>
<td>$557,786.19</td>
<td>$141,643.81</td>
</tr>
</tbody>
</table>

6. What progress toward your objectives do you expect to make before your next status report? Please be specific.

Before the next status report, the following progress is expected to be made:

Objective 1. Implement 5-8 riparian forest buffer and shoreline restoration projects.

- Site #1- Sandy Beach:
  - Continue period-of-establishment monitoring through August 2017 and any necessary plant replacements

- Site #2- Hyde Park Lake:
  - Begin construction in November 2016
  - Complete construction and planting in spring 2017

- Site #3- Ellicott Creek Park:
  - Finalize design
  - Submit and obtain permits
  - Develop & release bid documents for construction
  - Review bids and select contractor
  - Sign contracts with contractor for construction
  - Oversee construction, document site progress
• Sites #4- TBD:
  o Continue to pursue Tifft Nature Preserve (switch to back-up sites if progress is not made in a timely manner)
  o Sign access and landowner agreements with landowners
  o Tour sites with Technical Advisory Committee
  o Develop concepts and review with Technical Advisory Committee
  o Develop schematics with preliminary cost estimates
  o Conduct necessary permitting
  o Meet with GESC on site design approvals and preliminary budget to access final design and construction funding
  o Finalize construction documents
  o Develop & release bid documents for construction
  o Review bids and select contractors
  o Sign contracts with contractor for construction

**Objective 2. Implement the Native Niagara: Ready! Set! Grow! Native seed collection and grow-out program.**
Work under this objective is complete.

**Objective 3. Coordinate Nine Water Chestnut Pull events to assist in controlling the invasive species in Tonawanda Creek.**
Work under this objective is complete.

**Objective 4. Conduct a third-party evaluation of the NRRP program and coordinate the Niagara Greenway Graduate Internship Program to support program development and NRRP implementation.**
During Year 5 post-construction assessments are planned to be completed for Hyde Park Lake and Ellicott Creek Park, and pre-construction assessment will occur for site 4.

**Objective 5. Utilize the website and educational materials to provide waterfront landowners and stakeholders with technical information and to profile the NRRP projects.**
Progress under this objective will include website updates, press releases, press events, and social media posts to be completed as needed.
7. Please include 1 to 2 photographs with dates and short descriptions taken since your last project report.

September 2016- Completed living shoreline restoration at Sandy Beach Park Club

October 2016- Temporary storage of plants propagated through the Native Niagara Program at the North Tonawanda Wastewater Treatment Plant.
Attachments:

- Native Niagara Deliverables
  - Attachment A - Site Assessment Form
  - Attachment B - Assessment Guidelines and Checklist
  - Attachment C - Site Assessment Data
  - Attachment D - Species Information Database
  - Attachment E - Seed Collection Database
  - Attachment F - Field Reference Sheets

- Project Evaluation
  - Attachment G - Sandy Beach Park Club Post Construction Survey
  - Attachment H - Hyde Park and Ellicott Creek Park Pre Construction Survey

- Educational Materials
  - Attachment I - Waterfront Landowner Stewardship Guide
  - Attachment J - Living Shoreline Educational Posters