

2. EXECUTIVE SUMMARY

Roughly nine miles upstream from the point in Pittsburgh, nestled in a westerly bend of the Allegheny River, sits a valuable natural resource known as Sycamore Island. From ancient days of fielding the natural forces of a faster, freely flowing, wild river to modern times sitting somewhat buffered off to the side of a continually deepened channel in a controlled, tamed, channelized, urban waterway, the Island has always been largely a reflection of its surrounding mainland. For essentially its entire existence, the Island's interactions were exclusively with various facets of nature: the river's hydrology, the flow of sediment, local plant life and wildlife, and climate. Then, some time around the start of the twentieth century, a new interaction confronted the Island: human interaction. Along with urbanization of the surrounding area came river damming, boating traffic, clear-cutting, dredge material dumping, and various levels of development. From 1967 to 1972, the Island was transformed to a recreational destination. The in 1972, Hurricane Agnes brought all development to a sudden halt. From 1972 to the present, the Island has sat largely untouched by humans and has consequently been experiencing an era of passive restoration.

In 2008, Allegheny Land Trust purchased Sycamore Island with the goal of preserving the Island's natural features, while simultaneously making it safe, accessible, and exciting to the public. In 2009, ALT engaged Applied Ecological Services, Inc. to study the Island, help lead a public process, and compile a comprehensive management report containing detailed scientific findings, compiled feedback from the public process, and a full set of recommendations and strategies.

In its present state, Sycamore Island hosts a significant level of biodiversity. Relatively rare floodplain forest plant communities cover most of the Island. Species richness of fish and pearly mussels inhabiting surrounding waters has been increasing in recent decades. Many species of birds reside on, visit, or migrate past the Island. Spiny soft shell turtles inhabit the Island. Insect activity is robust. Herpetofaunal diversity is low. Mammal diversity is moderate.

Impacts caused by disturbance are also clearly visible on the Island. Japanese knotweed and, to a lesser extent, other invasive plants cover parts of the Island. Invasive zebra mussels and Asian clams are common in the surrounding river. A massive barge pierces the entire lower portion of the Island. A graded roadbed and asphalt remains span an edge of the Island. Creosote-containing utility poles, transformers, and wires remain in varying states of disrepair. An old metal structure used as a pool, a rusting commercial oven, various containers, and piles of debris lie upon the Island. Much, if not most, of the land form is artificial, the result of years of dumping dredge materials.

The Island contains a great deal of human allure. Natural beauty abounds and changes with the seasons. Inspiring outdoor spaces are framed by the arching canopy of silver maples, American sycamores, and eastern cottonwoods. Trodden paths make penetrating the forest interior feasible. An intact picnic table and fire pit invite respite. Resilient, character-filled black willows anchor the southern tip of the Island. River-smoothed stones and cobbles comprise the eastern shore. The derelict barge has been overtaken by beautiful native vegetation. From its supposed bow sprouts, in fitting fashion, an American sycamore.

While the Island serves as a valuable host to a wide array of organisms, investigations have yet to uncover any threatened or endangered species. Although the Island apparently houses no endangered species of organisms, Sycamore Island as a whole should rightly be regarded as an endangered species of landform. The Island can be viewed as endangered in both a natural sense and in a human or sociological sense. In terms of nature, floodplain forests and forested urban islands are extreme rarities. Throughout the world, large rivers have generally become centers of population and civilization. As such, urban rivers are typically channelized and denuded of any riparian vegetation. Development extends right up to the banks. Urban rivers, with their fixed banks and regularly deepened navigational channels are more akin to canals than to interactive systems of ground water, surface water, and sediments housed in flexible beds that migrate over time. The lower Allegheny is a typical urban river. The riparian, floodplain forest of Sycamore Island, especially in such an urbanized setting, is a true rarity. Further, in cultural or sociological terms, Sycamore Island offers humans a unique experience. Not all rivers, urban or otherwise, contain relatively stable islands. Usually, when urban rivers do contain such islands, they are not legally accessible. The combination of attributes that greet the Sycamore Island visitor make for a trove of educational and recreational opportunities. From both natural and human perspectives, the Island is a unique resource.

As a rare, endangered resource, Sycamore Island is laden with both intrinsic natural value and intrinsic cultural value. Accordingly, a top goal of planning the future of the Island is to strike a proper balance between the sometimes conflicting needs of nature and desires of humans. Applying this goal within the context provided by the various findings and analyses contained in this report leads to a mission: making Sycamore Island safe, accessible, and exciting for humans and safe and inviting for a wide diversity of native plants and animals. Among the recommendations made, and elaborated upon with the body of this report, in support of this mission are the following:

Conservation

- Implement a budget-conscious, basic monitoring program that occurs each spring and fall. The program should be led by a capable ecologist. It should be comprised of a spring visit and fall visit, accompanied by a written report of findings and observations. Monitoring should cover the various elements covered in the Sycamore Island Management Report. A public spring meeting and fall meeting could easily be scheduled to coincide with each semi-annual visit to keep interested parties apprised of significant island observations, changes and happenings.
- Designate the northern portion of the island as sensitive/ off-limits. One prominent marker for this area could be the very large, multiple-trunked silver maple that juts out near the northeast edge of the island. This area is most subject to high and/or high-velocity river flow, along with any debris carried by the current. Plant, insect, and bird diversity is high here.
- Leave as much of the barge intact as possible, while addressing liability and safety concerns, and allow nature to reclaim the barge over time. (This site could be billed as an excellent, illustrative demonstration of urban ecology.) For safety, consider removing exposed spikes and loose debris (including the barge metal box structure) and installing a guardrail that spans the northern edge of the barge. Appropriate safety signage should be prominently posted.

- Highlight the natural areas that most resemble a floodplain forest that has not been significantly altered by humans.

Future Studies

- Conduct ecological studies of the dynamic ends of the island. Worthwhile areas of study are resident, transient, and migratory wildlife; changing plant assemblages; and accretion/ erosion of soil over time.
- Conduct a legal query as to whether the appropriate utility has any legal responsibility for removing poles (laden with creosote), wires, and other structures. Regardless of legal responsibility, contact the utility and request that it remove its various structures and objects. Even if the utility is no longer responsible and is unwilling to cooperate, all objects that pose safety risks and/or serve as contaminant sources should be removed.
- Have an appropriate attorney consider potential areas of liability and review all island elements and signage for liability issues.
- Initiate a tree inventory of all trees beyond a specified diameter at breast height (dbh). This inventory should be led by a certified arborist but could be aided significantly by volunteers. Once the inventory is completed, volunteers could carry out a simple regular monitoring plan.
- Monitor planned dredging activities in the Allegheny River. Monitor for any impact when dredging near the island occurs.
- Engage in further study of intact natural areas of the island, adjacent to knotweed patches, where knotweed is not invading.
- Locate the spots on the island where red oak seedlings are emerging and employ regular monitoring of these trees. If able to mature to fruiting age, these trees could provide a highly beneficial, brand new food source to the island. Acorns on Sycamore Island would lead to a positive increase in biodiversity.
- Monitor zebra mussel presence and quantity on the pilings and cobbles.
- Regularly monitor mass-wasting that occurs on the steep edges of the island fronting the main channel.
- Several new or continuing organism studies would be valuable and could be tied into island restoration planning. Potential areas of study could include:
 - Birds
 - Turtles
 - Insects and pollinators
 - Native and invasive plants
 - Potential fish habitat
 - Potential mussel habitat

In carrying out such studies, relationships could be formed with such entities as universities, Audubon groups, local science and nature clubs, local experts, etc.

Restoration

- Consider using the test plot nearest the barge as an early restoration zone. Specify as part of the restoration plant mix a low, dense matrix of native thorny, dense-growing vegetation, such as a thicket of brambles, greenbrier, viburnums, shrub dogwoods, etc. This thicket could simultaneously provide desirable new ground-level cover for wildlife and dissuade humans from getting too close to the barge.

- Re-use the pool structure in a manner that creates habitat in a safe and aesthetically pleasing manner (to be covered in pool design project).
- Prepare a practical, sustainable, realistic restoration plan, which uses appropriate local natural areas and historical data for reference.
- Devise and implement a plan to replace knotweed with dogwood, buttonbush, and sycamore (among others) in selected areas.
- Implement knotweed studies and removal projects.
- Apply any relevant results of the seed-bank study to the Island.
- Encourage growth- through seedling protection and new tree plantings- of cottonwood and sycamore. These are two important tree species present on the Island, in addition to silver maples, that add significantly to plant diversity. When massive enough, they are also favored for nesting by bald eagles.
- Girdle all trees-of-heaven and remove all new growth that sprouts in response to girdling.
- Remove buckthorn from the southern tip of the Island.
- Manage the purple loosestrife that has been establishing itself along the northwest edge of the Island.
- Initiate selective re-vegetation along the bare, muddy banks of the back channel.
- Accept and plant donated native plants that are appropriate for the Island.

Island Access

- Limit boat landings to kayaks and canoes. Set up one landing at an appropriate spot on the main channel side that provides ample gravel/ cobble beach, along with relatively easy access to the accessible inner area of the island. While we have identified a few potential landing areas, we believe that a simple study aimed at determining the “best” landing location is advisable.
- Design and build a low impact trail that allows the island visitor to experience the internal spaces of the island, key natural attributes, important historical remnants, and interesting overlooks and viewing areas. This trail system should make maximal use of footpath and remnant roadways that are already in place.
- Discourage foot traffic along the banks of the back channel.
- Develop the area that presently contains a picnic table and fire pit as a designated gathering area of the island. This area can be used for various gatherings, picnics, outdoor classes, limited camping, etc.
- Develop a boat trail, with a corresponding map, that enables kayakers and canoers to learn about the island from the river.
- Implement a wayfinding and safety signage program that clearly shows trail users the “right way” and clearly point out hazards and off-limit areas. Easily seen blazes on trees would effectively guide hikers along the terrestrial island tour.
- Offer a series of ALT-sponsored island events, such as “S’mores on Sycamore” and various theme-based programs.
- Limit camping to special events that are extremely well planned, managed, and supervised by ALT in conjunction with a suitable partner.

Regulations

- Prominently post in strategic locations the “rules of Sycamore Island”, which spell out the dos and do-nots of the island. Rules should be listed on a sturdy sign. The purpose of such a posting is to protect the environment, limit injuries and address liability. Listed rules should be essential rather than exhaustive. Examples of areas/ topics to be covered on such a sign include barge danger, high areas, extremely muddy areas, conservation zones, no unauthorized camping or fires, no swimming, no littering, no removal of biotic or abiotic objects, permitted hours (dawn to dusk), etc.

Education and Public Outreach

- Design and build a demonstration native shade garden as part of the designated gathering area. The shade garden can be maintained by volunteers. It could serve to educate visitors about native plants and habitat and could also serve to demark or delineate the extent of on-foot accessibility, as the planted and tended area would be clearly designated as a no-access area.
- Design and build a kiosk to be located within the gathering area. This kiosk can have elements such as educational data and photos, event information, a place for visitors to note observations, trail maps, ALT information program, etc.
- Create an educational signage program that ties directly into the land and river tours of Sycamore Island, as well as associated trail maps. (There can also be a “grand tour” for those who desire to circle the island via boat and also explore it on foot.) Signage should be attractive, interesting and made of sturdy materials. Signs for the water trail should describe key island attributes (e.g., the barge, the willows, the high dredge pile, the pilings, the north tip, knotweed, etc.) and should be easily readable from a canoe or kayak.
- An audio tour accessed by cell phone could tie into the sign program, whereby each sign has a number that will prompt a recorded explanation of the area near the sign.
- Initiate a series of “citizen scientist” programs, such as bird walks, plant walks, tree flowering and leaf out observation, area cleanups, invasive removals, new plantings, etc.
- Create an “Interactive Sycamore Island” section of the ALT website. This could highlight noteworthy island observations and happenings and invite user interaction.
- In conjunction with the web feature, consider installing one or more permanent cameras that enable viewers to take in dynamic areas on a real time-basis. One potential camera location is the willow area, which experiences regular bird and turtle activity. Another potential area is the area where turkey vultures tend to gather. The vultures are intelligent, interesting, very large birds that make use of the island throughout much of the year. They would make for very interesting observation.
- Devise programs that seek to involve schools with the island. Programs should be open to students of all ages in public and private schools.
- Devise a program that invites scientific collaboration with local schools and universities. Various aspects the island could easily lend themselves to various studies, reports, theses, etc.
- Implement a volunteer-based citizen-island-watch program in coordination with local police and fire departments.