

AMENDED AGENDA
Huron-Clinton Metropolitan Authority
Board of Commission Meeting
July 14, 2016 – 10:30 a.m.
Indian Springs Metropark – Environmental Discovery Center

1. Chairman's Statement
2. Public Participation
3. Approval – June 9, 2016 Regular Meeting Minutes
4. Approval – July 14, 2016 Full Agenda

Consent Agenda

5. **Approval – July 14, 2016 Consent Agenda**
 - a. Approval – June 2016 Financial Statements and Payment Registers
 - b. Approval – June 2016 Appropriation Adjustments **pg. 1**
 - c. Purchases
 1. Invasive Shrub Control, All Locations **pg. 5**
 - d. Update – Purchases over \$10,000 **pg. 7**
 - e. Update – Lake St. Clair 2015 Property Tax Payment **pg. 9**
 - f. Update – Metroparks Research Projects **pg. 11**
 - g. Bids – Painting Cob Building and Horse Barn, Wolcott Mill Metropark **pg. 61**
 - h. Bids – Main Park Road Surface/Overlay, Stony Creek Metropark **pg. 69**
 - i. Bids – Roof Repairs and Replacement, Kensington and Hudson Mills Metroparks **pg. 77**

Regular Agenda

6. Legislative Report **pg. 79**
7. **Reports**
 - A. *Planning Department*
 1. Report – Stony Creek Draft Master Plan **pg. 81**
 - B. *Lake St. Clair Metropark*
 1. Approval – Contract Termination for Design Services, Playground and West Beachfront Redevelopment **pg. 126**
 - C. *Administrative Office*
 1. Approval – Blue Cross Blue Shield Rate Stabilization **pg. 133**
 2. Approval – Gabriel, Roeder, Smith & Co. Five-Year Experience Study **pg. 135**

AMENDED AGENDA
Huron-Clinton Metropolitan Authority
Board of Commission Meeting
July 14, 2016 – 10:30 a.m.
Indian Springs Metropark – Environmental Discovery Center
Page 2

8. Closed Session

- a. To consult with attorney regarding pending litigation
Section 8 (e) of the Michigan Open Meetings Act. M.C.L 15.268 (e)

9. Other Business

10. Staff Officer Update

11. Commissioner Comments

12. Motion to Adjourn

<p>The next regular Metroparks Board meeting will take place <u>Thursday, August 11, 2016 – 10:30 a.m.</u> Lake St. Clair Metropark – Thomas Welsh Activity Center</p>
--

**HURON-CLINTON METROPOLITAN AUTHORITY**

To: Board of Commissioners
From: Rebecca Baaki, Chief Accountant
Subject: Approval – June 2016 Appropriation Amendments
Date: July 5, 2016

Action Requested: Motion to Approve

That the Board of Commissioners' approve the June 2016 Appropriation Amendments as recommended by Director Phifer and Controller Franchock.

Background: The Metroparks ERP system provides a work-flow process to facilitate departmental budget management. Requested transfers are initiated by department staff and routed to the appropriate Department Head/District Superintendent for review and approval. Finance provides a final review of the approved requests to verify that they do not negatively affect Fund Balance.

For the month of June, transfers totaled \$87,179. These were primarily a result of funds that were transferred from the major maintenance accounts to the parks operation accounts to cover projects being done within the parks. The result of this change can be seen in the attachment.

During the month, there were also three amendments that affected Fund Balance.

- \$3,400 was taken from Fund Balance to cover an invoice that was from last fiscal year.
- \$44,463 was taken from Fund Balance for the hiring of a full-time receptionist at the Administrative Office.
- \$44,463 was taken from Fund Balance for the hiring of a full-time police officer at Wolcott Mill Metropark.

Attachment: June Appropriation Adjustments

June 2016 - Apropiation Adjustments

	Location	Increase	Decrease	Difference
Capital	Stony Creek	\$ 4,486.00	\$ 4,486.00	\$ -
	Wolcott	2,540.00	2,540.00	0.00
	Total	\$ 7,026.00	\$ 7,026.00	\$ -
Major Maintenance	Kensington		\$ 3,445.00	\$ (3,445.00)
	Stony Creek		6,621.00	(6,621.00)
	Indian Springs		3,225.00	(3,225.00)
	Huron Meadows		5,954.00	(5,954.00)
	Total		\$ 19,245.00	\$ (19,245.00)
Operations	Lake St. Clair		\$ 11,500.00	\$ (11,500.00)
	Kensington	\$ 5,995.00		5,995.00
	Lower Huron	9,257.00		9,257.00
	Hudson Mills	1,000.00	1,000.00	-
	Stony Creek	46,697.00	28,576.00	18,121.00
	Lake Erie		11,807.00	(11,807.00)
	Wolcott	1,025.00	1,025.00	-
	Indian Springs	3,225.00		3,225.00
	Huron Meadows	5,954.00		5,954.00
	Total	\$ 73,153.00	\$ 53,908.00	\$ 19,245.00
Administration	Administrative Office	\$ 7,000.00	\$ 7,000.00	\$ -
	Total	\$ 7,000.00	\$ 7,000.00	\$ -
Grand Total		\$ 87,179.00	\$ 87,179.00	\$ -



HURON-CLINTON METROPOLITAN AUTHORITY

To: Board of Commissioners
 From: Paul Muelle, Natural Resources and Environmental Compliance Manager
 Project Title: Invasive Shrub Control – ITB 16-039 thru 042
 Project Type: Major Maintenance
 Location: All Metroparks
 Date: July 5, 2016

Action Requested: Motion to Approve

That the Board of Commissioners' award contracts to the responsive, responsible bidders, in the total amount for all vendors not to exceed \$95,000 as recommended by Natural Resources and Environmental Compliance Manager Paul Muelle and staff.

Fiscal Impact: This is a 2016-budgeted item and funds are available in the Natural Resources Major Maintenance Outside Services account for each park.

Scope of Work: Work will consist of applying herbicide to non-native invasive shrubs in various locations throughout all of the Metroparks.

Background: In an effort to continue controlling non-native invasive plants, the Metroparks solicited quotes to apply herbicide for the control of non-native shrubs.

A total of \$320,000 is allocated in the 2016 budget for invasive species control and vegetative management in the park system including \$30,000 to remove standing dead trees along park roadways.

This is the first phase of a multi-phased approach to control invasive plant species. Contracts for additional phases of invasive species control, which will include shrub grinding, shrub cutting and fall herbicide applications, will be brought to the Board in the future for approval.

The three companies outlined below responded to the RFP. Based on the volume of work required, which is expected to cover more than an estimated 1,200 acres, staff separated the work load into four regional contracts in anticipation of a split award.

Staff has verified contractor references, qualifications and capabilities. Based on the quantity of work, seasonal time constraints, and current contractor commitments, staff would like to engage all three contractors, at the various work locations in order to successfully complete the work within the treatment window.

Location	Price Per Hour		
	Natural Community Services	PlantWise	Wildtype
Kensington/Indian Springs/Huron Meadows	\$ 49.00	\$ 68.00	\$ 74.85
Lower Huron/Willow/Oakwoods/Lake Erie	\$ 58.00	\$ 72.00	\$ 82.85
Stony Creek/Wolcott/Lake St. Clair		\$ 93.00	\$ 86.85
Hudson Mills/Dexter/Delhi	\$ 54.00	\$ 65.00	\$ 74.85

Staff recommends contracts be awarded as follows:

- Kensington/Indian Springs/Huron Meadows – Natural Community Services at \$49/Hour
- Lower Huron/Willow/Oakwoods – Natural Community Services at \$58/Hour
- Stony Creek/Wolcott/Lake St. Clair – Wildtype at \$86.85/Hour
- Hudson Mills/Dexter/Delhi – PlanWise at \$65/Hour

The following contractors responded to the RFP: Natural Community Services, Wildtype Design, Native Plants & Seed Ltd. and PlantWise, LLC.

Invitations to bid were posted on the Michigan Inter-Governmental website.



HURON-CLINTON METROPOLITAN AUTHORITY

To: Board of Commissioners
 From: George Phifer, Director
 Subject: Update – Purchases over \$10,000
 Date: July 14, 2016

Action Requested: Motion to Receive and File

That the Board of Commissioners' receive and file the update for purchases over \$10,000, up to, and including \$25,000 as submitted by Director Phifer and staff.

Background: On May 9, 2013, the Board approved the updated financial policy requiring the Director to notify the Board of purchases exceeding \$10,000, up to, and including \$25,000.

The following list is purchases exceeding the \$10,000 threshold:

<u>Vendor</u>	<u>Description</u>	<u>Price</u>
Gorno Ford	2016 Ford Transit Connect XL Van Stony Creek Metropark	\$24,495
White Pine Building and Development LLC	Roof Repairs and Replacements Stony Creek Metropark	\$22,245
Impressive Promotional Products LLC	Summer Fun T-Shirts	\$19,837
John Johnson Company	Canopy Shade Structures Lake St. Clair Metropark	\$18,725
Boullion Sales and Service, Inc.	Utility Vehicle for Stadium Vac Stony Creek Metropark	\$17,506
G2 Consulting Group	Geotechnical Services Kensington Metropark	\$16,425
Midwest Golf and Turf	Work Vehicle Carts Stony Creek	\$16,174
Accuform Printing and Graphics	Metroparks Maps/Guides	\$15,490
K&B Asphalt Sealcoating, Inc.	Overbanding Crack Fill Lower Huron Metropark	\$13,750



HURON-CLINTON METROPOLITAN AUTHORITY

To: Board of Commissioners
From: Rebecca L. Franchock, Controller
Subject: Update – Lake St. Clair 2015 Property Tax Payment
Date: July 5, 2016

Action Requested: Motion to Receive and File

That the Board of Commissioners' receive and file the Lake St. Clair 2015 Property Tax Payment Update as recommended by Controller Franchock and staff.

Fiscal Impact: Funds were not budgeted for this payment.

Background: In July 2015, the Metroparks acquired 13 parcels of vacant land contiguous to the North Marsh at Lake St. Clair Metropark. This acquisition was 100 percent grant funded and part of the ongoing marsh restoration project.

Property purchased by the Metroparks is typically removed from the tax rolls as of Dec. 1 in the year of acquisition for the following year. The taxes that have been levied for the current year cannot be waived. Often these taxes are paid at closing on a prorated basis. In the case of this acquisition, due to the closing date taking place prior to July 1, 2015, the 2014 taxes were prorated; however, the 2015 taxes were not. These taxes for the 2015 levy were owed by the Metroparks, but due to an apparent misunderstanding at Harrison Township, tax bills for 10 of the 13 parcels were never received by the Metroparks. These parcels were returned delinquent to Macomb County for collection totaling \$5,056.30.

This amount includes administrative fees and interest totaling \$374.54. A request to have these fees and interest waived was turned down by the Macomb County Treasurer's office after consulting with their corporate counsel.

To avoid further interest accumulation, the payment was expedited and processed in June 2016.

It has been confirmed with the Harrison Township treasurer that all 13 parcels have been removed from the tax rolls for 2016/2017 and going forward.



HURON-CLINTON METROPOLITAN AUTHORITY

To: Board of Commissioners
 From: Paul Muelle, Natural Resources and Environmental Compliance Manager
 Subject: Update – Metroparks Research Partnerships
 Date: July 5, 2016

Action Requested: Motion to Receive and File

That the Board of Commissioners receive and file the Metroparks Research Project update as recommended by Natural Resources and Environmental Compliance Manager Paul Muelle and staff.

Fiscal Impact: None.

Background: The Metroparks has abundant natural and cultural resources in southeast Michigan and as such is ideal for local colleges and universities as well as State and Federal agencies to utilize the parks as a living laboratory. Generally, the Metroparks permits the use of park lands for environmental/ecological based research and archeological instruction purposes. Research and archeological projects must be non-manipulative in nature meaning there must be only minimal site disturbance, and that no or very small quantities of materials are collected for research purposes only.

Researchers are required to submit a permit application to the Metroparks. Proposals are then reviewed and approved only if the proposed work conforms to the policies of the park system; does not interfere with current natural resource management, education or recreational activities; that research activities do not attract undue attention to sensitive park resources, including but not limited to threatened, endangered, or rare species, fossils, minerals, or significant archeological/cultural sites.

When applicable, research activity results are made available to Metroparks, providing staff with valuable information to help better manage the parks natural resources.

2016 Research Requests:

A. University of Michigan – School of Natural Resources and Environment

Validation of in-situ sediment pore water toxicology in aquatic environments
 Lake Erie Metropark

B. University of Michigan – Department of Ecology and Evolutionary Biology

Effects of White-tailed Deer browse on plant and soil biogeochemistry
 Multiple Parks

C. Michigan State University – Department of Fisheries and Wildlife

Eastern Massasauga Rattlesnake population and habitat ecology in southeast Michigan
 Indian Springs, Stony Creek and Hudson Mills Metroparks

- D. Oakland University – Department of Anthropology, Social Work and Criminal Justice**
Archeological survey and research
Indian Springs and Stony Creek Metroparks
- E. Central Michigan University – Institute of Great Lakes Research/Dep't of Biology**
Great Lakes Coastal wetland health
Lake Erie Metropark
- F. Notre Dame University – Department of Biological Sciences**
Great Lakes Coastal wetland monitoring
Lake St. Clair Metropark
- G. Wayne State University – Department of Biochemistry and Molecular Biology**
Identification of *Candida albicans* in the environment
Multiple Parks
- H. Queens University – Department of Biology, Kingston, Ontario**
Conservation of Butler's Garter Snake via quantification of habitat and spatial ecology
Lake Erie and Lake St. Clair Metroparks
- I. Central Michigan University – Department of Biology**
Great Lakes Coastal Wetland Monitoring
Lake Erie Metropark

Continuation of Multi-Year Agreements:

- 1. Wayne State University – HEART Freshwater Center**
Multiple research projects
Lake St. Clair Metropark
- 2. Oakland University – Department of Environmental Chemistry**
Stony Creek and North Branch of the Clinton River water quality monitoring
Stony Creek and Wolcott Mill Metroparks
- 3. Michigan Department of Natural Resources – Forest Resources Division**
Walnut Twig Borer survey
Multiple Parks

Attachments: Research Partnership Agreements

A. University of Michigan - School of Natural Resources and Environment

Temporary Access Permit for the Purpose of Conducting Scientific Research or Archaeological Investigations

Research Policy

The Huron-Clinton Metroparks encourages the use of parkland for research activity designed to increase understanding of ecological processes and natural or cultural resources, especially where research results can help build a knowledge base related to the Metroparks and/or their management. All research taking place on property owned or managed by the Huron-Clinton Metroparks requires a permit. There is no fee required for research permits. Applications will be accepted at any time and must be updated at the end of each calendar year by filing a yearly progress report. Where impacts to park resources or other visitors are anticipated, these impacts must; 1) receive prior approval; 2) be minimized to the fullest extent possible; 3) research benefits for the disturbance must be articulated; 4) any impacts to the park as a result of research must be repaired or mitigated.

To benefit from park research, Huron-Clinton Metroparks copies of (Annual or Progress) reports and publications, or published or unpublished data, must be made available upon request. Additional review may be required for archeological or social science research. Submission of this application for use of Huron-Clinton Metropark property does not necessarily guarantee that parkland will be made available for the requested use.

Term. The term of this Agreement shall begin on the date set forth below of this Agreement, following completion and Metropark acceptance of the permit application or Work Plan and authorized signatures of all Parties and shall expire on the earlier of December 31, of each year, or when all obligations under the Agreement have been fulfilled as determined by both parties. However, notwithstanding the foregoing, either Party may terminate this Agreement upon sixty (60) days written notice to the other Party as provided in this Agreement. The permit is renewable on submission of the required Annual or Progress Report.

Consideration. In consideration for the use of the properties of the Huron-Clinton Metroparks, the Applicant agrees to provide copies of any reports and publications based on this study. Data must also be submitted on request.

Ownership. It is understood that any and all specimens, artifacts or research areas within the park system, shall at all times remain, the sole and exclusive property of the Huron-Clinton Metroparks and all areas within the park system shall remain open at all times for public use. Parties utilizing Metropark facilities shall have no right, title or interest therein or thereto except as expressly set forth in this Agreement.

Facility Use. Subject to the terms of this Agreement, the Huron-Clinton Metropark agrees to allow access and use of research sites identified in the Applicants Work Plan or Proposal, during regular business hours or other times as otherwise agreed to, for the express use of promoting conducting research, providing educational opportunities or other activities within the Metroparks. The proposed work, including time, scope, location, and purpose, shall not be inconsistent or conflict with any management plan or established policy, objectives, or requirements applicable to the management or operations of the Metroparks.

Limitations. This Agreement pertains only to the confines of the areas(s) as described within the Applicants Work Plan or Proposal. This Agreement does not allow access to other Metropark facilities or properties or suggest approval of research activities on properties or facilities of the Metroparks by the Applicant or other institutions, organization or their employees, officers, or agents without the expressed written consent of the Huron-Clinton Metroparks.

Loss and Damage of Research Equipment. The Huron-Clinton Metroparks shall not be liable for any damage or loss of the Applicants equipment or property while conducting research activities within the park system.

No Warranties. Huron-Clinton Metroparks makes no express or implied warranties concerning the safety, condition or suitability of park property for any research purpose.

Liability. To the extent permitted by law, each Party to this agreement shall be responsible for any and all actions, suits, damages, liability, or other proceedings brought against it as a result of the alleged negligence, misconduct, error or omission of any of its employees, officers, agents, student or volunteers while on Metropark Property. Except as otherwise provided in this Agreement, the Applicant shall indemnify and hold the Metroparks harmless from any and all Claims which are incurred by or asserted against the Metroparks by any person or entity, alleged to have been caused or found to arise, from the acts, performances, errors, or omissions of the Applicant or Applicant's employees, including, without limitation, all Claims relating to injury or death of any person or damage to any property.

If the indemnification rights contained in this Agreement are in excess and over and above any valid and collectible insurance rights/policies. During the term of this Agreement, if the validity or collectability of the Applicant's insurance is disputed by the insurance company, the Applicant shall indemnify the Metroparks for all claims asserted against the Metroparks and if the insurance company prevails, the Applicant shall indemnify the Metroparks for uncollectable accounts. The Applicant waives and releases all actions, liabilities, loss and damage including any subrogated rights it may have against the Metroparks based upon any Claim brought against the Metroparks suffered by an Applicant's employee, agent, volunteer or student.

Notice of Claims. The Parties agree that a Party will promptly deliver to the other Party written notice and copies of any claims, complaints, charges, or any other accusations or allegations of negligence or other wrongdoing, whether civil or criminal in nature, that the other Party becomes aware of which involves, in any way the facility, equipment, personnel and/or services under this Agreement. Unless otherwise provided by law and/or the Michigan Court Rules, the parties agree to cooperate with one another in any investigation conducted by the other party of any acts or performances of any services under this Agreement.

Not an Employee. Although utilizing an HCMA facility, the Applicant, its employees, officers, agents or volunteers shall not be considered agents or employees of the Metroparks or any purpose. It is understood by the Parties that this Agreement is not intended to create a joint venture or principal-agent relationship between the Parties and their respective employees, officers, agents or volunteers. Accordingly, the Applicant, or the employees of the Applicant shall not be entitled to any benefits that Metroparks provides for its employees, including, but not limited to workers compensation. Moreover, to the extent permitted by law, the Applicant agrees to indemnify, defend and hold harmless any claim asserted against HCMA by the Applicant, its employee, officer, agent or volunteer for workers' compensation, or other benefits pursuant to the work or activities associated with this Agreement. Each Party shall be responsible and shall pay, its own local, state and federal taxes, including without limitation, social security taxes, and unemployment compensation taxes for its respective employees.

Survival of Terms. The Parties agree that any indemnification, hold harmless promises, waivers of liability, representations, insurance coverage obligations, liabilities, and/or any other related obligations provided for in this Agreement with regard to any acts, occurrences, events, transactions, or claims, either occurring or having their basis in any events or transaction that occurred before termination of this Agreement, shall survive the termination.

Counterparts. This instrument may be executed in one or more counterparts, each of which shall be deemed to be a duplicate original but all of which, taken together, shall constitute a single instrument.

Severability. If any provision of this Agreement or its application to any person or circumstance shall to any extent be invalid or unenforceable, the remainder of this Agreement shall not be affected and shall remain valid and enforceable to the fullest extent permitted by law. In other words, in the event that a court of competent jurisdiction determines that any material provision contained in this Agreement is invalid or unenforceable, then such determination does not render the remainder of the terms of this agreement invalid, unenforceable or void.

Governing Law & Jurisdiction. This Agreement shall be governed by laws of the state of Michigan.

Additional Requirements for Archeological Investigations. A Permit is required for any archeological investigation occurring on Metropark property, regardless of whether or not these investigations are linked to regulatory

compliance, research, academic endeavors or recreation. Archeological investigations that require permits include excavation, shovel-testing, coring, pedestrian survey (with and without removal of artifacts), underwater archeology, photogrammetry, and use of metal detectors. (The use of metal detectors may be harmful to archaeological sites because it results in the removal of individual artifacts from their association with other artifacts, and from their association with the soil layer they were in. This results in the loss of important historical information. The use of metal detectors on Huron-Clinton Metropark land is regulated.) Individuals, academic and scientific institutions, museums, and businesses that propose to conduct archeological field investigations on parklands must first obtain a Permit before the project may begin.

All archeological investigations must comply with all State and Federal laws and regulations that protect archeological resources.

All Applicants for archaeological investigations, must meet minimum qualifications as evidenced by training, education, and/or experience, and possesses demonstrable appropriate competence. (MA/MS or Ph.D. in Archaeology or Anthropology or closely related field; At least 1 year full-time professional experience or equivalent specialized training in archaeological administration or management; Demonstrated ability to carry research to completion.

All appropriate Native American tribal authorities must be notified of potential harm if significant cultural or religious sites are expected to be encountered.

The proposed work must demonstrate that it is to be undertaken for the purpose of furthering archeological knowledge in the public interest.

Written confirmation has been obtained from the curatorial facility that will accept the resulting collections and associated records.

The applicant has confirmed that, not later than 90 days after the date that the final report has been submitted to the Metroparks, all material remains and associated records resulting from work conducted under the requested Permit will be delivered to the Metroparks or previously agreed to curatorial facilities as named in the Permit application.

If the archeological project is anticipated to impact a site that is listed or eligible for listing on the National Register of Historic Places or if the project involves archeological excavations, compliance with Section 106 of NHPA or NEPA is required.

All specimens collected remain the property of the Huron-Clinton Metroparks. The applicant is responsible for arranging curation, accession, safeguarding, and preservation of all materials collected in accordance with accepted museum standards. These arrangements must address the continuing availability of the collection for public observation, scientific study and display if curated (on loan) to institutions outside of Metropark facilities. The Applicant shall provide the Metroparks with copies of catalogs, field notes, photographs, and reports, even if curation is arranged in a facility not under the control of the Metroparks. Collection should be accomplished by methods that conserve resources and must be of some tangible benefit to the Metroparks. The collections shall be used for scientific and educational purposes dedicated to public benefit only and shall in no case be used for commercial purposes or personal profit.

Plant life and other features shall not be disturbed without permission of Metropark staff. (The presence of State or Federally protected plant or animal life at the site of the proposed excavation shall negate approval to proceed and all work in that area shall cease.) After excavation, the area is to be restored to as near its former condition as possible. Park unit staff should be consulted before and after backfilling, for suggestions and approval.

Permit Application / Work Plan Requirements

All research applications or Proposal/Work Plans should contain the following information:

Primary Research/Contact Person

Kathryn Meyer; M.S. Graduate Student; Dana Building 440 Church St. Ann Arbor, MI 48109; 630-453-1275; katmeyer@umich.edu

Organization/Institution Information

University of Michigan; School of Natural Resources and Environment; Dana Building 440 Church St. Ann Arbor, MI 48109; (734) 764-6453

Student Research

Allen Burton; Advisor Contact Information: burtonal@umich.edu, 734-763-3601

Research Summary

Developing and validating an *in-situ* Toxicology Identification Evaluation (iTIE) device for sediment pore water toxicity in aquatic ecosystems; I am helping develop a device to evaluate the toxicity of pore water *in-situ* in freshwater ecosystems. This system will allow for the evaluation of the toxicity of an aquatic ecosystem onsite and therefore limit the impact of extraneous variables introduced into the samples before evaluation in a lab. This system will allow for rapid and accurate sediment toxicity evaluation, especially beneficial for ecosystem risk assessments. The sediment from this site will be used in initial laboratory tests of the device; Key Partnerships, Funding or Academic Connections: University of Michigan School of Natural Resources Master's Thesis

Specific Park Location

Wetlands area near southeast of boardwalk nature trail; Coordinates: 42°4'27.40"N, 83°11'30.10"W Attach Map:



Timing

About 1 hour in the Lake Erie Metropark Wetlands; Anticipate Number of Park Visits: 1, Expected Completion Date: December 15, 2015

Equipment

No equipment/markings left onsite; List type of equipment used in research activity: Shovel, 5 gallon bucket

Site Impact

Two 5-gallon buckets of sediment will be collected from the site; there will be minimal impact and no visible impact; Describe process to minimize or mitigate impacts: We will only take the sediment we need and will avoid walking in areas not directly necessary for collection.

Collections

Two 5-gallon buckets of sediment will be collected from the site. There should be no visible impact to the wetlands

Anticipated Products

The sediment will be used in laboratory tests of an in-situ toxicology identification evaluation system for pore water. The resulting data collected will be used in a Master's thesis report and possibly published in a scientific journal.

Entire Agreement. This instrument constitutes the entire agreement between the Parties on the subject matter hereof and it shall not be amended, altered or changed except by a further writing signed by the parties hereto. The recitals shall be considered an integral part of the Agreement.

IN TESTIMONY WHEREOF, the parties hereto have executed this instrument the day and year written below.

HURON-CLINTON METROPOLITAN

APPLICANT

AUTHORITY

By: 

By: _____

Title: M.S. Graduate Student

Title: Director

Date:  Dec. 1, 2015

Date: _____

B. University of Michigan - Department of Ecology and Evolutionary Biology

Temporary Access Permit for the Purpose of Conducting Scientific Research

Research Policy. The Huron-Clinton Metroparks Authority ("HCMA") encourages the use of parkland for research activity. All research taking place on property owned or managed by HCMA requires a permit. There is no fee required for research permits. Applications will be accepted at any time and must be updated at the end of each calendar year by filing a yearly progress report. Submission of this application for use of HCMA property does not necessarily guarantee that parkland will be made available for the requested use.

Application. A permit applicant (an "Applicant") must submit an application complete with a work plan (a "Work Plan") that meets the Work Plan Requirements, attached hereto as Exhibit A. In addition, an Applicant must: 1) receive additional prior approval when impacts to park resources or other visitors are anticipated; 2) minimize impacts to park resources or other visitors to the fullest extent possible; 3) articulate research benefits for the disturbance; 4) repair or mitigate any impacts to the park as a result of research.

Term. The term of this Agreement shall begin on the date set forth below of this Agreement, following completion and HCMA acceptance of the Work Plan and shall expire on December 31. HCMA may immediately terminate this Agreement with or without cause upon notice to Applicant.

Consideration. In consideration of the right to access HCMA properties for research purposes, Applicant agrees to provide copies of progress reports and publications, or published or unpublished data, upon HCMA's request. Additional review may be required for archeological or social science research.

Ownership. It is understood that any and all specimens, artifacts or research areas within the park system, shall at all times remain, the sole and exclusive property of HCMA and all areas within the park system shall remain open at all times for public use.

Facility Use. Subject to the terms of this Agreement, HCMA agrees to allow access and use of research sites identified in the Applicant's Work Plan, during regular business hours or other times as otherwise agreed to in writing, for the express use of promoting conducting research, providing educational opportunities or other activities within HCMA's property. The proposed work, including time, scope, location, and purpose, shall not be inconsistent or conflict with any management plan or established policy, objectives, or requirements applicable to the management or operations of HCMA.

Loss and Damage of Research Equipment. HCMA shall not be liable for any damage or loss of the Applicant's equipment or property while conducting research activities within the park system.

Indemnification, Release, Limitation of Liability and Disclaimer of Warranties. Applicant shall indemnify, defend and hold HCMA harmless from any and all Claims (as defined below) which are incurred by or asserted against HCMA by any person or entity, alleged to have been caused or found to arise, from the negligent acts, performances, errors, or omissions of Applicant or Applicant's employee, agent, volunteer or student, including, without limitation, all Claims relating to injury or death of any person or damage to any property.

Applicant shall have no rights against HCMA for any indemnification except as expressly provided herein. Applicant waives and releases all actions, liabilities and damage including any subrogated rights it may have against HCMA based upon any Claim brought against HCMA.

"Claims" means any alleged losses, claims, complaints, demands for relief or damages, suits, causes of action, proceedings, judgments, deficiencies, liability, penalties, litigation, costs, and expenses, including, but not limited to, reimbursement for reasonable attorney fees, witness fees, court costs, investigation expenses, litigation expenses, amounts paid in settlement, and/or other amounts or liabilities of any kind which are imposed on, incurred by, or asserted against HCMA, or for which HCMA may become legally and/or contractually obligated to pay or defend against, whether based upon any alleged violation of the federal or the state constitution, any federal or state statute, rule, regulation, or any alleged violation of federal or state common law, whether any such claims are brought in law or equity, tort, contract, or otherwise, and/or whether commenced or threatened.

Not an Employee. Although utilizing an HCMA facility, the Applicant, its employees, officers, agents or volunteers shall not be considered agents or employees of HCMA or any purpose. It is understood by the Parties that this Agreement is not intended to create a joint venture or principal-agent relationship between the Parties and their respective employees, officers, agents or volunteers.

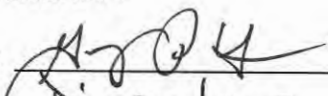
Survival of Terms. The Parties agree that any indemnification, hold harmless promises, waivers of liability, representations, insurance coverage obligations, liabilities, and/or any other related obligations provided for in this Agreement with regard to any acts, occurrences, events, transactions, or claims, either occurring or having their basis in any events or transaction that occurred before termination of this Agreement, shall survive the termination.

Governing Law & Jurisdiction. This Agreement shall be governed by laws of the state of Michigan.

APPLICANT

HURON-CLINTON METROPOLITAN
AUTHORITY

By: Jacqueline Popma _____

By:  _____

Title: PhD student University of Michigan

Title: Director

Date: 6/7/2016 _____

Date: 6-16-2016



Scientific Research Permit Application Work Plan

Primary Research/Contact Person

Jacqueline Popma
1031 Kraus Natural Science Building
Ann Arbor, MI, USA
(484)-268-8286
popmaj@umich.edu

Organization/Institution Information

University of Michigan
Department of Ecology and Evolutionary Biology
2019 Kraus Natural Science Building
830 North University
Ann Arbor, MI, 48109-1048

Student Research

Advisor: Dr. Knute Nadelhoffer
Director University of Michigan Biological Station
Professor Dept. of Ecology and Evolutionary Biology
knute@umich.edu
May-Aug phone: (231)-539-8408
Sep-May phone: (734)-763-4461

Research Summary

How do deer change northern temperate forests?

Effects of selective deer browsing on plant and soil biogeochemistry

Herbivores can have strong effects on ecosystem functions, and play an important role in nutrient cycling. Whether herbivores increase or decrease nutrient cycling depends on herbivore selectivity and plant recovery after grazing or browsing. Conceptual models predict that in high nutrient environments herbivores increase nutrient cycling. The opposite is predicted for low nutrient environments, where herbivores are predicted to decrease nutrient cycling. Previous studies confirm these models for grassland ecosystems, boreal forests and managed lands. However, evidence is lacking for temperate forest ecosystems, where deer densities have increased far above 19th century levels in many regions. While well-known changes in plant community composition as a consequence of deer browsing have been established, few studies address the effects on forest nutrient cycling. In order to fully understand how deer are changing forest ecosystems, more experimental studies are needed on nutrient cycling. On the basis of my preliminary results, I hypothesize that deer browsing influences soil nutrient cycling, resulting in increased or decreased soil nutrient availability depending on plant responses to browsing. I will test this hypothesis and develop a mechanistic understanding of these processes by

- 1) *establishing baseline data on soil nutrient availability in relation to deer browsing*
- 2) *investigating key mechanisms by which deer browsing influences nutrient cycling*

The proposed research will improve our understanding of how deer browsing affects forest ecosystem functioning by determining the balance and strength of mechanisms by which deer impact nutrient cycling. This will be accomplished with a series of field and lab experiments across a range of temperate forest ecosystems, to determine differences in soil nutrient cycling, and deer as a potential driver thereof. By integrating my process-based research with ongoing, long-term projects on plant community composition in the region, I will answer questions such as how much deer influence soil N and P availability indirectly by changing plant community composition and plant chemistry, directly by depositing nutrient rich excretion products, and its interactions at the landscape level.

Funding from University of Michigan:

- Rackham Graduate School
- Department of Ecology and Evolutionary Biology
- Bar Bigelow Fund

Ann Arbor branch of the Woman's National Farm and Garden Association

Specific Park Location – see appendix for detailed descriptions and GPS coordinates

<u>Parks</u>	<u># of deer exclosures</u>
hudson mills	3
huron meadows	2
indian springs	4
kensington	2
lake erie	1
lower huron	1
oakwoods	3
stony creek	4

Timing

Visiting parks continuously June-Sept 2016

Expected completion date: Sept 30th

Equipment

Markings: potential flags to mark sampling locations

Equipment to be used on site:

- Tape measure
- Small soil corer
- Thermometer
- Camera

Site Impact

Expected impact on park land will be minimal. My research is mostly observational, with only few samples to be taken from soil and vegetation. I will be careful in and around deer exclosures to ensure I do not trample or disturb vegetation.

Collections

I plan on collecting environmental samples from inside and outside deer exclosures, to test for deer browsing effects on forests.

- 5 soil samples per exclosure and paired control; 0-10cm, 2.5cm diameter.
- Minimal vegetation sampling from dominant plant species for plant leaf chemistry. Rare plants will be avoided.
- 3 small frames worth of forest floor leaf litter and organic material

Anticipated Products

Research efforts are expected to result in publication of a scientific journal article. I am happy to engage with Metro Park's staff on my findings, as well as providing information to the general public.

Appendix

Description of deer enclosure locations (as provided by Ryan Colliton)

Hudson Mills	
Mills GC (golf course) #1	Located on north end of golf course at the end of the paved hike/bike trail, almost directly across the river from Pine View picnic area. GPS: 42.36861, -83.91039
Mills TR (trail) #1	Located along the Nature/Hiking trail near trail marker 8. GPS: 42.37633, -83.91607
Mills TR (trail) #2	Located along the Nature/Hiking trail near the service drive between trail markers 6 and 7. GPS: 42.37944, -83.91307

Huron Meadows	
HM - GC (golf course)	Located in southern half of park along Beech Alley trail near intersection with park road. Have GPS coordinates. GPS: 42.48781, -83.77211
HM - ST (ski trail)	Located on the Maltby Vista trail, near Acorn Ridge picnic area. GPS: 42.47879, -83.78168

Indian Springs	
Sugar Shack	Located near the Sugar Shack on the Woodland Trails system. GPS: 42.70815, -83.49141
Bike/Hike Trail	GPS: 42.7043, -83.50321
Woodstove	Located on the Woodland Trails system. GPS: 42.70379, -83.4954
Gentian Area	Located near a wetland area on the Woodland Trails system. GPS: 42.70523, -83.48968

Kensington	
Wildwing	Located along Wildwing Trail. GPS: 42.52877, -83.67495
Tamarack	Located along Tamarack Trail. GPS: 42.53217, -83.67092
Spring Hill?	Located along ski trail/equestrian trails behind Spring Hill. GPS: 42.54244, -83.65022

Lake Erie	
Cherry Island Road	Located in a more remote area off of Cherry Island Road. No Longer In Place
Big Turtle Shortcut	Located in public view along Big Turtle Shortcut Trail. GPS: 42.07766, -83.19999

*exclosures are placed approximately .5 miles from each other. Park has established monitoring program.

Lower Huron

Bobwhite Trail	Located along the Bobwhite Trail, about half way around the trail. GPS: 42.17287, -83.42564
----------------	--

Oakwoods

Big Tree	Located along the Big Tree Trail, closer to the Nature Center. GPS: 42.10548, -83.31625
Railroad	Located west of the railroad tracks and north of the park road. 42.10895, -83.34601
Longbark	Located along the Longbark Trail, near the intersection with Sky-Come-Down Trail. GPS: 42.10388, -83.31484

Stony Creek

West Branch	Located in West Branch picnic area near the "Sheldon Estate" and the B-lot parking lot.. 50 feet from vehicle gate. GPS: 42.73029, -83.1079
Adult Education/Lake Loop Trail	Located along the Lake Loop Trail? GPS: 42.75301, -83.07212
Return Trail	Located in the woods along the Reflection Trail's Eastern side, closer to the Nature Center. GPS: 42.75924, -83.07484
Bike Trail	Located along the Bike Trail, between the intersection of the Nature Center road and the lake. GPS:42.73784, -83.07342

**Temporary Access Permit for the Purpose of Conducting
Scientific Research**

Research Policy. The Huron-Clinton Metroparks Authority ("HCMA") encourages the use of parkland for research activity. All research taking place on property owned or managed by HCMA requires a permit. There is no fee required for research permits. Applications will be accepted at any time and must be updated at the end of each calendar year by filing a yearly progress report. Submission of this application for use of HCMA property does not necessarily guarantee that parkland will be made available for the requested use.

Application. A permit applicant (an "Applicant") must submit an application complete with a work plan (a "Work Plan") that meets the Work Plan Requirements, attached hereto as Exhibit A. In addition, an Applicant must: 1) receive additional prior approval when impacts to park resources or other visitors are anticipated; 2) minimize impacts to park resources or other visitors to the fullest extent possible; 3) articulate research benefits for the disturbance; 4) repair or mitigate any impacts to the park as a result of research.

Term. The term of this Agreement shall begin on the date set forth below of this Agreement, following completion and HCMA acceptance of the Work Plan and shall expire on December 31. HCMA may immediately terminate this Agreement with or without cause upon notice to Applicant.

Consideration. In consideration of the right to access HCMA properties for research purposes, Applicant agrees to provide copies of progress reports and publications, or published or unpublished data, upon HCMA's request. Additional review may be required for archeological or social science research.

Ownership. It is understood that any and all specimens, artifacts or research areas within the park system, shall at all times remain, the sole and exclusive property of HCMA and all areas within the park system shall remain open at all times for public use.

Facility Use. Subject to the terms of this Agreement, HCMA agrees to allow access and use of research sites identified in the Applicant's Work Plan, during regular business hours or other times as otherwise agreed to in writing, for the express use of promoting conducting research, providing educational opportunities or other activities within HCMA's property. The proposed work, including time, scope, location, and purpose, shall not be inconsistent or conflict with any management plan or established policy, objectives, or requirements applicable to the management or operations of HCMA.

Loss and Damage of Research Equipment. HCMA shall not be liable for any damage or loss of the Applicant's equipment or property while conducting research activities within the park system.

Indemnification, Release, Limitation of Liability and Disclaimer of Warranties. Applicant shall indemnify, defend and hold HCMA harmless from any and all Claims (as defined below) which are incurred by or asserted against HCMA by any person or entity, alleged to have been caused or found to arise, from the negligent acts, performances, errors, or omissions of Applicant or Applicant's employee, agent, volunteer or student, including, without limitation, all Claims relating to injury or death of any person or damage to any property.

Applicant shall have no rights against HCMA for any indemnification except as expressly provided herein. Applicant waives and releases all actions, liabilities and damage including any subrogated rights it may have against HCMA based upon any Claim brought against HCMA.

“Claims” means any alleged losses, claims, complaints, demands for relief or damages, suits, causes of action, proceedings, judgments, deficiencies, liability, penalties, litigation, costs, and expenses, including, but not limited to, reimbursement for reasonable attorney fees, witness fees, court costs, investigation expenses, litigation expenses, amounts paid in settlement, and/or other amounts or liabilities of any kind which are imposed on, incurred by, or asserted against HCMA, or for which HCMA may become legally and/or contractually obligated to pay or defend against, whether based upon any alleged violation of the federal or the state constitution, any federal or state statute, rule, regulation, or any alleged violation of federal or state common law, whether any such claims are brought in law or equity, tort, contract, or otherwise, and/or whether commenced or threatened.

Not an Employee. Although utilizing an HCMA facility, the Applicant, its employees, officers, agents or volunteers shall not be considered agents or employees of HCMA or any purpose. It is understood by the Parties that this Agreement is not intended to create a joint venture or principal-agent relationship between the Parties and their respective employees, officers, agents or volunteers.

Survival of Terms. The Parties agree that any indemnification, hold harmless promises, waivers of liability, representations, insurance coverage obligations, liabilities, and/or any other related obligations provided for in this Agreement with regard to any acts, occurrences, events, transactions, or claims, either occurring or having their basis in any events or transaction that occurred before termination of this Agreement, shall survive the termination.

Governing Law & Jurisdiction. This Agreement shall be governed by laws of the state of Michigan.

APPLICANT

HURON-CLINTON METROPOLITAN
AUTHORITY

By: Stephanie Shaffer

By: _____

Title: MSU PhD Candidate

Title: Director

Date: 7 June 2016

Date: _____

Scientific Research Permit Application Work Plan

Primary Research/Contact Person

Name; Title; Address; Phone; Cell Phone; Email:

Stephanie Shaffer

PhD student

517-355-4482; 616-490-1755; zimmerst@msu.edu

Organization/Institution Information

Name of Institution/ Organization; Department; Address; Phone; Fax:

Michigan State University

Department of Fisheries and Wildlife

480 Wilson Rd, East Lansing, MI 48824

phone: 517-355-4478, fax: 517-432-1699

Student Research

Advisor Name; Advisor Contact Information:

Adviser: Dr. Henry Campa III, campa@msu.edu, 517-353-2042

Research Summary

Title; Short Description; Key Partnerships, Funding or Academic Connections:

Title: Eastern Massasauga Rattlesnake Population and Habitat Ecology in Southern Michigan

Description: This research will involve locating and capturing massasaugas at sites throughout Michigan, radiotracking snakes through their habitat, and assessing habitat quality via a habitat suitability index (HSI) model. Captured massasaugas will be processed in the field: we will collect data concerning their gender, reproductive status, body size, and will inject them with a passive integrated transponder (PIT) tag for individual identification. Some massasaugas will temporarily be transported to a licensed veterinarian (John Ball Zoo veterinary clinic, Grand Rapids Michigan) and surgically implanted with radio transmitters following capture and surgical methods described by Bailey et al. (2011). Following a 3-7 day recovery period under veterinary observation, these telemetered snakes will be returned to their last point of capture and released. Juvenile and neonate EMR's will also be telemetered, but will not be surgically implanted with transmitters. Instead, these smaller-sized individuals will be captured and transmitters will be externally attached following methods described by Jellen and Kowalski 2007 (adhesive, tape, or surgical glue). We will surgically implant transmitters into no more than 4-5 massasaugas on Indian Springs Metropark lands. We will externally attach transmitters to all neonate and juvenile massasaugas found, and will collect these transmitters as we are able when they fall off of individual snakes. Following release, telemetered snakes will be re-located via radio telemetry and tracked intermittently throughout the summer. GPS locations will be recorded to track their movements through a range of habitat conditions during the field season. Using these data, we will estimate vital rates (e.g., daily survival, annual survival, reproduction rates) that can be used to assess population viability and habitat quality at study locations.

We will quantify detection probability of massasaugas based on habitat, environmental, surveyor, and survey methodologies at our study sites. Detection probability is defined as the likelihood of detecting an organism, given that it occurs in a location. The telemetered snakes will provide definitive data on occupancy status and thus offer a unique opportunity to develop robust detection models. Using these data, we will develop an occupancy model that can be used to assess the likelihood of sites being occupied by EMR's. Vegetation sampling (transects, plots), guided by Bailey's (2010) HSI model, will be conducted in a range of known EMR populations across southern Michigan during the field season. Different sites will be sampled to maximize the range of habitat conditions sampled to validate (and potentially adapt the model to a different structure) the existing model. Finally, we will collect facial pit swabs of snakes captured in order to determine the presence of snake fungal disease at the study sites. Snake fungal disease is a recently described and potentially fatal disease affecting snakes throughout North America (e.g., Allender et al. 2011). Swab samples will be taken from all captured snakes at all study sites; Ph.D. student Stephanie Shaffer has attended training to conduct facial pit swabs on EMRs for snake fungal disease. Disinfection protocol as required by the MDNR Scientific

Collectors permit to reduce the spread of snake fungal disease will be carried out by all personnel involved on this project. Snakes or vegetation will not be permanently removed from any site as part of the study design. For both 2015 and 2016 we obtained our approved MDNR Scientific Collectors Permit for this project (permit PR8114, issued April 2015 and April 2016 by Thomas M. Goniea, Michigan DNR). This research has been approved for the duration of the research (2015, 2016) by Michigan State University's Institutional Animal Care and Use Committee, protocol 05/15-087-00 (issued 20 May 2015).

Partnerships and Funding: This is a Michigan Department of Natural Resources funded research project involving conservation research for the eastern massasauga rattlesnake. We are working in collaboration with Daniel Kennedy, Endangered Species Coordinator for the Michigan DNR.

Specific Park Location

Describe Location; Attach Location Map:

We plan to work throughout lowland/wetland or herbaceous/early deciduous areas within Indian Springs Metropark. See map at the end of this document, the area of interest within the metropark is designated within the green polygon.

Timing

Length of Research; Anticipate Number of Park Visits; Expected Completion Date

We hope to begin field work as soon as possible, and plan to visit the site once every 3-4 days throughout the summer (until the end of August and possibly into the fall) in order to monitor any telemetered snakes and to return for vegetation sampling as the season progresses from spring into summer.

Equipment

Describe equipment or markings to be left on site; List type of equipment used in research activity:

No equipment will be left on site. We will potentially use minimal amounts of biodegradable flagging tape which we would remove upon departure every day (i.e., technicians may flag a spot where a massasauga was spotted in order to collect data at the correct location; tape would then be removed upon completion of data collection).

We will pack in and out on foot all equipment used during the field season. This equipment includes hand-held GPS units, PIT tag readers, snake hooks and tongs, snake tubes, a cooler for swab sample collection (see description above), hand-held temperature and solar radiation readers, data notebooks, and measuring tapes. All of this equipment will be carried via backpack or hand, and multiple trips through the site to collect gear will not be necessary. Transmitters attached externally to small-sized snakes will be collect as we are able. These transmitters typically fall off before the battery life expires, at which point we would locate and collect the unit.

Site Impact

Describe expected impact to park land; Describe process to minimize or mitigate impacts:

We aim to have minimal impact at all sites. All of our vegetation sampling techniques are not destructive and only include measuring and counting vegetation. We will not take the same path through an area upon each visit to minimize "wear and tear" or creation of a "path".

Collections

Detail any expected collections; (State permits are required for State or Federally listed plants and to handle or capture wildlife).

As described in the project description, we will collect no more than 5-6 massasaugas for surgical implantation of radio transmitters. These massasaugas will be temporarily transported to the John Ball Zoo veterinarian in Grand Rapids for surgery, and returned to the location of capture for return to the site. Upon completion of this field work, these massasaugas will again be captured and returned to the veterinarian for a transmitter removal or replacement surgery.

We will capture all located massasaugas in the field for processing (i.e., measuring, weighting, PIT tag injection), and will return any massasaugas not being transported for surgery immediately to their location of capture to minimize handling time.

Swab samples will be taken from each massasauga encountered and mailed to Dr. Matthew Allender at the University of Illinois Wildlife Epidemiology Lab for analysis. Swab sampling is not an invasive procedure; it is simply swabbing the skin or heat-sensing pits of rattlesnakes to identify the presence of snake fungal disease on the skin of the animal.

We have obtained our approved MDNR Scientific Collectors Permit for this project (permit PR8114, issued 2016 by Thomas M. Goniea, Michigan DNR).

Anticipated Products

Describe any anticipated products from your research (publications, reports, data, press/media).

Following completion of this research project, we anticipate having sufficient data for analysis regarding habitat suitability, use of habitat by massasaugas, an assessment of population viability (or potential of the site for viable populations), a detection and occupancy estimate of snakes in the area, and an indication of presence of snake fungal disease. We plan to publish results in peer-reviewed scientific journals, and possibly in publically accessible newsletters or magazines.

26771856.1\042460-00005 \

**Temporary Access Permit for the Purpose of Conducting
Scientific Research**

Research Policy. The Huron-Clinton Metroparks Authority ("HCMA") encourages the use of parkland for research activity. All research taking place on property owned or managed by HCMA requires a permit. There is no fee required for research permits. Applications will be accepted at any time and must be updated at the end of each calendar year by filing a yearly progress report. Submission of this application for use of HCMA property does not necessarily guarantee that parkland will be made available for the requested use.

Application. A permit applicant (an "Applicant") must submit an application complete with a work plan (a "Work Plan") that meets the Work Plan Requirements, attached hereto as Exhibit A. In addition, an Applicant must: 1) receive additional prior approval when impacts to park resources or other visitors are anticipated; 2) minimize impacts to park resources or other visitors to the fullest extent possible; 3) articulate research benefits for the disturbance; 4) repair or mitigate any impacts to the park as a result of research.

Term. The term of this Agreement shall begin on the date set forth below of this Agreement, following completion and HCMA acceptance of the Work Plan and shall expire on December 31. HCMA may immediately terminate this Agreement with or without cause upon notice to Applicant.

Consideration. In consideration of the right to access HCMA properties for research purposes, Applicant agrees to provide copies of progress reports and publications, or published or unpublished data, upon HCMA's request. Additional review may be required for archeological or social science research.

Ownership. It is understood that any and all specimens, artifacts or research areas within the park system, shall at all times remain, the sole and exclusive property of HCMA and all areas within the park system shall remain open at all times for public use.

Facility Use. Subject to the terms of this Agreement, HCMA agrees to allow access and use of research sites identified in the Applicant's Work Plan, during regular business hours or other times as otherwise agreed to in writing, for the express use of promoting conducting research, providing educational opportunities or other activities within HCMA's property. The proposed work, including time, scope, location, and purpose, shall not be inconsistent or conflict with any management plan or established policy, objectives, or requirements applicable to the management or operations of HCMA.

Loss and Damage of Research Equipment. HCMA shall not be liable for any damage or loss of the Applicant's equipment or property while conducting research activities within the park system.

Indemnification, Release, Limitation of Liability and Disclaimer of Warranties. Applicant shall indemnify, defend and hold HCMA harmless from any and all Claims (as defined below) which are incurred by or asserted against HCMA by any person or entity, alleged to have been caused or found to arise, from the negligent acts, performances, errors, or omissions of Applicant or Applicant's employee, agent, volunteer or student, including, without limitation, all Claims relating to injury or death of any person or damage to any property.

Applicant shall have no rights against HCMA for any indemnification except as expressly provided herein. Applicant waives and releases all actions, liabilities and damage including any subrogated rights it may have against HCMA based upon any Claim brought against HCMA.

“Claims” means any alleged losses, claims, complaints, demands for relief or damages, suits, causes of action, proceedings, judgments, deficiencies, liability, penalties, litigation, costs, and expenses, including, but not limited to, reimbursement for reasonable attorney fees, witness fees, court costs, investigation expenses, litigation expenses, amounts paid in settlement, and/or other amounts or liabilities of any kind which are imposed on, incurred by, or asserted against HCMA, or for which HCMA may become legally and/or contractually obligated to pay or defend against, whether based upon any alleged violation of the federal or the state constitution, any federal or state statute, rule, regulation, or any alleged violation of federal or state common law, whether any such claims are brought in law or equity, tort, contract, or otherwise, and/or whether commenced or threatened.

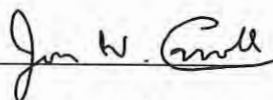
Not an Employee. Although utilizing an HCMA facility, the Applicant, its employees, officers, agents or volunteers shall not be considered agents or employees of HCMA or any purpose. It is understood by the Parties that this Agreement is not intended to create a joint venture or principal-agent relationship between the Parties and their respective employees, officers, agents or volunteers.

Survival of Terms. The Parties agree that any indemnification, hold harmless promises, waivers of liability, representations, insurance coverage obligations, liabilities, and/or any other related obligations provided for in this Agreement with regard to any acts, occurrences, events, transactions, or claims, either occurring or having their basis in any events or transaction that occurred before termination of this Agreement, shall survive the termination.

Governing Law & Jurisdiction. This Agreement shall be governed by laws of the state of Michigan.

APPLICANT

By: Jon W. Carroll

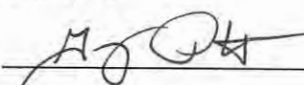


Title: Assistant Professor of Anthropology

Date: 23 Apr 2016

HURON-CLINTON METROPOLITAN
AUTHORITY

By:

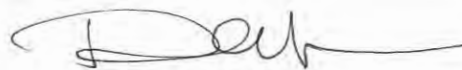


Title:

Director

Date:

5-25-16


5-25-16

Additional Requirements for Archeological Investigations. A Permit is required for any archeological investigation occurring on Metropark property, regardless of whether or not these investigations are linked to regulatory compliance, research, academic endeavors or recreation. Archeological investigations that require permits include excavation, shovel-testing, coring, pedestrian survey (with and without removal of artifacts), underwater archeology, photogrammetry, and use of metal detectors. (The use of metal detectors may be harmful to archaeological sites because it results in the removal of individual artifacts from their association with other artifacts, and from their association with the soil layer they were in. This results in the loss of important historical information. The use of metal detectors on Huron-Clinton Metropark land is regulated.) Individuals, academic and scientific institutions, museums, and businesses that propose to conduct archeological field investigations on parklands must first obtain a Permit before the project may begin.

All archeological investigations must comply with all State and Federal laws and regulations that protect archeological resources.

All Applicants for archaeological investigations, must meet minimum qualifications as evidenced by training, education, and/or experience, and possesses demonstrable appropriate competence. (MA/MS or Ph.D. in Archaeology or Anthropology or closely related field; At least 1 year full-time professional experience or equivalent specialized training in archaeological administration or management; Demonstrated ability to carry research to completion.

All appropriate Native American tribal authorities must be notified of potential harm if significant cultural or religious sites are expected to be encountered.

The proposed work must demonstrate that it is to be undertaken for the purpose of furthering archeological knowledge in the public interest.

Written confirmation has been obtained from the curatorial facility that will accept the resulting collections and associated records.

The applicant has confirmed that, not later than 90 days after the date that the final report has been submitted to the Metroparks, all material remains and associated records resulting from work conducted under the requested Permit will be delivered to the Metroparks or previously agreed to curatorial facilities as named in the Permit application.

If the archeological project is anticipated to impact a site that is listed or eligible for listing on the National Register of Historic Places or if the project involves archeological excavations, compliance with Section 106 of NHPA or NEPA is required.

All specimens collected remain the property of the Huron-Clinton Metroparks. The applicant is responsible for arranging curation, accession, safeguarding, and preservation of all materials collected in accordance with accepted museum standards. These arrangements must address the continuing availability of the collection for public observation, scientific study and display if curated (on loan) to institutions outside of Metropark facilities. The Applicant shall provide the Metroparks with copies of catalogs, field notes, photographs, and reports, even if curation is

arranged in a facility not under the control of the Metroparks. Collection should be accomplished by methods that conserve resources and must be of some tangible benefit to the Metroparks. The collections shall be used for scientific and educational purposes dedicated to public benefit only and shall in no case be used for commercial purposes or personal profit.

Plant life and other features shall not be disturbed without permission of Metropark staff. (The presence of State or Federally protected plant or animal life at the site of the proposed excavation shall negate approval to proceed and all work in that area shall cease.) After excavation, the area is to be restored to as near its former condition as possible. Park unit staff should be consulted before and after backfilling, for suggestions and approval.

Scientific Research Permit Application Work Plan

Primary Research/Contact Person

Name; Title; Address; Phone; Cell Phone; Email:

Organization/Institution Information

Name of Institution/ Organization; Department; Address; Phone; Fax:

Student Research

Advisor Name; Advisor Contact Information:

Research Summary

Title; Short Description; Key Partnerships, Funding or Academic Connections:

Specific Park Location

Describe Location; Attach Location Map:

Timing

Length of Research; Anticipate Number of Park Visits; Expected Completion Date

Equipment

Describe equipment or markings to be left on site; List type of equipment used in research activity:

Site Impact

Describe expected impact to park land; Describe process to minimize or mitigate impacts:

Dr. Jon W. Carroll, Ph.D., Registered Professional Archaeologist (RPA)
Oakland University
Department of Sociology, Anthropology, Social Work and Criminal Justice
533 Varner Hall
Rochester, MI 48309-4495
517.944.5281

March 21, 2016

Mr. Paul Muelle
Natural Resources & Environmental Compliance Manager
Huron-Clinton Metroparks
13000 High Ridge Drive
Brighton, MI 48114

Proposal for Indian Springs Metropark Archaeological Survey and Research-Spring 2016

Dear Mr. Paul Muelle:

Oakland University would like to request permission for the Midwest Archaeological Field School to continue conducting surveys at Indian Springs Metropark during May and June of 2016. This request comes from research conducted at the Office of the State Archaeologist identifying known archaeological resources contained in the area surrounding park property, as well as our desire to build upon our successful cultural resource management surveys conducted for the Metroparks since 2014.

RESEARCH OBJECTIVE

Information on file with the State Archaeologist in Lansing indicates that there are at least twenty previously recorded archaeological sites of both historic and prehistoric origins in the surrounding area adjacent to park. I believe that the park probably contains archaeological resources assuming that construction and landscaping of the park have not disturbed the soil profile. There is no record of any systematic archaeological survey undertaken at Indian Springs Metropark, and it is my desire to present our students with both public service and practical learning opportunities through this research effort.

We would like to obtain permission to conduct Phase I (initial) surveys for the purpose of identifying archaeological cultural resources within the Metropark, as well as for the purpose of training students enrolled in AN383: Archaeological Field School at Oakland University during Summer Term I of 2016.

PERSONNEL BACKGROUND AND SCOPE OF FIELDWORK

1. Personnel

- A. *Principal Investigator:* Dr. Jon W. Carroll is an anthropological archaeologist with extensive experience conducting archaeological research in academic, governmental, and private sector consulting environments. His research interests include cultural transmission, social interaction and integration, political and economic organization, and the social science applications of Geographic Information Systems (GIS) and computer modeling and simulation, as well as the archaeology of the Eastern Woodlands of North America. Dr. Carroll is responsible for all archaeological research design, survey and excavation.

- B. *Student Component:* Undergraduates enrolled in AN383 will serve as field technicians. Oakland University is providing all necessary equipment, supervision and training for the students. These students will also be involved in the preparation of any technical reports detailing the efforts of the field school if any archaeological resources are identified.
2. Research Design and Methodology
- A. Systematic surveys for the 2016 field season proposed for Metropark property (Indian Springs Metropark 2016) are contained within the red polygon outlined in the figure below.

These areas will be surveyed through pedestrian reconnaissance at 10-meter transect intervals. Shovel testing will also be performed at 10-meter intervals along each transect. Secondary radial shovel tests will be excavated at 5-meter intervals in cardinal directions around each positive primary shovel test where artifacts are identified. Secondary testing will cease after two consecutive negative shovel tests are demonstrated. Phase II (exploratory) excavation units will be employed if survey results indicate that further archaeological inquiry is appropriate. All shovel test pits and resulting excavation units will be refilled immediately upon recordation, thus minimizing environmental impacts. All artifacts recovered during survey will be processed and analyzed at Oakland University and then returned to the Metroparks upon completion of laboratory analyses.

RESEARCH CONTRIBUTIONS AND BENEFITS

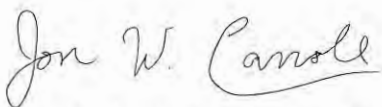
An account detailing our research efforts will be produced in the form of a Technical Report (TR) authored by the Principal Investigator upon completion of field operations. A copy of the TR will be forwarded to the Metroparks system when the document is completed and submitted to the State Archaeologist in Lansing, Michigan.

A central goal of this proposed research is to engage in community outreach by highlighting the rich archaeological heritage of Southeastern Michigan. Our continued research planned for the Metroparks represents the first known systematic assessment of archaeological resources inside the park, thus providing a public service while simultaneously educating students. The long-term objective is to pursue additional archaeological research that will allow Metroparks staff to identify and mitigate potential impacts to cultural resources from future development projects if necessary.

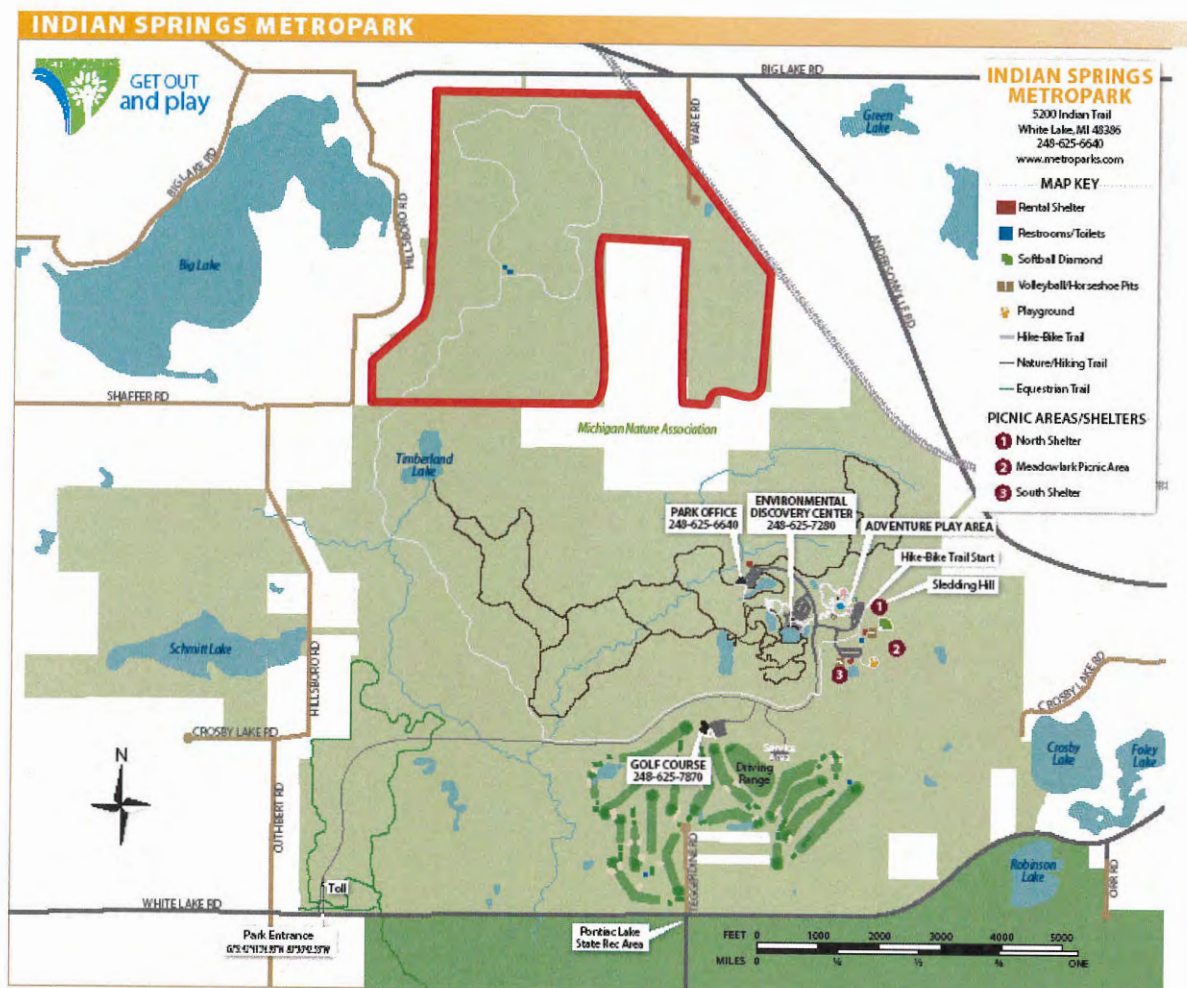
SUMMARY

Permissions to conduct research at Indian Springs Metropark will provide Oakland University students with a chance to engage in research that translates into meaningful community service that benefits policymakers, stakeholders and the citizens of Southeastern Michigan. Your consideration in this endeavor is greatly appreciated.

Sincerely,



Dr. Jon W. Carroll, Ph.D., Registered Professional Archaeologist (RPA)
Assistant Professor of Anthropology, Oakland University



REFERENCES CITED

Indian Springs Metropark.
(2014). Retrieved Mar 21, 2016, from
http://www.metroparks.com/Multimedia/www.metroparks.com/Files/Maps/Indian-Springs_park.pdf

E. Central Michigan University - Institute of Great Lakes Research / Department of Biology

Temporary Access Permit for the Purpose of Conducting Scientific Research

Research Policy. The Huron-Clinton Metroparks Authority ("HCMA") encourages the use of parkland for research activity. All research taking place on property owned or managed by HCMA requires a permit. There is no fee required for research permits. Applications will be accepted at any time and must be updated at the end of each calendar year by filing a yearly progress report. Submission of this application for use of HCMA property does not necessarily guarantee that parkland will be made available for the requested use.

Application. A permit applicant (an "Applicant") must submit an application complete with a work plan (a "Work Plan") that meets the Work Plan Requirements, attached hereto as Exhibit A. In addition, an Applicant must: 1) receive additional prior approval when impacts to park resources or other visitors are anticipated; 2) minimize impacts to park resources or other visitors to the fullest extent possible; 3) articulate research benefits for the disturbance; 4) repair or mitigate any impacts to the park as a result of research.

Term. The term of this Agreement shall begin on the date set forth below of this Agreement, following completion and HCMA acceptance of the Work Plan and shall expire on December 31. HCMA may immediately terminate this Agreement with or without cause upon notice to Applicant.

Consideration. In consideration of the right to access HCMA properties for research purposes, Applicant agrees to provide copies of progress reports and publications, or published or unpublished data, upon HCMA's request. Additional review may be required for archeological or social science research.

Ownership. It is understood that any and all specimens, artifacts or research areas within the park system, shall at all times remain, the sole and exclusive property of HCMA and all areas within the park system shall remain open at all times for public use.

Facility Use. Subject to the terms of this Agreement, HCMA agrees to allow access and use of research sites identified in the Applicant's Work Plan, during regular business hours or other times as otherwise agreed to in writing, for the express use of promoting conducting research, providing educational opportunities or other activities within HCMA's property. The proposed work, including time, scope, location, and purpose, shall not be inconsistent or conflict with any management plan or established policy, objectives, or requirements applicable to the management or operations of HCMA.

Loss and Damage of Research Equipment. HCMA shall not be liable for any damage or loss of the Applicant's equipment or property while conducting research activities within the park system.

Indemnification, Release, Limitation of Liability and Disclaimer of Warranties. Applicant shall indemnify, defend and hold HCMA harmless from any and all Claims (as defined below) which are incurred by or asserted against HCMA by any person or entity, alleged to have been caused or found to arise, from the negligent acts, performances, errors, or omissions of Applicant or Applicant's employee, agent, volunteer or student, including, without limitation, all Claims relating to injury or death of any person or damage to any property.

Applicant shall have no rights against HCMA for any indemnification except as expressly provided herein. Applicant waives and releases all actions, liabilities and damage including any subrogated rights it may have against HCMA based upon any Claim brought against HCMA.

"Claims" means any alleged losses, claims, complaints, demands for relief or damages, suits, causes of action, proceedings, judgments, deficiencies, liability, penalties, litigation, costs, and expenses, including, but not limited to, reimbursement for reasonable attorney fees, witness fees, court costs, investigation expenses, litigation expenses, amounts paid in settlement, and/or other amounts or liabilities of any kind which are imposed on, incurred by, or asserted against HCMA, or for which HCMA may become legally and/or contractually obligated to pay or defend against, whether based upon any alleged violation of the federal or the state constitution, any federal or state statute, rule, regulation, or any alleged violation of federal or state common law, whether any such claims are brought in law or equity, tort, contract, or otherwise, and/or whether commenced or threatened.

Not an Employee. Although utilizing an HCMA facility, the Applicant, its employees, officers, agents or volunteers shall not be considered agents or employees of HCMA or any purpose. It is understood by the Parties that this Agreement is not intended to create a joint venture or principal-agent relationship between the Parties and their respective employees, officers, agents or volunteers.

Survival of Terms. The Parties agree that any indemnification, hold harmless promises, waivers of liability, representations, insurance coverage obligations, liabilities, and/or any other related obligations provided for in this Agreement with regard to any acts, occurrences, events, transactions, or claims, either occurring or having their basis in any events or transaction that occurred before termination of this Agreement, shall survive the termination.

Governing Law & Jurisdiction. This Agreement shall be governed by laws of the state of Michigan.

APPLICANT

HURON-CLINTON METROPOLITAN
AUTHORITY

By: *Bridget Wheeler* By:

Title: Wetland Research Technician Title:

Date: *5/24/16*

Date: *5-25-16*

[Signature]
5.25.16

Bridget Wheelock

Wetland Research Technician/Graduate Teaching Assistant

22365 W. Marion Rd. Brant, MI 48614

(989) 284-8100

wheel1ba@cmich.edu

Central Michigan University

Institute for Great Lakes Research, Department of Biology

Advisor: Tom Gehring

(989) 339-1249

gehri1tm@cmich.edu

Our project looks to assess and monitor the health of Great Lakes coastal wetlands, especially those currently underway with restoration or planning for restoration. We are funded by the EPA and collaborate with other universities and agencies in the Great Lakes region.

We would like to conduct surveys at the Lake Erie Metropark (attach map of site polygons)

Our surveys will be conducted from April, 2016 through July, 2016 with an end date of July 10, 2016. We will make 5 visits during this time. Our survey times will range from 4 hours before sunset to 4 hours after sunset and half an hour before sunrise to 4 hours after sunrise.

All equipment and techniques are non-invasive. We will be using an mp3 broadcaster to broadcast bird calls in between time periods of passive listening.

We will not be collecting any specimens or impacting the park land in any way.

We anticipate production of data, reports, and publications from our research.



1919: Cherry Isle Wetland

1918: Rockwood Road Wetland

Rockwood Dr

Pleasant Dr

Ludwig Dr
Pintail Dr

Image © 2015 TerraMetrics

Lee Rd

F. Notre Dame University - Department of Biological Sciences

Temporary Access Permit for the Purpose of Conducting Scientific Research

Research Policy. The Huron-Clinton Metroparks Authority ("HCMA") encourages the use of parkland for research activity. All research taking place on property owned or managed by HCMA requires a permit. There is no fee required for research permits. Applications will be accepted at any time and must be updated at the end of each calendar year by filing a yearly progress report. Submission of this application for use of HCMA property does not necessarily guarantee that parkland will be made available for the requested use.

Application. A permit applicant (an "Applicant") must submit an application complete with a work plan (a "Work Plan") that meets the Work Plan Requirements, attached hereto as Exhibit A. In addition, an Applicant must: 1) receive additional prior approval when impacts to park resources or other visitors are anticipated; 2) minimize impacts to park resources or other visitors to the fullest extent possible; 3) articulate research benefits for the disturbance; 4) repair or mitigate any impacts to the park as a result of research.

Term. The term of this Agreement shall begin on the date set forth below of this Agreement, following completion and HCMA acceptance of the Work Plan and shall expire on December 31. HCMA may immediately terminate this Agreement with or without cause upon notice to Applicant.

Consideration. In consideration of the right to access HCMA properties for research purposes, Applicant agrees to provide copies of progress reports and publications, or published or unpublished data, upon HCMA's request. Additional review may be required for archeological or social science research.

Ownership. It is understood that any and all specimens, artifacts or research areas within the park system, shall at all times remain, the sole and exclusive property of HCMA and all areas within the park system shall remain open at all times for public use.

Facility Use. Subject to the terms of this Agreement, HCMA agrees to allow access and use of research sites identified in the Applicant's Work Plan, during regular business hours or other times as otherwise agreed to in writing, for the express use of promoting conducting research, providing educational opportunities or other activities within HCMA's property. The proposed work, including time, scope, location, and purpose, shall not be inconsistent or conflict with any management plan or established policy, objectives, or requirements applicable to the management or operations of HCMA.

Loss and Damage of Research Equipment. HCMA shall not be liable for any damage or loss of the Applicant's equipment or property while conducting research activities within the park system.

Indemnification, Release, Limitation of Liability and Disclaimer of Warranties. Applicant shall indemnify, defend and hold HCMA harmless from any and all Claims (as defined below) which are incurred by or asserted against HCMA by any person or entity, alleged to have been caused or found to arise, from the negligent acts, performances, errors, or omissions of Applicant or Applicant's employee, agent, volunteer or student, including, without limitation, all Claims relating to injury or death of any person or damage to any property.

Applicant shall have no rights against HCMA for any indemnification except as expressly provided herein. Applicant waives and releases all actions, liabilities and damage including any subrogated rights it may have against HCMA based upon any Claim brought against HCMA.

"Claims" means any alleged losses, claims, complaints, demands for relief or damages, suits, causes of action, proceedings, judgments, deficiencies, liability, penalties, litigation, costs, and expenses, including, but not limited to, reimbursement for reasonable attorney fees, witness fees, court costs, investigation expenses, litigation expenses, amounts paid in settlement, and/or other amounts or liabilities of any kind which are imposed on, incurred by, or asserted against HCMA, or for which HCMA may become legally and/or contractually obligated to pay or defend against, whether based upon any alleged violation of the federal or the state constitution, any federal or state statute, rule, regulation, or any alleged violation of federal or state common law, whether any such claims are brought in law or equity, tort, contract, or otherwise, and/or whether commenced or threatened.

Not an Employee. Although utilizing an HCMA facility, the Applicant, its employees, officers, agents or volunteers shall not be considered agents or employees of HCMA or any purpose. It is understood by the Parties that this Agreement is not intended to create a joint venture or principal-agent relationship between the Parties and their respective employees, officers, agents or volunteers.

Survival of Terms. The Parties agree that any indemnification, hold harmless promises, waivers of liability, representations, insurance coverage obligations, liabilities, and/or any other related obligations provided for in this Agreement with regard to any acts, occurrences, events, transactions, or claims, either occurring or having their basis in any events or transaction that occurred before termination of this Agreement, shall survive the termination.

Governing Law & Jurisdiction. This Agreement shall be governed by laws of the state of Michigan.

APPLICANT

By: Whitney M. Conard

Title: Ph.D. Student Researcher

Date: 5/31/2016

HURON-CLINTON METROPOLITAN
AUTHORITY

By: Mo Oka

Title: Director

Date: 6-16-2016

Scientific Research Permit Application Work Plan

Primary Research/Contact Person

Whitney Conard
Ph.D. Student
292 Galvin Life Sciences, Department of Biological Sciences
Notre Dame, Indiana 46556
Office Phone: (574) 631- 0580
Cell Phone: (812) 272- 9575
wconard@nd.edu

Organization/Institution Information

University of Notre Dame
Department of Biological Sciences
100 Galvin Life Sciences Center
Notre Dame, Indiana 46556
Phone: (574) 631-6552
Fax: (574) 631-7413

Student Research

Gary Lamberti
University of Notre Dame, Professor
Coastal Wetland Monitoring Program, Co-PI
Phone: (574) 631- 8075
glambert@nd.edu

Research Summary

Title: Great Lakes Coastal Wetland Monitoring Program Sampling

Short Description: We are a part of the U.S. Environmental Protection Agency's funded Great Lakes Coastal Wetland Monitoring (CWM) program. Our primary objective is to continue implementing a standardized Great Lakes basin-wide coastal wetland monitoring program that will be a powerful tool to inform decision-makers on coastal wetland conservation and restoration priorities. Sampling methodology and indicator calculations will follow the protocols contained in the Great Lakes Coastal Wetland Consortium monitoring plan (GLCWC 2008). Tasks include stratified-random site selection of coastal wetlands across the entire Great Lakes basin sampling of selected wetlands (20% per year for five years), data entry, data quality checks and clean-up, data uploading, and reporting to US EPA Great Lakes National Program Office (GLNPO). Wetland sampling includes collecting indicator data on birds, amphibians, fish, benthic macroinvertebrates, macrophyte vegetation, and supporting water quality measurements (i.e. nutrients, chlorophyll-a). All data will be uploaded into a database specifically tailored for these monitoring results which is publically available (www.greatlakescoastalwetlands.org) and directly shared with relevant management.

In order to monitor the health of Great Lakes coastal wetlands, we include a census of fish and benthic macroinvertebrate communities in and adjacent to open water habitats (riverine, coastal and protected systems). Our live-trapping, sampling strategy is designed to represent all fish and benthic macroinvertebrate taxa inhabiting these habitats representing varying vegetation zones (cattails, lilies, bulrush, submerged aquatic vegetation, etc.), with minimal disturbance to wetland animals and habitat. Great Lakes coastal wetlands remain an imperiled habitat, as less than 50% of existing wetlands remain, following European settlement. They are a productive and important habitat for fish (nursery and spawning grounds), amphibian, bird (nesting), invertebrate and plant (nutrient mitigation) communities across all Great Lake basins. Our crew is responsible for collecting water quality, fish community, and benthic macroinvertebrate data for the wetland sites we are assigned on an annual basis.

Collaborators: University of Minnesota- Duluth, Lake Superior State university, Environment Canada, Central Michigan University, United States Geological Survey, Michigan Department of Environmental Quality, Grand Valley State University, University of Windsor, Northland College, University of Wisconsin-River Falls, University

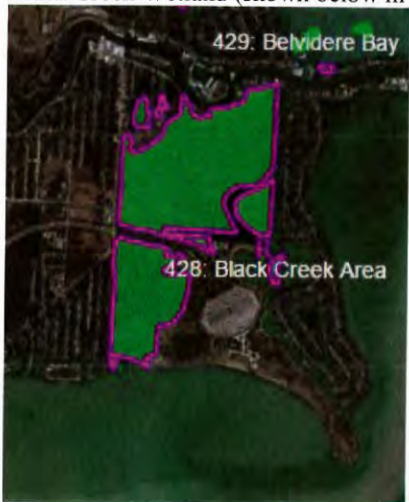
of Wisconsin- Green Bay, LimnoTech, The college at Brockport State University of New York, University of Wisconsin-Superior, Bird Studies Canada

Funding: U.S. EPA Great Lakes National Program Office

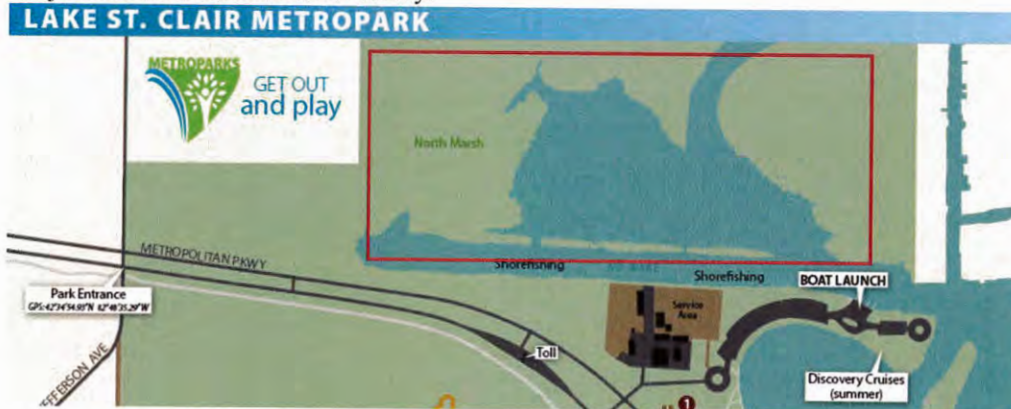
Specific Park Location

Lake St. Clair Metropark

Black Creek Wetland (shown below in map area outlined in purple)



We would like to access the area labeled as the “North Marsh” (outlined in a red box in below map) after launching our jon boat from the boat launch nearby.



Timing

Length of Research: 2-3 days. This depends on conditions of our nets after setting them and the number of vegetation zones we are able to sample.

Anticipate Number of Park Visits: Once for 2-3 consecutive days. We anticipate entering and leaving the park once for every day we sample.

Expected Completion Date: We anticipate sampling between July 18-21.

Equipment

Fish Community: At each site we will sample all available vegetation zones using triplicate fyke nets set for one night (about 12 hours). After one net-night, the nets are hauled in and fish are taken out of the trap, identified, and released alive in the immediate vicinity of capture. If any fish are captured that we cannot conclusively identify in

the field and we are confident are not species of special concern or endangered species, these fish will be either carefully photographed or euthanized for identification back in our laboratory.

Macroinvertebrate Community: Benthic macroinvertebrate sampling will also be stratified by plant zones; typically the most common zones are cattails, lilies, bulrush, wet meadow, and submerged aquatic vegetation. Similarly, to fish sampling, we will be collecting bugs (150 individuals) from each zone, replicated three times, so a fully-sampled zone will have 450 individuals bugs collected. Not all sites have multiple vegetation zones, so the actual number of bugs taken at a site varies. Benthic macroinvertebrates will be sampled using D-frame aquatic dip nets in the same vegetation zones that are fished. Our methods for sampling include a composite of net sweeps taken at the water surface, mid-depth and the water-sediment interface. By brushing vegetation and “beating” detritus with the net, we will be able to incorporate all microhabitats at a given replicate sampling point. However, we will specifically avoid collecting microcrustaceans (rotifers, cladocerans, ostracods and copepods) and all mussels.

Equipment list:

- fyke nets
- D nets

Site Impact

We do not anticipate impacting park lands other than the minor and temporary impact that fyke nets and D-net sweeps in vegetation can have. Our field crew is experienced in aquatic habitat sampling, specifically wetlands, and diligently tries to leave as little evidence of sampling as possible. To support this, we use the least destructive methods for these sensitive habitats while minimizing the harm to any organisms we may encounter.

Collections

Nearly all fish will be released alive after identification and enumeration. If, in the rare case that fish are severely injured (broken back-bone, severe lacerations), we will administer euthanasia (MS-222, tricaine methanesulfonate at 1 g/L). No live individuals will be returned to the laboratory and any collected invasive species (round goby, oriental weatherfish, etc.) will be euthanized/destroyed. Additionally, if any specimens are captured that we cannot conclusively identify in the field and we are confident are not species of special concern or endangered species; these fish will be euthanized. We plan to only take up to 3 voucher specimens per type, allowing us to accurately identify taxa in the laboratory. These fish would be housed by the collecting laboratory or after 5 years will be archived at the University of Notre Dame Museum of Biodiversity specimen collection (Notre Dame, IN).

We do not plan on targeting federally or state-listed endangered and threatened species. However, it is possible we could catch some listed taxa unintentionally during the course of our sampling effort. While we take great care to prevent the unintentional collection and facilitate the immediate release of listed species, records of collection could still be valuable for organizations in charge of managing species recoveries. Therefore, we will carefully handle species, take pictures, record location and habitat information, and release where captured. We will report these species in our yearend report to Michigan DNR. Additionally, CWM-II data is publically available at www.greatlakescoastalwetlands.org.

Fortunately, our passive fyke-nets allow free movement within a net and specifically allow by-catch; such as turtles, to move and breathe normally until released. Additionally, we set our nets for no more than 24 hours before checking to insure as many by-caught individuals survive unharmed. Additionally, freshwater mussels will be actively avoided during our sampling of the benthic macroinvertebrate communities and they will not be collected or disturbed.

We have applied for a Michigan' Scientific Collectors Permit and Threatened/Endangered species permit for species we anticipate encountering at this site. We anticipate receiving these permits mid- June and can provide copies of these to the Metropark prior to sampling if desired.

Anticipated Products

All data will be uploaded into a database specifically tailored for these monitoring results which is publically available (www.greatlakescoastalwetlands.org) and directly shared with relevant management. Data collected

through the coastal wetland monitoring program goes through a QA/QC process that typically finishes in December or January following the summer field season. We would be able to share our findings after the QA/QC process has concluded with the Metropark Natural Resources department.

Publications from the Coastal Wetland Monitoring Program are not typically based on one single wetland. Typically, data is pooled for wetlands across the Great Lakes by region or specific wetland type (i.e. riverine wetland, marsh). Our research group based out of the University of Notre Dame does not have intentions to publish data solely from the Black Creek wetland. Our intentions are to sample this wetland to add fish, macroinvertebrate, and water quality data to the Coastal Wetland Monitoring Program database.

G. Wayne State University - Department of Biochemistry and Molecular Biology

Temporary Access Permit for the Purpose of Conducting Scientific Research

Research Policy. The Huron-Clinton Metroparks Authority ("HCMA") encourages the use of parkland for research activity. All research taking place on property owned or managed by HCMA requires a permit. There is no fee required for research permits. Applications will be accepted at any time and must be updated at the end of each calendar year by filing a yearly progress report. Submission of this application for use of HCMA property does not necessarily guarantee that parkland will be made available for the requested use.

Application. A permit applicant (an "Applicant") must submit an application complete with a work plan (a "Work Plan") that meets the Work Plan Requirements, attached hereto as Exhibit A. In addition, an Applicant must: 1) receive additional prior approval when impacts to park resources or other visitors are anticipated; 2) minimize impacts to park resources or other visitors to the fullest extent possible; 3) articulate research benefits for the disturbance; 4) repair or mitigate any impacts to the park as a result of research.

Term. The term of this Agreement shall begin on the date set forth below of this Agreement, following completion and HCMA acceptance of the Work Plan and shall expire on December 31. HCMA may immediately terminate this Agreement with or without cause upon notice to Applicant.

Consideration. In consideration of the right to access HCMA properties for research purposes, Applicant agrees to provide copies of progress reports and publications, or published or unpublished data, upon HCMA's request. Additional review may be required for archeological or social science research.

Ownership. It is understood that any and all specimens, artifacts or research areas within the park system, shall at all times remain, the sole and exclusive property of HCMA and all areas within the park system shall remain open at all times for public use.

Facility Use. Subject to the terms of this Agreement, HCMA agrees to allow access and use of research sites identified in the Applicant's Work Plan, during regular business hours or other times as otherwise agreed to in writing, for the express use of promoting conducting research, providing educational opportunities or other activities within HCMA's property. The proposed work, including time, scope, location, and purpose, shall not be inconsistent or conflict with any management plan or established policy, objectives, or requirements applicable to the management or operations of HCMA.

Loss and Damage of Research Equipment. HCMA shall not be liable for any damage or loss of the Applicant's equipment or property while conducting research activities within the park system.

Indemnification, Release, Limitation of Liability and Disclaimer of Warranties. Applicant shall indemnify, defend and hold HCMA harmless from any and all Claims (as defined below) which are incurred by or asserted against HCMA by any person or entity, alleged to have been caused or found to arise, from the negligent acts, performances, errors, or omissions of Applicant or Applicant's employee, agent, volunteer or student, including, without limitation, all Claims relating to injury or death of any person or damage to any property.

Applicant shall have no rights against HCMA for any indemnification except as expressly provided herein. Applicant waives and releases all actions, liabilities and damage including any subrogated rights it may have against HCMA based upon any Claim brought against HCMA.

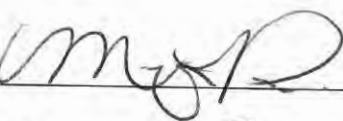
"Claims" means any alleged losses, claims, complaints, demands for relief or damages, suits, causes of action, proceedings, judgments, deficiencies, liability, penalties, litigation, costs, and expenses, including, but not limited to, reimbursement for reasonable attorney fees, witness fees, court costs, investigation expenses, litigation expenses, amounts paid in settlement, and/or other amounts or liabilities of any kind which are imposed on, incurred by, or asserted against HCMA, or for which HCMA may become legally and/or contractually obligated to pay or defend against, whether based upon any alleged violation of the federal or the state constitution, any federal or state statute, rule, regulation, or any alleged violation of federal or state common law, whether any such claims are brought in law or equity, tort, contract, or otherwise, and/or whether commenced or threatened.

Not an Employee. Although utilizing an HCMA facility, the Applicant, its employees, officers, agents or volunteers shall not be considered agents or employees of HCMA or any purpose. It is understood by the Parties that this Agreement is not intended to create a joint venture or principal-agent relationship between the Parties and their respective employees, officers, agents or volunteers.

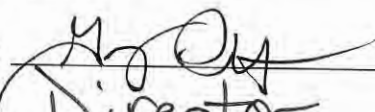
Survival of Terms. The Parties agree that any indemnification, hold harmless promises, waivers of liability, representations, insurance coverage obligations, liabilities, and/or any other related obligations provided for in this Agreement with regard to any acts, occurrences, events, transactions, or claims, either occurring or having their basis in any events or transaction that occurred before termination of this Agreement, shall survive the termination.

Governing Law & Jurisdiction. This Agreement shall be governed by laws of the state of Michigan.

APPLICANT

By: 
Title: Research Technician
Date: 6/15/16

HURON-CLINTON METROPOLITAN
AUTHORITY

By: 
Title: Director
Date: 6-16-2016

Scientific Research Permit Application Work Plan

Primary Research/Contact Person

Name; Title; Address; Phone; Cell Phone; Email:

Name: Monique Pipkin

Email: monique.a.pipkin@gmail.com

Phone: (248) 894- 4676

Organization/Institution Information

Name of Institution/ Organization; Department; Address; Phone; Fax:

Name of Institution: Wayne State University School of Medicine

Department: Biochemistry and Molecular Biology

Address: 540 East Canfield Avenue

Detroit, MI 48201

Phone: (313) 577-1511

Fax: (313) 577 - 2765

Student Research

Advisor Name; Advisor Contact Information:

Advisor Name: Dr. Robert Akins

Advisor Phone: (313) 577 – 0419

Advisor Email: rakins@med.wayne.edu

Research Summary

Title; Short Description; Key Partnerships, Funding or Academic Connections:

Among the uncounted thousands of fungal species on the planet, only dozens are known opportunistic pathogens in humans. Most of these are *Candida*; over half are *Candida albicans*. *Candida* species colonize human skin, bloodstream and the mucosal membranes of the mouth, intestines and vagina; systemic infections have up to 40% mortality. This study aims to identify the common reservoirs in the environment of *Candida albicans*. Small samples of material will be removed from the environment in order to culture the fungus, if present, in the laboratory setting. This research is sponsored through grants awarded to Dr. Robert Akins and Wayne State University School of Medicine.

Specific Park Location

Describe Location; Attach Location Map:

I would conduct the study across the different habitats in the following HCMA locations: Lake St. Clair, Wolcott Mill, Stony Creek, Indian Springs, and Kensington.

Timing

Length of Research; Anticipate Number of Park Visits; Expected Completion Date

The study will occur from June – August 2016, The sample on Metroparks property begin immediately after approval is given and will end approximately in the first week of August. Depending on the size of the parks, each will be visited about 2-3 times.

Equipment

Describe equipment or markings to be left on site; List type of equipment used in research activity:

No equipment will be left in the park. Samples will be placed in 50mL conical tubes that will be removed from the park with the samples inside.

Site Impact

Describe expected impact to park land; Describe process to minimize or mitigate impacts:

There will be minimum damage to the parks resulting from the removal of specimens from the properties. No sensitive or protected plant or animal material will be removed from the parks. The plant materials will be identified before removal. In addition, plant reproductive material will only be removed if there is additional reproductive material on that individual.

Collections

Detail any expected collections; (State permits are required for State or Federally listed plants and to handle or capture wildlife).

We will sample cross the different habitats and remove small amounts of soil, plant material, wildlife fecal material, dead insect material and extraneous wildlife material including fallen feathers and fur, broken eggshells, and old nesting materials.

Anticipated Products

Describe any anticipated products from your research (publications, reports, data, press/media).

26771856.1\042460-00005

The results from this study are expected to be published in a scientific journal and may be presented at a scientific conference.

**Temporary Access Permit for the Purpose of Conducting
Scientific Research**

Research Policy. The Huron-Clinton Metroparks Authority ("HCMA") encourages the use of parkland for research activity. All research taking place on property owned or managed by HCMA requires a permit. There is no fee required for research permits. Applications will be accepted at any time and must be updated at the end of each calendar year by filing a yearly progress report. Submission of this application for use of HCMA property does not necessarily guarantee that parkland will be made available for the requested use.

Application. A permit applicant (an "Applicant") must submit an application complete with a work plan (a "Work Plan") that meets the Work Plan Requirements, attached hereto as Exhibit A. In addition, an Applicant must: 1) receive additional prior approval when impacts to park resources or other visitors are anticipated; 2) minimize impacts to park resources or other visitors to the fullest extent possible; 3) articulate research benefits for the disturbance; 4) repair or mitigate any impacts to the park as a result of research.

Term. The term of this Agreement shall begin on the date set forth below of this Agreement, following completion and HCMA acceptance of the Work Plan and shall expire on December 31. HCMA may immediately terminate this Agreement with or without cause upon notice to Applicant.

Consideration. In consideration of the right to access HCMA properties for research purposes, Applicant agrees to provide copies of progress reports and publications, or published or unpublished data, upon HCMA's request. Additional review may be required for archeological or social science research.

Ownership. It is understood that any and all specimens, artifacts or research areas within the park system, shall at all times remain, the sole and exclusive property of HCMA and all areas within the park system shall remain open at all times for public use.

Facility Use. Subject to the terms of this Agreement, HCMA agrees to allow access and use of research sites identified in the Applicant's Work Plan, during regular business hours or other times as otherwise agreed to in writing, for the express use of promoting conducting research, providing educational opportunities or other activities within HCMA's property. The proposed work, including time, scope, location, and purpose, shall not be inconsistent or conflict with any management plan or established policy, objectives, or requirements applicable to the management or operations of HCMA.

Loss and Damage of Research Equipment. HCMA shall not be liable for any damage or loss of the Applicant's equipment or property while conducting research activities within the park system.

Indemnification, Release, Limitation of Liability and Disclaimer of Warranties. Applicant shall indemnify, defend and hold HCMA harmless from any and all Claims (as defined below) which are incurred by or asserted against HCMA by any person or entity, alleged to have been caused or found to arise, from the negligent acts, performances, errors, or omissions of Applicant or Applicant's employee, agent, volunteer or student, including, without limitation, all Claims relating to injury or death of any person or damage to any property.

Applicant shall have no rights against HCMA for any indemnification except as expressly provided herein. Applicant waives and releases all actions, liabilities and damage including any subrogated rights it may have against HCMA based upon any Claim brought against HCMA.

“Claims” means any alleged losses, claims, complaints, demands for relief or damages, suits, causes of action, proceedings, judgments, deficiencies, liability, penalties, litigation, costs, and expenses, including, but not limited to, reimbursement for reasonable attorney fees, witness fees, court costs, investigation expenses, litigation expenses, amounts paid in settlement, and/or other amounts or liabilities of any kind which are imposed on, incurred by, or asserted against HCMA, or for which HCMA may become legally and/or contractually obligated to pay or defend against, whether based upon any alleged violation of the federal or the state constitution, any federal or state statute, rule, regulation, or any alleged violation of federal or state common law, whether any such claims are brought in law or equity, tort, contract, or otherwise, and/or whether commenced or threatened.

Not an Employee. Although utilizing an HCMA facility, the Applicant, its employees, officers, agents or volunteers shall not be considered agents or employees of HCMA or any purpose. It is understood by the Parties that this Agreement is not intended to create a joint venture or principal-agent relationship between the Parties and their respective employees, officers, agents or volunteers.

Survival of Terms. The Parties agree that any indemnification, hold harmless promises, waivers of liability, representations, insurance coverage obligations, liabilities, and/or any other related obligations provided for in this Agreement with regard to any acts, occurrences, events, transactions, or claims, either occurring or having their basis in any events or transaction that occurred before termination of this Agreement, shall survive the termination.

Governing Law & Jurisdiction. This Agreement shall be governed by laws of the state of Michigan.

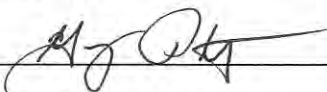
APPLICANT

By: 

Title: Megan Snetsinger, MSc Student


Date: May 24, 2016

HURON-CLINTON METROPOLITAN
AUTHORITY

By: 

Title: Director

Date: 5-25-16


5.25.16

Scientific Research Permit Application Work Plan

Primary Research/Contact Person

Name: Megan Snetsinger; **Title:** Master's of Science Student;
Address: Queen's University Biology Department; Loughheed Lab; 116 Barrie St.; Kingston, Ontario; K7L 3N6;
Office: 613-533-6000 ext. 75051; **Cell:** 613-539-1316; **Email:** megan.snetsinger@queensu.ca

Organization/Institution Information

Name of Institution: Queen's University; **Department:** Biology;
Address: Queen's University Biology Department; 116 Barrie St.; Kingston, Ontario; K7L 3N6;
Phone: 613-533-6160; **Fax:** 613-533-6617

Student Research

Advisor Name: Dr. Stephen C. Loughheed; **Advisor Contact Information:** 613-533-6128

Research Summary

Title: Conservation of Butler's Gartersnake via quantification of habitat usage & spatial ecology;
Short Description: I will use multiple approaches to address key knowledge deficits for the Endangered Butler's Gartersnakes in Ontario, seeking to quantify and refine habitat preferences and critical habitat delineation, assess population connectivity, and to test for genetic differences between population strongholds in Ontario (and how they relate to adjacent populations in Michigan); **Key Partnerships, Funding or Academic Connections:** Queen's University, Ontario Ministry of Natural Resources & Forestry.

Specific Park Location

Describe Locations: Lake Erie Metropark (32481 W. Jefferson, Brownstown MI 48173)
& Lake St. Clair Metropark (31300 Metro Parkway, Harrison Township MI 48045); within parks, specific locations to be surveyed are grass-covered areas of the parks.

Timing

Length of Research: Field work expected to take 2-6 days between May 20 and June 30 (specific days on sites are weather-dependant); **Anticipate Number of Park Visits:** 1-3 visits per park; **Expected Completion Date:** June 30.

Equipment

Describe equipment or markings to be left on site: None; **List type of equipment used in research activity:** GPS unit, measuring equipment (scale, calipers, etc.), insulin syringes & ethanol tubes for blood collection.

Site Impact

Describe expected impact to park land: No significant impact to park land is expected. All surveying is done on foot, and capture is done by hand. The well-being of the snakes will be slightly impacted in the short term;

Describe process to minimize or mitigate impacts: Blood collection process is designed to minimize impact on species health, and snakes are examined before release.

Collections

Detail any expected collections: Butler's Gartersnakes and Eastern Gartersnakes will be captured, a DNA sample will be collected from the snakes for genetic analysis, and then the snakes will be re-released at location of capture (I have a Scientific Collector's Permit from the Michigan Department of Natural Resources for this).

Anticipated Products

Products from this field research include a Master's thesis and possible publication in a scientific journal. A summary of findings can also be created for the HCMA.

I. Central Michigan University - Department of Biology

Temporary Access Permit for the Purpose of Conducting Scientific Research

Research Policy. The Huron-Clinton Metroparks Authority ("HCMA") encourages the use of parkland for research activity. All research taking place on property owned or managed by HCMA requires a permit. There is no fee required for research permits. Applications will be accepted at any time and must be updated at the end of each calendar year by filing a yearly progress report. Submission of this application for use of HCMA property does not necessarily guarantee that parkland will be made available for the requested use.

Application. A permit applicant (an "Applicant") must submit an application complete with a work plan (a "Work Plan") that meets the Work Plan Requirements, attached hereto as Exhibit A. In addition, an Applicant must: 1) receive additional prior approval when impacts to park resources or other visitors are anticipated; 2) minimize impacts to park resources or other visitors to the fullest extent possible; 3) articulate research benefits for the disturbance; 4) repair or mitigate any impacts to the park as a result of research.

Term. The term of this Agreement shall begin on the date set forth below of this Agreement, following completion and HCMA acceptance of the Work Plan and shall expire on December 31. HCMA may immediately terminate this Agreement with or without cause upon notice to Applicant.

Consideration. In consideration of the right to access HCMA properties for research purposes, Applicant agrees to provide copies of progress reports and publications, or published or unpublished data, upon HCMA's request. Additional review may be required for archeological or social science research.

Ownership. It is understood that any and all specimens, artifacts or research areas within the park system, shall at all times remain, the sole and exclusive property of HCMA and all areas within the park system shall remain open at all times for public use.

Facility Use. Subject to the terms of this Agreement, HCMA agrees to allow access and use of research sites identified in the Applicant's Work Plan, during regular business hours or other times as otherwise agreed to in writing, for the express use of promoting conducting research, providing educational opportunities or other activities within HCMA's property. The proposed work, including time, scope, location, and purpose, shall not be inconsistent or conflict with any management plan or established policy, objectives, or requirements applicable to the management or operations of HCMA.

Loss and Damage of Research Equipment. HCMA shall not be liable for any damage or loss of the Applicant's equipment or property while conducting research activities within the park system.

Indemnification, Release, Limitation of Liability and Disclaimer of Warranties. Applicant shall indemnify, defend and hold HCMA harmless from any and all Claims (as defined below) which are incurred by or asserted against HCMA by any person or entity, alleged to have been caused or found to arise, from the negligent acts, performances, errors, or omissions of Applicant or Applicant's employee, agent, volunteer or student, including, without limitation, all Claims relating to injury or death of any person or damage to any property.

Applicant shall have no rights against HCMA for any indemnification except as expressly provided herein. Applicant waives and releases all actions, liabilities and damage including any subrogated rights it may have against HCMA based upon any Claim brought against HCMA.

"Claims" means any alleged losses, claims, complaints, demands for relief or damages, suits, causes of action, proceedings, judgments, deficiencies, liability, penalties, litigation, costs, and expenses, including, but not limited to, reimbursement for reasonable attorney fees, witness fees, court costs, investigation expenses, litigation expenses, amounts paid in settlement, and/or other amounts or liabilities of any kind which are imposed on, incurred by, or asserted against HCMA, or for which HCMA may become legally and/or contractually obligated to pay or defend against, whether based upon any alleged violation of the federal or the state constitution, any federal or state statute, rule, regulation, or any alleged violation of federal or state common law, whether any such claims are brought in law or equity, tort, contract, or otherwise, and/or whether commenced or threatened.

Not an Employee. Although utilizing an HCMA facility, the Applicant, its employees, officers, agents or volunteers shall not be considered agents or employees of HCMA or any purpose. It is understood by the Parties that this Agreement is not intended to create a joint venture or principal-agent relationship between the Parties and their respective employees, officers, agents or volunteers.

Survival of Terms. The Parties agree that any indemnification, hold harmless promises, waivers of liability, representations, insurance coverage obligations, liabilities, and/or any other related obligations provided for in this Agreement with regard to any acts, occurrences, events, transactions, or claims, either occurring or having their basis in any events or transaction that occurred before termination of this Agreement, shall survive the termination.

Governing Law & Jurisdiction. This Agreement shall be governed by laws of the state of Michigan.

APPLICANT

HURON-CLINTON METROPOLITAN
AUTHORITY

By: Erica Friley

By: _____

Title: Vegetation Crew Lead

Title: Director

Date: 6/16/14

Date: _____



Scientific Research Permit Application Work Plan

Primary Research/Contact Person

Name; Title; Address; Phone; Cell Phone; Email:

Erica Fraley; Vegetation Crew Lead; 810-434-7899; frale1el@cmich.edu

Organization/Institution Information

Name of Institution/ Organization; Department; Address; Phone; Fax:

Central Michigan University; Biology; 2625 Denison Dr. Mount Pleasant, MI 48858
989-774-1230

Student Research

Advisor Name; Advisor Contact Information:

Research Summary

Title; Short Description; Key Partnerships, Funding or Academic Connections:

The Great Lakes Coastal Wetland Monitoring Project is collaboration between many universities and agencies to document the condition of Great Lakes coastal wetlands. For the vegetation component of this project at each wetland three transects are run out perpendicular to shore. Along each transect, five evenly spaced 1x1m quadrats will be laid in each of the zones present (wet meadow, emergent, submergent). Within the quadrat all plant species present will be noted and their relative cover estimated. This project is funded through the US EPA.

Specific Park Location

Describe Location; Attach Location Map:

In wetland West of Rockwood Dr.



Timing

Length of Research; Anticipate Number of Park Visits; Expected Completion Date

1 day; 6/24/16; 1 visit; 6/24/16

Equipment

Describe equipment or markings to be left on site; List type of equipment used in research activity:

No equipment will be left behind at the site. We will be using measuring tapes, PVC quadrats and canoes

Site Impact

Describe expected impact to park land; Describe process to minimize or mitigate impacts:

Sampling will be very low impact, our impact will consist only of walking through the wetland and digging plant samples. To minimize these impacts we will use backcountry ethics such as not walking single file to reduce compaction, and removing the minimum amount of plant material necessary to ensure a positive ID.

Collections

Detail any expected collections; (State permits are required for State or Federally listed plants and to handle or capture wildlife).

We will collect any plants that we cannot ID readily in the field, we will be aware of any State or federally listed plants in the area to ensure we do not disturb or collect them. The plants we collect will only remove the minimum amount needed to ensure a positive ID.

Anticipated Products

Describe any anticipated products from your research (publications, reports, data, press/media).
26771856.1\042460-00005

Each year a report is published documenting work completed.



HURON-CLINTON METROPOLITAN AUTHORITY

To: Board of Commissioners
 From: Mike Brahm-Henkel, Manager of Engineering
 Project No: 713-16-038
 Project Title: Bids – Cob Building and Horse Barn Painting
 Project Type: Major Maintenance
 Location: Wolcott Metropark, Macomb County
 Date: July 5, 2016

Bids Received: June 21, 2016

Action Requested: Motion to Approve

That the Board of Commissioners' (1) award Contract No. 713-16-038 to the low responsive, responsible bidder, Cross Renovation, Inc. in the amount of \$53,474; (2) and approve a \$31,148 transfer from the Kensington Major Maintenance Unallocated account and \$22,200 from the Huron Meadows Unallocated account to the Wolcott Unallocated Major Maintenance account to fund the project as recommended by Manager of Engineering Mike Brahm-Henkel and staff.

Fiscal Impact: This is an unbudgeted project. Partial funding for the project is available from the remaining budget balance for the Kensington Major Maintenance road-surfacing project from the Milford Road entrance to the traffic diamond. At the May 12, 2016 Board meeting, the project for the roadwork was deferred and the budget from the roadway project was used to fund to following projects:

Kensington Roadwork Milford Road to Traffic Diamond

2016-Budgeted amount	\$260,000.00
Stony Creek Inflatable Slide Utilities	\$ 39,775.00
Stony Creek above Ground Storage Tank	\$ 19,105.00
Lake Erie Canopy Shades	\$ 52,430.00
Lake St. Clair Shade Canopies	\$ 18,725.00
Hudson Mills door replacements	\$ 42,595.00
Administrative Parking Lot Expansion	\$ 56,222.00
Total	\$228,852.00
Remaining Project Budget Balance	<u>\$31,148.00</u>

The remaining funding for the project is available from the Huron Meadows and Hudson Mills roof replacement project, which was \$22,200 under budget. The remaining \$126 is available from the Wolcott Major Maintenance account.

Bids – Cob Building and Horse Barn Painting

Page 2

Scope of Work: The work includes furnishing all labor, equipment and materials necessary to complete the work including painting, replacing and repair of wood, gutters and downspouts on the Cob building and the Horse Barn at the Historic Grist Mill and Farm.

Background: As part of the ongoing preservation and maintenance to existing buildings, staff solicited bids to address the painted surfaces of the two buildings at Wolcott. The existing paint is lead based paint and as such requires additional controls to complete the project. Cross Renovation was the contractor that previously painted the Grist Mill in 2015.

<u>Contractor</u>	<u>City</u>	<u>Amount</u>
Cross Renovation, Inc.	Livonia	\$53,474.00
Budget Amount for Contract Services and Administration		\$ 0.00
Work Order Amount		
Contract Amount – Cross Renovation		\$53,474.00
Contract Administration		\$ 2,000.00
Total Proposed Work Order Amount		<u>\$55,474.00</u>

**Note 321 contractors viewed documents over MITN but did not submit bids.*

This project was reported and publicly advertised in the following construction reporting outlets: MITN, Construction Association of Michigan, Reed Construction Data, Construction News Corporation, Construction News Service, HCMA Website, Builders Exchange of Michigan, McGraw Hill Dodge, Builders Exchange of Lansing and Central Michigan.

Aerial View of Wolcott Farm and Historic Center



Cobb Building at Wolcott Historic Center



Horse Barn at Wolcott Farm Center





HURON-CLINTON METROPOLITAN AUTHORITY

To: Board of Commissioners
 From: Mike Brahm-Henkel, Manager of Engineering
 Project No: 709-16-016
 Project Title: Bids – Main Park Road Surface/Overlay
 Project Type: Major Maintenance
 Location: Stony Creek Metropark, Macomb County
 Date: July 5, 2016

Bids Received: June 21, 2016

Action Requested: Motion to Approve

That the Board of Commissioners' (1) award Contract No. 709-16-016 to the low responsive, responsible bidder, James P. Contacting, Inc. in the amount of \$406,683.50; (2) and approve the transfer of \$206,767 from the Lower Huron Capital Unallocated account to the Stony Creek Major Maintenance Unallocated account as recommended by Manager of Engineering Mike Brahm-Henkel and staff.

Fiscal Impact: This is a 2016-budgeted project. Additional funds are available from the Lower Huron Capital project to repave the hike-bike trail.

Scope of Work: The work includes furnishing all labor, equipment and materials necessary to resurface 1.8 miles of park roadway with a two-inch overlay of asphalt and to surface 1.2 miles of roadway with a half-inch ultra-thin asphalt mixture.

Background: Staff is recommending paving a longer section of the Stony Creek main park roadway. This recommendation is based on the current condition of the surface, as well as the potential for cost savings for this project. If not completed this year, the additional roadwork would be budgeted in 2017. By completing the work this year, the savings could be achieved by reducing mobilization cost, utilizing economies of scale and adding to the overall efficiency of staff time spent on the project. The Lower Huron hike-bike trail paving can be scheduled next year.

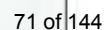
The existing section of roadway was originally reconstructed in 2002. In 2007, a partial section was repaved due to work on the dam. The surface treatments and overlay are recommended as part of the Metroparks ongoing roadway management program to preserve, prolong and provide a good travel surface for patrons. The surface treatments will help preserve the original asphalt binder in the mixture and provide a new wearing surface for vehicular traffic. To date, roadway overbanding has been used to seal pavement cracks due to weathering, age of the binder as well as wear and tear. At this time, staff recommends providing a new surface to preserve the original pavement structure and to extend the life of the roadway.

Bids – Main Park Road Overlay and Ultra-Thin Overlay
Page 2

<u>Contractor</u>	<u>City</u>	<u>Amount</u>
James P. Contracting, Inc.	Washington	\$406,766.50
Proline Asphalt Paving Corp.	Washington	\$426,683.50
Ajax Paving	Troy	\$428,278.50
Cadillac Asphalt, LLC	Clarkston	\$449,638.00
Budgeted Amount for Contract Services and Administration		
Stony Creek		\$200,000.00
Lower Huron Hike-Bike Trail Repaving		\$250,000.00
Total Budgeted		<u>\$450,000.00</u>
Work Order Amount		
Contract Amount – James P. Contracting, Inc.		\$406,766.50
Contract Administration		<u>\$ 10,000.00</u>
Total Proposed Work Order Amount (Rounded)		<u>\$416,767.00</u>

This project was reported and publicly advertised in the following construction reporting outlets: MITN, Construction Association of Michigan, Reed Construction Data, Construction News Corporation, Construction News Service, HCMA Website, Builders Exchange of Michigan, McGraw Hill Dodge, Builders Exchange of Lansing and Central Michigan.

Attachment: Project Location and Aerial View



Stony Paving Project -- 2002



Stony Paving Project -- 2007



Current 2016 Interface between 2007 and 2002





HURON-CLINTON METROPOLITAN AUTHORITY

5 - i
Meeting of July, 14 2016

To: Board of Commissioners
From: Mike Brahm-Henkel, Manager of Engineering
Project No: 700-15-012
Project Title: Bids – Roof Repairs and Replacements
Project Type: Major Maintenance
Location: Kensington and Hudson Mills Metroparks, Oakland and Washtenaw Counties
Date: July 5, 2016

Bids Received: April 21, 2016

Action Requested: Motion to Approve

That the Board of Commissioners' award Contract No. 700-15-012 to the low responsive, responsible bidder, Armstrong Enterprises, Inc. in the amount of \$69,800 as recommended by Manager of Engineering Mike Brahm-Henkel and staff.

Fiscal Impact: The project is a 2016-budgeted project and is \$22,200 under budget.

Scope of Work: The work includes furnishing all labor, equipment and materials necessary remove and replace existing shingles, replace roof decking as necessary, place underlayment and install flashing.

Background: The existing shingle roof on the Kensington Maintenance building was part of the original construction completed in 2000. The roof is 16-years-old, has previously been repaired, and currently requires additional work. Staff recommends replacing the roof now as it is expected to ne to be replaced within the next five years.

At Hudson Mills, the existing warehouse roof is approximately 20-years-old. In the 2106 budget, there is a line item to replace the Huron Meadows golf starter-building roof. However, this roof is in good condition and does not warrant replacement at this time. The Kensington Golf Maintenance building was assessed and determined to require this work. The project was publicly advertised; only one bidder responded.

<u>Contractor</u>	<u>City</u>	<u>Amount</u>
Armstrong Enterprises Inc.	Pinckney	\$ 69,800.00
Budget Amount for Contract Services		\$ 92,000.00
Work Order Amount		
Contract Amount – Armstrong Enterprises, Inc.		\$ 69,800.00
Contract Administration		\$ 2,000.00
Total Proposed Work Order Amount		\$ 71,800.00

The following bidders reviewed documents but did not submit a bid Butcher & Butcher, Great Lakes roofing, Howell construction Services, LaDuke Roofing, Optimum Contracting, Roof One, Servicemaster, Sleeves Consulting, Wendell Remodeling.

This project was reported and publicly advertised in the following construction reporting outlets: MITN, Construction Association of Michigan, Reed Construction Data, Construction News Corporation, Construction News Service, HCMA Website, Builders Exchange of Michigan, McGraw Hill Dodge, Builders Exchange of Lansing and Central Michigan.



HURON-CLINTON METROPOLITAN AUTHORITY

To: Board of Commissioners
From: George Phifer, Director
Subject: Legislative Report
Date: July 5, 2016

Legislative Consultant George Carr will give a verbal update at the July 14, 2016 meeting.

**HURON-CLINTON METROPOLITAN AUTHORITY**

To: Board of Commissioners
From: Nina Kelly, Manager of Planning
Subject: Report – Stony Creek Draft Master Plan
Date: July 5, 2016

Action Requested: Motion to Receive and File

That the Board of Commissioners' receive and file the Stony Creek Draft Master Plan as presented by Manager of Planning Nina Kelly and staff.

Manager of Planning Nina Kelly will give a brief presentation on the Stony Creek Draft Master Plan. Following the meeting, the draft will be posted on the Metroparks website for public review and comment.

The Stony Creek Master Plan will be presented to the Board at the Aug. 11, 2016 meeting for approval.

Attachment: Stony Creek Draft Master Plan



Draft June 2016

7-A-1-a

2016 STONY CREEK MASTER PLAN

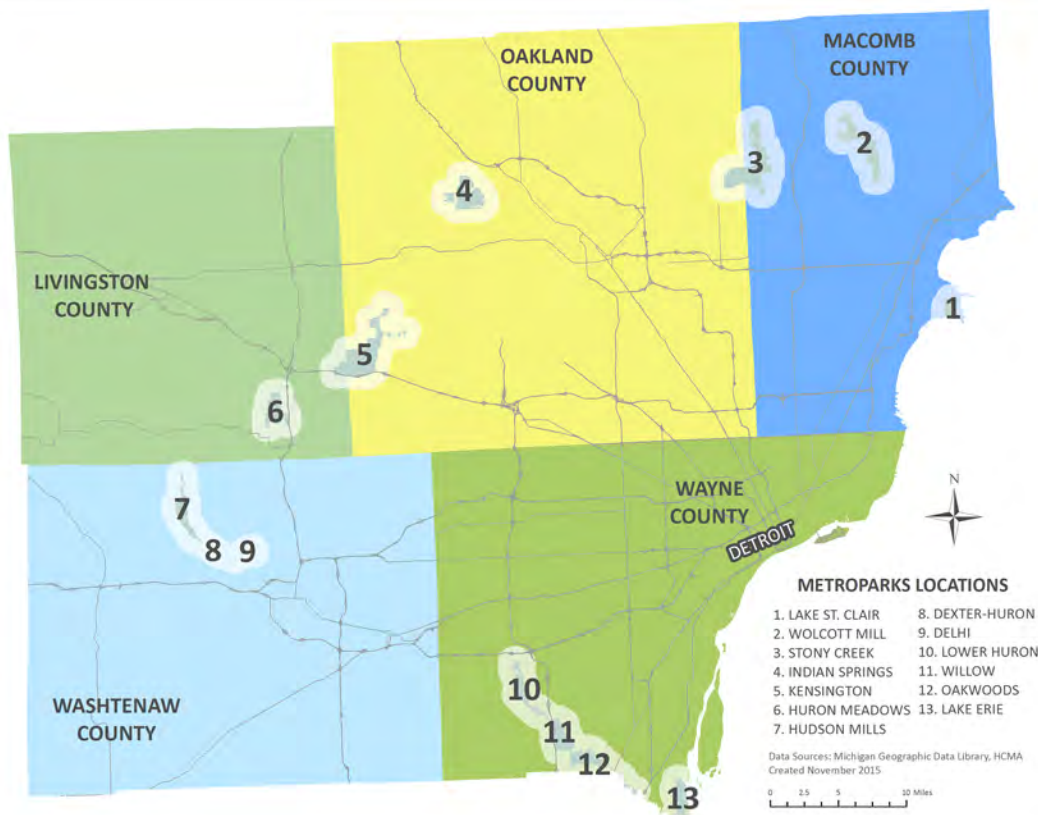


Table of Contents

INTRODUCTION	3
ABOUT THE METROPARKS	3
ADMINISTRATION & OPERATIONS	4
PLANNING PROCESS	5
STONY CREEK TODAY	6
CHARACTER	6
LOCATION	8
BIODIVERSITY AREAS	9
CULTURAL HISTORY	11
INFRASTRUCTURE	13
FACILITIES + CENTERS	15
LAND ISSUES	17
WAYFINDING	19
PARK TRAILS	20
REVENUE	22
REVENUE SOURCES	22
VISITORS	23
PROGRAMS + EVENTS	24
COMMUNITY INFLUENCES	25
POPULATION	25
PROJECTS + INITIATIVES	27
PUBLIC INPUT	29
OUTREACH PROCESS	29
RESULTS	30
ACTION PLAN	33
NEEDS & OPPORTUNITIES	33
PROJECT LIST	34
PLANS, STUDIES, & INITIATIVES	38
KEY PROJECTS	41

INTRODUCTION

About the Metroparks

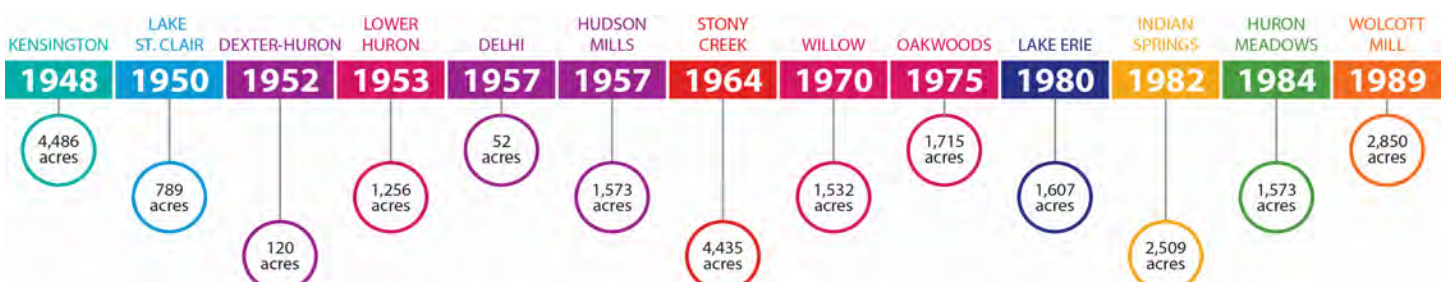


The Huron-Clinton Metropolitan Authority was sanctioned by the Michigan State Legislature in Act No. 147 of the Public Acts of 1939. Named after the two longest rivers within its boundaries, the Huron-Clinton Metropolitan Authority is a regional park agency consisting of 13 Metroparks encompassing approximately 25,000 acres of land within a five county area in southeast Michigan.

Much credit can be given to Henry S. Curtis and Harlow O. Whittemore for making the Metroparks a reality. The 1937 vision for a park system proposed a series of parks connected by a long parkway extending from Lake St. Clair along the Clinton and Huron rivers to Lake Erie below the mouth of the Detroit River.

Funding of the parks began in 1942 with a property tax levy, limited to one-quarter of one mill. The rate today has been adjusted to .2146 mills.

PARK DEVELOPMENT TIMELINE



Introduction

Administration & Operations

Board of Commissioners

A seven-member Board of Commissioners governs the Huron-Clinton Metropolitan Authority. The Board of Commissioners meets the second Thursday of each month, where they make policy decisions for the Authority, including approving expenditures, acquiring land, planning of new parks and facilities, approving fees and charges, awarding contracts through competitive bidding, and other matters necessary to provide regional recreation. The Board appoints staff officers for the Metroparks.

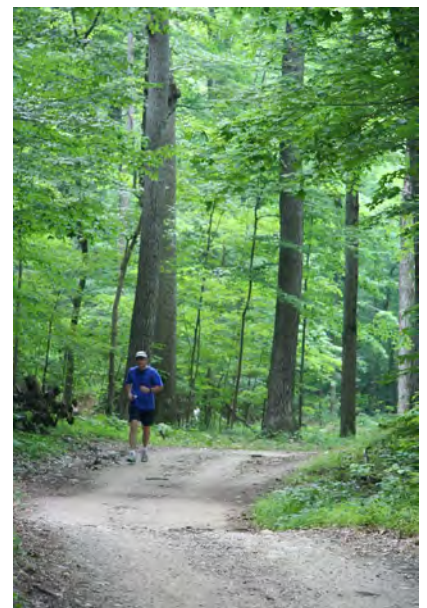
Two commissioners, appointed by the Governor of Michigan for a term of four years, serve as representatives at large. Five commissioners, one each to represent the counties of Wayne, Macomb, Oakland, Livingston and Washtenaw, are appointed for a term of six years by the board of commissioners of the above-named counties.

Director is the Chief Executive Officer of the Metroparks, provides leadership and executive oversight of all administrative and operational activities.

Administrative Departments provide administrative support to operations, and guide the organization towards its mission.

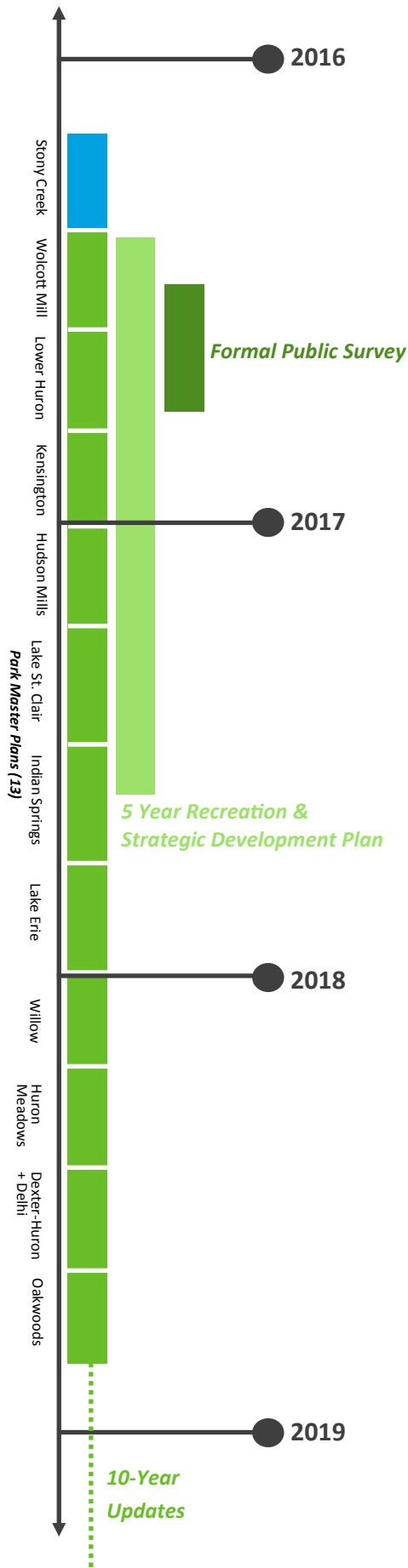
Operational Departments facilitate the day-to-day operations of the parks, making sure patrons have enjoyable and educational visits. They include Maintenance and Interpretive Services.

Metroparks Police ensure that everyone can enjoy the parks in a safe and secure environment.



Introduction

Planning Process

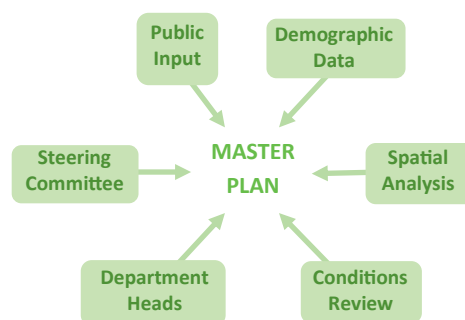


Several factors contribute to the recommendations that will be proposed for Stony Creek in the master plan. One of the most important is the public input collected through meetings, questionnaires, and online comments. This reveals the public's hopes and expectations for the park and significantly influences plan recommendations. A master plan steering committee was formed to include park employees with exceptional knowledge of Stony Creek and surrounding community, who along with the experienced Metroparks department heads provide their professional opinions.

The Metroparks Planning Department has scheduled an aggressive timeline for completing all 13 park master plans in three years. Each park will be given a planning window of four months, with overlap between parks. The order of the parks in the planning process was determined by staff based on current and planned park projects, planning need, geography, and park popularity.

The Planning Department collects demographic and spatial data to inform master plan recommendations. Demographic data looks at the density, age, race, income, language, and other factors of the regional population. Spatial data, usually analyzed through Geographic Information System software, looks at the physical location of the parks in relation to other recreation opportunities, transportation facilities, population centers, important natural resources, and more. Finally, the Planning Department conducts a review of park conditions to identify areas needing improvement and areas experiencing success.

The master plans are intended to be living documents, modified as needed to reflect changing conditions in the parks. However, they focus on park developments over the next ten years, and will be updated every decade through a formal planning process similar to the current one.



The Steering Committee for the Stony Creek Master Plan met on 3/8/16

STONY CREEK TODAY

Character



The following responses to our survey questions highlight the many facets of Stony Creek that form a unique experience. It is seen as a prime spot for active recreation that also includes valuable natural areas and facilitates both family fun and personal relaxation.

NEEDS

Better highlight and advertise special character of park

Build a strong identity and user base by building upon this character

OPPORTUNITIES

Additional trails like the Pines to the South would be great for kids **learning mountain biking skills**. I took my 8 yr old boy and 10 yr old girl several times last year and they enjoyed it.

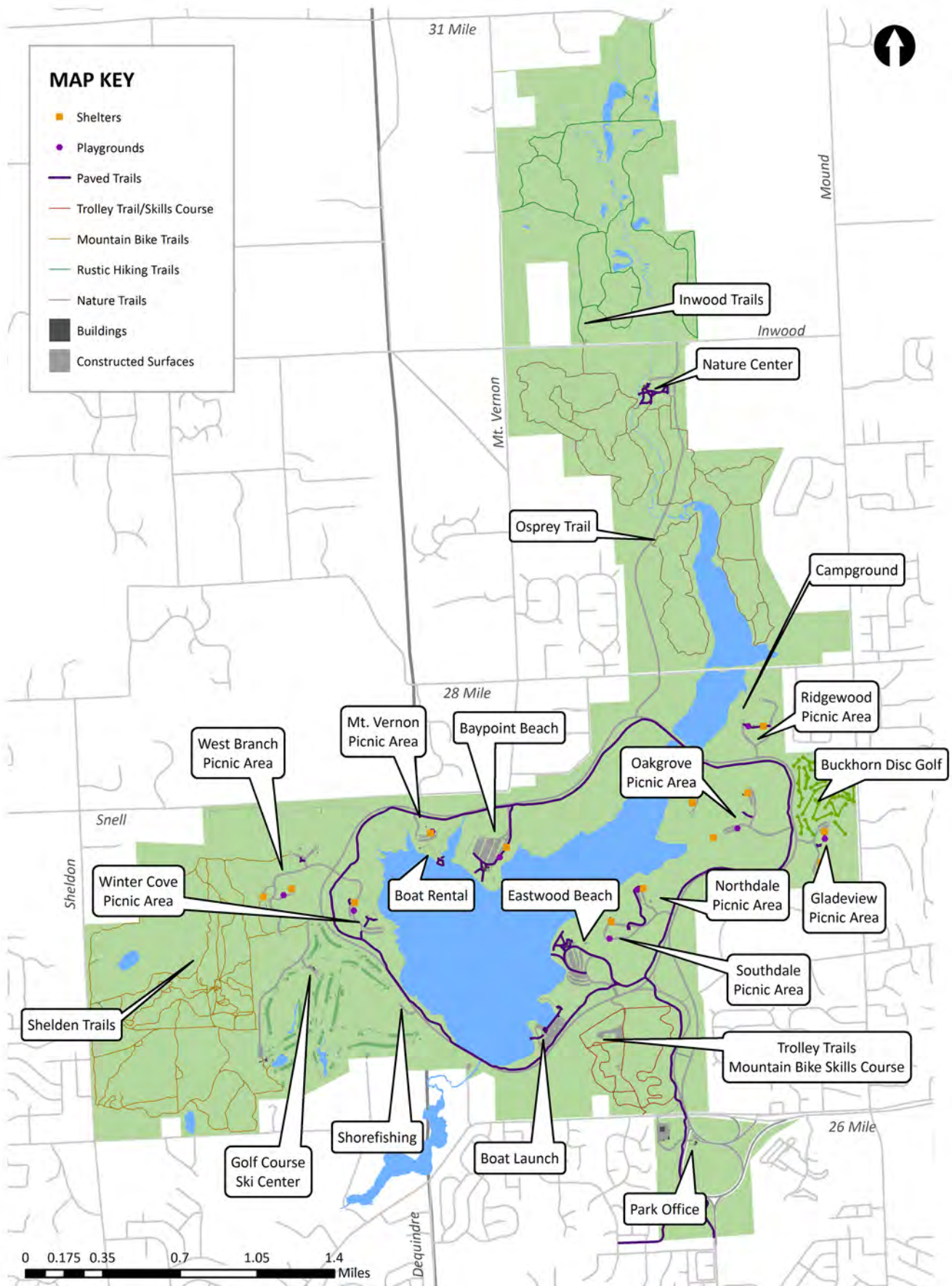
I do enjoy seeing people doing the many different activities but I also like being part of the **quiet walks**..... I get to walk and ride without lots of loud noises.

I have been using the park for 40 years! It is an awesome resource, I love and appreciate it. It actually **keeps me living in the community**

I'm going to go ahead and claim the record for having **done the most things** at SCMP: - road cycling - rowing - stand up paddling - ice skating - golf - hiking - swimming - windsurfing - kayaking - running - mountain biking - snow shoeing - xc skiing - rollerblading."

Stony Creek is my **favorite local SE Mich park**. for running , mt biking, cc skiing, hiking and pond hockey.

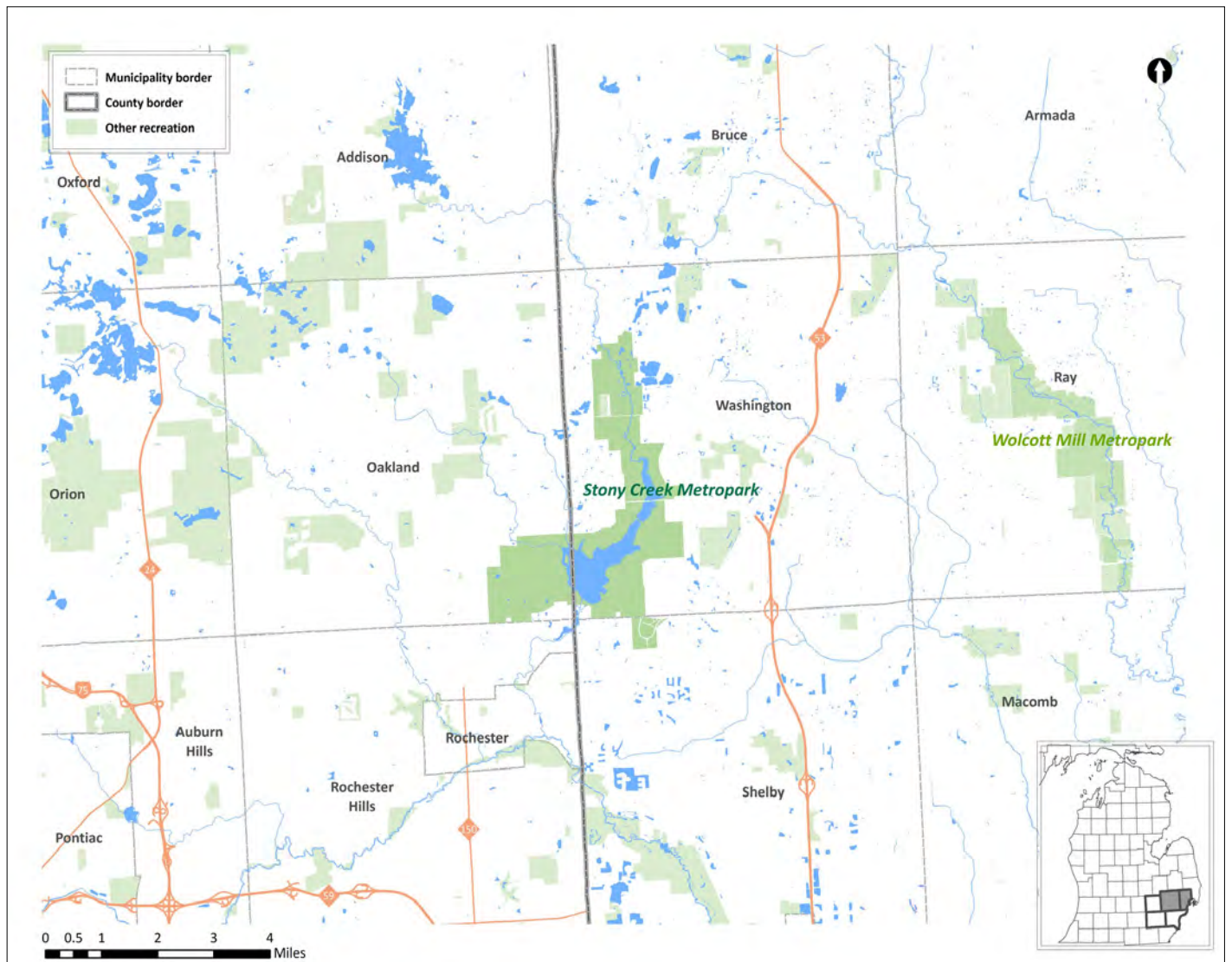
My family and I visit the park for **mountain biking and a dip in the lake**. The current trails are fun and well maintained but more trail (single track) would improve the experience.



Location

Stony Creek Metropark is located on the border of Oakland and Macomb counties in southeast Michigan. It is approximately halfway between M-59 and the Lapeer County border. Three municipalities contain portions of the park: Oakland, Washington, and Shelby Townships. The park also borders the City of Rochester Hills.

At its northernmost extent, Stony Creek reaches 31 Mile, to the east it reaches Mound Road, its western boundary is Sheldon Road, and to the south it extends between 25 and 26 Mile. The park is situated on the Stony Creek, a tributary of the Clinton River.



NEEDS

Define and protect areas with important biodiversity features

Create a resilient network of biodiverse areas in the park

OPPORTUNITIES

Biodiversity refers to the variety of life present in a given area, often measured by number and distribution of species. It is important to preserve because it provides humans with ecological services such as clean water and oxygen, leads to greater resistance and resilience during natural and human-caused disturbances, and reduces the risk of disease.

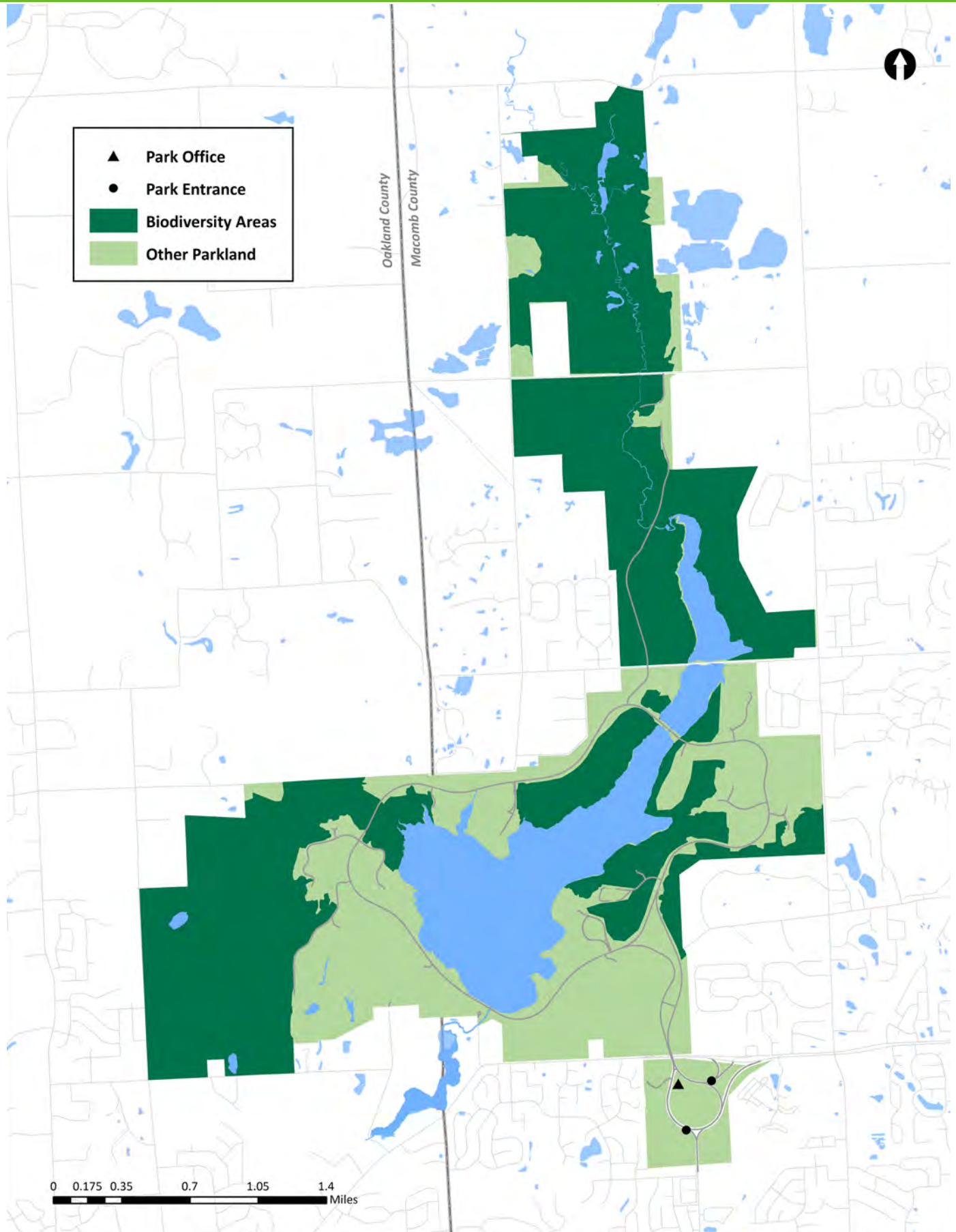


Biodiversity Areas

Identifying biodiversity areas can help inform the development of current and future park amenities, allowing the Metroparks to fulfill its mandate and mission statement of protecting the natural resources of the communities it serves. Development within biodiversity areas is carefully reviewed to minimize unnecessary disruption.

The following criteria for determining biodiversity areas were adapted from a matrix that the Natural Resources Department uses to determine work priorities throughout the park system. The following page shows a map of proposed biodiversity areas in Stony Creek.

Metric	What	Why	Metric	What	Why
Elemental Occurrence	the presence of a species under legal protection, or of a complete system recognized as in condition similar to pre-settlement	statutory, occurrences protected by law from intentional take	Percent Invasive Species Cover	percentage of total acreage with invasive plant coverage	areas with few invasive species require less work, have greater return on investment
FQA (Floristic Quality Assessment)	presence of plant species likely to occur in conditions similar to pre-settlement	determines the ecological value of a system based on its floral assemblage	Community Ranking	rank assigned by the state due to natural community rarity or rate of decline	assesses the vulnerability of each natural community within the state
FQI Connectivity	the presence of a quality habitat (greater than 35 FQI) within 100 feet of another	connected habitats provide diverse resources and facilitate migration, increase species fitness	Wetlands	the presence of wetlands	wetlands tend to have greatest diversity, and are also critical to promote healthy water resources
Size	acreage of the habitat in question	large habitats provide more diverse resources and facilitate migration, increase species fitness, resilience	Habitat Connectivity	the presence of a complementary habitat within 100 feet of another	connected wetlands promote genetic diversity conservation and water quality



Stony Creek Today

NEEDS

Better educate about and preserve important cultural features

Draw new visitors with programming/education based on history of park

OPPORTUNITIES

Ghost Roads

The original Stony Creek Metropark was created from 124 individually-owned parcels bought in the later 1950s, and piecing them together disrupted the route of certain roads crossing the properties. Winkler Mill Road and Mt. Vernon Road ran north-south, while West Road ran east-west.

Hodges Valley Creek Farm

The current Stony Creek Nature Center stands on the site of Charles Henry Hodges Sr.'s weekend home. His family lived in Grosse Pointe Village, but appreciated escaping from the more urbanized areas. The surrounding farm included fish-stocked ponds, an orchard and garden, horses and cattle, and crops tended by a resident farmer.

Charles Hodges Sr. died in 1937, and the family sold the building to HCMA once Detroit Edison power lines were installed. The Nature Center remained in this building until 2005, when the new Center was constructed.

Buckhorn Tavern

The Crissman family was among the first to settle in Washington Township, along Mound Rd between 28 and 29 Mile. After moving to Michigan from New Jersey in 1833, John Crissman purchased three hundred acres and used the log cabin on the property to sell everyday goods. This cabin had a pair of antlers attached to a pole outside and so became known as Buckhorn Tavern. It also provided boarding services, particularly for Native Americans traveling to Mt. Clemens to collect government payments.

John Crissman also built a house nearby, which remained until burning down around 1940.

Cultural History

Detroit United Railway

The original line, the Detroit and Lake Orion Railway, ran between these two cities starting in 1899. It became the Detroit United Railway after track extension to Flint and consolidation. The line was later extended all the way to Imlay City, but went out of business in 1934.

The railway ran on overhead electric lines, and passenger fee was 1.5 cents per mile. Farmers made use of the route to transport crops into Detroit. Today, a line of raised ground near the Boat Launch is all that remains of the railway.

William Inwood Sr's Findings

The descendants of William Inwood Sr. donated to the Metroparks a board of mounted Native American artifacts, presumably found by Mr. Inwood and his family members on his estate in the 1830s and 40s. The Inwood trails are currently located on this land.

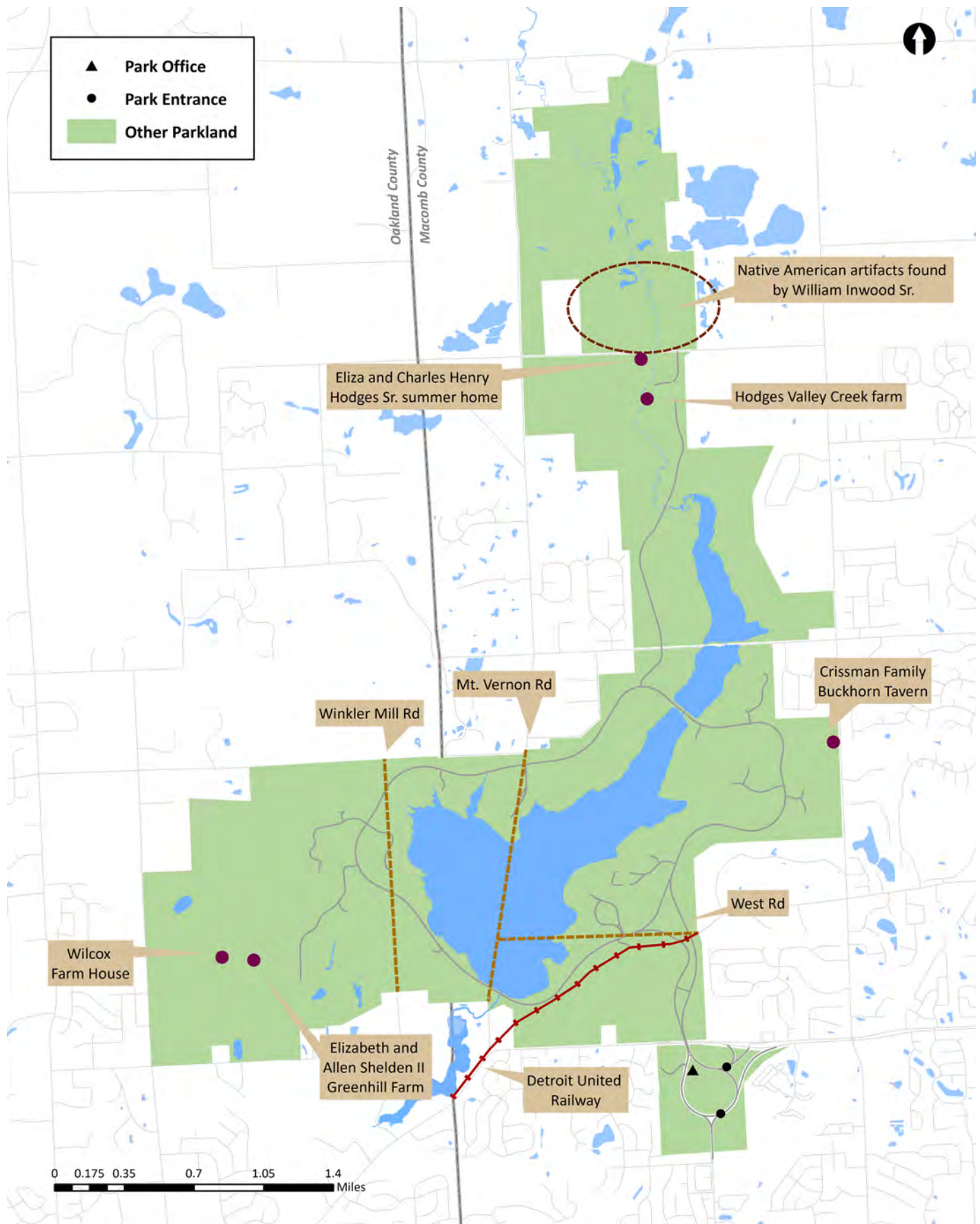
Shelden Greenhill Farm

Much of the western portion of Stony Creek was sold by Elizabeth Warren Shelden upon her death. Along with her husband Allen Shelden II she owned an autumn estate and retreat from their primary home in Indian Village and later Grosse Pointe. The property of this prominent couple included a tennis court, horse barn and dog kennels, greenhouse, pheasant pens, and a house for the farm caretakers, the Wilcox family.

Remains of the estate can still be seen today.



The steps in front of the Shelden Estate Green Hill Farm during its operation



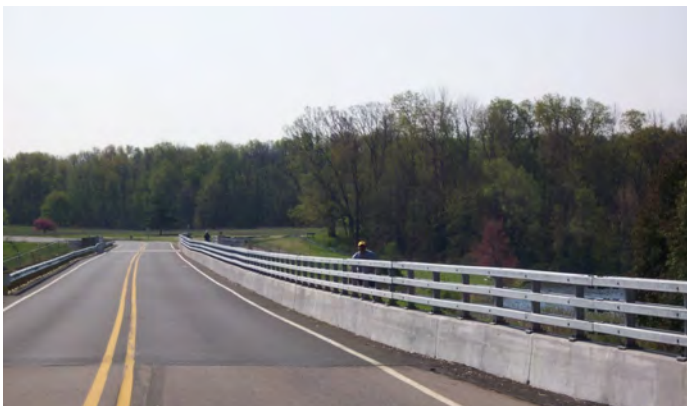
Infrastructure

In order to serve the varied needs of park visitors, Stony Creek contains a number of buildings, surfaces, facilities, and activity areas. Many of these were constructed years or decades ago, meaning that they may need to be repaired or replaced in the near future.

The Metroparks are working to reduce overbuilding in the parks. This means ensuring that the number of extent and paved roads, parking lots, and buildings meets and does not exceed the needs of park visitors now and into the future. Right-sizing the parks in this way leads to more natural areas protected for visitors' enjoyment and more efficient use of maintenance funds.

An analysis of visitor use of Stony Creek facilities is necessary to determine whether the park is overbuilt.

Stony Creek features a number of trail types to accommodate various recreational activities. For more detail on trails at Stony Creek, see page 20.



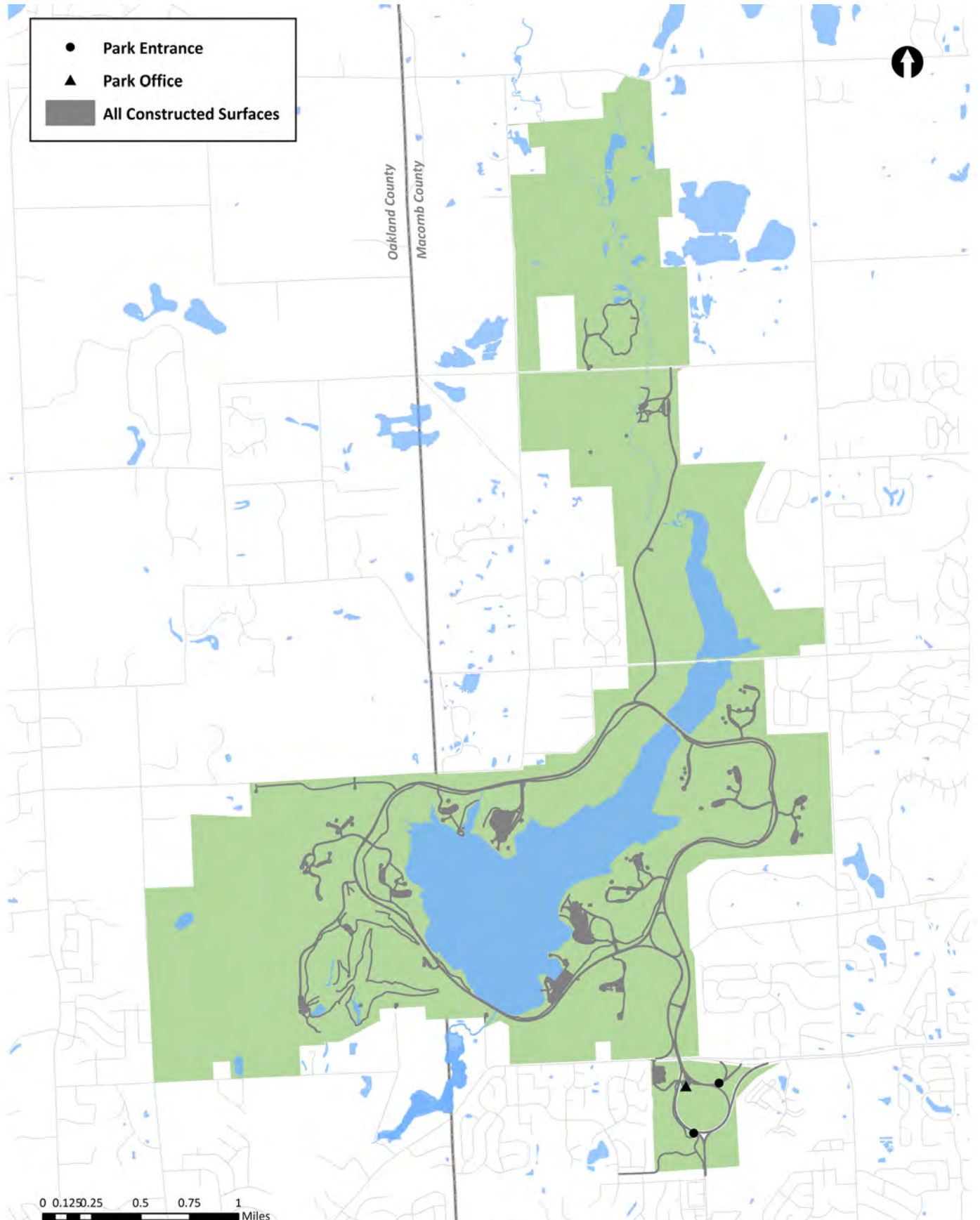
NEEDS

Address aging and overbuilt infrastructure

Redevelop park areas to better serve visitors and environment

OPPORTUNITIES

Stony Creek Infrastructure	
Buildings	21
Avg bldg age	41
Active wells over 20 yrs	27
Paths & trail miles	64.45
Road miles	14.33
Playgrounds	14
Picnic areas	10
Ice skating areas	1
Basketball courts	4
Disc golf holes	36
Boat launches	10
Boat rentals	2
Boat storage spaces	100
Bike rentals	2
Percent of park mowed	10.5
Picnic shelters	15
Sledding runs	4
Nature study acreage	599
Sand volleyball courts	2
Baseball fields	2
Fishing platforms	1
Parking lot acreage	37.52



Facilities & Centers

Stony Creek Facilities	
Banquet Tent	
Baypoint Beach	
Boat Launch & Storage	
Buckhorn Disc Golf	
Campground	
Driving Range	
Eastwood Beach	
Playground	
Water Slide	
Golf Course	
Mountain Bike Skills Course	
Nature Center	

Golf Course

Stony Creek contains a 6,928-yard, par-72 golf course with varied terrain, tree-lined fairways and abundant wildlife. Open fairways and fast greens allow both novice and experienced golfers the opportunity to challenge and improve their games

In addition to miles of trails and open spaces dedicated to informal recreation, Stony Creek features several facilities dedicated to specific recreational activities and amenities. Some of these either require an admission fee, are available for rentals, or sell concessions, supplementing park revenue. As with all park infrastructure, it is a priority to keep the facilities well-maintained and replace them when no longer functional.

Mountain Bike Skills Course

Thanks to the dedicated mountain biking community in the area, this sport is one of the most popular recreational activities at Stony Creek. The mountain bike trails and skills course are maintained in partnership with the Clinton River Area Mountain Bike Association.

Eastwood Playground

Constructed only a few years ago in 2011, this playground is immensely popular and attracts huge crowds on summer days. It includes unique rope, slide, and climbing elements that keep children engaged. Overcrowding and premature wearing due to popularity are concerns. All playgrounds are regularly inspected for safety.

Nature Center

The Stony Creek Nature Center provides engaging interpretation to help visitors understand and appreciate the natural landscape of the park. The center leads tours on the 34-foot Voyageur canoe to teach visitors about the biology and history of the lake.



Stony Creek Today

The Metroparks are moving towards a more data-driven approach to developing facilities. In order to best serve the residents of southeast Michigan and use resources wisely, the Planning Department has identified the location of similar facilities and programs. The goal for future development is to avoid duplication and instead offer unique facilities that fill recreation voids in the geographic area where the park is located.

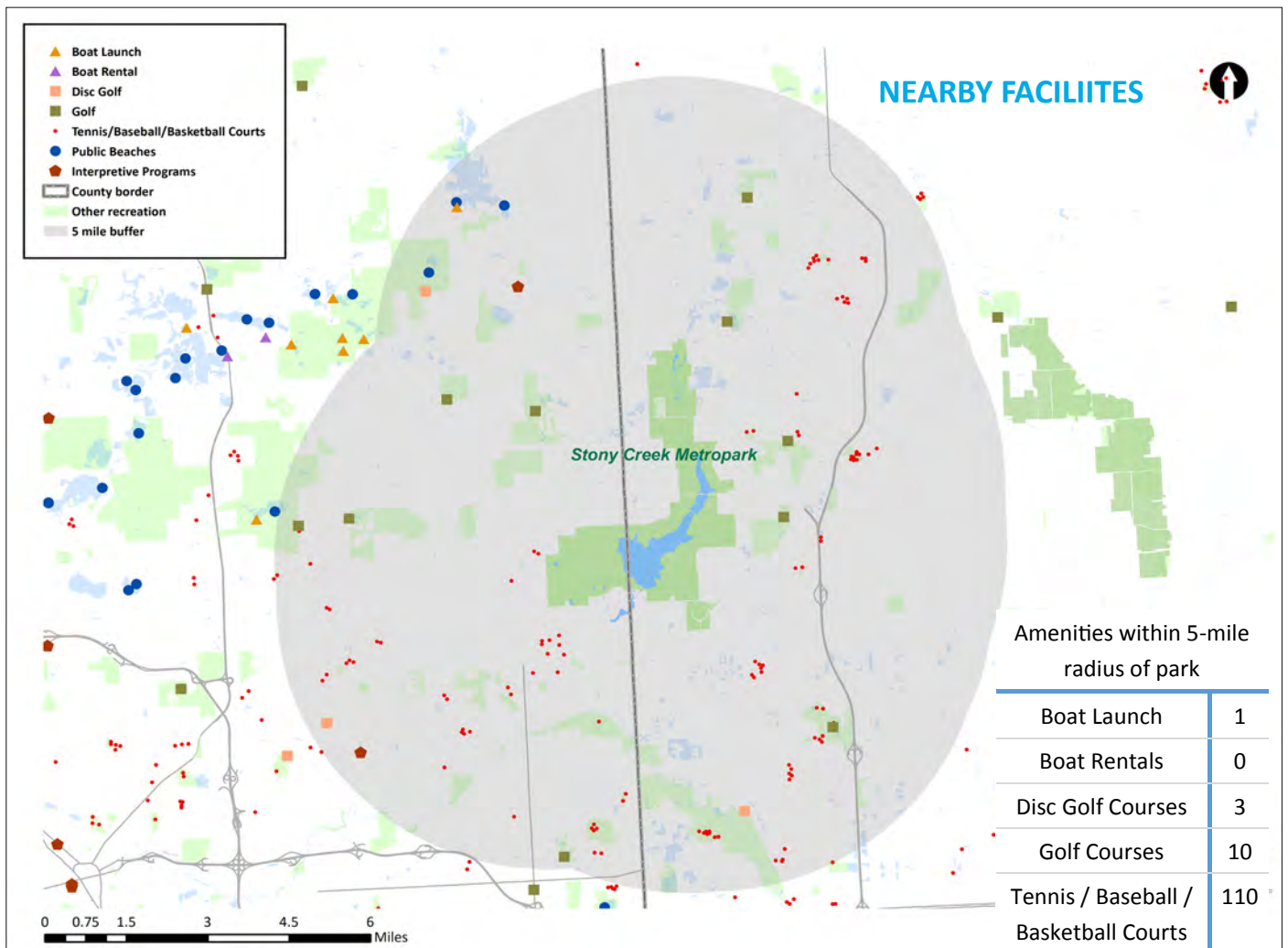
The map below shows the location of aquatic facilities, golf and disc golf, neighborhood sports facilities, and interpretive programs that compete with those offered at Stony Creek. The park is surrounded by a ring of golf courses, and slightly farther away is a scattering of public beaches and a few boat launches. Several tennis/baseball/basketball courts were also identified, mostly near the west end of Stony Creek.

NEEDS

Identify areas of facility duplication

Provide unique recreational facilities to draw visitors from across the region

OPPORTUNITIES



NEEDS

Work with county to address park boundary issues

Create good working relationship with neighbors and partner organizations

OPPORTUNITIES

Adjacent Property Uses

The land located between Mt. Vernon Rd and the Sportsman's Club is encumbered by the Michigan Department of Natural Resources (DNR) for public recreational use, and is partially classified by the Metroparks as a Biodiversity Area.

In other areas, a piece of private property is surrounded on three sides by Metroparks land. The Metroparks work with these property owners to resolve any conflicts that arise and maintain neighborly relations. If any of these property owners offer their land for sale in the near future, the Metroparks will have the option of filling in gaps in the park border.

Grants

Over its history Stony Creek has received several grants from the DNR for land acquisition, trail development, and more. The land specified as the project area of those grants was encumbered in perpetuity—meaning it may not ever be converted into a private or non-recreational use. Most of Stony Creek is encumbered, as shown on the following page.

A small portion in the west of the park is unencumbered due to a DNR grant conversion mitigation. The land was converted from recreational uses through the construction of a cell tower. In place of that area, a piece of land in Wolcott Mill Metropark with at least equal recreational value was encumbered. In addition, some portions of the park north of Inwood and most of the Sheldon Estate areas remain unencumbered.

The generous grants from the DNR and other sources have allowed the Metroparks to develop Stony Creek into the vibrant hub of recreation that it is today.



Land

Contaminated Areas

The gravel pit bordering Stony Creek, north of Inwood and west of Mt. Vernon, poses a contamination risk to the park. Currently, the contaminants are being carefully monitored, and this must remain an important consideration in the future. In the future, these areas may be reclaimed and redeveloped as residential housing.

Encroachments

The Planning Department has worked with Stony Creek park staff to identify external encroachments on park boundaries. These include private development on park property, dumping waste, and breaking through fence lines. Together with a new combined map of county parcels in relation to historic HCMA-created parcels, this will help staff resolve existing property issues.

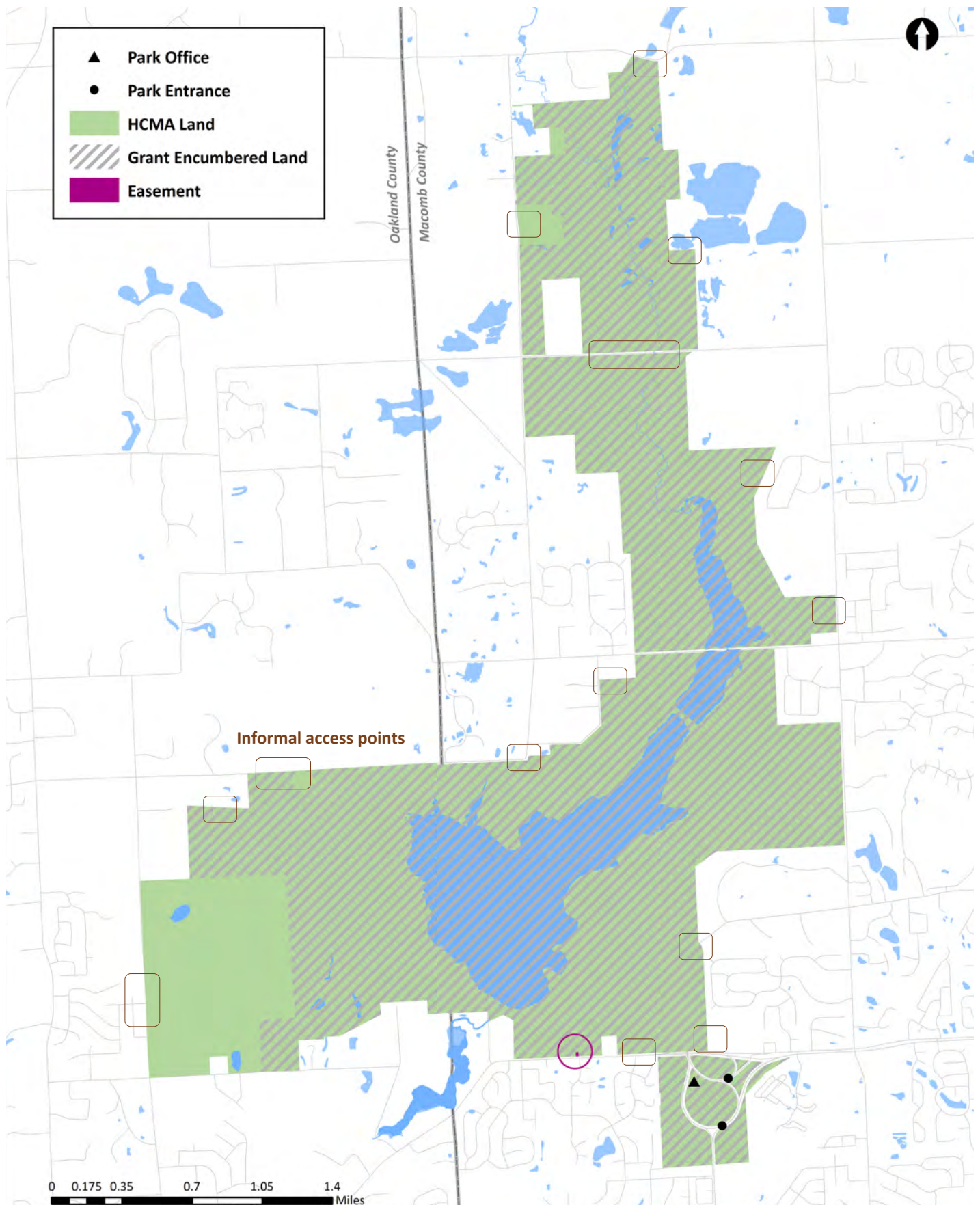
Due to the high number of residential areas directly bordering Stony Creek, the park is more susceptible to encroachments such as driveways built on parkland and numerous breaks in the fence line.

Informal Access Points

Certain spots on the park border are open to pedestrian access but not formally designated as an entrance. These must be monitored and considered in the planning process. Individuals may park on adjacent streets and enter the park on foot, affecting the tolling revenue of the park and potentially causing negative traffic impacts on the surrounding neighborhood.

Easements

Stony Creek contains several utility easements, meaning that utility providers are allowed to use certain sections of land to run power lines or other equipment, in order to provide service to the surrounding area. In the future, the Metroparks will collaborate with surrounding municipalities and agencies to link into existing utilities rather than building park-specific utilities—thus furthering the vision of a lean, efficient park system.



Wayfinding

Vehicular Wayfinding

Standardization

Currently Metroparks include signage installed at various times with various standards and designs. This does not reinforce the parks working together as a system and can be confusing for visitors. As older signs reach the end of their lives, they will be replaced with new, standardized signs.

Simplicity

In many parks, including Stony Creek, an abundance of signage is not necessarily useful for directing visitors. Minimizing duplication of signs and expressing sign information simply will make navigation easier for users of the park.

Symbols

Symbols are useful for expressing information in a small amount of space, and also make park facilities more accessible for visitors who have trouble reading or speaking English. A standard set of symbols has been developed to be used in wayfinding signage.

Trail Wayfinding

Standardization

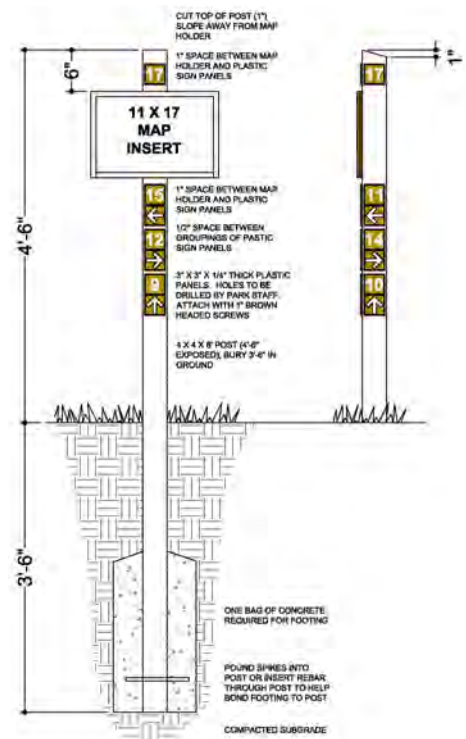
Trail types present in the Metroparks include shared use, mountain bike, ski, nature and rustic, and equestrian. Despite their different functions, these trails together create a complete recreation system, so signage will be based on a uniform template.

Flexibility

In order to serve the differing needs of users on these various trail types, the signage template will allow for removable panels and be customized to fit the needs of that user group.

Legibility

For many people, the easiest way to orient oneself in a new environment is through use of a map. For greater ease of use, all new trail wayfinding signs will include a map marked with a "you are here" symbols and the location of important park features and amenities.



NEEDS

Replace outdated, confusing, inconsistent signs

Create consistent, convenient wayfinding system to give visitors confidence

OPPORTUNITIES

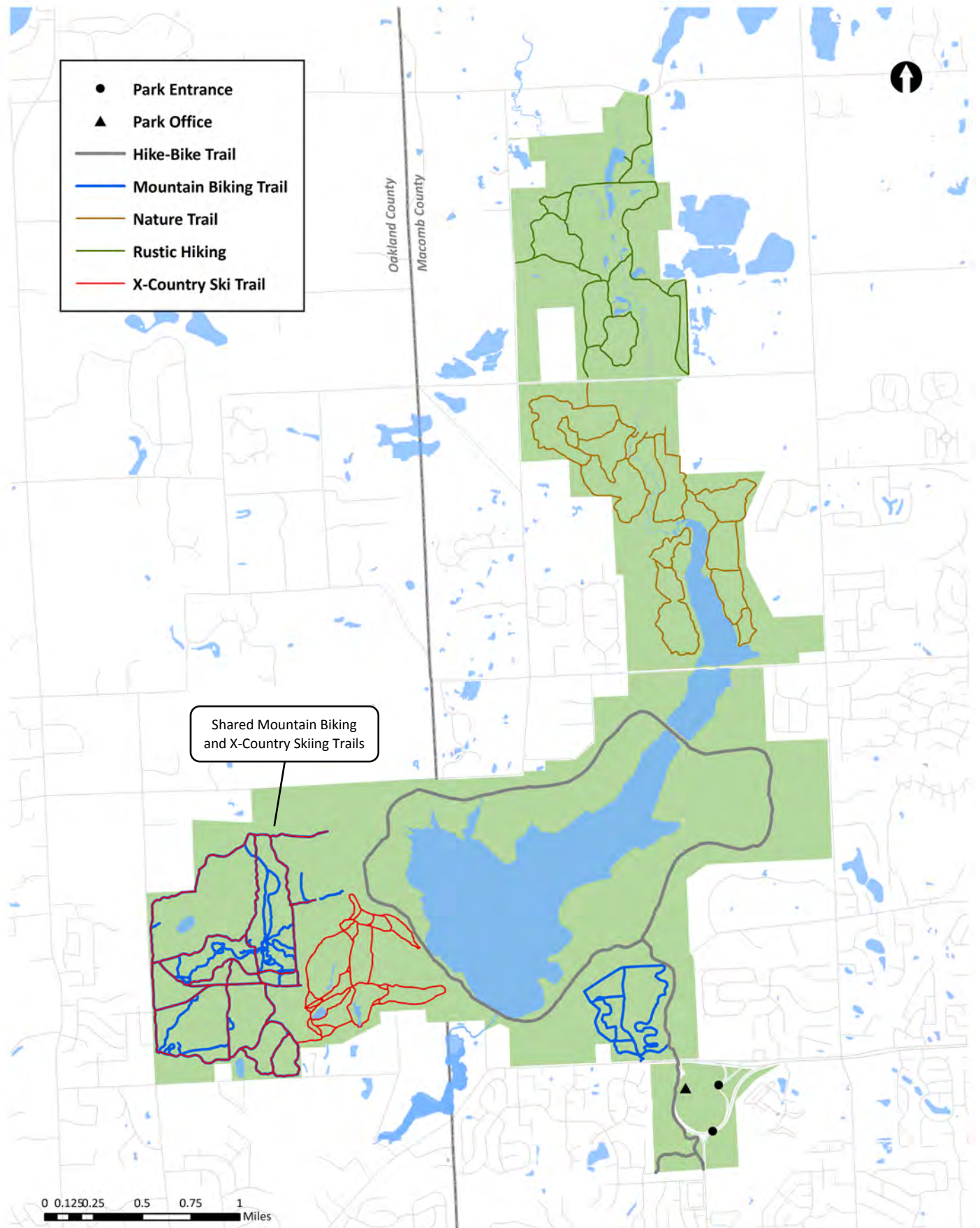


Park Trails



As part of the master planning process, staff have categorized and defined the various types of trails in the park, inventoried the miles, and specified the uses and design of each. This formal listing allows for assessment of availability of trails for various users in comparison to user group demand. It will also lead to more standardized maintenance and rule enforcement processes.

Trail Type	Miles in park	Allowed Uses	Prohibited Uses	Surface
Shared-Use Trail (Hike-Bike Trail)	7.66	Non-motorized traffic and pets.	Horses and motorized vehicles such as golf carts, scooters and hover-boards.	10' wide, typically asphalt, some small sections may be concrete or boardwalk.
Nature Trail	9.89	Pedestrian use only; hiking and walking. Snowshoeing is permitted on all Nature Trails except those designated (maps) for cross-country skiing. Cross-country skiing is permitted on designated (maps) trails only.	Motorized vehicles, running, jogging, pets, bikes and horses.	Trail surfaces vary and include asphalt, aggregate, mulch and compacted earth. Portions of these trails are accessible, but most are not ADA-compliant.
Rustic Hiking Trail	8.76	Pedestrian use only; running, jogging and pets. Snowshoes and cross-country skiing are permitted on designated (maps) trails only.	Motorized vehicles, bikes and horses.	Width and material vary, often dirt trails.
Mountain Bike Trail	16.8	Bikes, running, jogging and hiking. During the winter months, groomed trails can be used by cross-country skiers. Prohibited: Motorized vehicles, horses and snowshoes.	Motorized vehicles, horses and snowshoes.	Dirt, trail widths vary.
Cross-Country Ski Trail	14.71	Cross-country skiing only. Many are used for other activities during the summer.	Motorized vehicles, snowshoes, hiking, bikes, horses and pets.	Snow covered.



REVENUE

Revenue Sources



2015 Operations Revenue

Revenue Source	2015 Total	% of Revenue
Tolling	1,919,596	54.7%
Golf	910,491	26.0%
Boat Rental	176,089	5.0%
Rip Slide	138,993	4.0%
Picnic Shelter	76,500	2.2%
Disc Golf	59,195	1.7%
Beach	49,808	1.4%
Family Camping	32,267	0.9%
Interpretive	27,329	0.8%
Boat Storage	27,149	0.8%
Special Events	26,879	0.8%
Banquet Tent	25,300	0.7%
Parkway Maintenance	18,260	0.5%
Cross Country Ski	11,583	0.3%
Mobile Stage	8,000	0.2%
Miscellaneous	1,264	0.04%
	3,508,702	100.00%

NEEDS

Offset revenue loss from decline of golf participation

Increase revenue in upwardly trending activities such as rentals, camping, and special events.

Pursue development of desirable waterfront shelters

OPPORTUNITIES

The Metroparks 2015 General Fund revenue equaled \$48,477,108. Stony Creek's 2015 operations revenue was \$3,574,513, comprising 7.4% of all Metroparks revenue.

Stony Creek's budgeted 2016 operations revenues are \$3,949,373, while estimated 2016 operations expenses are \$4,742,942. Property tax and other revenue will subsidize 16.7% (\$793,569) of the Stony Creek operating budget.

REVENUES TRENDING UPWARD

Beach, Boat Rental, Family Camping, Rip Slide, Special Events, Tolling, overall park revenue

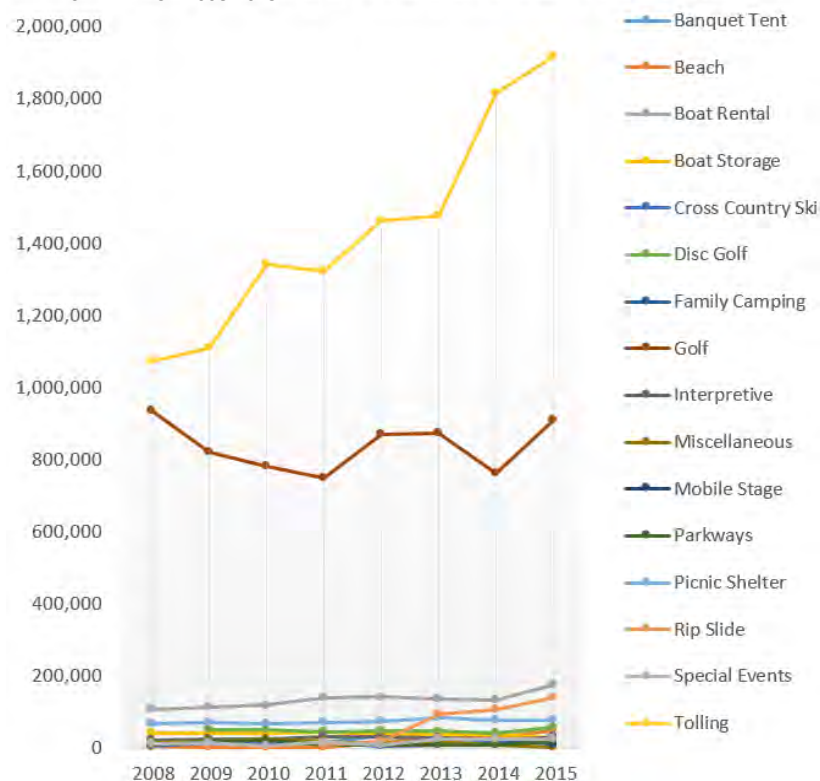
REVENUES TRENDING DOWNWARD

Boat Storage

REVENUES WITH MODERATE FLUCTUATION (perhaps weather-related)

Banquet Tent, Cross County Skiing, Disc Golf, Golf, Interpretive Services programs, Picnic Shelter reservations

REVENUE TRENDS—2008-2015



Revenue

Visitors

Stony Creek Metropark is a regional park and can draw from the 3,484,040 people that live within a 30 mile radius (approximately a 45-minute drive) of the park. Certain events and activities may draw visitors from greater distances.

Vehicle entries to Stony Creek Metropark have averaged close to 512,000 since 2002. Record entries of 534,573 were recorded in 2002. Weather often plays a role in attendance to the park; activity areas greatly affected by weather are the trails, beaches, boat rental, disc golf course and golf course. Entries dipped below 480,000 in 2011, likely due to abnormal precipitation and average temperatures.

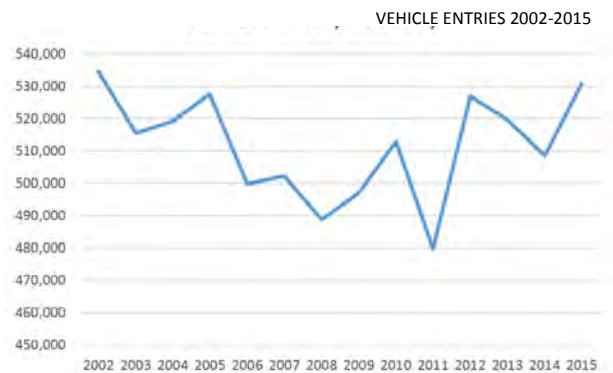
Consolidation of statistical information is needed to better assess vehicle entries, park users, event attendance, event participants and activity participation within the park. This information will help with marketing of events, activities and future analysis of the park.

NEEDS

Better data on revenue and visitation numbers

Use data to invest in activities and facilities drawing increasing number of users

OPPORTUNITIES



Popular Baypoint Beach

Stony Creek Metropark 30-Mile radius



Programs & Events



NEEDS

Increase revenue and visitation

Take advantage of captive audiences, actively take part in programming activities and events

OPPORTUNITIES



Voyageur Canoe Interpretive Services Program



Concert at Eastwood Beach



Fall for Nature Craft Show

Event Type	# of Events	Estimated Attendance
Fireworks	1	18,000
Track/Cross Country/Running	22	11,550
Camping Nights	47	6,580
Walk/Bike-a-thons	8	3,250
Concerts	4	2,650
Movie Nights	2	1,000
Other (War in the Wilderness)	1	750
Disc Golf Tournaments	3	180
Triathalons	1	150
Total	89	44,110

2015 Interpretive Services Programming

Interpretive Program Totals—628

- 264 Public Programs within the park
- 3 Public Programs out of the park
- 335 School Programs within the Park
- 26 School Programs out of the park

Interpretive Program Attendance—18,522

Nature Center Visitation (2015)—153,579

Public program topics include:

- Homeschool curriculum
- Social/leisure
- Seasonal/holiday
- Canoe trips
- Wagon rides
- Crafting
- Nature walks
- Scouting
- Science: environmental, biological, ecological

COMMUNITY INFLUENCES

Population

The population of the communities surrounding Stony Creek Metropark is growing, aging, and facing new challenges. The percentage of households without access to an automobile is rising throughout the region, although it remains relatively low in the area directly surrounding Stony Creek. The Metroparks were created at the time of the auto boom, when it was assumed that every family would have a car to take out to the countryside on the weekends. Since habits and lifestyles are changing, the Metroparks must look into innovative ways to provide access to the parks for all.

As shown in the map below, Stony Creek is situated at the very edge of the suburban ring around Detroit, transitioning into rural low-density areas with less than one thousand residents per square mile. This creates unique land use and park access challenges and opportunities.

Both the region at large and the municipalities bordering Stony Creek have been aging rapidly, following a nationwide trend. The area directly surrounding the park has seen the steepest rise in percentage of older adults, and will likely soon overtake the percentage in Macomb County as a whole.

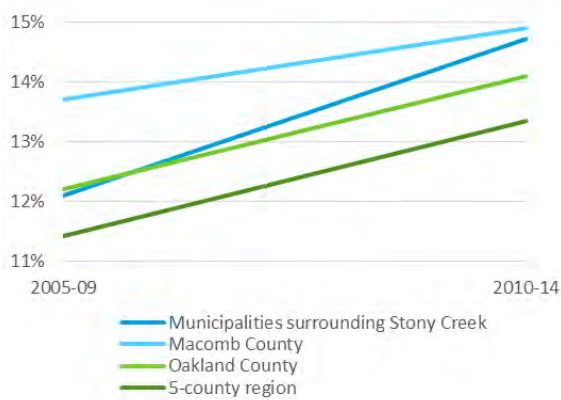
Older adults have distinct needs, often requiring accommodations for mobility and accessibility of park features such as trails and buildings. This is important to keep in mind when planning the future of a park serving an older population.

NEEDS

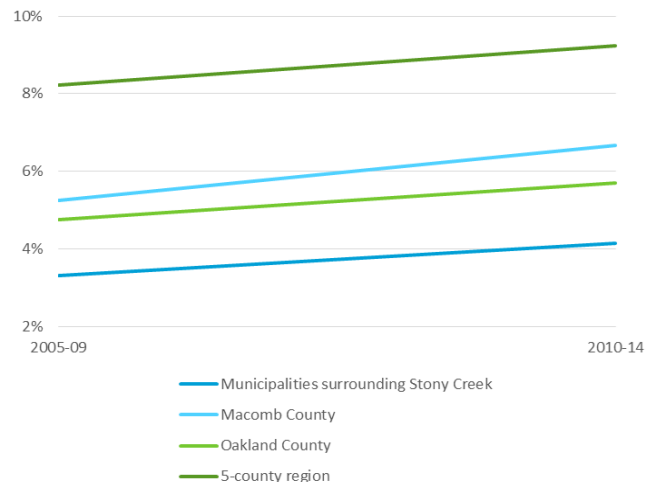
Address changing needs of new population demographics

Draw new users with an accessible, welcoming park environment

OPPORTUNITIES



CHANGE IN PERCENT OF POPULATION OVER 65 YEARS, FROM 2005-09 through 2010-14 (Source: US Census American Community Survey)

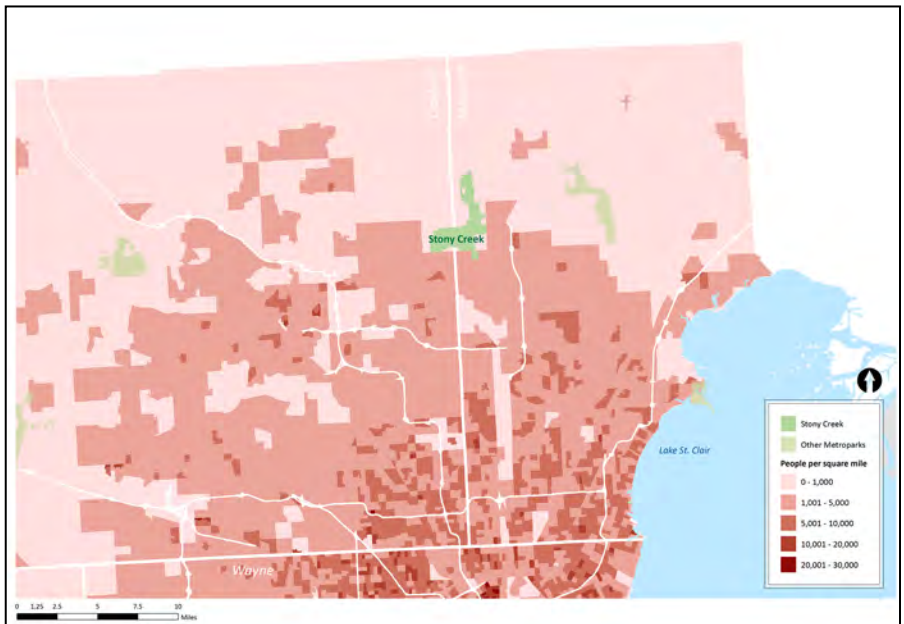


CHANGE IN PERCENT OF HOUSEHOLDS WITH NO CARS AVAILABLE, 2005-09 through 2010-14 (Source: US Census American Community Survey)

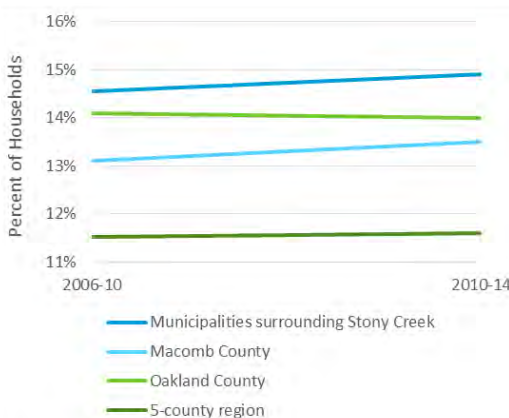
Community Influences

While on average the 5-county region is falling in population density, this is largely driven by population losses in Wayne County. Both Oakland and Macomb counties are experiencing population density increase (Macomb starting from a much higher baseline). The four municipalities surrounding Stony Creek are growing at an even faster rate than either of the counties as a whole, likely due to their relative availability of unbuilt land.

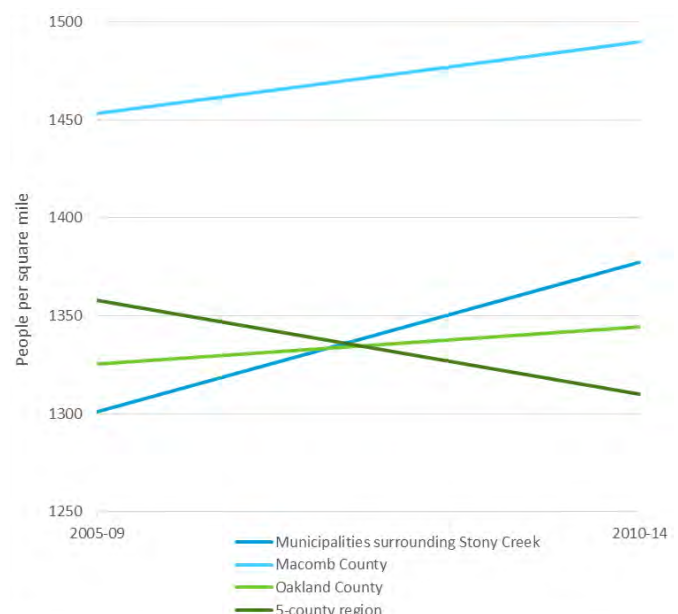
Although most households in the area still speak English as their first language, in many counties a growing number of families speak other languages at home. Macomb County and the municipalities directly surrounding Stony Creek have seen an increase in the percentage of these households. Because of this growing linguistic diversity the Metroparks are working towards more universal signage design, with a focus on easily understandable symbols.



POPULATION DENSITY BY CENSUS TRACT, 2010-14



CHANGE IN PERCENT OF HOUSEHOLDS SPEAKING LANGUAGE BESIDES ENGLISH AT HOME, 2006-10 through 2010-14 (Source: US Census American Community Survey)



CHANGE IN AVERAGE POPULATION DENSITY, 2005-09 through 2010-14 (Source: US Census American Community Survey)

Community Influences

NEEDS

Improve park connectivity with community

Create good working relationship with surrounding municipalities

OPPORTUNITIES

Shelby Township

- Focused on 26 Mile trail connectivity
- Interest in possibility of reconfiguring park entrance
- New 5-year master plan process begun

Oakland Township

- Proposed residential development on western border of park
- Planning for bicycle connections to Stony Creek and Paint Creek Trail
- Interest in new vehicular entrance to park
- Interest in pedestrian entrances to park

Macomb County

- Enhancing role in recreation through shared services and collective efforts
- Goal is to establish dedicated parks and recreation department
- Continuing to invest in Macomb Orchard and Paint Creek trails

Washington Township

- New 5-year master plan process begun
- New residential development planned adjacent to the park
- Planning for a community center with aquatic features
- Interest in pedestrian entrances to park

Rochester Hills

- Planning new Riverbend Park with focus on accessibility and special needs
- Interest in new vehicular entrance to park
- Interest in pedestrian entrances to park
- Working on city connection with Macomb Orchard Trail

Oakland County

- Green Infrastructure Vision linking Stony Creek to other open space and recreation

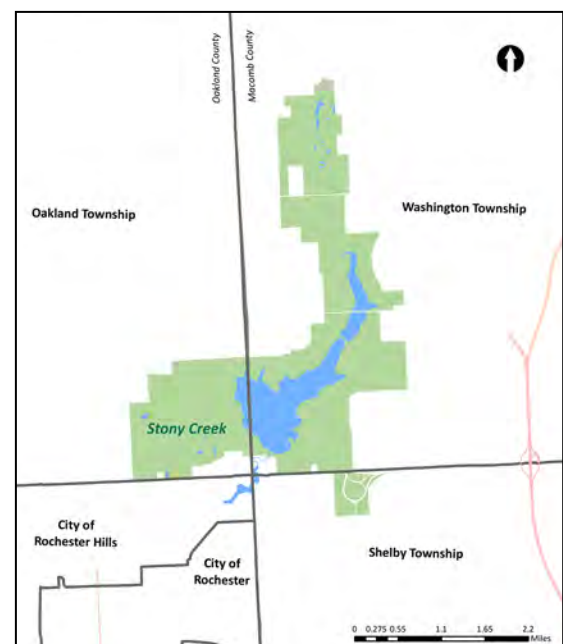
Clinton River Watershed Council

- WaterTowns green infrastructure improvement suggestions

Projects/Initiatives

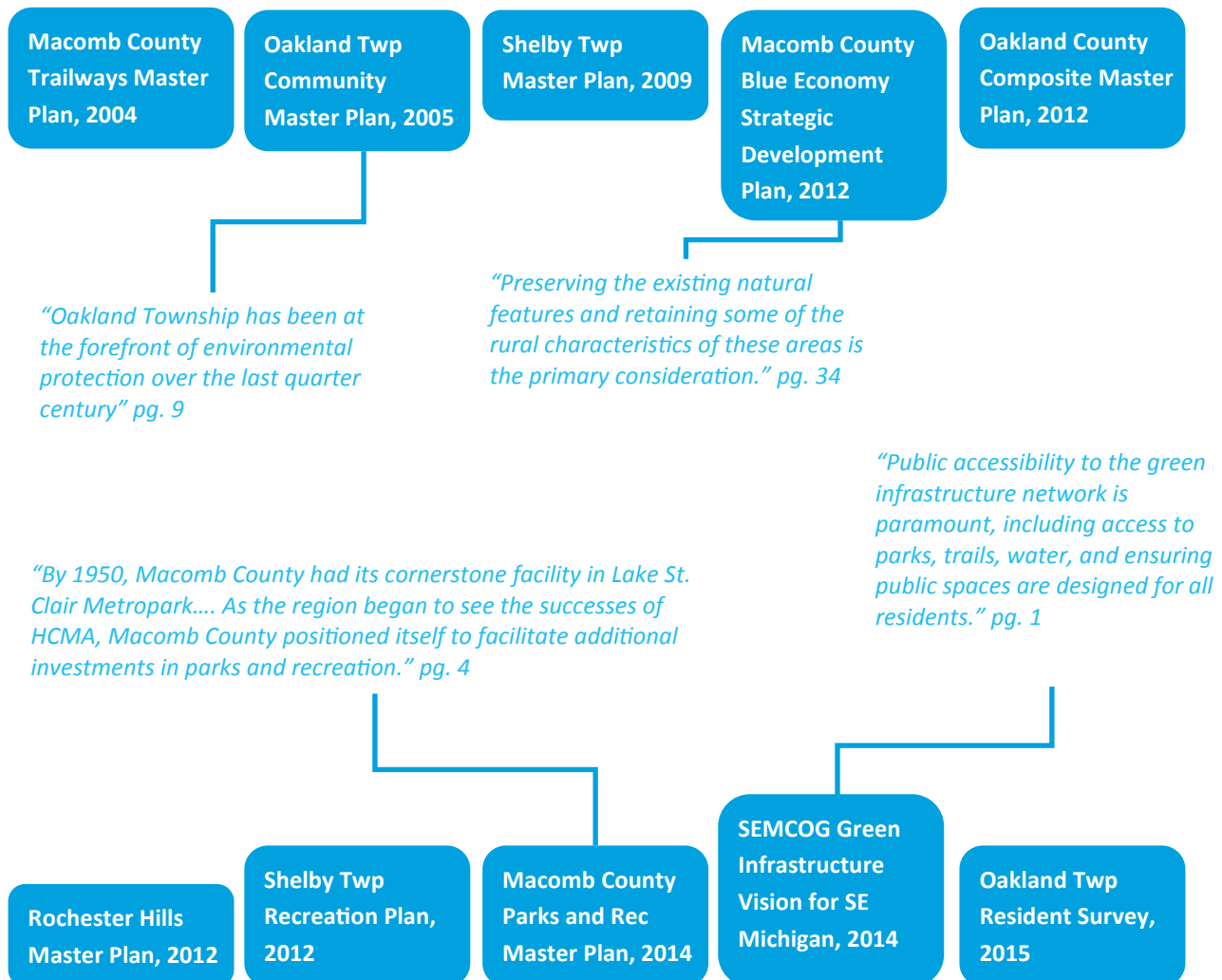
Understanding the goals and plans of municipalities bordering and/or containing Stony Creek is essential for a collaborative, comprehensive planning process. To begin, planning staff researched the published master plans and recreation plans of each municipality: Oakland Township, Washington Township, Shelby Township, and the City of Rochester Hills. These provided a basic idea of the planned direction of each community, especially regarding land use, development, and recreation. In order to gain a deeper understanding and open a dialogue, staff then met individually with planning professionals from each municipality and discussed potential developments, planned trails and park improvements, and any questions or concerns about the Metroparks planning process.

MUNICIPALITY MAP



Community Influences

Relevant Planning Documents



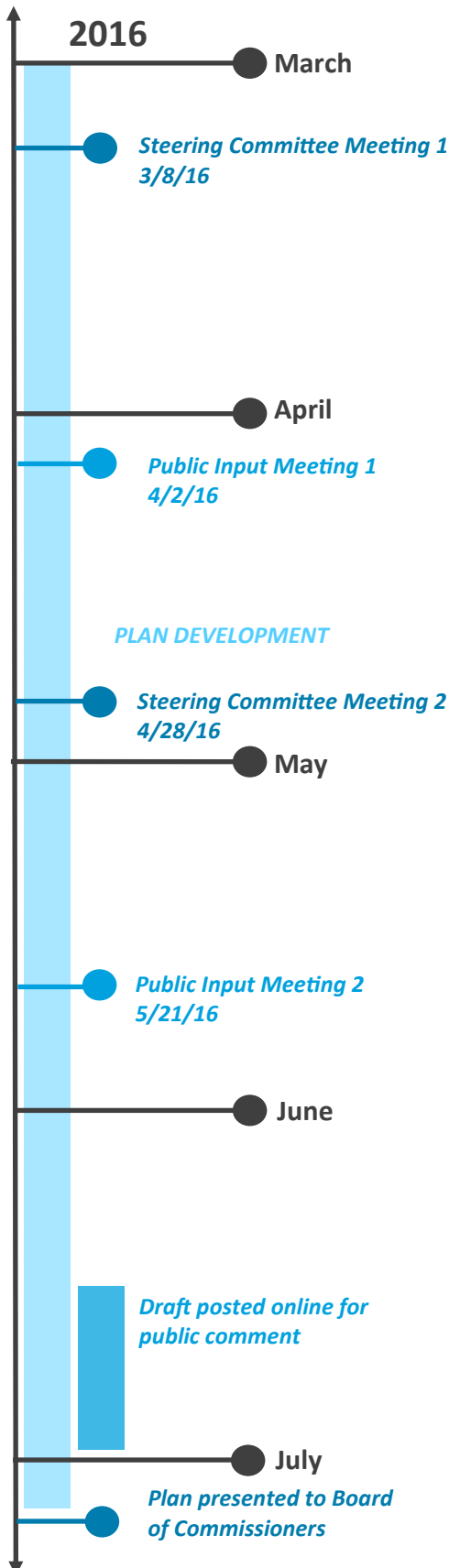
Since the development and land use decisions of bordering communities and other governmental agencies directly impact the park, these neighbor master plans were reviewed and taken into account when creating this document. The opinions and ideas expressed by residents and leaders in these municipalities give Stony Creek a wider context and in many cases underscore the importance of the park's resources to citizens.

Macomb County does not have a Parks and Recreation Commission and maintains only a few county parks. Therefore, Stony Creek may play a larger role than other Metroparks in meeting everyday, neighborhood-level recreation needs.

Stony Creek is part of a broader system of recreation and green space that includes other Metroparks as well as local, county, and state parks and greenways. Therefore, recreation and green infrastructure plans were also

considered in creating the Stony Creek Master Plan. Many communities are currently advancing their nonmotorized networks, seeking grant funding to create greenways and paths, and cooperating to provide linked green and recreation spaces to their constituents.

← Outreach Process



Since this park belongs to the people of southeast Michigan, the Planning Department aimed to include the public in multiple stages of the planning process.

The planning process began with a meeting of the steering committee, which identified organizations and individuals with significant investment in the park for targeted invitations to the public meeting. A strategy for soliciting general participation in the public meeting was also discussed.

The next step was a public meeting with community members to gather initial ideas about the direction of the park.

These ideas were taken into account, along with staff feedback and other data, in developing initial recommendations. These were then presented to the public at a second meeting, and feedback was collected, analyzed, and incorporated into a draft Master Plan document.

This document was posted online in July for final public comment, which influenced the final Master Plan sent to the Board of Commissioners for approval in August.



Public Meeting 1 - 4/2/16

- Explanation of and timeline for the planning process
- General park information and map
- Regional map on which participants placed stars to indicate their place of residence in relation to the park
- Exercise in which participants placed pom-poms representing resources in jars representing activities, expressing their opinion on where investments should be made
- Opportunity to fill out survey in person

Public Meeting 2 - 5/21/16

- Short presentation on survey results, community influences, and intended projects
- Opportunity for participants to write down feedback on intended projects

Public Input

Results

Appreciation and concern for the trail systems in the park was clearly expressed. In the pom-pom investment activity, the Trails option captured over four full bottles of pom-poms—about equal to the combined total in all the other categories. This is partially due to the strong representation of the mountain biking community at the meeting, but also reflects the general popularity of trails for hiking, running, and strolling. Natural Resources, Lakefront Activities, Winter Activities, Playgrounds, and Camping also captured a significant number of pom-poms.

The survey responses, both written and submitted online, offered more insight into the needs of park patrons. Desire for additional mountain biking trails, especially single-track, was overwhelmingly expressed. Survey participants also had interest in more fat-tire biking paths and mountain biking trails specifically for children. In general, trail use conflict and enforcement of regulations was a major theme. Whether it involves mountain bikers and hikers, road bikers and cars, bird watchers and pet owners, or more, visitors to the park want disruptive uses minimized while recreating.

A large portion of respondents articulated the desire for greater protection of and investment in natural areas as opposed to facilities for active recreation.

Q6 What can be done to improve your favorite areas or facilities for your favorite activity?

Water Maintain and Improve Birds Continuous Loop Docks
 Not Allowed Lake Longer Ski Trails Inwood
 Trails Nature Trail Mileage Single
 Track mt Bike Mountain Bike
 Trails Think Park Skills Area MTB
 Trails Trail Markings Road Preserve Boat
 Storage Small Sailboats Wildlife Additional Designated Mountain
 Bike Boat Launch

Q7 What would make your visit to Stony Creek Metropark more enjoyable overall?

Better Trail Events Think Boat Storage Costs Pass
 Hiking Trails Fat Biking Walking MTB Trails
 Rules Road Enforcement Mountain
 Bike Trails Activities
 Park Inwood Single Track Year-round
 Natural Fees Bikers Main Entrance Stony
 Creek Mt Bike Boat Launch
 Quiet Lake Beach



Public Input

Survey Response Topics

Mountain Biking

- Increased, more varied, more connected mountain biking trails
- Opportunities for all ages and skill levels
- Year-round drinking water access

Trails and Use Conflict

- Greater separation of uses and more enforcement of use restrictions
- Additional dedicated infrastructure for dirt running, skate skiing, rustic trail use etc.
- Dog park or other designated off-leash areas
- Better maintenance of trails and roads

Natural Resources

- Protection of natural areas amid population growth
- Undeveloped areas and passive recreation
- More interpretation
- Invasive species management
- Recycling
- Photographer accommodations and observation areas
- Additional and better maintained picnic areas
- More camping opportunities

Access Issues

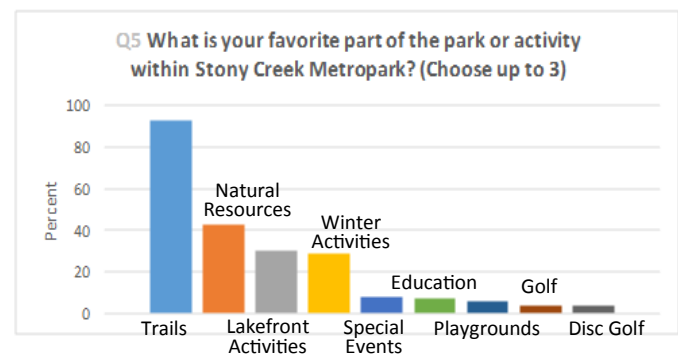
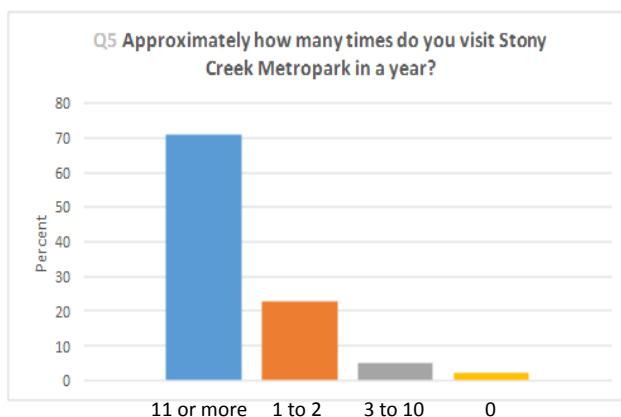
- Keep parks accessible to all income levels
- Year-round access to all park areas, more events
- More park access points and non-motorized trail connections
- Parking more strategically located near trailheads and launches
- Clearer, better-placed, more universal wayfinding signage
- Annual pass holder lane during peak hours
- Shared pass for Metroparks and DNR
- Better access for older adults and people with disabilities
- Greater diversity of food offered

Water Sports

- Low cost watercraft storage
- Additional and better-maintained launches
- Management of fish populations
- Handicap access to water
- More swimming opportunities, sandy beach

Health/Safety

- Increased enforcement of speed limits and smoking ban
- More visible security
- Seaweed removal from boating areas
- Increased maintenance and improvement of bathrooms and playgrounds



Public Input

Participation

The Stony Creek Master Plan online survey received over 600 responses, and over 150 individuals attended the two public meetings. As shown in the map below, responses came in from all over the five-county Metroparks jurisdiction, from the three counties north of Stony Creek, and even occasionally from locations all over the state.

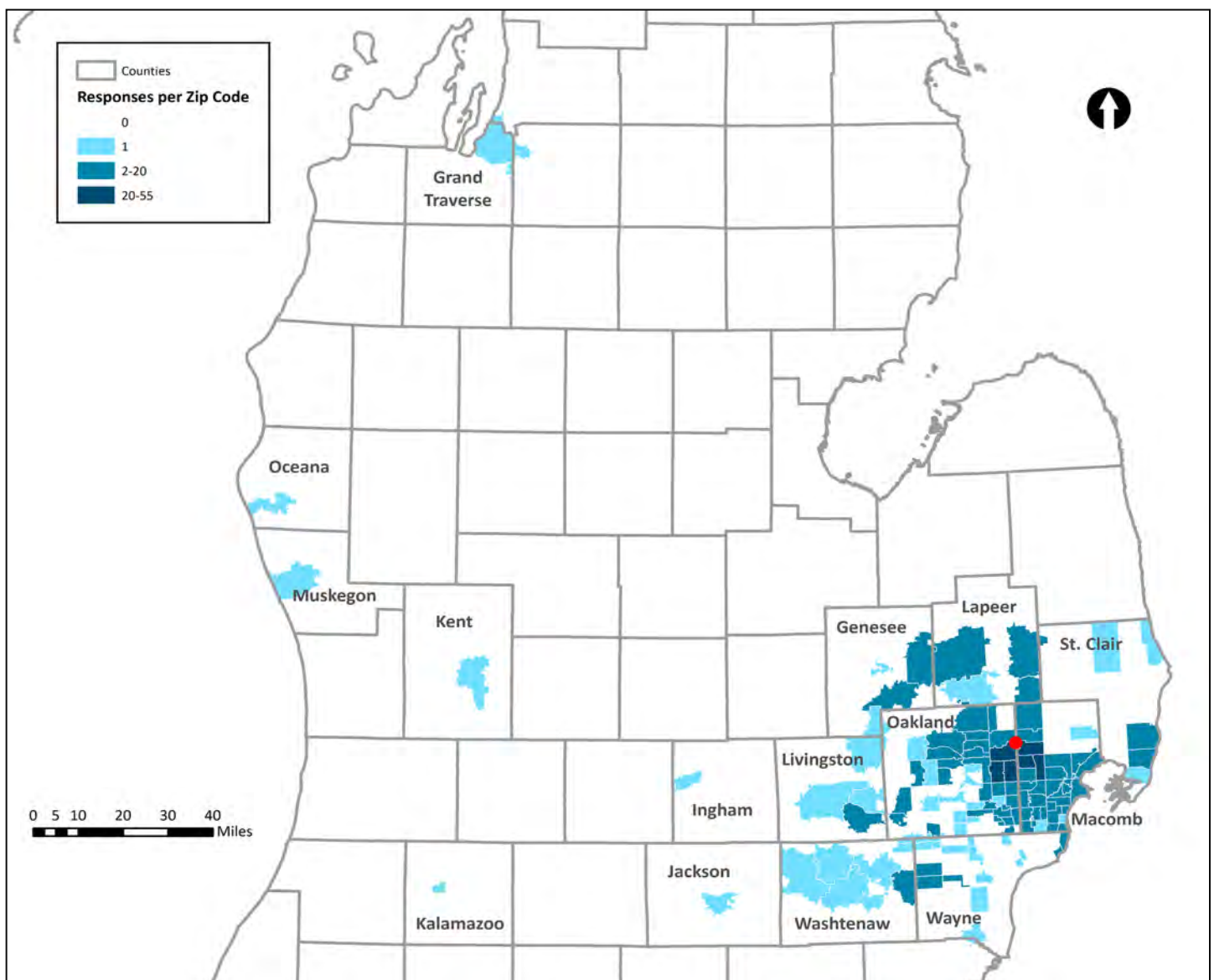
NEEDS

Incorporate variety of opinions and user groups into master plan

Create vibrant park through robust, transparent public outreach

OPPORTUNITIES

Survey Response Zip Code Map



Action Plan

Needs & Opportunities

Based on the assessment of park conditions, demographic research and spatial analysis, public input, and staff input, the needs and opportunities listed throughout this document were developed.

Needs

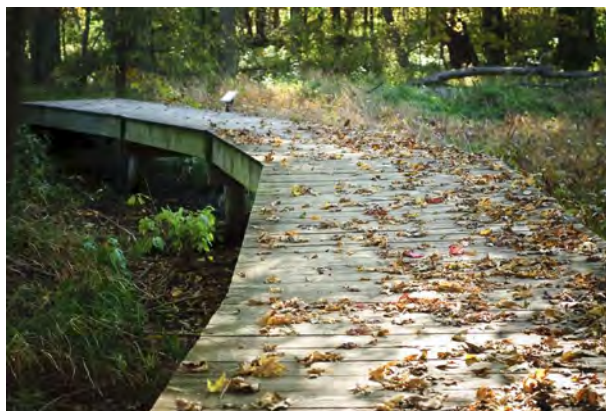
- Better highlight and advertise unique character of park
- Define and protect biodiversity features
- Address aging and overbuild infrastructure
- Work with county to address boundary issues
- Better revenue and visitation numbers
- Improve park connectivity with community
- Incorporate a variety of user community groups into Master plan



Opportunities

- Build a strong identity and user base with unique character of park
- Create resilient network of biodiverse areas in park
- Draw new visitors with programming and park history education
- Right-size park to better serve visitors and environment
- Provide unique recreational facilities to draw visitors from across the region
- Create good working relationship with neighbors, municipalities and partner organizations
- Use data to invest in activities and facilities, increasing users, and increased outreach
- Draw new users with an accessible, welcoming park

With these in mind, the following list of projects, plans, and studies was developed. Major and minor projects have been identified as priorities and assigned a timeline, and the accompanying studies have been listed. These pages should serve as a blueprint for the future of the park over the next ten years.



Action Plan

Large Facilities

Description	Dept. Lead	Other Depts.	Other Partners	Cost Estimate	Short-Term (2017-2021)	Mid-Term (2022-2026)	Long-Term (10+ years)
Boat Launch area redevelopment	Engineering	Planning	Consultant - engineer		x		
Baypoint Beach & Boat Rental redevelopment; includes sewer line replacement (\$500,000 est.)	Engineering	Planning	Consultant - architect, engineer		x		
Eastwood Beach building/parking lot redevelopment	Engineering	Planning	Consultant - architect, engineer		x		
Golf course redevelopment	Engineering	Planning, NR	Consultant - landscape architect			x	
Park entrance & office redevelopment/relocation; includes Main Park Drive bridge deck replacement (\$200,000 est)	Engineering	Planning	Consultant - architect, engineer; Macomb County Dept. of Roads				x



Action Plan

Infrastructure / Small Facilities

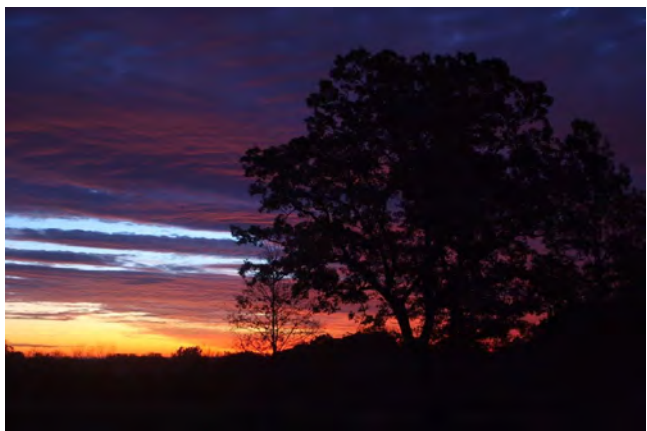
Description	Dept. Lead	Other Depts.	Other Partners	Cost Estimate	Short-Term (2017-2021)	Mid-Term (2022-2026)	Long-Term (10+ years)
Road paving projects (list developed annually)	Engineering			various	x	x	x
Other pavement projects (list developed annually)	Engineering			various	x	x	x
Dam (2) mechanism/assembly redevelopment	Engineering		Consultant - engineer				x
Accessibility improvements, including interiors and walkways - parkwide	Engineering	Planning	Contractors	various	x	x	
Picnic shelter-comfort station co-location projects	Engineering	Planning					x
Shelden & Trolley trail systems redevelopment	Planning	Engineering, NR	CRAMBA	TBD	x		
Buckhorn disc golf building replacement	Engineering	Planning		TBD		x	
Re-align paved trails to further separate road and recreational cyclists (multiple areas)	Engineering	Planning		TBD	x		



Action Plan

Natural Resources

Description	Dept. Lead	Other Depts.	Other Partners	Cost Estimate	Short-Term (2017-2021)	Mid-Term (2022-2026)	Long-Term (10+ years)
Vegetation management projects (list developed annually)	NR	Operations		various	x	x	x
Aquatic vegetation management (list developed annually)	NR	Operations		various	x	x	x
Stony Creek soil erosion/sedimentation improvements	NR	Engineering	Macomb County Dept. of Roads	\$ 15,000.00	x		
Inwood / Nature Area grasslands development	NR	Planning			x		
Sheldon Wetland Complex restoration	NR	Planning				x	
Inwood Wetland Complex restoration	NR	Planning					x
Inwood (west) mitigation wetland development	NR	Planning					x
Sheldon grassland restoration	NR	Planning			x		
Old group camp grassland restoration/development	NR	Planning				x	



Action Plan

Signage

Description	Dept. Lead	Other Depts.	Other Partners	Cost Estimate	Short-Term (2017-2021)	Mid-Term (2022-2026)	Long-Term (10+ years)
Roadside wayfinding/directional signage updates - parkwide	Planning	Maintenance, Operations		\$ 15,000.00	x		
Trail signage updates - Inwood, Osprey, Nature, East Lake, Shelden, Trolley	Planning	Interpretive, NR	Foundation, Scouts	\$ 20,000.00	x		



Action Plan

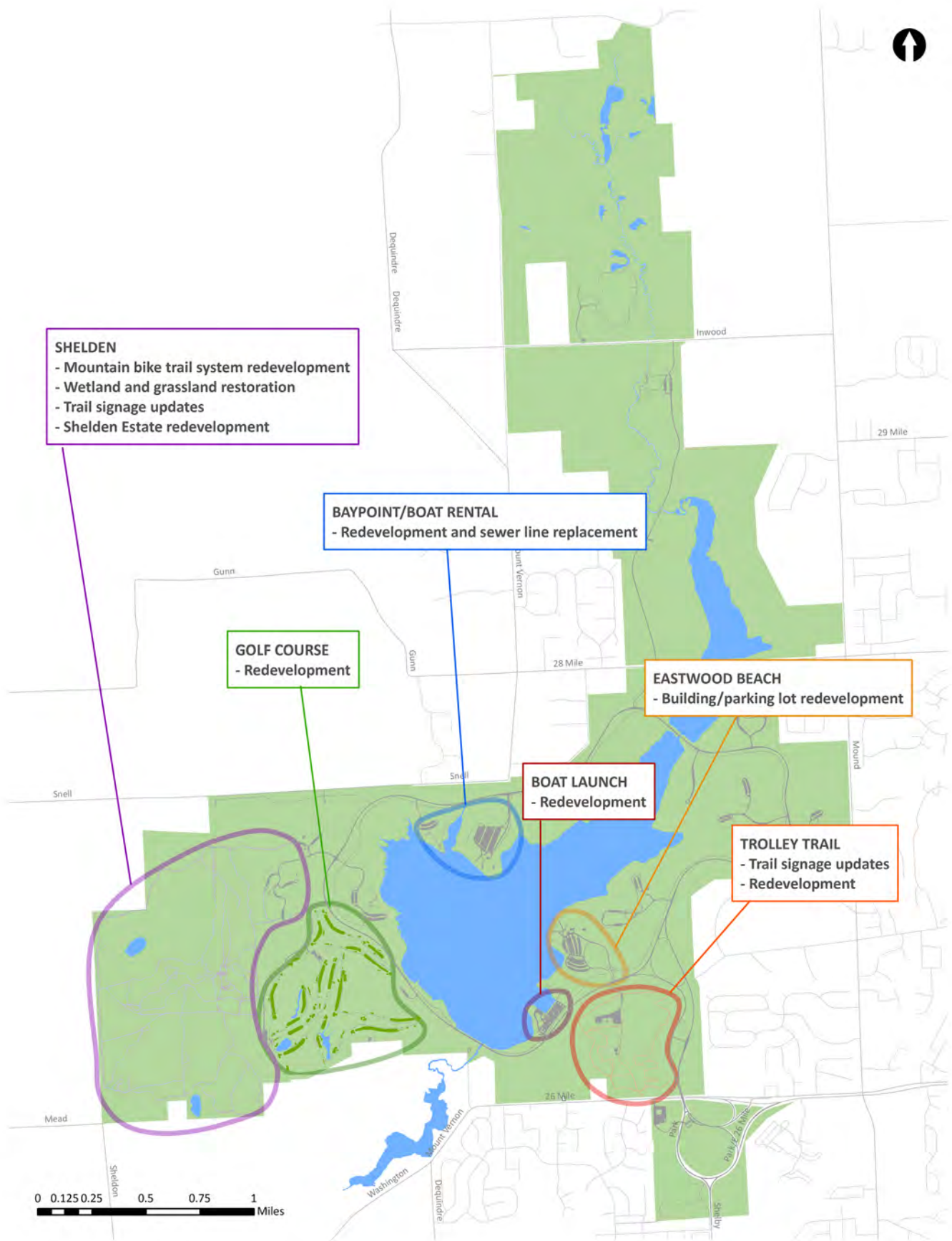
Area Plans/Studies/Initiatives

After identifying the need for changes or improvements based on user feedback and staff research, in-depth evaluation and planning must be carried out to gain a detailed understanding of problems and opportunities and determine the best strategies based on existing conditions and resources. Sometimes a process to formally monitor facility usage and gauge popularity is necessary. These studies often result in a scope of work, a work plan, and in some cases a site plan that give staff a roadmap for planned changes. Recommended studies are listed below:

Description	Dept. Lead	Other Depts.	Other Partners	Cost Estimate	Short-Term (2017-2021)	Mid-Term (2022-2026)	Long-Term (10+ years)
Monitor high ropes course impacts (natural resources, revenues, operations)	Planning	NR	GoApe	staff time	x	x	
Monitor demand (reservations, revenues) for campground improvements	Planning	Operations		staff time	x		
Shelden and Trolley trails use evaluation and plan	Planning	NR, Engineering	IMBA-CRAMBA	staff time	x		
Park office replacement/entrance reconfiguration plan	Planning	Engineering	Macomb County Dept. of Roads	staff time		x	
Golf course and starter building redevelopment plan	Planning	Engineering, NR, Golf Services	Consultant - golf course designer	TBD	x		
Baypoint Beach & Boat Rental redevelopment plan	Planning	Engineering		staff time	x		
Eastwood Beach redevelopment plan	Planning	Engineering		staff time	x		
Shelden Estate use/preservation plan	Planning	Operations		staff time	x		

Description	Dept. Lead	Other Depts.	Other Partners	Cost Estimate	Short-Term (2017-2021)	Mid-Term (2022-2026)	Long-Term (10+ years)
Update trail maps to show opportunities for walking/hiking/trail running	Graphics	Planning			x		
Aquatic vegetation survey/ lake water quality surveys	NR	Operations	Consultant	\$ 6,000.00	x	x	x
Water Quality assessment - Stony Creek, West Branch Stony Creek, tributaries	NR		Consultant	\$ 5,000.00	x	x	x
Water Quality assessment/analysis— Inwood monitoring wells	NR	Engineering	Consultant	\$ 12,000.00	x		
Inwood Wetland Complex study	NR	Planning					
Fisheries assessment & habitat improvement (incl creel survey)	NR	Operations	MDNR	\$ 25,000.00	x		
Ecological systems/quality - habitat assessment & mapping - parkwide	NR	Interpretive			x		
Herpetological distribution & abundance assessment (incl Massauga)	NR	Interpretive	Consultant - herpetologist	\$ 8,000.00	x		
Vegetation surveys / mapping updates	NR	Interpretive			x		
Wildlife (Bird, Insects, etc) surveys and monitoring	NR	Interpretive	Audubon		x		





Action Plan

Key Projects

Boat Launch

2017-2021

Built in 1964, the boat launch is a heavily-used area of the park in need of improvements for safety, accessibility, and relevance. Patrons make use of the site not only to launch boats, but also as an access point to the hike-bike trail and a gathering place conveniently located near the park entrance. Renovations to the area hope to capitalize on these traits to create an accessible multi-use recreation hub.

Issues:

- Outdated building
- Lack of ADA access to water
- Safety concern with trail/parking lot crossing

Solutions:

- Construct new building with improved amenities
- Install accessible kayak launch
- Reconfigure parking lot and relocate trail to minimize conflict



Outdated building



Lack of ADA access to water



Eastwood Beach

2017-2021

Built in 1971, Eastwood Beach is a very popular area for active family recreation, but is in need of updates reflecting beach area use, building age, and ADA accessibility needs. The area includes a number of recreation facilities in a small space: the heavily used playground, the seasonal water slide, the beach itself, and volleyball courts. The lakeshore is also utilized for special events, such as outdoor film showings and fireworks. Configuring these activities to make the best use of available space will be important in the future, as well as ensuring that the facilities are accessible to all.

Issues:

- Outdated building
- Outdated beach configuration
- Lack of ADA accessibility

Solutions:

- Construct new building with improved amenities
- Reconfigure beach area
- Include ADA accessible pathways to facilities



Outdated building

Action Plan

Shelden + Trolley Trails

2017-2021

The Shelden trails run through the serene, historic western segment of the park and host several different user groups that sometimes conflict: mountain and fat tire bikers, hikers with and without pets, and cross country skiers. The Trolley Trails near the park entrance support these uses, offering a Skills Course with obstacles for mountain bikers and trails open to mountain and fat tire biking and hiking. All users of these trails would like to see dedicated trails expanded and protected from conflicted areas. In addition, the Shelden Trails are located in a designated biodiversity area, necessitating sensitivity when considering land use changes. The Clinton River Area Mountain Bike Association (CRAMBA) dedicates volunteer hours to maintaining these trails and will be consulted in the potential reorganization of trails open to mountain biking.

Issues:

- Desire for more single track than currently available
- Lack of connectivity between two sites
- Conflicts among user groups
- Inadequate signage

Solutions:

- Implement new trails organization including expanded single track
- Create link between the two sites
- Set aside more dedicated user trails and better educate public
- Install improved signage

Baypoint Beach & Boat Rental

2017-2021

Built in 1963 and 1970, respectively, the Baypoint Beach and Boat Rental areas have great potential due to their prime locations, but are in need of rethinking to reflect changing recreation trends and infrastructure management. Baypoint Beach has a different character from Eastwood, used more for casual leisure time and group events than family outings. As a result it is somewhat underutilized and has excess parking space. The Boat Rental, meanwhile, has been growing in popularity and is in need of more parking capacity. Going forward, reimagining Baypoint and connecting the two areas to better serve demand will be priorities.

Issues:

- Outdated buildings and restrooms
- Lack of picnicking areas
- Lack of connectivity between the two sites

Solutions:

- Construct new building with improved amenities
- Install accessible kayak launch
- Reconfigure parking lot and relocate trail to minimize conflict



Outdated building and restrooms

Action Plan

Golf Course

2022-2026

Built in 1964, the golf course is one of the most successful and well-loved of the Metroparks courses, but significant drainage and site design issues, along with the general decline of golf, will be challenges in the future. Michigan is overbuilt in terms of golf courses at a time when fewer and fewer new golfers are joining the sport. At the same time, the golf course provides an important source of revenue for the park, so investing strategically in infrastructure improvements will be key.

Issues:

- Outdated building and irrigation system
- Distance of starter building from main park
- Decline in golf participation

Solutions:

- Construct new building and irrigation system
- Relocate starter building
- Develop creative marketing strategies



Outdated building



Distance of starter building

Other Projects

• Walkway and interior accessibility improvements

Due to growing awareness that park facilities do not meet the needs of individuals with disabilities, increasing accessibility will be an ongoing focus. Buildings will be rebuilt and retrofitted to improve ease of access, and paved paths will be constructed to better connect parking with recreational activities.

• Realignment of paved trails to separate road and recreational cyclists

Use conflicts exist in the park among pedestrians, road and recreational cyclists, and drivers. At points where the hike-bike trail comes into contact with the road, separation measures will be taken. Signage and education will also be utilized to keep all patrons safe.

• Wetland and grassland restoration projects (Shelden, Inwood, former Group Camp)

Certain areas of the park have the potential to be high quality natural areas through the work of the parks Natural Resource Department. These projects will create resilient habitats to sustain the park and all its amenities into the future.

• Roadside wayfinding signage updates

Current road wayfinding can be inconsistent and confusing. A new signage strategy will focus on providing succinct information at important decision points. Symbols will also be incorporated into the design to promote universal comprehension.

• Trail signage updates

Trail signage is also confusing and worn in some spots. New trail signs will standardize wayfinding and provide more concise, engaging interpretation of the natural world.

• Annual projects: paving, vegetation management

Both natural resources and built infrastructure are regularly maintained by staff. Invasive species are consistently removed and treated, and when cracks and other wear appear on paved trails they are patched or repaved.

• Replacement of Buckhorn disc golf building

Disc golf is growing in popularity in the area, and to ensure a positive user experience the old building will be replaced with an updated structure, which may provide amenities such as snacks and disc golf items for purchase.



HURON-CLINTON METROPOLITAN AUTHORITY

To: Board of Commissioners
From: Nina Kelly, Manager of Planning
Subject: Approval – Contract Termination for Design Services, Playground and West Beachfront Redevelopment
Location: Lake St. Clair Metropark, Macomb County
Date: July 5, 2016

Action Requested: Motion to Approve

That the Board of Commissioners approve the termination of the design services contract with Johnson Hill Land Ethics Studio and direct staff to pursue retention of another firm to complete design revisions for the Lake St. Clair Playground and West Beachfront Redevelopment project as recommended by Manager of Planning Nina Kelly and staff.

Fiscal Impact: In the 2016 approved budget, \$1,581,200 was allocated for this project, to include final design and construction.

Background: Johnson Hill Land Ethics Studio (JHLE) responded to the RFP issued by the Metroparks in September 2014, and the firm's proposal for design services was approved by the Board at the Dec. 11, 2014 meeting. An award letter was mailed to the firm in January 2015, after which conceptual design meetings began. The initial proposal cost estimate for design services was \$44,890.

JHLE presented a concept design to the Board for approval at the Sept. 10, 2015 meeting. A contract amendment for additional services for \$3,675 was executed in October 2015 to account for unforeseen design changes. Construction drawings were developed with heavy involvement by Metroparks staff, and the project was put out to bid in early 2016.

At the March 10, 2016 meeting, Manager of Engineering Mike Brahm-Henkel requested Board approval for LaSalle Group, Inc. the lowest responsible bidder for the playground construction. At the March 10 meeting, Commissioners Marrocco and Hertel requested site visits prior to taking action and the item was postponed.

Metroparks staff and commissioners conducted a playground and west beachfront site visit on April 11, 2016. Additional suggestions on the design concept were discussed, including the retention and/or redevelopment of the existing west boardwalk, the inclusion of a small concession building to serve playground patrons, and the retention of mature on-site trees. A meeting was subsequently held with JHLE on May 23, 2016 to discuss these changes. On June 7, 2016, staff received a proposed contract amendment letter outlining fees for additional services totaling \$49,090. To date, the Metroparks has paid \$47,313.47 to JHLE for their services.

Staff is requesting approval to terminate the contract with JHLE and seek out another firm to complete the design, bidding and construction management for the Lake St. Clair Playground and West Beachfront Redevelopment Project. Staff will review the design services proposals submitted by other firms in late 2014 to gauge interest of those deemed most qualified and bring a recommendation to the Board at the Aug. 11, 2016 meeting.

Attachment: JHLE Contract Amendment for Additional Design Services



412 Longshore Drive • Ann Arbor, Michigan 48105
 t: 734.668.7416 f: 734.668.2525
 www.jhle-studio.com

MEMO

Date: June 7, 2016
 To: Nina Kelly
 From: Mark Robinson
 Copy: Mike Brahm-Henkel; Mark Johnson
 Project: Lake St. Clair Metropark Play Area and Boardwalk Development
 Re: Contract Amendment for Additional Services

The scope of work to redesign the playground area for Lake St. Clair Metropark is essentially the same as it was for developing the first set of design and construction documents. There are certainly some details and standards that we can apply to this revision. There may also be components of the original design that are repositioned within the new design. However, there are several aspects of the new project that remain unclear.

Items requiring clarification for the proposed revised plan can be described as follows. Use of the boardwalk will require study to determine whether to keep it as is, modify it in some way or demolish it and build an on-grade equivalent. The studies to explore these options, understand the cost of these options, determine how such options fit into and influence design of the whole and the required construction detailing represent a significant work effort.

The second element of the design effort that will require new investigation is the selection and configuration of play apparatus. It has been stated that the 2-5 apparatus can essentially be used as currently conceived. For the 5-12 age group, it has been suggested that something more urban in character such as the Hypar Net by Little Tikes might be appropriate. It has also been suggested that a simpler version of the Playworld design may also be used. These options will need to be studied, reviewed with staff and ultimately merged into a cohesive play area design.

The third element of new consideration is a concession stand. Although this is not expected to be a large or complex structure, its exact configuration and character will have to be determined and then developed through construction documents. We will engage the services of Lincoln A. Poley, Architect, AIA to provide architectural services for this structure. The specific scope we propose is as follows:

- Preliminary Design and Construction Documents for a small concession stand (100 - 120 sq. ft.), with:
 - Foundation plan.
 - Floor Plan with structural framing and electrical fixtures and outlets, and structural notes included.
 - Roof Plan.
 - Exterior Elevations.
 - Wall Section.
 - Outline specifications and material designations.

Construction budget is the final major item that will need to be re-examined and clarified. It has been suggested that available budget may be less than previously targeted limits. Recognizing how bid prices have escalated and new aspects of this redesign, cost management and prioritization will be important work tasks throughout all phases of the redesign effort.

Given these considerations, the scope of work can be summarized as follows:

Administration: Meet with staff on a regular basis to review progress, plan options and budget priorities.

Preliminary Studies / Design Development: Prepare and review options for configuration of boardwalk, for integrating boardwalk into site design of the whole, for comprehensive site design options and opportunities, for size, use and character of a concession stand and for play options. Develop cost estimates in association with preferred options.

Construction Documents: Prepare full construction documents including:

- Cover Sheet, General Notes and SESC Notes
- Existing Conditions
- Demolition – Tree Removal, Above Ground and Below Ground
- Site Plan
- Play Apparatus Plans including Adult Fitness
- Tennis / Shuffleboard Reconfiguration
- Observation Mound (if used)
- Staking Plans
- Grading Plan and SESC Plan
- Storm Water Management Plan
- Planting / Seeding / Sodding Plan
- Concession Building Plans
- Boardwalk Detailing
- All Other Pertinent Construction Detailing
- Specifications / Front End Documents / Quantity Take-Offs

Submittals: Submit revised plan set to Township and County.

Bid Period: Prepare addenda, respond to inquiries, attend pre-bid meeting if scheduled

Construction Period: Attend pre-construction meeting; Review and act upon submittals; Respond to requests for information; Prepare change orders and bulletins if/as required; Conduct periodic inspections of work to determine conformance with construction documents; Attend regular progress meetings; Assist in conducting substantial completion punchlist inspection; Assist in conducting final walk-through; Document findings at each step above; Coordinate information with Staff construction manager

Fee

1. Our fee for services through Bid Period, excluding Concession Stand design and construction documents, is \$37,940.00.
2. Our fee for design and construction documentation for the Concession Stand is \$1,500.00.
3. Total Lump Sum Fee for Items 1 and 2 is \$39,440.00.

4. Our fee for Construction Period services will be on a time and material basis with an estimated fee of \$7,200.00. Time will be charged at \$110/hr. for principals and \$75/hr. for Associates. Travel time will be charged at \$55/hr. Expenses will be charged at cost plus 10%.

5. Expenses are not included in these fees and will be charged as follows:

Mileage	\$0.50/mile
Plots 24 x 36	\$3.00 ea.
Color Plots 24 x 36	\$10.00 ea.
Copies: 8.5 x 11	\$0.05 ea.
Copies: 8.5 x 11 color	\$0.30 ea.
Copies: 11 x 17	\$0.30 ea.
Copies: 11 x 17 color	\$0.60 ea.
Dry Mounting 24 x 36	\$20 ea.

We estimate an expense budget of \$2,450.00 through Bid Period.

If acceptable, please sign and date below. We welcome the opportunity to discuss and further clarify any aspect of this proposal.

Sincerely,

Johnson Hill Land Ethics Studio



Mark Robinson, Principal

Accepted by: _____

Date: _____

**HURON-CLINTON METROPOLITAN AUTHORITY**

To: Board of Commissioners
From: Rebecca L. Franchock, Controller
Subject: Report – Blue Cross Blue Shield Rate Stabilization
Date: July 5, 2016

Action Requested: Motion to Approve

That the Board of Commissioners' approve committing an additional \$146,815.50 of current Fund Balance, which reflects the amount received in June 2016 related to the 2015 Blue Cross Blue Shield of Michigan (BCBSM) rate stabilization surplus as recommended by Controller Franchock and staff.

Fiscal Impact: Receipt of these funds was not anticipated in the 2016 budget.

Background: Each year Blue Cross Blue Shield, the medical/prescription insurance carrier for the Metroparks, estimates the premium rates based on the Metroparks recent claims and claim trends for groups similar in size. This rate includes a Rate Stabilization Reserve Account, used to cushion against significant swings caused by large claims.

For the 2015 rate year, the total premium paid by the Metroparks was higher than the actual claims filed, leaving a \$293,631 excess amount in our Rate Stabilization Reserve Account. In years where there is an excess, BCBSM retains 50 percent of this excess amount to stabilize rates. The remaining 50 percent may be used to reduce the next year's premiums or refunded as a lump sum payment.

In 2015, the Metroparks received a significantly higher refund totaling \$580,711. At that time, the Board approved this amount be committed for future rate stabilization and employee benefit costs in Fund Balance. Staff recommends that this amount also be committed to stabilize future medical and prescription insurance premiums.



HURON-CLINTON METROPOLITAN AUTHORITY

To: Board of Commissioners
 From: Rebecca L. Franchock, Controller
 Subject: Approval – Gabriel Roeder Smith and Co. Five-Year Experience Study
 Date: July 5, 2016

Action Requested: Motion to Approve

That the Board of Commissioners' (1) approve the proposal from Gabriel Roeder Smith and Company (GRS) to perform a five-year experience analysis for the Huron-Clinton Metropolitan Authority Employees' Retirement Plan; and (2) transfer \$19,000 from Fund Balance to cover the expenditure as recommended by Controller Franchock and staff.

Fiscal Impact: This is an unbudgeted project.

Background: At the May 12, 2016 Pension and Retiree Health Care meeting, it was discussed that the annual valuation for the Defined Benefit Pension Plan and the bi-annual Retiree Health Care Trust valuation are both based upon certain assumptions about future occurrences. The extent to which these assumptions are reasonable has a great impact on the valuations. Best practice calls for periodic review and analysis of the underlying assumptions utilized. It has been five years since the previous review and GRS recommends an analysis at this time.

The analysis will review both economic assumptions such as interest rate and inflation as well as non-economic assumptions such as mortality, retirement, salary increases due to merit and longevity, disability incidence, withdrawal from employment and optional forms of payment and lump sums.

The results will be presented in a report illustrating the analysis of non-economic assumptions, revised valuation results based on recommended changes to non-economic assumptions, analysis of alternative economic assumptions and valuation results based on one or two alternative economic assumptions.

This project applies only to the Employees' Retirement Plan. However, most of the resulting assumptions will also apply to the next valuation for the Retiree Health Care Trust. To the extent there may be changes in the underlying assumptions, any additional consulting related to the impact of those changes on the Retiree Health Care Trust would be charged at the standard hourly rate.

It should be noted that GRS held the fee charged to the same amount that was charged in 2011.

Attachment: GRS Letter



Gabriel Roeder Smith & Company
Consultants & Actuaries

One Towne Square
Suite 800
Southfield, MI 48076-3723

248.799.9000 phone
248.799.9020 fax
www.gabrielroeder.com

June 3, 2016

Ms. Rebecca Franchock
Controller
Huron-Clinton Metropolitan Authority
13000 High Ridge Drive
Brighton, Michigan 48114-9058

Re: 5-Year Experience Analysis for the Huron-Clinton Metropolitan Authority Employees' Retirement Plan

Dear Rebecca:

We have prepared an engagement letter describing the scope and fees for conducting an experience study for the above-named plan.

As you know, the plan costs developed in the annual actuarial valuations are based upon various assumptions about future occurrences. The results of the valuation are reliable only if the underlying assumptions are reasonable. These assumptions are recommended by the actuary and approved by the Board. It is the actuary's responsibility to periodically review the assumptions for reasonableness by comparing them to actual experience. As discussed at the May Board meeting, since an assumption review has not been performed for over 5 years, we recommend an analysis at this time.

Scope of Services

Gabriel, Roeder, Smith & Company will provide an analysis of experience with respect to the following contingencies for your plan:

<u>Retirement Plan Assumptions</u>	<u>Contingency</u>
Economic Assumptions	<ul style="list-style-type: none"> • Interest rate • Rate of pay inflation
Non-Economic Assumptions	<ul style="list-style-type: none"> • Mortality (pre and post retirement) • Retirement • Salary increases due to merit and longevity • Disability incidence • Withdrawal from employment • Optional forms of payment and lump sums

Ms. Rebecca Franchock
June 3, 2016
Page 2

We will summarize the results of our analysis in a report illustrating the following:

- Analysis of non-economic assumptions.
- Revised valuation results based on recommended changes to non-economic assumptions.
- Analysis of alternative economic assumptions.
- Valuation results based on 1-2 alternative economic assumptions.

Consulting Fees

A summary of our proposed fees are shown below:

<u>Project</u>	<u>Consulting Fees</u>
5-Year Experience Study	\$19,000

This project applies only to the Huron-Clinton Metropolitan Authority Employees' Retirement Plan. Most of the resulting assumptions will also apply to the next valuation of the Huron-Clinton Metropolitan Authority Retiree Health Care Plan. Any additional consulting related to the impact of these changes on the Huron-Clinton Metropolitan Authority Retiree Health Care Plan will be charged at standard hourly rates.

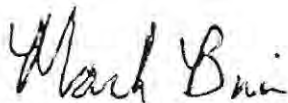
Project Timing

The study will incorporate the most recent data and be based on experience for the 5-year period ending December 31, 2015. The study can be completed in 11 to 12 weeks following approval of the study and receipt of the necessary data.

During the course of our engagement, we will advise you promptly if, as a result of unforeseen circumstances, our fees will exceed this estimate.

Gabriel, Roeder, Smith & Company appreciates the opportunity to be of service to you. Please let us know of your decision regarding this project. In the meantime, if you have any questions do not hesitate to call me at (248) 799-9000, ext. 1162.

Sincerely,



Mark Buis, FSA, EA, FCA, MAAA

MB:ah

Gabriel Roeder Smith & Company

HURON-CLINTON METROPARKS MONTHLY STATISTICS

June, 2016

PARK	MONTHLY VEHICLE ENTRIES			
	Current	Previous	Prev 3 Yr Avg	Change from Average
Lake St Clair	57,394	48,010	54,504	5%
Wolcott Mill	7,727	8,394	6,376	21%
Stony Creek	83,095	67,912	81,953	1%
Indian Springs	13,477	11,322	12,484	8%
Kensington	93,065	91,114	93,868	-1%
Huron Meadows	11,399	8,257	9,444	21%
Hudson Mills	25,918	22,238	26,219	-1%
Lower Huron/Willow/Oakwoods	62,924	54,435	59,028	7%
Lake Erie	10,350	66,940	37,952	-73%
Monthly TOTALS	365,349	378,622	381,828	-4%

MONTHLY TOLL REVENUE			
Current	Previous	Prev 3 Yr Avg	Change from Average
\$ 312,895	\$ 186,958	\$ 208,997	50%
\$ 462,022	\$ 272,669	\$ 308,802	50%
\$ 51,641	\$ 40,256	\$ 39,398	31%
\$ 409,353	\$ 264,229	\$ 271,299	51%
\$ 3,754	\$ 2,510	\$ 3,187	18%
\$ 76,687	\$ 55,453	\$ 57,128	34%
\$ 187,521	\$ 104,729	\$ 120,680	55%
\$ 103,847	\$ 52,234	\$ 64,211	62%
\$ 1,607,720	\$ 979,038	\$ 1,073,702	50%

PARK	Y-T-D VEHICLE ENTRIES			
	Current	Previous	Prev 3 Yr Avg	Change from Average
Lake St Clair	174,671	162,294	167,297	4%
Wolcott Mill	30,578	24,471	21,509	42%
Stony Creek	254,941	216,473	233,511	9%
Indian Springs	41,395	38,095	37,954	9%
Kensington	353,536	354,308	342,836	3%
Huron Meadows	42,061	38,496	38,383	10%
Hudson Mills	92,038	86,059	94,861	-3%
Lower Huron/Willow/Oakwoods	253,316	221,434	224,804	13%
Lake Erie	74,662	66,940	72,518	3%
Monthly TOTALS	1,317,198	1,208,570	1,233,673	7%

Y-T-D TOLL REVENUE			
Current	Previous	Prev 3 Yr Avg	Change from Average
\$ 858,185	\$ 612,361	\$ 597,737	44%
\$ 1,410,021	\$ 1,017,302	\$ 1,009,391	40%
\$ 190,075	\$ 145,257	\$ 140,309	35%
\$ 1,458,337	\$ 1,070,864	\$ 990,590	47%
\$ 33,132	\$ 41,624	\$ 35,370	-6%
\$ 308,668	\$ 244,234	\$ 242,579	27%
\$ 541,141	\$ 359,749	\$ 360,744	50%
\$ 376,480	\$ 263,218	\$ 260,632	44%
\$ 5,176,039	\$ 3,754,609	\$ 3,637,351	42%

PARK	MONTHLY PARK REVENUE			
	Current	Previous	Prev 3 Yr Avg	Change from Average
Lake St Clair	\$ 431,314	\$ 259,648	\$ 299,827	44%
Wolcott Mill	\$ 117,491	\$ 78,866	\$ 79,719	47%
Stony Creek	\$ 791,214	\$ 524,902	\$ 568,381	39%
Indian Springs	\$ 198,317	\$ 179,999	\$ 175,168	13%
Kensington	\$ 760,593	\$ 550,146	\$ 555,116	37%
Huron Meadows	\$ 146,186	\$ 133,643	\$ 123,870	18%
Hudson Mills	\$ 188,275	\$ 150,664	\$ 141,363	33%
Lower Huron/Willow/Oakwoods	\$ 609,288	\$ 286,972	\$ 408,460	49%
Lake Erie	\$ 357,813	\$ 229,695	\$ 260,269	37%
Y-T-D TOTALS	\$ 3,600,490	\$ 2,394,535	\$ 2,612,174	38%

Y-T-D PARK REVENUE			
Current	Previous	Prev 3 Yr Avg	Change from Average
\$ 1,255,715	\$ 979,379	\$ 848,392	48%
\$ 299,823	\$ 226,795	\$ 214,700	40%
\$ 2,215,135	\$ 1,657,473	\$ 1,682,417	32%
\$ 549,906	\$ 468,617	\$ 464,288	18%
\$ 2,304,988	\$ 1,790,326	\$ 1,682,383	37%
\$ 371,258	\$ 348,134	\$ 326,597	14%
\$ 552,034	\$ 475,425	\$ 477,924	16%
\$ 1,243,213	\$ 724,175	\$ 857,233	45%
\$ 874,802	\$ 650,963	\$ 695,742	26%
\$ 9,666,873	\$ 7,321,287	\$ 7,249,675	33%

District	Y-T-D Vehicle Entries by Management Unit			
	Current	Previous	Prev 3 Yr Avg	Change from Average
Eastern	460,190	403,238	422,317	9%
Western	529,030	516,958	514,034	3%
Southern	327,978	288,374	297,322	10%

Y-T-D Total Revenue by Management Unit			
Current	Previous	Prev 3 Yr Avg	Change from Average
3,770,673	2,863,647	2,745,509	37%
3,778,186	3,082,501	2,951,192	28%
2,118,015	1,375,138	1,552,975	36%

HURON-CLINTON METROPARKS MONTHLY STATISTICS

June, 2016

GOLF THIS MONTH	MONTHLY ROUNDS			
	Current	Previous	Prev 3 Yr Avg	Change from Average
Wolcott Mill	3,067	2,442	2,634	16%
Stony Creek	5,940	5,197	5,560	7%
Indian Springs	4,342	4,068	4,334	0%
Kensington	5,771	4,524	4,788	21%
Huron Meadows	4,575	4,509	4,152	10%
Hudson Mills	3,136	3,133	2,968	6%
Willow	4,689	2,669	3,327	41%
Lake Erie	4,904	9,521	5,889	-17%
Total Regulation	36,424	36,063	33,652	8%
LSC Par 3	1,520	1,387	1,881	-19%
LSC Foot Golf	185	286	95	94%
L. Huron Par 3	852	660	958	-11%
L. Huron Foot Golf	155	81	27	474%
Total Golf	39,136	38,477	36,613	7%

GOLF Y-T-D	GOLF ROUNDS Y-T-D			
	Current	Previous	Prev 3 Yr Avg	Change from Average
Wolcott Mill	6,201	5,191	5,077	22%
Stony Creek	12,625	11,651	12,083	4%
Indian Springs	9,588	8,925	9,061	6%
Kensington	12,643	11,090	11,186	13%
Huron Meadows	10,522	9,653	9,077	16%
Hudson Mills	6,650	6,816	6,474	3%
Willow	10,100	7,657	7,424	36%
Lake Erie	10,648	9,521	8,792	21%
Total Regulation	78,977	70,504	69,174	14%
LSC Par 3	3,043	2,029	3,326	-9%
LSC Foot Golf	317	393	131	142%
L. Huron Par 3	1,717	1,571	1,945	-12%
L. Huron Foot Golf	372	182	61	513%
Total Golf	84,426	74,679	74,637	13%

AQUATICS THIS MONTH	PATRONS THIS MONTH			
	Current	Previous	Prev 3 Yr Avg	Change from Average
Lake St. Clair	12,850	7,101	9,437	36%
Stony Creek Rip Slide	8,690	3,928	8,870	-2%
KMP Splash	11,392	6,614	9,253	23%
Hudson Mills Rip Slide	637	1,058	353	81%
Lower Huron	23,702	14,570	19,808	20%
Willow	6,013	2,861	3,958	52%
Lake Erie	10,350	5,997	8,777	18%
TOTALS	73,634	42,129	60,455	22%

AQUATICS Y-T-D	PATRONS Y-T-D			
	Current	Previous	Prev 3 Yr Avg	Change from Average
Lake St. Clair	17,079	8,789	11,568	48%
Stony Creek Rip Slide	10,569	5,147	10,481	1%
KMP Splash	14,874	7,998	11,234	32%
Hudson Mills Rip Slide	796	1,285	428	86%
Lower Huron	29,009	17,084	22,872	27%
Willow	7,663	3,323	4,610	66%
Lake Erie	13,495	5,997	10,154	33%
TOTALS	93,485	49,623	71,348	31%

MONTHLY REVENUE			
Current	Previous	Prev 3 Yr Avg	Change from Average
\$ 98,206	\$ 57,315	\$ 55,181	78%
\$ 194,903	\$ 153,594	\$ 140,325	39%
\$ 106,037	\$ 101,682	\$ 104,375	2%
\$ 136,344	\$ 116,342	\$ 121,065	13%
\$ 123,581	\$ 113,419	\$ 107,836	15%
\$ 64,742	\$ 63,341	\$ 53,930	20%
\$ 138,314	\$ 62,998	\$ 90,949	52%
\$ 135,531	\$ 88,515	\$ 85,500	59%
\$ 997,658	\$ 757,205	\$ 759,161	31%
\$ 10,703	\$ 8,319	\$ 11,465	-7%
\$ 1,250	\$ 1,213	\$ 404	209%
\$ 5,759	\$ 4,195	\$ 6,154	-6%
\$ 941	\$ 493	\$ 164	473%
\$ 1,016,311	\$ 771,425	\$ 777,348	31%

GOLF REVENUE Y-T-D			
Current	Previous	Prev 3 Yr Avg	Change from Average
\$ 194,512	\$ 120,430	\$ 106,407	83%
\$ 409,623	\$ 348,574	\$ 368,516	11%
\$ 233,448	\$ 215,919	\$ 229,470	2%
\$ 305,627	\$ 278,490	\$ 281,675	9%
\$ 277,798	\$ 239,260	\$ 240,511	16%
\$ 132,616	\$ 131,233	\$ 135,829	-2%
\$ 294,681	\$ 177,699	\$ 220,506	34%
\$ 283,450	\$ 194,456	\$ 215,127	32%
\$ 2,131,755	\$ 1,706,060	\$ 1,798,042	19%
\$ 20,143	\$ 16,805	\$ 21,508	-6%
\$ 2,108	\$ 1,960	\$ 653	223%
\$ 11,947	\$ 10,391	\$ 12,888	-7%
\$ 2,221	\$ 1,164	\$ 388	472%
\$ 2,168,174	\$ 1,736,380	\$ 1,833,479	18%

MONTHLY REVENUE			
Current	Previous	Prev 3 Yr Avg	Change from Average
\$ 64,170	\$ 28,264	\$ 37,409	72%
\$ 44,466	\$ 20,190	\$ 23,192	92%
\$ 67,426	\$ 33,639	\$ 41,924	61%
\$ 4,310	\$ 7,564	\$ 2,521	71%
\$ 230,927	\$ 95,087	\$ 162,071	42%
\$ 27,515	\$ 8,882	\$ 17,668	56%
\$ 84,152	\$ 27,358	\$ 40,195	109%
\$ 522,966	\$ 220,984	\$ 324,980	61%

REVENUE Y-T-D			
Current	Previous	Prev 3 Yr Avg	Change from Average
\$ 85,302	\$ 34,957	\$ 45,894	86%
\$ 54,204	\$ 26,132	\$ 28,001	94%
\$ 89,478	\$ 44,554	\$ 52,683	70%
\$ 5,812	\$ 8,738	\$ 2,913	100%
\$ 283,999	\$ 116,026	\$ 190,782	49%
\$ 35,467	\$ 10,523	\$ 20,751	71%
\$ 108,855	\$ 32,697	\$ 48,288	125%
\$ 663,117	\$ 273,627	\$ 389,312	70%

HURON-CLINTON METROPARKS MONTHLY STATISTICS

June, 2016

PARK	Seasonal Activities this Month			
	Current	Previous	Prev 3 Yr Avg	Change from Average
Lake St. Clair				
Welsh Center	3	10	9	-68%
Shelters	53	65	78	-32%
Boat Launches	1,240	1,167	1,339	-7%
Marina	476	363	511	-7%
Mini-Golf	2,407	2,415	2,553	-6%
Wolcott				
Activity Center	13	15	13	0%
Stony Creek				
Disc Golf Daily	2,849	3,065	4,345	-34%
Disc Golf Annual	7	3	3	110%
Total Disc Golf	2,856	3,068	4,349	-34%
Shelters	74	49	64	16%
Boat Rental	4,663	3,526	3,840	21%
Boat Launches	177	194	370	-52%
Indian Springs				
Shelters	11	16	16	-30%
Event Room	3	1,148	1,241	-100%
Kensington				
Disc Golf Daily	3,875	4,049	5,323	-27%
Disc Golf Annual	9	16	12	-23%
Total Disc Golf	3,884	4,065	5,334	-27%
Shelters	51	53	60	-15%
Boat Rental	4,101	2,901	3,561	15%
Huron Meadows				
Shelters	2	2	4	-45%
Hudson Mills				
Disc Golf Daily	1,414	1,552	1,834	-23%
Disc Golf Annual	8	11	8	0%
Total Disc Golf	1,422	1,563	1,842	-23%
Shelters	20	7	17	20%
Canoe Rental	1,247	452	855	46%
Lower Huron / Willow / Oakwoods				
Shelters	39	40	40	-3%
Lake Erie				
Shelters	13	51	26	-50%
Boat Launches	1,848	6,116	3,551	-48%
Marina	71	6	5	1265%

Monthly Revenue			
Current	Previous	Prev 3 Yr Avg	Change from Average
\$ 2,200	\$ 2,000	\$ 1,550	42%
\$ 12,330	\$ 11,285	\$ 10,483	18%
\$ -	\$ -	\$ -	-
\$ 4,534	\$ 3,334	\$ 4,445	2%
\$ 9,029	\$ 8,895	\$ 9,376	-4%
\$ 2,450	\$ 2,250	\$ 1,367	79%
\$ 9,612	\$ 9,195	\$ 8,416	14%
\$ 345	\$ 130	\$ 160	116%
\$ 9,957	\$ 9,325	\$ 8,576	16%
\$ 16,725	\$ 9,800	\$ 9,800	71%
\$ 49,302	\$ 29,876	\$ 32,845	50%
\$ -	\$ -	\$ -	-
\$ 1,400	\$ 1,850	\$ 2,167	-35%
\$ 8,760	\$ 7,662	\$ 7,181	22%
\$ 11,625	\$ 12,121	\$ 11,986	-3%
\$ 475	\$ 700	\$ 486	-2%
\$ 12,100	\$ 12,821	\$ 12,472	-3%
\$ 13,950	\$ 12,025	\$ 13,058	7%
\$ 51,879	\$ 38,484	\$ 43,602	19%
\$ 400	\$ 400	\$ 733	-45%
\$ 4,242	\$ 4,656	\$ 4,186	1%
\$ 400	\$ 550	\$ 380	5%
\$ 4,642	\$ 5,206	\$ 4,566	2%
\$ 4,000	\$ 1,400	\$ 3,267	22%
\$ 5,345	\$ 1,908	\$ 3,711	44%
\$ 8,600	\$ 8,800	\$ 8,817	-2%
\$ 3,000	\$ 2,300	\$ 2,700	11%
\$ -	\$ -	\$ -	-
\$ 30,267	\$ 20,884	\$ 27,487	10%

PARK	Seasonal Activities Y-T-D			
	Current	Previous	Prev 3 Yr Avg	Change from Average
Lake St. Clair				
Welsh Center	12	37	31	-61%
Shelters	200	244	153	31%
Boat Launches	2,112	1,783	2,051	3%
Marina	1,035	634	862	20%
Mini-Golf	3,120	3,001	3,251	-4%
Wolcott				
Activity Center	47	53	48	-3%
Stony Creek				
Disc Golf Daily	8,319	9,045	10,910	-24%
Disc Annual	128	103	80	61%
Total Disc Golf	8,447	9,148	10,990	-23%
Shelters	302	272	279	8%
Boat Rental	6,331	4,005	5,150	23%
Boat Launches	252	528	756	-67%
Indian Springs				
Shelters	40	45	42	-5%
Event Room	26	2,430	2,951	-99%
Kensington				
Disc Golf Daily	11,987	12,027	14,282	-16%
Disc Annual	142	196	136	4%
Total Disc Golf	12,129	12,223	14,419	-16%
Shelters	278	341	335	-17%
Boat Rental	6,058	4,557	5,364	13%
Huron Meadows				
Shelters	17	21	18	-6%
Hudson Mills				
Disc Golf Daily	4,653	5,544	6,293	-26%
Disc Annual	114	155	128	-11%
Total Disc Golf	4,767	5,699	6,421	-26%
Shelters	78	77	87	-10%
Canoe Rental	1,769	730	1,156	53%
Lower Huron / Willow / Oakwoods				
Shelters	202	182	200	1%
Lake Erie				
Shelters	54	51	59	-8%
Boat Launches	8,178	6,116	6,440	27%
Marina	71	6	8	745%

Seasonal Revenue Y-T-D			
Current	Previous	Prev 3 Yr Avg	Change from Average
\$ 10,875	\$ 23,450	\$ 13,400	-19%
\$ 48,675	\$ 50,235	\$ 50,327	-3%
\$ -	\$ -	\$ -	-
\$ 6,812	\$ 4,975	\$ 6,390	7%
\$ 11,615	\$ 10,669	\$ 11,716	-1%
\$ 10,450	\$ 13,900	\$ 12,090	-14%
\$ 27,872	\$ 31,785	\$ 25,081	11%
\$ 6,720	\$ 4,650	\$ 3,500	92%
\$ 34,592	\$ 36,435	\$ 28,581	21%
\$ 62,160	\$ 54,400	\$ 55,833	11%
\$ 66,840	\$ 49,604	\$ 49,546	35%
\$ -	\$ -	\$ -	-
\$ 5,850	\$ 5,800	\$ 6,800	-14%
\$ 49,130	\$ 31,628	\$ 32,661	50%
\$ 35,961	\$ 36,056	\$ 32,565	10%
\$ 7,490	\$ 6,421	\$ 5,393	39%
\$ 43,451	\$ 42,477	\$ 37,958	14%
\$ 71,985	\$ 76,675	\$ 72,823	-1%
\$ 78,287	\$ 57,781	\$ 64,548	21%
\$ 150,272	\$ 134,456	\$ 137,372	
\$ 1,600	\$ 4,200	\$ 3,600	-56%
\$ 13,959	\$ 16,632	\$ 14,434	-3%
\$ 6,070	\$ 7,530	\$ 6,063	0%
\$ 20,029	\$ 24,162	\$ 20,497	-2%
\$ 15,600	\$ 15,400	\$ 17,350	-10%
\$ 7,743	\$ 3,648	\$ 5,199	49%
\$ 43,975	\$ 40,050	\$ 42,550	3%
\$ 12,300	\$ 10,900	\$ 11,850	4%
\$ -	\$ -	\$ -	-
\$ 83,589	\$ 72,322	\$ 81,208	3%

INTERPRETIVE FACILITIES									
PARK	Monthly Patrons Served					YTD Patrons Served			
	(total program participants and non-program visitors)					(total program participants and non-program visitors)			
	Current	Previous	Prev 3 Yr Avg	Change from Average		Current	Previous	Prev 3 Yr Avg	Change from Average
Lake St Clair	22,637	19,420	19,339	17%		76,027	67,151	68,512	11%
Wolcott Mill	7,426	5,729	6,299	18%		24,153	13,638	17,883	35%
Wolcott Farm	11,334	10,014	11,648	-3%		43,475	42,678	46,793	-7%
Stony Creek	18,012	17,757	17,890	1%		98,037	80,528	82,810	18%
Eastern Mobile Center	866	0	866	0%		4,129	0	4,129	0%
Indian Springs	10,485	11,381	11,347	-8%		42,506	46,697	46,847	-9%
Kens NC	29,526	24,865	27,082	9%		139,704	132,580	133,390	5%
Kens Farm	12,200	45,056	34,293	-64%		132,400	174,192	153,203	-14%
Western Mobile Center	1,017	3,138	2,425	-58%		9,596	18,722	13,622	-30%
Hudson Mills	3,737	4,969	4,293	-13%		20,263	25,725	23,392	-13%
Oakwoods	14,739	12,971	13,781	7%		79,612	58,504	68,210	17%
Lake Erie	10,709	5,571	9,854	9%		48,758	20,334	45,451	7%
Southern Mobile Center	2,180	0	2,180	0%		4,417	0	4,417	0%
Totals	144,868	160,871	161,297	-10%		723,077	680,749	708,658	2%

PARK	Monthly Revenue				YTD Revenue			
	Current	Previous	Prev 3 Yr Avg	Change from Average	Current	Previous	Prev 3 Yr Avg	Change from Average
Lake St Clair	\$ 6,800	\$ 4,227	\$ 3,332	104%	\$ 21,364	\$ 16,445	\$ 14,517	47%
Wolcott Mill	\$ 1,829	\$ 1,275	\$ 819	123%	\$ 7,728	\$ 6,923	\$ 5,689	36%
Wolcott Farm	\$ 7,209	\$ 5,830	\$ 6,645	8%	\$ 42,831	\$ 41,392	\$ 38,220	12%
Wagon Rides	\$ 1,974	\$ 1,566	\$ 759	160%	\$ 6,663	\$ 2,702	\$ 2,402	177%
Livestock/Produce	\$ 2,331	\$ 3,494	\$ 3,932	-41%	\$ 9,401	\$ 18,405	\$ 20,549	-54%
FARM TOTAL	\$ 11,514	\$ 10,890	\$ 11,337	2%	\$ 58,895	\$ 62,499	\$ 61,171	-4%
Stony Creek	\$ 4,143	\$ 4,012	\$ 3,789	9%	\$ 17,476	\$ 14,507	\$ 14,564	20%
Indian Springs	\$ 6,667	\$ 5,671	\$ 6,378	5%	\$ 20,784	\$ 21,889	\$ 23,119	-10%
Kens NC	\$ 3,192	\$ 4,294	\$ 4,459	-28%	\$ 17,522	\$ 14,416	\$ 14,124	24%
Kens Farm	\$ 8,529	\$ 8,554	\$ 6,254	36%	\$ 52,215	\$ 36,714	\$ 34,600	51%
Wagon Rides	\$ 929	\$ 1,225	\$ 1,829	-49%	\$ 14,463	\$ 12,021	\$ 12,743	13%
Livestock/Produce	\$ 265	\$ 985	\$ 823	-68%	\$ 10,923	\$ 11,050	\$ 9,587	14%
FARM TOTAL	\$ 9,723	\$ 10,764	\$ 8,906	9%	\$ 77,601	\$ 59,785	\$ 56,930	36%
Mobile Center	\$ 725	\$ 1,050	\$ 1,302	-44%	\$ 14,567	\$ 11,815	\$ 10,599	37%
Hudson Mills	\$ 1,536	\$ 1,311	\$ 935	64%	\$ 8,893	\$ 9,665	\$ 9,298	-4%
Oakwoods	\$ 3,161	\$ 1,788	\$ 1,957	62%	\$ 9,440	\$ 8,573	\$ 8,624	9%
Lake Erie	\$ 952	\$ 518	\$ 1,032	-8%	\$ 5,536	\$ 6,909	\$ 5,901	-6%
Totals	\$ 50,242	\$ 45,800	\$ 44,245	14%	\$ 259,805	\$ 233,426	\$ 224,535	16%

BREAKDOWN OF ATTENDANCE	ON-SITE Programs and Attendance			
	CURRENT YEAR		PREVIOUS YEAR	
	Programs	Attendance	Programs	Attendance
Lake St Clair	145	4,027	128	5,630
Wolcott Mill	7	380	27	1,314
Wolcott Farm	42	1,487	35	1,261
Stony Creek	65	1,518	56	1,432
Eastern Mobile Center				
Indian Springs	55	3,208	70	3,526
Kens NC	80	1,830	65	1,868
Kens Farm	54	1,618	192	3,671
Western Mobile Center				
Hudson Mills	7	149	18	456
Oakwoods	62	1,674	39	833
Lake Erie	72	1,528	65	1,154
Southern Mobile Center				
Totals	589	17,419	695	21,145

OFF-SITE Programs and Attendance			
CURRENT YEAR		PREVIOUS YEAR	
Programs	Attendance	Programs	Attendance
1	12	15	704
3	4,100	2	2,000
3	4,100	4	4,192
-	-	1	56
10	866	-	-
2	92	3	142
1	24	3	240
-	-	1	310
25	1,017	23	3,138
3	88	10	1,013
1	225	1	24
-	-	-	-
23	2,180	-	-
72	12,704	63	11,819

BREAKDOWN OF ATTENDANCE	OTHER VISITORS (Non-programs)	
	Current	Previous
Lake St Clair	18,598	13,086
Wolcott Mill	2,946	2,415
Wolcott Farm	5,747	4,561
Stony Creek	16,494	16,269
Indian Springs	7,185	7,713
Kens NC	27,672	22,757
Kens Farm	10,582	41,075
Hudson Mills	3,500	3,500
Oakwoods	12,840	12,114
Lake Erie	9,181	4,417
Totals	114,745	127,907

"ON-SITE" - Statistics includes both programs offered to the public and programs offered to school and scout groups.

"OFF-SITE" - Statistics includes outreach programs at schools, special events such as local fairs, or outdoor related trade shows.

"OTHER VISITORS" - Represents patrons to interpretive centers who visit to view exhibits, walk trails, and generally just enjoy the outdoors.