ONONDAGA LAKE
HABITAT AND BIOLOGICAL MONITORING
WORK PLAN FOR 2012

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LIST OF ACRONYMS

NYSDEC	New York State Department of Environmental Conservation
OLMMS	Onondaga Lake Monitoring and Maintenance Scope
QAPP	Quality Assurance Project Plan
ROD	Record of Decision
SOP	Standard Operating Procedure
USEPA	United States Environmental Protection Agency
USEPA	United States Environmental Protection Agency

EXECUTIVE SUMMARY

This Onondaga Lake Habitat and Biological Monitoring Work Plan presents the scope for monitoring activities to be completed in 2012, the first year of post-baseline monitoring related to the Honeywell remedy. The overall monitoring program objectives are described in the Onondaga Lake Monitoring and Maintenance Scoping Document. The 2012 work scope associated with habitat reestablishment and biological monitoring includes fish community and population assessments using the same sampling locations and methods as the baseline monitoring program. Work plans for the other monitoring elements will be submitted in subsequent years, as addenda to this document, for wetland and upland vegetation, littoral zone vegetation, macroinvertebrate community, and wildlife observations, prior to initiation of monitoring. The work proposed in this document will use the 2012 Quality Assurance Project Plan for Onondaga Lake Construction and Post-Construction Monitoring, which includes Standard Operating Procedures.

SECTION 1

INTRODUCTION

This document describes the objectives, methods, locations, data to be collected, and schedule for the five separate elements that comprise the habitat reestablishment and biological response monitoring program as defined in the Onondaga Lake Maintenance and Monitoring Scoping Document (OLMMS; Parsons et al. 2012). These five monitoring elements are:

- Wetland and upland vegetation
- Aquatic vegetation
- Fish community
- Benthic macroinvertebrate community, and
- Wildlife

The fish community is the only element that will be monitored in 2012, and therefore, is the only element included in this document. Prior to the commencement of monitoring activities for the other elements, an addendum containing additional work plans will be submitted to NYSDEC for approval. In addition, if changes to the fish community monitoring described in this document are necessary during the course of the program, the proposed modifications will also be submitted for approval. Descriptions of the field procedures, analytical methods, and quality assurance program supporting the field work are described in the Quality Assurance Project Plan for Onondaga Lake Construction and Post-Construction Monitoring (QAPP; Parsons 2012a).

1.1 MONITORING OBJECTIVES

The primary purpose of monitoring is to provide data during and after habitat reestablishment to assist in determining overall effectiveness and biological response that is guided by the success criteria and decision making framework discussed in the OLMMS.

1.2 CONTENTS OF THIS WORK PLAN

The organization of the Work Plan is based upon the elements to be monitored in 2012 and is summarized below.

Section 1 – Introduction

Section 2 – Fish Community

SECTION 2

FISH COMMUNITY

Fish community information will be collected during 2012 to provide targeted data that will help facilitate an understanding of fish community response to lake remediation and habitat reestablishment. The broader monitoring program objectives described above will be met for the fish community by performing the following sampling activities:

- Assessment of fish population
- Assessment of fish community composition

2.1 ASSESSMENT OF FISH POPULATION

Bass and sunfish populations will be evaluated in 2012 using the Schnabel mark-recapture method, which allows for continuous mark and recapture during the assessment. Mark/recapture efforts will occur during two to three consecutive weeks in late spring (May-June). During each event, one complete pass around the lake shoreline will be made in approximately 1 meter of water with a boat electrofisher. The SOP for this assessment provides additional detail on the methods and is located in the QAPP (Parsons et al. 2012a).

2.2 ASSESSMENT OF FISH COMMUNITY COMPOSITION

Collection of both adult and juvenile fish will target the same locations as during the baseline monitoring program (Figure 2.1), to the extent practical. For safety reasons, sampling will not be conducted in any areas that are in the process of being dredged and/or capped. Adult fish locations will be the same as used during baseline monitoring as they are representative of fish use in and adjacent to each remediation area. Because juvenile fish tend to use a smaller area, they are more representative of site-specific conditions; therefore, some sampling sites may be added in certain remediation areas that were not sampled during baseline.

Sampling will be conducted following similar methods as baseline and include seining, gill netting, and trap netting. Ancillary data collected during electrofishing sampling for the population assessment and fish tissue analysis will also be used (see 2012 Fish Tissue Work Plan for details on site locations and timing for that effort, Parsons et al. 2012b).

Fish community assessments will be conducted monthly from June through October to assess seasonal fish movement. Approximately three to five days per sampling gear (trap, gill, and seine nets) each month will be allocated to sampling.

To more fully assess the Onondaga Lake fish community, a larger sized gill net (8 ft. deep by 200 ft. long with 6 to 12-inch stretch mesh openings) that was used during adult sport fish sample collections during baseline sampling will be used during 2012 for fish community survey work to better understand lake sturgeon abundance and distribution. Sampling will be similar to

efforts conducted in Oneida Lake by Cornell University to more fully assess the size range of sturgeon potentially residing in Onondaga Lake.

All fish will be identified to species, measured for total length in mm and weighed to the nearest gram (10 grams for larger fish) prior to being released. Details of the sampling procedures are described in the Fish Sampling SOP which is part of the Lake QAPP (Parsons 2012a). A scientific collector's license will be obtained from NYSDEC for this biota collection work scope.

2.3 HEALTH AND SAFETY

The safety of field team members and the general public is Honeywell's highest priority. The Parsons' Project Safety Plan and the Anchor QEA Project Safety Plan prepared for prior Onondaga Lake field activities will be reviewed and modified as warranted, and strictly followed by all personnel. Any task outside of the 2012 work scope defined in the relevant safety plans will have new job safety analyses completed as warranted before the task begins. Copies of these safety plans will be maintained at the support zone along the lakeshore and on the sampling boat.

2.4 QUALITY ASSURANCE/QUALITY CONTROL (QA/QC)

QA/QC procedures are presented in the QAPP (Parsons et al. 2012a).

2.5 DATA MANAGEMENT AND REPORTING

Field data for the fish community monitoring will be entered into a field database that includes field observations and measurements during collection. Collected fish community data will be managed by SUNY ESF throughout the sampling period and final data sets will be stored by Anchor QEA. Data summaries and data assessments will be discussed with the agencies and summarized in report form on an annual basis.

SECTION 3

REFERENCES

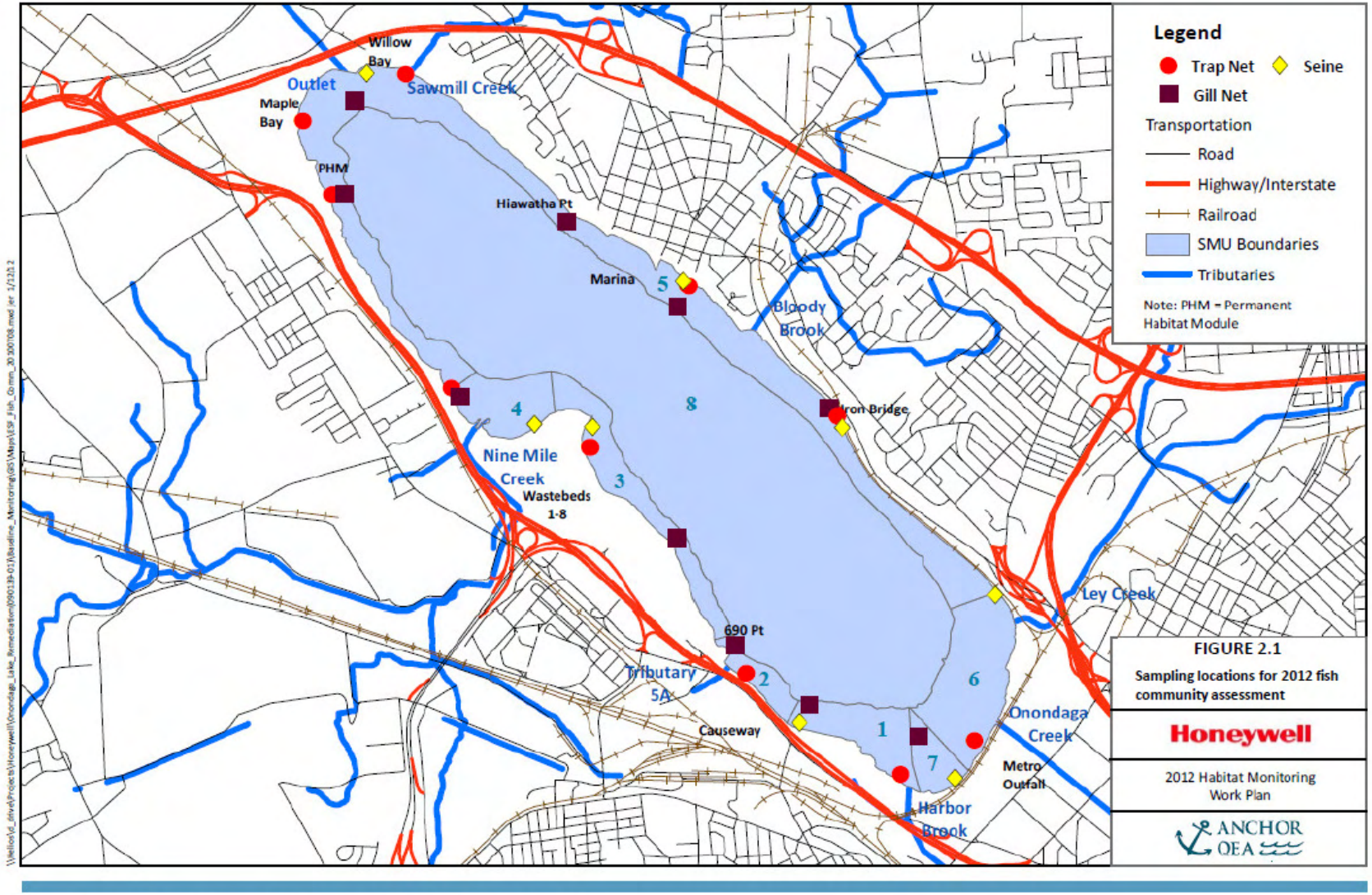
New York State Department of Environmental Conservation (NYSDEC) and United States Environmental Protection Agency (USEPA) Region 2. 2005. ***Record of Decision***. Onondaga Lake Bottom Subsite of the Onondaga Lake Superfund Site. July 2005.

Parsons, Anchor QEA, and Exponent. 2012. ***Onondaga Lake Monitoring and Maintenance Scoping Document (OLMMS)***. Under review. Prepared for Honeywell, Morristown, New Jersey. Syracuse, New York.

Parsons, Anchor QEA, and Exponent. 2012a. ***Draft Quality Assurance Project Plan for Onondaga Lake Construction and Post-Construction Monitoring.*** Prepared for Honeywell, Morristown, New Jersey. Syracuse, New York.

Parsons, Anchor QEA, and Exponent. 2012b. ***Draft Onondaga Lake Fish Tissue Monitoring Work Plan for 2012***. Under review. Prepared for Honeywell, Morristown, New Jersey. Syracuse, New York.

FIGURES


Legend
Trap Net
Seine
Gill Net
Transportation
Road
Highway/Interstate
Railroad
SMU Boundaries
Tributaries
Note: PHM = Permanent Habitat Module
Willow Bay
Outlet
Maple Bay
Sawmill Creek
PHM
Hiawatha Pt
Marina
Bloody Brook
Nine Mile Creek
Wastebeds 1-8
690 Pt
Tributary 5A
Causeway
Onondaga Creek
Metro Outfall
Harbor Brook
Ley Creek
1
2
3
4
5
6
7
8
0
3,600
7,200
Feet
FIGURE 2.1
Sampling locations for 2012 fish community assessment
Honeywell
2012 Habitat Monitoring Work Plan
ANCHOR QEA