SITE SPECIFIC WORK PLAN FOR INVASIVE SPECIES MANAGEMENT ON FOREST PRESERVE IN THE ADIRONDACK PARK

***Phragmites australis* - Moose River Plains Wild Forest. DATE: February, 2012**

APPLICANT: APIPP

PREPARED BY: Brendan R. Quirion
STATE LAND UNIT: Moose River Plains Wild Forest.
DEC REGION: 5
COUNTY: Hamilton
TOWN: Long Lake
TARGET SPECIES: *Phragmites australis*
CONTROL METHOD: Foliar Spray/Stem Injection with Glyphosate Based Herbicide (Accord)

UTM COORDINATES: (Decimal Degrees) Site 1 – Outlet of Raquette Lake
43.80815667 Latitude -74.65542833 Longitude

OBS ID # from iMap: New Sites for 2011 not yet in iMap

Approved:

- **Narrative**

The project proposes to treat one small stand of *Phragmites australis* located along State Route 28 near the outlet of Raquette Lake in the town of Long Lake. The control method selected is to apply a treatment of a glyphosate based herbicide in accordance with the best management practices identified in the "Inter-Agency Guidelines for Implementing Best Management Practices for the Control of Terrestrial and Aquatic Invasive Species on Forest Preserve Lands in the Adirondack Park, prepared by NYS Department of Environmental Conservation and the Adirondack Park Agency". The foliar spray/stem injection treatment of glyphosate based herbicide involves using a backpack sprayer and a JK International stem injection system. For dense areas of the stand, a backpack sprayer will be used to apply herbicide to the leaf surfaces until they are wetted. The foliar spray method is useful in covering large/dense stands of vegetation efficiently, but usually results in an increased likelihood for non-target or off-site impact through herbicide spray drift. To reduce this likelihood, applications will be conducted during periods of little or no wind. A marking dye will also be used to identify which plants have already been sprayed so that plants are not sprayed more than once. For sparse areas of the stand or for stems intermixed with native vegetation, a JK International stem injection gun will be used to inject herbicide directly into the hollow stem of each individual *Phragmites* plant. A marking die will also be used during this process to ensure that stems are not injected more than once. The stem injection method greatly reduces the threat of non-target or off-site impact, but is extremely labor intensive. This *Phragmites* stand is new infestations as of 2011, and has become established as of 2011. The cumulative size of the infestation is approximately .179 acres. All clothing, boots, and equipment will be cleaned prior to leaving the site to prevent the spread of seed.

- **Inventory of target and non-target species**

The site was inventoried by the preparers of this work plan on 06-15-2011 as part of an invasive species assessment on state route 28. Within the invaded site phragmites was observed with coverage ranging between 26-50% above ground biomass and non target species included *Calamogrostis*, *Solidago*, *Juncus*, *Aster*, *Spiraea*, *Typha*, and *Carex*. No protected plant species were identified during the inventory.

- **Target species impacts and concerns**

Areas impacted by Phragmites australis can range from large scrub shrub palustrine wetland communities to right of way drainage ditches. Saturated or seasonally flooded, degraded habitats often provide the best conditions for invasion by this species. If infestations are not controlled, and suitable habitat is present, this species will spread vegetatively by rhizome growth, plant fragments, and seed dispersal to create a monotypic plant community in the impacted area. This can result in an overall decrease in the native biodiversity and ecological quality of the invaded habitat. These infestations will also continue to serve as source populations for future invasion.

- **Natural Heritage review**

A review of the Natural Heritage database indicated that there are no occurrences of rare, threatened or endangered species present on this site.

- **Adjoining land uses and nearby State land units**

The site is just south of the outlet to Raquette Lake in a wetland community extending off of State Route 28. There will be no offsite impacts to nearby uses on State Land.

- **Assessment of treatment alternatives**

Cutting/Mulching - Cutting is an option that has already been tried at similar *Phragmites* stands close by. The sites were manually cleared of *Phragmites* for several years beginning in 2003 in an attempt to reduce the plants dominance. Unfortunately, the effort did not work. Quantitative sampling undertaken in 2008 demonstrated the proliferation of the target species. A comparison of historical photos also demonstrates this fact. These photos show rapid expansion of each stand in size and the creation of satellite stands from 50 to 150 feet from the initially detected locations after a cutting treatment was performed.

Pulling - Hand pulling is not an option due to the size of the impacted area and the number of plants present.

Herbicide - A foliar application using Accord (glyphosate) herbicide is currently the best option due to the plants moderate size in this stage of infestation and high plant density.

Black Plastic - Covering the site with black plastic is not an option due to the size of the infested area and high plant density.

Excavation - This method is not currently a viable option due to its cost.

- **History of past treatment methods used on site**

No past treatment methods have been used on these sites. However, past cutting and removal of plant material on phragmites sites nearby has made the infestations in those areas worse.

- **Timeframe by which the work will be undertaken and completed**

The work will be undertaken from the middle of July to the middle of October 2012 before the first hard killing frost of each year for five years. At this time the plants will be at their maximum height and will be developing inflorescences. During this stage of development the plants will be readily transporting nutrients to the roots making herbicide application extremely effective. A photographic record will be made to document management progress. Any and all new infestations of Phragmites that establish in future years as a result of seed dispersal or rhizomatic growth from these parent stands will be treated in a similar manner until 2017.

- **Schedule of anticipated future work**

See monitoring section below.

- **Monitoring provisions to determine the effectiveness of the management action**

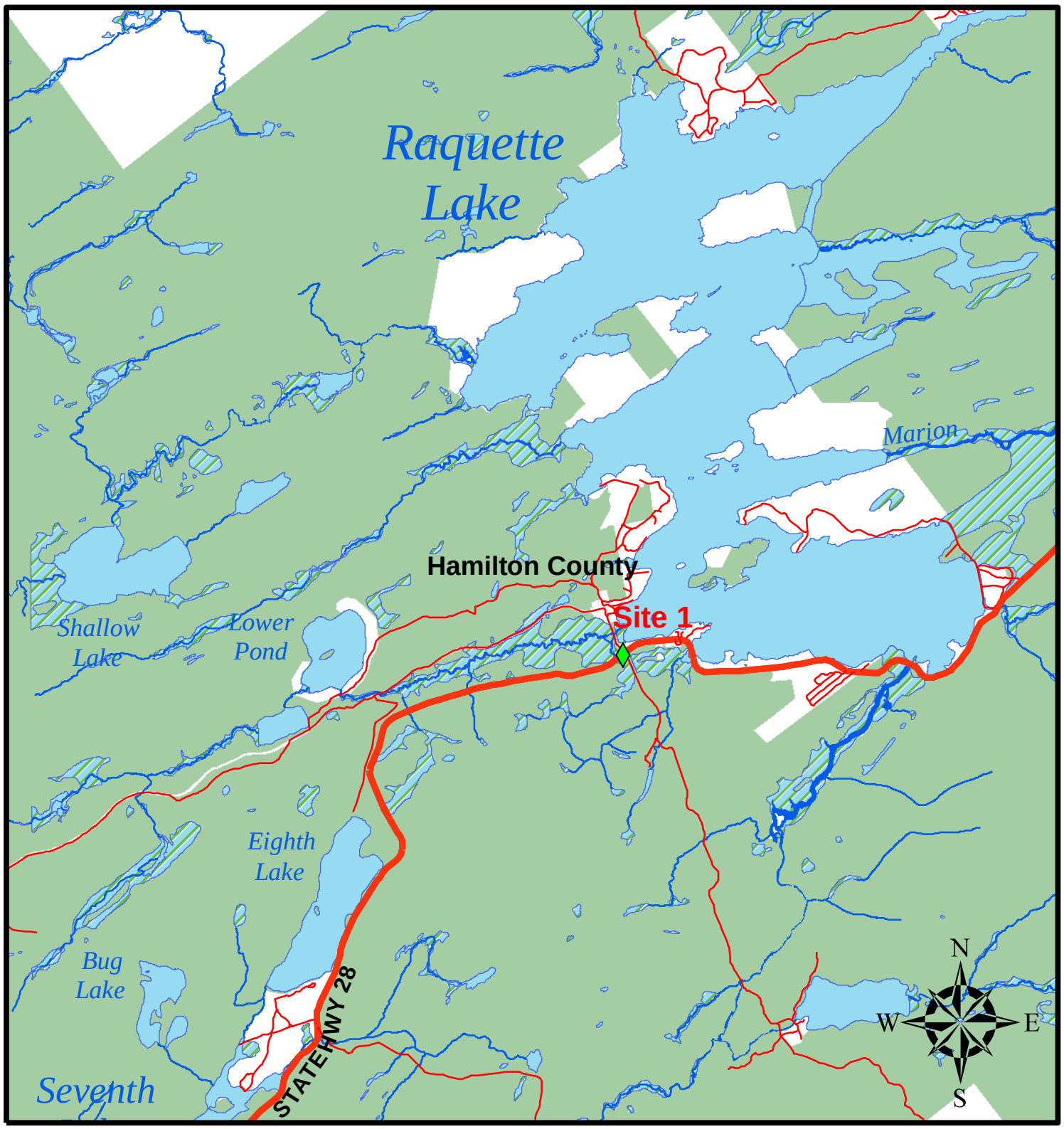
The site will be inspected and a rapid assessment of dominance by the target species will be performed before and after treatment. Prior to treatment, two 1m² plots will be established in order to measure treatment results. One plot will be located in the heart of the infestation while the other will be located on the infestation's fringe where "scout shoots" are found. It is our intent that these will be semi-permanent plots. Therefore, fixed corners will be used by locating the center point via GPS coordinates and rebar lengths will be implanted in the soil at each corner. The sites will be inspected again in July/August 2013 (and each year thereafter) to look for native plant and/or Phragmites recovery. If Phragmites plants are detected during these monitoring visits, subsequent treatment will be undertaken. The photographic record will be continued to document the management progress of the site.

- **Attachments**

Three different map scales are provided below. The location map shows all of the project sites to be treated within the designated forest preserve unit. The project site maps show a closer view of each project site to be treated, and the infestation maps show the exact acreage of the weed assessment polygons (the perimeters of the infestation) and, if present, the exact acreages of the adjoining wetland complexes.

Location Map: Map 1
Project Site Map: Map 2
Infestation Map: Map 3
SEQRA documents (long environmental assessment form)
Site Photo Documentation

SAFETY PROCEDURES:
Application will follow label precautions. Necessary protective clothing will be worn. A certified applicator will be on site.



Location - Map 1

Key:

- Common Reed
- Weed Polygon Assessment
- PRISM Boundary
- County
- Forest Preserve
- Lakes
- Wetlands
- Small Rivers/Streams
- Primary road without limited access
- Local, Neighborhood, or Rural Road

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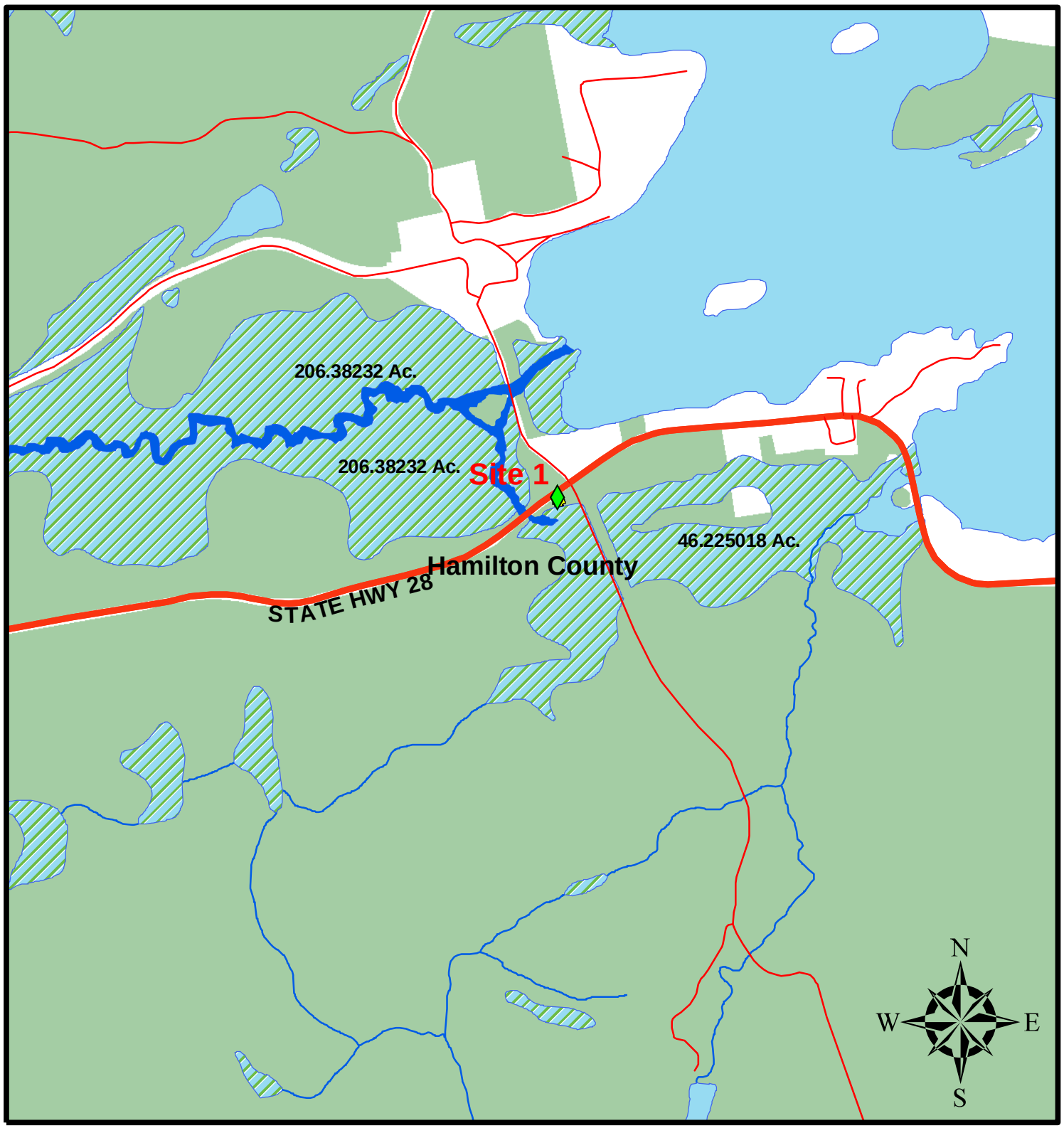

Project Site - Map 2

Key:

- Common Reed
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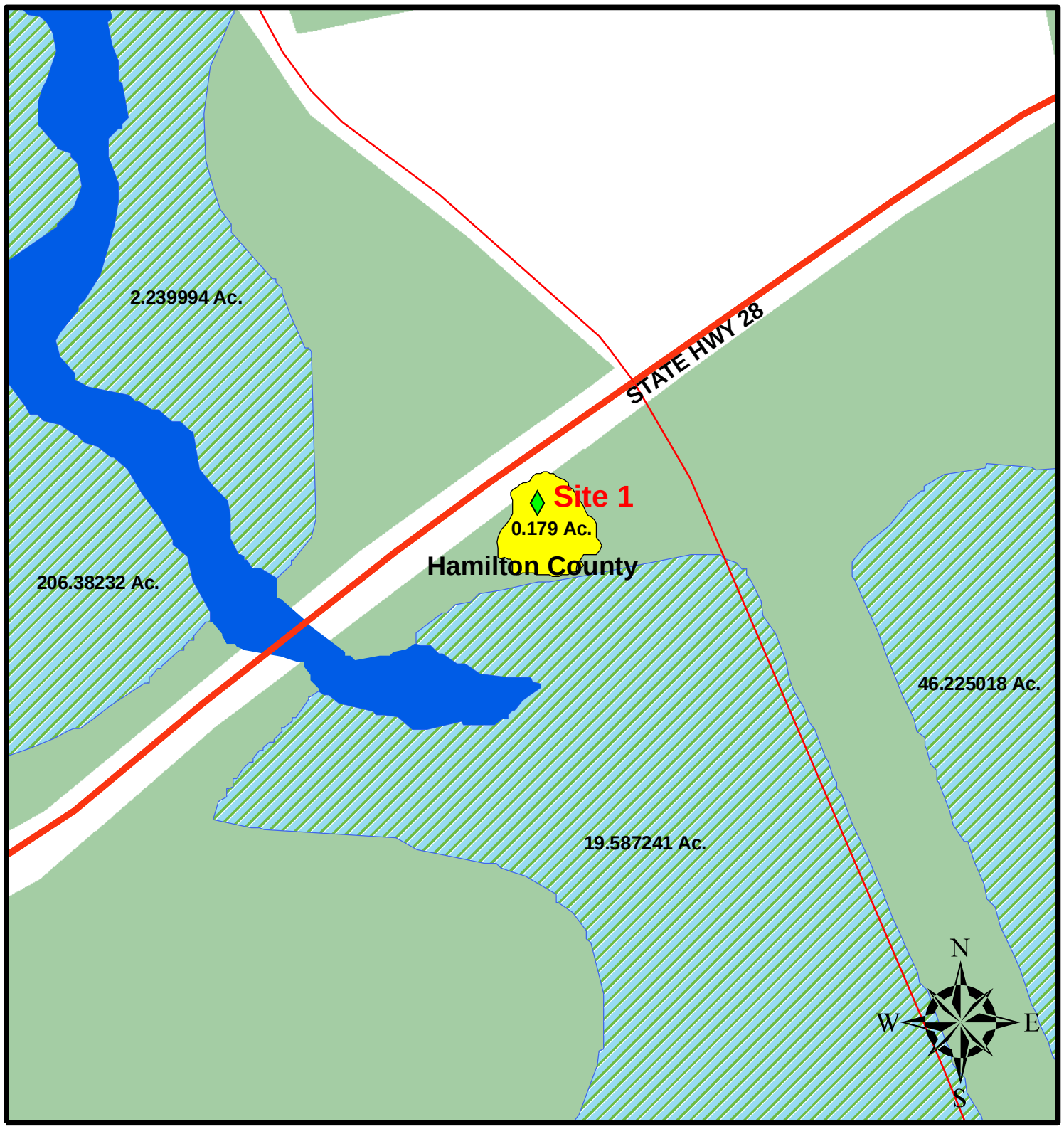

Infestation - Map 3

Key:

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