



**TOWN OF WATERTOWN**  
**Conservation Commission**  
Administration Building  
149 Main Street  
WATERTOWN, MASSACHUSETTS 02472

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**TO:** Michael Driscoll, Town Manager and the Honorable Town Council  
**FROM:** Laurel Schwab, Senior Environmental Planner/Conservation Agent *LS*  
**RE:** Whitney Hill Park Annual Report 2019  
**DATE:** February 14, 2020

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**Background:** On 8 January 2013 the Watertown Town Council, by unanimous vote, adopted Resolution No. 3 (R -2913-3), A Resolution Preserving the Property Known as Whitney Hill Park. The resolution directs the Watertown Conservation Commission (WCC) to submit, each year prior to 31 December, “a recommended plan for maintenance and educational activities” for Whitney Hill Park. For a comprehensive, long-term outline of the WCC’s response to this directive, see Appendix A herewith, Whitney Hill – A Proposal for Development of a Stewardship Plan.

#### **SUMMARY**

**Activities in 2019:** Indefinite pause in coordination with Watertown High School (WHS) biology department and the Department of Public Works (DPW) Forestry Division owing to personnel changes and departures. Consequent slowdown in planning and implementation of activities.

- Continuing WCC maintenance of research sites, enhancement of publicity.
- Appearance of Watertown High School (WHS) staff members at WCC session in March regarding future joint research in Whitney Hill Park.
- Deposition at WHS biology department of mapped woody plant data as teacher resource material.
- Presentation of mapped woody plant data at Arbor Day observance, Arsenal Park.
- Routine annual inspection and maintenance of sample plot center markings in Whitney Hill Park.
- Coordination with DPW Tree Warden on graffiti removal from trees.

- Preparatory WCC discussion and resultant proposal to Department of Planning and Community Development recommending purchase and installation of 2 information signboards to be located at main Park access points.

**Plans for 2020:**

- Preparation of information for signboard message centers.
- Coordination with WHS educational programs on request.
- Coordination with DPW on reliable routine basis.
- Herbaceous plant survey by site-wide inventory and sample plot, with special attention to invasives.
- Investigation of erosion-control measures and means of implementing them.

**FULL REPORT**

**Activities in 2019:**

Lynsey Kraemer, Science Coordinator for the WHS, and Jennifer MacDonald, WHS biology teacher, appeared at the WCC's 6 March 2019 session to reaffirm WHS interest in continuing collaborative research in Whitney Hill Park. The WCC indicated its readiness to contribute its expertise to the extent requested by the WHS. No requests were made in 2019. Later in the spring session (12 June 2019) the WCC presented its mapped data on woody plant research to the WHS biology department for safekeeping and easy reference as a teaching resource in ecology studies.

For the second successive year, the WCC participated in Watertown's annual observance of Arbor Day, which provided an opportunity to include presentation of the mapped woody plant data at a new venue, Arsenal Park. This activity, scheduled as it is during the work week and school and work hours, attracts a very small number of the public and may not constitute a sufficiently effective use of WCC member time and energy.

Annual monitoring of the 32 sample plot centers during June included renewing blue surveyor's tape and 2 PVC stake markers to ensure relative ease in identifying each location visually, without resort to back-up means (metal detector, GPS instrumentation). During the summer, printed information was made weather-resistant by lamination, for affixing to 32 cover boards used in Red-backed Salamander surveys. Seven new cover boards were prepared to replace those not found in previous plot monitoring. Placement of the above new boards and attachment of all the laminates on-site have been deferred until the WHS indicates a definite schedule for their use.

The graffiti on four trees reported by park users in August 2018 was the subject of discussion and attempts at removal well into the summer of 2019. From the outset, attempts were made to coordinate removal with the DPW Forestry Division using means recommended by Trees for Watertown that would not compromise tree bark integrity. Partial obliteration was eventually accomplished.

In October the WCC recommended the acquisition and installation of 2 single-sided weatherproof signboard message centers, free-standing on 4-by-4-inch posts, with a viewing area of about 20 by 30 inches behind UV-resistant, non-yellowing, break-resistant acrylic glass protected by a stainless steel-hinged door with keyed locks. These were ordered and have been delivered for installation in early 2020 at either end of the main east-west Park footpath that connects Marion Road with Marlboro Terrace. Information will include a Park map and relevant standard Town park regulations.

### **Plans for 2020:**

Planned 2020 activities have been scaled back from the expectations of previous years (cf. Appendix B herewith – Activity Recommendations for Whitney Hill Park, April 2018). Many previously stated WCC plans assume a degree of coordination that may not fully materialize in the course of this year with either the WHS or DPW. The action priorities, then, must be those that are relatively practicable for the WCC to undertake on its own. In addition to routine sample plot maintenance, three specific new actions are envisioned. The first is preparation of information for display on the two signboards to be installed at the Park’s major access points (cf. preceding paragraph). The second is to complete the botanical survey of the Park by means of a comprehensive herbaceous species inventory, including particular attention to distribution of the major invasives: European Ivy (*Hedera helix*), Garlic Mustard (*Alliaria petiolata*), and Japanese Knotweed (*Fallopia japonica*), using GPS technology. The third priority is to undertake an assessment of the Park’s erosion-control problems and define a remedy for them. Other WCC objectives and related actions will include expansion of the WCC’s publicity and outreach as occasion may demand; many such actions are dependent on external factors beyond the WCC’s immediate foresight or control.

## APPENDIX A

### Whitney Hill – A Proposal for Development of a Stewardship Plan

Phase 1 General public meeting, to hear citizen opinion about the future of Whitney Hill, and citizen response to the Conservation Commission's proposal for that future. Meetings thereafter to be held periodically as needed, preceded by adequate publicity promulgated through official Town announcement, press notice and communication directly with individual abutters.

Phase 2 Inventory (~ two-year data collection):

Site history from earliest records, investigation of site **natural history**.

- History
  - Written references
  - Maps (e.g. Sanborn property maps)
  - Aerial imagery ca. 1920s to present
  - Tree aging by selective core borings
- Site ecology
  - Geology (at least surficial characteristics)
  - Hydrology (e.g. catchment identification)
  - Soils (e.g. organic content, pH, major nutrients)
  - Vegetation
    - Major strata (trees, saplings, shrubs, vines, herbs-seedlings)
    - Dominant species (size, distribution)
    - Invasive exotic species (incl. ranking by degree of threat)
    - Others (e.g. mosses, fungi)
    - Standing dead trees
    - Downed dead wood
    - Creation of site-specific herbarium to facilitate consistent identification
  - Animals
    - Birds (species, seasonality, breeding observations)
    - Mammals (species observations incl. baiting, tracking, live trapping)
    - Invertebrates
      - Decomposers in topsoil and organic debris
      - Pest species (e.g. Winter Moth periodicity, Asian Long-horned Beetle watch)
      - Butterflies, dragonflies
      - Nocturnal insects by night-lighting
  - Human use
    - Tracks (“desire lines”), major and minor
    - Waste disposal (e.g. gardening and construction debris, stump dumping, littering)
    - Other
    - Adverse impacts (e.g. soil erosion, disturbance of natural vegetation, spread of invasive species).

- Mapping
  - Topography
  - Location of major invasive species zones
  - Location of long-term monitoring quadrats
  - Location of existing human tracks
- Aesthetics
  - Identification of landscape value (e.g. autumn foliage, picturesque trees, unusual wild flowers, tranquility), with heavy reliance on citizen input.
  - Photographic record of these assets
- Identification and refinement of educational opportunities to pursue

Phase 3 Analysis of findings: establishment of an ecological baseline for study of future change, with provision for management as necessary for preservation of its general character.

- Listing of the site's most important aspects
- Management concerns
- Management resources (e.g. individual specialists, volunteer groups, school programs) available to help solve perceived problems.
- Management solutions

Phase 4 Stewardship goals and objectives.

- Goals: Overall purpose (e.g. enhance public understanding and appreciation of the site, establish the basis of long-term ecological research, reduce unplanned disturbance, control invasive plants).
- Objectives: Specific tasks to achieve the goals in measurable steps (e.g. interpretative labeling, ranking of invasive species and zones by degree of threat for priority control).
- Stewardship Chart: Assignment of responsibility, time frame, and budget for achieving each objective.

References: Sources of supporting information

Appendices: Additional useful information

## APPENDIX B -- Activity Recommendations for Whitney Hill Park, April 2018

1. Education (primarily undertaken through collaboration with Watertown schools and other institutions).
  - a. Site-wide inventory of herbaceous species.
  - b. Site-wide inventory of herbaceous invasive species.
  - c. Mapping by GPS of selected herbaceous invasive plant species.
  - d. Communication with CTE program at WHS to propose collaboration on computer graphics.
  - e. Core sampling of selected trees.
  - f. Design and location of paired sample plots (treatment and control) to analyze long-term effects of invasive plant removal on Park vegetation.
  - g. Introduction to ropes-based tree-climbing program centered on the landscaped grove of trees and grass immediately behind the Victory Field baseball diamond, for scheduling outside the spring-summer avian breeding season.
2. Citizen Science
  - a. Encouragement of interested citizens in compilation of observations (e.g. birds, fungi), including development of a photographic record of all Park natural history.
  - b. Development of a list of “resource persons” to include in any CC communication regarding research activities and findings in the Park.
  - c. Establishment of a bird monitoring vantage point in SW corner of DPW compound.
3. Publicity
  - a. Installation of a permanent stone monument at either end of the main connector path between Marlborough Terrace and Marion Road.
  - b. Installation of signage at major gateways regarding Park rules, including a map.
  - c. Use of communications media to circulate Park-related information.
4. Site Improvement/Maintenance
  - a. Coordination of concerned citizens and DPW in occasional community trash pick-ups.
  - b. Erosion-control measures, e.g. on steep and/or straight footpath sections, construction of water bars, steps, terraced stone dust.
  - c. Trash disposal bins and management of same at both ends of main connector path through Park.
  - d. Clearance of vegetation from or near recognized Park pathways as necessary to maintain footpath use and reduce risk to public safety.
  - e. Retention of all vegetation so cleared (dead or alive) for on-site disposal in such a way as to avoid interference with ongoing research and at the same time to enhance wildlife values (see 5.c. below).
  - f. Relocation of curbstones, boulders, selected woody debris for visual amelioration and habitat management (see 5.c. below)
5. Habitat Management
  - a. Control of yard waste dumping.
  - b. Control of free-running dogs.
  - c. Use of stone and/or coarse woody debris in aggregations in support of small-mammal biological control agents: secure temporary refuge space for vagrant vertebrate predators (e.g. Coyote, Fisher), with denning opportunities for the smaller ones (e.g. fox and additional weasel species).
  - d. Maintenance of the shrubby herbaceous zone presently free of trees along fence line immediately south of DPW buildings.