TO: Michael Driscoll, Town Manager and the Honorable Town Council
FROM: Steve Magoon, Director of Community Development and Planning/Assistant Town Manager
RE: Whitney Hill Park Annual Report 2018
DATE: February 8, 2019

**Background:** On 8 January 2013 the Watertown Town Council, by unanimous vote, adopted Resolution No. 3 (R-2013-3), 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 Conservation Commission’s response to this directive, see Appendix A herewith, Whitney Hill – A Proposal for Development of a Stewardship Plan”.

**SUMMARY**

**Activities in 2018:** Enhancement of coordination with relevant Town and citizen organizations, increased publicity, and formulation of first management activities for funding.

- Mapping by WCC of invasive plants of the lower woody vegetation.
- Display of mapped invasive plants at March session of WCC, at Watertown annual Arbor Day observance, and at Watertown Faire On The Square.
- Coordination with DPW and Watertown Community Foundation prior to citizen litter hunt in Whitney Hill Park.
- Collaboration with citizen GPS/computer specialists on updated mapping of the Park.
- Formal proposal to Town Council for funds to install on-site Park information.
Plans for 2019:

- Resumption of collaboration with Watertown High School after previous year’s pause.
- Establishment of protocol for coordination of management planning and implementation with relevant Town agencies, facilitated chiefly by new Town forest unit in DPW.
- Installation of on-site Park information.
- Encouragement of citizen involvement in data collection (e.g. photography, bird census).
- Trial tree-climbing project, to be tested initially elsewhere in Town park system.
- Further research to be undertaken or initiated, including:
  - Herbaceous plant inventory throughout growing season.
  - Biological control: determining an approach to improve habitat for predators of nuisace animals.
  - Design and location of paired sample plots (treatment and control) to analyze long-term effects of invasive plant removal on the Park vegetation.
  - Further studies of invasive plant species.
  - Investigation of management options resulting from ongoing research and external advice (e.g. erosion control procedures).

FULL REPORT – 2018

A new map overlay was prepared for application to the large Whitney Hill Park base map, to show the distribution and abundance of invasive shrub/sapling species as recorded in 32 permanent vegetation sample plots. This overlay, along with a previous one showing the similar status of invasive Norway Maple in the tree storey, became part of the display of research findings at several events during the year: (1) the March session of the WCC, (2) the annual Watertown Arbor Day observance at the Commander’s Mansion in April, and (3) the Faire On The Square in September.

To fulfill its obligations to provide recommendations and advice for management of Whitney Hill Park, the WCC has long recognized the need to establish robust, routine communication with relevant counterparts at the DPW and other agencies on matters requiring occasional maintenance. For instance, trail clearance of windfall trees should be conducted so as not to unduly obscure the staked sample plot centers; and graffiti like those that took months to remove during 2018 need to be dealt with efficiently. One ad hoc occasion arose in 2018 that obliged all relevant parties to coordinate at the last moment – the sponsorship by the Watertown Community Foundation of a volunteer litter hunt on Watertown Helps Out day (5th May). Hearing of the intended action, the WCC expressed concern that cover boards placed at each sample plot center to attract animal life might be collected for disposal as litter. The WCC (Martin and Fairbairn) met on-site with DPW members Lori Moran and Bob DiRico to oversee the litter pick-up and discuss additional measures requiring collaboration.
The WCC also needs to develop a protocol for collaboration with the DPW so that proposals requiring Town Council approval constitute a well-reasoned, realistic joint offering from both agencies as a result of prior communication. The newly established DPW Forestry unit and its leader (Tree Warden) provides this key liaison function, which remains to be defined and put to effective use in ensuing years. For initial talking points, see Appendix B, Items for Discussion with DPW (carried over from 2017 Annual Report).

Collaboration with the public in 2018 regrettably did not include continuation of Watertown High School research, following Erik Hiltunen’s departure from the Biology Department. During the year, support for continuation of this research has been voiced by Principal Shirley Lundgren, Science Coordinator Lynsey Kraemer, and biology teachers, but resumption of field work remains to be defined and scheduled by current staff in ways that are compatible with curriculum priorities in both nature and degree.

Individual citizens contributed to the Park’s mapping: Aaron Dushku, who added a trail as part of our GPS trail survey refinement and slightly revised the alignment of several other trails; and Raymond Smith, who created a base map with a reoriented northing. At the WCC’s March session, Paul Buck presented the possibility of introducing people to the forest canopy by rope climbing, with the assistance of professional arborist Andrew Joslin. This presentation elicited both enthusiasm and opposition from those attending. The ideal location in Town for rope climbing is considered to be the compact, managed grove of mature trees immediately adjoining the Victory Field parking lot uphill from the baseball diamond. However, subsequent discussion with Paul Buck and others suggests that any introductory demonstration of this novel educational/recreational exercise would be feasible to conduct, and with less public objection, at Arsenal Park. A formal proposal for such an exercise is expected of its proponents.

Following the WCC’s annual session to present and discuss the previous year’s report, a list was compiled of possible actions to be undertaken, both long-range and short-range (Appendix C). Some arise from the suggestions of those attending. Subsequent WCC discussion led to the drafting of a memorandum to the Town Council proposing installation of stone monuments at either end of the main east-west track through the Park (Marion Road and Marlboro Terrace) to notify visitors formally of the Park’s existence and bounds; and a kiosk at the Marion Road end including a weatherproof map of the Park showing major trails and access points with accompanying text to welcome visitors and inform them of important Park rules. Each of the three public access points (the third being from the west, at the layby where Oliver and Marshall Streets join ends) would provide some basic Park information. It was eventually determined that this proposal would not need Town Council approval and could be funded out of current fiscal-year budgetary allocations.

The nature and extent of further ecological research in Whitney Hill Park depends somewhat on the readiness of Watertown High School to participate. On their own, citizens will be encouraged to contribute photographic evidence of observations (e.g. fungi, invertebrates, birds,
mammals etc. and examples of human impact). If undertaken, high school research would
comprise chiefly repeat sampling to monitor changes in original database findings.

WCC priority initiatives include the commencement of a herbaceous plant inventory throughout
the growing season, and the analysis of the long-term effects of invasive plant management on
Park vegetation. The latter exercise involves the design and location of paired large sample
plots, one the “treatment” plot in which all invasive growth is destroyed, the other a “control”
plot in which invasives continue undisturbed to compete with native flora (cf. the 2017 annual
report for more detailed description).

Erosion control continues to be a concern expressed by Park users, particularly with regard to
trail maintenance. This aspect of Park management will require some study and a probable
resort to external advice, for eventual development of a proposal to undertake remedial work.

Another action that requires further study, as well as public discussion, is management of the
Park for purposes of biological control – specifically to improve its habitat potential for the
breeding and/or refuge of selected predators (chiefly mammalian) of nuisance animals (chiefly
rabbits and rodents). The strategic aggregation and partial embedment of surface stone material
(e.g. boulders, granite curbing), especially in conjunction with low, dense plant cover, would
enhance opportunities for the safe denning of foxes and weasels, and at least overnight resting
places for coyote. The desired effect would be to reduce nuisance species to relatively tolerable
population levels in the large areas of Watertown that lack habitat suitability for predators at
present.

******************************************************************************
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 – Items for discussion with the DPW

1. EXCHANGE OF INFORMATION, using the CC Stewardship Plan and Annual Reports as a starting point (see attachments herewith).
   1A. The DPW response to this. Identification of relevant DPW personnel for liaison with CC and expedited contact.
   1B. DPW description of routine management activities;
       DPW description of occasional management activities;
       Any other long-term activities foreseen.

2. SPECIFIC MANAGEMENT ACTIVITIES OF INTEREST TO THE CC

   2A. The intensively managed park-like area behind the baseball diamond backstop.
   2B. The "landscaped" shrub planting behind the DPW building.
   2C. Path maintenance.
   2D. Safety-related management.
   2E. Interface with Park users (support of citizen volunteer litter pick-up, response to complaints/requests etc.)
   2F. Coordination/communication with the Parks and Recreation Dept. (e.g. any formally recognized responsibilities?)
   2G. Subcontracted activities.
   2H. Thoughts on improving current DPW management practices or initiating new ones?
   2I. Utility of holding a joint meeting of CC, DPW and Parks and Recreation representatives to clarify respective responsibilities (e.g. informative signage, litter management, dog walking policy, wildlife habitat improvement, erosion control, potential for developing a recreational tree-climbing program).