



Invasive Species Management Plan (ISMP):

A Framework for Control

Purpose:

The Invasive Species Management Plan (ISMP) template is a working document to help guide invasive species treatments after early identification and surveys have been conducted. The guide includes steps for post treatment monitoring and restoration over a five-year period. The ISMP template is designed to treat a specific infestation at a given location. Multiple ISMP can be deployed over a larger geography. In such a case a more comprehensive plan should be considered when prioritizing multiple treatments in a park or preserve like setting.

The framework built into this template helps to identify all the variables that are more likely to result in more successful treatments with lasting effects into the future. All management strategies should consider an [Integrated Pest Management \(IPM\) approach and a Framework of Response](#). Invasive species management plans should be independently reviewed by a project manager or a Capital Region PRISM Coordinator.

Section 1: Project Summary

The project summary provides an overview of the site with a description including contact information, location, current land use, species present, and other related parcel characteristics. The project description identifies the treatment target. Survey maps and reports are included in this segment, potential land managers/owners are identified with approval. Map(s) outlining the project site and infestation area are clearly marked. Elements from preexisting survey reports can be used to supplement this segment. All permits are secured and completed before commencement of treatment. [State Environmental Quality Review \(SEQR\)](#) checklist should be completed at this stage. SEQR requires the sponsoring or approving governmental body to identify and mitigate the significant environmental impacts of the activity it is proposing or permitting.

The project summary includes a step to determine if the proposed work is feasible and justifiable by completing an [Invasive Plant Management Decision Analysis Tool \(IPMDAT\)](#) simulation, when applicable. The Capital Region PRISM recommends using the tool to help determine if an invasive plant control project is likely to be successful and if it warrants an investment of their agency's resources. To justify spending resources on an invasive plant control project: The invasive species must cause serious environmental or economic harm or harm to human health.

In addition, work in a specific geography can be assessed to see if it falls into an area relevant for protection on the New York Invasive Species Prioritization Models. These models were created to highlight areas of the state that have high ecological significance, a high risk of spread of invasive(s) into the area and a high value according to their protected status. The models can be used to help guide and justify invasive species efforts. The map can be accessed on the [Capital Region PRISM Prioritization](#) page.

Finally, it is strongly encouraged to determine if conservation priority species or habitat are located in or near the geographic area where the proposed work will occur. The Capital Region PRISM suggests the use of the New York State Department of Environmental Conservation (NYSDEC) "[Environmental Resource Mapper](#)" to identify significant natural communities, and rare plants or animals. The NYSDEC has also developed a list of [threatened and endangered species](#) of New York State and a list of species with the [greatest conservation need](#) that should be referenced before starting treatment to ensure management will not cause any harm to these species.





Section 2: Implementation Summary

The implementation summary will provide guidance on treatment methods with best management practices, monitoring, and restoration strategies. After a 3-5-year period, a new assessment using the ISMP template may need to be conducted based on changing site conditions and parcel priorities.

Section 3: Project Implementation

The implementation segment contains treatment timelines and post season summaries. Always consider the phenology of the invasive target when deploying a treatment to be effective. A post season summary will be completed to document successes, failures, and needed adjustments to the management approach. Future treatment timelines will reflect such reassessment needs.

Saving Plans

Please submit your Invasive Species Management Plan to the Capital Region PRISM for review. ISMP will be saved in an online repository for historical purposes and future considerations. All survey and treatment data associated with the project should be reported in the [New York iMap Invasives](#) online data base. Please contact the PRISM for survey report forms.

Section 1: Project Summary

Project Name	Indian Kill Spindle Tree Response
Location	Hetcheltown Rd, Schenectady, NY 12302
Latitude / Longitude	42.871942N, 73.907941W
Project Manager / Title	Samantha Schultz, Terrestrial Invasive Species Coordinator
Project Manager Contact	ss986@cornell.edu
Owner Name / Title	Schenectady County /Contact: Nick Klemczak, Schenectady County Soil and Water Conservation District and Kathy Fisher, Schenectady County Invasive Species Committee (SCISC)
Owner Contact	nickklemczakswcd@yahoo.com ; kf.akcc@gmail.com

Site Description: Provide existing conditions of the site, including species present, ecologic condition, current land use, stakeholders and or historical uses.

The 100-acre Indian Kill Preserve follows the banks and bluffs of the Indian Kill. The Preserve is comprised of a number of diverse habitats including, native hardwood forest, conifer plantations, and wetlands. The Preserve is an attractive area for hiking, nature study, fishing, cross-country skiing, and snowshoeing.

The Preserve is also a special place for wildflowers in the spring, and a variety of fern species. Hepatica, trout lilies, trillium, cohosh, toothwort, and jack-in-the-pulpits bloom along the stream banks. Eleven species of ferns grow along the trails, emphasizing the diverse habitats of the area, moist stream banks, wetlands, cool north-facing bluffs and the dry sandy uplands.

Invasive species within the preserve include honeysuckle, multiflora rose, invasive bittersweet, and European spindle tree. Currently the land is used by hikers, fishers, and cross-country skiers for recreation.





Project Description: Provide a clear and concise of the work to be conducted, conservation targets and desired future conditions.

European Spindletree (*Euonymus europaeus*) is an invasive species with a moderate ecological threat. It is believed to be a sleeper species due to its aggressive nature along riparian corridors. It has also been observed to exclude other native species from the understory and the ground layer (the soil is bare beneath dense stands). The spread of European spindletree is to be documented to record the rate of spread of this species within the preserve.

The European spindletree is also found in dense populations across the street at the Schenectady County Composting & Recycling Facility. Smaller populations of spindletree are being treated via a high cut stump method and seeds are being removed or placed away from riparian corridors to minimize further spread. Discussion should take place with the SCISC to consider restoration plantings in areas with high density of European spindletree.

Overall Project Size:

4 acres

SEQR Form Complete? [Add as an Appendix]

N/A

Does the work proposed fall into a well-defined area of ecologic significance and risk as indicated on the NY Invasive Species Prioritization Models?

Yes, Priority Conservation Area. Scores moderately for ecological significance & high risk

[Optional Step/Include in Map Section]

Invasive Plant Management Decision Analysis Tool ([IPMDAT](#)) Recommendations. [Optional Step/Include in Map Section]

N/A

Pesticide Use Proposed?

No

Aquatic Pesticide Permits: <https://www.dec.ny.gov/chemical/8530.html>

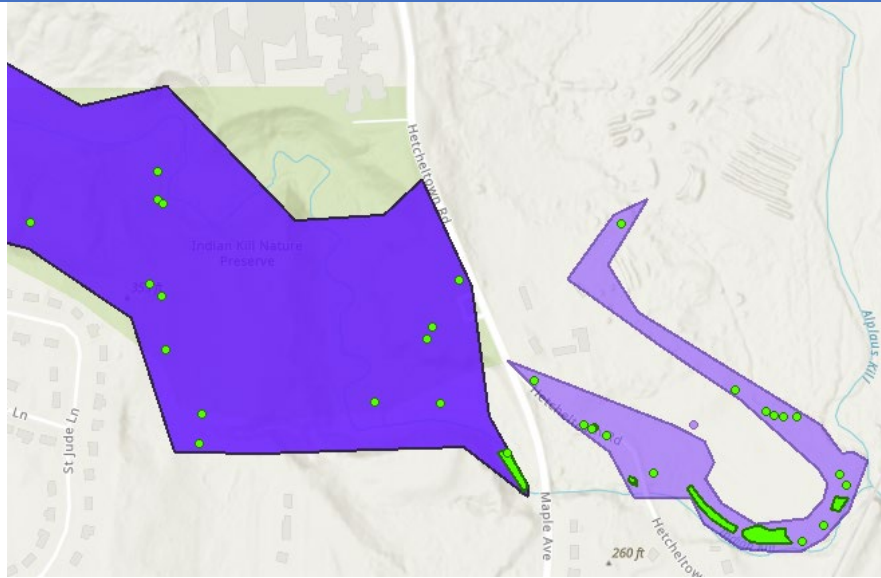
Pesticide Laws and Regulations: <https://www.dec.ny.gov/chemical/112881.html>

List Associated Master Plan if relevant to a larger project: [link file URL or attach as an Appendices]

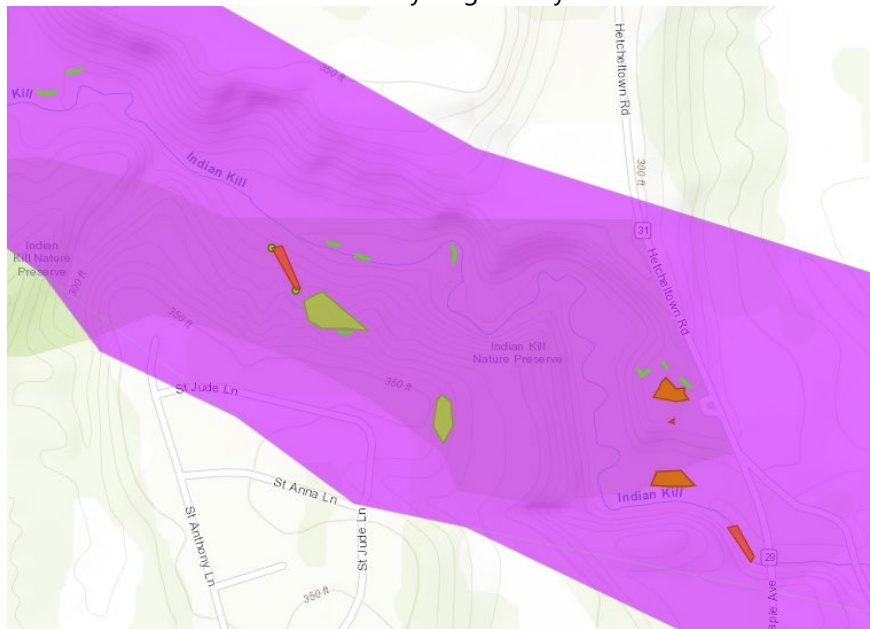
N/A

Map: Develop a map of the project area showing the geography and extent of infestation. Partners are strongly encouraged to use [iMap Invasives](#) or to define survey and treatment areas using points and/or polygons.





2022 detections of European Spindletree within Indian Kill Preserve and the Schenectady County Composting and Recycling Facility



2023 additional detections and treatments of European Spindletree within Indian Kill Preserve



Section 2: Implementation Summary

This section provides descriptions of any treatment methods, restoration, and monitoring efforts occurring over the course of the plan.

Treatment: Describe in detail treatment methods selected for the site and why they were chosen along with any alternatives considered. Best management practice(s) should be outlined and sourced State the estimate the number or abundance of species to be treated/removed and method of disposal. Describe the level of anticipated site disturbance and mitigation. If using a pesticide, provide the chemical name and application method.

Different methods were used in 2022 to determine best management methods. These methods included frilling, high cut stump, and complete removal of the stems. These methods were initially used to determine the best management practice. The best management practice was determined to be the high cut stump. Low disturbance is expected with the high cut stump. Other methods of management were determined to be a high level of disturbance. No use of pesticides are planned to be used. The European Spindletree (*Euonymus europaeus*) densities are a mix of scattered to dense stems. In areas with high density of European spindletree, restoration should be strongly considered.

Restoration: Briefly explain the revegetation efforts that will occur. If doing active restoration, make sure to attach a list of native plants to be used, seed mixes, and any preferred nurseries. Describe when native seeds will be collected on site. If a separate restoration plan was developed, reference it here. If not actively restoring, explain why. (ex. Allelopathy, native seed source in place, minimal disturbance).

As the European spindle tree is an understory tree, it competes with and excludes other native understory species. The Capital Region PRISM should discuss with the SCISC to determine if restoration in some areas more heavily infested by this species can be conducted by volunteers.

Post-Monitoring: Explain the monitoring procedure, when it will occur and why, and who will complete it.

The Indian Kill Preserve will be visited annually in the spring or early summer to monitor regrowth of cut stumps and conduct any additional response actions. Post-treatment should first occur in areas previously treated and then followed up with response actions in new areas. The CR-PRISM Terrestrial Team in conjunction with the SCISC will conduct the assessments and any new response.





Treatment, Post-Treatment (Monitoring), and Restoration Calendar: Briefly outline when treatment, restoration efforts, and post treatment monitoring are anticipated to occur with a date range. When completed check the box next to the targeted date range with an initial.

	Year 1- 2022	Year 2- 2023	Year 3	Year 4	Year 5
Early Spring	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Late Spring	<input type="checkbox"/>	<input type="checkbox"/> 5/19/2023 Post-treatment monitoring and initial treatment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Summer	<input type="checkbox"/> Survey of Indian Kill Preserve and Schenectady County SWCD property	<input type="checkbox"/> 8/18/2023 30 Percent, cut as a high stump	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Early Autumn	<input type="checkbox"/> Initial treatment of European Spindletree, removal of seeds and removal of above ground biomass	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Late Autumn	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Notes: Make notes as necessary and keep the documentation simple. Base work off of plant phenology for treatments and revegetation. Document why things did not work with recommended adjustments in the post season report.

Post-treatment monitoring has demonstrated that high cut-stump is the best method for control. Control should be conducted prior to seed set, seed set typically happens in early fall.





Section 3: Project Implementation - Year 1: 2022

Treatment Schedule: Plan out when and how treatments will occur. Attach and reference separate spreadsheet if more space is needed for additional species. Include the [tier level](#) and [threat ranking](#) of each species.

Target Species Tier and Rank	Location Treated	Area Infested (acres)*	Area Treated (acres)*	Species Abundance (%)	Target Goal (%)	Treatment Window (MM/DD/YY)	Treatment Method	Disposal Method
European Spindletree Untiered, M	Yellow trail near streambed	0.3 acres	0.3 acres	25%	0%	10/20/2022	Seeds removed; Grubbing, girdling, or high cut stump	Seeds disposed in trash; Biomass left on site

*If infestation is linear, use miles to measure "area infested"

Post Season Report

End-of-Year Summary:

Explain any successes, failures, or needed adjustments. Including restoration, missed treatments, not monitoring, etc.

The first year of treatment was seen to be successful. Various methods of treatment were used, including frilling, grubbing and high cut stump. Seeds were removed prior to treatment to prevent seed spread. Initial treatment along streambed on the yellow trail. The best management practice was determined to be the high cut stump.

Adjustments Needed:

Explain any changes to be made for future years and update treatment restoration and calendars.

Reminder: if the project changes drastically (i.e., switch from manual control to chemical control) it may require a new SEQR review.

High cut stump is the most effective method of control. Post-treatment monitoring will occur annually in the late spring/early summer. Treatment will occur in early summer prior to seed set.

Year 1 Notes:

The initial treatment was conducted by a team of 5 and completed along the Indian Kill within an 1.5 hours.





Section 3: Project Implementation - Year 2:2023

Treatment Schedule: Plan out when and how treatments will occur. Attach and reference separate spreadsheet if more space is needed for additional species. Include the [tier level](#) and [threat ranking](#) of each species.

Target Species Tier and Rank	Location Treated	Area Infested (acres)*	Area Treated (acres)*	Species Abundance (%)	Target Goal (%)	Treatment Window (MM/DD/YY)	Treatment Method	Disposal Method
European Spindletree Untiered, M	Yellow trail near streambed	0.01 acres	0.01 acres	<5%	0%	05/19/2023	Post-treatment monitoring, Pull	Dispose on site
European Spindletree Untiered, M	Unmarked trail on southern side of stream	0.3 acres	0.3 acres	25%	0%	05/19/2023	High cut stump	Dispose on site
European Spindletree Untiered, M	Unmarked trail on northern side of stream and small patches throughout the preserve	1.5 acres	1.5 acres	50%	0%	08/18/2023	High cut stumps	Dispose on site

*If infestation is linear, use miles to measure "area infested"

Post Season Report

End-of-Year Summary:

Explain any successes, failures, or needed adjustments. Including restoration, missed treatments, not monitoring, etc.

Post-treatment monitoring was conducted along stream bed on the yellow trail. Some regrowth was seen on stumps cut high, no regrowth on stems completely removed from the soil. One stem that was fully removed from the soil was placed in a stream and showed a lot of new foliage. Trees that were girdled fully resprouted.

European spindle tree that was high stump cut in previous years showed waning vigor. In future years treatment would be best done earlier than late august because this when trees start fruiting.

Adjustments Needed:

Explain any changes to be made for future years and update treatment restoration and calendars.

Reminder: if the project changes drastically (i.e., switch from manual control to chemical control) it may require a new SEQR review.

Post-treatment monitoring will continue, additional stems further in the preserve are planned to be treated this year at a follow-up date. Continue with high cut stump methods, do not girdle trees, for smaller trees, grubbing may work.

Going forward, the remaining European spindle tree should be assessed and treated no later than early August, as they begin producing fruits in late summer. The high cut stump method should continue unless it is deemed ineffective in the future. Chemical treatments could be beneficial if regrowth is persistent.





Year 2 Notes:

Treatment method: Approximately 3 acres of riparian land were treated by a team of 6 using handsaws. European spindle trees were cut down to a height between 2-3 feet and a few were pulled out of the ground using top dogs. Cut trees from the previous year showed some resprouting but were more easily managed. In the future, volunteers may treat the cut stumps with chemicals to prevent regrowth. Approximately 1/3 of the trees observed were beginning to fruit and were piled away from nearby water sources to prevent spread. It is believed that these fruits will not mature or produce viable seeds, but a thorough examination of the forest will need to occur next year to ensure that this is the case.

Section 3: Project Implementation - Year 3

Treatment Schedule: Plan out when and how treatments will occur. Attach and reference separate spreadsheet if more space is needed for additional species. Include the [tier level](#) and [threat ranking](#) of each species.

Target Species Tier and Rank	Area Infested (acres)*	Species Abundance (%)	Target Goal (%)	Treatment Window (MM/DD/YY)	Treatment Method	Disposal Method

*If infestation is linear, use miles to measure "area infested"

Post Season Report

End-of-Year Summary:

Explain any successes, failures, or needed adjustments. Including restoration, missed treatments, not monitoring, etc.

Adjustments Needed:

Explain any changes to be made for future years and update treatment restoration and calendars.

Reminder: if the project changes drastically (i.e., switch from manual control to chemical control) it may require a new SEQR review.

Year 3 Notes:





Section 3: Project Implementation - Year 4

Treatment Schedule: Plan out when and how treatments will occur. Attach and reference separate spreadsheet if more space is needed for additional species. Include the [tier level](#) and [threat ranking](#) of each species.

Target Species Tier and Rank	Area Infested (acres)*	Species Abundance (%)	Target Goal (%)	Treatment Window (MM/DD/YY)	Treatment Method	Disposal Method

*If infestation is linear, use miles to measure "area infested"

Post Season Report

End-of-Year Summary:

Explain any successes, failures, or needed adjustments. Including restoration, missed treatments, not monitoring, etc.

Adjustments Needed:

Explain any changes to be made for future years and update treatment restoration and calendars.

Reminder: if the project changes drastically (i.e., switch from manual control to chemical control) it may require a new SEQR review.

Year 4 Notes:





Section 3: Project Implementation - Year 5

Treatment Schedule: Plan out when and how treatments will occur. Attach and reference separate spreadsheet if more space is needed for additional species. Include the [tier level](#) and [threat ranking](#) of each species.

Target Species Tier and Rank	Area Infested (acres)*	Species Abundance (%)	Target Goal (%)	Treatment Window (MM/DD/YY)	Treatment Method	Disposal Method

*If infestation is linear, use miles to measure "area infested"

Post Season Report

End-of-Year Summary:

Explain any successes, failures, or needed adjustments. Including restoration, missed treatments, not monitoring, etc.

Adjustments Needed:

Explain any changes to be made for future years and update treatment restoration and calendars.

Reminder: if the project changes drastically (i.e., switch from manual control to chemical control) it may require a new SEQR review.

Year 5 Notes:

