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*Agency Of Natural Resources*

**Vermont Agency of Natural Resources  
Fish and Wildlife Department**

**Guidance for Conducting Rare, Threatened, and Endangered Plant  
Inventories in Connection with Section 248 Projects**

**Purpose**

This document provides applicants for a certificate of public good (CPG) under 30 V.S.A. § 248 with guidance for conducting inventories for rare, threatened and endangered (RTE) plant species. RTE plants contribute to the ecological health and diversity of natural systems in Vermont. Potential impacts to such plants are reviewed as part of the Section 248 process.

**Section 248 Review Process**

In accordance with 30 V.S.A § 248(b)(5), CPG applicants for electric generation and transmission facilities, as well as natural gas facilities, are required to demonstrate that they will not have “an undue adverse effect on esthetics, historic sites, air and water purity, the natural environment, the use of natural resources . . . with due consideration having been given to the criteria specified in 10 V.S.A. §§ 1424a(d) and 6086(a)(1) through (8).” In order to meet this criteria, a project cannot have an undue adverse effect on rare and irreplaceable natural areas and rare, threatened or endangered species, including RTE plants. The Vermont Agency of Natural Resources (Agency) is statutorily required to provide evidence and make recommendations to the Public Service Board (Board), concerning a project’s effect on the natural environment, including its effect on RTE plants. This document is intended to provide CPG applicants with guidance on when RTE plant inventories are needed, and how they are to be conducted.

**Background and Screening**

The Agency’s Fish and Wildlife Department’s (Department) Natural Heritage Inventory documents the status and distribution of RTE plants in the state. A significant number of RTE plant occurrences are known to the Department. Most of these known occurrences are mapped and may be found on the ANR Natural Resources Atlas (Atlas) as element occurrences. However, there are many unknown RTE plant occurrences which exist throughout the state, and that have yet to be identified or mapped. These unidentified occurrences do not appear on the Atlas. Therefore, review of the Atlas is only the first step in determining whether RTE plants are present at a proposed project site. Simply put, the Atlas is a preliminary screening tool. Because of this, the Agency expects CPG applicants to utilize the services of a consultant who is knowledgeable and experienced in the identification of RTE plants and their habitat. The consultant shall review project plans, the project site, and the immediate vicinity where accessible, and all RTE plant information reasonably available from other sources. The natural

resources consultant will also be expected to conduct a site specific RTE plant inventory unless the applicant can demonstrate that the project site clearly provides no potential habitat for RTE plants.

Therefore, for many Section 248 projects, the Agency will require an applicant to perform an RTE plant inventory and include the results for Agency review as part of the CPG application. Because a Section 248 applicant has the burden of demonstrating that the project will not have an undue adverse impact, the failure to perform an inventory and produce the report could result in the application being deemed incomplete by the Board. The Agency will normally consider a CPG application to be incomplete if it lacks a plant inventory, unless the applicant demonstrates that the site clearly provides no suitable habitat for RTE plant species. Otherwise, the presumption is that RTE plants are potentially present.

### **Determining When an Inventory is Necessary**

Any one of the following site characteristics is indicative that RTE plants and suitable habitat are potentially present and will necessitate an RTE plant inventory of the project site be included as part of the application:

- Documented occurrences of RTE plants in the vicinity (ca. 1/2 mile) when similar habitat potentially exists on the project site (i.e. a riparian species would likely occur in adjacent or nearby riparian habitat but not in a dry upland habitat);
- Proximity to wetlands, rivers, or perennial streams;
- Proximity to any uncommon or rare natural community type; or
- Presence of one or more of the following features on or in close proximity to the project site:
  - Outcrops, ledge, cliffs, or
  - Areas with groundwater seepage, or
  - Sandplains or areas with open, sandy soils, or
  - Calcareous (carbonate rich) or serpentine bedrock, or
  - Forested areas with canopy openings or significant edge, or
  - Disturbed areas, including old fields, in areas with calcareous bedrock, sandy soils, or seepage.

Even in the absence of the site characteristics identified above, the following factors may also indicate potential RTE plants and habitat and may trigger the requirement for a RTE plant inventory of the project site:

- influence of current vegetation: early successional habitat or extensive openings in an otherwise forested setting often create habitat for RTE plants;
- landscape setting: lowlands, especially the Champlain and Connecticut River Valleys harbor more RTE plants than do higher elevations;
- soils: sandy, clay, or hydric soils provide habitat for RTE plants; and
- land use history: the timing of any previous management or site disturbing activities could affect the likelihood of colonization by RTE species by creating openings and eliminating woody competition

Sites that are not likely to have RTE habitat may include, but are not limited to, sites that are subject to active farming or quarrying, the site of a former structure, the presence of mowed

lawn, or substantial horticultural plantings. While projects proposed in agricultural areas that are actively cultivated for crops would not normally necessitate a RTE inventory; pastures and hayfields may require an inventory. Hayfields and pastures which contain seeps or are located in areas of calcareous bedrock will require an inventory.

### **Determining the Timing of an Inventory**

It is important to recognize that RTE plant inventories are appropriately performed only during the summer months. In Vermont, this time period is typically mid-June through late-Sept (15 Jun – 30 Sept), but may vary based on particular plant species or geographic area. For example, this window would be modified to account for late or early blooming species that could be present but may be unidentifiable or easily overlooked when they are in a vegetative state. In some instances, more than one inventory may be required during the growing season. Inventories performed outside the appropriate season will not be accepted as complete and additional inventory work during the appropriate season will likely be necessary. Poorly timed inventories could have the effect of postponing review of the project. Therefore, applicants are strongly cautioned to keep this seasonal restriction in mind when planning projects. Applicants are encouraged to contact the Agency early in their site selection and project scoping process if they have any questions as to whether a RTE plant inventory is necessary or what is the appropriate season for performing one.

### **Plant Inventory Elements**

RTE plant inventories shall include the following information at a minimum:

- A species list that includes:
  - Identification of all RTE species found at the site, and
  - Identification of the more abundant plant species found, with the dominant species highlighted.
- Date the inventory was conducted and by whom;
- Photos of the site and all RTE species present on the site;
- A brief discussion of the history of the site, i.e. how long it has been abandoned from agriculture, or how frequently it is mowed for hay, or how recently it was logged; and
- Completed Rare Plant Forms for all RTE species found, including the number of individuals of each RTE species found.
- If any RTE plants are found, GPS points shall be provided and the RTE plant locations shall be incorporated into an RTE site plan which shows the location of all project infrastructure relative to the plant locations.
- If any RTE plants are found, the inventory shall include:
  - A detailed description of all potential impacts of the project on the RTE species, including direct and indirect impacts associated with: site preparation; construction; operations and maintenance; and project decommissioning activities;
  - Identification of the seasons and dates the above activities will take place;
  - The nature of all potential direct or indirect impacts (i.e. shading, mowing, etc.) of the project on the RTE plants; and
  - The location, the number, and the percentage of RTE plants and stems impacted by the project.

Inventories shall be conducted by a person(s) skilled in plant identification who is knowledgeable about the state's RTE flora. The person shall visit all portions of the site that could potentially harbor RTE plants.

### **Threatened or Endangered Species**

State law prohibits taking a threatened or endangered species without prior authorization from the Secretary of the Agency, which may be obtained only through a formal permitting process and issuance of a takings permit pursuant to 10 V.S.A. § 5408. Taking is broadly defined and with respect to wild plants includes; uprooting, transplanting, gathering seeds or fruit, cutting, injuring, harming, destroying habitat or killing the plant 10 V.S.A. § 5401. Applicants for a Takings Permit must demonstrate that reasonable steps have been taken to avoid and minimize takings in their project siting and design.

### **Rare Species**

Rare plant species (S1, S2, S2S3), which are not listed as threatened or endangered, are still protected through the Section 248 process as indicated above. Although a separate takings permit is not required for rare species, the applicant must still demonstrate that reasonable steps have been taken to avoid and/or minimize impacts. Generally, the Agency will not consider an impact to be unduly adverse if less than 10 % of an S1 (very rare) or 20% of an S2 (rare) plant population at the site is impacted. Mitigation will also be required concomitant with the rarity status of the plant. Mitigation may involve a number of actions, such as collecting seeds, and/or transplanting impacted individuals, and typically includes a five-year monitoring period along with a requirement for remediation if there are documented declines in the overall population during the monitoring period. The Agency defines an individual plant as one or more above ground parts arising from a single point of origin (i.e. rootstock). A population is defined as all of the individuals of a given species that occur within one kilometer unless separated by an isolating barrier. The percentages discussed in this paragraph and adopted by the Agency were vetted through the Scientific Advisory Group on Flora of the Endangered Species Committee and represent a consensus opinion as to what constitutes an undue adverse impact.

The Agency applies the following general guidelines to determine impacts to rare species. Access to the project through a rare herbaceous plant population during frozen conditions (Dec 1 – Mar 31), with the utilization of mats during the dormant season (Nov 1 – Apr 30), or with the utilization of mats for five or fewer days during the growing season (May 1 – Oct 31), is not likely to constitute an adverse impact. However, it is critical that the applicant assess the direct and indirect impacts of the project on rare plants and consult the Agency as this determination depends upon the individual species and its phenology. Some plants may be more prone to harm during certain phases of their life cycle, such as flowering, and matting at this time will likely constitute an adverse impact.

### **Post-CPG Inventories**

In very limited circumstances, the Agency may agree to requests that inventories not be performed until after a CPG has been issued, but before any site preparation or construction activities take place. Such post-CPG inventories are only appropriate at project sites which have

a very low likelihood of the presence of RTE plants and where impacts are likely to be minimal. An example of such a project is rebuilding of a pole line where ground disturbance is minimal and limited to discrete locations, and where there exists the potential to modify the pole locations if necessary to avoid direct impacts to plants. If a post-CPG inventory confirms the presence of any RTE plants, the applicant will be required to avoid all impacts to the plants. If rare plants have been found, and impacts cannot be avoided or minimized, then the applicant shall provide for mitigation, which shall be subject to the Agency's approval prior to commencement of site preparation or construction. If threatened or endangered plants have been found, then no activities shall occur until the applicant has obtained a takings permit.

### **Project Decommissioning**

If RTE plant species have been found on or in close proximity to the project site at the time a project is approved, then, the RTE species will need to be re-inventoried and flagged or demarcated with fencing prior to any decommissioning work taking place. The new inventory must be submitted to the Agency along with an avoidance, minimization and mitigation plan for approval prior to decommissioning. Depending upon the proximity of the RTE species, the amount of disturbance, and the presence of invasive species, follow up monitoring and control may also be required. As with project construction, all reasonable efforts to avoid and minimize impacts must be implemented. The Agency may determine that mitigation is necessary depending on the extent of any impacts. In the case of threatened or endangered species, a takings permit may be required prior to any decommissioning work taking place.

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Louis Porter, Commissioner

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