

## WILDLIFE: REGIONAL FORESTER SENSITIVE SPECIES (RFSS)-PLANTS

### (1) Overview

Several sensitive plant projects involving monitoring were planned in 2005. These projects were all either habitat improvement projects or monitoring of a mitigation that was required for another project. However, due either to lack of a sufficient burn window or to litigation, only one of these projects was implemented: Kawishiwi Admin Site *Botrychium* Transplant. Lack of a burn window prevented treatments from being implemented for a Virginia EIS moonwort project and a Trygstad Sale barren strawberry project, and litigation of the Tomahawk EA prevented implementation of a *Botrychium* habitat improvement project. Baseline monitoring has been conducted at all of these project sites, and follow – up monitoring would be conducted after treatments occur.

For the Kawishiwi Admin Site *Botrychium* Transplant, a large population of the rare matricary grapefern (*Botrychium matricariifolium*) was growing where the parking lot was planned for the new Admin Site. To mitigate impacts from the project, we attempted to transplant individuals to 2 nearby sites using a tree spade as well as by hand using a shovel. Transplanting occurred in Fall 2004, and monitoring occurred in Summer 2005. Survival of individuals was measured in plots. 65% of transplanted individuals survived across all plots. Monitoring will be repeated in 2006.



1) Matricary grapefern population that will be impacted by parking lot construction



2) Tree spade in process of transplanting



3) Completed transplant plug

## (2) Monitoring Activities

### **Monitoring Question**

**To what extent is Forest management contributing to the conservation of sensitive species and moving toward short term (10-20 years) and long-term (100 years) objectives for their habitat conditions?**

**Monitoring Driver(s): Objective. O-WL-18 [All 58 SNF RFSS plants:** All sensitive species. Maintain, protect, or improve habitat for sensitive species. Meeting this objective will involve two basic and complimentary strategies...:

**a.** Landscape level (or coarse filter) management strategies: Addressing species' needs through integrated resource management at large landscape scales...**b.** Site-level (or fine filter) management strategies: Addressing species' needs by managing specifically for high quality potential habitat or known locations of sensitive species.

Applicable Monitoring Activity, Practice, Or Effect Measured	Methods	When Monitored	Location or Project Area
Known locations	<b>Virginia EIS</b> - 1) Least moonwort, Michigan moonwort, and triangle-leaved moonwort: After the prescribed burn, repeat the baseline monitoring in the population plots and repeat the photographic monitoring in the moonworts' population in burn unit 616. Monitor for 3 years after the burn, 2) Canada yew: For the two Canada yew populations in unit 107 and for the population in Compartment 402, Stand 23, measure percentage of stems browsed and fruit production for the Canada yew inside deer exclosures. Monitor for 3 years after treatment. <b>Tomahawk EA</b> - After treatment repeat baseline monitoring census of the population. <b>Kawishiwi Admin Site</b> - Transplant Botrychium matricariifolium from parking lot site to 2 new sites & monitor survival.	<b>Virginia EIS</b> - 1) Moonwort- June/July; 2) Canada yew - Sept/Oct <b>Tomahawk EA</b> - Moonwort - June/July Note: Only Pre-treatment monitoring only. <b>Kawishiwi Admin Site:</b> Summer 2005	(1) Virginia Project area 2) Tomahawk Project area (3) Kawishiwi Admin Site

## (3) Evaluation and Conclusions.

### **Desired Conditions/Objectives**

**Monitoring Driver(s): Objective. O-WL-18 [All 58 SNF RFSS plants:** All sensitive species. Maintain, protect, or improve habitat for sensitive species. Meeting this objective will involve two basic and complimentary strategies...:

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**2005 Accomplishment . 1) Virginia** - baseline moonwort monitoring showed 122 moonwort individuals. Baseline Canada yew monitoring showed no fruit production and 100% of stems browsed. No post-treatment results available yet because treatments have not yet occurred. **2) Tomahawk** - baseline moonwort monitoring showed 71 moonwort individuals. No post-treatment results available yet because treatments have not yet occurred. **3) Kawishiwi Admin Site:** For the Kawishiwi Admin Site *Botrychium* Transplant, a large population of the rare matricary grapefern (*Botrychium matricariifolium*) was growing where the parking lot was planned for the new Admin Site. To mitigate impacts from the project, we attempted to transplant individuals to 2 nearby sites using a tree spade as well as by hand using a shovel. Transplanting occurred in Fall 2004, and monitoring occurred in Summer 2005. Survival of individuals was measured in plots. 65% of transplanted individuals survived across all plots. Monitoring will be repeated in 2006.

**2005 Accomplishment Contribution Towards Desired Conditions & Objectives**

<b>A. FOREST PLAN DIRECTION/FEIS CONDITION</b>				
<b>Record of Decision (July 2004)</b>	<b>(DECADE 1)</b>		<b>2005 Accomplishments and/or Condition</b>	
Existing Condition	FP Desired Condition, Objective or S&G's	FEIS Projected or Proposed Condition	Actual Accomplishments implemented	Actual Accomplishments & Approved NEPA Decisions
<b>1)</b> Virginia moonworts: brush encroachment and thatch build up. <b>2)</b> Tomahawk moonworts: brush encroachment <b>3)</b> Kawishiwi Admin Site <i>Botrychium</i> : Parking lot to be built over rare plant population <b>4)</b> Virginia Canada yew – excessive deer browse on Canada yew with no yew reproduction.	O-WL-18	No threats to viability of RFSS plants	<b>. KAW Admin Site</b> – transplanted individuals and saw 65% survival.	<b>1) Virginia moonwort</b> – baseline monitoring completed <b>Canada yew;</b> baseline monitoring complete <b>Tomahawk Moonwort</b> base-line monitoring complete

<b>B. ACHIEVEMENT OF FOREST PLAN DIRECTION/FEIS CONDITION</b>			
<b>% Achievement of Decade 1 Direction/Condition</b>		<b>Trend</b>	
Actual accomplishments implemented	Actual Accomplishments & Approved NEPA Decisions	Actual accomplishments	Actual Accomplishments & Approved NEPA Decisions
<b>1/20=5%</b>	<b>4/20=20%</b>		<b>1 &amp; 2)</b> Habitat condition not as good as it could be for moonworts at this site – brush and thatch occupying-degrading potential moonwort habitat <b>3)</b> Population would be eradicated if it's not moved. Population would provide good training site for TES plant ID training if it is conserved. <b>4)</b> Population under heavy pressure from deer browsing

## Standards and Guides

<b>Standard &amp; Guide Descriptor</b>	<b>Standard &amp; Guide Description</b>	<b>Compliance</b>	<b>Remarks</b>
G-WL-11	Avoid or minimize negative impacts to known occurrences of sensitive species.	<b>YES</b>	<b>Kawishiwi Admin Site-</b> Botrychium transplanting; <b>Virginia EIS</b> – Canada yew avoidance
S-WL-5	If negative impacts to sensitive species cannot be avoided, management activities must not result in a loss of species viability forest-wide or create significant trends toward federal listing.	<b>YES</b>	<b>Kawishiwi Admin Site-</b> Botrychium transplanting; <b>Virginia EIS</b> – Canada yew avoidance
G-WL-21	Do not permit management activities within stands that have known locations of sensitive lichens unless activity maintains, protects or enhances habitat conditions for lichens (old growth black ash or lowland conifer with interior forest conditions).	<b>YES</b>	No project proposed such activities

### (4) Necessary Follow-up Actions

<b>Monitoring Driver</b>	<b>Follow-up Actions</b>
<b>O-WL-18</b>	<b>Virginia</b> - monitoring of sites after treatment is required <b>Tomahawk</b> - Monitoring of site after treatment is required <b>Kawishiwi Admin Site</b> – monitoring of sites in 2006

### (5) Collaborative Opportunities To Improve Efficiency And Quality Of Program

<b>Collaborator/Partner</b>	<b>Monitoring Activity</b>	<b>Accomplishment</b>
MNDNR Northern Minnesota Botanical Society	Explore opportunities for joint monitoring for RFSS plant populations that cross ownership boundaries Explore opportunity to use volunteers from NMBS to monitor known RFSS plant populations	None to date