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Central Appalachians Spruce Restoration Initiative

Lessons Learns and Points of Collaboration

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Overview

- Monitoring Protocol Development
- Soils Work
- What is Restored?
- Research Committee
- Lessons Learned: Communications
- Lessons Learned: On the Ground/As A Collaborative
- Invitation to CASRI Field Day

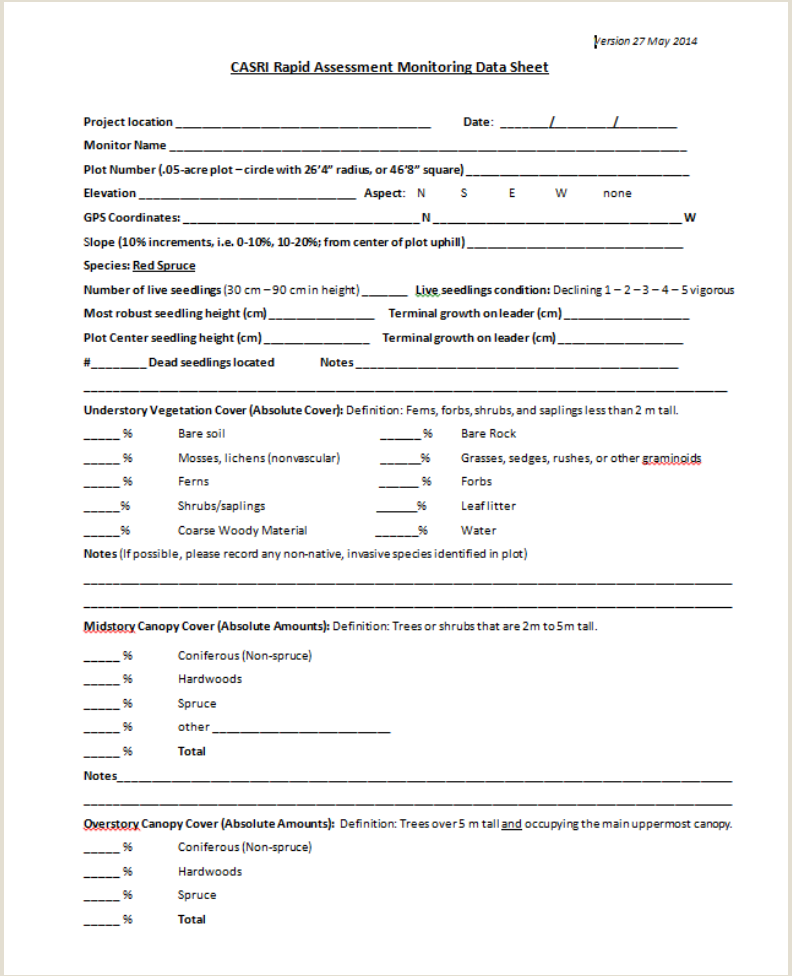
Monitoring Protocol and Data Sheet

20 pages or 2 pages…

Includes:

- Basic information on elevation, aspect, slope
- Seedling survival and relative vigor and growth
- Simplfied understory, midstory, and overstory cover estimates.

Goal: Easy to implement, quick, and readily accessible for volunteers and citizen scientists.



Version 27 May 2014

CASRI Rapid Assessment Monitoring Data Sheet

Project location _____ **Date:** _____/_____/_____

Monitor Name _____

Plot Number (.05-acre plot – circle with 26'4" radius, or 46'8" square) _____

Elevation _____ **Aspect:** N S E W none

GPS Coordinates: _____ **N** _____ **W**

Slope (10% increments, i.e. 0-10%, 10-20%; from center of plot uphill) _____

Species: Red Spruce

Number of live seedlings (30 cm – 90 cm in height) _____ **Live seedlings condition:** Declining 1 – 2 – 3 – 4 – 5 vigorous

Most robust seedling height (cm) _____ **Terminal growth on leader (cm)** _____

Plot Center seedling height (cm) _____ **Terminal growth on leader (cm)** _____

#_____ **Dead seedlings located** **Notes** _____

_____

Understory Vegetation Cover (Absolute Cover): Definition: Ferns, forbs, shrubs, and saplings less than 2 m tall.

_____ %	Bare soil	_____ %	Bare Rock
_____ %	Mosses, lichens (nonvascular)	_____ %	Grasses, sedges, rushes, or other graminoids
_____ %	Ferns	_____ %	Forbs
_____ %	Shrubs/saplings	_____ %	Leaf litter
_____ %	Coarse Woody Material	_____ %	Water

Notes (If possible, please record any non-native, invasive species identified in plot)

_____

_____

Midstory Canopy Cover (Absolute Amounts): Definition: Trees or shrubs that are 2m to 5m tall.

_____ % Coniferous (Non-spruce)
_____ % Hardwoods
_____ % Spruce
_____ % other _____
_____ % **Total**

Notes _____

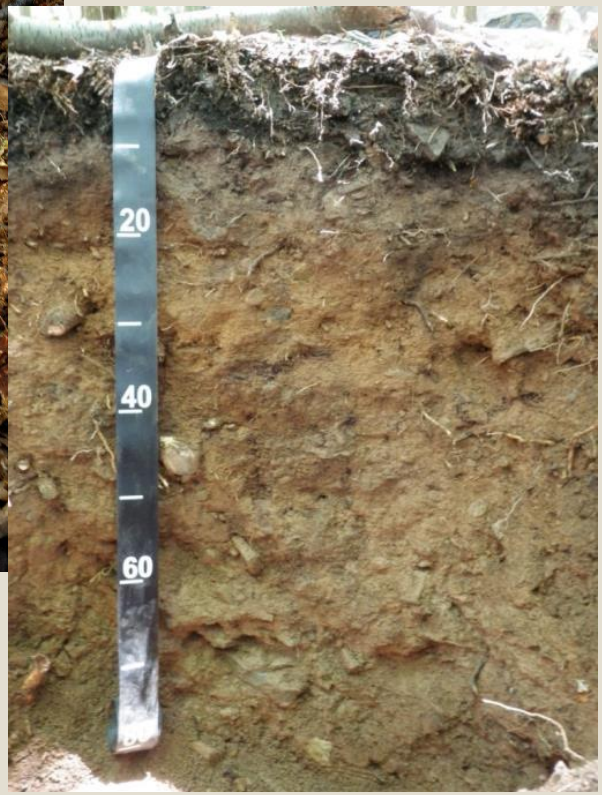
_____

Overstory Canopy Cover (Absolute Amounts): Definition: Trees over 5 m tall and occupying the main uppermost canopy.

_____ % Coniferous (Non-spruce)
_____ % Hardwoods
_____ % Spruce
_____ % **Total**

Soils Work

- CASRI is working closely with soil scientists to information land management decision making
- Soils finding provide a lens through which to identify restoration and protection actions
- CASRI Partners are working toward developing hard numbers to tie to carbon sequestration potential in Central Appalachians spruce systems.



What is Restored?

Incorporation of reference conditions into our restoration approach to inform goals and objectives.

Reference conditions obtained through:

- Historical accounts
- Historical photographs
- Early land surveys
- Old-growth stands

Research Committee Development

Objectives:

1. Identify research needs related to red spruce restoration and conservation in the Central (and Southern?) Appalachians

2. Prioritize research needs

3. Work as a liaison between researchers and managers

Example questions -

- How do ecosystem services relate to high-elevation spruce forests?
- What does it mean to restore ecosystem function of the red spruce systems to our landscapes, and how long before we can expect our restoration sites to mimic ecosystem functions observed in older or old growth stands?
- What methods will speed along successional development?
- How big of canopy openings should we make in spruce release?
- Can we develop an in-depth assessment of growth and survival paired with site conditions?
- Can we develop an in-depth investigation regarding the range of variability on relic red spruce stands across Central and Southern Appalachians?

How can we leverage the money we put into active restoration projects into learnable opportunities that lend themselves to adaptive management?

Lessons Learned: Communications

CASRI
The Central Appalachian Spruce Restoration Initiative

The Central Appalachian Spruce Restoration Initiative

Protecting One of the Central Appalachian's Most Unique Ecosystems: 2013 Highlights

Year-End Review

We are pleased to share highlights of the Central Appalachians Spruce Restoration Initiative!

CASRI is a diverse partnership of private, state, federal, and non-governmental organizations who share a common goal of restoring historic red spruce-northern hardwood ecosystems across the Central Appalachians.

CASRI's vision is of a functioning red spruce-northern hardwood forest ecosystem restored across portions of its former range on both public and private lands, with the scale, connectivity, maturity and other features that provide habitat to sustain and enhance the viability of the many species and natural communities dependent on this ecosystem.

Volunteers smile for the camera after planting one of the thousands of red spruce seedlings planted at Canaan Valley NWR in 2013.

Restoration specialist, Dave Saville, planting red spruce seedlings near Mount Porte Crayon, WV.

Aerial imagery of deep-ripped land at Lambert ecological restoration project area in the Monongahela National Forest.

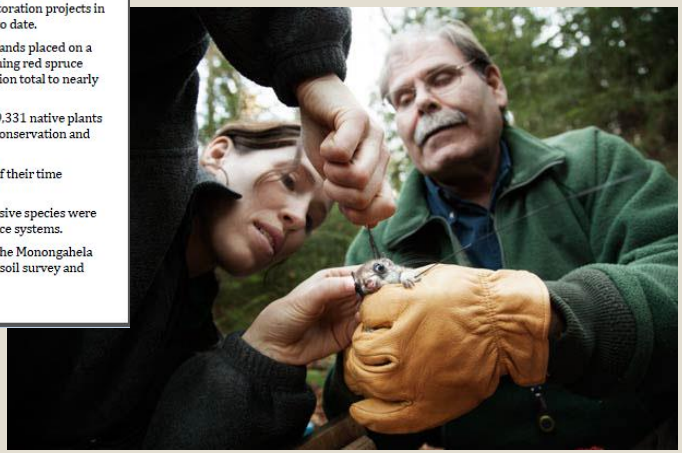
CASRI would like to thank the following organizations that have contributed funding to support conservation and on-the-ground efforts in 2013:

Appalachian Stewardship Foundation
Arbor Day Foundation
Environmental Protection Agency: American Rivers Grant
Outdoor Heritage Conservation Fund
West Virginia Department of Environmental Protection
Wildlife Conservation Society

Major Highlights

2013 proved to be an extremely productive and fruitful year for CASRI:

- Over 1.2 million dollars for land conservation purchases and on-the-ground restoration projects in 2013, totaling $2,088,141 raised to date.
- Over 570 acres of high-elevation lands placed on a trajectory to develop into functioning red spruce ecosystems, bringing our restoration total to nearly 1,500 acres.
- 62,780 red spruce seedlings and 9,331 native plants were planted upon high priority conservation and restoration sites.
- Volunteers dedicated 822 hours of their time working to restore red spruce.
- Over 250 acres of non-native invasive species were treated in high-elevation red spruce systems.
- Over 89,000 acres of land across the Monongahela National Forest were updated for soil survey and ecological site inventory.



External audiences, such as magazine and newspaper articles

Internal audiences, through fact sheets and success stories

Tell your story as loudly and proudly as possible!!

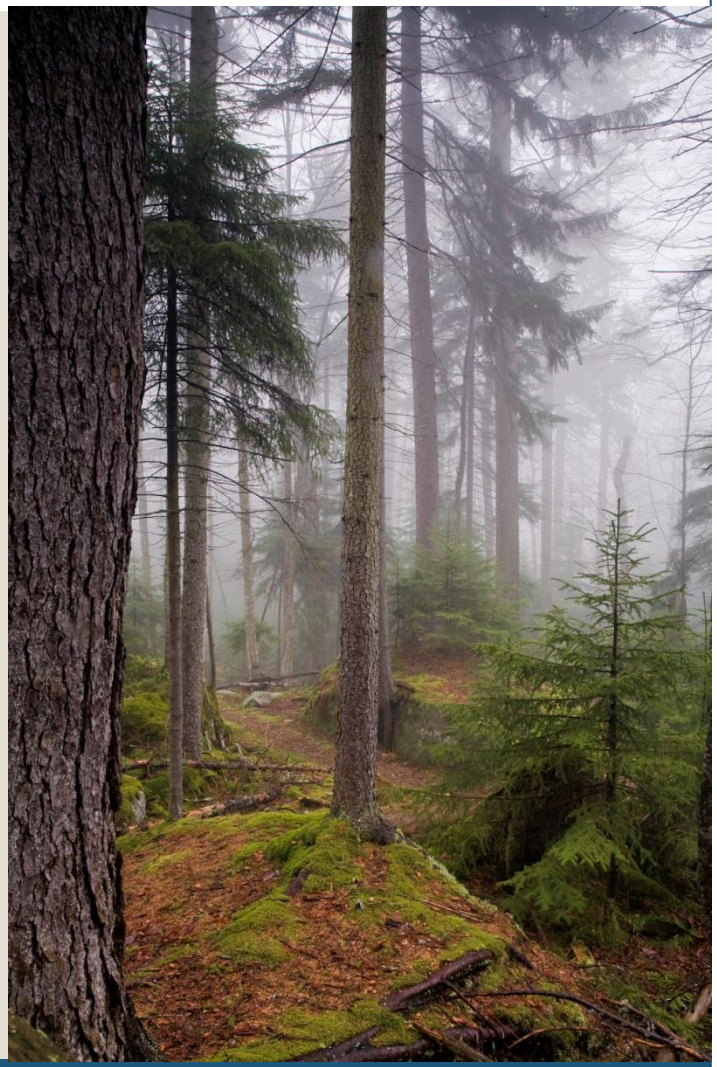
Additional Lessons Learned

On-the-Ground

- Spring plantings may be better than fall plantings.
- Complex planting plans are beautiful on paper, but difficult to implement.

As-a-Group

- It helps to have people in the partnership that are slow and steady planners, and outgoing communicators.
- Start small and with no regret projects.
- Controversial sites or actions can wait until the collaborative is well established and knows how to handle such potential controversy.



CASRI Field Day

- When: September 16, 2014, time TBD
- Where: Kumbrabow State Forest, Valley Head, WV
- Why: Learn more about active management on state lands, how soil science is informing restoration action, and meet and greet with fellow spruce enthusiasts!

Will You Join Us?

Questions?

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