Convenient Online Learning – Samples from 3 Webinar Series

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Interested in learning more about tree-related subjects? There are easily accessible webinars on a range of topics available whenever you've got the time to watch them. Below are samples from three series:

1. URBAN FOREST CONNECTIONS -

The US Forest Service's National Urban Forest webinars "bring experts together to discuss the latest science, practice, and policy on urban forestry and the environment". The site lists webinars going back to September 2014, and offered 9-10 webinars/year in 2015 and 2016. There is no fee for the webinars.

The March 2016 Urban Forest webinar, "**Monitoring Urban Trees: Survival, growth and energy-saving performance"**, examined urban yard tree give-away programs. These programs have become popular (including in the Twin Cities area) as a way to increase the urban canopy. However, unlike boulevard trees planted by city workers, the survival rate of these yard trees depends on residents planting and caring for them. Understanding tree mortality helps cities realistically calculate energy savings and plan tree replacement. The Sacramento Shade program provides residents with trees to shade their homes to reduce energy use during hot weather; intended benefits are calculated in kilowatt hours saved. Two researchers who studied the survival of trees given out by the Sacramento program found tree survivability rate lower, thus annual energy saved lower, than the program had expected. Interestingly, they found that higher tree mortality and trees not planted were associated with some demographic factors, particularly unstable home ownership such as renters or foreclosures; homeowner decisions (e.g., planting in backyard vs. front yard, taking more vs. fewer trees to plant); and tree characteristics (e.g., smaller mature tree size). But they conclude that planting trees does reduce energy use, and, along with a speaker from the Arbor Day Foundation, discuss strategies cities can use to improve yard tree survival.

Link: https://www.fs.fed.us/research/urban-webinars/monitoring-trees/

2. SUSTAINABLE FORESTS EDUCATION COOPERATIVE (SFEC) -

SFEC is based in UMN's Cloquet Forestry Center and offers continuing education for foresters and natural resource managers. It provides 12 webinars a year at a fee of $50 for the annual series, or $20 for an individual seminar (register at least a day in advance). You can watch these live, and submit questions to the speaker, or watch them at your convenience using the link emailed out to registrants

following the presentation. It's also possible to go directly to the SFEC website and view webinars from the past year.

Dr. Lee Frelich, UMN Dept. of Forest Resources, spoke about **"Oak and Fire in Minnesota Forests"** for the Oct 25, 2015 SFEC webinar. Dr. Frelich first described the location of oak forests in Minnesota and the vegetation types with which they compete, but then narrowed in on the interaction between oaks and maple-basswood and oaks and grass. He discussed factors influencing this interaction in the context of fire suppression/exclusion and the oak-fire hypothesis that says oaks are dependent on fire for regeneration and maintenance of an oak-dominated forest. These factors include species-specific susceptibility to fire, average fire frequency, but also variability in number of years between fires, and intensity of fire events (dependent on the forest's fuel load including duff, which is reduced by invasive earthworms). How open the understory is, which is related to fire frequency, influences the interaction; small maples can survive with 1-2% sunlight, but small oaks require 5-10%. Deer are another factor; oaks can survive for long periods as a small understory tree and grow large when a gap occurs in the canopy; however, high deer density greatly reduces the number of small oaks. The number of red oaks is influenced by the density of animal species with a preference for red oak acorns, which has varied over time. In response to a question, Dr. Frelich concludes that as the MN climate warms and dries due to global climate change, oak numbers will increase, including oaks species migrating in from regions to the south.

Link: http://sfec.cfans.umn.edu/2016-webinar-oak-and-fire-in-minnesota-forests/

3. EAB UNIVERSITY (Emerald Ash Borer Information Network) -

EAB Information Network describes itself as a multinational effort to provide the latest information about EAB, and has offered webinars since 2009. Its site organizes the webinars by topic area as well as date (seven in Spring 2016, five in Fall 2016). EAB University is a collaborative effort of Michigan State University, The Ohio State University, and Purdue University. There is no fee for the webinars.

In the Nov 15, 2016 webinar, "**How Tree Choice Can Cause the Next Invasive Species Disaster,"** Dr. John Ball, South Dakota State Univ., proposes that communities looking to replace dying ash trees pay attention to the number of species in the genus of replacement trees. His reasoning is that most pests are limited to small groups of closely related species and cites a general rule that the more species within a genus, the more pests. He illustrates this with lists of familiar tree species, the number of species in that genus, and number of known serious pests. Examples: Prunus has 430 species and 326 pests, Acer 128 species and 208 pests; Lirodendron 2 species and 15 pests. However, he says there are exceptions, such as black locust and American chestnut that have few species in their genus, but serious pest problems, and examines what these exceptions have in common. In these cases, species in the same genus live in temperate zones of other continents, and pests that had evolved with the foreign species were introduced to the US. Since the pest attacks a genus, not a species, the US species that had not evolved resistance to

this exotic pest were vulnerable. His second suggestion, then, is that when considering a species, look not only at the number of species in that genus in North America, but also does it have relatives in Asia or Europe? He proposes that communities adopt a new rule of thumb, "no more than 5% of the urban forest from any one genus", and suggests both native and non-native species with very few relatives. Finally, he ends by discussing situations where the 5% rule may not work, as well as other important considerations in urban tree choice.

Link: http://www.emeraldashborer.info/eabu.php