

10-2012

Overlease Plots Profile - October 2012

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Recommended Citation

Hertel, G., & Ebert, J. (2012). Overlease Plots Profile - October 2012. Retrieved from http://digitalcommons.wcupa.edu/gna_wops_series/9

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OVERLEASE PLOTS PROFILE – OCTOBER 2012

Importance Value (IV)

The Importance Value is calculated by combining the frequency and % cover of the species in the sixteen 10 X 10 meter squares in the study area. The IV was calculated separate for all three layers: ground- below 1 meter, middle-1 meter to below canopy, and canopy.

$$\text{Relative Frequency} = \frac{\text{Frequency of a Species}}{\text{Frequency of all species}} \quad \text{Relative area} = \frac{\text{Total cover of a species}}{\text{Cover of all species}}$$

$$\text{Importance Value} = \text{Relative frequency} + \text{Relative area} \quad (\text{Total Importance Value} = 200)$$

Importance Values can be summed in different categories – invasive aliens, shrubs, etc. to get some idea of the competitive structure of the different layers.

Coefficient of Conservatism

The Coefficient of Conservatism is given for each native species seen in the squares.

The criteria for assigning coefficients are:

- 0 to 3 Plants with a high range of ecological tolerances / found in a variety of communities
- 4 to 6 Plants with an intermediate range of ecological tolerances / associated with a specific plant community
- 7 to 8 Plants with a poor range of ecological tolerances / associated with an advanced stage in plant community succession
- 9 to 10 Plants with a high degree of fidelity to a narrow range of habitats

The Coefficient of Conservatism is here used to calculate an average or mean native CC in each layer and a quantitative index based on the Importance Value (IV CC), defined as the sum of (CC x IV) for all species divided by 200. Aliens do not have a CC, so their IV is lost, thereby lowering the IV CC value. The mean native CC gives the qualitative history and potential of the plot, while the IV CC gives a better assessment of its present health. Together these indices can be used to monitor changes in vegetation over time and to compare vegetation quality of different study stands.

COMMENTS

Not surprisingly, these indices all point to a habitat of extremely low quality dominated by aliens. There are no native shrubs in the middle layer, and the canopy is the only layer not completely dominated by aliens.

Because of the late date of the survey – Oct. 10, 12, 16 – the cover of some species was probably underestimated. Most of the leaves on the grapes had dropped. Enchanter's-nightshade (*Circaea canadensis*) tends to senesce fairly early, and long-bristled smartweed (*Persicaria longiseta*) was in decline. It is hard to know whether to count dead stalks or new plants on garlic mustard (*Alliaria petiolata*) or both since the cover can vary widely from year to year. We did not dig around in the soil to look for bulbets of lesser celandine (*Ficaria verna*). There probably are no native spring ephemerals, but the study area must look quite different in May.

The original Overlease data was not separated by layers, and not all of the invasive shrubs were separately identified so the older data can not easily be compared with the 2012 data, but by condensing or reconfiguring the two data sets some numerical comparisons should be possible.