Plum Island Ecosystem

Site name: Plum Island Ecosystem (Burlington Site)
Domain: Northeast
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Web page: http://ecosystems.mbl.edu/PIE
Location: 42.517 N, -71.183W

We recommend the establishment of one pair of coupled re-locatable/advanced tower and aquatic sensor sites along a suburban/suburban fringe transect in the Boston Metropolitan Region. The Boston metropolitan region (BMR) is an ideal urban/suburban site for inclusion not only in the Northeast NEON domain but also for comparison with other sprawling metropolitan regions in the US. Boston is the 2nd most sprawling region in the US. While population in the region increased only 12% between 1982 and 1997, there was a 52% increase in suburban area (Otto et al. 2002). Sprawl has dramatically altered hydrology of this relatively high precipitation region. The unique combination of impervious area and suburban water use results in the diversion or loss of over 50% of water that would normally infiltrate soils. Low river flow is a major environmental concern in the region (American Rivers 2003).

Criteria used in selection of sites include: 1) strong gradient in human density, 2) percent of full buildout, 3) location in 1st or 2nd order stream catchment, 4) availability of detailed background data on land use, soil and watershed biogeochemistry, and biotic inventories.