

(*Potentilla fruticosa* L.).

Prescribed burning has been used successfully in some wetlands to curb invasion by woody species (Kohring 1982, Kirby et al. 1988, Reuter 1986, Warners 1989). We carried out a prescribed burn at Webber Fen in the fall of 1988 to determine whether fire would suppress woody species and enhance sedge-dominated vegetation and other herbaceous species, including the rare ones. Our low fire intensity (not greater than 212 kW/m) significantly reduced percent cover of northern white-cedar and eastern larch for three growing seasons post-burn. None of the woody species were killed; underground portions remained viable and most were recovering by the end of the second growing season after burning. None of the 65 species observed in preburn sampling failed to appear after burning. There was no apparent response to fire by *Platanthera leucophaea*.

Percent cover of shrubby cinquefoil remained at preburn levels during all sampling years. Similar results were reported from Illinois (Bowles, pers. comm.) and Michigan (Kohring 1982). Manipulation of hydrologic regimes may suppress *Potentilla fruticosa*, the major shrub invader, but red-osier dogwood (*Cornus sericea* L.) survived seven consecutive seasons of flooding in Wisconsin (Kogler 1979, Kogler and Howell 1982). This species currently is not a problem at Webber Fen.

If trees taller than 2 m were cut, the fen was burned annually until sedge vegetation became dominant, and water levels were controlled in the ditch, the fen would probably reestablish its unique floristic diversity.

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PRESCRIBED BURNING AND OTHER POSSIBLE MANAGEMENT TOOLS FOR SUPPRESSION OF WOODY SPECIES IN MAINE FENS

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Webber Fen and The Nature Conservancy's adjacent Crystal Fen comprise Maine's second largest rare plant station and the easternmost location for the prairie fringed orchid (*Platanthera leucophaea* [Nutt.] Lindl.), which is federally listed as threatened (Rooney 1991). Since 1938 the invasion of the fen by woody species has been dramatic (Jacobson et al. 1991), presumably because of the absence of fire and draining of the fen via a ditch. Major invaders are northern white-cedar (*Thuja occidentalis* L.), eastern larch (*Larix laricina* [Du Roi] K. Koch), and shrubby cinquefoil