

Prairie Pothole Region

Smart Science



A USFWS firefighter ignites a prescribed fire / USFWS

Background

Much of the native prairie on U.S. Fish and Wildlife Service-owned lands in the Prairie Pothole Region is extensively invaded by introduced cool-season grasses. Management to suppress introduced grasses has had poor to inconsistent success. Knowledge of underlying causes of invasion could help managers more effectively restore prairies. A Service-U.S. Geological Survey partnership is developing an adaptive decision support system to assist managers in selecting best management actions. The framework is built around the practical constraints of refuge managers that share the same objective (increase native prairie composition), management strategies (fire, grazing, haying), and uncertainties (system response to management). Decision making is adaptive, as monitoring feedback increases understanding of the system and determines the path of future decision making. While the scope is broad, the project interfaces with individual land managers who receive updated decision guidance that incorporates understanding gained from the collective experience of all cooperators. By managing



USFWS biotechs utilize the belt transect method / USFWS

adaptively, managers can simultaneously pursue objectives and systematically acquire information to improve future management. The result is efficient use of individual efforts for the goal of shared, improved management for all. The Native Prairie Adaptive Management Program will result in more sophisticated, more conscientious managers that have the information they need to make smart decisions—and as a result—successes in restoring native prairies.

North America's grassland biome, exemplified mainly by the vast Great Plains, is arguably the continent's most endangered major ecosystem, with widespread grassland declines attributed mainly to conversion agriculture. One

collection of lands where more than 100,000 hectares of native mixed-grass and tallgrass prairie still exist is the National Wildlife Refuge System. When badly invaded by introduced plants, monotypic stands often form, resulting in grasslands that lack diversity. Such grasslands are poor quality habitats for many species of grassland birds unique to the region. In the face of continuing declines in quality and quantity of prairies, Service lands become increasingly vital in perpetuating native flora and associated fauna.

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