

fire roundup

An Eastern Perspective on Fuels Management and Historic Structures

In 1981, a lightning ignited fire burned through 690 hectares of scrub and marsh vegetation on Cumberland Island National Seashore. The fire destroyed an abandoned sawmill and swept towards the historic district at High Point, which contains several turn of the century structures. The size and the intensity of the 1981 South Cut fire made southeastern resource managers aware that fires of natural origin could potentially threaten historic resources and jump the boundaries between natural and historic zones within a park.

Historically, fire in southeastern parks was generally less of a threat to structures than it is today. When the land was still under cultivation, property owners living in or near plant communities subject to frequent or high intensity wildfires, either situated buildings in locations resistant to burning, or cleared fuels from around developments. In many cases, lawns, gardens, fields and pastures adjoining cabins and barns would have provided substantial fuel breaks.

Conscious and unconscious strategies of fire prevention included placement of homes in less flammable live oak and mixed hardwood forests, sweeping lawns clear of leaf litter, and frequent burning of forest understories to remove brush and "vermin". On coastal barriers, such as the Outer Banks of North Carolina, free range grazing formerly reduced fuels around buildings. Sites such as High Point on Cumberland Island had large lawns, that protected them from high intensity fires in the nearby scrub.

Since acquisition by the NPS, the land management around many historic structures has changed. Agriculture, grazing, and anthropogenic burning have ceased, and shrub or forest succession has occurred, causing fuel loadings to increase. In some cases, the site maintained as "historic landscape" around structures on the National Register incorporates much less acreage than the area historically clear of flammable vegetation and shrub succession may occur almost up to the eaves of the buildings. These problems also concern

concessions, retained rights properties, and residential inholdings.

In the southeastern U.S., many of the more flammable fuel types burn naturally on relatively short rotations. Fire history studies have documented a rotation of 20 to 25 years for scrub communities on Cumberland Island, for example. Anthropogenic burning of forest understories and litter was traditionally conducted on a one to five year basis, and settlers would reburn pine stands almost as soon as enough fuels had accumulated to carry a fire. Although major conflagrations do occur on longer rotations in the southeast, historically southern farmers and fishermen had seen numerous fires burn across the woods and marshes, and managed to reduce the risk of a natural disturbance they had observed and recognized. In some western vegetation types, where fire rotations may be 100 to 300 years, settlers and developers may have been less cognizant of the long term dangers.

In general, NPS fire protection strategies have not been coordinated with historic landscape planning, nor are they included in retained rights agreements. Fuel breaks have been constructed on the "suppression model," of narrow zones of cleared vegetation, often forming abrupt boundaries with adjoining shrub or forest communities. To improve aesthetics, to conform to historic landscape practices, and to reduce fire suppression costs in case of a wildfire, fuel breaks should be redesigned. Fuel breaks may be maintained by expanding the lawn area around buildings or by returning to historic types of lawns. This type of strategy should be effective for historic structures on Cumberland Island National Seashore, for example, where plantation lawns had a live oak canopy and an open understory with a grass sward and evergreen plantings along lanes.

Reclamation of fields or gardens, or extension of these features to their historic boundaries can produce visually appropriate fuel breaks. In cases where reestablishing historic crops, such as cotton, is not

feasible, another type of vegetation, such as an open grass sward, may be encouraged as a substitute vegetation type (with appropriate interpretation to the public). Fuel breaks can be situated along historic fence lines and actually used to define the boundaries of an historic site. Where fuel breaks around retained right structures (including those on the National Register) become part of lawn or field management schemes, the holders of the retained rights may be willing to continue to mow or otherwise clear the area themselves, thus saving the NPS person time and funds. Some fuel breaks can be better cared for by park staff responsible for cultural landscape maintenance than by fire suppression crews. Extension of lawns and fields may, in some cases, require realignment of the boundaries between natural areas and historic districts, and expansion of cleared areas in "historic zones". In all circumstances, a carefully documented historic landscape study is a necessary prerequisite to fire planning.

In the east, historic cultivars or plantings rarely present a hazard. The preference for broadleaved shrubs and trees around buildings and for evergreen hedges generally does not increase fire risk. Some species, such as bamboo, may, however, grow into thickets. When trimmed back to their historic height or boundaries, such species usually do not form continuous fuels ladders. Fire managers need to recognize that fuels reduction efforts may accidentally remove or damage historical plantings of cultural significance or of importance in conserving genetic diversity. Before any vegetation removal is attempted, the positions of plantings, borders, fences and all other historic landscape features should be determined and a fuel reduction strategy chosen which protects key historic landscape elements.

In cases where original historic vegetation types or management practices cannot be easily maintained, vegetation conversion to more easily managed semi-natural types may be considered. Around historic structures, such as life saving stations, in the interdune of the Outer Banks of North Carolina, for example, scrubland might be converted to grassland, and maintained either by prescribed burning or by herbicides. This would reduce fuel loadings, and allow access for fire management personnel and equipment. In many historic settings, the abrupt boundaries caused by standard fuel breaks could be "softened" by expanding the width of fuel breaks and integrating them into surrounding vegetation along waving or broken lines providing natural looking scrub-grassland or grassland-forest borders. The impacts of establishing more easily managed semi-natural vegetation as a buffer between natural and historic districts need further investigation.

Incorporating fire prevention and suppression strategies into historic landscape management plans will provide better and more visually pleasing fuel breaks for historic structures. Further communication between fire ecologists, natural resources managers and cultural resources managers can optimize fire prevention strategies and lessen the chances of loss of irreplaceable historic resources.

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