



Examples of Canadian Forest Fire Behavior Prediction System Fuel Types in Manitoba

The classification scheme of fuel types, as illustrated here with representative photos, is described in the following report:
Alexander, M.E.; Lawson, B.D.; Stocks, B.J.; Van Wagner, C.E. 1984. User guide to the Canadian Forest Fire Behavior Prediction System: rate of spread relationships. Interim Edition. Environment Canada, Canadian Forestry Service, Fire Danger Group. 73 p. + Supplements [First Printing—July 1984; Revision and Second Printing—September 1984].

Only 12 of the 14 fuel types recognized in the 1984 interim edition of the Canadian Forest Fire Behavior Prediction (FBP) System occur in Manitoba. Those fuel types not occurring in the province include C-7 (Ponderosa Pine—Douglas-fir) and S-3 (Coastal Cedar—Hemlock—Douglas-fir Slash). Additional major Canadian fuel types, applicable to Manitoba, may eventually be added to the FBP System.

The Canadian Forest Fire Danger Rating System (CFFDRS) perception marker seen in the photos was used for purposes of scale. The sign is 30 x 30 cm. The alternate markings on the pole are 30 cm in length. The quadrat seen in the close-up photos of Fuel Type O-1 (Grass) is 1 x 1 m with alternate markings 30 cm in length. Grass and roundwood slash fuel loads are expressed in tonnes per hectare (t/ha).

All of the photos displayed here were taken by the author except for that of Fuel Type C-1 (Spruce—Lichen Woodland), which was provided by J.C. Ritchie of the University of Toronto, Toronto, Ontario. Photo dates are noted in italics.

K.G. Hirsch 1988

CONIFEROUS (C) FUEL TYPE GROUP

C-1 Spruce—Lichen Woodland



Sparsely stocked black spruce stand with a nearly continuous mat of ground lichen located 150 km west of Churchill, near the Seal River. July 1956.

C-2 Boreal Spruce



Lowland black spruce stand located 15 km east of Bissett. July 1987.

C-3 Mature Jack Pine



Jack pine stand in Nopiming Provincial Park, near the Black Lake campground. July 1987.

C-4 Immature Jack Pine



Young jack pine stand located 35 km north of Grand Rapids. July 1987.

C-5 Red and White Pine



Mature red pine stand located 10 km southeast of Piney in the Sandilands Provincial Forest. June 1987.

C-6 Red Pine Plantation (Stand height: 4-10 m)



Red pine plantation located 15 km southeast of Hadashville in the Sandilands Provincial Forest. Mean stand height: 6.2 m. September 1987.

C-6 Red Pine Plantation (Stand height: 10-20 m)



Red pine plantation located 10 km southeast of Marchand in the Sandilands Provincial Forest. Mean stand height: 12.5 m. June 1987.

MIXEDWOOD (M) FUEL TYPE GROUP

M-1

Boreal Mixedwood—leafless



75%
Softwood (S):
25%
Hardwood (H)

A mixed white spruce—balsam fir—trembling aspen stand located 40 km north of Pine Falls. April 1987.

M-2

Boreal Mixedwood—summer



Same location as at left. July 1987.



50%
Softwood (S):
50%
Hardwood (H)

A mixed white spruce—trembling aspen stand located 15 km northeast of Marchand in the Sandilands Provincial Forest. October 1987.

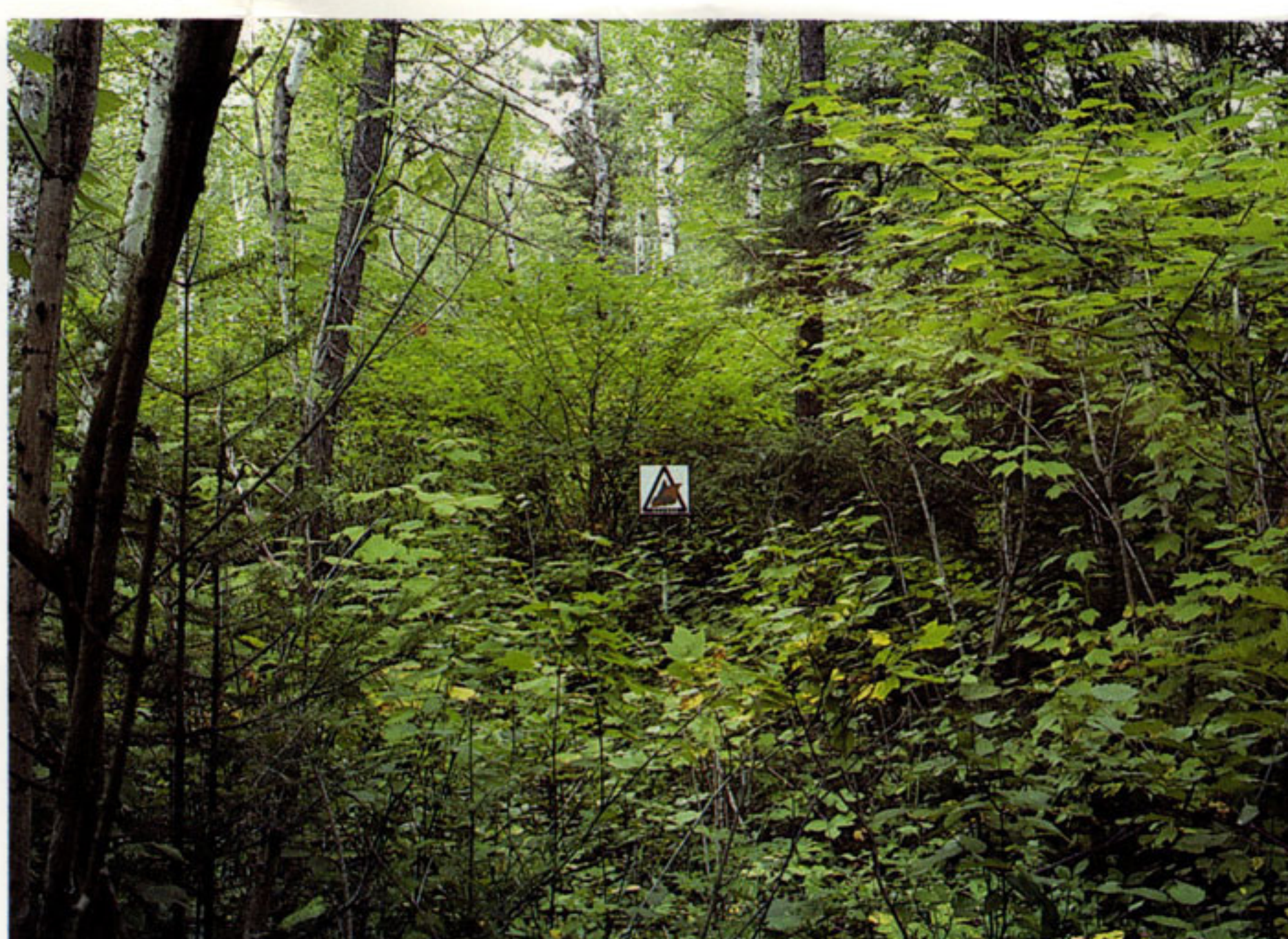


Same location as at left. September 1987.



25%
Softwood (S):
75%
Hardwood (H)

A mixed trembling aspen—balsam fir—white spruce stand near Lake St. George. April 1987.



Same location as at left. August 1987.

DECIDUOUS (D) FUEL TYPE GROUP

D-1

Leafless Aspen



Trembling aspen stand prior to spring flushing, located 15 km north of Wellman Lake in the Duck Mountain Provincial Forest. April 1987.

SLASH (S) FUEL TYPE GROUP

S-1

Jack Pine Slash



Less than 1-year-old jack pine clear-cut logging slash in the Sandilands Provincial Forest, near Bedford. Roundwood fuel load: 18 t/ha. July 1987.



Less than 1-year-old jack pine clear-cut logging slash located 25 km south of Grand Rapids. Roundwood fuel load: 63 t/ha. July 1987.

S-2

Spruce—Balsam Slash



Less than 1-year-old black spruce clear-cut logging slash near Wanless. Roundwood fuel load: 56 t/ha. June 1987.

OPEN (O) FUEL TYPE GROUP

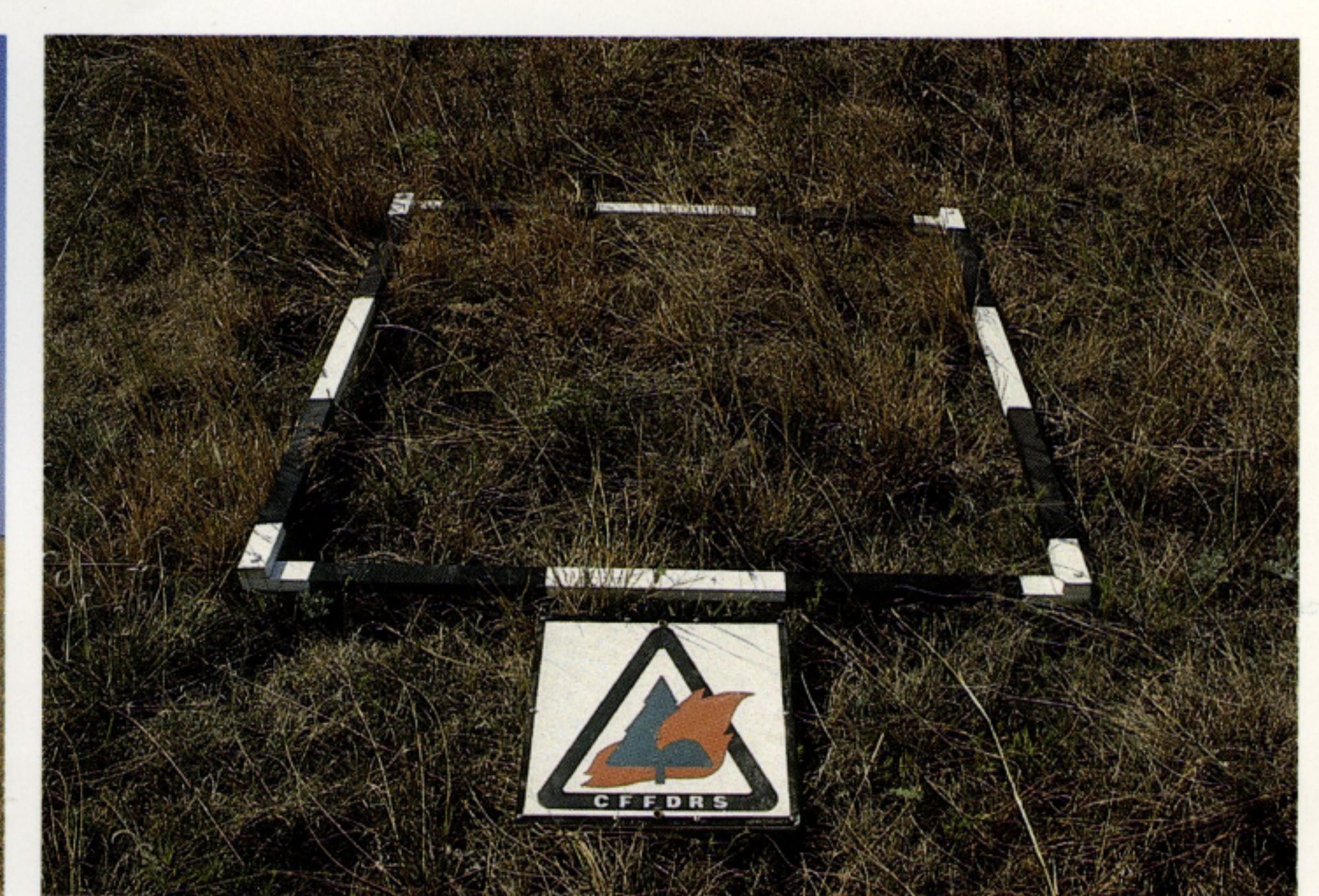
O-1

Grass



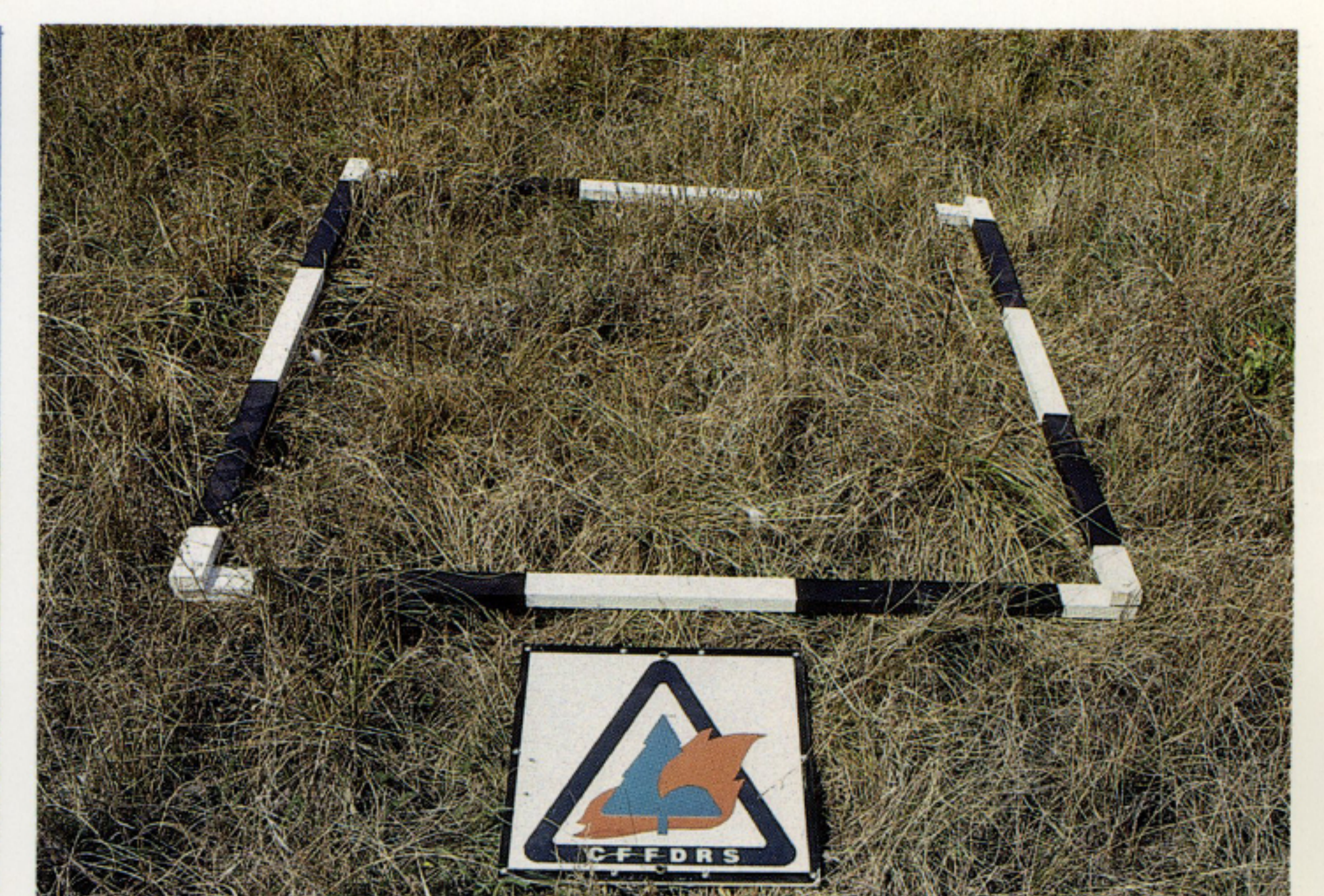
2
t/ha

Mixed prairie-grass south of Shilo, near the Spruce Woods Provincial Forest. April 1987.



3
t/ha

Mixed prairie-grass near the southwest boundary of the Spruce Woods Provincial Forest. Note: this is the standard fuel load recognized in the FBP System for Fuel Type O-1. April 1987.



5
t/ha

Water sedge-dominated grassland located 20 km northeast of Marchand in the Sandilands Provincial Forest. October 1987.

