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Oral Presentation

STATUS AND HABITAT REQUIREMENTS OF *PHYSARIA THAMNOPHILA*, AN ENDANGERED SPECIES OF TAMAULIPAN THORNSCRUB

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Abstract - *Physaria (Lesquerella) thamnophila* (Brassicaceae; henceforth *Physaria*) is an endangered herbaceous perennial plant found in remnant patches of xeric Tamaulipan thornscrub near the Rio Grande in south Texas. We analyzed six years of censuses of four populations of *Physaria* to identify any trends in population size. We also collected and analyzed quantitative vegetation data from the same four sites to describe the associated plant community, to test the hypothesis that too much shrub canopy cover is detrimental to this species, and to guide future habitat management and restoration.

There was no overall trend in population size. However, annual fluctuations in observed numbers of plants were extremely large: a single census cannot reliably assess *Physaria* population size. Surprisingly, population size was not closely related to annual precipitation.

While our data confirmed that *Physaria thamnophila* is a species of Tamaulipan thornscrub, the vegetation of all four sites differed from previously published descriptions of this species' habitat. *Physaria* appeared to coexist with native grasses, but not with either *Pennisetum ciliare* (buffelgrass) or *Dichanthium annulatum* (Kleberg bluestem), two abundant introduced species.

Our initial hypothesis that more open microsites are more favorable for *Physaria* was not clearly supported: seedling numbers were positively related to shrub canopy cover. However, there were many more *Physaria* plants in the brush-cleared (cut, but not bulldozed) portion of one site than in its uncleared portion. Perhaps both the roots of an intact shrubs and the plant debris left after this type of brush-clearing facilitated seedling establishment by reducing movement of the highly erodible soil. Competition with shrubs later in life was suggested by qualitative observations of larger plants in more open microsites.