



## **Native Grass Characteristics within Xeroriparian Communities of the Barry M. Goldwater Range-East, Arizona**

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Native grasses have been identified as an important conservation element in the Sonoran Desert, including the Barry M. Goldwater Range-East (BMGR-E), Arizona. Xeroriparian plant communities are of particular interest due to their value as wildlife habitat. In 2008 on BMGR-E, we collected data from 34 plots within natural xeroriparian communities to determine relationships between native grass characteristics and the following variables: composition of the surrounding plant communities (i.e. adjoining matrix communities); distance to an active wildlife water development; and presence and abundance of exotic grass species. Adjoining matrix community was found to affect the following variables ( $P < 0.05$ ): diversity of native annual grass (- correlation); and density of native annual (-) and perennial (+) grasses. Distance from an active water development was found to affect the following variables ( $P < 0.05$ ): cover of native annual grass (-); diversity of native annual (+) and perennial (-) grasses; and density of native annual (+) and perennial (-) grasses. Exotic annual grass cover was found to be affected by both the adjoining matrix community (+) and distance to an active water development (-) ( $P < 0.01$ ); it was also found to correlate with native grass cover (-), diversity (-), and density (-) ( $P < 0.01$ ). Of particular note is that native perennial grass density increases from approximately 0.6 to 1.2 plants per  $m^2$  as the distance from water decreases below 4 km ( $P < 0.01$ ). Characterization of xeroriparian grass communities on the BMGR-E will aid in future natural resource management planning.

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