
Similar wildlife value found in clustered, dispersed housing developments

When farm and ranch land beyond city limits is subdivided for large lot housing developments, plant and wildlife communities dramatically change. The change includes shifts to more nonnative plants and wildlife species adapted to humans.

It has been widely assumed that grouping or clustering houses closely together and leaving the remaining area protected as an open space easement lessens development impacts on the landscape.

That assumption was tested by Colorado State University (CSU) researchers in a comparison of traditional large lot development, clustered development, and undeveloped land in Boulder County, Colorado. In a study completed in 2005, they compared wildlife conservation values based on densities of songbirds, nest density, and success of ground-nesting birds, presence of mammals, and composition and coverage of native versus nonnative plant species.

“We found the plant and wildlife species of clustered developments were more similar to that of dispersed housing developments than to undeveloped areas,” says Richard Knight, a professor in the Land Stewardship Department of CSU.

“Native species ground cover percentage in undeveloped land was nearly twice that of either dispersed or clustered developments. We also found 12 native plant species in undeveloped land that weren’t found in either of the other two areas.”

Researchers also found similar numbers of successful ground nests in dispersed and clustered developments, but when combined, they produced fewer than half as many nests as the undeveloped land.

Common grackle, European starling, American robin, red-winged

blackbird, and mourning dove were among the generalist bird species with highest densities in clustered and dispersed housing developments. In contrast, birds with highest densities in undeveloped land were western meadowlark, grasshopper sparrow, lark sparrow, vesper sparrow, and others of conservation concern. Most mammal differences were not significant.

Clustered developments averaged less than 200 acres of easement outlots, which included some horse and cattle grazing.

“The conservation value of clustering may have been much higher if the protected outlots had been larger and contained a higher percentage of native plant species,” says Knight. “Closer proximity to humans and lack of native plants made the clustered developments more closely mirror dispersed developments.”

Clustering homes closer together and away from sensitive areas, larger outlots, native landscaping, contiguous open spaces, and few roads could all benefit species of conservation concern, according to Wendell Gilgert, a wildlife biologist with the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) in Portland, Oregon, who facilitated the study for the NRCS.

The project was done in cooperation with the Open Space and Mountain Parks Department of the city of Boulder. Funding was provided by CSU and the NRCS Agricultural Wildlife Conservation Center (AWCC).

The AWCC, located in Madison, Mississippi, is a fish and wildlife technology development center.



Photo by Jeremy Maestas, NRCS

Dispersed house on rangeland

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For more information on wildlife conservation technology, contact:

Ed Hackett
NRCS AWCC
Phone: (601) 607-3131
E-mail: ed.hackett@ms.usda.gov
Web site: <http://www.whmi.nrcs.usda.gov>

For more information on this summary, contact:

Richard Knight
CSU
Phone: (970) 491-7614
E-mail: knight@warnercnr.colostate.edu

Wendell Gilgert
USDA NRCS
Phone: (301) 504-2326
E-mail: wendell.gilgert@por.usda.gov