

Incentive mechanisms for spatially contiguous habitat management – the Agglomeration Vickrey Auction

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Abstract

There is interest among economists and policy makers in using auctions to purchase habitat conservation on private farmlands and minimize public expenditures to achieve desired conservation outcomes. Examples are the Conservation Reserve Program (US) and Environmental Stewardship Scheme (UK). An important limitation of these auctions however is that there is no consideration for the spatial patterns of management in bid evaluation. Yet there are species for which spatially contiguous reserves is essential for conservation success. This research will develop the structure of an auction for purchase of pro-conservation land uses when the spatial patterns of land use are important. Auction design in this research will simultaneously address the spatial coordination problem, to achieve specific spatial patterns, and the adverse selection problem, to achieve cost-minimization given limited policy budgets. The complexity of the auction and the absence of a policy analogue pose significant research challenges. Here experimental methods will be employed to test the validity of the auction and evaluate its performance under different conditions. Experiments conducted with subjects drawn from the University's student population will help to establish the internal theoretical validity of the mechanism and identify conditions necessary for maximizing economic and ecological performance.