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Population Models with Diffusion, Strong Allee Effect and Constant Yield Harvesting.

We study the steady state distribution of reaction diffusion equations with strong Allee effect type growth and constant yield harvesting (semipositone) in heterogeneous bounded habitats. Assuming the exterior of the habitat is completely hostile, we establish an existence result for positive solutions. We also establish a multiplicity result for the non-harvested case. We obtain our results via the method of sub super solutions. (Received July 16, 2007)