

Figure S1 represents a simple numerical model of how statistically significant trap happiness could arise for one trap type (Type A), but not for the other, even under the assumption that each trap attracts a specific behavioral type with the same associated probability of trap entry (here 70%). The numbers are inspired by our study (Table 1). In this numerical model, the Trap A-preferring behavioral type is enriched from 20% in the original baseline population to 37% of the catch in Trap A, which would lead to a statistical significance in a statistical (contingency) test, such as the one we used in our study. The Trap B-preferring behavioral type is enriched from 80% to 90%, which ends up not causing enough difference in the distribution of the final catch (recapture of marks) to result in statistical significance. Thus, similar to what we found using our catch data, the conclusion based on numbers in this model would be “trap happiness” for Trap A, but not Trap B in this model.

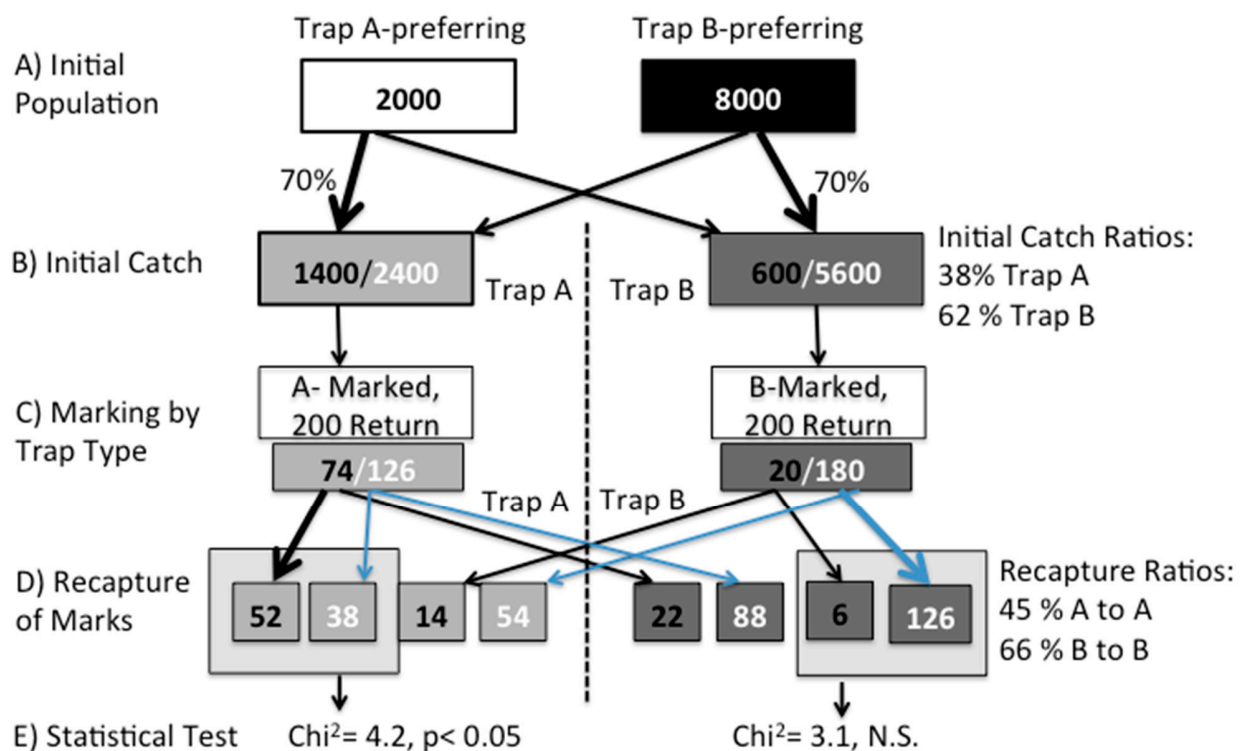


Figure S1. Model of catch-recapture distribution of two hypothetical behavioral types that differ in their propensity for trap entry. A) The two types are prevalent in the initial population at 20% (Trap A-preferring, black numbers) and 80%, respectively. Each behavioral type chooses its preferred trap at a probability of 0.7. B) In the initial catch of 10,000, the two behavioral types are enriched to about 37% and 90% of the total in their respective traps. C) Of the animals marked by initial trap, 200 from each trap are recovered. D) and E) The probability of marked animals returning to the same trap (recapture ratio) is increased relative to the expected (initial) catch ratio, but only the catch ratio of the rarer behavioral type is increased enough to yield a statistically significant test.