

Fig 1. Interface for searching a map in (a) the "side-by-side" condition and (b) the "offset" condition. Participants clicked in the overview map (left) to reposition the zoomed-in view and could change view depth or mark targets with the buttons (right). The zoomed-in view was always in the upper right corner in the "side-by-side" condition, but appeared at the click location in the "magnifying glass view" (not shown) or next to it in the "offset" condition.



Fig 2. Search data and modeling results on a single map. (a) Example map with target locations marked in red. (b) Heat map of search locations from 29 observers. In this map, search clicks were concentrated along the main highways. (c) Expected rate of target collection while searching this map, based on a model that incorporates observers' beliefs about the number of targets in the map and the average search performance. The expected rate starts high and then drops as the most likely target locations are exhausted. Optimal foraging predicts that foragers should quit when the expected rate in the map falls below the average rate (dotted line); blue dots indicate when participants actually quit searching this map.



Fig 3. Histograms of participants' expected rate when quitting each map in (a) Exp 1 and (b) Exp 2. The red line is the result of modeling the subject as a Bayesian forager who learns from their experience in a map, the blue line assumes no learning. The Bayesian model suggests that participants have a fairly consistent leaving time strategy in this task: they leave when their expected rate falls to 0.019 targets/click in Exp 1 or 0.015 targets/click in Exp 2. In both experiments, this is below the average rate, which means that people stay longer on each map than would be predicted by a rate-maximizing optimal foraging strategy.