
THE EFFECT OF FIX RATE AND FIX INTERVAL ON FIRST PASSAGE TIME ANALYSIS

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First passage time analysis is a method of analyzing changes in animal movement along paths through habitats. First passage time is defined as the time required to traverse a circular region of a specified radius. Plots of variance in logged first passage times versus spatial scale have been used to help identify the scale at which search is concentrated. Two critical assumptions made when calculating first passage time are that movement is linear and speed is constant within a given circle. We investigate the robustness of first passage time results relative to these 2 assumptions using movement data collected on eight grizzly bears in the Greater Yellowstone Ecosystem. We found that the spatial scale identifying area restricted search was dependent on both fix interval and fix rate suggesting that how GPS collars are programmed influences first passage time results.