

Optimizing corridor placement using simulated annealing

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how many different chapter ones will i have hmm

1 Introduction

2 Human activity has rapidly reshaped the face of Earth's surface, leaving fragments of patchy habitat.

3 Although there is no shortage of debate as to the effects of fragmentation *per se* on biodiversity and

4 ecosystem function (cite?**), it is generally accepted that the combination of habitat and ensuing**

5 subdivision produce negative outcomes for ecosystem function and services (resasco?** review).**

6 In order to mitigate the consequences of landscape change on ecosystems, developing landscape *corridors*

7 has seen much attention in the last several decades. Bit more evidence for corridors here. But still, given

8 the spatter of fragments in a landscape, where should ecologists choose to use their limit resources to build

9 a corridor?

10 Here we propose to answer that question by proposing an algorithm to estimate the landscape

11 modification that results in optimizing a specific ecosystem process (in this paper maximizing the time

12 until extinction of a metapopulation, although the algorithm and associated software can be generally

13 applied to any process-based model with a quantifiable target state).

14 Although algorithms have been proposed for this (peterman?** etc), they are focused on finding the where**

15 the paths of least existance for a given species is given data on that species dispersal.

16 An algorithm for optimizing corridor placement

17 Simulation of data for testing the algorithm

18 Simulation of occupancy dynamics

19 Simulation of landscapes

20 Results

21 Some type of performance fig vs. raster size and budget figure

22 Discussion