Advanced Forest Planning

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09/28/2024

Assignment 5 – Simulated Annealing

Simulated annealing required only a few modifications from my previous solution, and most of those were related to creating a point-based as opposed to a population-based optimization method. I did end up setting the temperature quite high as well as setting the cooling rate extremely slow, however, simulated annealing still ran fairly fast (5 minutes or less) even with these extremely explorative parameters. Below is the output of the program.

Volume Harvested by Period:

Period 1: 11744.00 cubic feet

Period 2: 11844.00 cubic feet

Period 3: 11652.00 cubic feet

Period 4: 11792.00 cubic feet

Period 5: 11764.00 cubic feet

Period 6: 11736.00 cubic feet

Period 7: 11700.00 cubic feet

Period 8: 11768.00 cubic feet

Harvest Schedule:

Period 1: Stands 19, 109, 84, 107, 92, 72, 2, 33, 39, 14, 44, 75, 74, 46

Period 2: Stands 25, 108, 104, 68, 4, 13, 89, 54, 38, 50, 28

Period 3: Stands 48, 22, 81, 56, 11, 112, 55, 76, 27

Period 4: Stands 62, 95, 67, 51, 10, 106, 73, 31, 87, 82, 78

Period 5: Stands 60, 69, 102, 37, 32, 65, 80, 97, 21, 53, 5

Period 6: Stands 42, 100, 94, 96, 6, 105, 16, 63, 20, 12, 47, 98, 77

Period 7: Stands 45, 103, 8, 61, 29, 64, 30, 90, 86, 58, 26

Period 8: Stands 43, 36, 101, 79, 83, 93, 3, 9, 15, 59

Fitness Score: 30184.0

Constraint Violations: []