Solutions to Chapter 2’s Exercises

Exercise 1

See the files ch2ex1.*. The parameter file ch2ex1-hyp.par has the values used in the book’s example, and ch2ex1-mod.par has modified values of the Overall Goal Attainment node that cause the action *do_not_set_traps* to be the optimal decision.

Exercise 2

The initial actions used to generate Figure 2.4 are:

```
initial_actions(2 tanrr indirectly_damage_wildlife_habitat 1 ecosys
                kenepa increase_anti-poaching_enforcement 2 kenrr kenpas)
```

To indicate the start-up pattern, the actions history of this run over the time period 1997 through 2001 is shown in Figure 1.

The following modified initial actions produce the actions history shown in Figure 2.

```
initial_actions(2 kenpres open_reserve_to_settlement 1 kenrr
                kenrr demand_higher_comp_for_wildlife-caused_damage
                1 kenpres)
```

This new actions history is different from that of Figure 1.
Figure 1: East African cheetah EMT simulator output over the years 1997 through 2001 under original initial actions.
Figure 2: East African cheetah EMT simulator output over the years 1997 through 2001 under modified initial actions.
Exercise 3

The news articles written by Bryan (2010), Julian (2010), and Mckinnon (2010) suggest that the few Mexican gray wolves that have been re-introduced to Arizona and New Mexico by the U.S Fish and Wildlife Service (USFW 2010) are at risk from being shot by ranchers trying to protect their livestock, and being hit by vehicles. The main groups that affect this wolf then, are the USFW, ranchers in Arizona and New Mexico, and the group of vehicle drivers in these states. These groups and the ecosystem that this wolf lives in is depicted in Figure 3.

Figure 3: Schematic of the IntIDs model of the groups and ecosystem whose interactions determine the population dynamics of the Mexican gray wolf.
References


