

Race for Space: ANS vs. Natives *Worksheet*

Introduction: Your grid represents an artificial aquatic landscape that is ready for colonization by three freshwater invertebrate species. Imagine that your landscape is a small stream bed that was recently scoured by high spring water flows (i.e., spring freshet). Now that flows have dropped, benthic aquatic invertebrates can begin to colonize the empty landscape. The first species to colonize the stream bed is the invasive New Zealand mudsnail. The second species is common to healthy streams in the Pacific Northwest, but doesn't tend to dominate over other species, the western pearlshell mussel. The last species was once common throughout the Columbia River Basin, but now is largely extinct due to habitat modifications and water pollution, the Columbia pebblesnail. The colonization of the stream bed will be based on the reproductive potential of each species and the environmental conditions in the stream.

		New Zealand mudsnail	Western pearlshell	Columbia pebblesnail
1	# of reproducing individuals for Round 1	1	1	1
2	Reproductive Potential	1.3	1.0	0.5
3	Environmental suitability (number from die)			
4	# of individuals added to grid (line 1 x line 2 x line 3)			
5	# of reproducing individuals for Round 2 (line 4 + line 1)			
6	Reproductive Potential	1.3	1.0	0.5
7	Environmental suitability (number from die)			
8	# of individuals added to grid (line 5 x line 6 x line 7)			
9	# of reproducing individuals for Round 3 (line 8 + line 5)			
10	Reproductive Potential	1.3	1.0	0.5
11	Environmental suitability (number from die)			
12	# of individuals added to grid (line 9 x line 10 x line 11)			
13	# of reproducing individuals for Round 4 (Line 12 + line 9)			
14	Reproductive Potential	1.3	1.0	0.5
15	Environmental suitability (number from die)			
16	# of individuals added to grid (line 13 x line 14 x line 15)			
17	# of reproducing individuals for Round 5 (line 16 + line 13)			
18	Reproductive Potential	1.3	1.0	0.5
19	Environmental suitability (number from die)			
20	# of individuals added to grid (line 17 x line 18 x line 19)			
21	# of reproducing individuals for round 6 (line 20 + line 17)			
22	Reproductive Potential	1.3	1.0	0.5
23	Environmental suitability (number from die)			
24	# of individuals added to grid (line 21 x line 22 x line 23)			