

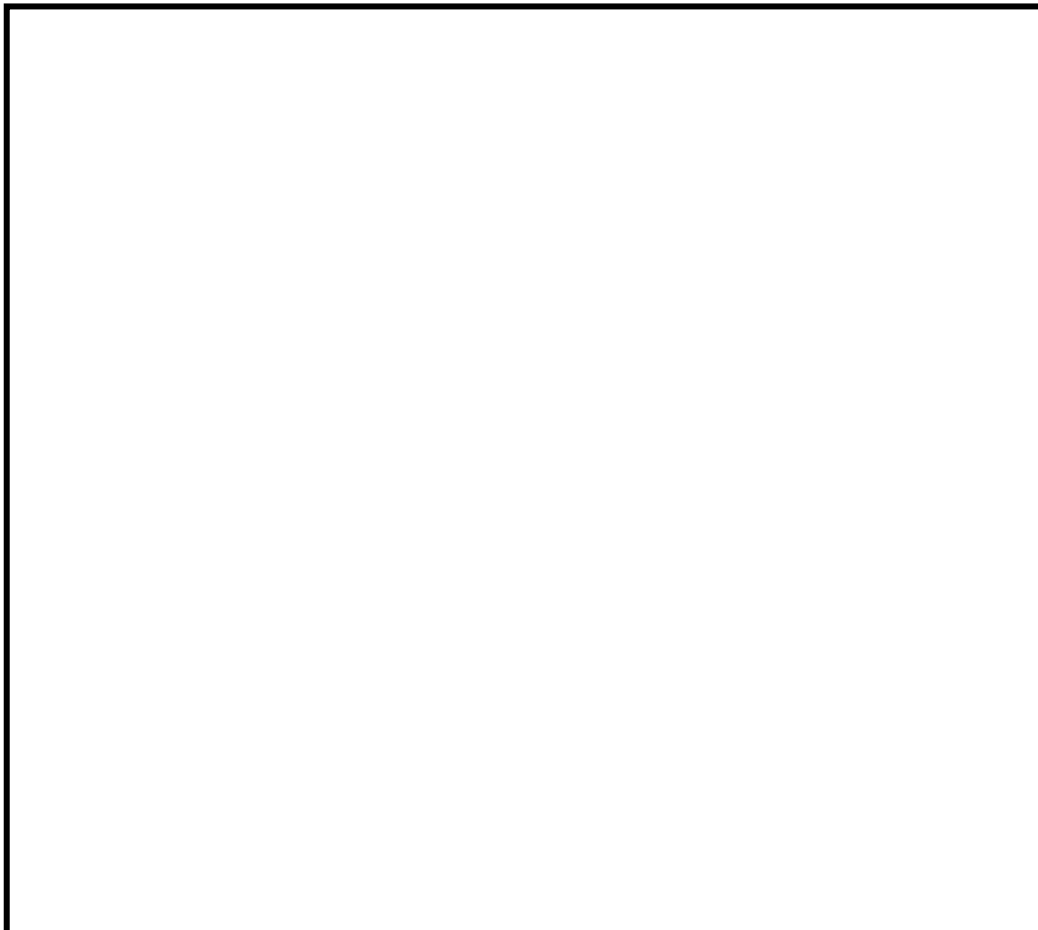
PRACTICE QUESTION

The entire map shown below is currently a mature (80 year old saw log) Douglas-fir forest. You are the U.S. Forest Service, Wildlife Biologist. You wish to manage the area to harvest the saw logs from the entire site over the next 80 years while also providing habitat for blue grouse (Dendrogapus obscurus). Blue grouse use successional stages as listed below. Blue grouse home ranges are generally  $< 10,000 \text{ m}^2$  and they will not use openings  $> 100 \text{ m}$  across.

1. Outline (on the map) a clear cutting harvest strategy that would allow harvest of at least  $40,000 \text{ m}^2$  of mature Douglas-fir forest every 20 years and provide a good distribution of habitats for blue grouse.
2. Describe how you would achieve the habitat arrangement needed for timber harvest and blue grouse management over time. How long would it take ?

**For this exercise assume blue grouse use habitat as follows:**

1. openings ( $< 20$ -yrs old) provide spring-summer forage
  2. shrub stands (20-40 yrs) provide cover and forage
  3. young trees (40-60 yrs) provide nest/roosting sites
  4. mature trees ( $> 60$  yrs) provide critical winter food.
- 400 m

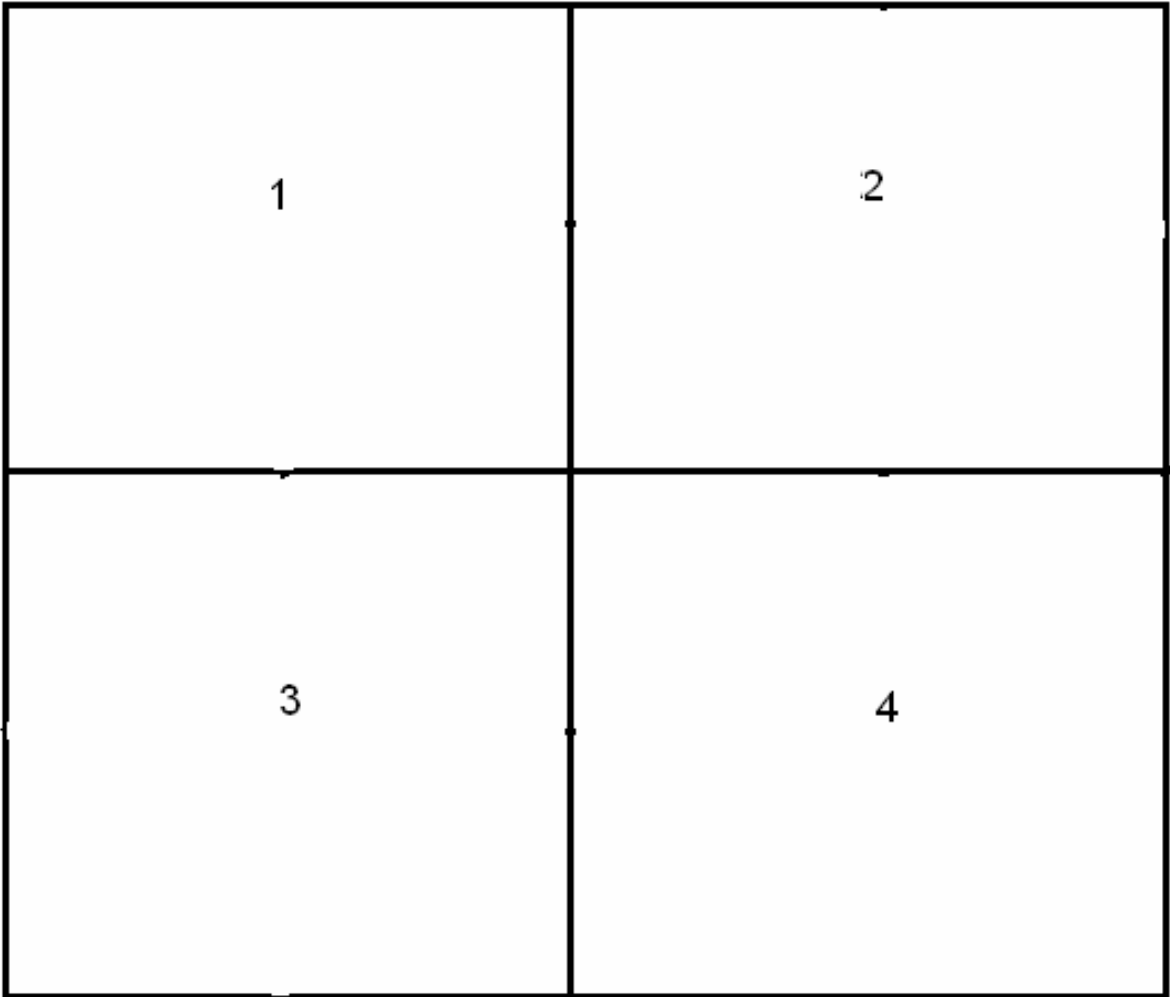


400 m

ANSWER(S)

1	2	3	4

This does not work... you get timber you need but nowhere can grouse reach all 4 needed habitats



This works.... But there is only 1 place for grouse .... Can you do better?

1	2	3	4
1	2	3	4
1	2	3	4
1	2	3	4

This is really just the same as 1<sup>st</sup> answer – it won't work

1	2	3	4
3	4	1	2
1	2	3	4
3	4	1	2

This MAY be the 'best' answer... I can get grouse at 9 intersecting points and I get the needed timber

1	2	1	2	1	2	1	2
3	4	3	4	3	4	3	4
1	2	1	2	1	2	1	2
3	4	3	4	3	4	3	4
1	2	1	2	1	2	1	2
3	4	3	4	3	4	3	4
1	2	1	2	1	2	1	2
3	4	3	4	3	4	3	4

Why not do something like this?? Get more grouse... but increased costs to timber harvest may be excessive, too many roads resulting from such patterns can lead to over harvest of grouse and other management problems, can talk about habitat fragmentation. Wildlife management is commonly by-product of other resource management. Must balance to provide economic values of multiple products without too much expense to one product.