

Name _____
 Urban-Park Bird Diversity Lab

Period _____

Many of us went to nearby Seton Falls Park and recorded the species and numbers of all the birds that we saw at 7 different locations. Each of the 7 points was distributed gradually from urban area and deeper into the park (see map):



Here is a list of all the species that were observed at each point, and their abundances:

5/14/09		5/15/09		5/21/09	
Point1		Point 1		Point 1	
hosp	10	hosp	7	hosp	9
eust	5	rodo	1	eust	4
rodo	6	eust	1	ywar	1
		amro	2		
Point 2		Point 2		Point 2	
hosp	6	eust	1	hosp	6
eust	1	hosp	4	eusp	1
rodo	1	rodo	2		
		nomo	2		
Point 3		Point 3		point 3	
hosp	6	amro	3	amro	1
eust	1	dowo	1	rwbl	1
rodo	1	btbw	1	cogr	1
		cogr	2	scta	1
				baor	1
				hosp	2
point 4		Point 4		point 4	
rwbl	1	amro	3	baor	1
amro	2	rwbl	1	rwbl	4
grca	2	grca	4	amro	1
noca	2	rbwo	2	cogr	1
				noca	1
point 5		Point 5		Point 5	
noca	2	amro	2	grca	3
amro	2	grca	3	amro	1
amcr	1	rbwo	2	cogr	1
		noca	3	noca	1
		cogr	1	hosp	1
		hosp	1		
point 6		Point 6		point 6	
amro	1	grca	3	amro	2
blja	1	amro	2	grca	1
sosp	1	ysfl	1	noca	2
grca	1	cogr	1	rbwo	1
rwbl	2	baww	1	hawo	1
noca	1	woth	1		
scta	1	rwbl	2		
cogr	6	blja	2		
amre	1				
Point 7		Point 7		Point 7	
rodo	2	hosp	8	amro	1
hosp	8	eust	3	eusp	2
amro	4	amro	1	hosp	7
eust	2			rodo	1
				blja	1

For the data above, species are abbreviated using their official 4 letter codes:

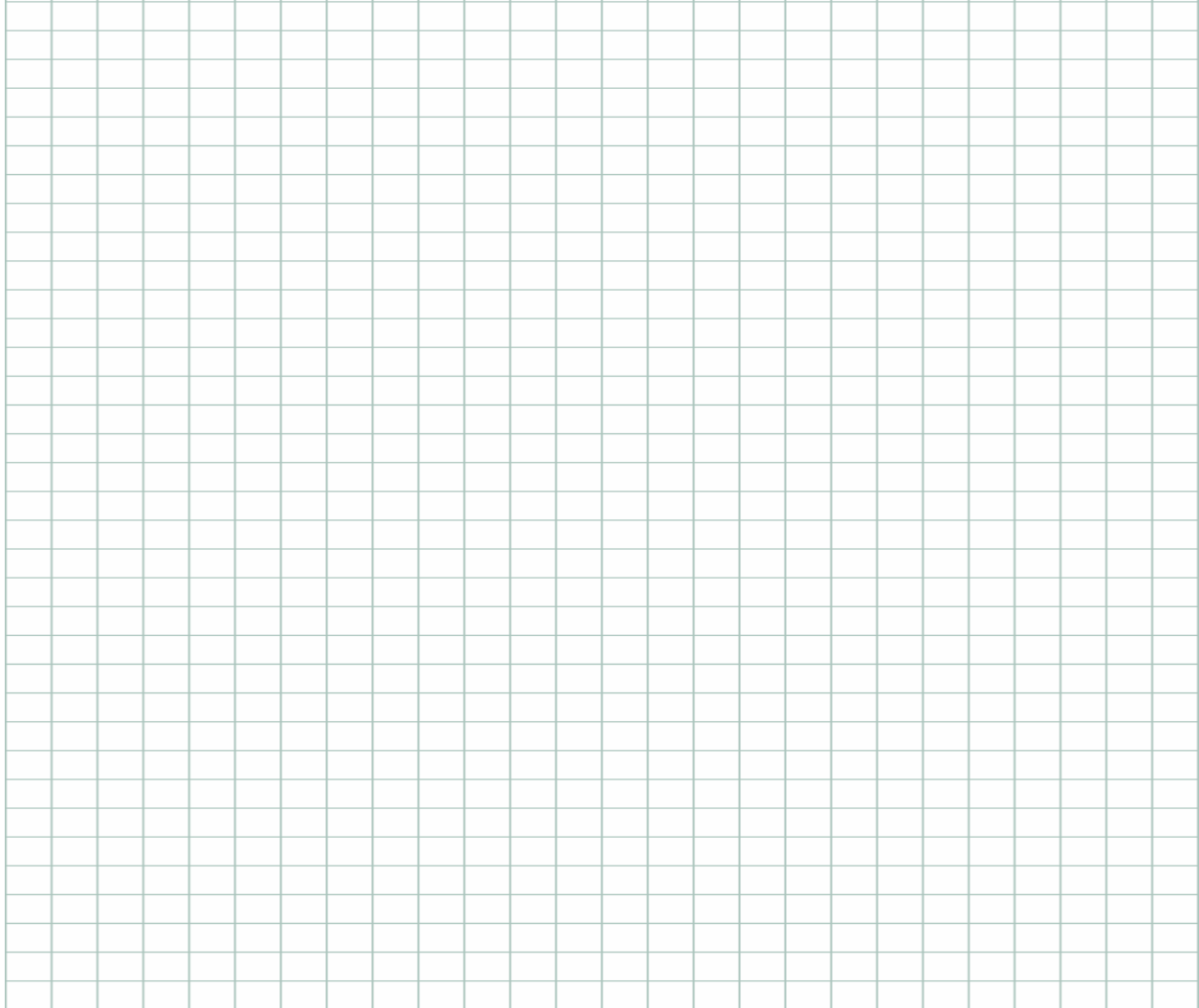
HOSP	house sparrow	BLJA	blue jay	RBWO	red-bellied woodpecker
EUST	European starling	SOSP	song sparrow	YSFL	yellow-shafted flicker
RODO	rock dove	SCTA	scarlet tanager	BAWW	black-and-white warbler
AMRO	American robin	COGR	common grackle	WOTH	wood thrush
RWBL	red-winged blackbird	AMRE	American robin	RBWO	red-bellied woodpecker
GRCA	gray catbird	NOMO	northern mockingbird	YSFL	yellow-shafted flicker
NOCA	northern cardinal	DOWO	downy woodpecker	BAWW	black-and-white warbler
AMCR	American crow	BTBW	black-throated blue warbler	WOTH	wood thrush
BAOR	Baltimore oriole	HAWO	hairy woodpecker	YWAR	yellow warbler

1. How many species were observed at each point *over all three days*?

Example: Point 1 5 species (HOSP, AMRO, RODO, EUST, and YWAR)

Point 2 _____ Point 3 _____ Point 4 _____ Point 5 _____ Point 6 _____ Point 7 _____

2. The number of species at a place is called the **species richness** or just **richness**. Plot a graph of richness vs. location (points).



3. Which point had the highest richness? Why do you think this point had the highest richness?

4. Were any species found in all of the points? Which ones?

5. Were some species found only in some of the points? Which ones?

6. Why would species richness change across the different locations?

7. Why might the number of individuals of a species change across different locations?

Here is the data for Day 2 (5/15) only:

5/15/09	
Point 1	
hosp	7
rodo	1
eust	1
amro	2
Point 2	
eust	1
hosp	4
rodo	2
nomo	2
Point 3	
amro	3
dowo	1
btbw	1
cogr	1
Point 4	
amro	3
rwbl	1
grca	4
rbwo	2
Point 5	
amro	2
grca	3
rbwo	2
noca	3
cogr	1
hosp	1
Point 6	
grca	3
amro	2
ysfl	1
cogr	1
baww	1
woth	1
rwbl	2
blja	2
Point 7	
hosp	8
eust	3
amro	1

8. Graph the number of each species at each point:

American robin



House sparrow



European starling



Common grackle



Red-winged blackbird



Gray catbird



9. Write a paragraph explaining what these graphs tell you and what conclusions you can make about these 6 species.

Some things to consider when you answer this question:

- What is measured in each axis of these graphs
- What exactly changes in the independent variable
- What about the independent variable might be causing the changes you see in the dependant variables
- Remember to look at the map!