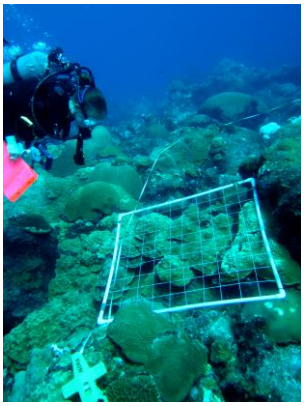
Environmental Geography & Data Collection Methods: Quadrats

Quadrat

- each of a number of small areas of habitat, typically of one square meter, selected at random to act as samples for assessing the local distribution of plants or animals.

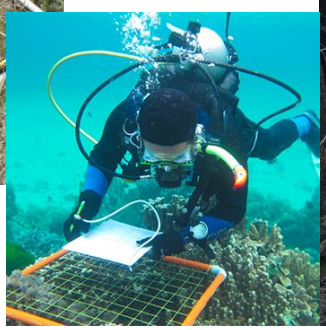
What is the purpose?

- Limit the field of study to a manageable, standardized unit (1m, .5m)
- Gather population estimates for large areas or large populations
- Compare density and frequency of species across *space* & *time*
- Estimate the percent of vegetation coverage and assess biomass



Types of Quadrats

- The size of the quadrat is determined by the object of study
- Quadrats can be adapted to fit the needs of the experiment
  - Circular quadrats, triangular quadrats etc.



What can I use this for?

ARTICLE / multiple sources exist. see all

Cover and density of semi-desert grassland plants in permanent quadrats mapped from 1915 to 1947

Anderson, Jed ; Mcclaran, Mitchel P. ; Adler, Peter B.
Ecology, June 2012, Vol.93(6), pp.1492-1492

PEER REVIEWED

ARTICLE / multiple sources exist. see all

Influence of mountain geomorphology on alpine ecosystems in the Drakensberg Alpine Centre, Southern Africa

Knight, Jasper ; Grab, Stefan W ; Carbutt, Clinton
Geografiska Annaler: Series A, Physical Geography, 03 April 2018, Vol.100(2), pp.140-162

PEER REVIEWED

ARTICLE / multiple sources exist. see all

Leaf-cutting ants (Atta and Acromyrmex) inhabiting Argentina: Patterns in species richness and geographical range sizes

Farji Brener, AG ; Ruggiero, A ; Farji Brener, AG (correspondence author)
Journal of Biogeography, 1994, Vol.21(4), pp.391-399

PEER REVIEWED

ARTICLE / multiple sources exist. see all

Cover, density, and demographics of shortgrass steppe plants mapped 1997–2010 in permanent grazed and ungrazed quadrats

Chu, Chengjin ; Norman, John ; Flynn, Robert ; Kaplan, Nicole ; Lauenroth, William K. ; Adler, Peter B.
Ecology, June 2013, Vol.94(6), pp.1435-1435

PEER REVIEWED

CRISIS IN THE QUAD!

- The central Quad of CSULB is being overtaken by 2 species of very fast growing conifers!
- Facilities management has tasked you with estimating the amount of each species present in the field.
- Facilities management also wants to know what relationship conifer establishment has to the percent vegetation coverage of the grass.

Analyze your Data:

- Total area of Quad is 250 m^2

- Estimate the population for each species

- Estimate a total conifer population

- What is the percent vegetation coverage for each site?

-What relationship does the vegetation coverage have on conifer establishment?

As a group, assess your data:

- What would you do next time to get better results?

- What does this tell you about field work?

- Does this change the way you view research?