NOVICE PROJECT PLANNING
By Dorothy L. Bordner

The first and foremost requirement for starting and continuing any "project" is curiosity. After the seeds are sown most projects will just grow and the problem then becomes one of holding them down to a manageable level. Following are some types of projects:

1. Study of one species or family.

2. Nesting study of a particular area:

    a. Netting or trapping of the breeding birds.

    b. Banding of nestings. (Note that if nestlings and adults are banded on opposite legs, field observation becomes easier.)

3. Efficiency of traps - what contributes most:

    a. Type of trap.

    b. Location: Habitat - open country, woodland, etc.
                 On the ground or above ground level.

    c. Bait used.

    d. Combinations of the above - for example, does one species trap better in a different type of trap under different habitat conditions?

4. Nets vs. wire traps: are some species caught more readily by one method than by the other?

Questions which can be asked in connection with any project (or which might be extended to project status):

1. Longevity - what is the normal length of life as shown by returns or recoveries?

2. Returns - which species return most often to the same breeding or wintering area?

3. Predation -

    a. How does a banding operation affect the number of predators?

    b. Nestlings of which species can be banded without excessive loss from predation?

4. Weather - how does it affect:

   a. Trapping success?

   b. Movement of birds?

   c. Feeding habits?

   d. Reaction of birds to handling?

5. Parasites - which ones (mites, lice, flies, larvae, etc.) are present? Is there a correlation between the number present and:

   a. Species?

   b. Handicapped birds?

   c. Type of habitat?

6. Coloration - how do albinism and other odd color patterns and abnormalities affect:

   a. Longevity?

   b. Acceptance by other birds?

   c. Feather wear?

   How does color change with season (bill parts, feet, etc.)?

7. Personality - are observed behavior patterns characteristic of individual birds or of species? Do they change with handling?

8. Wandering - how far do birds range in feeding, particularly in winter territories?

9. Others - plumage, weights, measurements, temperatures, territory, etc. See EBBA NEWS July-August and November-December 1958, and January-February 1959.

The style of writing used in making a report, article or paper on a project depends to a great extent on the place of publication, so it will not be covered here. It is best to examine the style of reports already published in the journal to which a report will be submitted.

Since in most cases data is easier to work with in grouped form, the following formulae are given for this type of situation. (The author expects to publish a more complete article on statistics in a future issue of EBBA NEWS. -Ed.)

1. The most frequently used type of average is the mean (denoted below by $\bar{x}$).

$$\bar{x} = \frac{\sum f \cdot z}{\sum f}$$

- where f is the number of items in a class.
  z is the class midpoint.
  $\sum$ is the symbol to indicate the sum is to be taken.

2. The standard deviation (denoted by s) is a second useful value. It is a measure of the extend to which the values concentrate about the mean, or in other words, the spread of the values.

$$s = \sqrt{\frac{\sum f (z - \bar{x})}{\sum f}}$$

3. Significant difference of two proportions:
   Notation: p_1 and p_2 denote the two observed proportions.
   n_1 and n_2 denote the number in the samples.
   p denotes the proportion obtained by combining the two samples.
   $q = 1-p$

If the two proportions are assumed to come from the same population, the mean of (p_1-p_2) will be 0 and

$$S_{p_1 - p_2} = \sqrt{\frac{pq}{n_1} + \frac{pq}{n_2}}$$

If the value of $(p_1 - p_2)$ is greater than $2s_{p_1 - p_2}$ there is a significant difference between the two proportions.

4. Population estimate:

$$X = \frac{C \cdot B}{A}$$

- where A = no. of marked birds caught in second period.
  B = no. (total) of birds caught in second period.
  C = no. of birds caught and marked in first period.
  X = total population.

5. A method of calculating nesting success may be found in "Nesting Success Calculated from Exposure" by Harold Mayfield in the September 1961 Wilson Bulletin.

Some examples of commonly used graphs appear on the following page.

Examples of Graphs
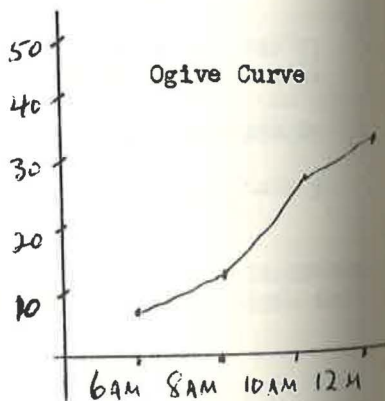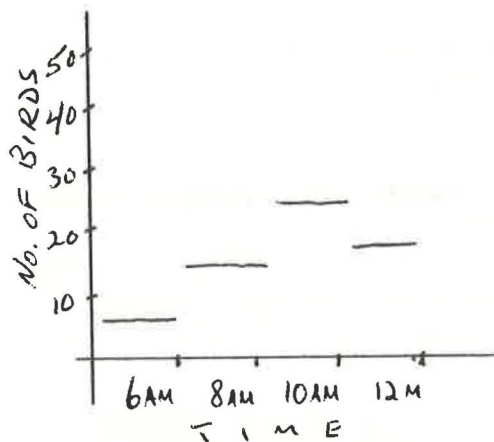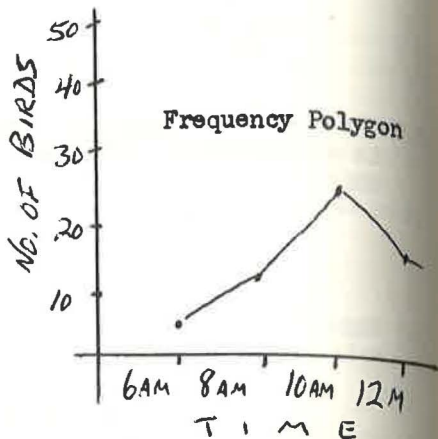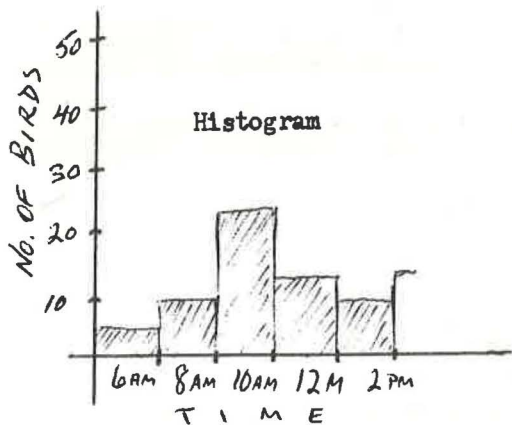
The two lower graphs show cumulative frequencies.

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