

Ecological Studies of the Amphitheater and Surprise Lakes
in the Teton Mountains

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Project Number 120

The summer of 1962 was spent obtaining quantitative and qualitative data on the vegetation of the forested and non-forested areas around these two lakes. Since visitors, hiking and horseback, use this area the National Park Service asked for a comparison of used and non-used areas if possible.

The data were obtained by quadrats, 1 square meter for herbaceous plants and 2 x 5 meters for shrubs and trees less than 4.0 inches diameter breast height. This included frequency for all species and cover for the most important species. Tree data were obtained by a combination of the Bitterlich method for basal area and the 1/10 acre plot for frequency and abundance.

Three trips were taken to the study area, July 9-14, July 31- August 5, and August 22. The first two trips were utilized in collecting data and plants. The last was a one day final reconnaissance and to collect some species not in flower during the early trips. The number of daily visitors was also recorded for the above dates.

A complete report on this work is soon to be completed and turned in to the National Park Service for their use. Recommendations are to be made concerning future development and use of the area.

Supported by Grand Teton National Park.

Some Aspects of the Blood Physiology
of *Amblystoma tigrinum melanosticum*

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Project Number 116

Forced hemopoiesis within the cartilage skeleton.

Twenty splenectomies were performed on *Amblystoma* larvae (90-100 mm.) and placed back in the pond near the Moran turnoff. These were left in a wire cage, 20" x 20" x 8", submerged (3 inches from the mud on the bottom) for a period of 17 days. Twenty pseudosplenectomies (body wall completely opened but spleen left intact) were treated in a like manner on the same sized individuals. Twenty normal (untreated) larvae were handled in the same fashion.

Only one of the splenectomized animals failed to survive. The wounds in all cases healed perfectly to the point in many cases it was impossible to tell where the incision was placed.

Comparisons of the hemopoietic activity throughout the entire reticulo-endothelial system will now be undertaken to determine whether cartilage

-11-

and liver have the innate ability to respond to this type of forced hemopoiesis.

Samples.

Stomach content of Amblystoma larvae was taken from 20 specimens. Only the contents of one showed the following:

126 Pseudochironomus larvae

3 Procladius larvae

No tubifex larvae were found in the stomach, but were numerous in the mud on the bottom.

Changes in weights of organs and linear measurements from larvae to adult stages in Amblystoma tigrinum melanosticum.

Linear measurements consist of the following: total length; nose-anal length; difference between eyes; fore limb length; hind limb length; jaw length; jaw width; width of the pelvic girdle; width of the pectoral girdle; the width of the belly midway from an antero-posterior position.

The weights of all viscera will be compared and analyzed. Sixty adults were measured and fixed in 10% formalin. One hundred larvae were measured and fixed in 10% formalin. These were all held in the laboratory. However, on August 15, 3 weeks after the removal of the above, measurements on freshly removed 10 adult and 10 larvae specimens compared quite favorably with the laboratory specimens.

A total of 260 animals were carefully considered out of a total of 510 removed from the Moran Pond. This pond should be carefully considered for an all over ecological study. It could easily furnish rich and valuable data for the production of live weight (protein) of Amblystoma because of its circumscribed geographical position and readily measurable physical and biological parameters.

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The Breeding Behavior of the White Pelican
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Project Number 118

Between June 3 and August 22, 1962, I spent a total of 58 days in the southeast arm of Yellowstone Lake in observing the breeding behavior of the pelicans on the Molly Islands. The birds were watched from a canoe anchored near the colonies. In addition, I visited pelicans at their feeding and loafing areas away from the breeding grounds on 11 days. The following data give an indication of the information obtained.

Breeding behavior. The pelicans began to lay on about May 10 when the lake was still frozen and snow covered the ground. The first young hatched on June 8. The pelicans were divided into 8 distinct colonies on the two Molly Islands. Each colony tended to contain birds in the same stage of the