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Capture-Recapture Experiments

3.1 Capture-recapture methods 3.1.1 Assumptions common to most methods; 3.1.2 Estimating closed populations; 3.1.3 Estimations for open populations; 3.2 Methods of marking animals; 3.2.1 Handling techniques; 3.2.2 Release; 3.2.3 Surface marks using paints and solutions of dyes; 3.2.4 Dyes and fluorescent substances in powder form; 3.2.5 Marking formed by ingestion or absorption of dyes; 3.2.6 Marking by injection, Panjet, or tattooing; 3.2.7 External tags; 3.2.8 Branding; 3.2.9 Mutilation; 3.2.10 Natural marks, parasites, and genes; 3.2.11 Rare elements; 3.2.12 Radioactive isotopes 3.2.13 Radio and sonic tags References; 4: Absolute Population Estimates by Sampling a Unit of Habitat: Air, Plants, Plant Products, and Vertebrate Hosts; 4.1 Sampling from the air; 4.1.1 Sampling apparatus; 4.1.2 Rotary and other traps; 4.1.3 Comparison and efficiencies of the different types of suction traps; 4.1.4 Conversion of catch to aerial density; 4.1.5 Conversion of density to total aerial population; 4.2 Sampling from plants; 4.2.1 Assessing the plant; 4.2.2 Determining the numbers of invertebrates; 4.2.3 Special sampling problems with animals in plant material 4.3 Sampling from vertebrate hosts 4.3.1 Sampling from living hosts; 4.3.2 Sampling from dead hosts; 4.3.3 Sampling from vertebrate 'homes'; References; 5: Absolute Population Estimates by Sampling a Unit of Aquatic Habitat; 5.1 Open water; 5.1.1 Nets; 5.1.2 Pumps; 5.1.3 Water-sampling bottles; 5.1.4 The Patalas-Schindler volume sampler; 5.1.5 Particular methods for insects; 5.2 Vegetation; 5.2.1 Emergent vegetation; 5.2.2 Submerged vegetation; 5.2.3 Sampling floating vegetation; 5.3 Bottom fauna; 5.3.1 Hand-net sampling of forest litter; 5.3.2 Lifting stones 5.3.3 The planting of removable portions of the substrate

Sommario/riassunto

This classic text, whose First Edition one reviewer referred to as "the ecologists' bible," has been substantially revised and rewritten. Not only have the advances made in the field since the Second Edition been taken into account, but the scope has been explicitly extended to all macroscopic animals, with particular attention being paid to fish as well as other vertebrates. Ecological Methods provides a unique synthesis of the methods and techniques available for the study of populations and ecosystems. Techniques used to obtain both absolute and relative population estimates