

THE USE OF AERIAL PHOTOGRAPHY IN OREGON'S REHABILITATION PROGRAM*

R. M. Kallander, Rehabilitation Director, Oregon State Board of Forestry

DURING the organization of Oregon's rehabilitation program, which is confined in most cases to burned-over and non-stocked State forest lands, the general consensus of opinion was that excellent use could be made of aerial photos in the planning phases of the program. Aerial photos have since proven to be a great advantage in both pre-planting surveys and fire protection surveys.

Before we can develop a sound planting and seeding plan and a fire protection plan for an area such as a portion of the Tillamook Burn, we must conduct both a pre-planting survey and a fire protection survey. In the pre-planting survey we determine stocking, seed sources, cover type, soil condition, slope, exposure, degree of burn, fuel type and snags per acre. We have found that seed source, slope, exposure, cover type to a certain extent and snag count can be taken from the aerial photos, thus reducing the amount of field work to a great extent.

Aerial photographs produced from panchromatic film used in conjunction with a 12" lens and at a scale of 1 to 12,000 have been proven to be the most satisfactory for our work.

Previously areas were mapped at the time of survey but all future mapping will be done from photos, since we must survey our forest boundaries, and in doing so obtain excellent control for the compilation of planimetric maps. Such items as stocking, lower types of cover, soil condition, and fuel type must still be obtained through ground survey. However, we hope to develop a means of taking fuel type from the photos.

The results of the pre-planting survey resolve themselves into a system of overlays that permit the determination of seeding and planting project areas based on a combination of the factors which have been enumerated.

The main function of the fire protection survey is to determine where snag-free fire corridors are to be established, where access roads are to be constructed, where areas of high fire hazard exist due to heavy snag concentrations, and to fuel type map the area. Ground reconnaissance is essential in working out the plan. However, it is difficult to determine where the corridors should run because of the limited area within the scope of vision of the locater. Aerial photos present an excellent means of offering a complete picture of the proposed area through which the corridor will run. Thorough examination of the photos permits the establishment of the corridor in the most advantageous place in relation to ridges and existing road system. Heavy snag concentrations observed on the photos can be avoided in many instances by varying the location of the corridor. Since a fire protection road is constructed through the center of the corridor, its location in relation to existing roads is of great importance. By consulting the photos, road connections can be determined accurately with very little difficulty, thus reducing the amount of time needed in laying out the corridor access road system.

Aerial photos have not only been proven of value in speeding up pre-planting and fire protection surveys but also in giving excellent pilot control in actual aerial rodent control and seeding operations. Heretofore, planimetric maps with seed block areas delineated thereon have been the only guide for

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the helicopter pilot. It has been necessary to accompany the pilot over the areas to be seeded, and to indicate to him the boundaries of the seeding blocks. Such a procedure consumes valuable time and at its best is not too accurate.

Prior to baiting and seeding operations this Fall, a mosaic was made of the area to be seeded, the mosaic was photographed, and then individual enlargements were made of each seeding block within the area. Ten such photos with considerable overlap were made to serve as guides for the pilot. Seed block boundaries of prominent ridges, main forest roads, and streams were indicated on the photos. At the time of baiting and seeding, the original mosaic with seeding block boundaries laid out on it was on hand for inspection and for study by the pilot; then, equipped with the individual photo of the block which he was to seed, the pilot would take off, fly to the area, check his boundaries as delineated on the photo and proceed with the seeding operations. Results were more accurate seed dissemination and less time lost due to inability to locate boundaries of seeding blocks.

This is the first year that aerial photos have been used to any extent by the State Forestry Department. Much is yet to be learned concerning their use; however, as our rehabilitation program grows we hope to improve on our present methods and to develop more means that will be a definite aid in conducting our preliminary surveys and actual rehabilitation work.

NEWS NOTE

CAMERA FOR PHOTOGRAPHING INTERIOR OF THE EYE; PHOTOS AID DIAGNOSIS OF CERTAIN HIDDEN DISEASES

A high speed camera for photographing the tell-tale interior of the eye is now in production. Developed after two years' research by Bausch & Lomb Optical Company, it photographs—in color or black and white—the retina, nerve fibers and other structural elements of microscopic size within the inner recesses of the eye.

The camera was designed at the request of the U. S. Public Health Service for studies showing the relationship between enlarged retinal blood vessels and such vascular diseases as high blood pressure and arteriosclerosis. The camera has also been used extensively by Dr. Walter Kempner of Duke University Hospital in his "rice diet" research and treatment of these diseases. Photographs taken periodically of the interior of the eye are superimposed so that the diameter and tortuosity of blood vessels may be compared at various stages of treatment.

According to Howard E. Trimby, of Bausch & Lomb's Ophthalmic Instrument Division, "Eye specialists and physicians have shown widespread interest in the camera's development." "Also photographs of the living fundus provide documentary evidence of such eye pathologies as abnormal condition of blood vessels, location and extent of hemorrhages, pigmentation, and extent of cupping of the nerve head." The latter is of importance in diagnosing and treating glaucoma, which, according to the National Society for the Prevention of Blindness, causes 12 per cent of all blindness.

"Such photographs," Trimby added, "are also of utmost value as a diagnostic aid in revealing certain systemic diseases as arteriosclerosis, diabetes, hypertension, nephritis, and tumors of the central nervous system which are evidenced by changes in the retina long before the appearance of clinical symptoms." Series photographs of these conditions may be used to chart their progress and as a visual aid for teaching medical and optometric students. Photographs may be enlarged many times or projected onto a screen for scrutiny by surgeons before and after operations.