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SURVEYORS UNSUNG HEROES
OF WILDLIFE CONSERVATION

NOTE TO EDITORS: This is the third of a series of feature stories explaining the work of the Fish and Wildlife Service, which will be issued from time to time. A few copies of the first and second features, on food-habits investigators and wildlife refuge managers, are still available.

Sportsmen and other outdoor enthusiasts often sing the praises of the far-sighted wildlife conservationists who have done a yeoman's job in protecting the continental supply of an important natural resource. But when the bouquets are handed out, one seldom sees a surveyor or land-valuation engineer on the receiving end of the line. They are unsung heroes of wildlife conservation.

In the course of their work, these men face the biting blasts of an Arctic storm sweeping through Alaska or the blistering heat of the desert sun in Arizona. And yet, even among professional wildlife conservationists, many are unaware of the work performed by these quiet men with tripods and sextants.

That theirs is an important task can be judged from the work done by valuation experts and surveyors of the Fish and Wildlife Service, United States Department of the Interior.

Stretching from Puerto Rico to Alaska and from Maine to Hawaii, is a network of 263 national wildlife refuges administered by the Fish and Wildlife Service. The refuge system plays an important part in the Federal Government's

wildlife conservation program. On these areas, ranging in size from 1 acre to more than two million acres each, all forms of wildlife find a sanctuary where the animals can live in a favorable environment and increase their stocks.

Surveyors Start the Ball Rolling

When the Fish and Wildlife Service decides to establish a national wildlife refuge for the protection of one or more kinds of animals, the officials don't say: "This is the land we want. Let's take it." That just isn't being done. The officials decide that a certain area is necessary, and then the hard work of acquiring the land begins.

First, Service biologists inspect the area and decide whether it is suitable for a refuge. If the decision is favorable, word is sent to the Service's Division of Land Acquisition. The "surveyors" go to work.

The Division of Land Acquisition is divided into two sections: Appraisals and Negotiations, and Surveys and Maps. When the division chief gets the "Go" signal, he passes word down to Appraisals and Negotiations, and, like the old wheeze about Army orders, that section chief hands the order to his top field representative, who assigns someone to the job.

Most individuals think of a surveyor as a civil engineer who looks through a telescope on a tripod and waves to another man holding a stick about 200 feet away. But the Fish and Wildlife Service surveyors do more than trace boundary lines.

Must Know Prices of Crops, Land

The first man sent out on the job is the Land Valuation Engineer. He's usually a graduate of a School of Forestry. His is no easy job. He must first "type" the land, which is a short way of saying that he must know every use to which the area is put. He will sketch the location of all woodlands, marshes,

grazing areas, farm lands, and anything else produced on the land. He also informs himself as to ownership, which, simple as it sounds, often causes a headache because there may be from 1 to 100 owners involved.

After the land is typed, the land-valuation engineer determines the prevailing price paid for comparable land, the market value paid for the products of the land, and, in the process, learns what encumbrances are held against the titles.

In a nutshell, the land-valuation engineer must know realty values. He must know also a lot about the economics of farming, fur trapping, ranching, lumbering, and other industries. Include a working knowledge of law, and one has an inkling of what is expected of the average "surveyor" in the Fish and Wildlife Service.

"There isn't a crop in the United States today, be it wheat, barley, cotton, rice, fruits, timber, cattle, or sheep, which doesn't affect our work," declared Rudolph Dieffenbach, chief of the Division of Land Acquisition.

Not only must the engineer know the value of the crops and other products on the land but he must know the prevailing costs of farm and forest labor, transportation, and buildings.

When all this information is gathered in detail, the land-valuation engineer sits down, burns the proverbial midnight oil in his hotel room, and emerges with a report he sends to his superiors. The report concludes with the land-valuation engineer's appraisal of the value of each parcel of land the Service expects to purchase.

Negotiators Must Be Diplomats

Now the diplomats of the wildlife engineers corps enter the scene. These are the gentlemen who negotiate for the land. Sometimes the appraiser and the negotiator are one and the same person. Whoever he is, he must have the ability of a salesman. Each owner is visited personally by the negotiator, sometimes only once,

more often many times. It is his task to persuade the owner to sell his land to the Government.

"The difficulty of that job," Mr. Dieffenbach explained, "is that unlike most agencies, we are dealing in a seller's market rather than a buyer's market."

Unless the Fish and Wildlife Service obtains every acre in the proposed refuge area, the refuge is ineffective. That's why the negotiator's job is difficult. On the average, about 20 percent of the owners are willing to sell, 30 percent are indifferent, while 30 percent usually don't care to sell their property. "The last are the owners that require effective salesmanship," the official said.

But the hardest work comes with the remaining 20 percent of the owners. Many properties are so involved through conditions of ownership, inheritance, heavy incumbrances, or divided ownerships with the heirs scattered throughout the world, that the land must be arbitrarily condemned. This requires court action.

Whether the property is purchased from the owners or by court action, the Section of Surveys and Maps begins the next step in acquiring lands for the national wildlife refuge.

Titles in East Like Jig-Saw Puzzle

These "surveyors" are called cadastral engineers, a fancy name for civil engineers who have special experience required by the Service. They specialize in land and topographical surveys.

In the States west of the original 13, the cadastral engineers spend most of their time running boundary lines on property that has been signed, sealed, and delivered to the Service as a wildlife refuge. Being public lands originally, the General Land Office has already surveyed the entire area into townships and sections. Service engineers retrace the boundary lines and mark the area so that the manager can build fences and set up "National Wildlife Refuge" signs.

In the 13 original States, the cadastral engineers have a different problem. Most of these lands were originally grants from the Crown of England or patents given to a proprietor in the country. Each description filed with the authorities was usually written by the owner himself. As a result, one piece of land was sometimes claimed by 6 or 7 owners of patents. An area with three patents was not uncommon.

It is interesting work, the cadastral engineers say. Running down the patents to their original titles, they often obtain little-known information on the early history of the country. Going through County and State records while looking up the patents for what is now the Montezuma National Wildlife Refuge in New York an engineer learned that Aaron Burr was a former owner of one of these tracts. Burr sold the area just before he became a candidate for President of the United States.

"I often wonder if he didn't sell the land to help pay for his campaign," the engineer said.

Original Lands Have Colorful Names

The original patents often had unusual names. Many were named Delight. Mary's Delight, Tom's Delight, and My Delight are among the first recorded tracts in Maryland. Investigating the original titles of the Blackwater National Wildlife Refuge, in Maryland, an engineer found tracts named Wilby's Delight, Bachellor's Range, Cow Point, Robin's Defiance, Turkey Point, Wall's Chance, Keene's Adventure, Margaret's Delight, Smith's Satisfaction, A Gift to My Daughter, and A Happy New Year.

Because the titles must be clear from the very beginning, the cadastral engineer later gives his information to the title attorneys. Expert in establishing a clear chain from the original source to the present vendor, these attorneys conform to the requirements established by the Department of Justice, which must approve title transactions for all land purchased by the Federal Government.

"Acquiring a refuge in the East is like working on a jig-saw puzzle," Mr. Dieffenbach said. "While the attorney runs down all titles and 'cures' any defects, the cadastral engineer surveys each tract claimed by the present owners. When the engineer has mapped the properties the Service wants to buy, he matches that map with one showing the original tracts. The two must agree."

Sometimes it is difficult to obtain a perfect title and the attorney attempts to "cure," or correct, the defect. If the owner cannot sell because of certain encumbrances or if there are a dozen or more heirs in different parts of the world, some willing to sell and others not available, the Service institutes a friendly suit. Technically, condemnation proceedings are started.

When the court awards a fair price for the land, the title is cleared and the Service can buy the land.

Not until the land is purchased in one block can the Service add another refuge to its Nation-wide string of wildlife hotels. And getting that block of land may mean that the wildlife engineers must plod through cold streams in Alaska, climb the steep Rockies, wade through Georgia swamps, or sweat in the deserts of Arizona.

They must know prices and people. They can't give up. Wherever they are assigned, they know that until they have done their job, an important phase of the wildlife conservation program cannot begin.