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WAR RELOCATION AUTHORITY

CENTRAL UTAH PROJECT

Topaz, Utah

REPORT ON INSECT AND
RODENT CONTROL

PROJECT REPORTS DIVISION
HISTORICAL SECTION
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UNITED STATES DEPARTMENT OF THE INTERIOR
WAR RELOCATION AUTHORITY
CENTRAL UTAH PROJECT
TOPAZ, UTAH

REPORT ON INSECT AND RODENT CONTROL
CENTRAL UTAH PROJECT
YEAR 1944

The project covers approximately 19,000 acres of desert land with various irrigation canals and drainage ditches running through it in generally north to north-west directions. Topaz, or the evacuee residential center, occupies a section of ground in the west central part of the tract. The cultivated area is located mostly in the northeastern portion.

RODENTS

A rodent survey of the whole tract revealed the existence of numerous colonies of rabbits but very few ground squirrels. Beginning the 1st of May, emphasis was placed on the destruction of the rabbits. Piles of poison grain were placed along the trails of their colonies and along edges of cultivated fields between the growing crops and the uncultivated greasewood lands. Poison grain was also placed in piles along the edges of the greasewood surrounding the residential area. Although not many ground squirrels were present, as a precautionary measure, poison grain was spread along the banks of all drainage ditches in the entire project. After having covered the project twice, results obtained appeared to be very satisfactory. Not a single rat of any kind has been observed or reported.

Mice, however, have found their way into some of the food warehouses and storage rooms of mess kitchens. The setting of traps and placing of poisoned food are the only control measures used but so far have not proven entirely effective.

FLIES

Due to the very efficient co-operation of the Department of Maintenance and Operation of the Engineering

Section, breeding places of flies were largely eliminated by construction and repair at all messhalls of screened-in garbage racks. Also, repairs to messhall windows and door screens aided materially in keeping flies and other insects away from food. Insecticide and hand sprayers were supplied all mess chefs and insecticide was applied by power sprayers, intermittently, at nighttime, by the sanitation crew. The adoption and practice of the above-mentioned methods, together with prompt disposal of garbage, has kept fly nuisance to a minimum.

MOSQUITOES

About two hundred mosquitoes were collected from all parts of the project, including some from indoors and outdoors of the residential area. These were submitted to Don W. Rees, Professor of Biology, at the University of Utah. Professor Rees is an authority on Utah mosquitoes, having been identified with mosquito abatement in the state for a good many years. Of the two hundred specimens examined by Biologist Rees, all but four were identified as *Aedes Dorsalis* (Weigen), two *Culex Tarsalis*, one *Aedes Campestris*, one *Theobaldia Inornata*. Notwithstanding the fact that diligent search was made, independently in most likely places, no *Anopheles Freborni* (malaria type mosquitoes) have as yet been located. But this is not conclusive proof that they are not here as they have been found in most parts of the state, including the western part of Millard county. *Anopheles Freborni* is frequently found with *Aedes Vexans*, *Theobaldia Inornata*, and *Culex Tarsalis*. *Aedes Dorsalis* comprises the large majority of mosquitoes in the project. It is the most abundant and important pest species in the state. It breeds in the immediate vicinity of all larger communities. The winter is passed in the egg stage. The eggs are deposited singly on the ground in dry depressions, especially salt grass flats, and around the margins of pools. Under favorable conditions, the adults will appear in five and one-half days. Eggs laid in dry depressions awaiting rainfall or flooding by melting snow or irrigation water may pass through several winters without injury as they remain viable for two or three years. Seven successive broods have been known to occur during a single season. The females are vicious biters and strong fliers and have been found ten

miles from their breeding grounds and occasionally migrate in large swarms. The bloodthirsty females attack during day or night but are particularly active in the evening and on calm cloudy days. The adult females have a relatively long life; some females known to have hatched in the early spring in desert localities where no subsequent breeding takes place are known to live until early fall.

CONTROL METHODS

There are three important methods of control:

First, the most effective method being the removal of the water in which mosquitoes develop. This is accomplished by draining sloughs, ponds, and pools as hatching only takes place in stagnant or slowly moving waters.

Second, destruction of larvae and pupae via application of oil or paris green or other chemicals to the surface of waters in which breeding may take place.

Third, screening of human as well as animal habitations to prevent the females from acquiring blood which is necessary for reproduction.

DRAINAGE

The first of the control methods was demonstrated at the center by the construction of a drainage ditch in the Spring of 1944. Drainage of the ponds caused by sewage effluent amounting to from 500,000 to 750,00 gallons per day and being discharged into the slough (See Photograph No. 1.) just west of the residential area.



1. Sewage pond before drainage.

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A drainage ditch two miles in length was constructed by the Engineering Department and the sewage confined in a narrow moving stream. (See Photographs No. 2 and 3.)



2. Sewage pond after drainage.

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3. Drainage ditch.

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The results of this work was partially offset due to the wet spring and to an excessive amount of drainage water which formed a large slough about 3 miles in length and from 100 to 300 feet in width. The water moving very slowly and between growing greasewood, grass, and weeds formed an ideal breeding place within about one-half mile of the residential area. (See Photograph No. 4.)



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4. Present slough made by project drain water located one-half mile west of residential area.

OILING

It has been demonstrated that the toxicity of oil vapors increase with the volatility of oil used; therefore, a light fuel oil forms a more homogenous film on the surface of water than the heavier oils. For this reason stove oil was used almost exclusively at the center during the 1944 season. Six 5-gallon drips were placed at the six outlets of the sewage effluent and five of the same capacity were put in operation at the most advantageous points on the slough. (See Photograph No. 5.)



5. Oil
drips in
operation.
(Season
1944)

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Daily patrol of oil drip cans was maintained throughout the season. (See Photograph No. 6.) In addition there



6. Checking
oil drips.
(Daily patrol
of 1944
season)

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to spraying with oil of the edges of the slough as well as the new ponds formed by the sewage effluent was done each week. Another problem developed through the formation of pools, within the residential district, by leaks from the water mains. These were carefully watched and sprayed with oil twice weekly.

RECOMMENDATIONS:

A dam should be put across the slough about a half mile north of the county road culvert and the drainage water turned into a shallow ditch that should be constructed along the east bank of the slough to a point where it will discharge into the new sewage effluent ditch. The construction of such a ditch will have two advantages: One, the elimination of the project's principal pest mosquito breeding place. Two, permit the comingling of the fresher water with the sewage effluent which should be very beneficial to sanitation at Topaz.

Respectfully submitted,

J. F. Featherstone
J. F. Featherstone
Sanitarian

October 10, 1944

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