Important 1953 Forest Insect Outbreaks,
Central Rocky Mountains and Great Plains Region
United States Department of Agriculture
Bureau of Entomology and Plant Quarantine
Division of Forest Insect Investigations
Fort Collins, Colorado

The Rocky Mountains and Great Plains region comprises the areas within U. S. Forest Service Region 2 and the plains portion of U. S. Forest Service Region 8, 450 million gross acres, 62 million acres of forest land, nearly 15 million acres of commercial forest land (including lands withheld from timber use). The forests range from an elevation of 3,000 feet (in South Dakota) to over 11,000 feet (in Colorado); the forest types are (1) spruce-fir, (2) lodgepole pine which extends nearly to New Mexico, (3) ponderosa pine which replaces lodgepole at the southern end of the region and also spreads out into the Black Hills, and (4) a strip of pinon-juniper in the central and southern part of Colorado. The commercial timber trees are Engelmann spruce, alpine fir, lodgepole pine, ponderosa pine and Douglas-fir; aspen is of local and limited commercial importance, used for match and excelsior manufacture; fir and Douglas-fir are also becoming more important commercially for the standpoint of the Christmas tree market. So much for the region and its general forest make-up.

The forest insects of most importance are Engelmann spruce beetle, Black Hills beetle, Douglas-fir beetle, spruce budworm, and Great Basin tent caterpillar.

As reported to you at last year's meeting, the Engelmann spruce beetle outbreak on the White River, Routt, and Arapaho National Forests in Colorado was reduced to endemic proportions. "Mop-up" work on these three Forests was carried out this year by way of chemically treating some 1952- and 1953-attacks, and chemically treating or salvaging trap trees that had been felled last year. The new attacks were generally light and well fed on by woodpeckers and heavily parasitized, but still a threat of concern.

Another spruce beetle build-up of importance in Colorado was one in a logging area on the Mancos District of the San Juan National Forest. Selective cutting had considerable to do with the developing beetle population, a consequence of severe blow-down of trees that had been left. Of probable equal importance in the build-up was the high amount of cull left in the area, up to 40 per cent. Regardless, there is a high outbreak potential, the beetles have invaded the cull logs, the stumps, the blown-over spruce, and the slash. Many units of infested spruce were chemically treated this year, but a combination of trap trees and alteration of cutting practice may be able to keep the situation from blowing up to epidemic proportions.

A lesser job of "mopping up" spruce beetles was carried out on a logging unit of the Rio Grande National Forest where stumps and culls were chemically treated and infested logs were hauled out for control and salvage.

The Black Hills beetle conditions, as reported to you last year, are at a general endemic level in the region. Maintenance control work was carried out from South Dakota to southern Colorado. Major control projects were initiated and developed on the Bighorn National Forest in Wyoming

The Bighorn project was especially interesting in that the work was done by numerous cooperators, private land and home owners at and near the town of Story, Wyoming, the State of Wyoming, the U. S. Forest Service, and our office. Wyoming State Forester Robert Nobles spearheaded the work for the state and the private owners. The job was a success.

On the Roosevelt a continuing outbreak of the Black Hills beetle at long last was brought under control. This outbreak had been allowed to continue at an epidemic level with no attempts at artificial control. The "deep freeze" of 1950-1951 only reduced its severity.

The build-up of the Black Hills beetle on the Uncompahgre National Forest in southwest Colorado has not been spectacular but the economic loss has become important. The attacked trees were the largest trees, 40-inch six-log pines, excellent timber trees. The market for these large trees has been pretty much local, hence harvest has been very light. The need for control however, was urgent; the control program as carried out was successful but not final. Control was started late, thus while many infested trees were salvaged by logging a high percentage of the trees first had to be chemically treated.

On the Spearfish District of the Black Hills National Forest a tornado this spring, in the near vicinity of a late 1951 tornado left a lot of uprooted and topped pines highly susceptible to Black Hills beetle attacks. Salvage logging by the Forest and the Homestake Mining Company removed a high percentage of the trees before and after beetle flight. Combined with chemical treating of beetle infested material from the 1951 tornado, an excellent job of control was experienced.

Spruce beetle, Black Hills beetle or turpentine beetle control work was carried out on all National Forests in the region excepting the Medicine Bow, Grand Mesa and Gunnison National Forests. No control work was done against spruce budworm or Great Basin tent caterpillar. No insect control work was needed on the Rocky Mountain National Park. Some DDT was mist-blown on the Mesa Verde National Park and Colorado National Monument to control a pinon sawfly.

Such was the control work in 1953. The current status as it influences control in 1954 is different from last year in several respects. Most serious, we might say most embarrassing, is a new spruce beetle outbreak in Colorado. What makes it embarrassing is the statement made at last year's meeting, last paragraph on page 6 of the Forest Annual Conference Proceeding): "our spruce beetle control job is behind us and . . . . . other insect pests are at endemic levels. We are hoping to keep them that way and will do all within our power to do so." Such however, is fate and the all-powerful might of the mere insect.

This new outbreak is on the Uncompahgre and San Juan National Forests. It apparently developed from a heavy windstorm in June 1950. The wind-damaged trees were very numerous but scattered. Not until August of this year was the outbreak detected. Survey crews dispatched to the areas found the outbreak at an epidemic level, fortunately concentrated but in the very largest trees. The Forest Service began chemical control immediately and treated upwards of 4,000 attacked trees before snow halted operations. The surveys, just completed,

r..eal an estimated 141,223 trees on 19,364 acres (99,221 on 10,850 acres on the Uncompahgre and 42,002 on 8,514 acres on the San Juan). The ratio of 1953-attacks to 1952 attacks is not quite 2 to 1. The infested trees per acre vary from 2 to 16; the average is 7.29 trees per acre.

Plans for control have not been formulated but it is expected that chemical treatment may be a major factor in the program with control by logging stepped up to as high a level as physically possible for the logging industry in that part of the country.

The spruce beetle situation on the logging unit of the Mancos District of the San Juan is very disturbing in that a large population of beetles has built up, much of this is in the culls, slash, blow-downs and stumps and will be protected from woodpeckers and extreme cold by snow cover. The relatively few green trees attacked have been heavily woodpeckered. The potential from the protected units is high but a combination of trap trees and continued logging with an alteration from selective to clear cutting, possibly will keep the spruce beetle at an endemic level, high endemic, but nevertheless endemic. The estimate of attacked units in this outbreak for 1954 control is 50,000.

The old spruce beetle outbreak, that on the White River, Routt and Arapaho National Forests will necessitate maintenance control, combining the use of some trap trees with relatively little chemical control work on Red Table Mountain on the White River National Forest.

Black Hills beetle control in the region is expected to be for the most part maintenance control jobs. One exception to this is on the Uncompahgre National Forest. The beetle is still epidemic in Naturita canyon on the Norwood District. The trees are exceptionally large, and the attacks are heavy. The area is inaccessible for control logging and is very rough country in which to practice any form of artificial control.

Another exception to the endemic situation is the continuing outbreak in an extension of the Bighorn infestation where no control could be considered for 1953. An area south of the main control area for 1953 probably will need to be treated. This is pretty much out of the Forest Service boundary but involves private, State, and Bureau of Land Management lands.

Each National Forest, the Park Service, the various States concerned with forest lands, and the many private forest-land owners have assured us of their interest in maintenance control during 1954. We expect increased cooperation from other private timber owners and timber managers. There is a distinct increase in interest on the part of the public in the role of insects in the region's forests. We need to further improve and step up our program for training forest officers, owners and managers; we need especially to improve the detection program. An excellent example of our program weaknesses is the recent Uncompahgre-San Juan spruce beetle outbreak which, in part, developed because the forest officer had not been fully trained and alerted to forest insects and their potentialities. However, the failure to detect that rticular outbreak in its inception was, for the most part, due to a forest ..ficer having too much to do for the area under his management.

We are getting excellent cooperation. We need further to explain the facts and conditions, as we see them, to our cooperators and discuss conditions and responsibilities as they are and as we and they think they should be. We can readily reach a good and much improved system for detecting destructive forest insects when they should be detected. Maybe not before they have blown up to epidemic proportions as a freak of nature's weather might instigate but much sooner than most of them have been observed and reported.

Our program of control for 1954 is tentatively the following:

Bighorn National Forest	1,750 (1900 corrected)	Black Hills beetle trees
Roosevelt National Forest	2,500 (2711)	" " " "
Black Hills National Forest	700	" " " "
Harney National Forest	140	" " " "
Uncompahgre National Forest	1,850 (1780)	" " " "
	99,221	Spruce beetle trees
San Juan National Forest	42,002 (15,876) (50,000)	" " "
	4,270	Black Hills beetle trees
Rio Grande National Forest	1,100 (100)	" " " "
San Isabel National Forest	1,700	" " " "
Pike National Forest	750	" " " "
White River, Arapaho, Routt National Forests	6,000	Spruce beetle trees

Total Beetle Infested Pine 20,760

Total Beetle Infested Spruce 141,223 (+50,000)

WESTERN FOREST INSECT WORK CONFERENCE

Coeur d'Alene, Idaho
October 6, 1953

Dr. Noel G. Wygant
Forest Insect Laboratory
Colorado A & M College
Fort Collins, Colorado

Dear Noel:

You are no doubt familiar with the procedure used in past Western Forest Insect Work Conferences of discussing at some length the important current forest insect outbreaks in the western Canadian and American regions. This has taken considerable time and often the discussions have not provided ample opportunity for full study of specific outbreaks. At the 1952 Conference in Victoria it was suggested that such current outbreaks be described by each regional forest insect laboratory or educational institution in advance of the Conference and that these descriptions be mimeographed for distribution to the Conference membership prior to the 1953 conference. In this way it would be possible to study the various outbreaks in considerably more detail without taking the time for this during the Conference itself.

The 1953 Conference program committee would appreciate a brief and concise statement of important forest insect outbreaks in your region during 1953, paying particular attention to include the following points, if information is available:

1. Name of insect.
2. Name of host.
3. Principle use of the host.
   (watershed, commercial timber, poles, Christmas trees, etc.)
4. Type of damage.
5. Extent of damage.
   a. Dollar value of losses.
   b. Infested acreage.
   c. Number of trees.
6. History of outbreak.
7. Trend.
8. Control measures.

It would be very much appreciated if this statement could be prepared and 125 copies mimeographed or dittoed and all copies sent to me by November 1

to be assembled for distribution with statements from other laboratories. Please title this statement "IMPORTANT 1953 FOREST INSECT OUTBREAKS, _____ REGION", and end the statement by the phrase "Submitted By: 1) name of laboratory or institution, 2) mailing address". Your cooperation in this preparation will be greatly appreciated by the officers of the Conference and the statements will do much to make for a better meeting this year.

Very truly yours,

Philip C. Johnson

Philip C. Johnson
Secretary-Treasurer
Western Forest Insect
Work Conference