

United States
Department of
Agriculture

Forest Service



Winter 1979-80

Volume 41, Number 1

Fire Management Notes





FIRE MANAGEMENT NOTES

An international quarterly periodical devoted to forest fire management

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The Cover

Fire Management Notes is going into the 1980's with a new format. The cover shows the development of this periodical over the years. Distribution is nationwide and to 71 foreign countries.



FIRE MANAGEMENT NOTES is issued by the Forest Service of the United States Department of Agriculture, Washington, D.C. The Secretary of Agriculture has determined that the publication of this periodical is necessary in the transaction of the public business required by law of this Department. Use of funds for printing this periodical has been approved by the Director of the Office of Management and Budget through September 30, 1984.

Single copy cost is \$1.25 domestic and \$1.60 foreign.

Subscriptions may be obtained from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. The subscription rate is \$5.00 per year domestic or \$6.25 per year foreign. Postage stamps cannot be accepted in payment.

NOTE—The use of trade, firm, or corporation names in this publication is for the information and convenience of the reader. Such does not constitute an official endorsement or approval of any product or service by the U.S. Department of Agriculture to the exclusion of others which may be suitable.

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Equal Employment Opportunity And Affirmative Action In Fire Management

Mary Vargas Albertson

Wildfire managers must give increased emphasis to affirmative action and equal employment opportunity (EEO). There are numerous reasons for this increased emphasis. This article will discuss these reasons and some concepts that will aid the fire manager in achieving these management objectives.

Three factors are responsible for the increase of women and minorities in fire organizations.

Legislation

First, there is legislation—specifically the Civil Rights Act of 1964 and its various amendments. This act—specifically Title 7—states that there can be no discrimination in various personnel practices, such as hiring and promoting, simply because a person is a woman, black, Hispanic, etc. All jobs are to be open to all people who meet the qualifications.

A more recent law brings greater focus to the intent of that 1964 Act. The Civil Service Reform Act of 1978 states that Federal agencies—which are major employers of fire-related personnel—must have a “workforce reflective of the Nation’s diversity.”¹ This means that agencies are obligated to look at the percentage of



women and minorities with the requisite skills necessary to do the job in the general workforce and apply the same percentage to the internal Federal workforce.

Judicial Decisions

Second, decisions by the courts have supported affirmative action

programs. The June 1979 United States Supreme Court ruling in a discrimination case, the Weber case, has heralded a new era for affirmative action programs. The Court ruled that voluntary, temporary, race-conscious affirmative action plans are legal and permitted under Title 7 of the 1964 Civil Rights Act. By upholding “preferential treatment, which does not unnecessarily trammel the interest of whites”² to attain numerical goals, the court has sharply changed the debate over affirmative action. The question no longer is “Are affirmative action programs lawful?” but “under what circumstances?”

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¹ Public Law 95-454, Oct 13, 1978, Sec. 3 “Findings and Statement of Purpose”.

² Kaiser Aluminum and Chemical, and United Steelworkers of America vs. Brian Weber, Nos. 78-132, 78-435, 78-436, Supreme Court Decision, June 27, 1979.

This decision encourages employers to take voluntary action to develop workforces that are representative of the available population.

Other recent lower court decisions have made employers identify and validate required skills for successful job performance so that unnecessary selection criteria do not eliminate a class of people. In fact, when elements identified as "requisite skills" have an adverse effect on the employment of a class of people, employers have a greater responsibility to validate the selection criteria.

Changing Society

Third, in addition to legislation and judicial decisions, many facets of our changing society contribute to the increase of women and minorities in fire management. In fact, societal trends often precede legislation and court decisions.

The civil rights movement of the late 50's and 60's continues, although today minorities are using the established political system and the courts to attain goals. The women's movement, although visible since the

so-called "suffrage" activities of more than 50 years ago and sharply focused in the 60's and 70's, has emphasized and highlighted the status of women and a woman's right to be fairly considered for jobs once available only to men.

Women have become more aware of various job opportunities. They are gaining confidence in their ability to perform a variety of nontraditional jobs. The media have assisted by properly portraying women as capable individuals performing in roles. Books, magazines, and articles continuously discuss the changing roles of women. Whether or not one agrees with this change, few people have been oblivious to it.

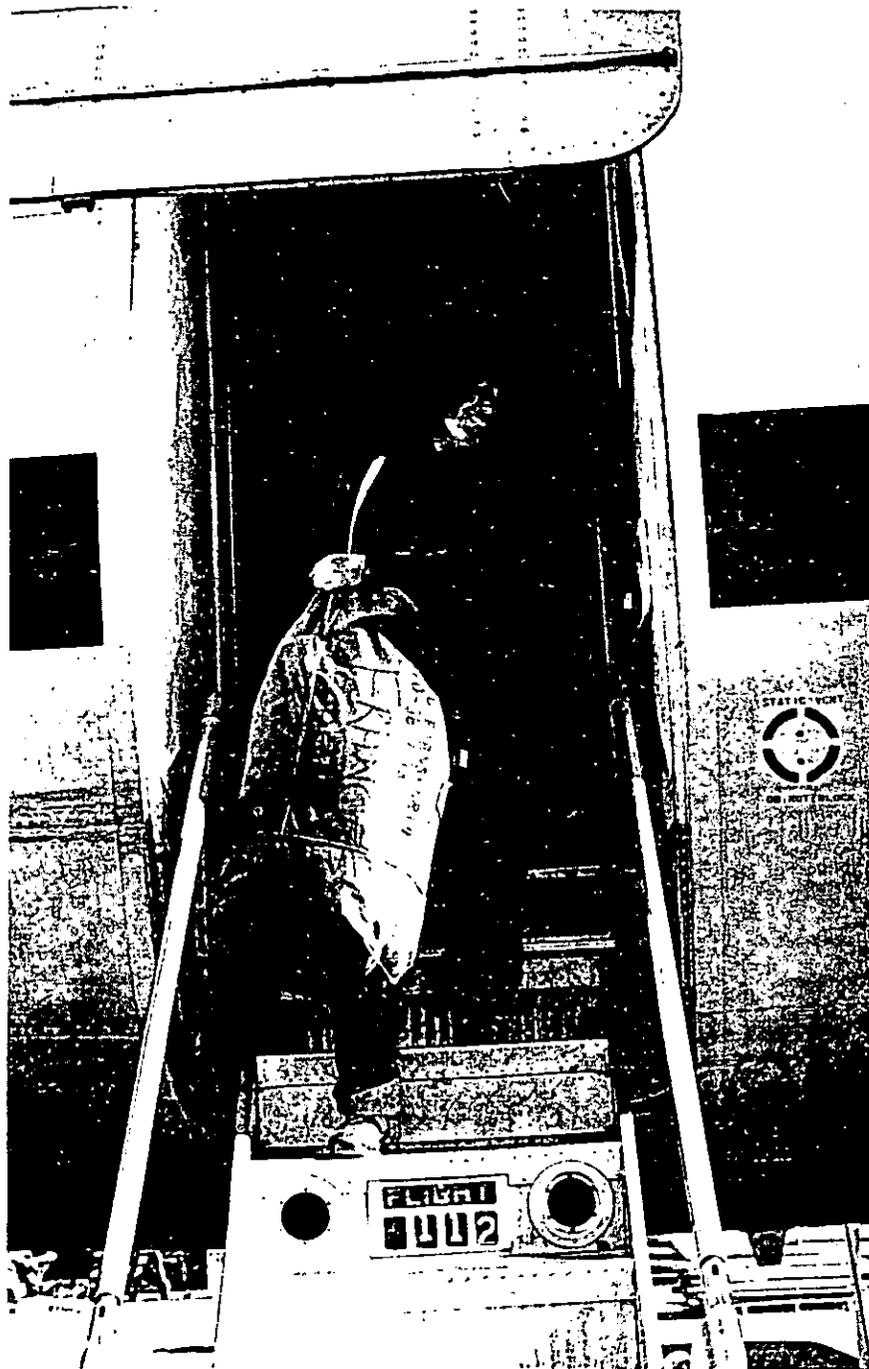
One consequence of the women's movement, coupled with inflation, is that there are greater numbers of women in the available workforce and more who are seeking better paying jobs, including firefighting.

These three factors—legislation, court decisions, and trends in society—have thus contributed to the increased numbers of women and minorities desiring jobs in wildfire control and management. How can a wildfire manager assure that these groups of people have opportunity to enter and progress in the organization? What new knowledge or skills must the managers develop to make equality of employment a reality?

Maintaining Status Quo

Fire managers must become aware of institutional discrimination. This means managing programs and activities in a manner that maintains the status quo. Women and minorities are precluded from involvement by existing regulations, procedures, and habits. Organizations and individuals do this, without meaning to keep women and minorities out, because "we have always done it this way."

An example of this would be selecting all permanent employees from the ranks of temporary employees, which contain only a few minorities and/or women. A continuation of





this practice could constitute institutionalized discrimination. Hiring methods must be examined and outreach programs devised to assure that women and minorities are also being hired as temporary employees. Or, the source for permanent hiring must be broadened beyond the temporary employee pool.

Nondiscriminatory Behavior

Laws require that managers adhere to equal employment opportunity principles in hiring, promoting, etc. This requires nondiscriminatory behavior on the part of managers. On the job, managers must now allow personal opinions and beliefs to enter into decisions of employment, promotions, etc. It can be a difficult task, but one that most managers accomplish once they realize what the acceptable behavior is.

Affirmative Action

As the Weber case and the Civil Service Reform Act of 1978 clearly indicate, managers have a responsibility for pursuing affirmative action in areas where women and minorities are underrepresented.

Affirmative action is different from EEO—from just providing equal opportunity to compete for positions. EEO means not discriminating in making employment and advancement decisions. Affirmative action means taking steps necessary to assure that heretofore excluded minorities and women have opportunities to apply for jobs, to get qualified, etc. Affirmative action is active; the other position is passive. For fire managers, it means that they must provide strong direction for inclusion of women and minorities in

all fire management activities.

There are many steps that can be taken to pursue affirmation action. The following general steps can be a basis for more specific steps necessary to meet an organization's individual needs.

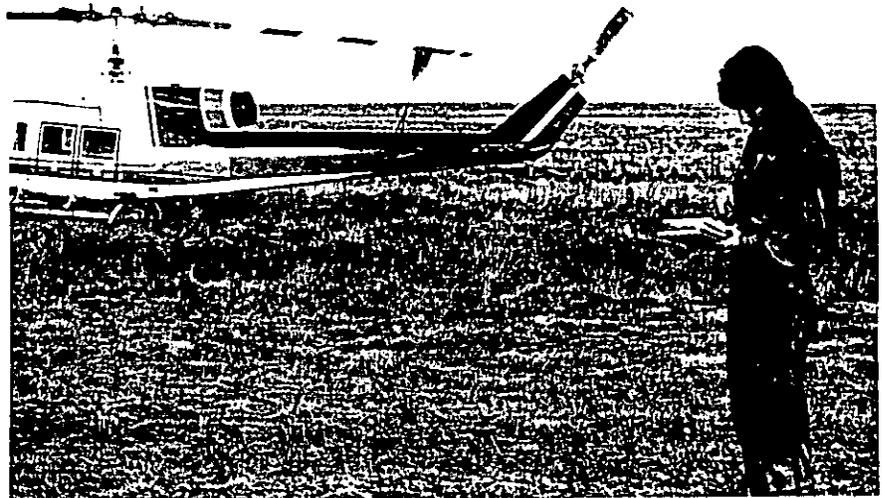
1. Have continuous dialogue. Direction must come as a result of joint efforts from top to bottom. People on the ground level need to perceive that top management is concerned and wants to change. Top management needs ideas on how to improve from people on the ground.

2. Analyze all programs, policies, and procedures for adverse impacts on women and minorities.

3. Assure that recruiters are aggressively seeking women and minorities. To do this, recruiters must establish ongoing contacts with community-based minority and women's groups, and colleges and universities. Women and minorities are not going to apply if they do not know about vacancies or if they believe they do not have a chance to getting the job.

4. For jobs that require advanced education, work with 2-year and 4-year colleges to influence them to recruit women and minorities and students to their schools.

5. Analyze internal placements



and promotion procedures to assure that they do not adversely affect women and minorities. Determine if selective criteria are eliminating these groups from consideration, and whether the criteria are really valid in terms of job requirements.

6. Eliminate gender-specific language from oral and written communication such as position descriptions, policy statements, manuals, and forms.

7. Include women and minorities in a diversity of activities in recruitment literature and other publications. This will encourage these groups to apply and will tell them that they too are included.

8. Manage firecamps to accommodate both sexes and culturally different groups. This means such things as toilets with hooks, scheduling showers according to gender, planning meals, and equipment readiness.

9. Conduct task analysis. There may be ways of performing a task other than the way it has always been done.

10. Assure that women and minorities know what training and skills are required for fire management jobs. Then develop a program to enable them to gain these skills and training. In regards to basic fire training, attention needs to be paid to details such as pre-

vious experience in using hand tools. For example, rural white males may know how to handle a chainsaw or pulaski, while women and urban minorities may not. These are skills which can be easily learned.

Summary

The opportunity is available to include women and minorities in all wildfire management activities and programs. These opportunities will be fully realized when fire managers make sure that affirmative action rather than passive action occurs.



Fire Weather Data For The National Fire Danger Rating System

John H. Shepherd and Thomas V. Gemmer

Historic fire weather data are required as input into the National Fire Danger Rating System (NFDRS) before the system can be used by a fire control organization. Such data are often not immediately available on a local level, especially in computer readable form. The North Carolina Division of Forest Resources faced that problem and solved it by using data purchased from the U.S. Department of Commerce, National Oceanic and Atmospheric Administration, Environmental Data Service, National Climatic Center, Asheville, N.C.

Data Needed

Weather data are available from that office in a variety of formats. The two types of data needed for input into FIRDAT, one of the NFDRS computer programs (Furman 1973), are: Airways Surface Observations (ASO) and the Summary of the Day (SD).

The ASO data have been gathered at major airports, primarily in support of aircraft operations, since the earliest days of aviation. Since 1941,

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they have existed in machine readable form. Since that year several changes have been made in the record format as a result of changes in observing and recording practices.

The ASO data are recorded at 3-hour intervals—eight observations per day. The recording time begins at 0000 Greenwich Mean Time. These records contain much data that are of no use to the NFDRS. The useful data are:

- Station number.
- State of weather.
- Temperature.
- Humidity.
- Wind direction and speed.
- Kind of precipitation.

The SD data are daily summaries of the weather. They are used to obtain the minimum and maximum temperature and the amount of precipitation.

Data Sufficient

If you compare this list of values with those to be processed by FIRDAT, you will see that the list is incomplete. The FIRDAT program was designed to calculate or estimate certain values if they are missing. The data obtained from the weather service tapes are sufficient input for the FIRDAT program.

Programs Written

Two computer programs were written to extract the data from the weather bureau tapes and create a tape in the required format as specified for FIRDAT. The first program reads the ASO tape, finds the proper observation for a day, and writes the

desired data from that record on a new tape in NFDRS format. The state of the weather codes used by the NFDRS are different from those used by the weather service. The program properly converts these codes and copies the other data directly on the new tape.

The second program reads the SD tape, extracts the temperatures and precipitation amount, and inserts these data into the records on the tape created by the first program. The result is a magnetic tape in the format necessary for use as input into the FIRDAT program. Data for the years 1967 through 1976 inclusive, for three stations in North Carolina, were extracted and written in FIRDAT format in less than 8 minutes total computer time.

Information Available

Copies of the programs and a program user's guide are available on request from John Shepherd, N.C. Division of Forestry, Archdale Building, Raleigh, NC 27611. Questions about the programs and assistance in their use may be obtained from Tom Gemmer, School of Forest Resources, P.O. Box 5488, Raleigh, NC 27650.

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Cooperative Railroad Wildfire Prevention On The National Forests In California

Troy Kurth

Historically, railroad operations have caused innumerable wildfires throughout the Western United States. In spite of modern technological developments in railroad equipment and operations, railroad-caused wildfires are still a concern for fire protection agencies. This is especially true for the National Forests in California, where 47 railroad-caused wildfires burned 2,155 acres at a cost of \$1 million in 1978.

Plans Analyzed

In an attempt to determine what constitutes an effective railroad wildfire prevention program, a comparative analysis of National Forest Fire Prevention Action Plans has been completed. Conclusions from that analysis follow.

Key Elements

A review of the railroad wildfire prevention programs on National Forest lands in California show that effective programs contain the following key elements:

1. An annual, no-host, business meeting is held between each individual railroad company and representatives from each fire protection agency and involved National Forest. Each agency and National

Forest presents the railroad company with a written proposal that includes:

- a. Fire occurrence spot maps that show both historical and current year fire occurrence along the railroad rights-of-way.
- b. Results of joint rights-of-way reviews. Photographs may be included and referenced to mile post markers.
- c. Recommendations for specific hazard reduction with mile post, priority, type of treatment, and desired accomplishment dates.

Meetings and recommendations for railroad action are completed at least 6 months in advance of the fuel flammability period to allow railroad companies time to plan, program, budget, and schedule work.

2. Forest followup rights-of-way reviews are performed with railroad officials to assure that agreed-upon treatment is accomplished.

3. All activities such as meetings, reviews, and agreements are documented for all in attendance.

4. All wildfires within or adjacent to the rights-of-way are thoroughly investigated to determine cause.

5. When railroad operations cause a wildfire, the railroad company is billed to recover suppression costs and resource damages. Civil suits are filed in court if necessary.

6. When a railroad company fails to abate fire hazards within

the rights-of-way as agreed upon or continues to operate equipment in such a condition or manner so as to cause wildfires, criminal charges are filed against the railroad company through the District Attorney or U.S. Magistrate.

7. Because railroad companies are dynamic organizations with constant changes in personnel, effective fire prevention must be an on-going program rather than a one-shot process.

Cooperative Efforts

Most train masters and railroad division engineers are concerned about fire prevention. Quite often, however, they do not understand what constitutes an effective wildfire prevention program. Also, some have a high degree of frustration as a result of past confrontations with fire protection agencies. Many are upset over real or apparent problems over excess suppression costs, lack of fire investigations to determine cause, or an inconsistent approach to railroad wildfire prevention from State to State.

Fire protection agencies must work with train masters and division engineers to develop a fire prevention action plan. The following points should be included:

1. Dynamic braking.
2. Walk through inspections while trains are on sidings.
3. Backpack pumps and suppression equipment available in caboose for wildfire attack.
4. Use of signal flares.
5. Personnel use of smoking

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materials, cooking, and warming fires.

6. Basic fire prevention and suppression training for train crews.

7. Common nomenclature for landmarks and railroad points for fire location reporting.

8. Rights-of-way hazard reduction requirements and treatment methods, including use of fire retardants as a special treatment in lieu of costly hand labor for hazard reduction.

9. Use of train track maintenance equipment shields and spark arresters.

10. Fire prevention laws and regulations.

11. Railroad maintenance plans that reduce activity within the rights-of-way to minimal levels

during periods of extreme fire danger.

12. Develop exhaust system maintenance schedules for power units.

13. In-yard spot inspections of power units by fire protection personnel.

14. Procedures for stopping trains that are causing wildfires at designated sidings for emergency maintenance.

Additional Needs

Most of the preceding discussion addresses the interaction between railroad companies and National Forest wildfire prevention personnel in California. However, some major problems exist throughout the Western United States that cannot be solved by any one agency or State working alone.

For example, one train set 17 wildfires in one afternoon in north-eastern California before the train was located, stopped, and inspected by Forest Service and California Department of Forestry fire investigators. One can only guess how many wildfires were caused by the lack of maintenance on this power unit exhaust system prior to its arrival in California.

The Western United States and Federal land management agencies need to strengthen cooperative wildfire prevention efforts to overcome individual problems associated with the exchange of power units between railroad companies, lack of uniform and effective maintenance standards and schedules for power unit exhaust systems and rolling stock, use of dynamic braking, rights-of-way

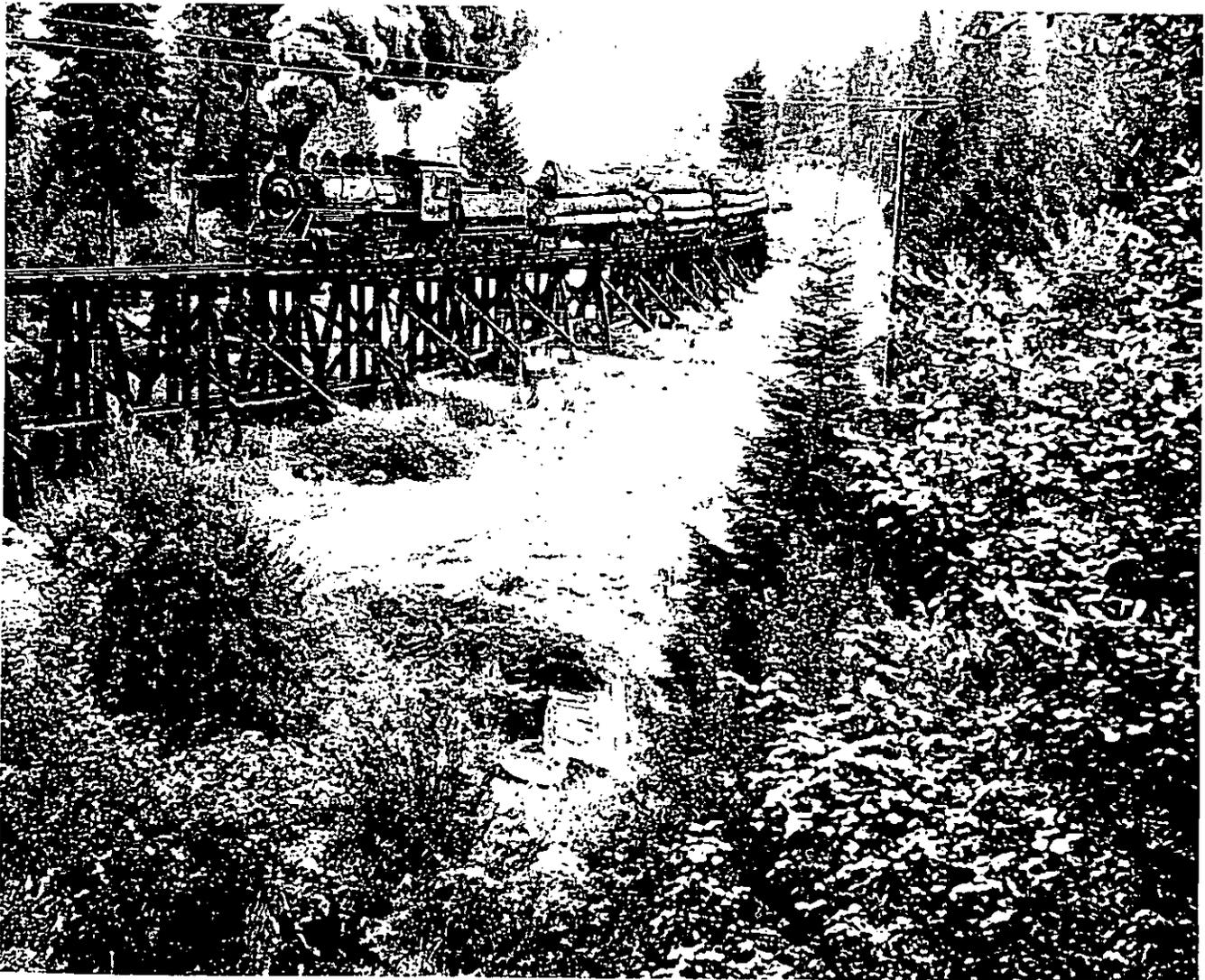


Figure 2.—Historically, railroad operations have caused numerous wildland fires in California.

hazard reduction standards, and effective fire prevention programs for railroad companies.

Fire protection agencies in general need to develop wildfire prevention training packages for railroad train crews, track maintenance crews, and equipment maintenance personnel. And, fire protection agencies need to increase the skill and knowledge of fire management personnel insofar as railroad operations and wildfire prevention technology are concerned.

The Interagency Approach

The interagency approach has had greater success in California than a

go-it-alone attitude. The most noteworthy program involves the Southern Pacific Transportation Company, the California Department of Forestry's Region II, and the Shasta-Trinity and Klamath National Forests. This cooperative wildfire prevention program has reduced railroad-caused wildfires by 89 percent in 3 years.

Conclusion

The National Forests in California are meeting the railroad-caused wildfire problem through interagency cooperation in developing effective programs. National Forests with ef-

fective fire prevention programs have demonstrated knowledge about railroad operations and concern about reducing railroad fire occurrence, and have shown a high degree of professionalism in dealing with railroad management personnel. An effective railroad wildfire prevention program can eliminate wildfires; reduce suppression costs, and loss of life, property, and natural resources.



Taking The Foreign Out Of Fire Management Planning: The Pasayten Fire Management Plan

Jim Russell

The international concern for wildlife abatement has historically been symbolized by the use of the Monument 83 Lookout situated on the border between the Province of British Columbia and Washington State. Since this vintage lookout was constructed in the early 1920's, dramatic changes have taken place on both sides of the 49th Parallel.

Resource Objectives Established

The once inaccessible stands of spruce and fir along the Pasayten and Ashnola Rivers in Canada now are

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intensively managed by the British Columbia Forest Service. The area is completely roaded. The remaining land, having scenic and recreation value, has been made into the Manning and Cathedral Provincial Parks.

The land south of the border, because of its intrinsic primitive beauty and basic roadless character, was assigned Wilderness status by the United States Congress in 1968 and is now under the administration of the United States Department of Agriculture, Forest Service's Okanogan National Forest. The legislative classification of Wilderness requires that the environment be maintained in essentially a natural state. To this end, and under the direction of the Pasayten Wilderness Resource Management Plan, a proposal is being developed by the Okanogan National

Forest to allow lightning fires to play a significant part in meeting the established land management objectives. This is based on the historical presence of such fires.

Fire Management Plan

The Fire Management Plan will identify a specific set of environmental conditions and management constraints that each fire will be measured against to determine the intensity of suppression action to be taken. The inclusion of the North Cascade National Park into the planning process has created a 55-mile interface between the two countries. Each ownership has different land management objectives that are separated by politically placed lines.

Coordination Essential

Dialogue was established early at the local administrative level to define the planning process and to sol-

licit concerns based on the protection of the Canadian timber resource, protection of water quality, protection of the Canadian recreationist using the Pasayten Wilderness, and management of smoke. By maintaining a communication linkage and address-

sing the Canadian concerns in the Environmental Assessment Process, the final Fire Management Plan will be an expression of international cooperation. Implementation is targeted for the Fire Season of 1980.



Figure 1.— Monument 83 Lookout.

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Dynamic Prevention Activities

Marvin Newell and James Miller

The Fire Prevention Working Team (FPWT) of the National Wildfire Coordinating Group (Wilson 1978) was created in 1975. This team was to "identify highest payoff opportunities to reduce wildfire ignitions, design coordinated action plans to effectively accomplish such reduction in starts, and make written recommendations to the parent group."

Two significant products of this team follow.

Railroad Fire Study

In April 1978, the FPWT requested that an "initial analysis of the railroad wildfire prevention problems and their magnitude" be made for the Western United States (USDA Forest Service Regions 1-6). The findings were to be presented to the FPWT at their October 1978 meeting.

In September of 1978, the Northeastern Area, State and Private

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James Miller is the railroad fire prevention specialist for the Wisconsin Department of Natural Resources, Rhinelander, Wisconsin. Mr Miller is currently on an Inter-Governmental Personnel Act assignment to the Cooperative Fire Prevention Staff, Northeast Area, State and Private Forestry, USDA-Forest Service, Broomall, Pennsylvania.

Forestry, entered into an Inter-governmental Personnel Agreement (IPA) with the Wisconsin Department of Natural Resources (WDNR) for a State employee to perform a railroad fire problem analysis of the 20 Northeastern States, and develop an action plan for those States. Conclusions:

Conclusions

1. Many railroad fires are not being reported. Much of the information that is reported is incomplete. As a result, accurate railroad wildfire information is not always available.

2. The two major railroad ignition sources are locomotive exhaust carbon particles and hot brake shoe fragments.

3. Railroad-caused wildfires can be reduced (See *Cooperative Railroad Wildfire Prevention on National Forests in California* on p. 8.) by positive State and local programs that include the cooperation of railroads, protection agencies, other appropriate government agencies, business or industry associations, and other concerned or affected groups of individuals.

4. Two very serious law enforcement problems exist:

a. Most of the States have some form of railroad fire prevention laws, but many of them feel the laws are not adequate for dealing with the railroad fire problem.

b. Many of the States that felt they had adequate laws also felt they were not doing an adequate

job of enforcing their laws.

5. There is an urgent need for training in railroad fire-cause determination, investigation, and prosecution.

6. Encouragement should be given to funding of cost-effective railroad fire-prevention solutions that exist or are being developed (examples: self-cleaning spark arresters and reconstituting old ties into new ones).

7. There is a need to determine the economic impact of railroad-caused wildfires, including suppression costs, and resource burned, salaries lost, and production lost.

8. Risks and hazards are developing that need attention.

Specific examples are:

a. Noise mufflers or resonators are being required by the Environmental Protection Agency on locomotive engines. The resonators presently used have dead air spaces that collect carbon. This carbon collection may require that spark arresters be installed on turbo-charged engines. This installation would create problems in engineering and expense for the railroads and enforcement by protection agencies.

b. What problems are being created by the rapidly increasing use of coal-hauling trains? Will the coal dust blown off the trains and settling on rights-of-way create additional fuel problems?

c. Government Accounting Office (GAO) projections on cross-

tie replacement estimate that at least 680 million ties will be replaced over the next 20 years. Disposal of the old crossties by burning pollutes air and creates a fire prevention problem. Burying them is expensive and in many cases is prohibited because of possible water pollution. Both methods are a waste of a recyclable resource.

Summary

The Fire Prevention Working Team, through the NWCG, is developing plans and actions to help individual agencies and organizations reduce their railroad fire problem. Coordination is seen as one of the greatest needs.

Grass Roots Input to Fire Prevention

From the very beginning, the FPWT recognized that those responsible for implementing fire prevention programs on the ground had to be given the opportunity to provide input and feedback to the Team.

Interagency fire prevention teams (Jackson 1978) formed at National Advanced Fire Prevention training sessions in 1976 and 1978 were urged to share successes, disappointments, and failures with FPWT. This they did and much helpful dialogue with the field assisted the teams in identifying problem areas in making the interagency concept of fire prevention work.

In a continuing effort to provide this helpful interchange of ideas, the fall 1979 meeting of FPWT was held in conjunction with the Southwest Fire Council (SWFCO) in Ruidoso, N. Mex., during Fire Prevention Week, October 8-12.

"Rural Communities and Wildland Fire Protection" was the theme for SWFCO's meeting. Special emphasis was given to what can be done to improve fire safety in rural communities and in the urban-wildland interface where people choose to build houses and live in a highly flammable environment.

One highlight of the combined meeting was a presentation by the local fire prevention team that was organized in 1978 through New Mexico State Forestry and Forest Service efforts. Citizen leadership was encouraged to insure involvement of local people. This was successful and the group, known as Com FIRE (Committee for Insuring Ruidoso's Environment), is now an active and involved team. The group's purpose has become known and respected. Changes are taking place that will increase the fire safety in the community for years to come.

A 28-minute TV film produced for Com FIRE by KNEW-TV at Portales, N. Mex., on their Redflag Warning System, portrays the hazardous conditions in the community. Shown are the fuel accumulations around homes and the fire losses in recent years. More importantly, what can be done to protect lives and property is discussed.

The Team and SWFCO met at the same location, with a compatible agenda that scheduled 1½ days of formal interaction. In addition, the informal communication in the evenings provided an excellent opportunity for give and take discussions directed toward improving the effectiveness of fire prevention programs.

The apparent success of this combined meeting approach has prompted the FPWT to look at other combined meeting opportunities with other fire protection organizations.

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DESCRIPTION	QTY	UNIT PRICE	PRICE
1. Hookup Wire			.50
2. 600 volt DC .001 of Electrolytic Capacitor C ₁	1	.50	.50
3. Miniature SPDT Relay	1	2.99	2.99
4. Subminiature SPST	1	1.49	1.49
5. Subminiature DPDT	1	1.99	1.99
6. ½-Watt Resistors 10% Tolerance 150 ohms R ₁	1	.19	.19
7. PC Boards for 14 and 16 pin IC's Sockets	1	.99	.99
8. Integrated Circuit Perfboards 2-¾" x 6"	1	.99	.99
9. 1N914/4148 Silicon Switching Diodes	1	.99	.99
10. 7400 TTL Digital ICs	1	.35	.35
11. Experimenter Boxes 6-¾" x 3-¾" x 2"	1	1.79	1.79
12. Single-Digit Counter (e.g. Radio Shack Parts No. 277-103).	3	7.31	21.93
TOTAL			\$34.70

Table 1.—Parts Listed for Carman's Counter

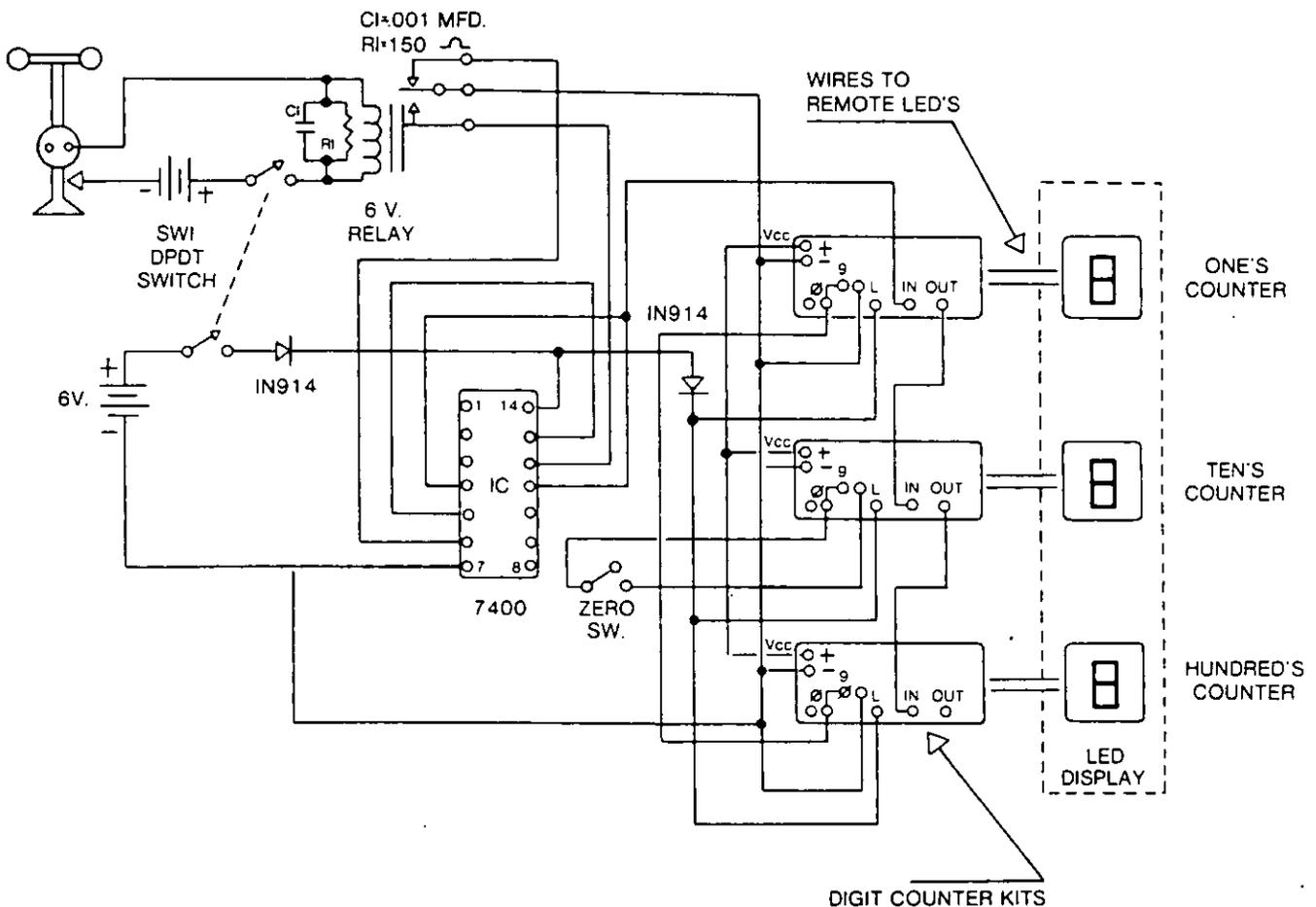


Figure 1.—Schematic for Carman's Counter

from the editor

An Historical Note FIRE CONTROL NOTES

Number One of a Series of Publications Devoted to the
TECHNIQUE OF FIRE CONTROL

Published by
THE FOREST SERVICE—U. S. DEPARTMENT OF AGRICULTURE
DECEMBER, 1936

The value of these publications will be determined by what you and other readers contribute. Something in your fire control thinking or work would be interesting and helpful to others. Write it up and give other men some return for what they have given you.

Articles and notes are wanted on developments of any phase of Fire Research or Fire Control Management: theory, relationships, prevention, equipment, detection, communication, transportation, cooperation, planning, organization, personnel management, training, fire fighting methods or reporting, and statistical systems. Whether an article is four lines or ten typewritten pages in length does not matter. The only requirement is that articles be interesting and worth while to a reasonable proportion of readers.

Address DIVISION OF FIRE CONTROL
FOREST SERVICE, WASHINGTON, D. C.

FIRE CONTROL NOTES OFFERS ITS SERVICES

ROY HEADLEY
Forest Service, Washington, D. C.

The Fire Control Meeting at Spokane, Washington, in February, 1936, gave the Forest Service Division of Fire Control in Washington, D. C., a mandate to issue from time to time a publication which would serve as a medium for exchange of information and ideas between all the groups and individuals who are doing creative work in forest fire control. On the assumption that readers will respond with ideas and information to publish, the mandate is accepted.

Over a period of 30 years since the inception of organized effort to stop the fire waste of American natural resources, impressive advances have been made. Considerable body of knowledge of the arts and sciences involved has accumulated. Systems of organizing and managing human forces and mechanical aids have in some instances attained dramatic efficiency. Fire research has won the respect of owners and managers of wild land. The advancement to date in technique entitles fire control to a place among the amazing technologies which have grown up in recent decades.

The advance of the technology of forest fire control is not, however, a completed thing. Its forward march has not even begun to slow down. On the contrary, there is good reason to anticipate a period of broader and more rapid growth. Fire control has won a large measure of public interest. Its relation to conservation of wild land resources is better understood. Financial support is increasing. A growing number of men are making technical contributions from a wider range of ability and training. More men know more about how to climb to new plateaus of efficiency in stopping this fire waste.

Future advances will come not from the work of small groups, but from the experience, thinking, and experiments of the large number of men now engaged in pushing back the frontiers of fire control. The integrated experience and study of such a body of interested men may easily yield results overshadowing all that has been gained so far.

The surprising thing is that the need for a vehicle for interchange of ideas among such men has not been recognized before. Widely scattered as they necessarily are, the creative efforts of individuals and separate groups cannot be fully effective without the aid of something which will serve as a common meeting ground, a clearing-house of developments. FIRE CONTROL NOTES aspires to render that service. It hopes to be a carrier of whatever men need to know to keep abreast of developments and trends in fire control.

FIRE CONTROL NOTES will seek to act as a channel through which useful or suggestive information may flow to each man in this field, whether he be a fire research worker attacking some fundamental of combustion, or a fire fighter, facing the flame and smoke, who discovers some new device for organizing a crew of laborers. These pages will also hope to be used as a mouthpiece for every man, whatever his job, who discovers something which would be useful to others, or who has a criticism to make, a question to raise, or an unusual fire experience to relate.

As implied by the name, "Fire Control Notes," it matters not how long or how short a contribution may be nor what angle of fire control is presented. The man who discovers some new device which can be presented in four lines owes it to himself and others to report it. Likewise, the fire research man who needs ten pages for a worthwhile presentation of his subject should share what he has learned with others who need his help or who may be needed to supply the intelligent interest required to sustain the inquiry.

The only requirement imposed upon contributions to FIRE CONTROL NOTES is that they be interesting or helpful to some group of people concerned with some phase of fire control.

FIRE CONTROL NOTES will be published intermittently as contributions accumulate. Distribution will not be limited to members of the Forest Service, but will include all who are cooperating with it in stopping forest fire waste. Copies will be sent to State forest organizations, cooperative protection associations, forest schools, Federal bureaus interested in fire control, and Canadian and other foreign organizations dealing with fire problems. Within reasonable limits, any individual who is not included in the organizations mentioned may be placed upon the mailing list by agreeing to constitute himself or herself a committee of one to discuss with friends the need for habits of care in the use of fire. Leaflets and other printed material may be obtained upon request for use in such discussions.

Submission of Articles

The predecessor of Fire Management Notes, Fire Control Notes, was first published in December 1936. The objectives set forth at that time are as valid today as they were over 39 years ago. Fire Management Notes is now published quarterly. A recent

approval by a very cost-conscious Office of Management and Budget for a 5 year renewal of publishing authority indicates the value of this publication.

Today, contributions by any person, woman or man, from any organi-

zation are encouraged. Send them to:
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Fire Management Notes
USDA Forest Service
P.O. Box 2417
Washington, D.C. 20013



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