

A Study in Organization
of the Summer Force of
The Clemon's Tree Farm
by

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CHAPTER I

THE PROBLEM

STATEMENT OF THE PROBLEM

During the summer of 1941, the author worked for the Clemon's Tree Farm. In this time different problems and situations were continually arising in the work. This being the first time for a private interest to start growing timber in this manner, many of these problems and situations could be expected; however, it was the opinion of the author that in profiting from one season's operation a good plan and chart of organization would be of great value. This study was then started. In all probability the Weyerhaeuser Timber Company has also made more or less of a study during the last winter, and doubtless they have constructed a plan of their own with many changes over the 1941 organization. It is with deep regret that the author leaves the Clemon's Tree Farm for service in the United States Naval Reserve.

PURPOSE OF STUDY

Originally this study was planned to develop a plan of organization which could be used by any group or company in founding and administering a timber growing project such as the Clemon's Tree Farm. It was intended that this plan would be presented to the Weyerhaeuser Timber Company for their consideration. Since the start of this study, however, the nation has been forced into a war. Many economic relationships have been changed and it is not certain whether the

results of this work are in keeping with the changes. In reading or using the plan, therefore, it should be kept in mind that it was made for pre-war economic conditions.

SCOPE OF STUDY

This plan of organization was modled for the summer force of the Clemon's Tree Farm during the period of construction. It is concerned only with the organization within the tree farm itself from the position of the forester downward. It does not consider the planting, reforestation, land examining, etc. of the winter work of the overhead planning of the Reforestation and Lands Department.

This plan is merely the groundwork for a complete study; the plan should be put into operation and studied. It then could be revised and changed as its weaknesses were noted and conditions affecting the work were changed.

CHAPTER II

HISTORY AND PLAN
OF THE
CLEMON'S TREE FARM

HISTORY AND PLAN OF THE CLEMONS TREE FARM

In 1941, the Weyerhaeuser Timber Company made financial provisions to commence growing timber on some of their cutover timberlands. The first experiment of this type was put into operation after extensive planning on the area now called the Clemons Tree Farm.

The Clemons Tree Farm is in Gray's Harbor County, Washington. More exactly it consists of 129,023 acres located south of Elma and Montesano, extending to the southwest to Artic and to the southeast to Oakville. The Weyerhaeuser Timber Company owns over fifty percent of the land; approximately twelve percent is owned by the State of Washington, and most of the remainder consists of agricultural border lands owned by private interests.

Practically all of the area, except for some of the border lands, is of a rough, rolling terrain that is not suited to agricultural purposes. Much of the area has been classified as site I forest land, and very little of the land is below a site III classification. Thus growth is very rapid. The writer has seen many growth rings in excess of one-half inch in traveling about the area.

Some small, local sectors are covered with old timber that has either been selectively logged or left by the loggers as sub-marginal at the time of logging. Some of this is being logged at present. For the most part, however, the land has been cut over from ten to thirty years ago. A part

of the area is covered by a beautiful, dense stand of Douglas fir reproduction from eight to fifteen years old. Many of the creek bottoms have dense stands of alder that will soon be merchantable. Over the remainder of the area the reproduction is scattered or absent.

A progressive inventory is being made on all the company owned land. First, the company has records of the land and its status on file in their Tacoma office. Second, where these records are incomplete or missing, inventories are being made in the field. These are done by land classifiers who turn in detailed form reports as to the history of the area in logging, fire, etc., roads and other developments, streams, cover, hazard, reproduction, available seed source, recommendations as to planting etc.

In the fall and spring, planting is being done on the areas that would otherwise take too long to reseed naturally. The writer visited several experimental plantations of Douglas fir, western hemlock, Port Orford cedar, sitka spruce, and western red cedar that were several years old and found survival excellent.

At present, the big job of the tree farmers is protection from fire. Their plan aims at complete protection which they have defined as "keeping the area burned annually to a maximum of not more than $\frac{1}{4}$ of 1% of the total area."¹ With this in mind the Clemons Tree Farm has undertaken a

1 "The Clemons Tree Farm", West Coast Lumberman, July 1941

protection plan that is probably more advanced than any forest protection force in the west.

The boundaries of the farm are all natural firebreaks and are travelable on all but the south side. Within the area there are a few railroad grades that were opened for protection by the C.C.C. and a county road. The Clemons Logging Co. still has some timber immediately to the south, and their mainline railroad runs through the center of the area. A network of old logging railroad grades cover the ridges; these will be opened up for truck roads. The complete transportation system calls for over two hundred miles of roads and travelable firebreaks in such a pattern that any one point will be within less than one quarter of a mile from a road. During the last summer, over forty miles of such roads and firebreaks were constructed.

On Minot Peak, in the east central sector, stands a state lookout tower. A high peak to the south that overlooks the entire country, is the proposed location for another state lookout. Last summer Weyerhaeuser built two supplementary lookout towers, and the plan calls for two more to obtain the coverage desired. All lookouts are very similar to the standard specifications of the United States Forest Service and are operated in much the same manner.

A telephone system will connect all stationary men with headquarters. Communication plans call for forty eight miles of telephone line, part of which was built last summer, to be added to those systems of the logging company and the

state. In addition, all mobile units and lookouts and the headquarters have a two way, ultra-high frequency radio. All the personnel are required to have a third class radio operator license.

Headquarters for the farm have been established at Camp Weikwood, twelve miles south of Elma, Washington. Here a part of the logging camp has been acquired so that the tree farmers have all the housing facilities necessary, an office, and a warehouse. Two district headquarters, one of which has been constructed, will each house a tank truck, suppression crew.

Each lookout is equipped with a wind velocity gauge and a psychrometer for determining crucial weather conditions. The gate watchmen also have psychrometers for this purpose. At the headquarters, a complete fire weather station is maintained, and weather is recorded in cooperation with the United States Weather Bureau.

All suppression is accomplished by the immediate use of water. Their method of achieving this is by means of pumper, tank trucks. These trucks have a capacity of two hundred or five hundred gallons with a power take-off driven pump capable of delivering thirty to a hundred-fifty gallons per minute and supplying four lines at one time from a water source outside the tank. Each truck carries one thousand feet of inch and a half cotton, rubber lined hose and hand tools for a small crew. In addition, a live reel with two hundred feet of one inch rubber hose is mounted on the tank

for quick action.

Edward's, portable, lightweight pumps will serve to make the water supply flexible. These pumps can deliver sixty-four gallons per minute with a three-hundred foot head. They can be used to relay up high hills or to feed the pumper trucks. As additional equipment, each pumper truck carries a portable pump, two back pack cans for spot fires, and a two way radio.

A TD-9 tractor with bulldozer is being used to construct roads and stream dams and develop waterholes. If necessary, this can be used as a second line of defense on fires. It is to be equipped with a hundred gallon per minute pump and hose so that it can break a line in front of a fire. A two and one half ton semi-trailer truck provides rapid transportation for this unit on roads, and a large flat bed speeder is used to haul either the tractor or a pumper truck over the rails.

While the logging railroad is using the location of the main road, a thousand gallon pumper speeder is taking the place of a pumper tank truck. Except for the live reel, this speeder has all the equipment carried by a pumper truck. During the last summer, this unit proved itself invaluable on a large logging fire to the south of the tree farm.

While construction is progressing, the construction crews will be used as secondary fire fighting units. Each crew truck carries a portable pump with hose and hand tools. When construction has been completed, estimated at five years

time, the communication and transportation systems will be developed to the extent that these secondary units of fire-fighters will not be needed.

It is planned to develop a master attack plan for fire fighting. In this, each district will be broken down into small sectors bounded by natural or constructed firebreaks. For each of these sectors a separate plan of attack will be written and a detailed map drawn to show location of all facilities and natural features. The master plan will be made up by the forester, and the sector plans can be put in the hands of the district chief for that particular area.

Inasmuch as the lookout system is designed for excellent coverage, patrols have been limited to the roads around the boundaries of the area. These patrols are accomplished by means of one-half ton pickups converted to effective fire fighting apparatus by the installation of a hundred-thirty gallon tank with a three hundred foot, live reel of one inch rubber hose and a fan belt pump. Additional equipment includes a two way radio, a test phone that may be hooked anywhere on any line, a back pack can, and hand tools for a small crew. The water in the truck will last for twenty minutes of pumping, and the pump can be used to pump water directly from an outside source where the truck can be driven to a creek, river, or well.

The chief value of the patrols is not in detection but in prevention and establishing good public relations. Of course the patrol trucks will be of great value for detection

and suppression of small fires along the highways and also for rapid attack on any fire that may be closer to a patrol truck than a pumper truck station. Each patrolman, in addition to being trained in suppressing fires with water, must be trained in advancing good public relations. They can offer the use of their patrol truck to aid farmers with their burning; thus not only creating good relations and opinions but also preventing any farmer's fires from spreading onto the area.

Naturally the area is closed to the public during the fire season. A regulated closure is much desired and to achieve this gates are built on the through roads entering the area. Two of the three gates that will be necessary were constructed last summer. Gate watchmen allow people to register and enter the area during favorable weather.

It is planned in the future to provide campgrounds at the gates where people may use fireplaces and tables on days when they may not be admitted to the area. This will also tend to centralize use on areas that are less hazardous. It has also been planned to erect hunter's shelters in several places thus eliminating the demands of hunters to use administrative buildings.

Roads to the tree farm are well marked by signs and visitors are made welcome. They are informed of the purpose and work of the Clemons Tree Farm, and sometimes taken on demonstration trips. Considerable publicity has appeared in papers all over the West as well as the local papers.

Officials on the project and Weyerhaeuser public relationship men frequently give talks and publicity on the tree farm from time to time.

ENCLOSURE
OLD RELIABLE BOND
Dormitory

CHAPTER III

PROCEDURE
USED IN STUDY

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In the study of the Clemon's Tree Farm organization, some of Fernstrom's methods were followed. His "procedure for organization"² was used in part. All of his procedure did not apply to this type of organization, and some parts were thought to be included in other places. Additions were made based on opinions obtained from general reading and study. The procedure was as follows:

- I A line chart was made to follow the organization as it was written in the project plan.
- II The objective of the organization was determined by interpretation of the tree farm plan.
- III The various functions necessary to attain the objective were determined through the policies outlined in the plan.
- IV These functions were broken down into working groups or natural divisions and analyzed.
- V A line chart was constructed of the organization as it existed at one time during the summer of 1941.
- VI A study was made of the charts constructed under steps I, III, IV, and V with consideration toward direction, supervision, control,³ and flexibility.

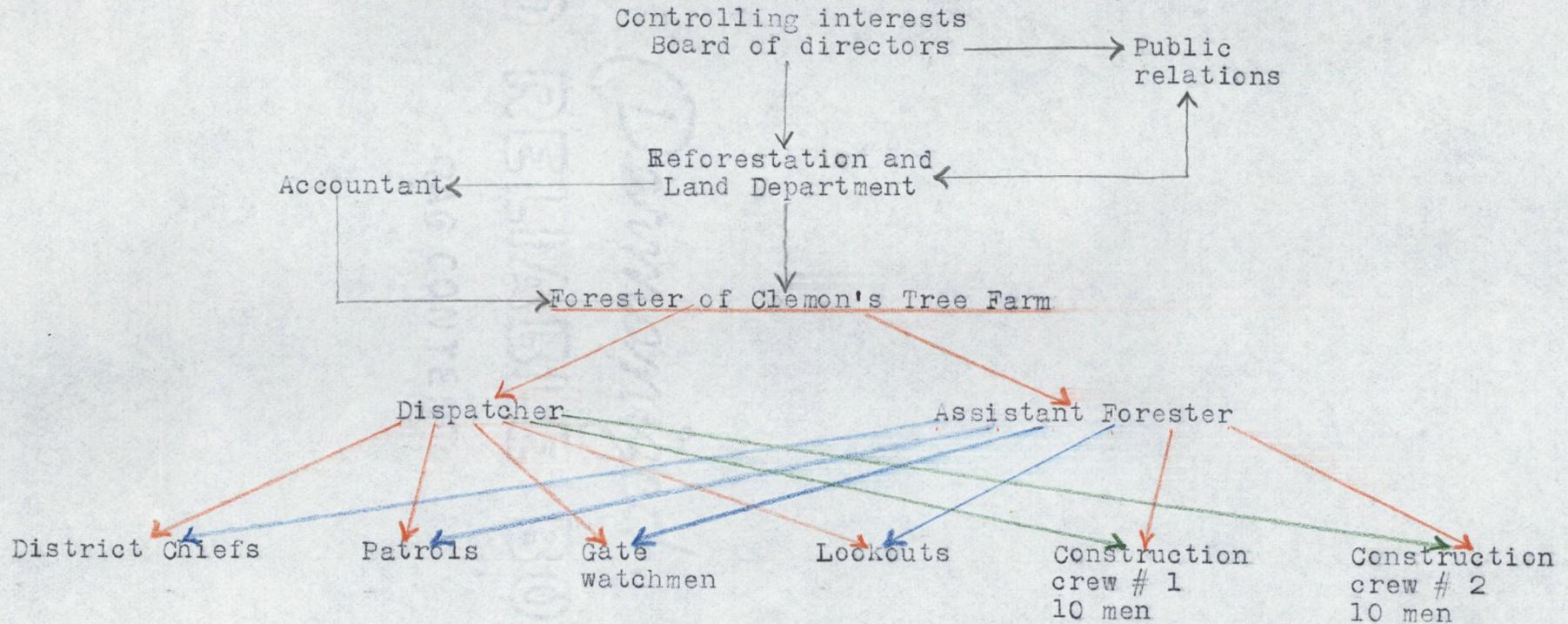
2. Fernstrom, Karl D et al, "Organization and Management of Business Enterprise."

3. Schmitt and Irvine, "Business Organization and Management". Direction as used here entails placing the plan into action by issuing orders. Supervision is the interpretation and fulfilling of the orders. Control provides information on the progress and efficiency of the operation by inspections and records from which responsibilities and results can be shown.

- VII Inconsistencies and improvements were noted and checked by tracing through lines of authority and responsibility.
- VIII A tentative plan of organization was constructed on the basis of the functions of the objective and methods of the tree farm project.
- IX This plan was checked, revised, and verified by tracing the functions of direction, supervision, and control through the lines of authority until a final chart was obtained.
- X Job analyses and man qualifications were made up for each important position.

Much of the work, especially the preliminary planning and the revising, was done on work charts or mentally and only the final results were retained. Some of the basic objectives and policies as well as chart #1 may not be exactly parallel with those in the minds of the officials of the project as they have been determined through interpretation of the Clemons Project Plan and talks with the officials. The organization as existed during the summer of 1941 fluctuated greatly; thus it was taken by observation during one period of the summer to be used as an example. No attempt was made to study the organization above the position of the forester of the tree farm. This was included only to show the accounting function in the organization as it was during the summer of 1941 and to show the presence of a public relationship function.

ORGANIZATION OF THE CLEMON'S TREE FARM SUMMER FORCE
 AS INTERPERTED FROM THE OFFICIAL PLAN



LEGEND

- Direct Authority
- Dispatching Authority
- Authority as Delegated

Chart I

CHAPTER IV

THE STUDY

FOR COMMENT

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Downloaded

No organization chart or outline of duties and responsibilities for each position could be found in the project plan. Chart #1, therefore, was constructed by picking out the sections and sentences in the project plan that referred to responsibilities and delegation of authority. These were integrated to make up the chart. It very well may not be organized or be as complete as it is in the mind of the author of the plan; however it serves to show that the organization suggested in the plan. It also was used in analyzing the organization and somewhat as a guide in construction the new organization chart.

The objective of the Clemon's Tree Farm seems to be fairly definite in the project plan and the work done to date. The author's interpretation of the objective is, "To grow timber".

The functionalization chart (chart #2) was constructed to show the functions of the work of the summer force during the construction period. The functions could have been broken down in a different manner and labeled differently. The method used is thought to include all functions desired and was satisfactory for this study. Other functions as reforestation, which have been omitted, are present in the winter organization or will be present in later development. Some others may be, applying silivultural treatments, logging, and selling. At this time the objective would be broadened to, "To grow timber for sale at a profit", and the functional

FUNCTIONALIZATION CHART
FOR SUMMER ORGANIZATION

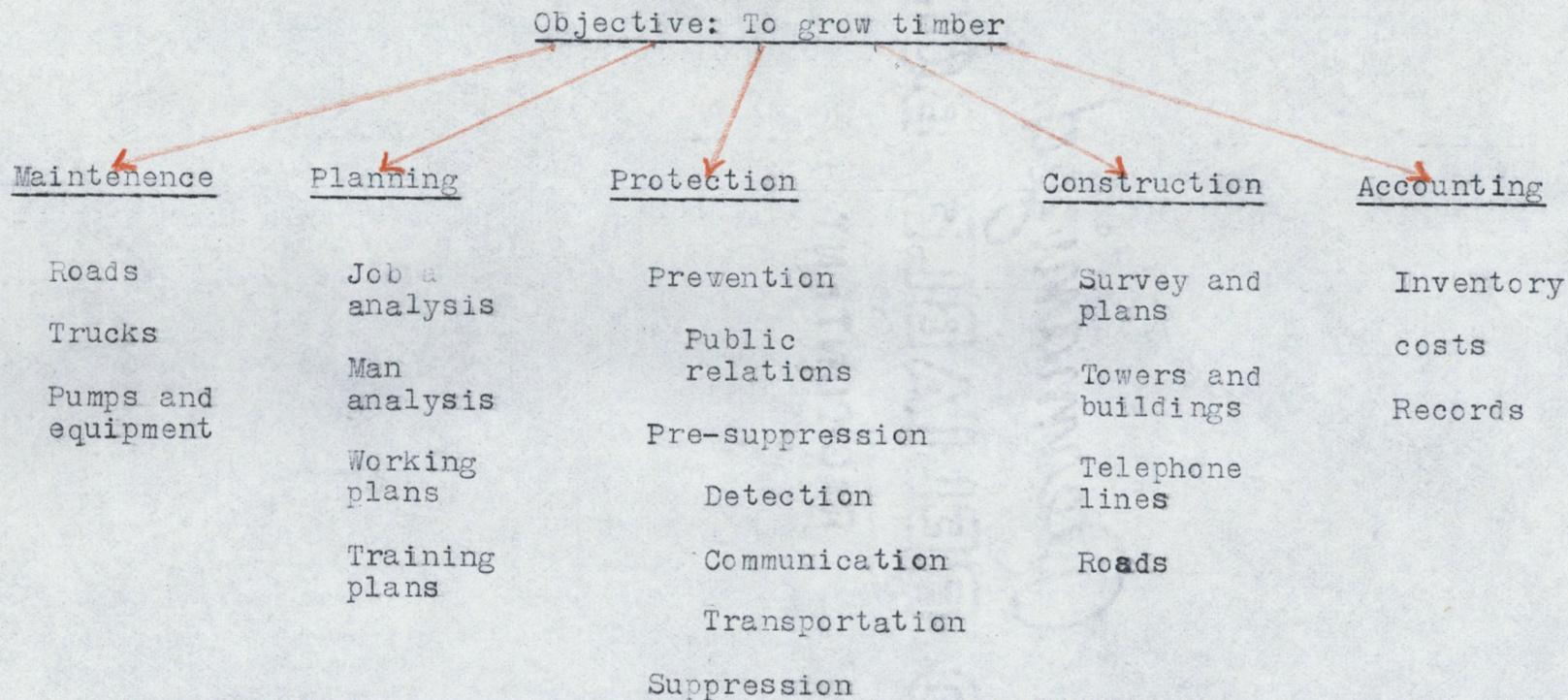


Chart II

organization would be changed.

There is a danger of losing effectiveness with lack of flexibility under an organization patterned solely after functionalization. Thus, strict functional organization is impossible in an organization where the duties under one function are so changeable in quantity and must be relieved by other functions. In the tree farm organization, the function of protection is primary and the amount of labor and capital expended for these purposes fluctuates widely from very little on a day of no fire hazard to very much in an extreme case when a large fire is raging. In such a case, all functions other than protection would cease. Thus the organization of the tree farm is one where flexibility is essential so that in time of fire a change can be easily made to a straight line of authority.

During the summer of 1941, the author worked for the Clemon's Tree Farm and so had ample opportunity to observe the organization as it actually operated. As previously stated, there was no written plan of the organization and it varied from time to time in some degree. As an example for study purposes, chart #3 was constructed of the organization as it was for a time during the summer of 1941. In analyzing this chart, the following weak points were noted:

1. Practically all of the direct authority and responsibility was vested in the forester.

The only internal breakdown of direct authority was in the tower crew, telephone crew, and the district #3 suppression

ORGANIZATION OF THE CLEMON'S TREE FARM SUMMER FORCE
AS IT EXISTED AT ONE TIME IN 1941

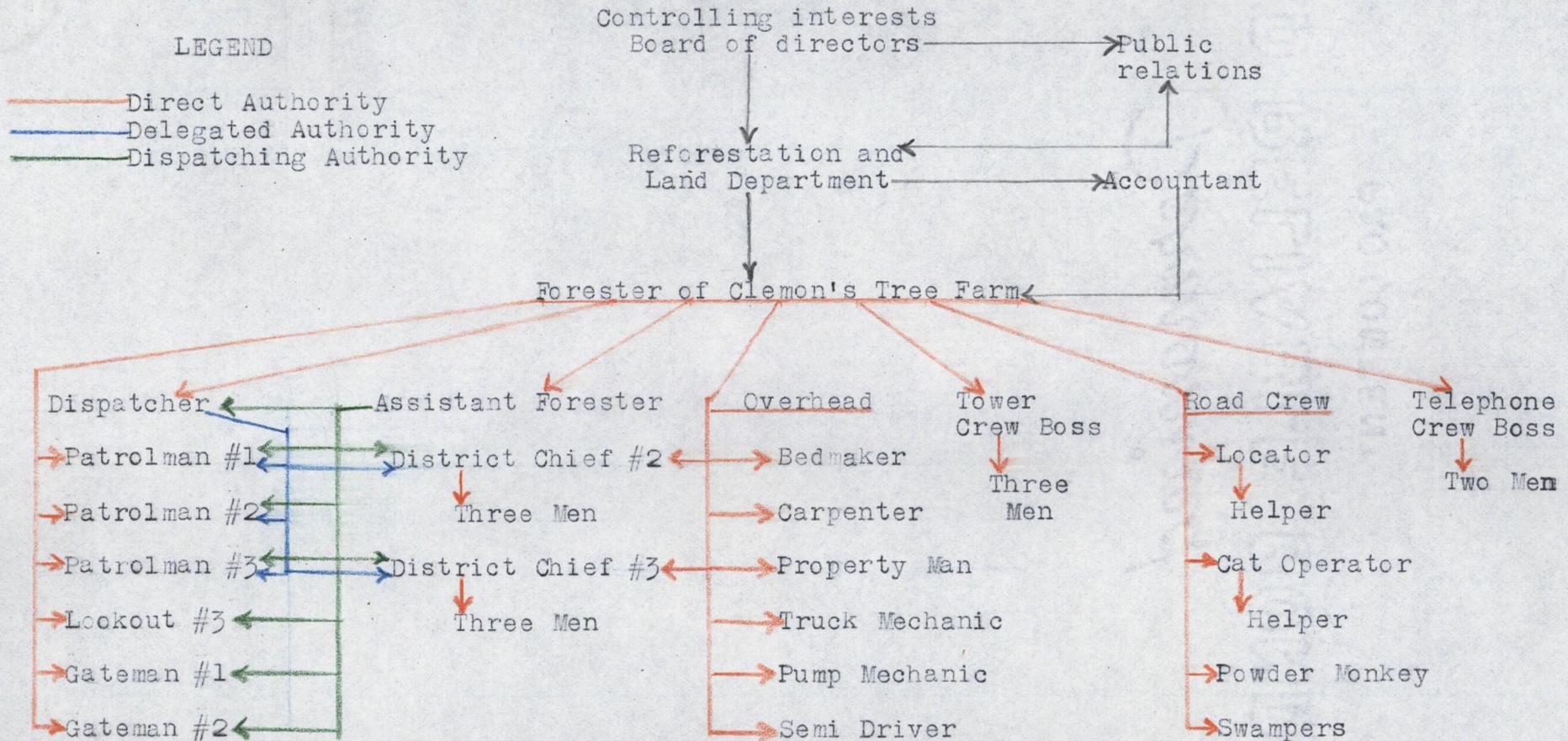


Chart III

crew and the locator's helper were the only ones that remained stable as to personnel. With the others the men were shifted back and forth to other crews, and the number of men on the crew at any one time fluctuated. Outside of the above mentioned cases, the forester retained individual, direct authority over the personnel. This resulted in too great a load for the forester, and he could not direct and supervise each individual man successfully.

2. The assistant forester and the dispatcher did not know what authority or responsibilities they had, and the duties they were to perform were vague.

Both of these positions were set up as authoritative subordinates. However as it was, these positions were not filled by qualified men picked for the job. The men placed may well have been excellent men, but they were picked without having a background of the essentials for the positions. Thus the dispatcher had no dispatching or fire experience; and although the assistant forester had some fire experience, he had no construction background. Neither was there any training program for these positions. As it was, the forester took personal charge of all construction. While he was in the field, the assistant forester was in charge of the office and dispatching with the dispatcher working in conjunction. Their duties and responsibilities varied with the load of the forester's work and the seriousness of fire conditions. Neither the assistant forester or the dispatcher made dispatching decision when the forester was present.

A POSSIBLE ORGANIZATION PLAN FOR THE SUMMER FORCE
OF THE CLEMON'S TREE FARM RESULTING FROM THIS STUDY

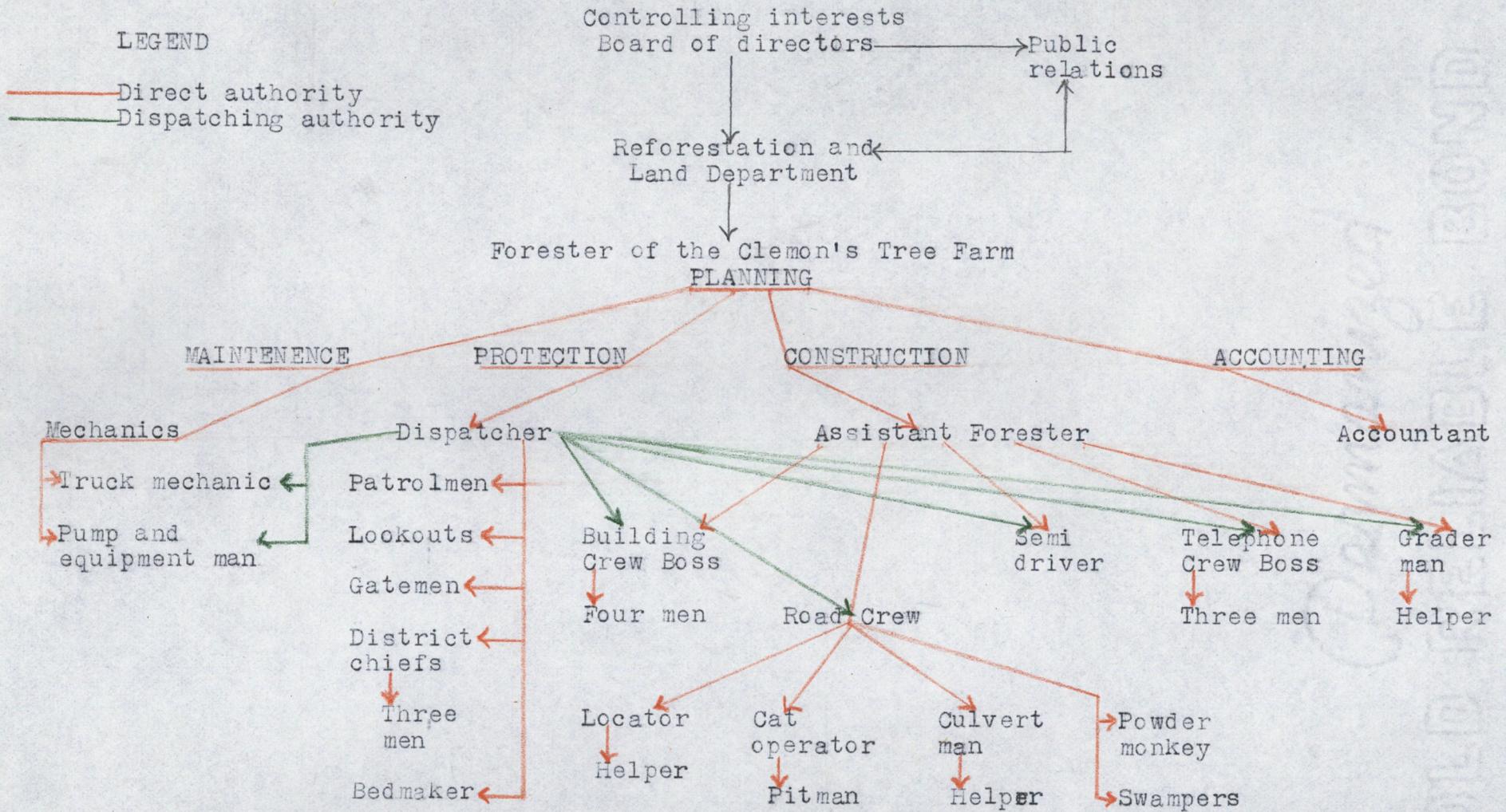


Chart IV

3. Direction within the organization was given haphazardly.

No written orders were given within the Tree Farm. At times the same orders were given to two different men; both were confused and responsibility could not be fixed. No record was made of orders, and in a few cases conflicting orders were issued. Thus orders often resulted in confusion and were in part responsible for a lowering of morale.

4. Supervision was inadequate.

Whereas there was little breakdown of authority, the supervision was left to the forester. This man was carrying too great a load and could not supervise everything in detail. Thus most of the supervision was erratic and sometimes it was lacking.

5. Some crews were inefficient because of rapid fluctuation of personnel.

The cat crews were good examples of this. One cat driver had five different pitmen during one month and several more during the season. Sometimes he would not even have a pitman broken in when the man would be transferred, and the time spent breaking in new men would be lost.

There was no regular personnel for the district #2 suppression crew. Usually the semi-truck driver was chief. When he was driving the semi-truck and the locator was in

camp, the locator acted as chief. At other times the telephone construction crew boss, truck mechanic, or one of several others who happened to be in camp, took the position of chief. The size and character of the rest of the crew depended on the weather, and often in bad fire weather other crews were displaced to fill out this suppression crew.

6. There was no training plan for protection or construction crews and personnel.

For the most part, training consisted of self training in a degree according to the interest of the individual. Several times during the summer a group of men were sent out with a tanker truck so that they could learn to operate the pump. Some men didn't learn to operate Edwards pumps until they were sent on a fire. One of the patrolmen couldn't use a compass although he had been issued one and always carried it. Two of the patrolmen had no experience or training in fire suppression. Training and experimentation with new equipment was poorly supervised, and doubtless crews could have been more efficient.

The telephone construction crew was composed of men new to the work. At the same time an experienced lineman who expressed a desire to do telephone work was placed as a truck driver. There was continual trouble with the telephone lines.

7. Control was poor in that poor records were kept and there could be little fixing of responsibility.

The accounting was handled in the Tacoma office. About once a month the accountant visited the tree farm and tried to assign costs to their respective jobs. Each man had to record his own time at the end of the day although he was paid by the month. Thus, disputes arose over extra time and stand-by protection on week ends. No record of orders was kept and responsibility could not be definitely fixed.

As pointed out previously, these conditions were prevalent only at one time during the summer. Some of the above weaknesses were corrected during that summer, and doubtless plans have been made to correct many more for the coming year.

After intensive study of the organization weaknesses of the 1941 operation and the functionalization chart, a tentative plan of organization was constructed. This plan was checked and verified many times. Various phases of direction, supervision, and control were traced through the lines of authority. In this way imaginary orders for all types of activity were passed through the channels and responsibilities placed along the line. This was done many times until at last chart IV was complete.

The major changes are as follows:

1. The accounting function has been moved within the tree farm itself. This man should be a cost accountant and his duties in addition to accounting will include checking equipment and keeping all records.

2. The protection force has been placed entirely under the dispatcher. This man also has dispatching authority over all construction personnel.

3. The bedmaker has been put under the dispatcher. Both will be in camp and the dispatcher can easily supervise the activities of the bedmaker in odd jobs about camp such as mowing the lawn, etc.

4. The assistant forester is in charge of construction. He will take personal supervision of the road crew and have a crew boss for the telephone and building crews. The semi-truck driver should operate at his direction so that the movement of supplies and equipment will be synchronized with the needs of each crew.

5. The forester, assistant forester, dispatcher, and the mechanics will all work in cooperation with the accountant in keeping records.

This organization is not radically different from that interpreted from the official plan. It is the operation of the plan that is all important, and this is how the 1941 set up resulted in much confusion. Therefore, in using the chart the following points should be kept firmly in mind:

1. The lines of authority and fixation of responsibility should be definite and should not be overstepped or evaded.

Thus in example, if the forester gives an order directly to a lookout without sending it through the dispatcher or informing the dispatcher, a different order may unawaresly be

issued by the dispatcher that is conflicting and confusion will result in which responsibility cannot be fixed.

2. Men should be picked for the key jobs according to their qualifications.

It is almost impossible in one season to make a good dispatcher out of a green man who has had no dispatching or fire fighting experience. In this key position, one error may spell the failure of the tree farm. Similar examples can be applied to the other key men such as crew bosses, chiefs, and patrolmen.

3. Direction should be positive.

Major orders should be written and copies retained as a control for the purpose of fixing responsibility. Orders must not be given around lines of authority but passed through each step so that there will be no misunderstanding or conflict.

4. There should be adequate supervision.

Picking supervisors and key men according to a job analysis and man qualification should result in correct interpretation and immediate fulfillment of orders. Men should not be given a job which they know nothing about and told to use their initiative. Training should go hand and hand with supervision.

5. Control should keep pace with progress.

Inspections should be made soon after the job is completed. Cost accounts should be kept right at the tree farm for accuracy and good control. The accountant can also check the equipment and supplies. Adequate records should be kept of all experiments and tests of new equipment. Personnel and performance records should be invaluable aids.

6. A training plan should be put in operation.

A plan should be made for training men on both construction and protection crews. This training should take place both on and off the job according to the requirements of the work. Whereas a large personnel turn over can be expected from one season to the next, the training plan should be constructed to reach all men so as to leave a nucleus of key men for the next season. The key men can be used to help train the other men. Thus the dispatcher would be expected to train the lookouts according to plan during the season, and the district chiefs would train the members of their crews. The lookouts and crew men should not, however, be neglected in the preliminary training. All men expected to fight fire should have intensive training in this field. A separate plan of training should be worked out for each position according to its requirements. Patrolmen, for instance, should have training in firefighting, equipment operation, radio, detection, public relations, and map reading.

7. The organization should be flexible.

In an organization where fire suppression is all important and there are many secondary activities, there must be methods where by members of construction crews can be quickly transferred to fight fire with a minimum of interruption. This involves a complete training plan. Flexibility is also important in that a short term personnel has a larger turn over than a constant personnel force, and it should be possible to continue the necessary functions with a reduced personnel force on the removal of some key men.

8. The duties and responsibilities of each man should be clear and definite.

The duties and responsibilities of each position should be written out so that there will be no misunderstandings. Each man's training should encompass all his possible duties and needs.

The following have been set up as an example of a partial job analysis and man qualification. In time it could be developed more exactly as needed.

Forester. Year long personnel.

Man qualifications:

1. He should be a trained forester who has had experience in construction and protection projects.
2. He should have executive ability and be capable of exercising tact in handling men.
3. He should have a good measure of foresight so that he may see and plan for any problem that may arise.

4. He should have a pleasing personality to be able to meet the public well and promote good relationships with his men.

Job analysis:

1. He should supervise and have full responsibility of the tree farm.
2. He should make the construction plan in detail.
3. He should make the protection plan in detail.
4. He should plan for and train the personnel.
5. He should keep the organization operation smooth.
6. He should establish good public and personnel relationships.
7. He should prepare complete reports as to the progress, costs, and results of the activities.

Dispatcher: A member of the short term personnel who should be available early in the season to familiarize himself with the plans and his duties.

Man qualifications:

1. He should have that type of mental alertness capable of quick decisions that will be sound.
2. He should have had some forest firefighting experience and preferably some dispatching experience.
3. He should be able to assume authority when the occasion demands and be responsible for his action.
4. He should have a pleasing personality and use diplomacy in handling people.

Job analysis:

1. He should be very familiar with the protection and training plans.
2. He should keep track of all men at all times and be able to contact them if necessary.
3. He should know the location of all people and hazards in the area at any time.
4. He should know the location and capacity of all facilities for protection, natural firebreaks, etc.
5. He should dispatch men and supplies to fires.
6. He should keep accurate reports covering all fires and action taken thereon.
7. He should supervise the work of the bedmaker.
8. He should keep the lookouts, district chiefs, and patrolmen alert.

Assistant forester; an experienced man employed during the summers of the construction period.

Man qualifications:

1. He should be trained and experienced in supervision of construction projects; especially roads.
2. He should be a man of executive ability and tactfulness.
3. He should be physically fit for field work.
4. He should have had forest fire experience.

Job analysis:

1. He should direct and supervise the construction of roads, telephone lines, buildings, and towers.

2. He should see that men and materials get on the job.
3. He should know the construction plans thoroughly.
4. He should be familiar with the protection plan.
5. He should train the construction crews in secondary fire defense.
6. He should act as safety engineer.
7. He should keep equipment in order.

District chiefs

Man qualifications:

1. They should have fire fighting experience.
2. They should have the ability to direct, supervise , and train a small crew.
3. They should be physically fit.

Job analysis:

1. They should be responsible for suppression of fires within their district.
2. They should thoroughly learn their district and its protection plan.
3. They should keep their crews trained in fire suppression.
4. They should see that tools and equipment are in good repair and in order for use at any time.
5. They should keep their crews physically fit to fight fires.
6. They should administrate and keep the records of their district.

They should keep their headquarters neat in appearance.

Patrolmen

Man qualifications:

1. They should have a pleasing personality.
2. They should be able to exercise tact in handling people.
3. They should have forest fire experience.
4. They should be physically fit.
5. They should be good drivers.

Job analysis:

1. They should be responsible for fires on their patrol.
2. They should learn their area thoroughly.
3. They should know all people on their area and the extent of their activities.
4. They should keep their equipment in good order.
5. They should promote good public relations.

Lookouts

Man qualifications:

1. They should have good eyesight.
2. They should be dependable men.

Job analysis:

1. They should detect and report on all fires.
2. They should learn the entire area thoroughly.
3. They should keep the lookout and its equipment in good condition.

Gatemen:

Man qualifications:

1. They should have a pleasing personality.
2. They should have a high degree of tact in handling people.

Job analysis:

1. They should keep a record of all people entering the area.
2. They should promote good public relationships.
3. They should keep the gate grounds and house in good condition.

Accountant

He should be a specialist in accounting. He should keep all accounts, costs, records, and inventories required by the forester.

Mechanics

The truck mechanic and the pump mechanic should each be specialists in their own field. They should make periodic checks and keep individual records for all mechanical equipment in addition to keeping them in repair.

Crew Bosses

These men should be specialists in their fields, and should have the ability to handle men. They should be responsible for the work of their crew as directed by the assistant forester.

OLD RELIABLE BOND

WAS CONTAINED

Grader man, powder monkey, semi-truck driver, cat operator, and locator.

These men should be specialists in their respective fields. They should perform duties and be responsible as the assistant forester may direct.

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Continued

OLD RELIABLE BOND

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