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New Hampshire Forest Market Report Winter, 1938-39

By K. E. Barraclough



Splash! The first logs going into water storage, salvaged from down timber on New Hampshire woodlands and purchased by the Government.

LATE NEWS

In order to encourage farm woodland owners to clean up blow-down so as to leave the land suitable for natural reproduction or for planting, a payment of four dollars an acre up to \$60 for each woodland owner will be allowed for such clean-up work in the 1939 Agricultural Conservation program. This sum is in addition to the regular soil-building allowance. For information on forestry practices and the clearing of wood and slash, consult your county agricultural agent or the local representative of the Agricultural Conservation program.

New Hampshire Forest Market Report

Winter 1938-39

By Kenneth E. Barraclough

THE recession, starting in the late fall of 1937, slowed up the demand for forest products, and there was a noticeable decline in prices offered for stumpage and logs. The demand for forest products started to improve during the late summer of 1938, and by the middle of September it appeared that the prices for native timber would compare favorably with prices quoted in the 1937 Fall Market Report.

However, the situation was completely changed when on Wednesday, September 21, a hurricane swept into New England and left in its wake millions of feet of tangled down timber. In New Hampshire alone it is estimated that nearly two billion feet of merchantable timber was blown over. Much of this is white pine, but the storm did not spare hardwoods nor the spruce and fir of northern New Hampshire. The market for native forest products was demoralized. Woodland owners generally were discouraged and many have sold without much consideration of value.

In an attempt to stabilize prices, the federal government through the Northeastern Timber Salvage Administration is purchasing forest products salvaged from down timber at designated points of delivery. Prices have been established for these products, and the program should tend to stabilize stumpage and log prices in the region.

The amount of down timber that will be salvaged before June 1, 1939, is dependent largely upon available labor, weather conditions, and the cooperation of woodland owners. The bulk of the down timber purchased will be stored in water, and the rest sawed on contract. The government's investment in logs and lumber will be liquidated as rapidly as the market can absorb the material.

For the next ten months, at least, stumpage prices for down timber will be based upon prices paid for logs at points of delivery. Little standing timber will be cut during the next year. Cost of logging will be more than normal because of the difficulty of operating down timber and because of a shortage of loggers, teams, and logging equipment within the region.

Recognized grades had never been used for the purchase of native timber, and it was necessary to set up grades for softwood and hardwood logs along with cutting specifications. The International Log rule is being used to scale the logs. With an established policy of buying logs on grade woodland owners will quickly learn that there is a scarcity of quality timber and an abundance of the poorer grades. On the basis of 431,-

*The author gratefully acknowledges the help of Alan MacLeod and C. S. Herr in preparing this report, as well as the cooperation of the following agencies:

Northeastern Timber Salvage Association

United States Forest Service

New Hampshire Forestry and Recreation Commission

New Hampshire Forestry and Timber Salvage Committee

LATER

The purchase program of the Northeastern Timber Salvage Administration has just been modified (January 17, 1939) as follows:

Woodland owners will receive 90 per cent of the stated prices for logs and pulpwood at designated delivery points, with the understanding that they may receive full payment, or part of the remaining ten per cent at a later date, providing that the Timber Salvage Administration has the opportunity to dispose of the logs and pulp without loss or if other arrangements are made to absorb its overhead expenses. The contract will be revised accordingly.

688 feet of white pine logs actually scaled at delivery points in the state by the Northeastern Timber Salvage Administration the logs have been scaling out as follows: No. 1 logs, 15 per cent; No. 2 logs, 35 per cent; No. 3 logs, 50 per cent.

The woodland owner should determine the prices being paid for logs at the nearest point of delivery. With this information he can figure how much it will cost per thousand to log down timber. No woodland owner should expect to net as good a price as he would for standing trees. But even if he can net only a very small return on stumpage, the owner should do the job in order to put his land in a productive condition for a new crop of timber and to reduce the danger of forest fire next spring.

The prices quoted are those being paid by the Northeastern Timber Salvage Administration for logs by grade at established points of delivery. For information as to these locations, consult your town forestry chairman, your county agricultural agent, or a representative of the Northeastern Timber Salvage Administration.

Upon delivery, logs are scaled and graded by government scalers.

Two options as to price are available. (1) The government will pay a straight ninety per cent of the established price, retaining ten per cent to defray expenses. In this case the owner gives up all claim to additional remuneration. (2) If desired, the government will pay eighty per cent of the established price following delivery, and will make additional payments on the basis of pro rata share of surplus, after deductions of costs when the logs have been sold.

Organization of Timber Salvage

The organization set-up to handle the timber salvage program includes several federal agencies. The Chief Forester of the United States Forest Service was authorized by the Secretary of Agriculture to administer the project. The funds available for purchasing the down timber at points of delivery are being loaned to the Surplus Commodity Corporation by the Refinance Construction Corporation. The purchase program is being administered for the Surplus Commodity Corporation by the Northeastern Timber Salvage Administration, an agency set up by the Forest Service, with headquarters in Boston. In New Hampshire the headquarters of the Timber Salvage Administration is in the post office building in Manchester. The state has been divided into eight districts with a representative of the timber salvage agency located in each district. The men are stationed at the following points: Keene, Lebanon, Woodsville, Lancaster, Laconia, Concord, Milford, and Exeter. For the name of a district man consult your county agent.

Each district agent representing the salvage administration employs scalers to scale logs at delivery points. It is important to keep in mind that the Northeastern Timber Salvage Administration is organized to buy logs only upon delivery. The responsibility rests with the local people to salvage the down timber and to bring the logs to established delivery points. If the overhead costs are not to be excessive, there should be a daily delivery of at least around 20,000 feet to a delivery point.

The rural people of New Hampshire are well organized to cooperate with the Timber Salvage Administration. Following the hurricane, the New Hampshire Extension Service cooperated with the Timber Salvage

Committee, appointed by the Governor, in setting up forestry committees in each town. Their work has been to gather information on the amount of down timber, to locate storage ponds, arrange for leases, build roads, construct booms, etc., and to advise people locally concerning the program. The forestry committee and selectmen in the various towns have worked these local problems out and they have had the whole-hearted cooperation of the local people. Plans are also being developed by the state and federal governments for helping farmers to restore suitable growing stock on their woodlands. For additional information about the present and future responsibilities of town forestry committees, consult your county agricultural agent.

In order to assist the many woodland owners who are unable to salvage their own timber and who do not understand how to make the necessary arrangements with a contractor, the Governor authorized the setting up of a Timber Salvage Advisory Agency under the general supervision of the state forester so that the maximum amount of timber will be salvaged. The state forester has set up the organization in cooperation with the Extension Service. Fourteen advisory agents are working in the state, and the work is headed up by a state supervisor and a field agent located at Concord. The field men cooperate closely with the county agricultural agents. With such a comprehensive organization many millions of feet of down timber should be salvaged before next summer.

Information useful to woodland owners in salvaging down timber

The cost of logging down timber depends upon many factors, such as its accessibility, the condition of the blow-down, size and quality of the timber, available labor, equipment and distance from the delivery station. At the time of the hurricane it was costing about \$2 a thousand for felling and bucking, a little over \$1 for scooting and snaking the logs out, and about \$2 a thousand for trucking logs to the mill within a radius of ten miles. The tangled condition of the blow-down, which makes logging much more difficult, may increase the cost of logging anywhere from \$1.50 to \$3.00 a thousand. Also, at present, labor for work in the woods is more difficult to locate and consequently more expensive.

Before the hurricane, cordwood was worth anywhere from \$5 to \$10 per cord, depending upon the location, the species and the condition of the wood. Thousands of cords of fuelwood are down, and tops of timber trees left from salvaging operations will be available for fuel. For the present it appears quite impractical to attempt to stabilize the fuelwood market. Few woodland owners in the affected area should have occasion for the next few years to cut standing trees for fuelwood.

Very serious thought must be given to cleaning up our damaged woodlands so that they will again quickly be producing satisfactory timber crops. New Hampshire wood-using industries are dependent upon supplies of forest products and woodland areas must be intelligently managed or the state will indeed be facing a timber famine in the years ahead. The need for keeping our woodlands producing at maximum capacity was never greater.

Confine cutting only to down timber or leaning trees which must be removed in order to facilitate salvage operations. Any standing trees

will be needed to assist in re-seeding the area and to serve as protection to the remaining stand.

In salvaging the down timber it is important to cut to as small a diameter limit as is consistent with present market outlets.

Logs not suitable for lumber should be removed.

Topwood, useful for fuelwood, should be salvaged if it can be used or a market can be developed for it.

Brush should be piled or distributed in such a way as to encourage established young growth and allow for natural seeding. In many instances it will be necessary to burn the brush this winter.

Log Grading Rules and Prices

On the following pages will be found the log grading rules for various species. Supplementary requirements follow. Prices are figured on the basis of the 90% option. (See page 3 for alternative schedule.)

Supplementary Requirements for White Pine, Hemlock and Hardwood

Each log will be scaled by the International $\frac{1}{4}$ -inch scale.

Each log must be properly cut. Branches or knots shall be cut flush with the trunk.

Each log must have a 2-inch to 4-inch excess length for trimming allowance.

As many logs as possible should be cut in 14-foot and 16-foot lengths.

No logs containing nails, wire, or other metal will be accepted.

Only logs from blown-down or hurricane-broken trees will be purchased. No purchases will be made from owners or operators cutting living trees which have not been blown down or broken by the hurricane.

Supplementary Requirements for Pulpwood

Only pulpwood from blown-down or hurricane-broken trees will be accepted. No purchases will be made from owners or operators cutting living trees which have not been blown down or broken by the hurricane.

All pulpwood will be scaled by the cord: 128 cubic feet equals 1 cord.

All pulpwood shall have the limbs and knots trimmed down even and smooth with the stick itself. Each stick shall be clean and not more than 5 per cent rot will be permitted.

Fire-charred material will not be accepted.

Deductions in scale shall be made for rot or any other visible defects impairing the quality of the wood as well as for loose piling.

All pulpwood shall be delivered to the designated scaling or delivery point, or placed in water or piled as directed by the representative of the NETSA. Piled pulpwood shall be stacked on skids clear and free of the ground in a neat and workmanlike manner. A space of not less than 18 inches shall be kept between the sides of the piles.

Each pulpwood species or product will be accepted and purchased only where there is a satisfactory market for each species and product concerned.

All pulpwood shall be 4 feet long, cut with saws, with no allowance for scarf or overlapping except that popple pulpwood may be delivered in 60-inch lengths if such length is designated for the specified delivery point. Rough pulpwood will be at least 5 inches in diameter measured inside bark at the small end. No bull spruce or similar coarse wood so knotty as to be undesirable for making good pulp will be accepted. All peeled pulpwood shall have all traces of bark removed and the sides and ends of each stick shall be clean.

It is expected that there will be a short peeling season this coming spring and it is recommended that as much as possible of the pulpwood be peeled and delivered as peeled wood.

When pulpwood is delivered to a river or pond, the seller will be responsible for furnishing properly bored pulp boom-logs. The NETSA or the company to use the pulpwood shall furnish the boom chains. All boom equipment utilized must be satisfactory to the representative of the NETSA.

White Pine Log Grading Rules and Prices
as announced by the
Northeastern Timber Salvage Administration
November 5, 1938.

Prices Subject to Review, June 1, 1939

Top diameter inside bark	Length	Rot permitted	Sweep permitted	Surface Requirements	Price per M log scale for logs delivered		
					Payment to owner	Share to Gov't	Established price
13-16"	12-16'	10%	1" per 8 ft.	Grade 1 Must be $\frac{2}{3}$ surface clear in lengths 8' long or longer, or 50% surface clear full length.	Not over 90%	Not under 10%	100%
17" & up	10-16'	15%	"	Must be 50% surface clear in lengths 8' long or longer, or 25% surface clear full length.	\$16.20*	\$1.80	\$18.00

NOTE: Eight foot length logs with a top diameter of 13" or more will be accepted if straight and surface clear. Shake and splits not permitted.

9-16"	10-16'	10%	1" per 4 ft.	Grade 2 Sound tight knots not larger than 2½" in diameter. Larger knots permitted only if 50% full length surface with sound tight knots not larger than 2" in diameter.	12.60*	\$1.40	\$14.00
17" & up	8-16'	20%	"	Sound tight knots not over 3" in diam. Larger knots permitted only if 50% full length surface with sound tight knots not larger than 2½" in diam.			

Shake and splits not permitted.

6-8"	10-16'	None	1" per 8 ft.	Grade 3 Sound knots not over 1" in diameter or live knots not over 2" in diameter.	\$10.80*	\$1.20	\$12.00
9-13"	10-16'	10%	1" per 4 ft.	No surface requirements except logs with knots 4" or more in diam. in whorls less than 2' apart will not be accepted unless 25% or more full length surface with sound knots not over 2" in diameter.			
14" & up	10-16'	20%	"	Sound knots permitted.			

*Norway or red pine saw logs are being bought on the same grades as white pine and at the same prices, except that Norway pine are accepted down only to 8 inches in diameter at the top end. Norway pine logs will not be stored in water.

For supplementary requirements see page 5.

Eastern Hemlock Log Grades & Price Schedule

as announced by the
Northeastern Timber Salvage Administration
November 30, 1938

Top diameter inside bark	Length	Rot permitted	Sweep permitted	Surface requirements	Price per M log—for logs de- livered at receiving stations. Scaled by International Log rule.		
					Owner's share	Share to Gov't	Established price
8"-12"	10'-20' in 2-ft. multiples	10%	1" per 4'	Sound tight knots up to 2½" in diam. permitted provided they do not occur in groups less than 2' apart. Shake per- mitted up to 15% of gross scale if not combined with other serious defects.	\$10.80	\$1.20	\$12.00
7" smooth logs or logs with ½" tight knots will be accepted.							
13" & up	10'-20' in 2 ft. multiples	20%	1" per 4'	Shake permitted up to 20% of gross scale if not combined with other serious defects. Sound knots are permissible.	\$10.80	\$1.20	\$12.00

All logs shall be cut 3" longer than specified lengths for a trimming allowance.

Supplementary requirements should be observed as with pine logs (see page 5.)

The following cutting specifications should be observed when making hemlock logs:

Each log should be cut so as to be as straight as possible, of desirable length and with a top diameter of at least 8 inches inside the bark, except logs 7 inches in top diameter, which are

smooth and do not have unsound knots or knots larger than ½ inch in diameter, will be accepted. No shake is permitted.

Logs should be cut 10, 12, 14, 16, 18, and 20 feet long with 60 per cent of lengths 14 feet and longer. A trimming allowance of 3 inches additional must be left on each log.

New England Spruce, Log Grades & Price Schedules
As announced by the Northeastern Timber Salvage Administration
December 2, 1938.

Top diameter inside bark	Length	Rot permitted	Sweep permitted	Surface requirements	Price per M bd. ft. by Inter- national Scale Rule, logs delivered to ponds	
					Owner's share	Schedule price
8"	12'-16' in 2-ft. multiples	10%	1" per 8 ft.	Sound, tight knots not over 1½" in diameter accepted.	\$12.60	\$14.00
9"-12"	10'-16' in 2-ft. multiples	15%	1" per 8 ft.	Sound, tight knots not over 2" in diameter permitted, ex- cept that they cannot occur in whorls closer than 2 feet.	\$12.60	\$14.00
13" and up	10'-16' in 2-ft. multiples	15%	1" per 8 ft.	Sound, tight knots not over 2½" in diameter permitted, except that they cannot occur in whorls closer than 2 feet.	\$12.60	\$14.00

The following cutting specifications should be observed when making spruce logs:

Each log should be cut so as to be as straight as possible, of desirable length and with a top diameter of at least 8 inches inside the bark.

Log lengths should be 10, 12, 14, and 16 feet with an additional 3-inch length to allow for trimming. At least 60 per cent of the logs should be cut 14 feet and 16 feet long.

Supplementary requirements are on page 11.

Hardwood Log Grading Rules and Prices

as announced by the
Northeastern Timber Salvage Administration
November 7, 1938.

For yellow birch, sugar maple, red and white oak, basswood, black cherry, beech, paper birch, and white ash

Grade	Length	Diameter small end	Allow- able cull	Sweep per 8 ft.	Allow- able mineral stain	Surface Requirements	Price per M log scale for logs delivered		
							Payment to owner	Share to Gov't	Total
1	10' & up	Butt logs 12-15"	25%	1½"	Not over ½ of diameter	75% in one clear cutting.	Not over 90% \$19.80	Not under 10% \$2.20	100% \$22.00
1	10' & up	16" & up	40%	1½"		75% in not more than 2 clear cuttings not less than 5' long.			
2	8'-10'	12" & up	40%	2"	Not over ½ of diameter	60% in not more than 2 cuttings not less than 3 ft. long.	\$14.40	\$1.60	\$16.00
2	12' & up	10" & up	40%	2"		60% in not more than 3 clear cuttings not less than 3 ft. long.			
3	8½' or† multiples	9" & up	0%	3"	100%	Sound and suitable for ties.	\$10.80	\$1.20	\$12.00
3	8' & up	11" & up	50%	3"	½ of diameter	40% in clear cuttings not less than 3 ft. long.			

†Tie logs.

Unmerchantable Logs

1. Less than 8 ft. long.
2. Less than 9" in diameter except white ash and paper birch.
3. Has more than 50% cull.
4. Has more than 3" sweep in 8 ft.

Variations for Species

All soft maple and elm logs will be graded as No. 3 regardless of length or per cent surface clear.

Beech—Add 2" to minimum diameter and subtract \$2.00 from price for all grades.

White ash and paper birch—Deduct 2" from minimum diameter but deduct \$2.00 for paper birch for all grades. Popple and brown ash not accepted.

Supplementary requirements should be observed as with pine logs (see page 5.)

Northern New Hampshire and Vermont
Pulpwood Specifications and Prices
as announced by the
Northeastern Timber Salvage Administration

Species	Diameter at small end inside bark	Length	Rot permitted	Prices delivered to mill site or designated water delivery points at mill sites. Full 90% price will be made only at mill delivery points.			
				Owner's share per cord		Scheduled price per cord	
				(Peeled)	(Rough)	(Peeled)	(Rough)
Spruce with not over 30% balsam fir.	4" for peeled 5" for rough	48 inches Ends sawed square	5%	\$10.35	\$8.55	\$11.50	\$9.50
Spruce with over 30% balsam fir.	4" for peeled 5" for rough	48 inches Ends sawed square	5%	\$9.45	\$7.65	\$10.50	\$8.50
Hardwood other than popple. Only merchant- able species of pulpwood accepted.	4" for peeled 5" for rough	48 inches Ends sawed square	5%	\$9.00	\$7.20	\$10.00	\$8.00
Popple	4" for peeled 5" for rough	48 inches but 60% will be accepted for designated specified de- livery points. Ends sawed square.	5%	\$7.20	\$6.30	\$8.00	\$7.00

Supplementary requirements for pulpwood are on page 5.

Supplementary Requirements for Spruce

If there is a major defect such as a large hole, rotten portion, circular or twisted cracks, etc., the log length, if any, below such defect should, if possible, be ended just below the defect. The defective portion should be cut out and a new log length measured starting just above the major defect.

A fork should be considered a major defect and should not be included in a log. A crook may sometimes be sufficiently eliminated by placing the cut in the center of the crook. If this will not eliminate most of the bend, a small section of the crook should be cut out.

A single straight crack or slit is not a major defect.

All limbs should be cut off flush with the trunk.

The most valuable log is the butt log, or the one nearest the stump, which should be given special attention to keep it in the most valuable condition.

To obtain the best utilization, measure the full length of the usable portion of the tree and decide on each log length before any logs are cut. Measuring of logs should start from the base. In some cases log cuts should be made from the top towards the stump in order to prevent splitting.

No logs containing nails, wire or other metal should be presented for scaling.

Only logs from blown-down or hurricane-broken trees will be purchased. No purchases will be made from owners or operators cutting living trees which have not been blown down or broken by the hurricane.

Sample Timber Contract

The following is a sample timber contract that might be used between woodland owners and logging contractors in cases where the owners do not salvage their own timber but contract to have the work done.

Log Cutting, Hauling and Delivery Contract

This agreement made by and between Owner, of County of State of and Operator, of County of State of

Witnesseth:—

In consideration of the conditions hereinafter mentioned said Operator agrees to remove from the land of said Owner, consisting of acres located at of County of State of and to haul and deliver at log storage station No. located at a quantity of logs as hereinafter described, viz:

Quantity and kind To be delivered by the Operator to the above mentioned log storage station No. not later than

This contract covers only timber blown down or seriously damaged by the hurricane and no living tree not blown down or seriously damaged by the hurricane of September 21, 1938, shall be cut or logged in connection with this agreement.
Price per M ft. b m for logs delivered

.....
Delivery will be made at the above mentioned log storage lot No. in accordance with the instructions of the representatives of the Northeastern Timber Salvage Administration (F. S. C. C.)

Payments: To be made within one month of delivery and measurement at the above designated delivery point of each load of logs delivered and scaled by the representative of the Northeastern Timber Salvage Administration (F. S. C. C.)

.....
Owner guarantees he is sole owner of the logs above mentioned and that the same are free and clear of any and all encumbrances and adverse claims except as follows:

.....
Specifications of logs to be logged, hauled and delivered by Operator.

The specifications of the logs to be removed from the land of the Owner and delivered by the Operator are stated in the log grading specifications issued by the Northeastern Timber Salvage Administration (F. S. C. C.) which are attached to this agreement and are hereby made a part of such agreement.

In cutting, logging and hauling the logs from the land of the Owner the Operator agrees to protect against unnecessary damage all living and undamaged trees and all young trees, including reproduction. All brush resulting from the cutting carried on under this contract on the land of the Owner will be disposed of by the Operator in accordance with state laws.

Logging: Logging of the timber covered by this agreement will be started not later than and will proceed at a rate of at least per month until the agreement is completed.

Measure: The agreed measurement and grading of all logs delivered to be made by the representative of the Northeastern Timber Salvage Administration (F. S. C. C.). The Owner agrees to make available to the Operator all scaling reports received from the Northeastern Timber Salvage Administration (F. S. C. C.) relative to the timber covered by the contract, and the volume, grade and species of the timber delivered by the Operator will be based on the volume, grade and species stated in the scale or timber receipt from the Northeastern Timber Salvage Administration (F. S. C. C.)

Special provisions:

The Operator shall be responsible for compliance with all laws applicable to him as an employer.

In witness thereof both parties have caused these presents to be signed this day of 193...

Owner
Operator

Witnesses:

When woodland owners sell down timber to the Timber Salvage Administration, it is necessary that the owner sign a timber purchase agreement. The contract on the 80% option reads as follows. Slight changes will be made in case the 90% option is used.

TIMBER SALVAGE ADMINISTRATION

Agreement No.

TIMBER PURCHASE AGREEMENT.

1. The parties to this agreement are:

THE FEDERAL SURPLUS COMMODITIES CORPORATION,
TIMBER SALVAGE ADMINISTRATION, hereinafter called the administration;
and

(Name

(Address)

HEREINAFTER called the seller.

2. The seller hereby agrees to deliver to the administration, at, or or, before, 19.., all of his merchantable timber, not exceeding board feet, which was blown down or substantially injured as a result of the hurricane in September, 1938. Such delivery may be made in installments.

3. The administration agrees to pay to the seller, within ... days after invoice in proper form has been received by the Boston office of the Federal Surplus Commodities Corporation, an amount equal to per centum (....%) of the price computed for the timber on the basis of the attached schedule is hereby incorporated into and made a part of this agreement.

4. It is mutually understood that all timber purchased by the administration in furtherance of the timber salvage program, including the timber purchased pursuant to this agreement, will be resold by the administration, either before or after processing, at such times and in such quantities as will, in the opinion of the administration, result in obtaining the highest possible price therefor.

In the event the proceeds of such resales exceed the expenses, liabilities, and obligations incurred by the administration in carrying out such program, including all moneys borrowed from the Disaster Loan corporation which are repayable from such proceeds, the administration shall distribute all such excess proceeds among those persons who sell timber to the administration under the timber salvage program.

5. The seller's share of the excess proceeds, if any, shall be paid to him at such time as the administration may determine, but in no event later than days after all timber purchased under the timber salvage program has been resold.

The seller warrants that he is the sole owner of the timber which is the subject of this agreement, and that there are no liens or other encumbrances outstanding against such timber, except as follows:

6. It is mutually agreed that, notwithstanding any other provision of this agreement, the administration may deduct from any payment which may be due the seller under this agreement, such amounts as the administration may find necessary to acquire the rights or interests of third persons in, and to satisfy liens or other encumbrances outstanding against, the timber.

7. It is expressly agreed that the seller shall not assign his right to share in the excess proceeds as provided in paragraph 4 of this agreement, that any assignment of such right shall be null and void and shall not operate to vest any right against the administration in a third person, and that an attempted assignment shall operate to forfeit all right to share in such excess proceeds. The foregoing provision shall not apply to any assignment to which the administration has given written consent.

8. No Member of or Delegate to Congress or Resident Commissioner shall be entitled to any share or part of this agreement or to any benefit that may arise thereupon.

THE FEDERAL SURPLUS COMMODITIES CORPORATION

..... Timber Salvage Administration

By

..... L. S.

(Seller)

..... L. S.

(Seller)

..... L. S.

....., 19.....

(Date)

Co-operative Timber Salvage Associations

Woodland owners who haul logs to a pond where they are sold to the government often have the responsibility of constructing a road to a pond or making other necessary improvements. Every individual who hauls logs to a delivery point should bear his proportionate share of the expense. An informal or formal association of the woodland owners concerned has been suggested as a means of caring for the necessary expenses. A few associations at various points about the state, where town committees and officials find it impractical to handle the situation, should assist in carrying out the details of establishing a delivery point for log storage. The association might be organized along the lines suggested. This is a matter for the woodland owners to decide locally among themselves.

Suggested procedure for organizing co-operative associations to prepare and maintain suitable storage facilities for down timber

Determine whether *any* association is necessary. Many towns are now doing the job. Others will probably follow their example. If only a very small number of persons are storing logs in a pond or if expenses

are very small or are already being borne by some agency such as a town, there is probably no need of forming a co-operative.

If it seems impossible to proceed without some organization and if it is determined that a co-operative can function to advantage, then a meeting should be arranged of all persons delivering logs to the particular storage point under consideration.

At this meeting all aspects of the situation should be discussed and the way in which a co-operative could function should be explained.

If possible, the co-operative should be informal in nature and need not be incorporated. (In the event that the co-operative is likely to be called upon to handle sizeable amounts of money and operate extensively, it might be advisable to incorporate.)

Requirements for membership would be met by delivering logs to that particular delivery point.

If those present decide to go ahead with the formation of a co-operative association, they should vote to adopt certain rules and regulations, a suggested outline being attached.

They should elect a president and secretary-treasurer and an executive committee (three or five including secretary and president.)

They should set the rate of payments by members and instruct the secretary-treasurer to perform the necessary duties in this respect.

They should decide whether to bond the secretary-treasurer, whether they need workman's compensation insurance, supplies for booms and, in general, outline the work to be done.

Following the meeting the president, secretary-treasurer and executive committee should be able to carry on. They may need to borrow money on security of notes of members, such notes to be obtained (if possible) at time of delivery of wood.

Suggested Rules and Regulations

.....Timber Owners' Association

Rules and Regulations.

- Sec. 1 Purposes: The purpose of this association shall be to establish and maintain proper facilities for storage of timber in
- Sec. 2 Membership: All persons using for storage of timber shall be members in this association and shall sign the rules and regulations. No membership dues shall be required.
- Sec. 3 Meetings: Meetings shall be called at the discretion of the executive committee except that they will include a meeting in the spring or summer of 1939 at which time the secretary-treasurer shall report to the membership concerning the financial transactions and condition of the association.
- Sec. 4 Officers: The officers of the association shall be a president and secretary-treasurer, who, with one to three additional members, will constitute the executive committee of the association. Election of these officers shall be by a majority of the members present.
- The duties of the officers shall be the usual ones performed by officers in co-operative organizations. The president shall act as chairman of the executive committee.
- The secretary-treasurer shall be empowered to collect monies from members at a fixed rate not to exceed cents per thousand upon the volume of timber placed in storage and shall disburse such monies as they may be required in car-

rying out the business of the association. The secretary-treasurer shall upon the request of the association render a financial accounting to the association.

The secretary-treasurer shall give bond with corporate surety of such amount as the executive committee may require. The premium for such bond shall be paid for by the association.

Sec. 5 Dissolution: In the event of the association's dissolution, all surplus shall be returned by uniform dividends to its members upon the volume of timber upon which the association collected monies.

Financing Salvage Operations

Credit is an important item that most woodland owners must consider when they salvage their down timber. Where possible, loans for operating should be secured from a local bank. Farm woodland owners who cannot get credit locally may make arrangements with the Farm Security Administration quickly for this purpose. In making applications for loans through the F. S. A. consult your County Agricultural Agent or Farm Security Agent. Since the Timber Salvage Administration plans to pay for logs within ten days to two weeks following delivery, credit in most cases will be needed only to get logging operations underway.

Boom Construction

The construction and anchoring of booms has long been considered the most fundamental part of a logging operation where water was used for storage or transportation.

Sound, straight logs should be selected—either white pine or red spruce are satisfactory. They should not be less than 11 inches at the small end and preferably 32 to 40 feet in length.

A three-inch hole should be bored in each log, 12 inches from the end. It is important to have this hole one foot from the end of the log to minimize the danger of the boom chain or rope splitting out.

The larger end of the log should be faced top and bottom so that the log will be about 12 inches in diameter. The face should extend back about 16 inches so that the hole can be bored a foot from the end leaving 4 inches additional space for the ring or toggle to seat itself. Holes must be bored straight. Cutting and fitting the log allows ample space for it to fit into the boom using a 4-foot 6-inch boom chain from the ring to the toggle.

The ring and toggle when in place will both be on the top side of the log. When they are in place in the log and boom they should be plugged using 2-inch dry hardwood or spruce if possible. In making plugs, cut dry spruce or hardwood into blocks of proper length, 7 inches, mark off surface with 2-inch squares and split off. Then level one end. Care should be exercised to have ring and toggle crosswise in the log before plugging so as not to split the log. When attaching chains, see that they are not twisted. Nails, staples, screws or wire should not be used in boom construction.

The boom should be adequately fastened to stump, tree or "dead man". Never tie rope or cable to the ring in the end of a log but hitch it firmly with a 1½ or 1¼-inch diameter rope by half hitch and timber hitch near butt of log.

For general use under all circumstances the regular ring and toggle chain is recommended. A rope well plugged in the boom, $1\frac{1}{4}$ inches in diameter, will serve for a year or two. Secondhand boom chains can be purchased from several lumber companies in the northern part of the state which will be entirely satisfactory to boom hurricane-damaged timber.

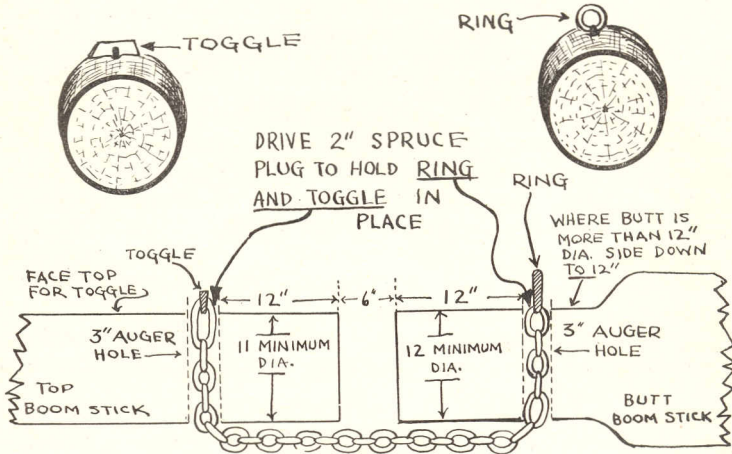


Diagram of simple type of boom construction

Booms made with $\frac{3}{4}$ -inch chains are recommended on bodies of water exceeding 100 acres in extent if the boom contains over 1,000 M feet of logs. Booms should not contain over 2,000 M feet. For smaller bodies of water and smaller amounts of logs $\frac{1}{2}$ -inch and $\frac{5}{8}$ -inch chains may be used. When smaller booms are made 2-inch holes may be bored for the $\frac{1}{2}$ -inch or $\frac{5}{8}$ -inch chain and 9-inch logs instead of 11-inch may be used. The chains can be proportionately shorter and the plugs may be $1\frac{1}{3}$ " x 6".

Booms must be inspected during the dry season, when the water lowers so that the boom is not resting on rocks or ledges thus allowing logs to escape.

General information that is useful in the measurement and marketing of forest products.

Long measure

12 inches	=	one foot
3 feet	=	one yard
5½ yards	=	one rod
5,280 feet	=	one standard mile

Square measure

144 square inches	=	one square foot	40 square rods	=	one rood
9 square feet	=	one square yard	4 roods	=	one acre
30¼ square yards	=	one square rod	160 square rods	=	one acre
43,560 square feet	=	one square acre	640 acres	=	one square mile

Metric system

One inch	=	2.54 centimeters	One centimeter	=	0.394 inches
One foot	=	0.305 meter	One meter	=	3.281 feet
One yard	=	0.914 meter	One meter	=	1.094 yards
One mile	=	1.609 kilometers	One kilometer	=	0.621 mile

Board measure

The unit of measure is the board foot, which is a board one inch thick and one foot square.

Formula: To find board measure, multiply length in feet by width and thickness in inches, and divide the product by 12.

Table 1. The International log rule

Diameter inside bark top end inches	Length of log in feet						
	8	10	12	14	16	18	20
6	10	10	15	15	20	25	25
8	15	20	25	35	40	45	50
9	20	30	35	45	50	60	70
10	30	35	45	55	65	75	85
11	35	45	55	70	80	95	105
12	45	55	70	85	95	110	125
13	55	70	85	100	115	135	150
14	65	80	100	115	135	155	175
15	75	95	115	135	160	180	205
16	85	110	130	155	180	205	235
17	95	125	150	180	205	235	265
18	110	140	170	200	230	265	300
19	125	155	190	225	260	300	335
20	135	175	210	250	290	330	370
21	155	195	235	280	320	365	410
22	170	215	260	305	355	405	455
23	185	235	285	335	390	445	495
24	205	255	310	370	425	485	545
25	220	280	340	400	460	525	590
26	240	305	370	435	500	570	640
27	260	330	400	470	540	615	690
28	280	355	430	510	585	665	745
29	305	385	465	545	630	715	800
30	325	410	495	585	675	765	860
31	350	440	530	625	720	820	915
32	375	470	570	670	770	875	980
33	400	500	605	715	820	930	1,045
34	425	535	645	760	875	990	1,110
35	450	565	725	805	925	1,050	1,175
36	475	600	685	855	980	1,115	1,345

Table 2. Area of squares, length of one side being given.

Length of side of square		Area of square	
Feet	Chains	Square feet	Acres
66	1	4,356	.1
100	1.515	10,000	.22957
208.7	3.030	43,560	1.
330.	5.	108,900	2.5

United States Department of Agriculture, Miscellaneous Publication No. 225.

Table 3. Approximate quantities of forest products represented by 1,000 feet of timber board measure, 1 M. feet, BM.

Product	Quantity	Product	Quantity
Shingles	10,000	Slack headings sets	500
Lath	5,000	Tight headings sets	250
Hoops	3,000	Fence posts	202
Slack staves	3,000	Poles, telephone	16,667
Tight staves	1,000	Cords	2.

United States Department of Agriculture, Miscellaneous Publication, No. 225.

Table 4. Approximate Equivalents of Forest Products.

Cubic feet	Board feet	Cords
1	6	
200	1000	2
90	500	1
35	138	.25

U. S. D. A. Miscellaneous Publication, No. 225.

Table 5. Standard converting factors.

Product	Assumed dimensions	Equivalent in board feet
Cord, standard	4 x 4 x 8 feet	500
Cord, long	4 x 5 x 8 feet	625
Cord, shingle bolts	4 x 4 x 8 feet	600
Cord, small material (averaging less than 5 inches middle diameter in the round)	4 x 4 x 8 feet	333 $\frac{1}{3}$
Cord, short	4 x 3 x 8 feet	375
Cord, short small material	4 x 3 x 8 feet	250
Tie, standard	7 x 9 inches x 8 feet	35
Tie, standard	7 x 8 inches x 8 feet	30
Tie, standard	6 x 6 inches x 8 feet	20
Pole (telephone) or piling	8 inches x 45 feet	200
Pole (telephone) or piling	8 inches x 40 feet	150
Pole (telephone) or piling	8 inches x 35 feet	100
Pole (telephone) or piling	7 inches x 60 feet	280
Pole (telephone) or piling	7 inches x 50 feet	200
Pole (telephone) or piling	7 inches x 40 feet	100
Pole (telephone) or piling	7 inches x 35 feet	80
Pole (telephone) or piling	7 inches x 30 feet	60
Pole (telephone) or piling	7 inches x 25 feet	50
Pole (telephone) or piling	5 inches x 25 feet	30
Cubic foot	13.6 inches x 1 foot	6
Linear foot	10 inches x 1 foot	3
Post, fence	6 inches x 7 feet	7
" "	5 inches x 7 feet	5
Stake, fence	3 inches x 5 feet	1

Scaling and Measurement of National Forests Timber.

Table 6. Scribner Decimal C log rule

Diameter Inches	Length of log in feet				
	8	10	12	14	16
6	0.5	1	1	1	2
8	1	2	2	2	3
9	2	3	3	3	4
10	3	3	3	4	6
11	3	4	4	5	7
12	4	5	6	7	8
13	5	6	7	8	10
14	6	7	9	10	11
15	7	9	11	12	14
16	8	10	12	14	16
17	9	12	14	16	18
18	11	13	16	19	21
19	12	15	18	21	24
20	14	17	21	24	28
21	15	19	23	27	30
22	17	21	25	29	33
23	19	23	28	33	38
24	21	25	30	35	40
25	23	29	34	40	46
26	25	31	37	44	50
27	27	34	41	48	55
28	29	36	44	51	58
29	31	38	46	53	61
30	33	41	49	57	66
31	36	44	53	62	71
32	37	46	55	64	74
33	39	49	59	69	78
34	40	50	60	70	80
35	44	55	66	77	88
36	46	58	69	81	92

Elements of Forest Mensuration—Chapman and Demeritt

Table 7. New Hampshire, or Blodgett, log rule.

Diameter in inches middle of log inches	Length in feet				
	10	12	14	16	18
6	12	14	16	19	22
7	16	19	22	26	29
8	22	26	30	35	39
9	27	33	38	43	50
10	34	41	48	54	61
11	41	50	57	66	74
12	49	58	69	78	88
13	57	70	80	92	103
14	66	80	93	106	120
15	77	91	107	123	137
16	87	104	122	139	157
17	98	117	137	157	177
18	110	132	154	176	198
19	123	148	171	197	221
20	136	163	190	217	244
21	150	180	210	240	270
22	165	197	230	262	296
23	180	216	251	287	323
24	196	235	274	313	352
25	212	255	297	339	383
26	230	276	322	367	413
27	248	297	347	397	446
28	266	319	373	426	479
29	285	343	400	457	514
30	306	367	428	489	550
31	326	391	457	514	588
32	348	417	487	557	626
33	370	443	517	592	666
34	392	471	549	628	707
35	416	499	583	666	749
36	440	528	617	704	792

Logging—Bryant, 1914.

Table 8. Maine, or Holland, rule. Contents of logs in board feet

Diameter inside bark, top end, inches	Length of log, in feet						
	8	10	12	14	16	18	20
8	22	27	33	39	44	50	55
9	26	32	39	46	52	59	65
10	34	42	51	59	68	76	85
11	41	51	62	72	83	93	103
12	52	65	78	92	105	118	131
13	60	75	90	105	120	135	150
14	71	89	107	124	142	160	178
15	80	101	121	141	161	181	202
16	89	111	134	157	179	201	223
17	102	128	154	179	205	231	256
18	116	145	174	203	232	261	290
19	135	169	203	237	271	305	339
20	151	189	227	265	302	340	378
21	168	201	252	294	336	378	420
22	181	227	272	318	363	408	456
23	200	250	300	351	401	451	501
24	219	274	327	284	439	494	549
25	238	298	358	417	477	537	596
26	253	317	380	444	507	570	634
27	273	341	410	478	546	615	683
28	307	383	460	537	614	690	767
29	328	410	493	575	657	739	821
30	353	441	530	618	706	795	883
31	380	472	567	661	785	850	944
32	407	495	594	693	795	891	990
33	432	530	636	742	818	954	1,060
34	458	562	675	787	900	1,012	1,125
35	484	593	712	831	949	1,068	1,187
36	501	626	770	898	1,026	1,125	1,283

Values read from scale stick.

Table 9. Doyle log rule

Diameter of log small end inside bark (inches)	Length of log in feet										
	8	9	10	11	12	13	14	15	16	17	18
	Contents of log in board feet										
6.....	2	2	2	3	3	3	3	4	4	4	4
7.....	4	5	5	6	7	7	8	8	9	10	10
8.....	8	9	10	11	12	13	14	15	16	17	18
9.....	12	14	16	17	19	20	22	23	25	27	28
10.....	18	20	22	25	27	29	31	34	36	38	40
11.....	24	28	31	34	37	40	43	46	49	52	55
12.....	32	36	40	44	48	52	56	60	64	68	72
13.....	40	46	51	56	61	66	71	76	81	86	91
14.....	50	56	62	69	75	81	87	94	100	106	112
15.....	60	68	76	83	91	98	106	113	121	129	136
16.....	72	81	90	99	108	117	126	135	144	153	162
17.....	84	95	106	116	127	137	148	158	169	180	190
18.....	98	110	122	135	147	159	171	184	196	208	220
19.....	112	127	141	155	169	183	197	211	225	239	253
20.....	128	144	160	176	192	208	224	240	256	272	288
21.....	144	163	181	199	217	235	253	271	289	307	325
22.....	162	182	202	223	243	263	283	304	324	344	364
23.....	180	303	226	248	271	293	316	338	361	384	406
24.....	200	225	250	275	300	325	350	375	400	425	450
25.....	220	248	276	303	331	358	386	413	441	469	496
26.....	242	272	302	333	363	393	423	454	484	514	544
27.....	264	298	331	364	397	430	463	496	529	562	595
28.....	288	324	360	396	432	468	504	540	576	612	648
29.....	312	352	391	430	469	508	547	586	625	664	702
30.....	338	380	422	465	507	549	591	634	676	718	760
31.....	364	410	456	501	547	592	638	683	729	775	820
32.....	392	441	490	539	588	636	686	735	784	833	882
33.....	420	473	526	578	631	683	736	788	841	894	946
34.....	450	506	562	619	675	731	787	844	900	956	1012
35.....	480	541	601	661	721	781	841	901	961	1021	1081
36.....	512	576	640	704	768	832	896	960	1024	1088	1152
37.....	544	613	681	749	817	885	953	1021	1089	1157	1225
38.....	578	650	722	795	867	939	1011	1084	1156	1228	1300
39.....	612	689	766	842	919	995	1072	1148	1225	1302	1378
40.....	648	729	810	891	972	1053	1134	1215	1296	1377	1458

Farmers' Bulletin, No. 1210.

Table 10. Solid cubic contents of logs.

Diameter in inches middle of log.	Length in feet (Contents in cubic feet)					
	8	10	12	14	16	18
6	2	2	2	3	3	4
7	2	3	3	4	4	5
8	3	3	4	5	6	6
9	4	4	5	6	7	8
10	4	5	7	8	9	10
11	5	7	8	9	11	12
12	6	8	9	11	13	14
13	7	9	11	13	15	17
14	9	11	13	15	17	19
15	10	12	15	17	20	22
16	11	14	17	20	22	25
17	13	16	19	22	25	28
18	14	18	21	25	28	32
19	16	20	24	28	32	35
20	17	22	26	31	35	39
21	19	24	29	34	38	43
22	21	26	32	37	42	48
23	23	29	35	40	46	52
24	25	31	38	44	50	57
25	27	34	41	48	55	61
26	29	37	44	52	59	66
27	32	40	48	56	64	72
28	34	43	51	60	68	77
29	37	46	55	64	73	83
30	39	49	59	69	79	88
31	42	52	63	73	84	94
32	45	56	67	78	89	101
33	48	59	71	83	95	107
34	50	63	76	88	101	113
35	53	67	80	94	107	120
36	57	71	85	99	113	127

Scaling and measurement of National Forests Timber—1935

Table 11. Humphrey Decimal cord measure log scale.

Diameter in inches, middle of log	Log length				
	8	10	12	14	16
6	.01	.02	.02	.02	.03
7	.02	.02	.03	.04	.04
8	.03	.03	.04	.05	.05
9	.03	.04	.05	.06	.07
10	.04	.05	.06	.07	.08
11	.05	.06	.08	.09	.10
12	.06	.08	.09	.10	.14
13	.07	.09	.11	.14	.16
14	.08	.11	.13	.15	.17
15	.101	.12	.14	.17	.20
16	.11	.13	.16	.20	.22
17	.12	.15	.18	.22	.25
18	.14	.17	.20	.24	.27
19	.16	.19	.24	.26	.31
20	.17	.22	.26	.30	.34
21	.19	.24	.29	.33	.37
22	.21	.26	.32	.36	.40
23	.23	.27	.34	.39	.45
24	.25	.32	.37	.44	.50
25	.27	.34	.42	.47	.54
26	.27	.36	.44	.51	.57
27	.32	.38	.47	.54	.63
28	.34	.43	.52	.60	.67
29	.37	.46	.55	.64	.74
30	.39	.49	.59	.69	.79
31	.43	.53	.64	.74	.85
32	.45	.56	.66	.78	.90
33	.48	.58	.71	.84	.96
34	.50	.67	.75	.89	1.01
35	.54	.66	.80	.94	1.07
36	.57	.69	.85	.99	1.13

Read from Calipers.

In the Humphrey rule, the caliper cord rule, which is used in Keene and vicinity, 100 cylindrical feet occupy 128 cubic feet of space. Example: in a 16-foot log, 24 inches at the middle diameter, there is one-half cord. Most buyers in using the Humphrey rule use one and one-half cords as equivalent to 1,000 board feet.