
The Pacific Basin Market for Wood Products for Military Support Activities

John D. Zinnikas



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— *The Author* —

JOHN D. ZINNIKAS was formerly with the Station's forest products marketing research staff, at Berkeley. Native of Wyandotte, Mich., he attended the University of Detroit, where he earned a bachelor's degree in accounting (1960) and a master's degree in economics (1962). He is now with the regional economics analysis group, Kaiser Permanente Services, Oakland, Calif.

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Military activities of the United States exert an important influence on the economy of the Pacific Basin. Hawaii is the operational center for the defense of the entire Pacific area. As a result nearly 18 percent of the population of the State consists of military personnel and their dependents. Defense expenditures total around \$400 million annually.

Logistical requirements of the military forces in the Pacific Basin include many supporting materials—among them large quantities of lumber and other wood products. Because Hawaii is the operational center of Pacific military activity and is, locationally, the hub of the Pacific area, the State is in an advantageous geographical position to provide some of the wood product needs of the military forces.

The use of wood products in support of military

activity can be an important market for Hawaii-produced lumber and other wood products. This paper reports on a study of the consumption of lumber and other wood products used in support of military operations in the Pacific Basin. It defines the military market for wood in the Pacific Basin; reports the size of this market, by species and product; and describes the conditions necessary for entry into this market by individual firms.

In this paper, the Pacific Basin is defined to include the west coast of North America, all islands in the Pacific Ocean, and the east coast of Asia. The Pacific Basin is subdivided into three separate market areas: (a) the state of Hawaii, (b) the west coast of North America, and (c) all other Pacific Island land areas bordering the Pacific Ocean. The data reported in this paper were classified according to these three market areas.

What is the Market?

The military use of lumber and other wood products can be divided into two main parts. The first is military construction, including housing for military personnel and their dependents. This market is satisfied through the use of private contractors. Although the materials used in construction must meet or exceed set military specifications, the sources of supply, species used, and other decisions are made by these private contractors and sub-contractors. These contractors purchase lumber and other materials either from local vendors or from United States mainland sources. Volume estimates of this market are difficult to determine. An indication of its importance is the dollar value of military housing. The publication, *Military Construction Program*,¹ issued by the Department of

the Army, lists the current working estimate of new housing at nearly 33 million in the Pacific Basin.

The second major demand for lumber and other wood products by the armed forces is in military support activities. For example, wood is used in transporting military personnel and equipment and in maintaining existing bases of operation. Information concerning wood used in military support is somewhat easier to obtain because all purchases are made through two regional procurement sub-offices of the U.S. Defense Construction Supply Center.

¹ Directorate of Military Construction, Office of the Chief of Engineers, Department of the Army, Washington, D.C. Sec. D. 1964.

Size of Market

In 1963 slightly more than 113 million board feet of lumber were used in military support activity in the Pacific Basin (tables 1, 2). This volume dropped to 86 million board feet in 1964. Plywood and veneer consumed by the military services totaled 14 million square feet (surface measure) in 1963 and almost 18 million square feet in 1964. Military activities also required sizable quantities of a wide variety of other wood products, such as ties, crossarms, poles, and a multitude of other items made from both hardwoods and softwoods.

In the Hawaii market, 3.3 million board feet of lumber were used in military support activity in 1964, most of which was softwood lumber. Hardwood consumption was only 141,000 board feet in 1963 and 52,000 board feet in 1964. There were a number of miscellaneous wood items, such as poles, ties, etc., used for maintenance.

The other two markets overshadowed Hawaii in almost every category, with the "other Pacific" market the volume leader. In hardwood lumber alone, the level of consumption in the other Pacific market was twice that of Hawaii's total annual production of all wood products. Much of this consumption was in products that could have been produced in Hawaii from species of wood

currently being produced; e.g., crossarms from *E. robusta* in Hawaii.

The appendix to this report shows in greater detail the breakdown, by commodities, of wood products consumed by the armed forces. Distinction is made between green and dry lumber, by individual species and species groupings. During 1964, the consumption of dry hardwood lumber was almost four times greater than that of green hardwood lumber.

The oaks as a species group were most important from the standpoint of volume used. However, it cannot be said that oak is the dominant species, for certain military procurement requirements preclude a breakdown, by species. Procurement office regulations allow a supplying firm to fill its contract with several species as long as they meet or exceed set military specifications. Thus, the term "species group" indicates that the military will accept an order containing a variety of species. This "species group" concept applies to both hardwoods and softwoods.

Particular orders may specify certain species only. An example of a species group would be No. 2 construction boards. An order for this grade of lumber can be filled by a variety of species including aspen, magnolia, and soft maple, at the option of the supplying firm.

Entry into the Military Support Market

Procurement of lumber and wood products needed for military support activities is the responsibility of the U.S. Defense Construction Supply Center, Columbus, Ohio. The actual procurement is handled by its two regional suboffices: one at Atlanta, Georgia, and the other at Portland, Oregon. The Atlanta suboffice purchases most of the hardwood products used by the military forces. Both suboffices purchase softwood lumber. Purchase responsibility is determined by both type of raw material (species) and by destination point.

The first step for producers in Hawaii to enter the military market is to get Hawaii-grown species accepted by the armed forces. For instance, the acceptable "species group" for hardwood construction board, utility board, and dimension admit such varieties as aspen, poplar, soft elm, and soft

maple. If Hawaii-grown hardwoods can be included in this grouping, then island firms can enter this market.

The second step to entering this market involves the individual supplier firms, who must see that they are placed on the bidders' mailing list of the two procurement suboffices. These offices will provide the necessary forms upon request. Lists will be furnished of the types of materials purchased by each suboffice and of the bidding procedure. Firms on the bidding list will be contacted when purchases are to be made and will be asked to submit bids. If Hawaii-based firms can successfully enter this market, they will have a locational advantage for all shipments to the "other Pacific" area. From the State's viewpoint, the "other Pacific" market for lumber is quite significant even though it is dwarfed by the size of the softwood

Table 1.--The military market for lumber and wood products in the Pacific Basin, 1963^{1/}

Item	Hawaii	West Coast	Other Pacific	Total
	<i>Thousand board feet</i>			
Lumber:				
Softwood	3,299	30,271	76,935	110,505
Hardwood	141	174	2,202	2,517
	<i>Thousand sq. ft. surface measure</i>			
Plywood and veneer:				
Softwood	688	6,973	6,265	13,926
Hardwood	--	105	127	232
	<i>Linear feet</i>			
Molding	123,137	42,939	6,000	172,076
Batten strip	7,000	--	--	7,000
	<i>Each</i>			
Ties	600	129,187	9,500	139,287
Crossarms	123	290	10,892	11,305
Piles	899	401	1,320	2,620
Line construction				
poles	189	663	7,229	8,081
Wood poles	70	120	11,155	11,345
Doors	--	174	3,753	3,927

¹ Source: Regional Procurement Suboffices, U.S. Defense Construction Supply Center, Atlanta, Georgia, and Portland, Oregon.

Table 2.--The military market for lumber and wood products in the Pacific Basin, 1964^{1/}

Item	Hawaii	West Coast	Other Pacific	Total
	<i>Thousand board feet</i>			
Lumber:				
Softwood	3,276	25,005	55,165	83,446
Hardwood	52	216	1,797	2,065
	<i>Thousand sq. ft. surface measure</i>			
Plywood and veneer:				
Softwood	1,201	9,455	6,742	17,398
Hardwood	--	62	71	133
	<i>Linear feet</i>			
Molding	107,150	109,148	7,794	224,092
Batten strip	20,000	--	--	20,000
	<i>Each</i>			
Ties	5,700	285,627		291,327
Crossarms	84	700	3,294	4,078
Piles	250	1,330	845	2,425
Line construction				
poles	90	285	1,770	2,145
Wood poles	181	456	8,759	9,396
Doors	--	261	957	1,218

¹Source: Regional Procurement Suboffices, U.S. Defense Construction Supply Center, Atlanta, Georgia, and Portland, Oregon.

lumber consumption in the Pacific. Hardwood consumption has been around 2 million board feet annually, or more than twice the Island's current production of all wood products. If Hawaii-grown

hardwoods can gain acceptance in the species group, then Hawaii firms should be able to compete with mainland suppliers for the hardwood lumber market in other areas of the Pacific.

Summary and Conclusions

Military support activities in Hawaii use between 50 and 150 thousand board feet of lumber annually for which locally grown and produced hardwood lumber might be used. In addition, the "other Pacific" market uses about 2 million board feet of hardwood lumber annually, making it the largest of the three submarkets in the Pacific Basin.

The Pacific Basin can be an important market for the timber products industry in Hawaii because of the locational advantage it has compared to mainland producers. However, the composition of

this market is mainly of softwood species, while the State currently is producing mostly hardwoods.

Future demand of the military market is clouded by uncertainty which precludes the accurate planning of a forestry program to provide for this market. Changes in world conditions may alter the national defense picture affecting military activity and thus, the use of lumber and wood products. However, for the foreseeable future, the Pacific Basin—with Hawaii as the operational center—will continue to be vitally important to national security.

Appendix

Table 3.--Military shipments of hardwood lumber and wood products to the Pacific Basin, by species, species group, and grade, 1963.

Species or species group	Hawaii		West Coast		Pacific		Total	
	Green	Dry	Green	Dry	Green	Dry	Green	Dry
<i>Thousand board feet</i>								
White oak	--	14	--	4	--	24	--	42
Mixed oak	--	--	--	--	386	75	386	75
Maple	--	24	--	16	1	2	1	42
Ash	1	3	--	3	--	10	1	16
Mahogany	--	11	--	--	--	--	--	11
Birch	--	--	--	1	--	1	--	2
Walnut	--	--	--	2	--	--	--	2
Miscellaneous hardwoods	--	--	--	--	--	16	--	16
Nos. 2 and 3 construction boards	--	73	37	20	219	842	256	935
Nos. 1, 2 and common dimension	--	--	9	--	139	67	148	67
Flooring	--	15	--	--	--	182	--	197
Unspecified mahogany	--	--	--	--	--	--	--	--
Miscellaneous grades	--	--	59	5	32	200	91	205
Planks, beams, and stringers	--	--	--	18	--	6	--	24
Total	1	140	105	69	777	1,425	883	1,634

Table 4.--Military shipments of hardwood lumber and wood products to the Pacific Basin, by species, species group, and grade, 1964

Species or species group	Hawaii		West Coast		Other Pacific		Total	
	Green	Dry	Green	Dry	Green	Dry	Green	Dry
<i>Thousand board feet</i>								
White oak	7	7	14	9	38	35	59	51
Mixed oak	--	1	11	3	12	24	23	28
Maple	--	20	--	17	--	2	--	39
Ash	--	5	--	22	--	1	--	28
Mahogany	--	--	--	--	--	8	--	8
Birch	--	--	--	1	--	6	--	7
Walnut	--	--	--	1	--	--	--	1
Miscellaneous hardwoods	--	--	--	--	--	--	--	--
Nos. 2 and 3 construction boards	--	--	--	16	148	819	148	835
Nos. 1, 2, and common dimension	12	--	12	--	124	265	148	265
Flooring	--	--	--	13	--	224	--	237
Unspecified mahogany	--	--	--	21	--	3	--	24
Miscellaneous grades	--	--	66	9	--	72	66	81
Planks, beams, and stringers	--	--	--	1	1	--	1	1
Total	19	33	103	113	323	1,459	445	1,605

Table 5.--Military shipments of hardwood plywood to the Pacific Basin, by species, 1963-64

Hardwood	Hawaii		West Coast		Other Pacific		Total	
	1963	1964	1963	1964	1963	1964	1963	1964
	<i>Thousand board feet (surface measure)</i>							
Mahogany	--	--	3	4	3	5	6	9
Yellow poplar	--	--	--	--	32	5	32	5
Birch or maple	--	--	2	11	38	53	40	64
Gum	--	--	--	--	30	7	30	7
Oak	--	--	--	--	24	--	24	--
Pecan hickory	--	--	25	47	--	--	25	47
Douglas-fir and western hardwoods	--	--	--	--	--	1	--	1
Veneer paper overlaid	--	--	75	--	--	--	75	--
Total	--	--	105	62	127	71	232	133

Table 6.--Military shipments of softwood lumber to Hawaii, 1963-64.

Lumber product	Year	
	1963	1964
	<i>Thousand board feet</i>	
Boards	1,183	1,390
Shop lumber	3	8
Dimension lumber	1,591	1,221
Timbers	300	154
Flooring	33	13
Beams and stringers	117	--
Planking	9	10
Shiplap	10	--
Miscellaneous	53	480
Total	3,299	3,276