

FOREST MANAGEMENT
ON THE
QUINAULT INDIAN RESERVATION

By

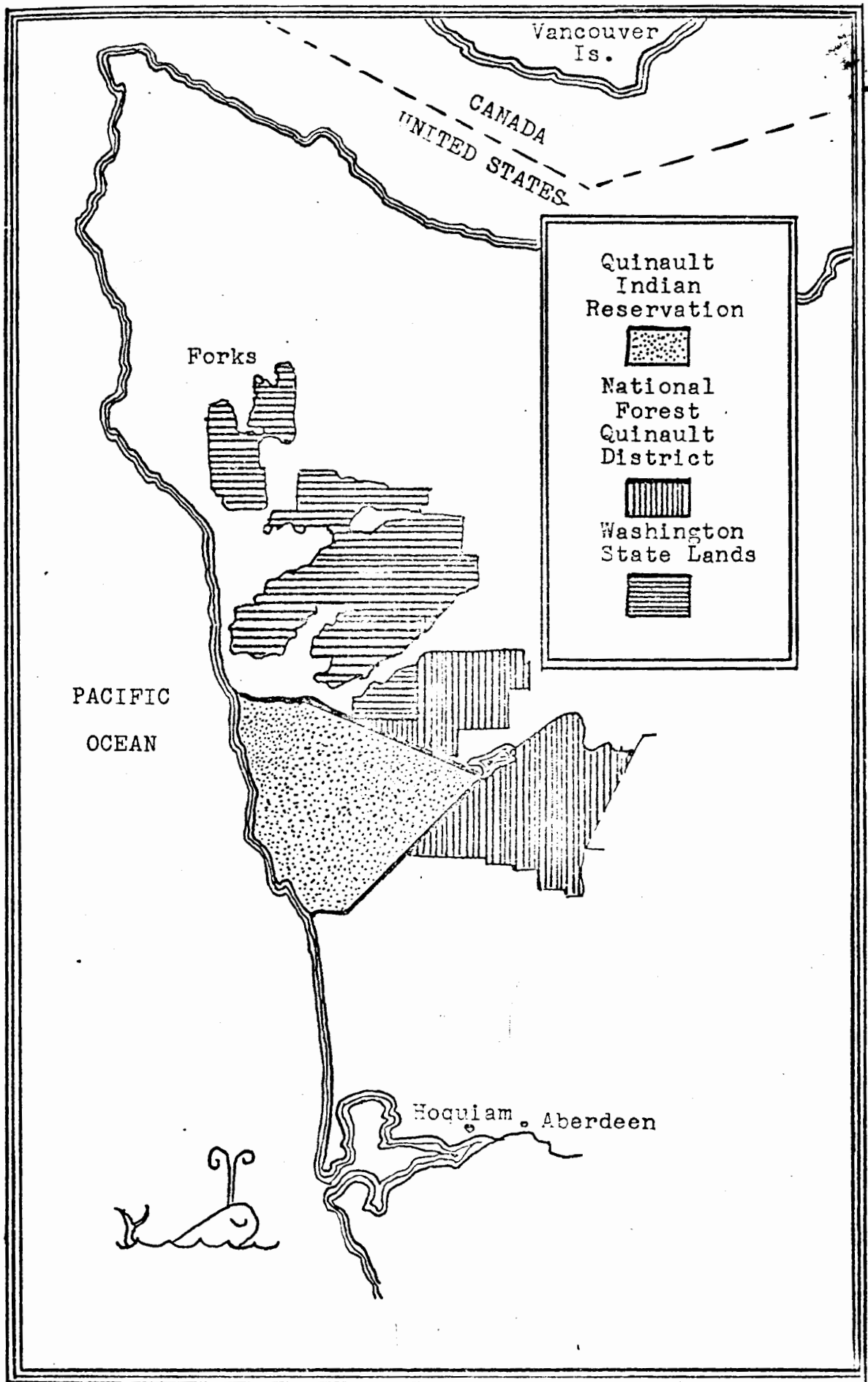
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VICINITY MAP OF LANDS STUDIED



INTRODUCTION

The main objectives of the present study of forestry management and of forest and related resource conditions on the Quinault Indian Reservation are three:

First, is to determine whether breach of contract requirements has occurred and exists on the Crane Creek and Taholah timber sales on the Reservation, including particulars involved and evidence of such determinations.

Second, is to determine the standards of forestry and related resource management achieved on the Reservation in comparison with standards of management adopted and achieved by the State of Washington and by the U.S. Forest Service on lands in the vicinity of the Reservation.

And the Third objective is to recommend actions regarding the timber sale contracts and the resource management determinations outlined above.

This study was made and this report prepared by Philip A. Briegleb and Walter H. Lund, consulting foresters, Portland, Oregon. The Bureau of Indian Affairs contracted with Briegleb in June, 1972, for performance of the work. Briegleb subcontracted with Lund, also in June, 1972, for his collaboration on the project.

The views expressed in this report and the recommendations given are those of the Contractor and Subcontractor, and they share the responsibility for them.

But they are indebted to many others whose advice, help, supplying of data and guidance in the field facilitated the work in many ways. Particularly helpful were representatives of the Quinault Tribe, of the

Allottees Committee, employees of the Bureau of Indian Affairs field offices, Portland Area and Washington, D.C. offices, representatives of ITT - Rayonier, Incorporated in Hoquiam, Washington, of Evans Products Company in Aberdeen, Washington, of the Washington State Department of Natural Resources in Olympia and Forks, representatives of the U.S. Forest Service in Quinault and Olympia, Washington, and in Portland, Oregon, and representatives of the U.S. Bureau of Sports Fisheries and Wildlife in Tumwater, Washington, and Portland, Oregon.

Three copies of a September 15, 1972, report of this study were delivered to the Washington Office of the Bureau of Indian Affairs on the following September 18. Additional copies were duplicated by the BIA to facilitate review, and during the next three months, the Contractor received comments on the report from various reviewers in the BIA, from representatives of the Tribe and of the Allottees and from reviewers in the Pacific Northwest Forest and Range Experiment Station.

The Contractor and Subcontractor are grateful for all comments received. We have considered them carefully, and as result, appropriate clarifications and corrections were made.

BREACH OF CONTRACT FINDINGS

Two long-term timber sales are active on the Quinault Indian Reservation. One is the Crane Creek timber sale, purchased by Rayonier, Incorporated. The second is the Taholah sale, and was purchased by the Aloha Lumber Corporation. The latter sale was made first and its contract was approved by the Assistant Secretary of the Interior on May 12, 1950. The Crane Creek contract was approved by the Under Secretary of the Interior on June 30, 1952.

Each contract includes the General Timber Sale Regulations approved April 10, 1920, by the Assistant Secretary of the Interior, and each contract has had two major modifications.

The Taholah sale contract modification was executed by the Aloha Lumber Corporation on the 15th day of November, 1955, and the Crane Creek sale contract modification was executed by Rayonier, Incorporated on the 20th day of August, 1959. The Taholah sale modification was approved March 21, 1956, by the Assistant Secretary of the Interior, and the Crane Creek sale modification was approved October 14, 1959, by the Commissioner of Indian Affairs. (See Appendix.)

The maximum cutting limitation of each contract was modified by letter. For the Taholah contract this letter was dated November 13, 1964, and was signed by the Deputy Commissioner of Indian Affairs. For the Crane Creek contract the letter was dated October 8, 1964, and signed by the Assistant Area Director.

Bureau of Indian Affairs foresters, in both the Portland Area Office and the Hoquiam Field Station, state their belief that no breach of contract

has occurred, and they point to the fact that the reverse side of monthly Reports of Timber Cut for the entire life of the two contracts have, almost without exception, reported "yes" in response to the question, "Is the purchaser complying with the terms of the sale and the instructions of the forest officers?" Representatives of both purchasers state positively that their company has never received written notice of a failure to comply from the superintendent or the officer in charge, as provided in Section 52 of the Regulations. The record reveals few suspensions, except when payments had been in arrears, and then only until payment was received.

A dearth of suspensions and absence of notices does not necessarily mean that violations of contract terms have not occurred. Members of the Allottees Committee and of the Quinault Tribal Council have insisted that violations of many contract and Regulation provisions occur regularly. In a letter dated October 3, 1971, addressed to Mr. Joe Jackson, Forest Manager, Bureau of Indian Affairs, and signed by Helen Mitchell, Guy McMinds and Francis Rosander, Sections 3, 4, 5, 9, 10, 13, 15, 16, 17, 18, 19, 27 and 35 of the General Timber Sale Regulations are cited as having been violated. The letter further states the opinion that unsatisfactory disposal of slash (Sec. 27) and obstruction of streams by felled trees and logging debris (Sec. 35) are sufficient cause for suspension of operations. Except for the matters of unsatisfactory disposal of slash and obstruction of streams, no particulars as to the nature of the alleged violations are given.

On September 30, 1971, William F. Nelson, attorney and counsel for the Quinault Tribal Council, et al, defendants in a suit brought by Aloha Lumber Corporation in the United States District Court at Tacoma for a

restraining order contended that damage to the land and streams of the Reservation constituted a breach of contract. He did not cite a particular form of damage or a section of the contract or regulations which had been violated. Presumably, however, he was referring to damages alleged to have occurred in affidavits presented to the Court. These affidavits had been prepared by Nelson D. Terry, Consulting Forester for the Quinault Tribe, and Guy McMinds, a member of the Tribal Business Council. They contended that the land and streams had been damaged as a result of improper logging practices and failure of the sale purchasers to dispose of slash satisfactorily.

These conflicting viewpoints illustrate why studies of the requirements of the Taholah and Crane Creek timber sale contracts, and of possible breaches thereof, are particularly important at this time.

This section summarizes the results of such a separate study. It is based on intensive examination of the contracts themselves, of the file records relating to the contracts, interviews, with the individuals in the contracting companies conducting timber harvest operations under the contracts, interviews with the BIA employees responsible for administering the contracts, interviews with representatives of the Quinault Tribe and with representatives of the Quinault Allottees interested in the results of operations under the contracts. The report is, in addition, based on field inspections of the Taholah and Crane Creek Units made during the months of June and July, 1972.

Failure to Dispose of Slash

Sections 25, 26 and 27 of the General Timber Sale Regulations, bearing approval date of April 10, 1920, which are a part of both timber sale

contracts, deal with slash disposal. Sections 22 of the Taholah Unit contract and 25 of the Crane Creek Unit contract authorize waiving of the requirements of Sections 25 and 26 of the Regulations. In the Taholah contract this authority rests with the Commissioner of Indian Affairs and in the Crane Creek contract with the Area Director. The Taholah contract does not specify how relief from the requirements shall be granted, but the Crane Creek contract contains the following specific instruction: "Waivers of snag felling requirements or the requirements of Sections 25 and 26 of the General Timber Sale Regulations shall always be specific with respect to areas involved, and will not be considered valid unless made in writing." (Emphasis supplied.)

It is acknowledged by everyone concerned that no slash has been burned on either sale area except by accidental fire, and that vast areas of contiguous unburned slash exist. (See Exhibits Photos 1-10 of Appendix.) Furthermore, slash piling as required by Section 25 has been done to a very minor extent. No written record of relief from the requirements of Sections 25 and 26 were found, and no one could recall that relief in writing had ever been given.

The fact that a policy decision not to burn slash had been reached early in the administration of both sales was generally given as an explanation for the existence of unburned slash by Bureau of Indian Affairs administrators. The purchasers' representatives point out that Section 26 of the Regulation authorizes them to burn only when directed to do so by the officer in charge. Elmer H. Parker, formerly Timber Manager for Aloha Lumber Corporation, in an affidavit presented to the United States District Court at Tacoma in the suit seeking a restraining order, referred to earlier, made the following statement: "Aloha has been instructed by the

Bureau of Indian Affairs that the burning of slash is not to take place on any allotment in the Taholah Unit without the permission of the individual allottee. Such permission has never been given on the Taholah Unit."

It seems clear that the intent of the Bureau of Indian Affairs with respect to both contracts has been to grant relief entirely or in part from the provisions of Sections 25 and 26 of the General Timber Sale Regulations. Because of this, and because neither purchaser has been requested or authorized to burn slash, unsatisfactory disposal of slash can hardly be considered a breach of contract nor a basis for suspension of operations of the purchasers under the provision of Section 27.

It does seem imperative that the Commissioner of Indian Affairs with respect to the Taholah Unit and the Area Director for the Crane Creek Unit take appropriate action to grant such relief as is intended.

Obstruction of Streams

Section 35 of the General Timber Sale Regulations states that streams "will not be obstructed by felled trees or otherwise except by the improvements hereinbefore provided for, . . ." Much evidence exists that streams have been obstructed and still are to some degree in both sale units. (See Exhibits Photos 11-19 of Appendix.)

Much work has been done by both purchasers to remove logging debris from streams, and such work is continuing. In fact, we were assured by the timber purchasers and by BIA supervising foresters that obstructions resulting from logging will be removed from streams considered important to the propagation of fish.

It appears that prior to about 1965, little attention was given by either the purchasers or the Bureau of Indian Affairs administrators, or

by anyone else involved with the two units, to the avoidance of stream obstruction by logging debris. Logging plans which permitted logging across streams were developed by the purchasers and approved by the Bureau. Obviously, the existence of log jams formed by logging debris, even though they only partially or temporarily obstruct stream flow, can be considered a violation of Section 35. However, it would seem that the practical aspect of not being able to log timber adjacent to streams without some logging debris entering the stream and the inevitableness of some temporary obstruction must be recognized. Section 35 must be considered unrealistic and incomplete because it does not recognize that some obstruction is inevitable--it should require removal of obstructions when they occur.

So long as the purchasers continue to remove debris from streams as requested by the officer in charge, or on their own initiative, and there is no written notice of failure to comply issued by the superintendent or the officer in charge, breach of contract, in our opinion, would be difficult to establish at this time.

Damage to Land and Streams

Attorney William F. Nelson's contention before the United States District Court, referred to earlier, that damage to the land and streams of the Reservation constituted a breach of contract is not supported by provisions of the contracts or General Timber Sale Regulations insofar as we have been able to determine.

Various sections of the Regulations deal with damage, and they appear invariably to provide for repair by the purchaser (Sec. 37 of Regulations) or payment if repair is not made. Certain sections, such as 18 of the

Crane Creek Unit contract and 19 of the Taholah Unit contract, spell out how damage resulting from fires will be handled. Section 36 of the Regulations appears to be the only place where damage other than to improvements and timber is covered. In this section, under certain circumstances, damage to land or other property may be charged to the purchaser. Pertinent language is as follows: "Damage to land or other property of the Indians or the Government resulting from . . . operations of the purchaser will be appraised by the officer in charge, and . . . will be charged against the purchaser." (Emphasis supplied.) This section, like the others referred to, assumes that damage may occur and provides for payment of damage.

The contracts and General Timber Sale Regulations are unclear with respect to damage other than to improvements and to timber. Nowhere is a distinction made between avoidable and unavoidable damage to land and other property, such as streams. It is generally recognized that some damage inevitably occurs as a result of a logging operation; therefore, it would seem a distinction must be made by the officer in charge when he carries out his responsibility under a contract provision such as Section 36: If disputes arise as to his interpretation, a final decision must be made by the officer approving the contract, as provided by Section 54 of the General Timber Sale Regulations.

We have found no record of damages to land and streams that have been "appraised by the officer in charge" and "charged against the purchaser", which has been unpaid. Thus, we do not understand how such unspecified damages could be established as a breach of contract. The contract makes failure to pay a charge, rather than the act of doing damage, grounds for breach of contract action.

Other Possible or Charged Violations

Other provisions of the contract, including those contained in the sections of the Timber Sale Regulations cited in the October 3, 1971, letter referred to earlier, were examined and considered from the standpoint of possible violation. No evidences of violations that, in our opinion, could be firmly established as a breach of contract were found. Actually, many of the sections cited appear to be informative in nature rather than binding contractual requirements. Section 3 of the Regulations, for example, explains who will appoint log scalers and who will instruct them. It would seem that if this section's provisions were violated, it would have to be done by the Bureau of Indian Affairs. Actually, since both contracts provide for log scaling by an independent scaling bureau, Section 3 must be considered no longer applicable, except for so-called "pick-up" scaling which is done by government employees. (The last paragraph of Section 56 of the General Timber Sale Regulations provides for exceptions to the use of the Regulations.)

Section 4 of the Regulations provides that timber other than that sold may not be cut by the purchaser on the sale area without a separate contract of sale therefor, and timber on allotments within a general sale area held under trust or restricted patents cannot be logged without a contract with the owners of the allotment approved by the proper officer. Inquiry of Bureau personnel revealed no knowledge of actual violations of this section or of Section 5, which in part deals with "timber not sold." However, the suggestion was made that granting a right to remove material not merchantable under the terms of the contract might be considered in violation of these two sections. Section 23 of the Regulations, however,

makes clear that material more defective than defined as merchantable, and logs smaller than the merchantable size set in the contract, may be removed. It requires that, if removed, they be scaled for their actual sound contents of lumber of any length. It would seem that since this section clearly authorizes removal of unmerchantable material, the only unresolved question is that of payment therefor. The modification of contract in each sale establishes rates of payment for such material.

Since the Taholah Unit contract contains no specific requirement for preparation of a logging plan, Section 9 of the Regulations is relied upon by the Bureau of Indian Affairs as authority for requiring the preparation of and adherence to an annual logging plan. It is our understanding that the logging plans for both units have been working plans subject to change when deemed desirable by all parties to the agreement. It is also our understanding that they have not been adhered to rigidly, but modified to accommodate both the needs of the companies and of individual Indians. Situations where failure to log designated areas during a particular season and considered a breach of contract by the officer in charge were not found. In our opinion, the requirement of Section 9 that "written consent of the officer in charge" be given before discontinuing logging on an "allotment" is satisfied by the approval of the annual logging plan, when the plan calls for cutting a portion only of an allotment.

Section 10 in large part is not applicable to the type of cutting being practiced on these two units. Section 13 also applies principally to areas cut on a tree selection basis. Sections 15, 16, 17, 18 and 19 all generally refer to the log-making process or the felling and bucking

operations. They, for the most part, specify the penalties to be imposed in the event of failure to comply with the standards established. All evidence available to us in the written records and in inspections on the ground indicates that the provisions of Sections 10 through 19 of the Regulations are being administered fairly by the officers in charge. We found no instances where the purchasers failed to make payment for charges assessed.

Summary of Breach of Contract Findings

There are situations on both of these timber sale areas, as described above, that would constitute breaches of contracts, if left uncorrected. But the contracts provide opportunities for correcting such situations and thus avoiding sustained breaches during the terms of the existing contracts.

The contracts provide opportunity for specified BIA officers to clarify the situation regarding requirements for disposal of slash.

Both companies have active stream clearance programs under way that could satisfy the contracts' requirements related to this subject.

For these reasons, and for the others cited above, we believe that breaches of requirements of the Crane Creek and Taholah timber sales contracts could not be proved readily at this time.

STANDARDS OF RESOURCE MANAGEMENT

MULTIPLE USE MANAGEMENT OF RESOURCES

The three tracts of land concerned in this study of resource management practices are roughly comparable in gross area.

The Quinault Ranger District of the Olympic National Forest contains a total of 151,137 acres.

The Quinault Indian Reservation is a little larger, with 189,621 acres.

The Washington State Land in Western Clallam and Jefferson Counties is the largest and totals 260,000 acres.

Properties Managed in Trust

The National Forest is managed in trust by the U.S. Forest Service for all citizens of the United States as equal owners of the total property.

The Washington State Lands are managed in trust by the State Department of Natural Resources for all citizens of the State as equal owners of that total property.

All members of the Quinault Tribe share in the ownership of these two publicly-owned land units as well as of the Quinault Reservation.

In contrast, most of the Quinault Indian Reservation has been allotted to individual allottees, originally more than 2,300, mostly in tracts of 80 acres each.

As of June 20, 1971, some 123,430 acres were so owned in trust allotments. At that date, 4,580 acres were owned jointly by members of the Quinault Tribe, and some 61,972 acres were privately owned, mostly by non-Indians.

The allotted and the Tribal lands on the Reservation are managed by the U.S. Bureau of Indian Affairs as trustee for the owners.

Owner Objectives Set Management Practices

National Forest management objectives were decided by representatives of the owners of these lands in the Congress of the United States. These were summarized in the Multiple Use-Sustained Yield Law of 1960. This law requires the U.S. Forest Service to manage the National Forests for all of their beneficial uses in such a manner that the productivity for any use is not impaired. Water, timber, forage, wildlife and recreation uses are specifically mentioned in the law.

The 1960 Law further states that the objective of management is not the greatest financial return, but the greatest combined benefits--counting both material and amenity values--from all uses of the land.

More specific instructions for the planning and activation of multiple use management of the National Forests are provided in Regional Multiple Use Guidelines and National Forest Supplements. These principles and objectives are applied to the specific resources on the ground in the Quinault Ranger District Multiple Use Plan. This plan records and maps management objectives on the various designated areas of the District. Special management units include the Quinault Natural Area, various Landscape Management Units, recreation areas, areas of problem soils requiring special protection or treatment and Streamside Management Units--in all, about 20,000 acres.

Plans for the development of virgin watersheds are prepared by multidisciplinary teams that include such specialists as soils scientist,

forester, engineer, wildlife and fisheries biologist, recreation planner and landscape architect. Such plans detail the complete land use proposals for an entire watershed before the first road is built and the first timber sale is made. Thus, the relationships of initial developments to those proposed for later years are clearly evident from the start.

For particularly sensitive areas environmental impact analyses and reports are prepared, alternative developments are considered and public hearings held on the proposals. Presently, the District is studying possible candidate areas for addition to the National Wilderness System.

Controls on multiple use management planning on the National Forests is provided by Supervisor and Regional review and approval of plans before activation. Inspections from the Supervisor, Regional and National headquarters levels of the Forest Service check on compliance.

Washington State land management objectives were decided by the representatives of the owners of these lands in the State Legislature.

The State Department of Natural Resources is thus instructed to manage the State lands so that they will produce maximum income for the public schools and the other institutions for whose lands the Department is designated trustee. The DNR is also required to manage the State lands so as to provide continuing income from them, and to insure that the productivity of the lands is not reduced. Although the primary objective is to maximize income, the DNR is responsible for insuring that operations on State lands comply with State environmental standards for the protection of air, soil, water, and wildlife habitat.

Policy guidance within the basic legislative charter is provided by the State Board of Natural Resources, consisting of the Governor, the

Commissioner of Public Lands, the Dean of Agriculture of Washington State University, the Superintendent of Public Instruction, and the Dean of the College of Forest Resources of the University of Washington.

The DNR does complete road and timber sales planning for a watershed before the first unit sale is made. This is necessary to insure that initial developments do not leave serious unanticipated problems for solution later.

Multiple use planning on the ground on DNR lands is facilitated by written guidelines provided by the Olympia headquarters staff.

Controls are provided by requiring Olympia headquarters approval of major new developments before activation. Compliance is also checked by inspectors from headquarters.

Quinault Indian land management objectives are less well defined than are those of the National Forest and of the Washington State lands.

The consent of the allottee must be obtained before any of his timber can be sold, before slash resulting from logging can be burned or before management practices can be applied. Thus, the timber harvesting under way on the Taholah and Crane Creek Units was arranged by the Bureau of Indian Affairs, with the consent of the allottees concerned. Previously, several alternative possibilities were presented to the allottees; they considered and rejected them.

Under the pattern of ownership existing on the Quinault Reservation, it is particularly difficult to dedicate land to uses that do not produce monetary returns promptly. To do so, individual allottees would have to forego income, mainly for the satisfaction of others, although they, too, would benefit.

Operating under these constraints, the heavily prevailing use of land on the Reservation is for timber production, but now with much needed increasing modifications to protect soils, waterways, and fish habitat. Bureau of Sports Fisheries and Wildlife biologists, together with fisheries biologists employed by the Tribe, have assisted the BIA in working out guidelines to improve this coordination of land uses on the Quinault.

Controls on this coordination are now provided by having the timber purchasers prepare annual logging and road plans in advance. These plans are reviewed and approved or modified by BIA timber sale officers and by the Forestry Manager. They are also reviewed and commented on by representatives of the allottees and of the Tribe.

This procedure is an improvement over the past practice which depended more on trying to correct mistakes rather than planning ahead to minimize or prevent them. Planning by BIA staff specialists and cooperators would be an additional improvement that would parallel the procedures applied by the DNR and the Forest Service specialists managing lands in the vicinity.

Such a further change will take time, added financing and staff to effect. Meanwhile, an important interim improvement could be made more promptly. This would be simply to develop more lead time in the preparation of the annual logging and road plan. The logging plan for the 1972 season on the Taholah Unit had not yet been approved by the Tribe as of September 1, 1972. Presently, National Forest managers are commonly striving to prepare logging and road plans five or more years in advance of actual operations. Considerable efficiencies are reported as result.

FOREST PROTECTION

From Fire

Protection of a forest from fire is a primary essential in providing for its continuing productivity.

As indicated by the records summarized below, the effectiveness of forest fire protection on the Quinault Indian Reservation has increased greatly over the years.

<u>Period</u>	<u>Number of Years</u>	<u>Average Number of Acres Burned Per Year</u>	<u>Percent of Total Area Protected Burned per Year</u>
1924-39	16	1922	1.02%
1940-53	14	1324	0.70%
1954-71	18	258	0.14%

During the past two decades, rate of burn has been cut to 1/5th that of the 14 years preceding, and to 1/7th that experienced from 1924 to 1939, inclusive, on the Reservation.

Certainly this is good progress. Later discussion in this section raises the question as to whether it is good enough.

Fire protection for Indian land is financed by the Bureau of Indian Affairs. Since 1959, the actual job of protection has been performed by the Washington State Department of Natural Resources under cooperative agreement.

The DNR maintains a fire control substation at Lake Quinault on the eastern tip of the Reservation. Cooperative detection facilities, including road patrols, fixed lookout and aerial scanning are well planned to locate fires while they are small.

The fire control organization is manned and equipped to meet normal forest fire conditions. If unusually severe, large or multiple fires occur, the DNR can call on reinforcements from Forks, Montesano or other stations in their State-wide fire control organization.

DNR fire fighting forces are also coordinated with those of the U.S. Forest Service, which gives both organizations the benefit of reserve resources which can be called upon in emergencies.

The forest fire records for the 832,000-acre Montesano Forest Protection District are summarized below:

<u>Period</u>	<u>Number of Years</u>	<u>Average Number of Acres Burned Per Year</u>	<u>Percent of Total Area Protected Burned per Year</u>
1940-50	11	840	0.101%
1951-71	21	124	0.014%

Fire records for the 849,000-acre Forks Forest Protection District are summarized below:

<u>Period</u>	<u>Number of Years</u>	<u>Average Number of Acres Burned Per Year</u>	<u>Percent of Total Area Protected Burned per Year</u>
1940-49	10	85	0.010%
1950-71	22	388	0.046%

Fire records for the 146,000 acres of forest land protected on the Quinault Ranger District of the Olympic National Forest are summarized below:

<u>Period</u>	<u>Average number of Acres Burned Per Year</u>	<u>Percent of Total Area Protected Burned per Year</u>
7 years for which records are available during the period 1918-33	586	0.40%
1956-68, inclusive (13 years)	46	0.03%

The Montesano District lies just south of the Quinault Reservation, the Forks District to the north, and the Quinault Ranger District of the Olympic National Forest lies to the east. Fire weather patterns are generally similar over the four areas.

The above figures for the past two decades on the Forks District include the Quinault Reservation. For this period the rate of burn on the Forks District, excluding the Quinault Reservation, is only 1/5th the annual rate of burn during approximately the same years on the Reservation.

Just why the average annual rate of burn as percent of area protected has been from 5 to 10 times greater on the Quinault Indian Reservation, during the past two decades, than has the rate of burn on the three bordering districts, deserves some speculation.

Fire control specialists point out that the standards of the fire detection and suppression applied over the four districts are quite similar. They also point out that the Quinault Reservation contains the most extensive and heaviest concentration of logging slash in the Pacific Northwest Region.

The rate of spread of fire and its resistance to control are extremely high in this fuel type. And since much of the slash is western red cedar, which is quite resistant to decay, the fire hazard of this slash is likely to remain high for a long time, unless positive efforts are made to reduce it.

Protection from Diseases and Insects

Detection of forest tree diseases and insects on the Quinault Reservation and on adjoining forest lands is coordinated by the U.S. Forest Service Regional Branch of Insect and Disease Control. This unit of the

Forest Service works with specialists of the Washington State DNR, the BIA, and of other land owners and managers.

Aerial surveys, with follow-up ground examinations, are made routinely each year to detect any new insect outbreaks. This covers all forest lands of all ownerships in both Washington and Oregon. Outbreaks of insects or of epidemic diseases observed between annual surveys are reported to the Control Branch for follow-up appraisal and control operations, if needed.

The most serious known pest on the Quinault Indian Reservation is the parasitic plant, dwarf mistletoe, in western hemlock. Control of mistletoe is timed to coincide with clearcut timber harvest. Unmerchantable residual trees infected with mistletoe are cut at a cost of \$6. to \$15. per acre to prevent infection of the regenerating forest.

Just what is the significance of infected advance regeneration, or infected old growth in the remaining forest, the amount of growth loss from mistletoe infections, and the possibilities of alternate control techniques? These are some of the questions that need to be answered by accelerated research.

White pine blister rust infects western white pine on the Reservation as elsewhere. The most promising prospect for control is to plant rust resistant strains of white pine being developed in Regional genetics programs. Otherwise, other species should be favored in regeneration plans.

Armillaria mellea and *Fomes annosus* root diseases have been observed in scattered outbreaks on and in the vicinity of the Reservation. These diseases could become problems as planting and thinning programs expand.

Several forest insects endemic on the Olympic Peninsula can become epidemic. The most recent outbreak is that of the black-headed budworm a few years ago. This is a defoliator that can increase in numbers quickly. In the past it has declined naturally with little damage to the forest.

The hemlock looper and the hemlock sawfly have damaged parts of the coastal forest heavily, so they must be regarded as possible threats to the Quinault and Olympic Forests, even though they evidently have not reached epidemic proportions here previously. The defoliators can be controlled by insecticides.

The Sitka spruce tip weevil damages young spruce on and near the Reservation. The loss of growth caused by this insect has been great enough to limit the use of this otherwise very desirable tree in planting programs.

The balsam woolly aphid, an insect that attacks the white firs, has not yet been found on the Reservation or elsewhere on the Olympic Peninsula. If this aphid does invade the Peninsula, the now valuable Pacific silver fir could become unmanageable here as a commercial timber species. No practical, large-scale control method is known for this insect.

In summary, disease and insect enemies of the Quinault and adjacent forests are presently in endemic status. But these pests include several that are potentially very damaging. Detection surveys and research in control methods should be continued and, in some cases, intensified.

TIMBER APPRAISAL PRACTICES

As might be expected, there is great similarity in the timber appraisal practices of the Bureau of Indian Affairs, the State of Washington's Department of Natural Resources, and the U.S. Forest Service for timber located in Western Washington. Each agency follows basically the same principles of appraisal and vary only in the application of the principles or in the choice of information used in the appraisal calculation. Some of the differences, as will be revealed by later discussion, are the result of policy, some the result of specific legislation, and some the result of contractual obligations.

Appraisal Objectives

Basic to any appraisal is the objective of the appraiser or of the appraiser's employer. An acceptable estimate of value for one party or agency would not necessarily be acceptable to another. Therefore, it seems worthwhile to review briefly the objectives of the three agencies in the appraisal of timber.

The Forest Service Manual contains the following statement under the heading "Objective": "The objective in Forest Service stumpage appraisals is to establish fair market value (Regulation S-7, FSM 2450.01). Fair market value or appraised value as used by the Forest Service is based on the operator of average efficiency and is aimed at a market value which will interest sufficient purchasers to harvest the allowable cut under multiple use and sustained yield principles. In accomplishing this objective, consideration must be given to providing an adequate margin for profit and risk which will be sufficient to maintain operations over the long run and thus provide a stable market for National Forest timber." (FSM 2420.02.)

From the above it can be seen that, although the appraisal is to determine "fair market value", the appraiser must attempt to meet certain other goals. He is not to appraise on the basis of the most efficient operator or establish appraised prices at a level that will not permit the earning of sufficient profit to maintain "operations over the long run". In line with this objective the Forest Service does not use transaction evidence from highly competitive areas or times as a basis of appraisal.

Neither the State of Washington's Department of Natural Resources or the Bureau of Indian Affairs has comparable Manual statements defining objectives. However, appraisal instructions and practices of both clearly demonstrate a similar objective. Most State-owned forest lands are managed for the benefit of schools, and the Department of Natural Resources gives great emphasis to the objective of obtaining maximum returns. They rely largely, however, on free and open competitive bidding rather than on their appraisal process to gain this objective. The Bureau of Indian Affairs, likewise, gives much emphasis to an objective of protecting the interest of the Indian timber owner. But, unlike the State, they cannot rely on competitive bidding to assure a maximum return for most remaining timber on the Quinault Reservation. This, of course, is because price adjustment under the long-term contracts is not subject to bidding.

Appraisal Methods - Data Selection

All three agencies follow the same general procedure in making appraisals. The procedure treats stumpage value as a residual by deducting estimated costs and an allowance for profit and risk from estimated selling values. It can be expressed in formula form as $(S = \frac{V}{1.0P} - C)$. In the

formula "S" represents the value of stumpage; "V" is the estimated value of products to be derived from the timber being appraised; "OP" is an allowance for profit and risk (profit ratio); and "C" represents cost of producing the products.

While the procedure is simple in principle, it can be quite complicated in application and can give varying answers, depending on the data (information) utilized. For example, the selling price data selected can make a great difference in results. Prospective purchasers, when making their estimates of stumpage value, can estimate selling value on the basis of their individual ability to produce products that have better-than-average market value, and they can forecast future market trends. Appraisers for all three public agencies, on the other hand, are bound by their policy to use average costs and average returns (selling values). They use past or current product prices and do not predict the future.

A major difference between the three agencies is in the selection of selling value data. The U.S. Forest Service since 1957 for Douglas fir, and since about 1958 for hemlock and white fir, has used estimated yields of lumber and plywood by grade and average grade prices reported by Industry associations as the basis for their estimate of selling price or value. They, at various times, have used past prices averaged over a one, two, or three-year period. At other times they have used the most recent full calendar quarter year prices or a most recent rolling quarter consisting of the most recent three-months prices available. The period used was that considered most appropriate at the time. Since July, 1969, the Forest Service has used the most recent calendar quarter prices exclusively.

The Bureau of Indian Affairs and the State Department of Natural Resources use log prices to estimate selling value for their appraisal calculation, as does the Forest Service for cedar and Sitka spruce. The Bureau currently uses average prices developed from log prices published by the Industrial Forestry Association, and they use the most recent full calendar quarter. The State's Department of Natural Resources develops its own log price schedule by having its field personnel obtain from local buyers of logs (sawmills, plywood plants and pulp plants) quotations of prices offered. This price information is assembled and averaged by their Olympia office quarterly near the end of a calendar quarter and issued soon thereafter for use by field appraisers. The appraiser has freedom, however, to use locally quoted prices if their use will result in a higher appraised price.

The U.S. Forest Service avoids using export log prices in their appraisals by using end-product (lumber and plywood) selling prices for Douglas fir, hemlock and white fir and by using domestic log sales only in calculating log prices for cedar and spruce. It is necessary that they do this because of the statutory limitation on export of logs cut from National Forest lands. The Morse Amendment of January, 1969, limits export of logs from National Forest and Bureau of Land Management lands to 350 million board feet per year.

For the Quinault District of the Olympic National Forest, which is adjacent to the Quinault Indian Reservation, a further reason for not using export prices exists. This district is a part of the Grays Harbor Federal Sustained Yield Unit which was established to support the communities within the Unit's boundaries. The Policy Statement governing

operation of the Unit requires primary manufacture of timber within the Unit. Logs cut from the Unit, therefore, may not be exported.

There is no limitation of export for logs produced on State of Washington land or on the Quinault Indian Reservation. The State's Department of Natural Resources, nevertheless, has adopted a policy of not using export prices in its appraisals. The Industrial Forestry Association published prices used by the Bureau of Indian Affairs includes both export and domestic sales. For some species, hemlock and white fir, for example, a very high proportion of reported sales are for export, whereas for others, such as cedar, the proportion of export is low.

All three agencies obtain cost records from purchasers of their timber, and prepare average cost information. The Forest Service furnishes its appraisers not only with average costs for the various parts of the logging job, but with tabulated information which enables the appraiser to adapt various average costs to local conditions. The State's Department of Natural Resources follows a similar procedure. The Bureau of Indian Affairs obtains from the Forest Service their cost information and use it, including the adjustment procedure, for their Western Washington appraisals.

Profit and Risk allowances are established centrally by all agencies for use by appraisers. Currently the Forest Service has established a range of 12 to 14 percent for West Side appraisals. The State authorizes a range of 8 to 12 percent for green timber sales and up to 15 percent for salvage sales. Most green timber sales seem to rate the use of 12 percent. The Bureau of Indian Affairs is somewhat tighter in that they generally use 10 percent for new sales, and for the two long-term sales

on the Quinault Reservation they use the percent factor that was in effect at the time of the contract's signing. For the Taholah Unit sale this is 10.22 percent, and for the Crane Creek sale 10.45 percent.

Appraisal Results - Standards Achieved

Measuring the accuracy or quality of appraisals is not a simple task, particularly appraisals which do not have their results tested in the market place by competitive bidding. Even when competitive bidding results are available as a check, they most generally would not reflect the objective under which the appraisal was made. Nevertheless, checking against bid prices received for the actual timber appraised or for comparable timber with due regard to differences in timber quality and operating cost is probably the best test. With this in mind, consideration was given to how best to obtain a measure of the accuracy of Bureau of Indian Affairs price adjustment appraisals in reflecting "fair market value."

The possibility of using Forest Service or State selling price and cost data in the Taholah or Crane Creek Unit calculations was considered, but quickly discarded. Forest Service price data, because it is based on end-product values, could not be applied to Reservation timber without detailed cruise information on log sizes by grade. Furthermore, neither Forest Service nor State selling price information is fairly representative of export values. The other course--that of substituting certain of Bureau of Indian Affairs' data in Forest Service and State appraisal calculations--appeared more promising. Only three items of the Bureau's appraisal calculation are markedly different from Forest Service and State calculations; therefore, substitution of these three items should give a

result that can be measured against a bid price as well as against Forest Service and State appraised prices.

The Bureau of Indian Affairs' appraisers use Forest Service assembled averages and adjustment procedures for all logging costs with minor exception. They use their own estimate for an item of "other costs", which is primarily property line surveys and posting expense and peculiar to operation on the Reservation. Transportation costs are based on the State of Washington Utilities Commission formula for determining hauling charges. Road development and road maintenance are Bureau computed costs, but only differ in total amount from similar estimates made in Forest Service and State appraisals. None of these items would appear to have a major influence on the accuracy of the Bureau's appraisal results. Selling prices, profit and risk allowance, and special costs of sorting and handling associated with export of logs, then, are the three items for substitution.

A fourth item, that of "boom, raft, and local tow" which the BIA uses as a cost in Crane Creek appraisal calculations, is not used in Forest Service appraisals and only under special circumstances in State appraisals. It is not used by the BIA in their Taholah Unit calculations of stumpage price. In our opinion, it is an inappropriate cost in an appraisal which uses BIA calculated log selling prices. For this reason it is not used as a cost in the comparisons of this study.

Five State appraisals--one for each year beginning with 1968--were furnished by the State, and nine Forest Service appraisals were selected, representing the years 1960, 1961, 1964, and 1967 through 1972. Selling prices for each appraisal were recomputed using the Forest Service or State log grade percentages with log average prices as calculated by the

Bureau from Industrial Forestry Association published prices. The same quarterly prices were used as would have been used if the Bureau were making an appraisal as of the date of the Forest Service or State appraisal. The recomputed prices were then divided by 1.0P, as used in the Bureau's Taholah Unit appraisal calculations, to give an average selling price less profit and risk allowance.

Next, the total of costs for logging, road construction and truck haul as computed by the Forest Service or State, plus sorting yard cost (export preparation) as used in Taholah Unit appraisals, were subtracted. The residual is the indicated stumpage value for comparison with the Forest Service or State appraised price and the bid price.

An extra adjustment of transportation cost, however, was necessary in each of the State appraisals before a comparison could be considered valid. This is due to the fact that the State appraisers are directed to make a survey of the market for logs at various purchasing points. If they find that the prices quoted for a certain species or grade are higher at some distant point, such as at Shelton or Everett, Washington, and the added transportation cost of either added truck haul or towing charge, or both, is less than the price differential, they use both the higher price and higher cost in their appraisal. This, of course, distorts any comparison with an appraisal which uses selling prices obtainable at the nearest port, unless the hauling costs are adjusted to that required for delivery to that port. Accordingly, transportation cost adjustments were made in the State appraisals selected for comparison.

All of the recomputed appraisals, including the recomputation of selling prices, are included in the Appendix of this report. The summary portion for one Forest Service sale and one State sale is included here for illustrative purposes.

Olympic National Forest 1971 Timber Sale Appraisal ^{1/}

Summary of Calculation

Species	Hem.-W.F.	Cedar	S.S.
Volume, M. bd.ft.	2,800	800	200
Selling price less profit ^{4/}	\$79.74 ^{2/}	\$89.42	\$101.97
Logging cost (FS) \$40.77			
Sorting yard (BIA) 3.21 ^{3/}			
Total cost	43.98	43.98	43.98
Indicated stumpage price	35.76	45.44	57.99
FS appraised price	22.74	18.14	16.04
Bid price	22.74	18.14	16.04

- ^{1/} Anderson Middleton Log. Co. sale of 6/30/71. Quinault District.
^{2/} Arithmetic average. (Volumes for weighting not readily available.)
^{3/} From Taholah Unit 1971 Trend appraisal.
^{4/} BIA computed log selling prices and profit ratio substituted.

State of Washington 1971 Timber Sale Appraisal ^{1/}

Summary of Calculation

Species	Hem.-W.F.	Cedar	D.Fir	S.S.
Volume, M. bd.ft.	1,550	10	260	820
Selling price less profit ^{4/}	\$90.79 ^{2/}	\$85.40	\$109.75	\$113.73
Logging cost (State appraisal)	53.57	55.74	54.34	53.09
Adjustment in hauling cost	- .69	- 1.62	- 1.53	- .20
Adjusted logging cost	52.88	54.12	52.81	52.89
Sorting yard cost (BIA) ^{3/}	3.21	3.21	3.21	3.21
Total cost	56.09	57.33	56.02	56.10
Indicated stumpage price	34.70	28.07	53.73	57.63
State advertised price	16.00	34.50	61.50	18.50
Bid price	35.25	34.50	61.50	75.00

- ^{1/} Clearwater Leave Strip Sale, 11/1/71, with BIA calculated log selling prices and profit ratio substituted.
^{2/} Weighted average.
^{3/} From Taholah Unit 1971 Trend appraisal.
^{4/} BIA computed log selling prices and profit ratio substituted.

Analysis of Appraisal Comparisons

With two exceptions, all of the sale appraisals tested, beginning with the year 1964, resulted in higher indicated stumpage prices when BIA

calculated log selling prices and profit ratios were used. (One exception is the hemlock price for the 1969 appraisal, and the other is the 1972 Forest Service appraisal for a "no-bid" sale.) The amount of the difference can be seen by inspecting the individual recomputed appraisals in the Appendix, but for easy analysis the following summaries showing total original appraisal stumpage value, total indicated stumpage value using BIA calculated log selling prices and profit ratio, and total bid value are given. Sales for the five most recent years, beginning with 1968, are included, except that the 1972 appraisal by the Forest Service which did not result in a sale was omitted.

National Forest (Quinault District) Sales

<u>Year of Sale</u>	<u>Volume M.bd.ft.</u>	<u>Forest Service Appraised Value</u>	<u>Appraised Value (BIA log prices)</u>	<u>Bid Value (Total)</u>
1968	13,400	\$ 100,348	\$ 194,634	\$ 215,984
1969	14,500	366,255	447,012	366,255
1970	10,700	95,064	450,049	95,064
1971	3,800	81,392	148,078	81,392
	<u>42,400</u>	<u>\$ 643,059</u>	<u>\$ 1,239,773</u>	<u>\$ 758,695</u>
Average per M.		\$ 15.17	\$ 29.24	\$ 17.89
Ratio - Bid to F.S. appraisal			1.18	
Ratio - Bid to BIA log price appraisal			0.612	

State of Washington Sales

<u>Year of Sale</u>	<u>Volume M.bd.ft.</u>	<u>Appraised Value (State)</u>	<u>Appraised Value (BIA log prices)</u>	<u>Bid Value (Total)</u>
1968	7,350	\$ 178,500	\$ 246,561.80	\$ 470,863.00
1969	7,990	370,425	422,531.90	373,815.00
1970	12,810	270,675	688,585.80	771,315.00
1971	2,640	56,305	115,291.50	132,472.50
1972	10,770	274,065	380,015.40	675,785.00
	<u>41,560</u>	<u>\$ 1,149,970</u>	<u>\$ 1,852,986.40</u>	<u>\$ 2,424,250.50</u>
Average per M.		\$ 27.67	\$ 44.59	\$ 58.33
Ratio - Bid to State appraisal			2.108	
Ratio - Bid to BIA log price appraisal			1.308	

It seems obvious that selling prices used in the appraisal calculations are the principal cause of varying appraisal results. Therefore, a comparison of log selling price as actually used in the Forest Service appraisals with that obtained when BIA calculated log prices were substituted is of interest. In the following tabulation the selling prices from all of the Forest Service appraisals tested are included, and in addition a selling price comparison made by Mr. Wolf for the 1957 Hearings Before the Subcommittee on Indian Affairs of the Committee on Interior and Insular Affairs, United States Senate, (Page 223 of the record) has been added.

Difference in Computed Log Selling Price *

Cedar

Year	1957	1960	1961	1964	1967	1968	1969	1970	1971	1972
FS Ave.	67.00	62.74	48.96	50.21	50.93	54.45	74.43	66.35	65.39	101.75
BIA	<u>63.45</u>	<u>55.71</u>	<u>43.97</u>	<u>53.42</u>	<u>66.22</u>	<u>67.68</u>	<u>101.17</u>	<u>113.66</u>	<u>98.56</u>	<u>111.19</u>
FS(+or-)	3.55	7.03	4.99	-3.21	-15.29	-13.23	-26.74	-47.31	-33.17	-9.44

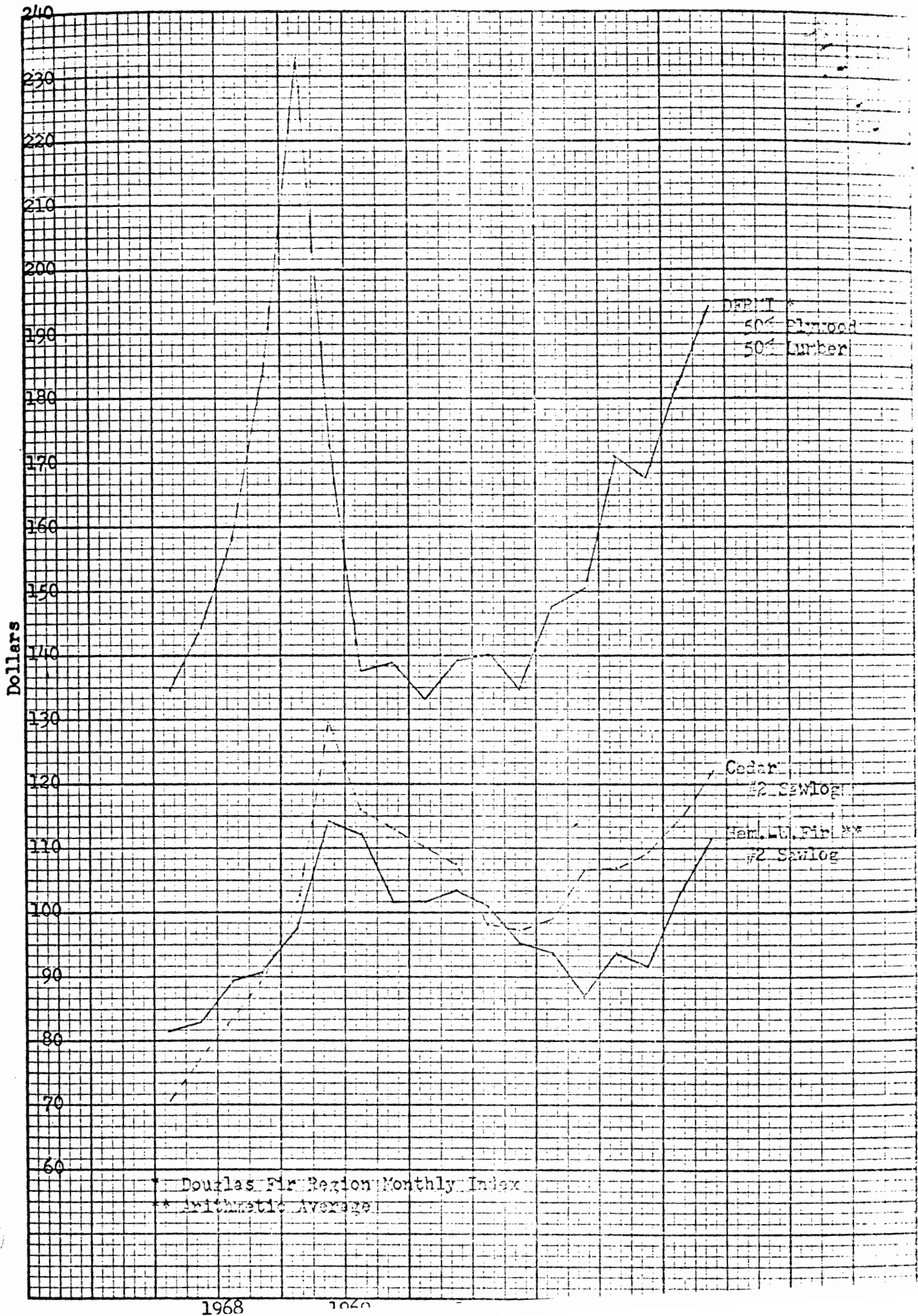
Hemlock

FS Ave.	50.30	57.07	49.98	51.14	56.82	71.74	95.99	69.42	70.48	111.01
BIA	<u>48.23</u>	<u>49.70</u>	<u>47.34</u>	<u>52.22</u>	<u>72.44</u>	<u>79.27</u>	<u>95.47</u>	<u>107.67</u>	<u>91.43</u>	<u>103.95</u>
	2.07	7.37	2.64	-1.08	-15.62	-7.53	+5.52	-38.25	-20.95	7.06

* The log selling price for Forest Service appraisals from 1964 on were obtained by subtracting milling cost plus the profit margin on milling cost from the total selling price as shown by the appraisal summary. The 1957 appraisal used log prices as the beginning point of the calculation, and the 1960 and 1961 appraisals used log price for cedar and a derived log price for hemlock obtained by subtracting a manufacturing cost plus profit margin from the estimated end-product value.

As an aid to visualizing the relationship of log prices to lumber and plywood prices, a graph (Figure 1) has been prepared. The graph labeled DFRMI (Douglas Fir Region Monthly Index) is a weighted value of two indexes. One is the Bureau of Labor Statistics Softwood Plywood Index multiplied by a factor to adjust its value to a M. bd.ft. log scale basis. The other is a Western

Figure 1.



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Wood Products Association index for dry Douglas fir-larch lumber, adjusted to a log scale basis. These adjusted indexes are weighted by the Forest Service in accordance with the proportion of peeler and sawlog grade logs in a sale and used in the appraisal to adjust calculated end-product prices from a past full year average on which they are based to a later calendar quarter. They have in the past also been used by the Forest Service for interim price adjustment (quarterly) of stumpage prices. They are not represented to be equal to average plywood and lumber prices, but are closely related.

The sawlog graphs reflect sawlog prices as calculated quarterly by the Bureau of Indian Affairs from prices published by the Industrial Forestry Association. They are the prices used by the Bureau in their appraisal calculation of average log selling prices and used in this study for substitution in Forest Service and State appraisals. In the graphs log selling values for the No. 2 Sawlog grade only were used. The value for this grade often is quite close to the overall average.

Discussion and Evaluation

The above summary of recent Forest Service and State appraisal calculations shows substantially higher appraised values when BIA calculated log selling prices and profit ratios are substituted. For the Forest Service sales the appraised stumpage would have been virtually doubled, and for the State sales approximately \$17.00 per M higher. The lower appraised prices for both the State and Forest Service is primarily because they both have ruled out the use of export log prices. A relatively small amount of the difference is due to the use of a lower profit ratio by the Bureau of Indian Affairs (.1022 for the Taholah Unit, a range of .12 to .15 by the Forest Service, and .12 by the State).

The Forest Service sold three of the four sales with no increase in the bid price over the appraised price, which resulted in an average bid price far below that obtained using BIA data. In spite of this, the Forest Service had "no-bid" sale offerings in each of the years in the tabulation, as well as during 1972. During the year 1970, 36,160 M bd. ft. in five sales was offered with no bids received. The response in all cases was that the price was too high. In the first half of 1972, 33,987 M in five sales was offered with no bidding response.

The State sales received vigorous competitive bidding, and the final bid prices more than doubled the State's appraisal. They exceeded the prices obtained when BIA log selling prices and profit ratios are substituted in the appraisal, but to a much lesser extent. These calculations reveal the powerful effect of the log export market on the value of stumpage.

The tabulation of computed log selling values reveals the same export market effect, and in addition shows how the effect has increased during recent years, although this is somewhat obscured by some irregularities in the Forest Service computations and by the effect of extreme fluctuations in the lumber and plywood markets. For the years 1969, 1970 and 1971 the Forest Service used 1967 cedar log prices unadjusted to the current calendar quarter, which is largely responsible for the extreme differences shown for those years.

The influence of lumber and plywood prices on Forest Service calculated prices can be seen by reference to Figure 1. Since Forest Service selling prices are for lumber and plywood, the peak prices for those products during the first quarter of 1969 had sufficient effect on the

four-quarter average then used by the Forest Service to raise the calculated log price above the BIA computed price. Likewise, for the first quarter of 1972, at which time the Forest Service used a single quarter for pricing, the high level of the DFRMI brought the value of hemlock logs above that computed by the BIA. This situation was brought about, in part, by the delay of log price increases with relation to that of lumber and plywood price increases. Lumber and plywood prices were high for a single quarter in 1969 and then dropped radically. Log prices reached their peak a full calendar quarter later than the peak for lumber and plywood. The decline in the selling price for logs came at a later time, also, and proceeded at a slower pace.

Export volumes of the species predominant on the Quinault Reservation were only 16.5 percent of the volumes included in the IFA published prices for the second quarter of 1964 and 21.3 percent in the third quarter of 1965. (See page 24 of Decision on Aloha Lumber Corporation Appeal of 1966 Stumpage Adjustment.) By the third quarter of 1971 close to 85 percent of hemlock and 90 percent of white fir volumes reported by IFA were export. Cedar volumes exported are relatively minor compared to hemlock and white fir. In the third quarter of 1971 the IFA report showed less than 10 percent of volume scaled as export. Normally the percentage is approximately 20.

The tabulation of log selling price differences shows that different relationships applied in the early years of pricing for the Crane Creek and Taholah contracts. During the period 1948 through 1952, when the original appraisals were prepared, both the Forest Service and Bureau of Indian Affairs were using log selling prices published by the Pacific Northwest Loggers' Association as a basis for appraisals. As time went

on the PNLA published price information apparently became less reliable. In 1950 the Association scaled 1,002 million bd. ft. per year for the three major log markets on which they based their price reports. By 1956 this volume had dropped to 577 million bd.ft. This was about 5 percent of the timber cut in the Northwest. (Page 219 of Record of Hearings before the Subcommittee on Indian Affairs, 1957.) Furthermore, what had at one time been a vigorous competitive market for logs became one allegedly dominated by trades between pulpmill, sawmill and plywood operators who had a surplus of one species of log and a need for another.

Evidence that the reliability of PNLA published prices had degenerated became apparent in the middle of the 1950's by reason of extremely high overbids for National Forest timber. As a result, the Forest Service began establishing log selling prices for their appraisers' use based on sources other than the PNLA published data. This accounts for the differences of \$3.55 for cedar and \$2.07 for hemlock for the year 1957 in the tabulation. Also, in part at least, because of a lack of confidence in PNLA prices, the Forest Service began making mill production studies to ascertain the recoveries of lumber and plywood from the various sizes and grades of logs. By 1957 they had sufficient information to enable them to change to an end-product basis of selling value in appraisals of Douglas fir. A change to the end-product basis was made for hemlock and white fir a couple of years later.

Cedar and spruce are still appraised by the Forest Service on the basis of log prices. The differences in the tabulation for the years 1960 and 1961 no doubt are due to the Forest Service end-product determination of selling value for hemlock. That for cedar would have to be due to the

abandonment of PNLA published prices by the Forest Service. The effect of export prices had not yet overcome the deficiencies of the PNLA published reports for domestic sales. In 1964 (or perhaps somewhat earlier) the export effect took over and, except for the two exceptions mentioned earlier, log prices, including exported logs, as reported from 1963 on by IFA, exceeded log price equivalents as determined from end-product recoveries valued at domestic lumber and plywood prices.

The use of the cost item, "boom, raft, and local tow", in the Crane Creek Unit appraisals is explained by the BIA as necessary because it was used in the original appraisal calculation. They interpret the pricing provisions of the contract (Sections 6 to 11, inclusive) as not permitting a new appraisal, but merely a revision of existing rates in accordance with "the trend of economic conditions in the West Coast forest products industries." This interpretation is supported by decision of March 10, 1967 by the Secretary of the Interior in the matter of the Appeal of Aloha Lumber Corporation. The appeal involved the stumpage adjustment effective January 1, 1966.

Use of the "boom, raft, and local tow" cost in the Crane Creek price revisions and not in the Taholah Unit price revisions seems inconsistent. It is our understanding that log prices used in the calculation of stumpage value are applicable to logs delivered to towable waters. This being true, the Crane Creek Unit prices may have been established relatively lower in this respect than those for Taholah.

Summary and Conclusions

The comparisons show a superiority of log prices, heavily weighted with export transactions, over end-product domestic values as used by

the Forest Service, for use in BIA appraisals. They are superior, too, to locally quoted domestic log prices, such as are used in State of Washington appraisals. Thus, BIA appraisal results during the last decade must have come close to meeting their objective of looking out for the Indian owners' interests.

During the early years in the life of the two sales, Bureau of Indian Affairs appraisals gave lower stumpage prices than would have been obtained with the use of Forest Service selling price data. But the differences are much smaller than those that developed in the opposite direction in later years. It should be recognized, too, that the Bureau was obligated by the terms of the contracts to use PNLA published log prices in their appraisal calculations unless or until the provisions of Section 11 were invoked.

Also, it should be recognized that there was competition for neither sale in 1950 when offered. Actually, Rayonier failed to execute an agreement following their first offer and sacrificed a substantial deposit with bid. Had the original price been extremely favorable, it seems unlikely that they would have sacrificed their deposit as well as exposed themselves to possible competition later.

It is possible, then, that some other considerations or elements of the appraisal offset the apparent low log selling prices. For example, the profit ratios used in all recalculations of stumpage value after the original appraisal would be considered low by most standards, especially in view of the fact that large sums of money were required as advance deposits, thus increasing the share of the profit allowance needed to cover interest.

It seems that the Bureau is justified in continuing the use of log prices published by the Industrial Forestry Association at this time. In fact, there appears to be no other pricing method available which is even closely as accurate in revealing the value of logs when they are free to be disposed of on both domestic and export markets.

There is, however, some question as to whether an average of "export", "water", and "inland" sales gives the best answer as to the true value of a particular log grade. It is known that a far greater volume of logs goes directly to internal use than is reported to the Industrial Forestry Association for inclusion in their published prices. Also, it is suspected that some of the volumes reported as "inland" and "water" sales are actually trades and may not, therefore, represent the full value of the logs traded.

It is recommended, then, that the Bureau continue to use IFA log prices, but that a study be made, preferably by the Pacific Northwest Forest and Range Experiment Station to provide more enlightenment on exactly how representative of a free and open log market the IFA published prices are.

The Bureau of Indian Affairs does not have a manual or handbook of appraisal instructions of their own, and apparently relies on written memoranda covering policy and objectives, plus the Forest Service appraisal handbook, for technical assistance. A concise statement of objectives in the appraisal of Indian timber was not found.

Without a stated objective it is impossible to judge an appraiser's performance accurately, nor is it possible for the appraiser to judge whether he is arriving at the answer his organization wants. Thus, a clear-cut, up-to-date statement of objectives for appraisals of Indian-owned timber should be helpful, and its formulation is recommended.

ROADS

Adequacy and Efficiency of Standards

Roads constructed by timber purchasers on the Crane Creek and Taholah Units are considered generally adequate. Except for treatment of right-of-way slash, and adequacy of some culverts and bridges, the standards to which they are constructed compare favorably with standards of the Forest Service and State of Washington for timber utilization roads.

The cost of roads to the Indian owners of stumpage has been much less than the charges against National Forest and State timber. There are, of course, explanations for the lower cost per M of Reservation roads, one being that all of the timber developed by the roads is included in the sales. Another is that the terrain of the Reservation is less rugged. We believe, though, that efficiency of road construction played an important part.

The above conclusion may be surprising when considering the fact that the contracts for the two sale areas of the Reservation contain absolutely no specifications for roads to be built. They merely authorize the purchasers to construct roads necessary to execution of the contracts.

The explanation, we believe, is tied directly to the large size of the sales. Efficient timber operators follow what is generally referred to as the "prudent operator" principle in road construction; i.e., they design their road system to give the lowest total cost of transportation--sum of construction, maintenance, and haul cost. Under this principle the greater the volume to be hauled over a given road, the higher the

standard required to give the lowest cost. Had the timber in the two sales been sold in a series of small sales, a much lower standard of road construction undoubtedly would have resulted if standards had not been specified. Furthermore, the lower road standard would not have resulted in a lower charge against stumpage. This would be true because lower standard roads can result in higher haul costs due to slower speeds and higher wear and tear on equipment.

Except for the multipurpose roads on National Forest and State lands, construction of which are financed in whole or in part from appropriated funds, road standards generally call for single-lane roads with turnouts. Bridges and culverts are all of a permanent type--reinforced concrete for major bridges and galvanized metal culverts. The State of Washington uses cedar log stringer bridges in some locations. Cedar log stringer bridges are used in many locations on the Reservation sales and, for the most part, galvanized culverts are installed. Some earlier installed culverts made use of logs or slabs. (Exhibit ^{Photo} 21 of Appendix.) Roads on the Reservation are generally single-lane with turnouts, but a few of the main haul roads would probably be classed as one-and-one-half lane or full two-lane width. All except some of the lesser spur roads are well ballasted, as they must be to support the heavy loads hauled over them.

Roads on the two sales have been written off in the recent BIA appraisals at rates ranging from \$1.76 per M in the January 1, 1969, price revision for both sales to \$1.88 per M in the Crane Creek price revision of August 1, 1971. State of Washington appraisals for the Forks District had average road costs per M of \$6.18, \$5.65, \$6.10 and \$6.90 for

the years 1968 through 1971. Olympic National Forest sales tested in the appraisal section of this study show that "specified roads" required to be constructed by the contract were charged off against stumpage at the following rates per M: 1968, \$12.94; 1969, \$24.02; 1970, \$14.03; 1971, \$6.36; and 1972, \$25.22. The weighted average for the five sales is \$17.41 per M.

Road Locations

Until very recently road location was left almost entirely to the purchasers on the Reservation sales. Because of this, some roads were located immediately adjacent to streams. Currently, much attention is being given to road location in the consideration and approval of purchaser-prepared annual logging plans.

On the National Forest all "specified" roads are located prior to appraisal and advertisement of sales. Nonspecified roads (temporary) are located by the purchaser but must be approved by the Forest Service before construction begins. "Specified roads" are those for which standards and locations are specified in the sale contract. In most cases such roads become a part of the Forest Development Road System, and an effort is made to locate them where they will serve long-term management needs.

For State sales, main roads are located in advance of sale by Department of Natural Resources personnel. For some secondary roads the purchaser is required to make locations in accordance with State instructions and subject to their approval. On both State and National Forest lands, locations are planned to minimize conflicts with other land uses and avoid soil disturbance and erosion to the extent possible. For

example, both are attempting to eliminate location and construction of mid-slope roads. Preferred locations are at the top or bottom of slopes.

Construction Practices

Road construction practices on the Reservation sale areas, for the most part, compare favorably with those on State and Forest Service sale areas. Reservation lands are generally much more moderate in slope, and consequently some are less well drained. Many secondary roads have been constructed with a minimum of ground disturbance--i.e., with little or no grading. Following clearing of right-of-way width and necessary leveling, rock ballast is simply placed on top of the undisturbed ground--often with limbs serving as puncheon. This practice is frowned upon by many road engineers, but apparently it has been found satisfactory on the Reservation. Grading and ditching prior to rock application, we were told, would necessitate use of much heavier applications of ballast.

In earlier years, road construction was not closely supervised by the BIA. Also, the proper culvert placement to facilitate fish migration was apparently considered less important than now. More recently the BIA has required the resetting of numerous culverts and has issued road construction guides as a means to improved practices.

Both the Forest Service and State, operating on generally more rugged terrain and building more multipurpose roads, have rather elaborate specifications for construction, and in addition their engineering divisions supervise road construction closely. Timber sale contracts for both specify measures that must be taken during and following road construction to minimize soil disturbance and erosion hazards. Side casting of excavation materials, for example, is not permitted. A full bench road with

end haul of waste material to fill areas or designated waste deposit areas is required.

Road Maintenance Practices

Roads under use by the purchasers apparently are well maintained. During our visits we observed none in disrepair, except some sections which had been damaged by a recent storm. These sections were being repaired. Roads no longer used by the purchasers, and for which they can no longer be held responsible for maintenance, have suffered damage. The problem of how to provide maintenance for such roads is an unresolved problem.

As for road construction, the BIA sale contracts contain no specifications for performance of road maintenance. Section 39 of the Timber Sale Regulations authorizes maintenance "subject to regulation by the Commissioner of Indian Affairs." This very broad and general provision is used by the BIA as a basis for issuing instructions regarding maintenance practices. The purchasers apparently have cooperated well in this regard.

The Forest Service and State timber sale contracts contain detailed road maintenance specifications, either actually or by reference. They generally require the purchaser to perform the work, but a variety of methods are used. The Forest Service sometimes requires deposits of money into a cooperative work fund from which they can pay others to do the actual work, or they can do it themselves. The State has a similar arrangement. Both sometimes require payment into their maintenance funds to cover cost of rock replacement on road surfaces. Because there is more public use of State and Forest Service roads, particularly the latter,

deposits are sometimes required to pay the cost of light oil treatments for surfacing on main all-purpose roads.

Road Right-of-Way Acquisition Practices

Acquisition of rights-of-way for Reservation roads has been greatly neglected. In the two large sales, roads with a value probably in excess of five million dollars have been constructed with nothing more than the allotment owner's consent to use of the road during the term of the sale. This means if nothing further is done that ownership of the roads will be fragmented, since ownership presumably will revert to the allotment owner.

Some acquisition of rights-of-way has been accomplished, we were told, on some parts of the Reservation, but none on the Crane Creek or Taholah Units, nor on the Queets Unit. The problem of maintenance of roads after the purchaser's responsibility ends can hardly be resolved unless future ownership of the roads is resolved. Continuing or sustained yield management for the Reservation as a whole will require ready access to each and every allotment. Even if unified management is not practiced, equal rights of access, it would seem, should be available to each allotment that has contributed to the overall cost of the road system.

With some very minor exceptions, roads are never constructed on State or National Forest lands without first obtaining a permanent easement. An exception might occur if a minor, temporary road was needed to remove a small quantity of blowdown or other dead or damaged timber.

who pays for road

UTILIZATION OF THE TIMBER CROP

Complete utilization of the timber crop being harvested has long been the goal of forest owners and managers. Incomplete utilization may lessen revenues obtained, but generally the incentive for more nearly complete utilization is for environmental and other considerations also. Unutilized material left on cut-over areas creates a fire hazard if not burned, interferes with regeneration of a timber crop, and is aesthetically undesirable.

The BIA, Forest Service, and the State of Washington's Department of Natural Resources all strive for the best and most complete utilization possible. Each has experienced approximately the same degree of success in comparable timber types.

Purchasers of timber tend to remove only such material as will yield a net return above cost. Consequently, any utilization or removal beyond that made possible by economics must be achieved by use of penalties or subsidies. All three agencies define merchantability of logs in their contracts and require payment for all material that is merchantable as defined. None requires actual removal of all material. All three, also, provide in their contracts for optional removal of material that will not meet merchantability definitions.

Utilization on the Reservation Sale Areas

Contracts, as modified, define as merchantable any log over twelve feet in length with a six-inch, or larger, diameter top, provided it is at least one-third sound and contains a minimum of fifty board feet. All such logs not removed are charged for if found by sale administrators.

Also, all material which would have been a part of a merchantable log, except for improper bucking practice, careless felling or other wasteful practice of the purchaser, is charged for.

Material not merchantable as defined may be taken by the purchasers, at their option, and paid for at established prices for pulpwood, shingle bolts, or shake boards. To date utilization of such material has had limited success, especially in areas where cedar residues predominate. There are areas, however, where substantial volumes of cedar shake material have been removed, and utilization of hemlock and white fir beyond contract requirements is excellent on the Crane Creek Unit.

Considerable study and effort have been devoted to the problem of better utilization by BIA foresters. They have been able to interest the Weyerhaeuser Company in studying the residues on the Reservation as a source of supply for their pulp mill. Company representatives are reported as eager to secure the material for their plant, but thus far the cost of removal and transportation is greater than current payment schedules for this class of raw material. A subsidy would be needed to accomplish removal at this time.

Certainly the problem of large volumes of unutilized cedar logging residues on the Reservation merits intensified study.

Utilization on the Quinault District, Olympic Forest

Utilization requirements and merchantability definitions in Forest Service contracts are almost identical with those in the BIA contracts. A significant difference exists, however, with respect to material that does not meet merchantability definitions. During recent years the Forest Service has adopted the practice of selling such material on a per-acre basis.

Their appraisals establish a per-acre price, and the purchaser is allowed to remove any and all material he can dispose of. Furthermore, in such contracts the minimum volume of a merchantable log is raised to 80 board feet, and the purchaser is permitted to vary his bucking practice to increase the volume that does not meet merchantability definitions. This practice has resulted in increased utilization on some areas. It is, of course, a form of subsidy.

Another practice currently followed by the Forest Service in certain situations is the required yarding of unmerchantable material. This practice is restricted to areas where slash burning is considered undesirable and the yarding will benefit the area through fire hazard reduction and site preparation for regeneration of the timber stand. It does increase the opportunity for utilization because a portion of the cost of removal has already been incurred.

Forest Service policy does not require removal of material that will not yield an economic return--not even material which they have required to be yarded. Their Manual instruction found at 2453.22 reads as follows: "Purchasers will be expected to remove per acre priced material only to the extent that removal would be economically practical."

Utilization on State of Washington Lands

State contracts currently contain exactly the same merchantability definitions as are contained in the modified contracts for the Crane Creek and Taholah Units. They provide that merchantable material not removed shall be scaled and paid for and require that utility logs be yarded. Utility logs are large logs unmerchantable because of defect, but which have a sound chip content of at least 50 percent of their gross scale.

Such logs must not be burned or charred and must be suitable for mechanical debarking. They must contain not less than 100 board feet gross volume and have a minimum top diameter inside bark of 12 inches. A penalty is imposed if such logs are not yarded.

State contracts permit the removal of material which does not meet merchantability definitions. A nominal price is established for material removed, but removal is not required.

Summary

Observations indicate that, for a given timber type, utilization is quite comparable on State, Indian and Forest Service areas visited. The poorest utilization occurs in defective cedar. Such cutovers on State and National Forest lands are usually burned to reduce fire hazard. They are not burned on Indian lands, and here the tremendous volumes of unutilized, low-grade wood is more obvious. This type of cedar is more abundant on the Reservation, too.

The Forest Service has had fairly good success with their per-acre pricing of unmerchantable material--probably with little or no financial gain, but with some improvement in fire hazard and aesthetics. The State and BIA dispose of substantial quantities of cedar in the form of shingle bolts and shake boards. The big problem on all areas is the huge quantities of low-quality, and mainly cedar, residue that will produce no product other than chips.

TIMBER SALE SUPERVISION

Timber sale supervision is a major part of timber sale administration. The terms "sale supervision" and "sale administration" are used interchangeably. In this study, however, the field aspects of administration only--the checking of contract performance on the ground--is considered to be sale supervision.

All three of the agencies approach the job of sale supervision in a similar manner. All three employ forest officers who visit the sale areas daily, or periodically, to check every phase of the sale operation as the work progresses.

The Forest Service maintains a Timber Sale Administration Handbook which is designed to be helpful to timber sale officers in doing the supervision job. It contains a statement of objective which reads as follows: "The main purpose of a timber sale officer is to see that the timber crop is harvested with a minimum damage to soil and water and with a maximum benefit to the establishment of a new crop, as is practical under existing operating policies and procedures." The Forest Service Manual, under the heading Timber Sale Administration (2434.12 Policy), contains this statement: "The requirements of sale contracts must be enforced by the officer in charge with fairness and with due consideration of operating necessities, but with firmness." (Part only of Policy instruction.)

Similar written guidelines for forest officers engaged in sale supervision for the BIA and State were not found or seen. However, contacts with forest officers in all three organizations revealed that objectives

and purposes were the same. Bureau of Indian Affairs officers gave great emphasis to the checking of allotment line surveys, checking of log branding, and checking of log bucking practices, all of which are important to making certain that each allotment owner receives his due share of receipts.

Supervision on the Quinault Reservation

The Bureau has five forestry personnel assigned to administration and supervision of the two large sales. In addition, they have two men assigned to the Queets Unit and a Forest Engineer who checks road locations. Of the five forestry personnel, one is able to spend only approximately one day per week on field inspection, two men spend approximately half their time in the field, and two spend their full time on field duties.

The supervision job on the Reservation sales is much more complex in many respects than on either National Forest or State sales. The fact that both large sales include many 80-acre allotments, all with separate ownership, causes an extra job of line running for the purchasers and of line checking by the forest officers. It also creates the need for many different log brands to identify the logs cut from each allotment. On both sales to some extent, but particularly on the Taholah sale, log grades produced by the operation have a bearing on the price paid; therefore, log bucking practice becomes very important. The checking of all three of these activities is time consuming. Such jobs are largely non-existent or minor on Forest Service and State sales.

Another job which is much more time consuming than for either of the other agencies is that of checking utilization and making "pick-up" scales. Pick-up scaling is the term used for measuring the volume of merchantable material left after logging, or wasted through carelessness or poor

workmanship. The BIA foresters cover the entire areas logged and scale all material merchantable as defined by the contract, as well as all material wasted by poor bucking or careless felling. The other agencies check and scale whenever there is more than a minor quantity found, but their "pick-up" scaling job is not nearly so burdensome. We found that the BIA forest officers were currently far behind in the "pick-up" scale job in spite of the fact that they were being helped by part-time assignment of timber cruising personnel to the job.

Supervision includes the checking of felling and bucking to guard against undue breakage of timber and damage to streams, and the job of checking yarding operations to make certain unnecessary breakage or damage is not occurring. It also includes checking of stream cleaning operations, which currently are given high priority. Many unscheduled jobs occur, and forest officers frequently are called on to help solve day-to-day problems.

The timber sale crew appeared to have more jobs than they could do justice to and appeared to be in need of assistance either through a lessening of the job or an increase in personnel. One proposal already made would help if approved. The BIA has proposed that a system of sample scaling be adopted for the "pick-up" scale job. It is our understanding that both purchasers are agreeable to this method of scaling, but the Tribal Council has not yet given its approval. Another efficiency would be to re-establish headquarters for timber sale officers on or near the Reservation, rather than at Hoquiam as at present, fifty or more miles from most of their work.

Handwritten notes:
BIA
2/2/54
R. W. ...

Supervision on the National Forest

The Quinault District of the Olympic National Forest has two timber sale officers and one trainee assigned to the south end of the District, where they have an annual cut of 50 million bd.ft., plus 5 million bd.ft. of salvage cut. In addition, a road inspector checks road construction and maintenance, as well as any other activity connected with roads, bridges or culverts. Each officer has about five sales assigned to him and is expected to visit and check each sale one or more times per week.

The north end of the District has a similar timber sale staff and workload.

Much of the supervision job for National Forest sales is essentially the same as for those of the Reservation, except that the complexity of ownership does not exist. Branding is necessary to one ownership only, and line running is all done in advance of the sale offering. "Pick-up" scale, which is usually referred to as a utilization scale, is not usually a formidable task. Forest Service contracts require payment for merchantable material left and not utilized, or "wasted in tops, chunks or long butts broken by careless felling", but gives the forest officer discretion not to charge if the amounts are "incidental" or are justified "by existing conditions." Under this authority, if the forest officer makes a "walk-through" inspection of utilization and finds only an occasional missed small or low-grade log or poorly bucked top or break, no "pick-up" or utilization scale is made.

Supervision on State Lands

The Forks District, with an annual harvest of approximately 400 million bd.ft., has six men assigned to sale supervision. Road construction

and related activities are handled by road engineers or inspectors. The State Area Manager has a policy of assigning not to exceed ten sales to each man, and he expects that each sale will receive at least one visit per week.

Like Forest Service and BIA forest officers, the sale administrators check all phases of the timber sale operation for compliance with the sale contract. They also participate, as do forest officers on the National Forest, in planning and doing the slash burning and other management jobs. A guarding against thefts of cedar on all three properties--State, National Forest, and Reservation--is a problem to which forest officers must devote attention and time.

State timber sale officers check utilization and scale unutilized merchantable material in logs, stumps, long butts, etc. They mark scaled material conspicuously with paint to avoid its being scaled a second time if removed. They do not make a 100 percent coverage of logged areas, as does the Bureau of Indian Affairs.

Summary and Conclusion

There is no major difference in standard of supervision for the three agencies. But in several respects, the BIA timber sale officers have a more difficult job because of the large number of allotments involved. Also, the administration job is always more involved and of greater magnitude in a large, long-term sale than for relatively small sales, such as are administered by the State organization and the Forest Service. On the latter sales, cutting units are all planned and laid out prior to advertisement of the sale; roads, except for minor spurs, are located and designed; and logging and other requirements are generally well spelled out in contracts. In the

Reservation sales, logging plans now must be developed and approved each year. Such plans must include road locations whenever new roads are required, and must include plans for stream protection. A lessening of the time consumed by a 100 percent "pick-up" scale should release timber sale officers for more important supervision activities. And living closer to the job, rather than 50 or more miles away in Hoquiam, would save costly travel time. A job-load analysis of the Quinault timber sale supervision task is needed.

REGENERATION OF THE FOREST

Regeneration on the Quinault Reservation

The basic plan for regeneration of cutover forest lands in Indian trust status on the Reservation is to:

1. protect the forest and cutover areas from fire, and
2. depend on natural reseeding to establish new stands.

There is at least one advantage and a number of disadvantages in this practice.

The prevailing advantage is that it is cheap. And dependable funds for planting generally have not been readily available.

The disadvantages of depending on natural reseeding to regenerate the Quinault Forest are:

1. Time and consequently valuable timber growth are lost. A delay of four to five years is commonly experienced in obtaining a well-stocked new stand.
2. No control is obtained over species composition or genetic strain of the new forest.
3. Tree spacing is not controlled; some forest areas are overstocked, some understocked.
4. As seed sources diminish, as is now occurring in the later stages of old-growth timber harvest on the Reservation, the delay in restocking may increase, adequacy of stocking decrease.
5. Dependence on natural regeneration restricts flexibility in slash disposal. Areas with heavy concentrations of slash, of which there are many, are regeneration problem areas. If left unburned, planting or artificial seeding is needed to avoid longer delay in restocking.

BIA foresters completed a field survey of Taholah and Crane Creek cutovers late in 1971. This survey indicates that most cutovers examined were well-stocked five years after logging; that almost all cutovers examined were medium-stocked within three years after logging. Establishment of natural regeneration was found to be slower on the heaviest slash accumulations around landings; also on burns. Overstocking was a common problem on some areas cut over more than five years ago.

The Contractor and Subcontractor checked the BIA reproduction surveys in the field and found them to be generally as represented.

Thus, we conclude that the Quinault Forest on the Taholah and Crane Creek Units is being regenerated, but not as promptly, efficiently and productively as it could be by investing more funds and more effort in this activity.

Forest Planting on the Quinault Reservation

From time to time the BIA has tried to accelerate forest regeneration by planting tree seedlings or by direct seeding. Some 5,900 acres of cutover and burned forest lands on the Quinault have been planted under BIA supervision.

Starting with experimental plantings under the Civilian Conservation Corps program in the 1930's and resumed from time to time since, when stimulated by special appropriations, the planting program has been generally productive when applied. The species most commonly used were Douglas fir and Sitka spruce for timber production. Recently cottonwood cuttings have been planted along some streams exposed to the sun by clearcutting,

in the hope that they would improve fish habitat by providing shade more quickly than would the regrowth of conifers.

But BIA tree planting has been severely hampered by lack of continuity and lack of dependable, predictable financing.

When planting a new forest, it is important to collect seed of good genetic strains suited to the site to be reforested. Most desirable forest trees do not produce seed abundantly every year. Several years may be required to obtain good seed. Then when the proper seed is available, seedlings must be grown to plantable size in a nursery, usually for two or three growing seasons.

This means that an efficient planting program must be a continuous operation. Only by improbable accident would a forester expect to buy custom selected forest tree seed or seedlings in the market without ordering well in advance of his needs.

Regeneration on Washington State Lands

The basic plan for regeneration of cutover forest lands managed by the Washington Department of Natural Resources is to plant promptly with nursery grown tree seedlings. About 8,000 acres, in the DNR Western Jefferson-Clallam County Forest is clearcut and planted each year. The seed is carefully collected from parent trees whose progeny are judged to be well suited for vigorous growth on the sites to be reforested.

Most areas are planted to Douglas fir. And planting is planned for the winter following completion of logging and site preparation.

Site preparation consists usually of broadcast burning of logging slash to reduce fire hazard, to facilitate planting and to reduce the vegetative cover competing with the planted seedlings.

Under this schedule the regeneration period is about one year, but since two-year-old seedlings are planted, there is little or no loss of productivity at the end of one tree rotation to the beginning of the next.

DNR investment in stand establishment is estimated at \$74.00 for site preparation, \$54.00 for planting, totaling \$128.00 per acre. State DNR staff analysts have calculated that this investment in timber growing has about a 1 to 5 cost-benefit ratio.

DNR reproduction surveys of 1971 on 26 logged units in the vicinity of the Quinault Reservation indicated an average of 71 percent thrifty conifer stocking. This is the well-stocked class.

We inspected recently logged and regenerating areas on DNR managed lands in this vicinity, and found the level of stocking on them essentially as reported from their survey. The older cutovers were stocked with thrifty trees, well-spaced by precommercial thinning.

Regeneration on Olympic National Forest Lands

The primary regeneration method used on the Quinault Ranger District is by clearcutting in blocks or patches followed immediately by planting.

Size of clearcut patches varies from 10 to 80 acres. Blowdown along the edges of clearcut units commonly increases their size considerably.

Selective burning of slash is done as promptly as possible following logging, partly for fire hazard reduction, partly for site preparation before planting. Burning is avoided or minimized on steep south slopes and areas of thin soil. Slash is burned on an estimated 50 percent of all clearcut areas at an average cost of about \$70.00 per acre for the acres burned.

Normally, about 1,200 acres are clearcut each year on the district, and planted promptly with 2-0 or 3-0 nursery grown Douglas fir seedlings at 10-foot by 10-foot or 12-foot by 12-foot spacing.

Only seeds from Western Washington sources are used, including the vicinity of Forks, Doty and the Wynoochee. Within the next few years, genetically improved seed from the Dennie Ahl Seed Orchard on the Shelton District of the Forest is expected to be available.

Contract planting plus administrative costs, survival examination, etc., total \$25.00 to \$30.00 per acre; planting stock costs \$8.00 per acre.

A summary of average reported regeneration cost per acre is:

Site preparation	\$ 35.00
Contract planting	20.00
Supervision and survival checks	10.00
Planting stock	8.00
Total	\$ 73.00

Site preparation by broadcast burning of slash is, as mentioned above, done on about half of the acres planted.

Where slash burning is done, a representative regeneration cost is:

Site preparation	\$ 70.00
Contract planting	18.00
Supervision and survival checks	10.00
Planting stock	8.00
Total	\$ 106.00

Where slash burning is not done, regeneration cost per acre is expected to average:

Contract planting	\$ 21.00
Supervision and survival checks	10.00
Planting stock	8.00
Total	\$ 39.00

At the lower elevations of the district, survival of planted Douglas fir averages 80 to 90 percent. Above about 2,600 feet some difficulty is experienced in getting prompt, adequate regeneration with planted Douglas fir; silver fir appears more promising at these levels, and will be used more in the future.

The estimated area of unsatisfactorily stocked backlog needing planting on the district is about 400 acres.

The Contractor and Subcontractor inspected areas cut over during the past several decades on the Quinault District. The abundance of well-stocked, thrifty young stands is evidence that regeneration efforts here have been very successful.

TIMBER SUPPLY AND ALLOWABLE CUT

On the Quinault Reservation

The first systematic estimate of the timber stand on the Quinault Indian Reservation was compiled following completion of a timber cruise made during the years 1915, 1916, and 1917. As so estimated, the merchantable timber volume at that time totaled 4,787 million board feet.

Large scale commercial logging operations started on the Reservation in 1922. During the following 50 years a total of 4,466.7 million board feet of timber was sold and harvested.

Annual timber cut varied from a low of 7 million board feet the first year to a high of 177 million in 1968. Over the half-century of operations, annual cut has averaged about 89 million board feet.

A complete cruise of all timber on the Reservation has not been made since the first one. A report on a recruise of the timber on the Taholah Unit was completed January 1, 1961, and a similar recruise on the Crane Creek Unit was reported January 1, 1960.

Volume of timber harvested has been compiled, area by area, as cutting was completed, and comparisons made between timber harvested and cruise volume estimated. Based on such data, the merchantable timber on the Crane Creek and Taholah Units as of July 1, 1972, has been estimated as shown below. Volume of Indian timber on the Queets and other units was compiled from data on forest type and ownership areas and rough estimates of volume per acre.

Estimated Merchantable Volume of Indian Timber on the Quinault Reservation, July 1, 1972

<u>Unit</u>	<u>Million Bd. Ft.</u>
Crane Creek	659
Taholah	349
Queets	90
Others	250
Total	<u>1,348</u>

If the average rate of timber harvest from the Reservation for the past 50 years continued uniformly into the future, the timber volume now estimated to be standing would be exhausted in 15 years.

If timber harvest on the Crane Creek Unit continued into the future at the 1971 rate of cut (60 million board feet), the estimated total remaining in this unit would be depleted in 11 years.

If timber harvest on the Taholah Unit continued at the 1971 rate (36 million board feet), the estimated total stand in the unit would be depleted in 9 years. At the 1970 rate of cut (83 million board feet), merchantable timber on the Taholah would be exhausted in about 4 years.

The future rate of cut of Indian timber on the Quinault will probably not progress at exactly any of the above hypothetical rates. Also, some young stands will grow into merchantability within the next and following decades.

But this simple projection of past cutting rates is made to emphasize the critical urgency of the timber supply situation on the Reservation.

The latest forest management plan prepared for the Quinault Reservation is that by Kenneth W. Hadley, dated March 26, 1954. Hadley, at that time, was assigned to the Quinault as Forester. His plan was approved by the Forest Manager and the Superintendent.

Hadley's Quinault plan was submitted to the Portland Area Director for review March 30, 1954.

Ten months later--January 28, 1955--the Area Director sent the Quinault Plan, along with one from the Makah, to the Commissioner with the comment, ". . . we have not even had time to look at them".

On August 11, 1958, four and one half years later, the Chief, Branch of Forestry, wrote the Area Director, saying that his review of the Quinault Plan had never been received, and asking him to revise the plan.

On August 22, 1958, the Area Director wrote the Superintendent and asked him to arrange for review and revision of the Quinault Management Plan.

March 17, 1959, following inquiry from the Chief of the Branch of Forestry, the Area Director asked the Superintendent to submit a revised plan for the Quinault at the earliest practicable date.

On April 6, 1959, the Superintendent wrote the Area Director, saying it would be futile to develop a new plan at that time owing to the unstable Indian ownership situation. He advised preparing new management plans for the Taholah and Crane Creek Units after completion of a new inventory, and to manage other units on a year-to-year basis.

On May 20, 1959, the Area Director wrote the Commissioner proposing the following generalized timber management policy for the Quinault:

1. Orderly harvest of the virgin timber in the Crane Creek and Taholah Units under the existing contracts terminating on April 1, 1986, and April 1, 1979, respectively, plus small sales for Indians who desire a separate sale of timber from their trust lands.

2. Facilitate salvage sales as needed.

3. Protect trust lands from fire, insects and diseases.

4. Inventory the forest by allotments in areas not covered by timber contracts in order to: (a) facilitate issue of fee patents where Indian owners desire them, or (b) to facilitate supervised land and timber sales where Indian owners desire them.

The record indicates that these, in general, are the guidelines that were followed in the timber management program on the Quinault over the past 13 years. During the latter half of this period, policy regarding issue of fee patents and sale of allotted lands changed on the Quinault. In recent years, issue of fee patents have been generally discouraged by the BIA, and the record indicates that no allotted lands on the Reservation have been sold to non-Indians since June 6, 1968.

The year 1959 also marks the start of a rapid acceleration in the annual volume of cut on the Taholah and Crane Creek Units. The annual cut during the 13 years 1959-1971, inclusive, on these two units combined averaged 121 million board feet.

This is in contrast to the combined maximum annual cut of 68.3 million originally permitted under the two contracts.

Starting in the late 1950's and continuing into the early 1960's, the purchasers of the Taholah and Crane Creek timber requested and received authorization to exceed the contractual limits on annual cut by specified amounts. By this time it was clear that much more timber was included in these two units than was estimated when the contracts were signed. Thus, it was reasoned that it would be necessary to increase the annual cut in order to harvest all the merchantable timber within the sale boundaries during the contract periods.

Then, in 1964, the 100 million board foot upper limit on any consecutive three years' cut on the Taholah was raised to 300 million feet in any three consecutive years. In the same year, the 35 million board foot maximum limit on the Crane Creek annual cut was removed entirely. Since that time there has been no contractual limit on the maximum annual timber cut on the Crane Creek Unit.

An alternative would have been to extend the period of the contract, but this possibility was discarded in favor of increasing the annual cut.

Hadley's 1954 plan projected an average annual cut of 55 million board feet from Taholah and Crane Creek combined during the 13-year period 1959-1971, inclusive.

The Contractor has not found a complete explanation of why the BIA decided to accelerate the timber cut on the Quinault so rapidly in 1959. But interviews with members of the Tribe, of the BIA, and study of the records give some clues. Quinault Reservation forest management programs obviously gave major consideration to urgent pressures from allottees for early and maximum cash returns from their timber. Relatively little consideration was given to providing for future needs of allottees and allottees' heirs from their forest lands.

A considerable momentum in organization of sustained yield operations on both public and private timber properties in the Pacific Northwest started about 1945, and was well under way in 1959. There were exceptions to this trend, of course, and one of them was on the Quinault Reservation, where considerable land was passing out of trust status and into private ownership at that time.

Sustained Yield for the Quinault?

Starting in 1950 and 1953, respectively, timber harvest on the Taholah and Crane Creek Units has yielded more than 2 billion board feet of primary wood products, and has provided a total income from stumpage, up to April 30, 1972, of more than \$39 million. More than 90 percent of this income was paid to allottees and their heirs.

It is estimated that the production of this timber, its manufacture into products, its transport and use contributed some \$693 million to the gross national production of goods and services.

The Quinault Indian Forest has been managed for continuing forest growth; the forest is being regenerated. But it is not being managed for a sustained yield of timber products.

Detailed, up-to-date information about the age class and size class distribution, composition and growth rate of the Quinault Forest is not available today. So the volume of timber harvest that could be sustained after cutting all the remaining old growth within, say, the next one, two, or three decades, cannot be accurately calculated at this time.

But study of the information that is available indicates that the recent rates of timber cut on the Reservation cannot be sustained more than another decade or so.

From our discussions with representatives of the Tribe and of the Allottees, we judge that these Indians are very interested in knowing the possibilities of sustained yield timber management on the Quinault. If so, the collection of the necessary basic data becomes a high priority task.

Another high priority task would be to determine how best an assemblage of many allotments, whose owners may have diverse objectives, can be managed as a sustained yield forest property.

On State of Washington Lands

The Washington Department of Natural Resources manages in total some 3,000,000 acres of State-owned lands. The annual and sustainable level of timber harvest from all these lands, at the present intensity of management, is calculated at 774 million board feet.

The State lands in Western Jefferson and Clallam Counties north of the Reservation total 260,000 acres in area. Of this area, 100,000 acres are old growth timber with an average volume per acre of about 50 thousand board feet, or a total of 6.5 billion board feet.

Presently, 8,000 acres per year of this old growth are being clearcut in patches and regenerated promptly. This produces 400 million board feet of timber annually--more than half the total timber harvest being taken from all the Washington State lands.

At this present rate of harvest the State old growth in the Western Jefferson-Clallam County area will be completely cut over in about 16 years.

State-owned second-growth timber in this area totals 130,000 acres also. This second growth is being commercially thinned at the rate of about 900 acres per year, and now produces an annual timber yield of 7 million board feet. The DNR plans on a rotation age of 55 years for their managed second-growth stands of mixed Douglas fir and hemlock now being regenerated in this vicinity.

Sixteen years hence, when State old-growth in this area is all cut over, the yield from State second-growth in the vicinity will have increased greatly. But the total annual output of timber therefrom will be much less than the 407 million board feet now being harvested from State forests in Western Jefferson and Clallam Counties.

State plans do call for sustaining the 774 million board foot total annual harvest now being taken from all the State forests. This means that by 1988 a much greater proportion of the State timber cut will come from lands outside the Western Jefferson-Clallam County area.

Before 1988, timber harvest from the Quinault Reservation also will have declined greatly. So the impacts of these concurrent declines in

timber harvest will be substantial, both on Quinault Reservation and on Grays Harbor communities.

Compensating developments and adjustments should be planned ahead in far more detail than they are now, if serious impacts on employment and community support are to be reduced.

On the National Forest

The 151,137-acre Quinault Working Circle of the Olympic National Forest contains 136,773 acres of commercial forest land available for timber production.

The latest inventory, completed in 1963, showed that 85,485 acres, about 62 percent, are covered with mature stands 160 years old and older. The remainder, some 51,000 acres, was younger forest. Of the total commercial forest area, 77 percent was covered by forest more than 80 years old--the age selected for the rotation of tree crops under management. Inventoried volume totaled 6.5 billion board feet.

The present allowable annual cut under sustained yield management for this property is:

From regeneration cutting	69 million bd. ft.
From commercial thinning	7 " " "
From mortality salvage	19 " " "
Total	<u>95</u> million bd. ft.

During the past decade, the actual cut has varied from about 74 million to 111 million board feet.

In the decades ahead, the volume obtained from regeneration cutting is expected to remain relatively stable, that from mortality salvage will decline, and the timber obtained from commercial thinnings will increase. But the total volume of 95 million board feet annual harvest is expected to be sustained in perpetuity.

If more funds were available for intensification of management, for example, for more precommercial thinning, the allowable cut under sustained yield could be increased. If forest fertilization and intensification of the tree genetics program increase timber growth as hoped, the further application of these measures, too, could support additional sustainable increases in the allowable cut.

WATERSHED PROTECTION AND FISHERIES

Watershed Management on the Quinault Reservation

Salmon, steelhead and trout fisheries, and the healthy watersheds and waterways on which they depend, have long been important to the Quinaults. Traditionally, these resources have been closely linked to their way of life and, at times, to their very livelihood.

Serious concern about the condition and the productivity of fisheries resources on the Reservation was evident about a decade ago. This coincided with apparent declines in the salmon catch and with the accelerating extension of logging scars on Reservation watersheds and streams.

Fisheries biologists attribute the decline in salmon take on the Reservation to a combination of heavy increases in ocean fish catch-- both sport and commercial--and possibly to the scars of logging operations on the Quinault freshwater fish habitat. So in 1961 the Tribe started a fisheries program to improve freshwater habitat on the Reservation, and to increase fish reproduction.

In cooperation with the Bureau of Indian Affairs and with the Bureau of Sports Fisheries and Wildlife, the new fishery management work includes construction of a fish hatchery, fish stocking, stream surveys, stream clearance, and construction of fish ladders. Specialized spawning channels, and rearing ponds are being studied for possible expansions.

The regulation of logging and road building near streams for the protection of fish habitat has become an important Tribal activity.

The Contractor and Subcontractor found numerous examples of questionable watershed management practices on the Reservation. Such instances include:

1. Evidences of falling trees across streams, dragging logs across streams, operating tractors in streams. Such activities can break down stream banks, accelerate erosion, increase the silt load of a stream and degrade its gravel beds important for fish spawning.
2. Leaving logging slash in streams and along streams below high water level. This can result in the formation of debris jams that obstruct fish movements and stimulate bank erosion during flood periods.
3. Removing the forest along streams so as to expose the water to warming by direct radiation from the sun.
4. Culverts or bridges that provide inadequate fish passage or space for stream flow so as to minimize erosion during high water.
5. Attempts to clear streams with tractors equipped with bulldozers working right in the streambed have been disappointing. In some cases the slash was left on the bank below high water and is now washed back into the stream in a new jam lower down. In addition, the tractors broke down stream banks and added to the silt load in the water.

However, we judge that considerable improvements have been made, and are now being made, in the standards of watershed management practiced on the Reservation.

For example, this year, for the first time, a detailed 1972 logging and road building plan was prepared in advance of the actual work by the Taholah and Crane Creek operators.

Thus, by timely review, the BIA and Tribal staff specialists can prevent layouts that would lead to stream blockage or siltation.

The tempo and techniques of stream clearance are improving. More hand clearing is being done. Heavy machines, when used, operate back from the water, and pull the big logs and chunks out with a winch and cable, rather than traveling down the streambed itself.

More efforts are being made to leave buffer strips to shade important fish producing streams.

BIA timber sale officers have tightened their supervision and their standards of acceptance on logging plans, road locations, and stream clearance operations on the Taholah and Crane Creek Units.

Each proposed stream clearance project on the Taholah and Crane Creek Units is now reviewed by a Bureau of Sports Fisheries and Wildlife fisheries biologist. He prescribes methods to be used in the work and cites practices to be avoided. Then a written Quinault Indian Reservation Hydraulics Project Approval is issued to the timber operator responsible for the work. The approval form is prepared by the BSF&W fisheries biologist and, if approved, it is signed by the Chairman of the Quinault Tribal Council.

A big remaining problem is how best to rehabilitate a number of streams on the Queets Unit, some traversing private lands, others on trust allotment lands from which timber has been harvested under Special Allotment Timber Cutting Permits.

Watershed Management on DNR Lands

The Washington State Department of Natural Resources has a well-organized system of environmental guidelines for timber sales that include quite specific instructions for soil protection and erosion control, for minimizing impacts of logging, and, when necessary, for rehabilitating streams and watersheds.

Streams are classified into one of five classes, and guidelines for protection or rehabilitation appropriate to each are prescribed.

The Contractor and Subcontractor inspected DNR watershed management activities on State lands just north of the Quinault Reservation, and found the written guidelines generally well and appropriately followed.

One secondary road constructed by "loggers choice" crossing a secondary stream was found below standard for culvert placement and for logging slash left in the waterway. The fact that this was an exception on State lands made it noticeable.

Two operational factors contribute importantly to the generally effective watershed management practices applied on the DNR lands.

First, the Department of Natural Resources operates under cooperative agreement with the State Department of Fisheries and the State Department of Game when developing and administering land management activities that influence or might influence fish or game habitat.

Second, DNR professionals develop a complete road and logging plan that specifies the access and the logging method to be applied over all lands in a watershed before timber cutting starts in any part of the watershed. So when a prospective logger bids on the timber offered in the first year's sale he knows exactly what roads on the watershed he will be required to build, where and to what standard he must build them. Location and standards of stream crossings are all prescribed. So, also, the timber to be cut and how it will be logged is clearly specified. And how this all fits into the plan of access to and harvest of the timber to be offered for sale in following years is clearly shown.

It is not otherwise possible to plan and to administer a system of optimum development for forested watersheds.

Watershed Management on National Forest

The protection of watersheds and aquatic habitats ranks high among the objectives of National Forest Management.

That this is true is well documented by legislative and administrative directives, and authorizations that have been expanded into written operating principles and guidelines. These directives are presently being revised into a Forest Service Manual Supplement under the title of Streamside Management Units.

The Contractor and Subcontractor found these policy directives and guidelines to be a part of the everyday operating procedures on the Quinault Ranger District. The District is the source of domestic water supplies for the communities of Aberdeen, Nielton, Lake Quinault and Amanda Park. The Wishkah watershed supplies the city of Aberdeen. Entry by the public is restricted, but controlled timber harvest and regeneration are conducted as normal activities.

The southern part of the Quinault District is of generally moderate terrain; the northern part is steep and broken, and contains many unstable soils that complicate watershed management and make good management highly important. Like the adjacent Indian and DNR land, the entire district is in a heavy precipitation zone that frequently experiences flooding, even on undisturbed watersheds.

Recently the District has obtained a complete soil survey that is an invaluable watershed management aid. District watershed specialists are inventorying streams into condition and sensitivity classes and plan to manage each by specific guidelines appropriate to each.

Specific practices include:

Refraining from burning slash on steep, exposed slopes with shallow or unstable soils.

Grass seeding of road cuts and fills the fall following disturbance.

Seeding spur roads and fire trails; also providing them with water bars.

Leaving buffer strips of uncut timber along important fishery streams and streams that have an important influence on such streams.

Doing complete timber sale layout with Forest Service interdisciplinary specialists locating and specifying standards of all roads, landings and logging methods.

Prohibiting dragging logs across streams or operation of logging equipment in streams.

Confining road construction to the dry season.

Clearing permanent streams in logging areas of debris that would damage or threaten fish habitat or soil erosion.

Installation of downspouts on culverts where needed to protect fill-slopes and prevent undermining of roads.

Emphasizing skyline logging to minimize road construction on steep slopes and the dragging of logs on the ground.

Requiring end-hauling of cut and fill material rather than side casting during road construction.

Requiring loggers to have a State hydraulics permit for every timber sale that involves road construction and logging near streams important to fisheries or water yield.

Some steep slopes on the District show scars of road construction that occurred before soil surveys were available and operating requirements tightened. But at present the standards of watershed management being attained are generally high, though no higher than appropriate.

WILDLIFE HABITAT MANAGEMENT

On the Quinault Reservation

Native wildlife on the Reservation include the Roosevelt elk, Columbia blacktail deer, black bear, beaver, and grouse.

These species, as are all wildlife on the Reservation, are under the jurisdiction of the Quinault Wildlife Committee which answers to the Tribal Council. The State Game Department has no authority on the Reservation, and has few contacts with members of the Tribe. Game animals are harvested with the concurrence of the Tribal Committee, but no records of numbers of animals harvested or estimated trends in population are maintained.

Wildlife is traditionally less important as a source of life support for the Quinaults as are fishes. The 1971 Overall Economic Development Program report for the Quinault Reservation does not mention wildlife as one of the Reservation's resources.

The current logging plan for the Reservation includes brief subjective comments on possible impacts of the timber harvest proposed on wildlife. But no evidences of affirmative efforts to improve wildlife habitat on the Quinault were found by the Contractor and Subcontractor. The subject is not mentioned in the existing timber sale contracts, but we did see one tree supporting an eagle's nest left standing on an otherwise clearcut area.

Nevertheless, the Reservation must have a substantial carrying capacity and production capacity for wildlife that is subject to improvement or to decline as are its other natural resources.

Wildlife biologists Fred Binnell and Carl Walters of the University of British Columbia are interested in Quinault wildlife. They have studied habitat characteristics evident on aerial photographs, and would like to make follow-up studies on the ground.

Reportedly, elk habitate some of the older cutovers in various stages of regeneration on the southern part of the Reservation and some of the undisturbed open and cedar swamp areas. Speculation and results of wildlife studies elsewhere indicate that elk and deer are sensitive to the obliteration of cover, particularly that along established travel routes. In some studies few elk or signs of elk were found more than 100 yards from available cover; practically none as far as 1,000 yards from cover.

Heavy concentrations of slash are thought to be poor big game habitat. But clearcut areas that have been burned or scarified, and not too far from cover, seem to be preferred by elk and deer. Burning has been found to stimulate the growth of some important game brouse plants. These possibilities would appear to merit some consideration on the Reservation.

In sum, the Quinault's wildlife habitat resources appear to be receiving little attention at this time, but their potential could be considerable.

On Nearby State Lands

Leadership for management of wildlife habitat on State lands comes from the 1972 Cooperative Agreement under which the State Department of Natural Resources, the State Department of Game and the State Department of Fisheries coordinate their activities.

In addition, the DNR has a staff wildlife biologist to help forest management line officers coordinate timber production with wildlife habitat management.

Present guidelines provide for protecting known nests of eagles and osprey from destruction.

From the standpoint of hunter interest, the most important game species on west side Olympic Peninsula lands are the Roosevelt elk and Columbia black tail deer. Wildlife specialists believe the deer population is abundant, and that it can and should support a larger harvest by hunters. In contrast, they point out, the hunter demand for elk exceeds the capacity of the herd in its present habitat to supply. A limiting factor in elk population here is believed to be inadequate winter range.

DNR foresters claim that elk and deer populations have increased on their western Jefferson and Clallam County lands since the beginning of timber harvest. The combination of prescribed burning on cutovers, cover plants released to more sunlight, and fertilization of young stands has contributed to the growth of a more abundant and nutritious forage. And cutting, as yet, has not been extensive enough to seriously reduce available cover.

At present rate of timber harvest, however, the old growth forest on DNR lands will be cut over in about 16 years. Foresters and wildlife biologists urgently need to anticipate what the elk and deer population habitat relationships will be at that time and in decades following. Perhaps analysis will indicate the prospect is good. Perhaps not. In any event, it is important to know now, so that further habitat improvements can be provided for by modifying present practices now if analysis of trends indicates changes will be needed.

The guidelines for wildlife habitat protection and management available to DNR forest managers appear to need elaboration.

On Nearby National Forest

The Forest Service seeks to develop and maintain, in cooperation with the State, a pattern of wildlife habitats on the National Forests in harmony with the environment and other land uses, and that will best meet the needs of people now and in the future. Rare and endangered species of wildlife are subject to special attention.

The same species of wildlife habitate the Quinault District of the Olympic National Forest as are found on the Quinault Indian Reservation and on the DNR lands nearby.

A wildlife biologist is included on the District Ranger's staff.

Measures to protect and improve elk and deer habitat receive the most attention. A specific objective is to try to provide a continuing area and quality of winter range for elk in low elevation recent clearcut patches. Cutovers up to 10 years after timber harvest and slash burning are most productive of high quality forage. For this reason, District plans call for clearcutting and regenerating approximately equal areas of low elevation forest each year.

Adequate cover is maintained by controlling the rate of timber cut, and by reserving uncut tracts and buffer strips for future harvest.

The objective in seeding fire lines and cut and fill slopes along roads is two-fold--one, to control erosion, and two, to provide additional useful forage for wildlife. So palatable species are included in the seed mix used.

Key nest and den trees within timber sale areas are protected, and selected snags are left to provide nest, den and rest sites on cutting areas not scheduled for prescribed burning.

Within the next decade or two, if trends continue, the area of forest clearcut annually on the Quinault Indian Reservation and on DNR lands in the vicinity will decline sharply. This could reduce the area of important elk winter range abruptly.

The impacts of this prospect could be lessened by compensating measures, and by coordinating land management plans among the Quinault Indians, private and industrial forest owners, the DNR, the State Game Department, the National Park Service and the Forest Service. No one agency or owner can solve the impending problems working alone. But valuable solutions would be possible by working together.

AESTHETICS AND RECREATION

On the Quinault Indian Reservation

The Quinault Indian Reservation is a land of aesthetic contrasts.

Lake Quinault, the Quinault River, some 28 miles of virgin ocean beaches and rugged headlands are outstandingly beautiful. But heavy accumulations of logging slash cover thousands of acres of clearcuts; raw gravel pits, logging-scarred slopes and stream courses, all are plentiful and obvious at the other end of the aesthetic scale.

Most of the land on the Reservation is allotted or is privately owned and few owners or allottees wish to forego cash returns from the cutting of their timber in order to provide scenic benefits for others, even though they themselves might enjoy the improved scenery also. And there is no specific requirement to consider aesthetics in management of the Quinault Reservation.

In the late 1940's and early 1950's, efforts were made by the Commissioner of Indian Affairs, the Director of the National Park Service and the Secretary of Interior to reserve timber along the Queets River Road and the Olympic Highway on the Reservation in the form of a scenic strip. It was proposed that the Indian owners be compensated for their land and timber reserved for the benefit of many, but Congress did not appropriate the funds required.

Tribal leaders moved effectively on their own several years ago to close Reservation beaches to public occupancy, and thereby solved problems of pollution and other abuses. Now use of the beaches is closely controlled by the Tribal Council.

Tribal leaders believe, and the Contractor and Subcontractor concur, that the Reservation has an important potential for the development of a valuable outdoor recreation and tourist industry. In cooperation with the U.S. National Park Service, the Quinaults are developing a master recreation plan for the Reservation. Such a plan should be an important first step in building quality and productive outdoor recreation developments, and in protecting, and in some cases rebuilding, the basic aesthetic resources upon which they depend.

On Adjacent State Lands

The Department of Natural Resources seeks to minimize the accumulation of slash or other debris on the lands they manage if it otherwise would detract from the natural beauty or scenic areas that can be seen from:

1. public roads and highways,
2. DNR recreation roads,
3. developed recreation sites, or from
4. water areas valuable for recreation.

DNR timber sale officers are provided with well-developed guidelines for the protection of scenic and recreational values of the State lands.

For example, along forest roads that traverse DNR lands, and are heavily used by recreationists, regeneration of the bordering forest is planned a decade or two in advance. Precutting of narrow regeneration strips along the road with careful cleanup of the slash and prompt planting is an aesthetic management technique used to screen more extensive cutovers made after the roadside strip is reforested.

The DNR maintains a developed public campsite, popular with fishermen and hunters, at Coppermine Bottom on the Clearwater River.

On Adjacent National Forest

Scenery and opportunity for outdoor recreation are valuable resources on the Quinault Ranger District of the Olympic National Forest.

Aesthetically sensitive areas are classed as Landscape Management Units, (LMU's), and they are managed so as to protect or enhance their natural beauty. Any other use of these areas must be consistent with this basic visual management objective.

Included among the LMU's are the south shore of Lake Quinault, the seen areas along main highways and recreational trails, and at developed recreation sites, and potential recreation areas being protected for such possible development in the future. The estimated area so classified in the District is about 20,000 acres.

Another special management area related to aesthetics is the Quinault Research Natural Area. Containing 1,470 acres, this area consists of old growth stands of Sitka spruce, western hemlock and associates along U.S. Highway 101. National Forest Research Natural Areas are designated and protected for scientific study and education. No timber cutting, recreational or other developments are permitted.

Recreation uses on the Quinault District are many and varied. They include an estimated tens of thousands of drive-in-and-out visitors along the south shore of the Lake.

Summer home residents along the Lake are among the earliest recreational users of the District.

Privately-owned Lake Quinault Lodge, operated on National Forest land under permit, is patronized well enough to be enlarging its facilities.

Camper-days at three developed sites on Lake Quinault, plus one on the Humptulips River, total some 62,000 annually.

Hunters of elk, deer, bear and grouse devote a total of 18,000 hunter-days a year in pursuit of these animals.

Favorite targets for hikers are Colonel Bob Mountain, Ewells Creek and the Big Tree Grove. The latter attracts 2,500 visitors per week during the summer vacation season.

Recreation is a growing and enthusiastic use on the Quinault District. But it is not without its problems. In planning ahead for its expansion some important questions must be answered. For example, what is the best system for water pollution abatement along the south shore of Lake Quinault? What is the future of the Quinault Summer Home colony? How best can the Forest Service, the Quinault Indians and the Park Service cooperate in providing for better recreational opportunities for many more people in the future?

RECOMMENDATIONS

ON BREACH OF CONTRACT FINDINGS

As stated above, we believe that breaches of requirements of the Crane Creek and Taholah timber sales contracts could not be proved readily at this time.

But these contracts are so obviously out of date and vague in many particulars as to lead to unnecessary, time-consuming arguments and impasses. They are approaching the unworkable. They need to be modernized by modification.

Therefore, we recommend:

1. That efforts be started immediately to negotiate a modification of both contracts.
2. That the modifications include, but not necessarily be limited to:
 - a. A substitution of the Standard Timber Contract Provisions of March, 1960, for the General Timber Sale Regulations dated April 10, 1920.
 - b. Re-establishment of the limitations on annual cut contained in the original unmodified contracts. The limits were 33.3 million board feet for Taholah and 35 million board feet for Crane Creek.
 - c. Change in termination dates of contracts to accommodate remaining volumes of uncut timber and limitations on annual cut.
 - d. Revision of the pricing provisions of the contracts (Sections 6 to 11, inclusive). The revision should provide for establishment of

stumpage price by appraisal at regular intervals and could well include interim adjustment procedure similar to that originally used.

e. Elimination of the requirements for "selective logging" contained in Section 2 of both contracts, and include a separate and new Section describing how timber should be designated for cutting. Preferably, designation for cutting should be accomplished by the establishment of cutting lines by BIA personnel whenever anything less than 100 percent of an allotment is to be cut.

3. That while contract modification negotiations are under way, the authorities granted to exceed the maximum cuts specified by the contracts be revoked. For the Taholah Unit this authority was granted by the Deputy Commissioner's letter of November 13, 1964, and for the Crane Creek Unit by the Area Director's letter of October 8, 1964.

4. That relief from slash burning requirements be granted in writing in accordance with provisions of existing Taholah and Crane Creek contracts.

ON RESOURCE MANAGEMENT

Objectives

1. The EIA should move immediately to clarify the objectives of Indian land ownership, and to document the fiducial duty of the Bureau regarding management of lands on the Quinault Reservation, including Tribal lands, allotted lands in trust, and fee patented lands.

Meanwhile, the following recommendations are based on an assumed objective of management of the Quinault Indian lands for which the BIA is trustee. Our assumption is that the forest lands and related resources will be managed:

- a. for continuing productivity of timber, water resources and fisheries, wildlife, aesthetic and recreational values;
- b. that investments promising worthwhile economic returns or necessary to protect prudently the environment and to provide continuing productivity are desired; and
- c. that progress toward a balanced and sustained increase in productivity of all resources is a desired goal.

If the objectives of Quinault Indian land management differ radically from the above, then the following additional recommendations should be modified appropriately.

Multiple Use of Resources

1. To control better the multiple use management and coordination of forest land uses, the BIA should require more lead-time in the preparation of complete road and logging plans. The next step in this regard would be for the BIA to do the entire job of planning and layout with

multidisciplinary teams of specialists from their own staff and cooperators. This step would take additional financing and staff so is a longer range action that should be explored. More lead-time could be required of operator-prepared plans without added financing or staff.

Forest Residues

1. The BIA and the Tribe should immediately accelerate a major cooperative program directed at developing solutions for the critical forest residue problem on the Quinault Reservation.

Forest residues are related to the serious problems of stream obstruction, timber utilization, aesthetics, and forest fire protection. The Pacific Northwest Forest and Range Experiment Station should be requested to participate in the search for solutions.

Timber Appraisal

1. The BIA should now develop a concise statement of objectives and guidelines for the appraisal of Indian timber on the Quinault Reservation.

2. The BIA, in cooperation with the U.S. Forest Service, should make a study to clarify the basis of the Industrial Forestry Association log prices used in Quinault appraisals.

3. Section 11 of the Taholah and Crane Creek contracts should be revised as a part of any negotiated modification of contracts. Pending such modification, an agreement by both purchasers that a complete re-appraisal of stumpage value is intended by this section should be sought. If agreement to this effect cannot be reached, the provision of Section 54 of the General Timber Sale Regulations should be invoked--the officer who approved the contract should be asked to interpret Section 11 to that effect.

In our opinion, undue emphasis has been given to the phrase, "the trend of economic conditions", contained in Section 11 of both contracts. Of greater significance is the language in the Crane Creek agreement which reads, in part, as follows: "or in the opinion of the Approving Officer they do not properly reflect the true market value of the stumpage." (Emphasis supplied.) It seems uncontestable to us that if the reason for a price revision can be that existing prices do not represent true market value, that the basis for the revision must be an unrestricted use of appraisal methods.

Roads

1. The BIA and the Tribe should push actions now to acquire easements for the use of all main and secondary roads on the Quinault Reservation which provide access to Indian lands. Any future issuance of fee patent should contain a reservation of rights-of-way for existing roads.

Timber Sale Supervision

1. BIA top management should examine critically the assignment of responsibilities for the accomplishment of forestry-related work in the Bureau, and then take the steps needed to make sure, such responsibilities are clearly assigned, clearly understood, and promptly acted upon.

Both records and oral descriptions supplied to the Contractor indicate that too often in the past there have been serious lapses in communication between BIA forestry staff officers and line supervisors. As a result, important decisions were long delayed, needed action programs neglected.

2. BIA top management should investigate and take whatever steps are needed to provide excellent communications to and from the Tribe.

✓ About a year ago BIA foresters proposed the innovation of "pick-up" scale by sampling. "Pick-up" scaling is an important job, and, as done by

complete coverage on the Quinault, it is very time consuming. BIA foresters tested and found that this job could be done with adequate accuracy and with great saving in manpower by sampling. But adoption of this obvious work improvement has been delayed approximately a year by the lack of Tribal approval. This incident is cited as just one example of a specific result of inadequate communications.

3. The BIA should re-establish headquarters for Quinault timber sale supervisors on or near the Reservation.

This move would help facilitate BIA-Tribal communications. In addition, it would save valuable travel time and travel cost.

4. The BIA should develop written guidelines for their timber sale supervisors.

5. The BIA should analyze the timber sale supervision job load on the Quinault Reservation, and make sure that this important work is adequately manned.

Timber Supply; Investment in Timber Growing

1. The BIA, the Tribe and the Allottees should work together in determining the level of timber cut that could be sustained, starting now, and the cut that could be sustained in the future on the Quinault Indian lands under various intensities of management.

The possibility of sustained yield management for the Quinault was considered and rejected about 13 years ago. The main reason given was the unstable ownership situation. Now ownership is more stable.

Markets for all except the lowest grade of Quinault timber are good now. Outlook is that they will be even better in the future.

Timber harvest on DNR lands just north of the Reservation will decline greatly in 16 years. By that time, timber demand, both national and

world-wide will be greater than now. Timber supply-demand squeeze will be tighter, opportunities for wood products marketing should be excellent--better than now in both the domestic and export areas.

But if timber cutting continues on the Reservation as in the recent past, Quinault timber supply will be about depleted within a decade or so--about the time markets are expected to be exceptionally favorable.

The Quinaults should consider the alternative of sustained yield timber management.

2. Concurrently, the BIA and the Quinaults should consider the opportunities for making much greater investments in timber growing on the Reservation.

Presently, such level of investment is very low.

In recent years, about 2,000 acres of old-growth timber have been cutover annually on the Reservation. The stumpage value per acre recovered averaged \$2,465. Between 6% and 10% of this amount was used mostly to finance the administrative expense of selling timber.

In contrast, annual investments in reforestation have amounted to about 0.5% of the stumpage value extracted in a year of timber harvest.

Investments in timber growing on National Forest, timber industry and DNR lands are many times as great. The DNR spends 25% of their stumpage returns in operating forest properties and in investing in measures that stimulate the growth of timber. DNR calculations indicate that \$1.00 they invest in timber growing yields \$5.00 or more in return.

3. For a specific, the Quinault should have an expanded and continuing forest tree planting program. The pros and cons of constructing and operating, with Indian employees, a forest tree nursery on or near the Reservation should be carefully explored.

4. The potentials of a program of precommercial thinning on the Reservation should be carefully investigated. Precommercial thinning is proving to be highly productive and economically remunerative on neighboring lands. Here, again, is the potential of a productive outlet for Indian workers.

5. Representatives of the BIA and of the Tribe should participate in the Regional Forest Nutrition Research Project. They should be in a position to realize the benefits of forest fertilization as the potentials are clarified.

6. Representatives of the BIA and of the Tribe should participate in the Regional Progressive Tree Improvement Cooperatives, as are their neighboring managers of public and industrial forest lands. This will enable them to realize the benefits of applied forest tree genetics and to contribute toward their development.

Watershed Protection and Fisheries

1. The Tribe and the BIA should continue and strengthen support of the productive and highly promising Quinault fisheries development program.

2. Development of more lead-time in the preparation of logging and road plans recommended elsewhere in this report will benefit the watershed protection and fisheries program by facilitating coordination with it.

3. And the stream rehabilitation program should be extended to the Queets Unit of the Reservation.

Wildlife Habitat Management

1. Potentials of the Quinault wildlife resource should be clarified in order to coordinate its protection and management with the protection and management of the Reservation's other resources.

2. Land management plans having impacts on game should be coordinated among the Quinault Indians, the neighboring private and industrial owners, the DNR, the State Game Department, the National Park Service, and the U.S. Forest Service. The BIA should assist in getting this coordination started.

Aesthetics and Recreation

1. The Tribe should continue and strengthen its study of recreation development potentials on the Reservation in cooperation with the National Park Service.

Solution of the forest residues problem and development of more lead-time in the preparation of logging and road plans, as recommended elsewhere in this report, can benefit the protection of the Quinault aesthetics and recreation resources along with others.

2. Recreation development plans for the Quinault Reservation should be carefully coordinated with those of the U.S. Forest Service, nearby private interests and of the National Park Service. The Tribe should arrange for such coordination through its cooperative work with the National Park Service, and, if need be, the BIA should facilitate it.

For Follow-up Action

Many of the Quinault problems are related to the complexities of ownership patterns. However, the above recommendations can and should be acted upon without waiting to correct the difficult ownership situation.

But search for solutions to the ownership problems should be expedited, too, if they are to be solved before they become even more of a drag on efficient work accomplishment.

1. The BIA, the Tribe and the Allottees should sharply accelerate joint study of how best the principles of multiple use-sustained yield management might be applied to the Indian trust allotted and Tribal lands on the Quinault Reservation.

Several possibilities should be considered. For one, the problems and potentials of organizing and operating a Quinault Corporation for land owning and land management should be explored in depth.

Similarly, the potentials of a Federal loan program to finance Tribal purchase of key forest properties on the Reservation should be determined. These should be considered as related and complementary proposals rather than mutually exclusive ones.

Both of these, as well as other possibilities, have been considered from time to time as solutions to the long-term land ownership and management problems on the Quinault Reservation. On March 30, 1962, "A Proposed Program of Action for the Taholah and Crane Creek Timber Sale Units, Quinault Indian Reservation" was prepared by John W. Libby, then Forest Manager for the Quinault.

On April 10, 1962, this proposal was sent to Superintendent Ringey, and to Area Director Holtz on the same day. Then it went to the Commissioner on May 29, 1962.

Not until April 10, 1964, did the Assistant Commissioner write the Area Director, commenting on Libby's proposal, and asking for his further recommendations on the subject. On April 14, 1964, the pertinent correspondence was forwarded to Superintendent Felshaw. On April 27, 1964, the Superintendent replied to the Area Director, commenting at length.

On June 3, 1964, the Area Director wrote the Commissioner asking for authority to discuss Libby's proposal with members of the Tribe and with the two contracting companies. There is no evidence in the available files that the Commissioner ever replied to this request.

Thus, after more than two years of consideration within the BIA, Libby's proposal was apparently dropped.

The Contractor believes Libby's and related proposals for solving Quinault problems deserve more thorough analysis and more in-depth consideration, including consideration with members of the Tribe.

Part of the ownership problem on the Quinault, well known to the BIA, is the extremely complex situation regarding fractionated interest in allotted lands and the heirship thereof. Ownership of some allotments is so fractionated that least common denominators in the trillions are required to calculate proportionate interests of the various heirs. Numerous interests are insignificant in amount. This situation is a handicap to the efficient accomplishment of work important to the Indians. Similar problems have been solved for other tribes by special legislation, and presumably this one could be solved for the Quinault Allottees.

2. We recommend that the BIA and the Tribe restudy the heirship problem on the Quinault Reservation, and try to develop a solution that is both fair and efficient.

A related problem of decision making and management on the Quinault stems from the fact that all Allottees are not members of the Quinault Tribe. Thus, some Allottees having timber on the Reservation do not share other Quinault resources, such, for example, as fisheries, hunting or recreation privileges beyond the boundaries of their own allotment. Seeking to clarify

this situation, the Tribe is working on plans to develop an efficient system to complete and keep current the official Tribal Rolls.

3. The BIA should assist the Tribe, as may be appropriate, in their program to develop an efficient system to complete and keep current the official Quinault Tribal Rolls.

SUMMARY

For more than two decades, the Taholah and the Crane Creek timber sales have been a major source of income for the Quinault Indians and for the other Allottees fortunate enough to own a tract of forest land on the Quinault Reservation.

These two sales have also been the subject of almost continuous controversy, litigation and arguments among the Indians, the purchasers of the timber and the employees of the Bureau of Indian Affairs assigned to supervise the operations.

Studies of the Taholah and of the Crane Creek timber sales contracts, and of the logging operations performed under them, however, indicate that breaches of requirements of the contracts could not be proved readily at this time. There are situations on both of these sales areas that would constitute breaches of contract if left uncorrected.

The standards of forestry and related resource management achieved on the Quinault Reservation, on the Washington State and National Forest lands in the vicinity of the Reservation were studied on the ground.

Investments in timber growing are greatest and timber culture practices most intensive on the Washington State lands; they are somewhat less on the National Forest, and very much less on the Quinault Reservation.

Investments in the other forest and forest-related resources, such as wildlife habitat, watersheds and fisheries habitat, aesthetics and recreation, are greatest on the National Forest, intermediate on the Washington State lands, and very much less on the Reservation.

Opportunities for controversies arising in the operations of the Taholah and the Crane Creek timber sales could be much reduced, and efficiency of sale administration increased by taking the related actions recommended in this report.

The productivity of the Quinault Indian forest could be greatly increased by taking the actions recommended for this purpose.

Early actions can and should be taken on some of the recommendations with the present organization and financing available to the Bureau of Indian Affairs and the Tribe.

But most of the intensified program of forest and related resource management proposed in this study will require major increases in funding.

The experiences of neighboring land managers indicate that major increased investments in timber growing and related resource management on Quinault Indian forests would produce large and urgently needed economic and social benefits.

The Indian owners of the Quinault Forest would be primary beneficiaries of such a program. But the surrounding communities, the State, the Region and the Nation also benefit greatly when the natural resources within their boundaries are managed and used more efficiently.

APPENDIX

Map of Quinault Indian Reservation

Photographs

Timber Sale Appraisal Basic Data

Tahola Timber Sale Contract

Crane Creek Timber Sale Contract

State of Washington 1972 Timber Sale Appraisal 1/
With BIA Calculated Log Selling Prices and Profit Ratio Substituted

<u>Species</u>	<u>Log Grade</u>	<u>Grade %</u>	<u>3rd Qtr. 1971 Average Log Prices 2/</u>	<u>Wtd. Ave. Log Price</u>	<u>Wtd. Average Price Divided by 1.1022 3/</u>
Hem.	P	7	\$ 125.48	\$ 8.78	
	SM	2	106.44	2.13	
	1-S	11	117.50	12.93	
	2-S	51	89.05	45.42	
	3-S	29	71.21	20.65	
			<u>100</u>		\$ 89.91
W. Fir	P	22	\$ 126.05	\$ 27.73	
	SM	5	108.41	5.42	
	1-S	19	117.86	22.39	
	2-S	39	95.49	37.24	
	3-S	15	78.42	11.76	
			<u>100</u>		\$ 104.54
Cedar	1-S	25 ^{4/}	\$ 142.12	\$ 35.53	
	2-S	58	106.74	61.91	
	3-S	17	65.01	11.05	
			<u>100</u>		\$ 108.49
SS	P	9	\$ 184.44	\$ 16.60	
	1-S	20	167.53	33.51	
	2-S	57	98.34	56.05	
	3-S	14	64.72	9.06	
			<u>100</u>		\$ 115.22
D.F.	1-P	13.5	\$ 144.30	\$ 19.48	
	2-P	27.0	127.24	34.35	
	3-P	7.8	119.78	9.34	
	SM	2.5	105.74	2.64	
	2-S	45.2	91.38	41.30	
	3-S	4.0	78.53	3.14	
			<u>100.0</u>		\$ 110.25

Summary

<u>Species</u>	<u>H.&W.F.</u>	<u>Cedar</u>	<u>D. Fir</u>	<u>SS</u>
Sale volume - M.bd.ft.	9,680	450	200	440
Selling price less profit	\$ 84.49 ^{5/}	\$ 98.43	\$ 100.03	\$ 104.54
Logging cost (State appraisal)	\$ 47.93	\$ 52.90	\$ 53.61	\$ 48.89
Adjustment of hauling cost	-.27	-4.70	-5.90	-1.18
Adjusted logging cost (State)	47.66	48.20	47.71	47.71
Sorting yard cost (BIA) ^{2/}	3.21	3.21	3.21	3.21
Total cost	50.87	51.41	50.92	50.92

Summary (Cont.)

	H.&W.F.	Cedar	D.Fir	SS
Indicated stumpage price	\$ 33.62	\$ 47.02	\$ 49.11	\$ 53.62
Advertised price	23.50	50.50	50.00	31.50
Bld price	65.00	50.50	50.00	31.50

- 1/ Stequaleho Ridge Flyer Sale (sold March 28, 1972).
- 2/ IFA combined GH-PS prices.
- 3/ From Taholah Unit 1971 Trend appraisal.
- 4/ 8% grade "peeler" by State included with 1-S grade.
- 5/ Weighted average.

State of Washington 1971 Timber Sale Appraisal ^{1/}
With BIA Calculated Log Selling Prices and Profit Ratio Substituted

<u>Species</u>	<u>Log Grade</u>	<u>Grade %</u>	<u>1st Qtr.1971 Average Log Prices ^{2/}</u>	<u>Wtd. Ave. Log Price</u>	<u>Wtd. Average Price Divided by 1.1022 ^{3/}</u>
Hem.	P	13	\$ 131.01	\$ 17.03	
	SM	11	115.72	12.73	
	1-S	5	126.42	6.32	
	2-S	47	97.84	45.98	
	3-S	24	76.14	18.27	
		<u>100</u>		\$ 100.33	\$ 91.03
W.Fir	P	28	\$ 119.58	\$ 33.48	
	SM	7	101.30	7.09	
	1-S	4	107.89	4.32	
	2-S	43	87.15	37.47	
	3-S	18	71.22	12.82	
		<u>100</u>		\$ 95.18	\$ 86.35
SS	P	5	\$ 185.22	\$ 9.26	
	1-S	24	170.41	40.90	
	2-S	58	109.66	63.60	
	3-S	13	89.18	11.59	
		<u>100</u>		\$ 125.35	\$ 113.73
D.F.	1-P	1	\$ 159.54	\$ 1.60	
	2-P	27	134.94	36.43	
	3-P	47	120.92	56.83	
	1-S	5	119.94	6.00	
	2-S	19	102.34	19.44	
	3-S	1	67.48	.67	
		<u>100</u>		\$ 120.97	\$ 109.75
Cedar	2-S	87	\$ 99.16	\$ 86.27	
	3-S	13	60.46	7.86	
		<u>100</u>		\$ 94.13	\$ 85.40

Summary

<u>Species</u>	<u>H.&W.F.</u>	<u>Cedar</u>	<u>D.Fir</u>	<u>SS</u>
Sale volume - Mbd.ft.	1,550	10	260	820
Selling price less profit	\$ 90.79 ^{4/}	\$ 85.40	\$ 109.75	\$ 113.73
Logging cost (State appraisal)	\$ 53.57	\$ 55.74	\$ 54.34	\$ 53.09
Adjustment of hauling cost	-.69	-1.62	-1.53	-.20
Adjusted logging cost (State)	52.88	54.12	52.81	52.89
Sorting yard cost (BIA) ^{2/}	3.21	3.21	3.21	3.21
Total cost	56.09	57.33	56.02	56.10

Summary (Cont.)

	H.&W.F.	Cedar	D. Fir	SS
Indicated stumpage price	\$ 34.70	\$ 28.07	\$ 53.73	\$ 57.63
Advertised price	16.00	34.50	61.50	18.50
Bl ^d price	35.25	34.50	61.50	75.00

- 1/ Clearwater Leave Strip sale.
- 2/ IFA combined GH-PS prices.
- 3/ From Taholah Unit 1971 Trend appraisal.
- 4/ Weighted average.

State of Washington 1970 Timber Sale Appraisal ^{1/}
With BIA Calculated Log Selling Prices Substituted

<u>Species</u>	<u>Log Grade</u>	<u>Grade %</u>	<u>3rd Qtr.1970 Average Log Prices ^{2/}</u>	<u>Wtd. Ave. Log Price</u>	<u>Wtd. Average Price Divided by 1.1022 ^{3/}</u>
Hem.	P	8	\$ 138.92	\$ 11.11	
	SM	3	124.54	3.74	
	1-S	9	132.55	11.93	
	2-S	55	105.58	58.07	
	3-S	25	83.85	20.96	
		<u>100</u>		\$ <u>105.81</u>	\$ 96.00
W. Fir	P	16	\$ 127.74	\$ 20.44	
	SM	15	111.40	16.71	
	1-S	13	117.18	15.23	
	2-S	36	94.70	34.09	
	3-S	20	79.12	15.82	
		<u>100</u>		\$ <u>102.29</u>	\$ 92.81
Cedar	1-S	37	\$ 144.80	\$ 53.58	
	2-S	48	98.22	47.15	
	3-S	15	69.28	10.39	
		<u>100</u>		\$ <u>111.12</u>	\$ 100.82
SS	P	21	\$ 202.56	\$ 42.54	
	1-S	33	185.10	61.08	
	2-S	32	123.06	39.38	
	3-S	14	86.03	12.04	
		<u>100</u>		\$ <u>155.04</u>	\$ 140.66

Summary

<u>Species</u>	<u>H.&W.F.</u>	<u>Cedar</u>	<u>SS</u>
Sale volume - M.bd.ft.	8,940	3,810	60
Selling price less profit	\$ 94.34 ^{4/}	\$ 100.82	\$ 140.66
Logging cost (State appraisal)	\$ 41.65	\$ 38.34	\$ 46.38
Adjustment of truck haul cost	-2.00	+1.38	-6.27
Adjustment for log handling	-	-	- .53
Adjusted logging cost (State)	39.65	39.72	39.58
Sorting yard cost (BIA) ^{2/}	3.06	3.06	3.06
Total cost	42.71	42.78	42.64
Indicated stumpsage price	51.63	58.04	98.02
State advertised price	18.00	28.50	19.50
Bid price ^{5/}	74.00	28.50	19.50

- ^{1/} Upper Tacoma Cr. sale.
- ^{2/} IFA combined GH-PS prices.
- ^{3/} From Taholah Unit July 1, 1969 Trend appraisal.
- ^{4/} Weighted average.
- ^{5/} Bidding permitted on hemlock and white fir only.

State of Washington 1969 Timber Sale Appraisal 1/
With BIA Calculated Log Selling Prices Substituted

<u>Species</u>	<u>Log Grade</u>	<u>Grade %</u>	<u>1st Qtr. 1969 Average Log Prices 2/</u>	<u>Wtd. Ave. Log Price</u>	<u>Wtd. Average Price Divided by 1.1022 3/</u>
Hem. and W. Fir	P	13	\$ 115.50 4/	\$ 15.02	
	SM	13	106.50	13.85	
	1-S	3	110.00	3.30	
	2-S	42	97.50	40.95	
	3-S	29	84.50	24.51	
		<u>100</u>		\$ 97.63	\$ 88.58
Cedar	1-S	18 5/	\$ 130.38	\$ 23.47	
	2-S	67	103.31	69.22	
	3-S	15	74.81	11.22	
		<u>100</u>		\$ 103.91	\$ 94.28
D.F.	2-P	12	\$ 137.55	\$ 16.51	
	3-P	53	122.30	64.82	
	2-S	30	100.40	30.12	
	3-S	5	81.38	4.07	
		<u>100</u>		\$ 115.52	\$ 104.81

Summary

<u>Species</u>	<u>H.&W.F.</u>	<u>Cedar</u>	<u>D. Fir</u>
Sale volume - M.bd.ft.	6,780	940	270
Selling price less profit	\$ 88.58	\$ 94.28	\$ 104.81
Logging cost (State appraisal)	\$ 27.03	\$ 42.67	\$ 41.77
Log. cost adjust. for truck haul	+6.73	-8.05	-8.15
Adjusted logging cost (State)	33.76	34.62	33.62
Sorting yard (BIA) cost 3/	3.06	3.06	3.06
Total cost	36.82	37.68	36.68
Indicated stumpage price	51.76	56.60	68.13
State advertised price	45.50	46.50	67.50
Bid price	46.00	46.50	67.50

- 1/ Herman Cr. #2.
- 2/ IFA combined GH-PS prices.
- 3/ From Taholah Unit July 1, 1969 Trend appraisal.
- 4/ Hemlock-white fir prices weighted to nearest 50¢.
- 5/ 7% listed as peeler grade by State included with 1-S.

State of Washington 1968 Timber Sale Appraisal ^{1/}
With BIA Calculated Log Selling Prices Substituted

<u>Species</u>	<u>Log Grade</u>	<u>Grade %</u>	<u>1st Qtr.1968 Average Log Prices ^{2/}</u>	<u>Wtd. Ave. Log Price</u>	<u>Wtd. Average Price Divided by 1.1022 ^{3/}</u>
Hem.	P	1 ^{4/}	\$ 98.13	\$ 0.98	
	1-S	9	91.69	8.25	
	2-S	66	82.12	54.20	
	3-S	24	67.19	16.13	
		<u>100</u>		\$ <u>79.56</u>	\$ 72.18
Cedar	1-S	17	\$ 93.80	\$ 15.95	
	2-S	63	70.83	44.62	
	3-S	20	51.81	10.36	
		<u>100</u>		\$ <u>70.93</u>	\$ 64.35
SS	1-S	19	\$ 140.48	\$ 26.69	
	2-S	63	103.43	65.16	
	3-S	18	57.86	10.41	
		<u>100</u>		\$ <u>102.26</u>	\$ 92.78

Summary

<u>Species</u>	<u>Hemlock</u>	<u>Cedar</u>	<u>S.Spruce</u>
Sale volume - M.bd.ft.	3,110	4,110	130
Selling price less profit	\$ 72.18	\$ 64.35	\$ 92.78
Logging cost (State appraisal)	\$ 36.75	\$ 31.44	\$ 34.80
Adjustment for truck haul	-1.34	+3.00	-2.60
Adjustment for towing, log handling	-2.76	-1.40	0.00
Total adjustment (net)	-4.10	+1.60	-2.60
Adjusted State cost	32.65	33.04	32.20
Sorting yard (BIA) cost ^{3/}	1.76	1.76	1.76
Total cost	34.41	34.80	33.96
Indicated stumpage price	37.77	29.55	58.82
State advertised price	23.50	25.00	20.50
Bid price	73.50	58.30	20.50

- ^{1/} Mayr Bros. Log. Co., Kalalock Ridge sale.
^{2/} IFA combined GH-PS prices.
^{3/} From Taholah Unit January 1, 1968 Trend appraisal.
^{4/} 4% SM grade distributed equally to 1-S and 2-S.

Olympic National Forest 1972 Appraisal ^{1/}
With BIA Calculated Log Selling Prices Substituted

<u>Species</u>	<u>Log Grade</u>	<u>Grade %</u>	<u>1st Qtr.1972 Average Log Prices ^{2/}</u>	<u>Wtd. Ave. Log Price</u>	<u>Wtd. Average Price Divided by 1.1022 ^{2/}</u>
Hem.	P	4.3	\$ 135.64	\$ 5.83	
	1-S	11.5	130.47	15.00	
	2-S	66.1	101.92	67.37	
	3-S	18.1	87.03	15.75	
		<u>100.0</u>		\$ <u>103.95</u>	\$ 94.31
W. Fir	P	9.8	\$ 136.34	\$ 13.36	
	1-S	20.6	128.47	26.46	
	2-S	57.3	102.40	58.68	
	3-S	12.3	85.08	10.46	
		<u>100.0</u>		\$ <u>108.96</u>	\$ 98.86
Cedar	1-S	3.4	\$ 152.16	\$ 5.17	
	2-S	85.2	114.43	97.49	
	3-S	11.4	74.83	8.53	
		<u>100.0</u>		\$ <u>111.19</u>	\$ 100.88

Summary

<u>Species</u>	<u>Hemlock</u>	<u>W. Fir</u>	<u>Cedar</u>
Selling price less profit	\$ 94.31	\$ 98.86	\$ 100.88
Logging cost (FS) \$65.21			
Sorting yard (BIA) \$ 3.21 ^{3/}			
Total \$68.42	68.42	68.42	68.42
Indicated stumpage price	25.89	30.44	32.46
FS appraised price	31.38	31.38	23.33
FS Bid price (none received)	-	-	-

^{1/} No bids received.

^{2/} IFA combined GH-PS log prices.

^{3/} From Taholah Unit 1971 Trend appraisal.

Olympic National Forest 1971 Appraisal 1/
With BIA Calculated Log Selling Prices Substituted

<u>Species</u>	<u>Log Grade</u>	<u>Grade %</u>	<u>1st Qtr. 1971 Average Log Prices 2/</u>	<u>Wtd. Ave. Log Price</u>	<u>Wtd. Average Price Divided by 1.1022 3/</u>
Hem.	P	0.0	\$ 131.01	\$ 0.00	
	1-S	1.	126.42	1.77	
	2-S	67	97.84	65.75	
	3-S	31	76.14	23.91	
		<u>100.</u>			\$ <u>91.43</u>
W. Fir	P	3.7	\$ 119.58	\$ 4.42	
	1-S	3.4	107.89	3.67	
	2-S	63.4	87.15	55.25	
	3-S	29.5	71.22	21.01	
		<u>100.0</u>			\$ <u>84.35</u>
Cedar	1-S	3.3	\$ 143.31	\$ 4.73	
	2-S	91.4	99.16	90.63	
	3-S	5.3	60.46	3.20	
		<u>100.0</u>		\$ <u>98.56</u>	\$ 89.42
SS	1-S	8.7	\$ 170.41	\$ 14.83	
	2-S	78.8	109.66	86.41	
	3-S	12.5	89.18	11.15	
		<u>100.0</u>		\$ <u>112.39</u>	\$ 101.97

Summary

<u>Species</u>	<u>H.-W. Fir</u>	<u>Cedar</u>	<u>SS</u>
Volume - M.bd.ft.	2,800	800	200
Selling price less profit	\$ 79.74 4/	\$ 89.42	\$ 101.97
Logging cost (FS) \$40.44			
Sorting yard (BIA) <u>3.21 3/</u>			
Total cost \$43.98	43.98	43.98	43.98
Indicated stumpage price	35.76	45.44	57.99
FS appraised price	22.74	18.14	16.04
FS bid price	22.74	18.14	16.04

1/ Anderson Middleton Log. Co. sale of 6/30/71.

2/ IFA combined GH-PS prices.

3/ From Taholah Unit 1971 Trend appraisal.

4/ Arithmetic average.

Olympic National Forest 1970 Appraisal 1/
With BIA Calculated Log Selling Prices Substituted

<u>Species</u>	<u>Log Grade</u>	<u>Grade %</u>	<u>1st Qtr.1970 Average Log Prices 2/</u>	<u>Wtd. Ave. Log Price</u>	<u>Wtd. Average Price Divided by 1.1022 3/</u>
Hem.	P	5.7	\$ 137.26	\$ 7.82	
	1-S	20.4	129.10	26.34	
	2-S	57.5	104.06	59.83	
	3-S	16.4	83.44	13.68	
		<u>100.0</u>		\$ <u>107.67</u>	\$ 97.69
W. Fir	P	12.9	\$ 129.14	\$ 16.66	
	1-S	21.6	117.49	25.38	
	2-S	49.0	98.19	48.11	
	3-S	16.5	79.65	13.14	
		<u>100.0</u>		\$ <u>103.29</u>	\$ 93.71
Cedar	1-S	23.4	\$ 142.88	\$ 33.43	
	2-S	65.2	110.13	71.80	
	3-S	11.4	73.97	8.43	
		<u>100.0</u>		\$ <u>113.66</u>	\$ 103.12

Summary

<u>Species</u>	<u>Hemlock</u>	<u>W. Fir</u>	<u>Cedar</u>
Volume - M.bd.ft.	4,300	5,000	1,400
Selling price less profit	\$ 97.69	\$ 93.71	\$103.12
Logging cost (FS)			\$51.42
Sorting Yard (BIA) 3/			3.06
Total logging cost			\$54.48
Indicated stumpage price	54.48	54.48	54.48
FS appraised price	43.21	39.23	48.64
FS bid price	9.12	9.12	7.32
	9.12	9.12	7.32

- 1/ Anderson Middleton Log. Co. 6/26/70.
2/ IFA combined GH-PS prices.
3/ From Taholah Unit 7/1/69 Trend appraisal.

Olympic National Forest 1969 Appraisal 1/
With BIA Calculated Log Selling Prices Substituted

<u>Species</u>	<u>Log Grade</u>	<u>Grade %</u>	<u>1st Qtr. 1969 Average Log Prices 2/</u>	<u>Wtd. Ave. Log Price</u>	<u>Wtd. Average Price Divided by 1.1022 3/</u>
Hem.	P	1.1	\$ 114.70	\$ 1.26	
	1-S	4.8	108.42	5.20	
	2-S	66.9	98.23	65.72	
	3-S	27.2	85.64	23.29	
		<u>100.0</u>		\$ <u>95.47</u>	\$ 86.62
W. Fir	P	11.1	\$ 118.86	\$ 13.19	
	1-S	14.6	117.56	17.16	
	2-S	59.2	94.30	55.83	
	3-S	15.1	77.93	11.77	
		<u>100.0</u>		\$ <u>97.95</u>	\$ 88.87
Cedar	1-S	12.8	\$ 130.38	\$ 16.69	
	2-S	67.5	103.31	69.74	
	3-S	19.7	74.81	14.74	
		<u>100.0</u>		\$ <u>101.17</u>	\$ 91.79
D. Fir	1-P	21.0	\$ 163.55	\$ 34.35	
	2-P	26.0	137.45	35.74	
	3-P	11.2	122.30	13.70	
	2-S	36.1	100.40	36.24	
	3-S	5.7	81.38	4.64	
		<u>100.0</u>		\$ <u>124.67</u>	\$ 113.11

Summary

<u>Species</u>	<u>Hemlock</u>	<u>W. Fir</u>	<u>Cedar</u>	<u>D. Fir</u>
Volume - M.bd.ft.	6,600	3,900	3,900	100
Selling price less profit	\$ 86.62	\$ 88.87	\$ 91.79	\$113.11
Logging cost (FS) \$54.91				
Sorting yard (BIA) 3.06 3/				
Total log. cost \$57.97	57.97	57.97	57.97	57.97
Indicated stumpage price	28.65	30.90	33.82	55.14
FS appraised price	30.03	30.03	10.98	81.18
FS bid price	30.03	30.03	10.98	81.18

1/ Anderson Middleton Log. Co. 6/27/69.

2/ IFA combined GH-PS log prices.

3/ From Taholah Unit 7/1/69 Trend appraisal.

Olympic National Forest 1968 Appraisal 1/
With BIA Calculated Log Selling Prices Substituted

<u>Species</u>	<u>Log Grade</u>	<u>Grade</u>	<u>1st Qtr. 1968 Average Log Prices</u> 2/	<u>Wtd. Ave. Log Price</u>	<u>Wtd. Average Price Divided by 1.1022</u> 3/
Hem.	P	3	\$ 98.13	\$ 2.94	
	1-S	12	91.69	11.00	
	2-S	55	82.12	45.17	
	3-S	30	67.19	20.16	
		<u>100</u>		\$ <u>79.27</u>	\$ 71.92
W. Fir	P	8	\$ 97.70	\$ 7.82	
	1-S	16	90.34	14.45	
	2-S	53	81.26	43.07	
	3-S	23	67.87	15.61	
		<u>100</u>		\$ <u>80.95</u>	\$ 73.44
Cedar	1-S	2	\$ 93.80	\$ 1.88	
	2-S	79	70.83	55.96	
	3-S	19	51.81	9.84	
		<u>100</u>		\$ <u>67.68</u>	\$ 61.40

Summary

<u>Species</u>	<u>Hem.-W. Fir</u>	<u>Cedar</u>
Volume - M.bd.ft.	12,800	600
Selling price less profit	\$ 72.68 4/	\$ 61.40
Logging cost (FS) \$55.89		
Sorting yard (BIA) 1.76 3/		
Total cost \$57.55	57.65	57.65
Indicated stumpage price	15.03	3.75
FS appraised price	8.18	-7.26
FS bid price	16.78	2.00

- 1/ Anderson Middleton Log. Co. sale of 6/20/68.
2/ IFA combined GH-PS prices.
3/ From Taholah Unit January 1, 1968 Trend appraisal.
4/ Arithmetic average. (Volumes for weighting not readily available.)

Olympic National Forest 1967 Appraisal 1/
With BIA Calculated Log Selling Prices Substituted

<u>Species</u>	<u>Log Grade</u>	<u>Grade %</u>	<u>3rd Qtr. 1967 Average Log Prices 2/</u>	<u>Wtd. Ave. Log Price</u>	<u>Wtd. Average Price Divided by 1.1022 3/</u>
Hem.	P	3	\$ 92.68	\$ 2.78	
	1-S	7	87.67	6.14	
	2-S	66	74.51	49.18	
	3-S	24	59.75	14.34	
		<u>100</u>		\$ <u>72.00</u>	\$ 65.72
W. Fir	P	7	\$ 84.52	\$ 5.92	
	1-S	13	80.14	10.42	
	2-S	56	68.99	38.63	
	3-S	24	57.48	13.80	
		<u>100</u>		\$ <u>68.77</u>	\$ 62.39
SS	P	8	\$153.06	\$ 12.24	
	1-S	11	137.21	15.09	
	2-S	70	89.92	62.94	
	3-S	11	46.45	5.11	
		<u>100</u>		\$ <u>95.38</u>	\$ 86.54
Cedar	1-S	19	\$ 91.12	\$ 17.31	
	2-S	52	65.33	33.97	
	3-S	29	51.52	14.94	
		<u>100</u>		\$ <u>66.22</u>	\$ 60.08

Summary

<u>Species</u>	<u>Hemlock</u>	<u>W. Fir</u>	<u>SS</u>	<u>Cedar</u>
Selling price less profit	\$ 65.72	\$ 62.39	\$ 86.54	\$ 60.08
Logging cost (FS) \$44.25				
Sorting yard (BIA) 1.76 3/				
Total cost \$46.01	46.01	46.01	46.01	46.01
Indicated stumpage price	19.71	16.38	40.53	14.07
FS appraised price	14.97	14.97	12.05	12.05
FS bid price	15.00	15.00	12.05	12.05

1/ Don Bell Log. Co. sale 1/10/68

2/ IFA combined GH-PS prices

3/ From Taholah Unit January 1, 1968 Trend appraisal

Olympic National Forest 1964 Appraisal ^{1/}
With BIA Calculated Log Selling Prices Substituted

Species	Log Grade	Grade %	2nd Qtr. 1964		Wtd. Average Price Divided by 1.1022 ^{3/}
			Average Log Price ^{2/}	Wtd. Ave. Log Price	
Hem.	P	1	\$ 67.41	\$ 0.67	\$ 47.38
	1-S	3	64.54	1.94	
	2-S	60	56.75	34.05	
	3-S	36	43.21	15.56	
		100		\$ 52.22	
W. Fir	P	20	\$ 65.43	\$ 13.09	\$ 49.95
	1-S	9	61.33	5.52	
	2-S	52	53.78	27.96	
	3-S	19	44.60	8.48	
		100		\$ 55.05	
Cedar	1-S	5	\$ 75.28	\$ 3.76	\$ 48.47
	2-S	82	53.71	44.04	
	3-S	13	43.25	5.62	
		100		\$ 53.42	

Summary

Species	Hemlock	W. Fir	Cedar
Selling price less profit	\$ 47.38	\$ 49.95	\$ 48.47
Logging cost (F) \$27.06			
Sorting yard (BIA) ^{4/} .15			
Total cost \$27.21	27.21	27.21	27.21
Indicated stumpage price	20.17	22.74	21.26
FS appraised price	19.40	19.40	18.60
FS bid price	21.10	21.10	18.60

- ^{1/} Anderson Middleton Log. Co. sale 6/18/64.
^{2/} IFA combined GH-PS prices. Note 1st Qtr. 1964 prices more appropriate for this calculation but were not available.
^{3/} Profit ratio from Taholah Unit Trend appraisal.
^{4/} From Taholah 1964 Trend appraisal. (Source - page 24, Decision Aloha Lbr. Corp. Appeal of January 1, 1966 Price Revision.)

Olympic National Forest 1961 Appraisal ^{1/}
With BIA Calculated Log Selling Prices Substituted

<u>Species</u>	<u>Log Grade</u>	<u>Grade %</u>	<u>4th Qtr.1960 Average Log Prices ^{2/}</u>	<u>Wtd. Ave. Log Price</u>	<u>Wtd. Average Price Divided by 1.1022 ^{3/}</u>
Hem.	P	6	\$ 63.34	\$ 3.80	
	1-S	8	57.31	4.58	
	2-S	58	47.33	27.45	
	3-S	28	41.11	11.51	
		<u>100</u>		\$ <u>47.34</u>	\$ 42.95
W.Fir	P	20	\$ 63.74	\$ 12.75	
	1-S	16	57.71	9.23	
	2-S	43	49.86	21.44	
	3-S	21	42.10	8.84	
		<u>100</u>		\$ <u>52.26</u>	\$ 47.41
Cedar	1-S	9	\$ 72.33	\$ 6.51	
	2-S	31	46.62	14.45	
	3-S	60	38.35	23.01	
		<u>100</u>		\$ <u>43.97</u>	\$ 39.89

Summary

<u>Species</u>	<u>Hemlock</u>	<u>W.Fir</u>	<u>Cedar</u>
Selling price less profit	\$ 42.95	\$ 47.41	\$ 39.89
Less cost (FS)	40.69	43.87	37.35
Indicated stumpage	2.26	3.54	2.54
FS Appraised Price	3.55	3.80	6.35
FS Bid Price	3.55	3.80	6.35

- ^{1/} Anderson Middleton Log. Co. sale of 3/24/61.
^{2/} Average price computed by BIA from PNLA reports.
^{3/} Profit ratio from Taholah Unit Trend appraisal.

Olympic National Forest 1960 Appraisal 1/
With BIA Calculated Log Selling Prices Substituted

<u>Species</u>	<u>Log Grade</u>	<u>Grade %</u>	<u>1st Qtr. 1960 Average Log Prices 2/</u>	<u>Wtd. Ave. Log Price</u>	<u>Wtd. Average Price Divided by 1.1022 3/</u>
Hem.	P	14	\$ 64.37	\$ 9.01	
	1-S	14	57.03	7.98	
	2-S	45	47.14	21.21	
	3-S	27	42.61	11.50	
		<u>100</u>		\$ <u>49.70</u>	\$ 45.09
W. Fir	P	23	\$ 64.34	\$ 14.80	
	1-S	13	57.43	7.47	
	2-S	45	49.28	22.18	
	3-S	19	43.18	8.20	
		<u>100</u>		\$ <u>52.65</u>	\$ 47.77
Cedar	1-S	22	\$ 86.12	\$ 18.95	
	2-S	45	51.75	23.29	
	3-S	33	40.81	13.47	
		<u>100</u>		\$ <u>55.71</u>	\$ 50.54
D. Fir	1-P	10	\$ 118.41	\$ 11.84	
	2-P	15	107.28	16.09	
	3-P	19	89.10	16.93	
	1-S	0	61.98	0.00	
	2-S	40	64.07	25.63	
	3-S	16	49.95	7.99	
		<u>100</u>		\$ <u>78.48</u>	\$ 71.20

Summary

<u>Species</u>	<u>Hemlock</u>	<u>W. Fir</u>	<u>Cedar</u>	<u>D. Fir</u>
Selling price less profit	\$ 45.09	\$ 47.77	\$ 50.54	\$ 71.20
Less cost (FS)	45.07	45.07	45.07	45.07
Indicated stumpage	0.02	2.70	5.47	26.13
FS appraised price	5.45	7.85	10.95	30.35
FS bid price	5.45	7.85	10.95	30.35

- 1/ Anderson Middleton Log. Co. sale of 7/22/60.
2/ Computed by BIA from PNLA reports.
3/ Profit ratio from Taholah Unit appraisals.

DEPARTMENT OF THE INTERIOR
BUREAU OF INDIAN AFFAIRS

CONTRACT NO. I-101-Ind-1766

TIMBER CONTRACT

TAHOLAH

LOGGING UNIT

1. THIS AGREEMENT made and entered into at the Taholah Indian Agency, Hoquiam, Washington, under authority of the Act of June 25, 1910 (36 Stat. 857), between the Superintendent of the Taholah Indian Agency, hereinafter called the Superintendent, for and in behalf of the Indian owners, party of the first part; and ALPHA LUMBER CO. of Aloha, Washington hereinafter called the Purchaser, party of the second part.

2. WITNESSETH, that the Superintendent in consideration of the agreements by the Purchaser, agrees to sell to the Purchaser, and the Purchaser agrees to buy upon the terms and conditions herein stated and the General Timber Sale Regulations, approved April 10, 1920, by the Assistant Secretary of the Interior, which are hereto attached and made a part of this contract, all the merchantable dead timber, standing or fallen, and all the merchantable live timber, marked or otherwise designated by the officer in charge for selective logging, as required by the General Timber Sale Regulations, comprising trees approximately fourteen inches and larger at a point four and one-half feet from the ground, located on allotted lands covered by contracts entered into pursuant to the terms hereof, and on unallotted lands provided the Quinalt Tribe or its representatives consent to the sale, within a tract designated as the TAHOLAH Logging Unit on the Quinalt Indian Reservation, as shown on the attached map which is made a part hereof.

3. THE SUPERINTENDENT AUTHORIZES THE PURCHASER, and the Purchaser obligates himself to enter into separate contracts on the approved form with such Indians holding trust patented allotments within the logging unit as desire to sell their timber, subject to the terms of this contract. THE PURCHASER FURTHER AGREES to enter into said allotment contracts within thirty days from the date of submission of such contracts to him by the Superintendent.

4. The approximate area of the logging unit exclusive of alienated land, is:

Tribal Land	237	acres
Allotted Land	<u>30,034</u>	acres
Total Indian Land	30,321	acres

The Purchaser acquires no rights or interests whatsoever in and to approximately 967 acres of alienated land lying within the boundaries of this Logging unit.

5. THE ESTIMATED VOLUME OF TIMBER TO BE CUT, which estimate is not guaranteed is:

Western red cedar	360,000,000 feet, B.M.
Sitka spruce	43,000,000 feet, B.M.
Douglas fir	3,000,000 feet, B.M.
Amabilis fir	42,000,000 feet, B.M.
Western white pine	7,000,000 feet, B.M.
Western hemlock and other species	<u>90,000,000</u> feet, B.M.
TOTAL	545,000,000 feet, B.M.

Cedar Poles 5,000,000 Linear feet.

6. FOR AND IN CONSIDERATION of the agreements by the Superintendent, the Purchaser agrees that prior to April 1, 1979, he will cut all timber covered by this contract, and will pay to the Superintendent for the use and benefit of the Indians entitled thereto, the full value of said timber which shall be determined on the basis of an actual scale at fixed rates per thousand feet board measure, Scribner Decimal C log scale for sawtimber, which rates shall be established for each quarterly period beginning January 1, April 1, July 1, and October 1; PROVIDED, that the rates for the contract logging year ending March 31, 1950, shall be as follows:

For Western red cedar	<u>9</u> dollars and <u>75</u> cents
For Sitka spruce	<u>8</u> dollars and <u>75</u> cents
For Douglas fir	<u>10</u> dollars and <u>85</u> cents
For Amabilis fir	<u>3</u> dollars and <u>80</u> cents
For Western white pine	<u>6</u> dollars and <u>75</u> cents
For Western hemlock and other species	<u>3</u> dollars and <u>90</u> cents
and for cedar poles, with not greater than 9" top diameter and no more than 18" butt diameter	<u>three</u> cents per linear foot.

7. FOR THE PURPOSE of determining the stumpage rates to be paid in the succeeding quarterly periods of the contract beginning April 1, 1950, it is agreed that the weighted average prices of logs on the combined Grays Harbor-Puget Sound log markets for the fourth quarter of 1948, as published by the Pacific Northwest Loggers Association in its "Composite Sales Analysis - Grays Harbor Logging Companies - October, November, and December 1948" and its "Composite Sales Analysis-Puget Sound Logging Companies - October, November, and December 1948" were as follows:

Western red cedar	\$48.52	Per M feet, B.M.
Sitka spruce	\$47.90	Per M feet, B.M.
Douglas fir	\$58.64	Per M feet, B.M.
Amabilis fir	\$39.12	Per M feet, B.M.
Western white pine	\$45.61	Per M feet, B.M.
Western hemlock	\$38.33	Per M feet, B.M.

8. IT IS FURTHER AGREED that the stumpage rates for sawtimber appearing in Section six of this contract bear the following percentage relationships to the weighted average log prices for the fourth quarter of 1948 as shown in Section 7 hereof:

Western red cedar stumpage to Western red cedar log prices	<u>20.09</u> %
Sitka spruce stumpage to Sitka spruce log prices	<u>18.27</u> %

Douglas fir stumpage to Douglas fir log prices
 Amabilis fir stumpage to amabilis fir log prices
 Western white pine stumpage to western white pine log prices
 Western hemlock and other species stumpage to western hem-
 lock log prices

19.50 %
9.71 %
14.80 %
10.17 %

9. THE COMMISSIONER OF INDIAN AFFAIRS or his duly authorized representative shall obtain from the Pacific Northwest Logger's Association, through its published reports or otherwise, the average sales prices of logs in the Grays Harbor and Puget Sound log markets for each quarterly period during the life of this contract or any extensions thereof, and shall calculate the average log price of each species on the same basis and using the same grade percentages on which the average log prices for the fourth quarter of 1948, as shown in Section 7 were determined. In determining the stumpage rates to be effective for any given quarterly period, the percentages stipulated in Section 8, or the percentages which may be subsequently established under the provisions of Section 10, shall be applied to the calculated average Grays Harbor-Puget Sound log prices for the preceding quarterly period, and the sawtimber stumpage rates for each species so determined shall be the rates to be paid for timber actually sealed during such quarterly period. The stumpage rates for cedar poles shall be adjusted by the Secretary or his duly authorized representative at any time in accordance with the trend of the cedar pole market in the general locality of Grays Harbor. Notice of the new schedule of cedar pole stumpage rates will be furnished the Purchaser at least 30 days prior to the date on which they shall become effective.

10. THE SECRETARY OF THE INTERIOR OR HIS DULY AUTHORIZED REPRESENTATIVE may, upon his own initiative, or upon submission by the Purchaser of evidence satisfactory to the Secretary or such representative, review the stumpage rates established by the procedure set forth in Sections 6 to 9 inclusive. If, as a result of such review, the Secretary or such representative finds that the character of the operation, changes in marketing conditions, or technological developments, have altered the situation to such an extent that a change in the existing ratios between stumpage rates and the Grays Harbor-Puget Sound log prices appears warranted, he shall give thirty days notice to the Purchaser of his intention to establish new percentage ratios between stumpage rates and the Grays Harbor-Puget Sound log prices during which time the Purchaser may consult with the Secretary or such representative; PROVIDED that the requirements of notice in this Section shall be satisfied when the new ratios established under its authority are made effective upon the first day of the quarterly period which is not less than thirty days following notice by the Secretary or such representative to the Purchaser that he intends to proceed under the authority of this Section to change such ratios. The ratio, however, for any species of sawtimber shall not be changed oftener than once in any calendar year.

11. NOTWITHSTANDING any other provisions of this contract, it is mutually agreed that, in the event the said Pacific Northwest Loggers Association's Composite Sales Analyses become unavailable for use in connection with these stumpage readjustments, or in the opinion of the Secretary or his duly authorized representative do not properly reflect the true market value of the forest products, the Secretary or such

representative shall at any time, after giving thirty days notice to the Purchaser, during which time the Purchaser may consult with the Secretary or such representative, proceed to revise stumpage rates in accordance with the trend of economic conditions in the west coast logging and lumbering industry, provided that the requirements of notice in this Section shall be satisfied when the new rates established under its authority are made effective thirty days after notice by the Secretary or such representative to the Purchaser that he intends to proceed under the authority of this Section to adjust such stumpage rates.

12. IT IS FURTHER UNDERSTOOD AND AGREED that stumpage rates will never, in any event, by reduced below the following:

\$3.50 per M feet, B.M. for western red cedar
\$4.00 per M feet, B.M. for Sitka spruce
\$4.25 per M feet, B.M. for Douglas fir
\$1.00 per M feet, B.M. for amabilis fir
\$3.50 per M feet, B.M. for western white pine
\$1.00 per M feet, B.M. for western hemlock and other species
\$0.02 per linear foot for cedar poles

13. THE PURCHASER FURTHER AGREES that prior to the time when the stumpage value of the timber cut shall exceed the cash deposit of \$110,000.00 submitted with his proposal to purchase timber, he will make another cash deposit of \$25,000 and subsequent deposits of \$25,000 at such time as may be necessary to insure that the stumpage value of timber cut and not paid for at any time shall not exceed the cash deposit then in the hands of the Superintendent; PROVIDED, that the last cash deposit in any logging season may be in the sum of not less than \$10,000.

14. THE PURCHASER FURTHER AGREES that within thirty days from the date of approval of the contract on each allotment he will pay twenty-five per cent of the estimated value of the timber thereon as an advance payment, and further, that within three years from the approval of such contract he will pay an additional fifteen per cent of the estimated value of the timber as an advance payment, and an additional ten per cent as an advance payment within six years of approval of the allotment contract; PROVIDED, That with respect to each allotment contract, no advance payment will be required in an amount that will make the sum of that payment, plus all previous advance payments, plus all advance deposits previously applied against timber cut from the allotment, exceed fifty per cent of the estimated value of the timber; PROVIDED FURTHER, that the estimated value of the timber shall be determined by multiplying the volumes originally estimated to be cut by the following rates:

\$ 9.75 per M feet, B.M. for western red cedar
\$ 8.75 per M feet, B.M. for Sitka spruce
\$10.00 per M feet, B.M. for Douglas fir
\$ 3.00 per M feet, B.M. for amabilis fir
\$ 6.75 per M feet, B.M. for western white pine
\$ 3.00 per M feet, B.M. for western hemlock and other species
\$ 0.050 per linear foot for cedar poles

PROVIDED FURTHER, That the stumpage rates governing at the time the timber is scaled shall be the rates charged for the timber actually cut. IT IS MUTUALLY UNDERSTOOD AND AGREED, That the Commissioner of Indian Affairs, on his own initiative

or upon submission by the Purchaser of evidence satisfactory to the Commissioner, in his discretion may revise the estimated volume of timber on any allotment because of errors in estimate; or because of fire or other losses not due to any act or neglect of the Purchaser, but not because of depletion through cutting under authority of the allotment contract, PROVIDED, That in case the advance payments made on any allotment contract exceed the total value of timber cut and removed from the allotment by the Purchaser it is mutually agreed that such advance payments are declared to be the value of such timber so cut and removed.

15. THE PURCHASER further agrees that he will, unless relieved by the Commissioner of Indian Affairs, cut and pay for, from some portion of the sale area, at least 10,000,000 feet, board measure, Scribner Decimal C log scale, prior to April 1, 1951, and not less than 20,000,000 feet, board measure, in any twelve months ending March 31 thereafter during the life of this contract. PROVIDED, that all timber on this unit must be cut and paid for prior to the contract expiration date; that he will pay for, as merchantable timber, pieces twelve feet and longer, will utilize the trees to a diameter of ten inches in the tops where straight and sound, and will pay for all timber except cedar poles on the basis of a scale recognizing 32 feet as a maximum length of a single log; and that all logs will be considered merchantable as provided in the attached General Timber Sale Regulations, except that hemlock and amabilis fir must be one-half or more sound.

16. THE MAXIMUM ALLOWABLE CUT of sawtimber in each three-year period of this contract beginning with April 1, 1950, shall not exceed 100,000,000 feet board measure, Scribner Decimal C log scale without the written consent of the Commissioner of Indian Affairs.

17. THE PURCHASER FURTHER AGREES that, if he fails to cut and make available for scaling in the customary manner the minimum of timber required by this contract to be cut in any contract logging year ending March 31, he shall make a special advance deposit to the Superintendent on or before the end of such contract logging year to cover such deficiency in cutting; this deposit to be calculated at the cedar sawtimber stumpage price that is in effect on March 31 of that contract logging year. Such advance deposits so made shall be applicable to timber cut in a subsequent year only after the Purchaser in such subsequent year has cut and paid for the minimum timber required to be cut that year under this contract. PROVIDED, that this special advance deposit shall be applied against timber cut in such subsequent year at the rates in effect during the subsequent year; and PROVIDED FURTHER That the Commissioner of Indian Affairs may relieve the Purchaser in whole or in part from the minimum cutting and paying requirements because of adverse operating or market conditions, fire damage to the Purchaser's manufacturing plant, acts of God or Government control, or for other cause deemed sufficient by the Commissioner of Indian Affairs.

18. IT IS FURTHER UNDERSTOOD AND AGREED THAT, in addition to the provisions of Section 5 of the attached General Timber Sale Regulations, this contract is subject to any existing rights of way.

19. THE PURCHASER FURTHER AGREES that if fires, for the starting or spread of which he, or any of his employees, his subcontractors, or their employees, are responsible by act or neglect, shall destroy young growth under ten inches in diameter on any portion of the reservation, he will pay liquidated damages of twenty

dollars per acre for the area thus burned over unless a lesser rate of damages shall be approved by the Commissioner of Indian Affairs; and he agrees that, in addition to these liquidated damages, he will pay the damage that shall be caused to all timber ten inches and larger in diameter at four and one-half feet from the ground or to any other property of the Indians or the Government. Should merchantable timber be injured by a forest fire for the origin or spread of which the Purchaser, his agents, employees, subcontractors, or their employees, are in no way responsible, said Purchaser shall be accountable for the loss sustained only to the extent that such loss shall be due to his failure to cut and remove the injured timber as expeditiously as shall be possible under the existing circumstances and the terms of this contract.

20. THE PURCHASER will furnish and maintain in good and serviceable condition such fire fighting tools and equipment, and provide such fire protection personnel as may be required by the Commissioner of Indian Affairs or his duly authorized representative to meet the fire protection requirements of the contract, the General Timber Sale Regulations, and the existing fire danger hazards or risks. The requirements shall not be less than are required under laws of the State of Washington.

21. THE PURCHASER FURTHER AGREES that all bridges, trestles, and drainage structures will be left intact at the completion of logging operations and will become the property of the United States for the use and benefit of the Quinault Indians when the contract is completed.

22. THE PURCHASER FURTHER AGREES that within one year from completion of logging on any setting or landing or any spur or main logging road he will cause all snags more than fourteen inches in diameter at four and one-half feet from the ground and more than sixteen feet in height from the ground to be felled unless relieved in writing by the Forest Officer in charge. It is further understood that the Commissioner of Indian Affairs may in his discretion relieve the Purchaser entirely or in part of the provisions of Sections 25 and 26 of the General Timber Sale Regulations.

23. THE PURCHASER FURTHER AGREES that he will conduct the logging operations in such a manner as to permit scaling to be done economically, that he will keep the allotment boundaries clearly marked while logging is in progress, and that all logs from each separate allotment will be branded as prescribed by the officer in charge of the sale in order to be readily identified if the logs from different allotments are mixed at the point of scaling.

24. THE PURCHASER FURTHER AGREES that he and his subcontractors will fully comply at all times with the provisions of section 47 of the General Timber Sale Regulations dealing with the employment of Indian labor.

25. THE PURCHASER FURTHER AGREES that as soon as possible after the close of each calendar year, and in any event not later than April 15 following, he will submit to the Commissioner of Indian Affairs, through the Superintendent, a financial statement of operations and sales in triplicate for the calendar year just ended, such statements to be in a form satisfactory to the Commissioner of Indian Affairs, and to be certified to by a certified public accountant and the purchaser.

26. THE PURCHASER FURTHER AGREES that recreational, scenic, esthetic, and Indian ceremonial values will be protected and that the logging operations, when permitted in areas on which such values exist, will proceed only under authority of the Commissioner of Indian Affairs.

27. IT IS FURTHER UNDERSTOOD AND AGREED that this contract shall be null and void and of no effect until approved by the Secretary of the Interior and until the latter shall approve a bond in the penal sum of \$75,000.00 conditioned on the faithful performance of all the terms of this contract and the General Timber Sale Regulations attached hereto.

Signed and sealed in sextuplet this 26th day of April, 1950.

WITNESSES:

[Signature]
Earle R. Wilson

[Signature]
Earle R. Wilson

ALOHA LUMBER CO.
Purchaser
By Paul R. Smith
President

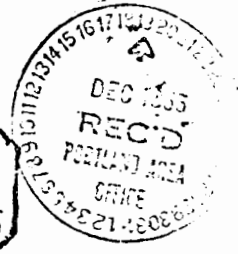
By [Signature]
Secretary
[Signature]
SUPERINTENDENT
ACTING SUPERINTENDENT

MAY 12 1950

Approved: _____ 1950 subject to the prompt furnishing of a
~~Secretary of the Interior~~
bond satisfactory to the Secretary of the Interior in the amount of \$75,000 in accordance with Section 27 of the contract. Aloha Lumber Company also to furnish certified copy of its corporate charter and current bylaws.

William E. Gamm
Assistant Secretary of the Interior

[Signature]



MODIFICATION OF CONTRACT

TAHOLAH LOGGING UNIT

QUINAULT RESERVATION

Contract No. I-101-Ind-1766

WHEREAS the Aloha Lumber Company, with principal place of business, Aloha, Washington, was purchaser of the timber on the Taholah Logging Unit, Quinault Indian Reservation, Washington, under contract approved by the Assistant Secretary of the Interior on May 12, 1950, which contract provides for the purchase of all merchantable timber on said unit on or before April 1, 1979, and

WHEREAS, the Aloha Lumber Company subsequently did enter into an agreement of merger with the Aloha Lumber Corporation whereby the Aloha Lumber Company was merged into the Aloha Lumber Corporation, with said merger being approved by the Secretary of State of the State of Washington on December 28, 1951, and

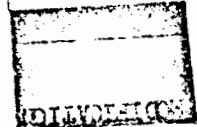
WHEREAS the Aloha Lumber Corporation with principal place of business, Aloha, Washington, is now the purchaser under the aforesaid contract, and

WHEREAS said contract provides for the sale to the purchaser of all merchantable timber on the sale area designated for cutting, comprising trees approximately fourteen inches and larger at a point four and one-half feet from the ground, and

WHEREAS the contract further provides that the purchaser pay for, as merchantable timber, pieces twelve feet and longer, utilized to a diameter of ten inches in the tops where straight and sound, and pay for all timber on the basis of a scale recognizing 32 feet as the maximum length of a single log, and

WHEREAS there is an unestimated volume of useable timber within the timber sale area covered by the contract with a diameter of less than 14 inches at breast height in standing trees subject to windthrow and trees already windthrown or broken and in logs and pieces of less than the designated merchantable size as defined in the contract, and

WHEREAS it is in the interest of the Quinault Tribe of Indians and the individual members thereof owning the allotments within the unit and the purchaser that such timber be acquired by the purchaser and removed from the sale area in order, (a) to insure the greatest possible



utilization of the forest materials on the land, (b) provide thereby increased revenue to the Indian owners thereof, (c) reduce the fire hazard thereon and (d) provide a better seed bed for establishment of forest reproduction on the area, and

WHEREAS there is also in the contract area a volume of timber in small trees, in mixture with trees of large diameters and, with standard logging methods, such of the volume in these small trees would be lost by breakage and much of such breakage can be prevented by pre-logging operations to remove such trees prior to high-lead and/or other standard logging methods, and

WHEREAS production from salvage areas and from small timber is frequently most practicable in the form of cordwood, or other units, and

WHEREAS accomplishment of the contemplated salvage and pre-logging operations will require that forest officers of the Bureau of Indian Affairs administering the timber sale contract spend considerable time in supervision of such operations and in scaling or measuring products other than sawtimber, and

WHEREAS the services of competent and impartial log scaling and grading bureaus are available for securing the scale of logs produced in the sale area,

NOW THEREFORE, it is mutually agreed between the Aloha Lumber Corporation and the Secretary of the Interior that the terms of the contract No. I-101-Ind-1766 are hereby modified by adding the following provisions:

1. The basic measurement for all timber produced on the sale area, excepting cedar poles, shall continue to be the Scribner Decimal C. Log scale but products other than saw logs and cedar poles will be scaled or measured by the method or methods set forth in Section 2 of this modification in accordance with the following conversion table:
 - One cord equals 128 cubic ft. of stacked wood cut in pieces 8 ft or shorter.
 - Ninety cubic feet, Sorenson scale equals one cord.
 - One cord equals 500 board feet, Scribner Decimal C.
 - 500 Shake boards equals one thousand board feet, Scribner Decimal C.
2. Products produced under this modification will be scaled, measured or tallied in accordance with the following procedure:
 - a. Cordwood, including Pulwood, Shingle bolts and other products, may be scaled prior to cutting, using Sorenson's Cubic-foot log scale rule, when in the judgment of the Officer in Charge, it will not be practicable for cordwood, when cut, to be transported to a central check point. Otherwise all cordwood will be measured in cords at check points designated by the Officer in Charge. For the purpose of this provision, timber cut in lengths of eight feet or shorter will be considered as cordwood except pieces that are of select or peeler grade as defined under the rules of the

Grays Harbor Log Scaling and Grading Bureau and its affiliates. Pieces longer than eight feet may also be scaled as cordwood if they are of less than merchantable saw log diameter and are produced as a part of the salvage operation.

- b. Shake Boards will be tallied and recorded by thousands of pieces, at designated check points as determined by the Officer in Charge.
3. Salvage re-logging operations will not be commenced in any area until logging of merchantable timber as defined in the original contract has been completed and pick-up scale made, after which the purchaser and the forest officer in charge shall designate the areas which are to be excluded from the provisions of this modification of the contract. In the event of disagreement between these representatives of the respective parties concerning the exclusion of such areas, the salvage operations provided for under this provision of the modified contract shall not be applicable. In all such excluded areas of the salvage operations the forest officer shall not scale the salvage material, and no obligations shall exist under this amendment to the contract for the purchaser to take and pay for the salvage material within such excluded areas. The said purchaser hereby agrees to purchase and remove such timber and material as may be so designated or otherwise marked by the forest officer in charge and to pay for such material at the rate of \$2.00 per cord for pulpwood, \$4.00 per cord for Shingle bolts, and other cedar cordwood, excepting pulpwood, and \$17.00 per M boards for shake boards, which rates shall apply during the quarterly period during which this modification is approved.
4. The officer approving this modification of contract or his duly authorized representative, hereinafter called the Approving Officer, may review the stumpage values of forest products produced upon these salvage operations, either on his own initiative or upon submission by the purchaser of evidence satisfactory to the Approving Officer that such a review should be made. If, as a result of said review, the Approving Officer finds the established rates for such forest products no longer represent their true value, he shall give 30 days notice to the purchaser of his intention to establish new stumpage rates, during which time the purchaser may consult with the Approving Officer; PROVIDED, that the requirements of notice shall be satisfied when the new rates established under this authority are made effective upon the first day of any month which is not less than 30 days following notice by the Approving Officer to the purchaser that he intends to proceed under the authority of this Section to change such rates; PROVIDED FURTHER, that there shall be no change in such stumpage rates until six months subsequent to the date of approval of this modification of contract; and PROVIDED FURTHER, that such stumpage rates shall not be changed oftener than once in any calendar year.
5. It is further agreed that in the event the purchaser does not concur with the Forest Officer in Charge as to re-Logging of any particular cut-over area, the Superintendent of the Western Washington Indian Agency may proceed to make salvage sales on such areas to other purchasers under authority of Section 5 of the General Timber Sale regulations.

6. It is further agreed that the purchaser and the Forest Officer in Charge shall designate areas to be pre-logged to effect the removal of small trees prior to logging of the remainder of the stand with high-load or other standard logging methods. Timber removed in such pre-logging operations may be produced in the form of cordwood from standing or down timber of any size and will be paid for at the contract rate per M board feet established for saw timber for each species. If two or more species are corded together in such a way that it is not practicable to determine the scale by species, the rate of the highest price species in the load or pile will be applied. It is further agreed that, at the request of the purchaser entire blocks of timber may be designated for production entirely as cordwood under the same provisions as for pre-logging operations as set forth in this section if, in the judgement of the Forest Officer in Charge, such procedure will result in more complete utilization and greater returns to the owners.
7. It is further agreed that in lieu of the scaling procedure stipulated in the General Timber Sale Regulations, the Commissioner of Indian Affairs, hereinafter called the Commissioner, in his discretion and for such periods as he may elect, may require that logs cut under this contract shall be scaled by the Grays Harbor Log Scaling and Grading Bureau, hereinafter called the Scaling Bureau. Scaling by the Scaling Bureau, shall not be exclusive so as to prevent scaling, by scalers employed by the Bureau of Indian Affairs, of material that is not delivered to the point of bureau scaling. Should the Commissioner intend to change from one scaling procedure to the other, he shall notify the purchaser in writing not less than thirty days prior to the effective date of such change. The following general conditions shall apply to bureau scaling. The purchaser shall furnish the Superintendent with a list of State registered log brands which shall be reserved for exclusive use on logs cut under this contract during the entire period the contract is in force, including all extensions thereof, and for six months after its termination. Sufficient brands shall be reserved to provide a separate brand for every allotment from which logs may be taken simultaneously during any period of operations.

Upon notification by the Commissioner that the services of the Scaling Bureau are required, the purchaser shall enter into an appropriate agreement with said Bureau for the performance of all necessary scaling and reporting services, and shall promptly submit to the Commissioner certified copies of such agreement in triplicate.

The agreement shall provide for the prompt scaling of all material upon delivery to the place of scaling. It shall also provide for prompt submission to the Superintendent of certified copies of each and every scale report, showing the species, volume, grade, and brand of each log scaled; with such safeguards being included in the agreement as the Commissioner may deem necessary to insure an accurate accounting to the Superintendent of all logs that are presented to the Scaling Bureau for Scaling.

The Scaling Bureau's rules respecting scaling, grading and merchantability shall apply.

The purchaser shall pay the Scaling Bureau for all services rendered by it under the agreement.

No logs shall be moved from the place of scaling until they have been scaled.

Customary methods employed by the Scaling Bureau for indicating completion of the scaling shall be accepted in lieu of the numbering and stamping of logs stipulated in Section 22 of the General Timber Sale Regulations.

8. It is further agreed that because of basic differences in scaling practises of the Scaling Bureau and the Bureau of Indian Affairs, adoption of Scaling Bureau scaling practices may result in a difference in volume of saw timber scaled. Therefore, it is agreed that the Bureau of Indian Affairs will conduct a study to determine whether a difference in volume will result from adoption of scaling bureau practices and if it is found that an appreciable difference will result, the percentage relationships that the stumpage rates for saw timber bear to weighted average log prices, as set forth in Section 8 of the original contract, shall be revised to compensate for such difference in volume before Scaling Bureau Services will be required.
9. It is further agreed that if ratios are revised as a result of studies made as provided in Section 8 of this modification of contract, the revised ratios shall be in effect after Bureau scale is adopted except as otherwise provided in Section 10 of the original contract and all saw timber cut under this contract after adoption of said Bureau Scale shall be scaled in accordance with Scaling Bureau practices whether scaled by the Scaling Bureau or by the Bureau of Indian Affairs.
10. It is further agreed that the definition of terms appended hereto is a part of this modification of contract.
11. It is mutually understood and agreed between the parties hereto, except as herein expressly modified and extended, the above original contract shall be in full force and effect and binding upon the parties thereto as though no modification of the contract had been made.

SIGNED AND SEALED in sextuplet this 15 day of November, 1955.

WITNESSES:

Harley C. Bugman

Catherine Logan

L. G. Greenstreet

Herbert C. Hoff

Josephine Karjosen

L. C. McKinnon

ALOHA LUMBER CORPORATION

By

Paul R. Smith

President

By

DA Kusty, Lucy

WESTERN WASHINGTON INDIAN AGENCY

By

C. W. Ringey

Superintendent

APPROVED MAR 21 1956, 1955

Wesley A. Stewart

Assistant Secretary of the Interior

SIGNED AND SEALED in sextuplet this 15 day of November, 1955.

WITNESSES:

Harley C. Szymanski

Catherine Logan

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Josephine Karjoren

L. C. McKinnis

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By

W. W. Ringey

C. W. Ringey, Superintendent

APPROVED MAR 21 1956, 1955

Wesley A. Stewart

Assistant Secretary of the Interior

Definitions of Terms as Used in this
Modification of Contract.

1. "RE-LOGGING" or "SALVAGE RE-LOGGING" -

These terms are used synonymously. Re-Logging is a clean-up operation following original logging operations to salvage residual material that is merchantable in some form of forest product but which was not suitable for sawtimber as defined in the original contract.

2. "PRE-LOGGING" - is the term applied to the harvesting of specified trees or classes of timber from a cutting block prior to regular logging operations.

3. "HI-LEAD" is the type of logging commonly used for harvesting timber in west coast logging operations. It consists of skidding logs to a central landing by means of cable, threaded through a block that is suspended near the top of a spar tree. The spar tree is supported by guy lines. As used in this report, hi-lead may also include skyline or skidder logging which also use a "hi-lead" at the landing.

4. "PICK-UP SCALE" - is a scale, with Scribner Decimal C log rule, of material left on the ground after original logging operations have been completed. This scale is made by Bureau of Indian Affairs forestry personnel and includes all material left that, in the forest officer's judgment, should have been logged as saw timber in accordance with the terms of the contract.

5. "PULPWOOD", as used in this report, is a term applied to material produced in the form of cordwood that is intended for manufacture into pulp. The primary species involved is western Hemlock, but any species may be included.

6. "SHINGLE BOLTS" are blocks of cedar, cut 4 feet 4 inches (4'4") in length, which are intended for manufacture into sawed shingles. Practically, shingle bolts are four-foot, cedar cordwood.

7. "SHAKE BOARDS" are split cedar boards, 2 $\frac{1}{2}$ " thick, 6" wide and 25" long. Width of boards may vary but 6 inches is the accepted standard.



UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF INDIAN AFFAIRS
WASHINGTON, D.C. 20240

IN REPLY REFER TO:

Forestry
3882-62

RECEIVED
NOV 16 1964
Forestry
PORTLAND

EPW
KW
207
Mym

NOV 13 1964

Mr. Paul R. Smith, President
Aloha Lumber Corporation
P. O. Box 2067
Seattle, Washington 98111

Dear Mr. Smith:

Section 16 of the Taholah Logging Unit contract provides:

"THE MAXIMUM ALLOWABLE CUT of sawtimber in each three-year period of this contract beginning with April 1, 1950, shall not exceed 100,000,000 feet board measure, Scribner Decimal C log scale without the written consent of the Commissioner of Indian Affairs."

During recent meetings between representatives of your company and the Bureau of Indian Affairs, the maximum limitation was agreed to be unrealistic. This appears clear in view of a recent timber inventory by the agency foresters, which reveals that an estimated 927 million board feet of timber must be cut during the approximately 15 years remaining in the contract. It would appear that an average minimum cut for each 3-year period of approximately 185 million board feet of timber is needed to complete the cutting by the contract expiration date.

As purchaser under this contract, you have on several past occasions requested authority to exceed the maximum periodic cut, and by your letter of September 21, 1964, to Superintendent George H. Falslaw, have requested such authority for the 3-year period beginning April 1, 1962, to March 31, 1965. All previous requests have been approved. Although this procedure could be continued, it does not appear to serve a useful purpose at the present time.

In view of the estimated volume of timber to be removed prior to the expiration date of this contract, you are authorized pursuant to Section 16 of Contract No. I-101-Ind-1756 to cut a maximum of 300,000,000 feet board measure, Scribner Decimal C, log scale in any remaining 3-year period. This authority will continue until revoked in writing by the Commissioner of Indian Affairs.

7151151

Portland Area Office

copy to Hoq. & W. Wash. via buck slip 11-23-64

We are hopeful this authority will facilitate your planning for the removal of timber covered by the Taholah Logging Unit contract.

Copies of this letter will be furnished the surety company, tribal representatives, and the Portland and Everett Offices of this Bureau.

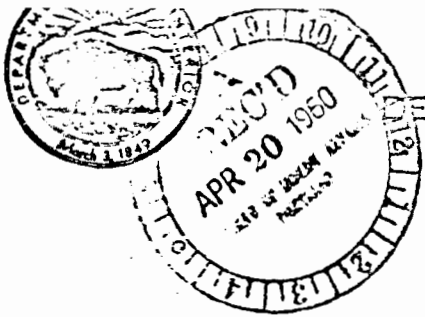
Sincerely yours,

(Sgd) John O. Crow.

Deputy

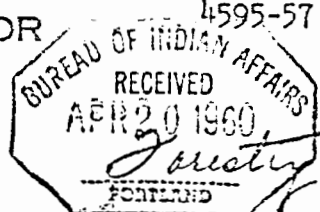
Commissioner

cc: Area Director, Portland, Oregon (3) ✓



UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF INDIAN AFFAIRS
WASHINGTON 25, D. C.

Forestry
4595-57



J. J.

APR 18 1960

Air Mail

Mr. Don C. Foster
Area Director, Portland, Oregon

copy: 1. Director
2. Asst Dir. (Res.)
3. Forestry

H.W.
J.P.
F.H.

Dear Mr. Foster:

Acknowledging your letter of April 11, 1960, I have approved the purchaser's "Request for Increase in Maximum Cut" under the Taholah Logging Unit contract, Quinault Reservation. The original and four copies of the approved request are returned herewith. One copy has been retained for our files.

The approved increase, to 150 million board feet for the three-year period beginning April 1, 1959, is ten million feet greater than originally requested by the purchaser. However, the circumstances discussed in our letter to you of February 5, 1960, indicate that we should consent to the additional cutting.

Please keep us informed of progress on your inventory of the Taholah Unit, and your negotiations with the purchaser for a modification of both minimum and maximum cutting requirements of the contract.

Sincerely yours,

Commissioner

Enclosures 5

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF INDIAN AFFAIRS

GENERAL TIMBER SALE REGULATIONS

1. The word **superintendent** as used in these regulations signifies the Superintendent of the Indian Agency or School within the jurisdiction of which the land covered by any contract is included.

2. The term **officer in charge**, wherever used in these regulations, signifies the forest officer of highest rank assigned to the supervision of timberwork on the reservation within which the sale area is situated or such other officer as may be designated by the Commissioner of Indian Affairs to supervise a sale.

3. **Log scalers** will be appointed by the Commissioner of Indian Affairs and receive their instructions from the officer in charge.

4. **No timber** other than that sold may be cut by the purchaser on the sale area without a separate contract of sale therefor, and timber on allotments within a general sale area held under trust or restricted patents cannot be logged without a contract with the owners of the allotment approved by the proper officer.

5. **Other sales** within a sale area may be made of products and kinds of timber not sold under a previous sale, provided such sales will not, in the judgment of the officer having authority to make such sale, interfere with the operations of the previous purchaser. **Rights-of-way** may be granted through portions of the sale area during the contract period, provided they do not interfere with the operations of the previous purchaser.

6. **Title** to the forest products covered by any contract will not pass to the purchaser until such products are paid for.

7. **Cash deposits in advance** of cutting will be required. If at any time the stumpage value of the timber cut and unpaid for shall exceed the total amount then on deposit with the Indian Service, an additional deposit shall be required. At the close of each month a statement of all timber cut during the month will be rendered to the purchaser as a demand for payment of the full stumpage value of the timber covered by such statement. As soon as payment is made of the amount covered by such statement, the full amount previously deposited will become available as an advance deposit on timber cut subsequent to the period covered by such statement. At any time that the stumpage value of the timber cut shall exceed the amount of advance deposit cutting operations shall be suspended.

8. **The general advance deposits** required by a contract which includes both allotted and unallotted land will be credited so far as necessary on allotments cut during the period covered. The fact that **special advance payments** have been made on allotments which are about to be cut will not operate to reduce the size of the required **general advance deposit**, but rather will postpone the necessity of making demand for it until the advance payments on the particular allotments being cut have also been exhausted. The deposit made with the bid for the timber will be applied as a general advance deposit.

9. **The areas** to be logged in any season may be designated by the officer in charge when in his judgment this is necessary to prevent deterioration from fire, worms, or other cause or

to insure the logging of the sale unit in such manner as to fully protect the interests of the United States and the Indians. When logging is begun on an allotment or natural logging unit, it will not be discontinued and started elsewhere without the written consent of the officer in charge.

10. **Selective logging**, or the logging of areas in such manner as to preserve a part of the merchantable timber, promote the growth of young trees, or preserve the forest cover, will be practiced on all lands chiefly suitable for the production of timber crops. Live trees of diameters below those named in the contract may be designated for cutting, and larger trees may be reserved from cutting in the discretion of the officer in charge. If live trees which are not designated for cutting are cut, or are seriously injured through lack of care, they will be double scaled and so charged and paid for. In the discretion of the officer in charge, a strip not exceeding 300 feet in width on each side of streams, roads, and trails, and in the vicinity of camping places and recreation grounds may be reserved, in which little or no cutting will be allowed.

11. **All dead trees** standing or fallen which contain one merchantable log or more will be logged for their merchantable contents, and wherever selective logging is required by the contract the purchaser will fell all other dry trees before the slash is burned.

12. **Firewood and improvements** will be made as far as possible from unmerchantable material, and material so used will not be charged to the purchaser. The use of such material from allotments may be restricted in the discretion of the officer in charge. Wood and improvements taken from merchantable material will be scaled or measured, charged, and paid for at its maximum value.

13. **Young growth** will be protected as far as possible in every branch of the logging operations, and its use in the construction of improvements may be restricted by the officer in charge.

14. **Stumps** will be cut low so as to avoid waste, and the mean height of any stump will not exceed one-half its diameter, except where because of defect or deformity this height is considered impracticable by the officer in charge, provided that the minimum height required will be 12 inches.

15. **Waste in high stumps, butts, tops, breaks, skids, and partially sound logs and all trees** designated for logging which are not logged and all trees which are left felled or lodged or badly damaged by the logging operations will be scaled for their merchantable contents and charged against the purchaser. All cutting shall be done with a saw when possible.

16. **Carelessness** on the part of fellers or other employees of the purchaser that results in unnecessary breaking of trees will be penalized by scaling such trees full as if they had not been broken.

17. **The log lengths and products** taken from each tree will be such as to completely utilize the merchantable material in the tree and to yield the maximum stumpage value. Trees improperly cut into lengths or products of a lesser value shall be scaled, counted, or measured as if cut so as to yield the maximum value.

18. **The Scribner Decimal C log rule** will be used in scaling logs. The rule will be read to the nearest inch on the average top diameter inside bark. Logs exceeding the maximum length allowed by a contract will be scaled as two or more logs, with proper allowance for the increase in diameter at the points of division.

19. **The overlength** allowed on logs for trimming will not exceed 1 inch to each 4 feet of length. Logs which overrun this allowance will be scaled as if cut 2 feet longer. Logs longer than the maximum scaling length named in the contract will be scaled as if bucked into two or more shorter logs and with the top diameters they would actually have if so cut.

20. **Proper deductions** will be made for rot, shake, hollow, and other defects which make a log partially unmerchantable, including sweep exceeding 1 inch in each 4 feet of log length, but deductions will not be made for any defect or damage due to the act or neglect of the purchaser or his employees.

21. **A check scaler** employed by the purchaser may at hours convenient to the scaler and with the consent of the officer in charge compare his scale of logs with that of the scaler. A copy of the regular scale reports will be furnished to the purchaser through the officer in charge.

22. **For convenience in scaling** the logs or other products will be bunched as the scaler may direct on the land where cut or at the landing or point of shipment and will not be moved therefrom until he has scaled, numbered, and stamped them. Logs that are moved contrary to the scaler's instructions will be double scaled. Where a separate record of the scale of timber from an allotment or other area is necessary, the logs cut from such area will be marked by the purchaser with a distinctive brand as prescribed by the officer in charge.

23. **A merchantable log** is any log that will manufacture one-third or more of its total contents into sound lumber 8 feet and longer, except as special provision is made in a particular contract. More defective logs and logs smaller than the merchantable size set in the contract will be culled if left in the woods, but any such logs that are taken for manufacture or sale will be scaled for their actual sound contents of lumber of any length. Any logs taken by the purchaser which are smaller than the minimum scaling length or diameter given on the log-scale rule will be scaled for their merchantable contents.

24. **Railroad ties** taken by the purchaser under a contract in which tie prices and specifications are not fixed will be scaled or counted as follows:

Eight-foot ties made from logs 9 to 12 inches top diameter will be counted as 30 to the thousand feet board measure and 6½-foot ties as 33 to the thousand. Ties made from logs over 12 inches top diameter and long ties will be scaled. Ties made from logs less than 9 inches top diameter will be counted 60 ties 8 feet long and 75 ties 6½ feet long to the thousand feet.

25. **The slash** resulting from the logging operations, including all branches up to 4 inches in thickness lopped from tops and logs, will at the time of skidding be piled compactly and away from reserved trees on the whole area to be selectively logged and on a strip at least 10 rods wide around all other logging areas in units not larger than quarter sections, unless some other method of slash disposal is provided in the contract.

26. **Burning** of the slash by the purchaser will be done at such times and in such manner as may be required by the officer in charge, who may at that time assume direct charge of the crew of the purchaser engaged at the work of burning. Slashing will not be burned during any period of fire danger. Whenever fire runs through a slashing, except in compliance with the instructions of the officer in charge, the purchaser may be required to lop or to pile and reburn the slash.

27. **Unsatisfactory disposal** of the slash will be cause for the officer in charge to suspend all operations of the purchaser until the unsatisfactory condition is corrected.

28. **Forest fires** on the sale area or adjacent lands during the contract period will be prevented or suppressed by the purchaser, his employees, and subcontractors whenever possible. When called upon by an authorized forest officer, they will work under his directions to suppress fires. If the purchaser or his employees or subcontractors were not directly or indirectly responsible by act or neglect for the origin or the spread of the fire, reimbursement will be made, except that such reimbursement shall not exceed one-half the cost of suppression within the sale area or within one-half mile of the same.

29. Donkey logging may be permitted in the discretion of the Commissioner of Indian Affairs. The ground around the donkey engine will at each setting be cleared of dry trees for a distance of 10 rods and of all other combustible material for a distance of 50 feet in all directions during the season from May 1 to September 30 and any other season of fire danger.

30. All steam engines not burning oil for fuel during the period from May 1 to October 15 and all other seasons of fire danger will be equipped with spark arresters acceptable to the officer in charge, and, excepting locomotives, will have a steam force pump with not less than 1-inch discharge, 100 feet of serviceable 1-inch hose, 6 12-quart pails, 6 shovels, and a constant supply of not less than the equivalent of 12 barrels of water. This equipment will be suitable for fire-fighting purposes and kept in serviceable condition and used when necessary for fighting fires.

31. A watchman employed by the purchaser and kept on duty during the noon hour at each engine in actual use and not burning oil, and during the night if fires are kept up, may be required by the officer in charge during the period from May 1 to October 15 and any other period of fire danger.

32. Rigging will not be slung on trees reserved from cutting without the use of bushing, and only in a manner satisfactory to the officer in charge.

33. Clearing the right-of-way of the logging railroad and its spurs and the careful burning of all combustible material for a distance of 50 feet on each side of the track is required of the purchaser unless the officer in charge shall, in writing, prescribe a lesser width. And the purchaser shall for such periods as may be required by the said forest officer in charge patrol all railroad tracks after the passage of each locomotive.

34. The vicinity of logging camps and stables will be kept in a clean and sanitary condition, and rubbish will be removed and properly burned or buried during the occupancy and upon the removal of the camps and stables.

35. Streams will not be obstructed by felled trees or otherwise except by the improvements hereinbefore provided for, nor will they be polluted by sawdust, manure, or any other refuse from a camp or mill.

36. Damage to land or other property of the Indians or the Government resulting from rights-of-way, dams, and other improvements or operations of the purchaser will be appraised by the officer in charge, and if not offset by the value of the permanent improvements made by the purchaser will be charged against the purchaser.

37. Existing telephone lines, fences, roads, trails, and other improvements will be protected as far as possible in the logging operations, and whenever they are broken or obstructed the purchaser will promptly repair the damage. If he fails to make the repairs promptly, the officer in charge may make the repairs and purchaser may be charged with double the expense thereof.

38. Telephone lines constructed by the purchaser within the Indian reservation will be open to the free use of all Indian Service officers for official business, and the purchaser may for their construction and repair cut and use free of charge all necessary poles which are not otherwise merchantable and subject to regulation by the officer in charge.

39. Improvements necessary to execute his contracts, such as camps, sawmills, railroads, roads, telephone lines, chutes, bridges, sluices, and dams, may be constructed and maintained by the purchaser on and across the contracted area and other tribal lands, subject to regulation by the Commissioner of Indian Affairs.

40. Free transportation of Indian Service employees engaged in official business will be allowed over all such railroads, and such employees may, at their own risk, operate hand cars or speeders over the track in such manner as not to interfere with the use of the railroad by the purchaser.

41. Improvements already on the area or on other lands of the reservation and which are necessary for logging purposes may be used by the purchaser subject to regulation by the Commissioner of Indian Affairs.

42. The time limit for the removal of the improvements and other property of the purchaser is 1 year after the expiration of the contract. After that time the title to improvements, including camps, will attach to the land, and no personal property of the purchaser will thereafter be removed except with the written consent of the officer in charge: *Provided*, That improvements necessary for the logging of other Indian timber may be left for such time and on such terms as may be prescribed by the Commissioner of Indian Affairs.

43. Extension of time for the performance of any contract may be granted the purchaser by the officer approving the contract, in his discretion and subject to such conditions as he may impose.

44. If extension of time to cut and remove the timber is not granted by the officer approving a contract, the purchaser can cut no timber after the expiration of the contract, but he may remove the timber, previously cut and paid for, within 1 year of the expiration of the contract. If not removed within the time allowed, the title will revert to the vendor notwithstanding the purchaser may have paid for the timber.

45. Assignment of any contract in whole or in part by the purchaser will not relieve him of his contract obligations unless the assignment is approved by the officer approving the contract nor until the bond is satisfactorily renewed.

46. Refunds of overpayments will be made to the purchaser by the approving officer provided all terms of the contract have been fulfilled, and the approving officer may also, in his discretion, reduce the amount of timber that is required by the contract to be paid for and removed in any one year.

47. Indian labor will be employed by the purchaser at the same wages as other labor and in preference to other labor not already in his employ whenever the Indian labor seeks employment and is competent.

48. All regulations relative to the maintenance of order on Indian reservations and the introduction of intoxicating liquors will be complied with by the purchaser.

49. In compliance with law and Executive order, no Member of Congress or any Delegate thereto shall have any interest, direct or indirect, in the contract of which these regulations are a part (sec. 3741, R. S., and secs. 114-116, act of Mar. 4, 1909, 33 Stat. L., 1109), and no person undergoing a sentence of imprisonment at hard labor shall be employed in carrying out any contract (Executive order, May 18, 1905). The cutting or removal of timber from Indian lands in breach of the terms of any contract and without other lawful authority, or the leaving of fires unextinguished, will render the offenders liable to the penalties prescribed by section 6 of the act of June 25, 1910 (36 Stat. L., 857). Section corners, quarter section corners, or meander posts on any Government line of survey shall not be destroyed, defaced, changed, or removed to any other place, nor shall any witness trees or any tree blazed to mark the line of a Government survey be cut down in the carrying out the provisions of this agreement. (See sec. 57, act of Mar. 4, 1909, 35 Stat. L., 1099.)

50. The expenses of examining, advertising, marking, sealing, and protecting the timber and of general supervision of the sale will be paid out of a timber expense fund, for which purpose not over 10 percent of the gross proceeds of the sale will be set aside.

51. All the records of the purchaser and his subcontractors pertaining to the logging operation and the manufacture and sale of the products thereof will be open to inspection at any reasonable time by the officer in charge or other officer designated by the Commissioner of Indian Affairs, and the information so obtained will be regarded as confidential. The purchaser will

furnish the officer in charge, at such times as he may request, the amount of lumber sold and the average grade prices received f. o. b. the mill during certain periods; also the amount of box lumber sold, with average price per M; the amount of ties and timber sold, with average price per M; and the amount of byproducts sold and the total receipts for same.

52. Suspension of the purchaser's operations may be made by the officer in charge if any requirements of the contract and of these regulations are disregarded and until there is satisfactory compliance. Persistent failure to comply with any one of the requirements of the contract or regulations after written notice addressed to the purchaser by the superintendent or the officer in charge will be ground for revocation by the officer approving the contract of all rights of the purchaser under this and other contracts and the forfeiture of his bond and of all moneys paid, and the purchaser will be liable for all damage resulting from his breach of contract.

53. Complaints by the purchaser arising from any action taken by the forest officer in charge under the terms of any contract will not be considered unless made in writing to the Commissioner of Indian Affairs within 30 days of the alleged unsatisfactory action.

54. The decision of the officer approving any contract will be final in the interpretation of the contract and of the regulations, and the terms of the contract or regulations cannot be varied in any detail without the written approval of the officer approving the sale.

55. Whenever any bond furnished to guarantee obligations under a sale shall be unsatisfactory to the officer approving the sale he may require a new bond which shall be satisfactory to him.

56. Failure of the purchaser to complete his contract or to log promptly an area damaged by fire, wind, insects, or other causes, or the commission by him of any act for which the officer approving his contract shall declare the contract forfeited, will render the purchaser and his bondsmen liable for the depreciation in the value of the remaining timber on an estimate of value and quantity to be made under the direction of the officer approving this contract.

The above General Timber Sale Regulations are hereby prescribed for use in all contracts for the sale of timber from Indian lands except as special provision shall be made by the Commissioner of Indian Affairs or the Secretary of the Interior in particular sales.



UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF INDIAN AFFAIRS



Contract No. I-101-Ind-1902

TIMBER CONTRACT

CRANE CREEK LOGGING UNIT

1. THIS AGREEMENT, made and entered into at the Western Washington Indian Agency, Everett, Washington under authority of the Act of June 25, 1910 (36 Stat. 857; 25 USC 406, 407) between the Superintendent of the Western Washington Indian Agency, hereinafter called the Superintendent, for and in behalf of the Indian owners, party of the first part; and ~~Superior Incorporated of Seattle, Washington~~, hereinafter called the Purchaser, party of the second part.

2. WITNESSETH, that the Superintendent in consideration of the agreements by the Purchaser, agrees to sell to the Purchaser, and the Purchaser agrees to buy upon the terms and conditions herein stated, and the Indian Bureau General Timber Sale Regulations, approved April 10, 1920, by the Assistant Secretary of the Interior, which are attached to and made a part of this contract, all the merchantable dead timber, standing or fallen, and all the merchantable live timber, marked or otherwise designated by the officer in charge for selective logging, as required by said General Timber Sale Regulations, located on unallotted land, and on trust allotments covered by contracts entered into pursuant to the terms hereof, within a tract designated as the Crane Creek Logging Unit on the Quinaielt Indian Reservation. The boundaries of the unit, which shall be marked on the ground, are shown approximately on the attached map which is made a part hereof, and are described approximately as follows:

Starting at a point on the northern Boundary of the Quinaielt Indian Reservation where the range line between Range 10 West and Range 11 West intersects said boundary, thence south along this range line to the North bank of the Quinaielt River, thence southwesterly along the Quinaielt River to a point 1/4 mile south of the center of Section 22, T. 22 N., R. 11 W., thence west along the south line of Indian Allotment No. 261 to the southwest 1/16 corner of said Section 22, thence North 1/4 mile to the quarter corner between Sections 21 and 22, thence West to the Quinaielt River, thence westerly along the north bank of the River to the approximate quarter corner between Sections 20 and 21, thence west to a point 1/4 mile east of the center of Section 19, thence north 1/4 mile, thence west to the range line between Ranges 11 and 12 West, thence north along the range line to the Township Corner common to T. 22 N., R. 12 W., T. 23 N., R. 12 W., T. 22 N., R. 11 W., and T. 23 N., R. 11 W., W.M., Thence West one mile, thence north to the North boundary of the Quinaielt Reservation, thence easterly along said boundary to the point of beginning.

1. THE SUPERINTENDENT AUTHORIZES THE PURCHASER, and the Purchaser obligates himself to enter into separate contracts on an approved form with such Indians holding trust patented allotments within the logging unit as desire to sell their timber, subject to the terms of this contract. THE PURCHASER FURTHER agrees to enter into said allotment contracts within thirty days from the date of submission of such contracts to him by the Superintendent.

4. THE APPROXIMATE AREA of the logging unit, exclusive of alienated land, is:

	Timbered land
	Acres
Unallotted land	<u>166</u>
Allotted land	<u>35,216</u>
Total	<u>35,382</u>

The Purchaser acquires no rights or interest whatsoever in and to approximately 440 acres of alienated land lying within the boundaries of this logging unit.

5. THE ESTIMATED VOLUME OF TIMBER TO BE CUT IS:

Species	Unallotted	Allotted	Total
Western red cedar	2,200,000	327,800,000	330,000,000 ft. BM
Sitka spruce	- - - -	16,000,000	16,000,000 " "
Douglas fir	100,000	9,900,000	10,000,000 " "
Amabilis fir	300,000	85,700,000	86,000,000 " "
Western white pine	- - - -	7,000,000	7,000,000 " "
Western hemlock and other species	500,000	164,500,000	165,000,000 " "
Total	3,100,000	610,900,000	614,000,000 " "
Cedar Poles	13,000	1,307,000	1,320,000 lineal ft.

It is mutually agreed that the foregoing are estimates only, and they shall not be construed as guarantees or limitations of the volumes of the several species of timber to be marked or otherwise designated for cutting under the terms of this contract. The actual volume of timber marked or otherwise designated for cutting shall be controlling, regardless of whether it is less or more than the above estimates.

6. FOR AND IN CONSIDERATION of the agreements by the Superintendent, the Purchaser agrees that prior to April 1, 1986 he will cut all timber covered by this contract, and will pay to the Indian Bureau Special Disbursing Agent for the Western Washington Indian Agency, hereinafter called the Special Disbursing Agent, for the use and benefit of the Indians entitled thereto, the full value of said timber as shall be determined on the basis of an actual log scale, at fixed rates per thousand feet, board measure, Scribner Decimal C Log Scale for saw timber which rates shall be established for each quarterly period beginning January 1, April 1, July 1, and October 1; PROVIDED, that the rates for the remainder of the quarterly period in which this contract is approved shall be the bid rates, as follows:

For western red cedar	<u>Thirteen</u> dollars and <u>20</u> cents
For Sitka spruce	<u>Ten</u> dollars and <u>0</u> cents
For Douglas fir	<u>Fifteen</u> dollars and <u>00</u> cents
For amabilis fir	<u>Six</u> dollars and <u>00</u> cents
For western white pine	<u>Eight</u> dollars and <u>00</u> cents
For western hemlock and other species	<u>Six</u> dollars and <u>00</u> cents
For cedar poles with not greater than 9" top diameter and no more than 18" butt diameter the initial rate shall be the bid rate of <u>.055</u> cents per lineal foot.	

7. FOR THE PURPOSE of determining the stumpage rates to be paid for saw logs in each succeeding quarterly period of this contract it is understood and agreed that the Bureau of Indian Affairs has calculated, for each species, from information published by the Pacific Northwest Loggers Association, the grade percentages of logs sold in the combined Grays Harbor-Puget Sound-Columbia River log markets during the five calendar years of 1946 to 1950 inclusive, excepting cedar which is calculated on a three-year average for the years 1948 to 1950 inclusive. It is further agreed that the Bureau of Indian Affairs has calculated, for each species, the average log grade prices in the same combined markets for the months of July, August, and September, 1951 from information published by the Pacific Northwest Loggers Association; and from the aforesaid calculations has determined the weighted average prices of logs for the months of July, August, and September, 1951 to be:

Western red cedar	\$56.74 per M ft. BM
Sitka spruce	\$51.05 per M ft. BM
Douglas fir	\$65.45 per M ft. BM
Amabilis fir	\$41.47 per M ft. BM
Western white pine	\$53.29 per M ft. BM
Western hemlock	\$39.61 per M ft. BM

A schedule of the aforesaid calculations and determination is on file at the Portland Area Office of the Bureau of Indian Affairs.

8. IT IS FURTHER AGREED That the stumpage rates for sawtimber appearing in Section 6 of this contract bear the following percentage relationships to the weighted average log prices appearing in Section 7 hereof:

Western red cedar stumpage to western red cedar log price	23.16%
Sitka spruce stumpage to Sitka spruce log price	21.16%
Douglas fir stumpage to Douglas fir log price	22.72%
Amabilis fir stumpage to amabilis fir log price	26.14%
Western white pine stumpage to Western white pine log price	26.14%
Western hemlock stumpage to western hemlock log price	16.16%
Other species stumpage to western hemlock log price	16.16%

9. THE PORTLAND AREA DIRECTOR of the Bureau of Indian Affairs or his duly authorized representative, hereinafter called the Area Director, shall obtain from the Pacific Northwest Loggers Association, through its published reports or otherwise, the average sales prices of logs in the Grays Harbor, Puget Sound, and Columbia River log markets for each quarterly period during the life of this contract or any extension thereof, and shall calculate the average log prices of each species on the same basis of log grade percentages as those used in determining the weighted average log prices stipulated in Section 7. In determining the stumpage rates for saw logs to be effective for any given quarterly period, the percentages stipulated in Section 8, or the percentages which may be subsequently established under the provisions of Section 10, shall be applied to the calculated Grays Harbor-Puget Sound-Columbia River average log prices for the preceding quarterly period, and the saw timber stumpage rates for each species so determined shall be the rates to be paid for timber actually scaled during such given quarterly period.

10. THE OFFICER APPROVING THIS CONTRACT or his duly authorized representative, hereinafter called the Approving Officer, may review, the stumpage rates established by the procedure set forth in Sections 6 to 9 inclusive, either on his own initiative or upon submission by the Purchaser of evidence satisfactory to the Approving Officer that such a review should be made. If, as a result of said review, the Approving Officer finds that the character of the operation, changes in market conditions, or other factors have altered the situation to such an extent that, in his opinion, a change in the existing ratios between stumpage rates and the Grays Harbor-Puget Sound-Columbia River weighted average log prices is warranted, he shall give thirty days notice to the Purchaser and the Indians in General Council or their authorized representatives of his intention to establish new ratios between stumpage rates and the Grays Harbor-Puget Sound-Columbia River weighted average log prices, during which time the Purchaser and the Indians may consult with the Approving Officer; PROVIDED, That the requirements of notice of this section shall be satisfied when the new ratios established under this authority are made effective upon the first day of a quarterly adjustment period which is not less than thirty days following notice by the Approving officer to the Purchaser and the Indians that he intends to proceed under the authority of this section to change such ratios; PROVIDED FURTHER, that there shall be no change in the ratio of any species until two years subsequent to the date of approval of this contract; and PROVIDED FURTHER, that the said ratio for any species shall not be changed oftener than once in any calendar year. The stumpage rate for cedar poles may be adjusted by the Approving Officer, at any time in accordance with the trend of the cedar pole market in the general locality of Grays Harbor. Notice of the new cedar pole stumpage rate will be furnished the Purchaser and the Indians at least thirty days prior to the date on which it will become effective.

11. NOTWITHSTANDING any other provisions of this contract it is mutually agreed that, in the event the said Pacific Northwest Loggers Association's Composite Sales Analyses are unavailable during any periods of this contract for use in connection with these stumpage adjustments, or in the opinion of the Approving Officer they do not properly reflect the true market value of the stumpage, the Approving Officer shall at any time, after giving thirty days notice to the Purchaser and to the Indians in General Council or their authorized representatives, during which time they may consult with the Approving Officer, proceed to revise stumpage rates in this contract as the trend of economic conditions in the West Coast forest products industries shall warrant; PROVIDED, that the requirements of notice in this section shall be satisfied when the new rates established under this authority are made effective thirty days after notice by the Approving Officer to the Purchaser and the Indians that he intends to proceed under the authority of this section to revise stumpage rates; PROVIDED FURTHER, that the requirements of quarterly adjustment of stumpage rates shall not apply to the procedure authorized by this section.

12. IT IS FURTHER UNDERSTOOD AND AGREED that stumpage rates will never, in any event, be reduced below the following:

\$3.50 per M feet, BM for western red cedar
\$4.00 per M feet, BM for Sitka spruce
\$4.25 per M feet, BM for Douglas fir
\$1.00 per M feet, BM for Amabilis fir
\$3.50 per M feet, BM for Western white pine
\$1.00 per M feet, BM for Western hemlock and other species
\$0.02 per lineal foot for cedar poles

13. THE PURCHASER FURTHER AGREES that prior to the time when the stumpage value of the timber cut from both allotted and unallotted lands shall exceed the cash deposit of \$190,000.00 submitted with his proposal to purchase timber, he will make another cash deposit of \$25,000.00 and subsequent deposits of \$25,000.00 at such times as may be necessary to insure that the stumpage value of the timber cut and not paid for at any time shall not exceed the cash deposit then in the hands of the Special Disbursing Agent, PROVIDED, that in the discretion of the Area Director, the last cash deposit in any logging season may be in the sum of not less than \$10,000.00.

14. THE PURCHASER FURTHER AGREES that within thirty days from the date of approval of the contract on each allotment he will pay twenty-five per cent of the estimated value of the timber thereon as an advance payment, and further, that within three years from the approval of such contract he will pay an additional fifteen per cent of the estimated value of the timber as an advance payment, and an additional ten per cent as an advance payment within six years of approval of the allotment contract; PROVIDED, that with respect to each allotment contract, no advance payment will be required in an amount that will make the sum of that payment, plus all previous advance payments, plus all advance deposits previously applied against timber cut from the allotment, exceed fifty per cent of the estimated value of the timber; PROVIDED FURTHER, that the estimated value of the timber shall be determined by multiplying the volumes of each species estimated to be cut by the following corresponding rates:

Western red cedar	\$13.30 per M ft. BM
Sitka spruce	\$10.80 " " " "
Douglas fir	\$15.00 " " " "
Amabilis fir	\$ 6.65 " " " "
Western white pine	\$ 8.80 " " " "
Western hemlock and other species	\$ 6.40 " " " "
Western red cedar poles	\$ 0.055 per lineal foot

PROVIDED FURTHER, that the stumpage rates governing at the time the timber is scaled shall be the rates charged for the timber actually cut. IT IS MUTUALLY UNDERSTOOD AND AGREED, that the Area Director, on his own initiative or upon submission by the Purchaser of evidence satisfactory to the Area Director, in his discretion may revise the estimated volume of timber on any allotment because of errors in estimate, or because of fire or other losses not due to any act or neglect of the Purchaser, but not because of depletion through cutting under authority of the allotment contract, PROVIDED, that in case the advance payments made on any allotment contract exceed the total value of timber cut and removed from the allotment by the Purchaser, it is mutually agreed that such advance payments are declared to be the value of such timber so cut and removed.

15. THE PURCHASER FURTHER AGREES that he will, unless relieved by the Commissioner of Indian Affairs, cut and pay for from some portion of the sale area, including allotments, at least 20,000,000 feet, board measure, Scribner Decimal C Log Scale, prior to April 1, 1954 and not less than 20,000,000 feet board measure in any twelve months ending March 31 thereafter during the life of this contract. PROVIDED, that all timber on this unit must be cut and paid for prior to the contract expiration date; that he will pay for, as merchantable timber, pieces twelve feet and longer, will utilize the trees to a diameter of ten inches in the tops where

straight and sound, and will pay for all timber, except cedar poles, on the basis of a scale recognizing 40 feet as the maximum length of a single log; and that all logs will be considered merchantable as provided in the attached General Timber Sale Regulations or as otherwise provided in Section 21 of this contract.

16. THE CUT in any contract logging year ending March 31, not including cutting deficiencies from any previous year or years, shall not exceed 35,000,000 feet board measure, Scribner Decimal C Log Scale, without the written consent of the Area Director. Logging performance in any contract logging year beyond the minimum required therefor shall not be applied against the cutting requirements of subsequent years without the written consent of the Area Director.

17. IT IS UNDERSTOOD AND AGREED, that the volume of timber cut under this contract in any contract logging year ending March 31 shall not be credited against the minimum cutting requirements of that year until the Purchaser has cut and made available for scaling in the usual manner a volume of timber equal to that of the existing unexcused deficiencies in cutting requirements of the preceding year or years; PROVIDED, that all timber cut during the quarter-annual period or periods in which there remains an unexcused deficiency in cutting requirements of a previous year, shall be paid for at the stumpage rates in effect at the time of scaling said timber or at the rates that were in effect on March 31 of the year in which the deficiency in cutting occurred, whichever are the higher. PROVIDED FURTHER, that the Commissioner of Indian Affairs may relieve the Purchaser in whole or in part from the minimum cutting and paying requirements because of adverse operating or market conditions, fire damage to the Purchaser's manufacturing plant, acts of God or Government control, or for other cause deemed sufficient by him.

18. THE PURCHASER FURTHER AGREES that if fire, for the starting or spread of which he, or any of his employees, his sub-contractors, or their employees, are responsible by act or neglect, shall destroy young growth under ten inches in diameter on any portion of the reservation, he will pay liquidated damages of twenty dollars (\$20.00) per acre for the area thus burned over unless a lesser rate of damages shall be approved by the Approving Officer; and he agrees that in addition to these liquidated damages, he will pay the damage that shall be caused to all timber ten inches and larger in diameter at four and one-half feet from the ground or to any other property of the Indians or the Government. Should merchantable timber be injured by a fire for the origin or spread of which the Purchaser, his agents, employees, sub-contractors or their employees, are in no way responsible, said Purchaser shall be accountable for the loss sustained only to the extent that such loss shall be due to his failure to cut and remove the injured timber as expeditiously as shall be possible under the existing circumstances and the terms of this contract.

19. IT IS UNDERSTOOD AND AGREED, that in addition to the provisions of Section 5 of the attached General Timber Sale Regulations, this contract is subject to any existing rights of way.

20. THE PURCHASER AGREES that he will re-establish individual allotment boundaries and corners, and will keep them clearly marked while logging is in progress. The re-established boundaries and corners shall be verified by the Officer in Charge before logging on an allotment is begun. THE PURCHASER ALSO AGREES to brand all logs and other forest products on each allotment, as prescribed by the Officer in Charge, in order to permit ready identification at the point of scaling, and for

this purpose he shall register with the State of Washington a sufficient number of brands to provide a separate brand for each allotment on which operations may be in progress at any one time, such brands to be designated for exclusive use on logs and other forest products cut under this contract.

21. IN LIEU OF THE SCALING PROCEDURE stipulated in the General Timber Sale Regulations, it is mutually agreed that the Commissioner of Indian Affairs, hereinafter called the Commissioner, in his discretion and for such periods as he may elect, may require that logs cut under this contract shall be scaled by a log scaling organization, hereinafter referred to as the scaling bureau, to be designated by the Commissioner. The designated scaling bureau shall be one that is recognized as competent by the lumber industry. Scaling by a log scaling bureau shall not be exclusive so as to prevent scaling, in the manner stipulated in the General Timber Sale Regulations, of material that is not delivered to the point of bureau scaling. Should the Commissioner intend to change from one scaling procedure to the other he shall notify the Purchaser in writing not less than thirty days prior to the effective date of such change. The following general conditions shall apply to bureau scaling:

Upon notification by the Commissioner that the services of a log scaling bureau are required, the purchaser shall enter into an appropriate agreement with the designated scaling bureau for the performance of all necessary scaling and reporting services, and shall promptly submit to the Commissioner certified copies of such agreement in triplicate.

The agreement shall provide for the prompt scaling of all material upon delivery to the place of scaling. It shall also provide for prompt submission to the Superintendent of certified copies of each and every scale report, showing the species, volume, grade, and brand of each log scaled; with such safeguards being included in the agreement as the Commissioner may deem necessary to insure an accurate accounting to the Superintendent of all logs that are presented to the scaling bureau for scaling.

The scaling bureau's rules respecting scaling, grading, and merchantability shall apply.

The Purchaser shall pay the scaling bureau for all services rendered by it under the agreement.

No logs shall be moved from the place of scaling until they have been scaled. Customary methods employed by the scaling bureau for indicating completion of the scaling shall be accepted in lieu of the numbering and stamping of logs stipulated in Section 22 of the General Timber Sale Regulations.

22. IT IS MUTUALLY AGREED that the Purchaser shall have all reasonable latitude in his logging operations consistent with the requirements of selective logging and the other requirements of this agreement. In order to assist in meeting these requirements, and in addition to Section 9 of the General Timber Sale Regulations, the Purchaser agrees to submit a plan of his logging operations for each contract logging year beginning April 1, said plan to be of a form satisfactory to the Area Director. The Purchaser further agrees that he will undertake no logging

operations in any contract logging year until the Area Director shall have approved, in writing, the plan of operations for such logging year; PROVIDED, that there shall be no departure from the approved plan of operations without the consent, in writing, of the Area Director.

23. THE PURCHASER FURTHER AGREES THAT on all roads constructed or improved by him in connection with the logging of timber under this contract, and all bridges, trestles, drainage structures and like improvements will be left intact at the completion of logging operations and will become the property of the United States for the use and benefit of the Quinaielt Indians when the contract is completed. The Purchaser further agrees that, in the event he shall use existing Indian Service roads in connection with the logging of the timber under this contract, he will properly maintain such roads.

24. THE PURCHASER shall furnish and maintain in good and serviceable condition such fire fighting tools and equipment, and provide such fire protection personnel as may be required by the Area Director to meet the fire protection requirements of the contract, the General Timber Sale Regulations, and the existing fire danger hazards or risks. The requirements shall not be less than are required under laws of the State of Washington.

25. THE PURCHASER FURTHER AGREES that within one year from completion of logging on any spur or main logging road he will cause all snags more than fourteen inches in diameter at four and one-half feet from the ground and more than sixteen feet in height from the ground to be felled unless relieved by the Area Director. The Area Director may relieve the Purchaser in whole or in part of the requirements of Sections 25 and 26 of the General Timber Sale Regulations. Waivers of snag felling requirements or the requirements of Sections 25 and 26 of the General Timber Sale Regulations shall always be specific with respect to areas involved, and will not be considered valid unless made in writing.

26. IT IS UNDERSTOOD AND AGREED, that after the close of each calendar year, and in any event not later than the date specified by the Area Director, the purchaser will submit to the Commissioner of Indian Affairs, through the Area Director, a financial statement of operations and sales in triplicate for the calendar year just ended. Such statements shall be of a form satisfactory to the Commissioner of Indian Affairs, and shall be certified by a certified public accountant and the Purchaser.

27. IT IS FURTHER UNDERSTOOD AND AGREED that this contract shall be null and void and of no effect until approved by the Secretary of the Interior and until the latter shall approve a bond in the penal sum of \$100,000.00 conditioned on the faithful performance of all the terms of this contract and the General Timber Sale Regulations attached hereunto:

Signed and sealed in sextuplet this 18th day of June, 1952.

RAYQUIP, INCORPORATED

(Purchaser)

By

(Title) C. D. ... President

ATTEST:

Robert L. Lingelbach
(Secretary) Robert L. Lingelbach

Witness:

Anna ...
Arthur ...

Raymond H. Litney
(Superintendent)
Raymond H. Litney, Superintendent,
Western Washington Agency

Signed this 18th day of June, 1952, for the Quinalt Tribal Council pursuant to the action of the council in a meeting held at the Taholah, Washington, on the 14th day of June, 1952.

Cleveland Jackson
(Title) Cleveland Jackson, Chairman

ATTEST:

Theodore Strom
(Secretary) Theodore Strom

JUN 30 1952

Approved _____, 19__

R.A. Seales

Secretary of the Interior

DEPARTMENT OF THE INTERIOR
BUREAU OF INDIAN AFFAIRS
RECEIVED
SEP 25 1959
11870
WASHINGTON, D. C.

MODIFICATION OF CONTRACT

Crane Creek Logging Unit
Contract No. I-101-Ind-1952

THIS AGREEMENT entered into at the Western Washington Indian Agency, Everett, Washington, between the Superintendent of the Western Washington Indian Agency, hereafter called the "Superintendent", for and in behalf of the Indian owners, and Payonier Incorporated, of Hoquiam, Washington, hereafter called the "Purchaser",

WITNESSETH: The contract covering the Crane Creek Logging Unit, No. I-101-Ind-1952, dated June 18, 1952, between the Superintendent and Payonier, Incorporated, approved June 30, 1952, is hereby modified as follows:

1. Section 15 of said contract, which specifies the minimum annual cutting requirements, is hereby amended by inserting the figure 25,000,000 in place of the figure 20,000,000 at lines 3 and 4, it being understood and agreed that this change shall be effective in the contract year beginning April 1, 1953, and in each subsequent contract year. All other provisions of section 15 remain unchanged.
2. Section 16 of said contract, which stipulates the maximum allowable annual cut, is hereby amended by inserting the figure 30,000,000 in place of the figure 25,000,000 at line 2, it being understood and agreed that this change shall be effective in the contract year beginning April 1, 1953, and in each subsequent contract year. All other provisions of section 16 remain unchanged.
3. The basic measurement for all timber produced on the sale area, excepting cedar poles, shall continue to be the Scribner Decimal C Log Scale but products other than saw logs and cedar poles will be scaled or measured by the method or methods set forth in Section 4 of this modification in accordance with the following conversion table:
 - One cord equals 123 cubic feet of stacked wood cut in pieces 8 feet or shorter.
 - Ninety cubic feet, Sorenson scale equals one cord.
 - One cord equals 500 board feet, Scribner Decimal C.
 - 500 shake boards equal one thousand board feet, Scribner Decimal C.
4. Products produced under this modification will be scaled, measured or tallied in accordance with the following procedure:

a. Cortwood, including Plywood, Shingle bolts and other products, may be sealed prior to cutting, using Foreman's Chain-Top Log scale rule, when in the judgment of the Officer in Charge, it will not be practicable for cortwood, when cut, to be transported to a central check point. Otherwise all cortwood will be measured in cords at check points designated by the Officer in Charge. For the purpose of this provision, timber cut in lengths of eight feet or shorter will be considered as cortwood coveat pieces that are of select or better grade as defined under the rules of the Gray Harbor Log Scaling and Grading Bureau and its affiliates. Pieces longer than eight feet may also be sealed as cortwood if they are of less than merchantable sawlog diameter and are produced as a part of the salvage operation.

b. Shake Boards will be tallied and recorded by thousands of pieces, at designated check points as determined by the Officer in Charge.

5. Salvage re-logging operations will not be commenced in any area until logging of merchantable timber as defined in the original contract has been completed and pick-up scale made, after which the purchaser and the forest officer in charge shall designate the areas which are to be excluded from the provisions of this modification of the contract. In the event of disagreement between these representatives of the respective parties concerning the exclusion of such areas, the salvage operations provided for under this provision of the modified contract shall not be applicable. In all such excluded areas of the salvage operations, the forest officer shall not scale the salvage material, and no obligations shall exist under this amendment to the contract for the purchaser to take and pay for the salvage material within such excluded areas. The said purchaser hereby agrees to purchase and remove such timber and material as may be so designated or otherwise marked by the forest officer in charge and to pay for such material at the rate of \$1.50 per cord for yellowwood, \$1.75 per cord for Shingle bolts, and other cedar cortwood, excepting yellowwood, and \$15.00 per M boards for shake boards, which rates shall apply until and unless changed pursuant to section 6 of this modification.
6. The officer approving this modification of contract or his duly authorized representative, hereinafter called the Approving Officer, may review the stumpage values of forest products produced upon these salvage operations, either on his own initiative or upon submission by the purchaser of evidence satisfactory to the Approving Officer that such a review should be made. If, as a result of said review, the Approving Officer finds the established rates for such forest products no longer represent their true value, he shall give 30 days' notice to the purchaser of his intention to establish new stumpage rates, during which time the purchaser may consult with the Approving Officer; PROVIDED, that the requirements of notice shall be satisfied when the new rates established under this authority are made effective upon the first day of any month which is not less than 30 days following notice by the Approving Officer to the purchaser that he intends to proceed under the authority of this Section to change such rates;

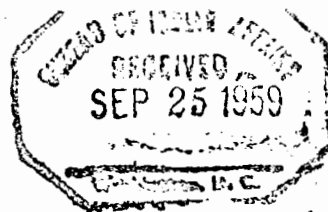
PROVIDED FURTHER, that there shall be no change in such storage rates until six months subsequent to the date of approval of this modification of contract; and PROVIDED FURTHER, that such storage rates shall not be changed oftener than once in any calendar year.

7. It is further agreed that in the event the purchaser does not concur with the forest officer in charge as to re-logging of any particular cutover area, the Superintendent of the Western Washington Indian Agency may proceed to make salvage sales on such areas to other purchasers under authority of Section 5 of the General Timber Sale Regulations.
8. It is further agreed that the purchaser and the forest officer in charge shall designate areas to be pre-logged to effect the removal of small trees prior to logging of the remainder of the stand with high-lead or other standard logging methods. Timber removed in such pre-logging operations may be produced in the form of cordwood from standing or down timber of any size and will be paid for at the contract rate per 11 board feet established for saw timber for each species. If two or more species are corded together in such a way that it is not practicable to determine the scale by species, the rate of the highest price species in the load or pile will be applied. It is further agreed that, at the request of the purchaser, entire blocks of timber may be designated for production entirely as cordwood under the same provisions as for pre-logging operations as set forth in this Section if, in the judgment of the forest officer in charge, such procedure will result in more complete utilization and greater returns to the owners.
9. It is further agreed that the definition of terms appended hereto is a part of this modification of contract.
10. It is mutually agreed that Sections 3 to 9 inclusive of this modification shall not apply to any individual allotment contract executed under authority of contract No. I-101-Ind-1902 if, prior to the approval of this modification, the Power of Attorney granted the Superintendent to execute the contract has been revoked or a patent in fee to such allotment has been issued.
11. It is mutually agreed that all provisions and conditions stipulated in the contract not herein expressly modified shall continue in force and effect.
12. This modification shall become effective on the date of approval by the Commissioner of Indian Affairs.

Definitions of Terms as Used in This
Modification of Contract

1. "RE-LOGGING" or "SALVAGE-LOGGING" -
These terms are used synonymously. Re-logging is a clean-up operation following original logging operations to salvage residual material that is merchantable in some form of forest product but which was not suitable for saw timber as defined in the original contract.
2. "PRE-LOGGING" - is the term applied to the harvesting of specified trees or classes of timber from a cutting block prior to regular logging operations.
3. "HIGH-LEAD" - is the type of logging commonly used for harvesting timber in West Coast logging operations. It consists of skidding logs to a central landing by means of cable, threaded through a block that is suspended near the top of a spar tree. The spar tree is supported by guy lines. As used in this report, high-lead may also include skyline or skidder logging which also use a "high-lead" at the landing.
4. "PICK-UP SCALE" - is a scale, with Scribner Decimal C. Log Rule, of material left on the ground after original logging operations have been completed. This scale is made by Bureau of Indian Affairs forestry personnel and includes all material left that, in the forest officer's judgment, should have been logged as saw timber in accordance with the terms of the contract.
5. "FULLWOOD" - as used in this report, is a term applied to material produced in the form of cordwood that is intended for manufacture into pulp. The primary species involved is Western hemlock, but any species may be included.
6. "SHINGLE BOLTS" - are blocks of cedar, cut 4 feet 4 inches (4'4") in length, which are intended for manufacture into sawed shingles. Practically, shingle bolts are four-foot cedar cordwood.
7. "SHAKE BOARDS" - are split cedar boards, 2 $\frac{1}{2}$ " thick, 6" wide and 25" long. Width of boards may vary but 6 inches is the accepted standard.

RESOLUTION NO. _____
OF THE
QUINULT INDIAN TRIBE



Taholah, Washington
8/16, 1959

WHEREAS, Rayenier Incorporated is the purchaser of timber on the
Crane Creek Logging Unit, Quinault Indian Reservation, under contract No.
I-101-Ind-1902, dated June 13, 1952, and approved June 30, 1952, and

WHEREAS, it is now proposed to modify said contract to provide:

1. An increase in the required minimum annual cut
from 20 million to 25 million board feet.
2. An increase in the maximum allowable annual cut
from 35 million to 50 million board feet.
3. Salvage re-logging of merchantable material left
on the ground following logging which is not defined as mer-
chantable under the existing contract, and other provisions.

THEREFORE BE IT RESOLVED, that the proposed modification of
contract is approved, and Mr. Cleveland Jackson, President of the Quinault
Tribal Business Committee is hereby authorized to sign the Modification of
Contract on behalf of the Quinault Tribe.

Signed this 8 day of Aug, 1959.

QUINULT TRIBAL BUSINESS COMMITTEE

Frank Pickernell

Horton Caplan

Harold C. Hobbs

Dave Purdy

ATTEST:

Cleveland Jackson
President

Shirley M. Briston
Secretary

The foregoing resolution was adopted by the Quinault Tribal Council
at a meeting held on Aug 8, 1959, at which time a quorum was present
by a vote of 4 for and 0 against.

Forestry
60-11-7-- 339.5
Crane Creek

EEW	<input checked="" type="checkbox"/>
KFH	<input checked="" type="checkbox"/>
PSVS	<input type="checkbox"/>
	<input type="checkbox"/>
	<input type="checkbox"/>
	<input type="checkbox"/>
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Handwritten notes:
H...
W...
M...

OCT 8 1964

Mr. George M. Felshaw

Superintendent, Western Washington Agency

Dear Mr. Felshaw:

We are enclosing a copy of letter dated October 2, 1964, signed by Deputy Commissioner Crow. The letter pertains to revoking of the maximum annual cut under the Crane Creek Logging Unit contract.

In accordance with suggestions included in the Deputy Commissioner's letter, we are authorizing the purchaser, in accordance with Section 16 of the contract, to cut any amount in excess of 35 million board feet, Scribner Decimal C, log scale, in any contract logging year ending March 31. The authority will continue until revoked in writing by the Area Director.

We are furnishing you with three copies of our letter to Rayonier Incorporated, containing the authority referred to in the preceding paragraph. Please send one copy to the Surety Company and one copy to the Quinault Tribal Representatives.

Sincerely yours,

((Sgd)) PERRY E. SKARRA

Assistant Area Director

Enclosures (4)

cc:
Hoquiam Subagency w/enclosure
Commissioner, Attn. Br. of Forestry

Branch subject
Branch chrony
Yellow chrony

KWHadley:du - 10/8/64

Hadley
Wilson
Sign

FRF	<input checked="" type="checkbox"/>
JFD	<input type="checkbox"/>
KWH	<input checked="" type="checkbox"/>
ESVS	<input type="checkbox"/>
LHD	<input type="checkbox"/>
LEW	<input type="checkbox"/>
	<input type="checkbox"/>
	<input type="checkbox"/>

JAN 21 1964

Mr. George M. Falshaw

Superintendent, Western Washington Agency

Dear Mr. Falshaw:

With your letter dated January 16, 1964, you transmitted a letter dated January 14, 1964, from Rayonier Incorporated. The company requests that the maximum allowable annual cut under the Crane Creek Logging Unit contract be increased from 50 million board feet to 65 million board feet. The request applies to the contract year ending March 31, 1964.

Section 16 of the Crane Creek Contract No. I-101-Ind-1902, as amended October 14, 1959, provides that the maximum allowable cut during any logging year ending March 31, shall be 50 million board feet. Section 10 provides that the maximum allowable cut may be exceeded with the written consent of the Area Director.

We are hereby authorizing Rayonier Incorporated to cut 65 million board feet of timber from the Crane Creek Unit during the logging year ending March 31, 1964. Please advise Rayonier Incorporated of this authority and furnish them with a copy of this letter.

Sincerely yours,

(Sgd) FRED E. STARBA

Acting Area Director

cc:
Commissioner, Attn. Br. of Forestry
w/copy of Purchaser's Request
Hoquiam Subagency

-- Branch subject
Branch chrony
Yellow chrony

KWHadley:du
1/20/64

ERW	
JPD	✓
EMH	
FSY	7/5
DHD	
LBW	3/4
VZS	✓
KUT	✓

Handwritten signatures and initials:
 [Signature]
 [Signature]
 [Signature]

FEB 27 1963

Mr. George M. Felshaw
 Superintendent, Western Washington Agency

Dear Mr. Felshaw:

In a letter dated February 21, 1963, which was transmitted with your letter of February 25, 1963, Rayonier Incorporated requested permission to cut a total of 62 million feet board measure from the Crane Creek Logging Unit during the current logging year ending March 31, 1963.

While the Crane Creek Contract No. I-101-Ind-1902 provides for a maximum annual allowable cut of 50 million board feet, Section 16 of the contract provides that the maximum allowable cut may be exceeded with the written consent of the Area Director.

We concur with your recommendation that the request of Rayonier Incorporated be granted. Please notify the purchaser that the Area Director has approved an increase in the annual allowable cut of 12 million board feet during the logging year ending March 31, 1963.

Sincerely yours,

(Sgd) PERRY E. SZARBA

Assistant Area Director

- cc:
 ✓ Branch subject
 Branch chrony
 Yellow chrony

JPDrummond:du
 2/27/63

Hadley
W. S. ...
Van ...

FEB 12 1962

Mr. C. W. Ringey
Superintendent, Western Washington Agency

Dear Mr. Ringey:

With your letter dated February 8, 1962, you transmitted a request of February 5, 1962, from Rayonier Incorporated for a total of 56 million feet, B.M. to be cut on the Crane Creek Logging Unit during the logging year ending March 31, 1962.

Section 16 of the Crane Creek Contract No. 1-101-Ind-1902, as amended October 14, 1959, provides that the maximum allowable cut during any logging year ending March 31, shall be 50 million board feet. Section 16 further provides, however, that the maximum allowable cut may be exceeded with the written consent of the Area Director.

You are hereby notified that authority is granted for Rayonier Incorporated to cut 56 million feet, B.M. during the logging year ending March 31, 1962.

Sincerely yours,

(Sgd) R. D. SOLTZ

Area Director

cc:
Commissioner, Attn. Branch of Forestry
w/enclosures (3)
Hoquiam Subagency

Branch subject ✓
Branch chrony
Yellow chrony

KWHadley:du
2/12/62

Portland Area Office
Post Office Box 4007
Portland 8, Oregon

W. Weaver
J. J. [unclear]
elzy
APR 22 1960

Mr. Clarence W. Ringey

Superintendent, Western Washington Agency

Dear Mr. Ringey:

This is in reply to your letter of April 21, 1960 with which you transmitted a request of April 18, 1960 from Rayonier Incorporated for authority to cut 60 million feet board measure in the Crane Creek Logging Unit during the logging year, ending March 31, 1961. You also requested the Area Director to approve a change in the logging plan that had been proposed by Rayonier Incorporated and in which you have commented.

Section 16 of the Crane Creek Contract No. E-191-Sub-1202, as amended October 14, 1950, provides that the maximum allowable cut during any logging year, ending March 31, shall be 20 million board feet. Section 15 further provides, however, that the maximum allowable cut may be exceeded with the written consent of the Area Director. Section 22 of the Contract further provides that the Area Director shall approve in writing the plan of operations for any logging year.

You are hereby notified that authority is granted for Rayonier Incorporated to cut 60 million feet board measure during the logging year ending March 31, 1961. This is also to indicate that we have approved the logging plan as submitted with your letter of April 21.

Sincerely yours,

Walter W. B. [unclear]
Acting Area Director

Copy to: Central Office, Attn. - Br. of Forestry
(with enclosure) - Mr. Ringey's letter 4/21/60, Rayonier letter
4/12/60 and asp.
Branch subject
Branch chrony
Yellow chrony

HWeaver:du
4/22/60

Copy of this letter filed in Logging Plans, Crane Creek Unit (Rayonier Incorporated) for 1960.

Portland Area Office
Post Office Box 4097
Portland 8, Oregon

Hatch
JPM

FEB 19 1960

Rayonier Incorporated
Eighth & Love Streets
Hoquiam, Washington

Gentlemen:

Your letter of February 15, 1960 to the Superintendent, Western Washington Indian Agency, requested that you be permitted to cut 5,000,000 feet, board measure, of timber from the Crane Creek Logging Unit in excess of the maximum allowable annual cut of 50,000,000 feet, board measure, for the annual period ending March 31, 1960. Western Washington Agency has recommended that your request be granted.

In accordance with your request and the Agency's recommendation, and pursuant to the authority contained in Section 16 of Timber Contract No. I-101-Ind-1902, Rayonier Incorporated is hereby authorized to cut a total of 55,000,000 feet, board measure, Scribner Decimal C Log Scale for the contract logging year ending March 31, 1960.

Sincerely yours,


Area Director

Copy to: Commissioner, BIA (Forestry)
Supt., Western Washington Agency
Hoquiam Substation
Branch subject
Branch chrony
Yellow chrony

LEHatch:EJM
2-19-60

Portland Area Office
Post Office Box 4097
Portland 8, Oregon

Handwritten notes:
Hatch
100
H
L

MAR 20 1959

Kayouier Incorporated
Eighth & Lovee
Hoquiam, Washington

Gentlemen:

After reviewing your request of February 9, 1959 for an additional cut of 5,000,000 feet, authority was granted on February 24, pursuant to Section 16 of the Grace Creek Logging Unit contract, to cut a total of 40,000,000 feet, board measure, for the current logging year ending March 31, 1959.

Our Western Washington Agency has referred your request of March 17 for an additional 1,500,000 feet, board measure, for this logging year in order to prevent curtailment of operations for the balance of this month. Your request is hereby authorized and the total cut allowable under the contract is 41,500,000 feet, board measure, for the logging year ending March 31, 1959.

Sincerely yours,

Area Director

Copy to: Commissioner, BIA (Branch of Forestry)
Supt., Western Washington Agency
Hoquiam Substation, Hoquiam, Washington
Branch subject
Branch chrony
Yellow chrony

LEHatch/EJM:EJM
3-19-59

Re: Cont. #1-101-Ind-1902

Portland Area Office
Post Office Box 4097
Portland 3, Oregon

Drummond
FEB 24 1959

Rayonier Incorporated
Eighth and Levee
Hoquiam, Washington

Gentlemen:

In your letter dated February 9, 1959, you requested permission to cut 5,000,000 feet board measure of timber from the Crane Creek Unit in excess of the maximum annual cut of 35,000,000 feet board measure provided for in the contract. Section 16 of the Crane Creek Logging Unit contract reads as follows:

"THE CUT in any contract logging year ending March 31, not including cutting deficiencies from any previous year or years, shall not exceed 35,000,000 feet board measure, Scribner Decimal C Log Scale, without the written consent of the Area Director. Logging performance in any contract logging year beyond the minimum required therefor shall not be applied against the cutting requirements of subsequent years without the written consent of the Area Director."

In accordance with your request and pursuant to the authority contained in the above section, Rayonier Incorporated is hereby authorized to cut a total of 40,000,000 feet board measure, Scribner Decimal C Log Scale for the 12-month period ending March 31, 1959.

Sincerely yours,

[Signature]
Acting Area Director

cc: Central Office
Western Washington Agency
Hoquiam Substation
Branch subject
Branch chrony
Yellow chrony
JPDrummond:lhz 2-24-59

Forestry
339.5

Contract I-101-Ind-1902
Crane Creek Logging Unit

Portland Area Office
Post Office Box 4297
Portland 8, Oregon

FEB 11 1957

Rayonier Incorporated
Eighth and Levee
Hoquiam, Washington

Gentlemen:

We have reviewed a copy of Mr. L. J. Forrest's letter of January 14, 1957 to the Superintendent, Western Washington Agency, in which he requested an additional cut of five million feet, making a total of 40 million feet, to be removed from the Crane Creek Logging Unit for the logging year ending March 31, 1957.

We have also reviewed Mr. Forrest's letter of February 11, 1957 to the Superintendent, in which Rayonier Incorporated agrees to pay for the timber cut in excess of the maximum allowed, at rates now in effect or at rates to be effective April 1, 1957, whichever are greater.

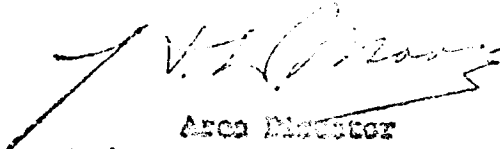
At Mr. Forrest's request and pursuant to the authority under Section 16 of Timber Contract No. I-101-Ind-1902, Rayonier Incorporated is hereby authorized to cut a total of 40 million feet, board measure, Northern Decimal 8 Log Scale, for the twelve-month period ending March 31, 1957, subject to Rayonier Incorporated paying for the timber cut in excess of 35 million feet, at stumpage rates effective as of January 1, 1957, or at stumpage rates to be effective as of April 1, 1957, whichever stumpage rates are the higher.

Please have the authorized officers of Rayonier Incorporated execute this letter agreement below.

Copy to Prop. Mgmt. Mar. 13, 1957
M.W.

Please return the original and four copies of this letter for our distribution. You may keep one copy for your records.

Sincerely yours,



Area Director

Enclosures (in copylet)

Concurred in by:

RAYWISE INCORPORATED

ASST:



Assistant Manager

Northwest Timber Division
(110)

Secretary

(111)

Handwritten signature

cc: Central Office
Attn: Forestry
Branch subject ✓
Branch chrony
Yellow chrony

Portland Area Office
Post Office Box 4097
Portland 6, Oregon

MAR 9 1956

Mr. C. W. Kingey
Superintendent, Western Washington Agency

Dear Mr. Kingey:

Reference is made to your letter of March 2, 1956, enclosing a letter dated March 1, 1956, from Ragonier, Incorporated in which they requested permission to cut an additional 4,000,000 feet more than is presently provided for under the terms of the Croze Creek contract and the authority granted by the Area Director's letter of September 20, 1955. You recommend that the request of Ragonier, Incorporated be approved.

Section 16 of the Croze Creek contract provides in part:

"The cut in any contract logging year ending March 31, not including cutting deficiencies from any previous year or years, shall not exceed 55,000,000 feet board measure, Scribner Decimal O Log Scale, without the written consent of the Area Director."

It was under this authority that by our letter of September 20 we granted Ragonier, Incorporated permission to cut 45,000,000 feet, board measure, from the Croze Creek Unit during the logging year that will terminate on March 31, 1956.

We believe that it will be in the best interest of the Indians if they are allowed to cut an additional 4,000,000 feet during the logging year and, therefore, authority is granted to Ragonier, Incorporated to cut 47,000,000 feet, board measure, from the Croze Creek Unit during the logging year that will terminate on March 31, 1956.

Enclosed is a signed copy of this letter for transmittal to the purchaser which will serve as evidence that the additional cut has been approved by the Area Director.

Sincerely yours,



Area Director

Enclosure

JPDrummond:bjc
3/9/56

Forestry
577-52
339.5

Portland Area Office
Post Office Box 4077
Portland 3, Oregon

Wheeler
951
J.E.H.

September 20, 1955

Raynier, Incorporated
Eighth and Love
P. O. Box 539
Hoquiam, Washington

Attn: Mr. L. J. Forrest
Lend Department

Gentlemen:

Reference is made to your letter of August 17, 1955,
wherein you request authority to cut 43 million feet B.M. on the
Crane Creek Logging Unit during the logging year that will terminate
on March 31, 1956.

Section 16 of the Crane Creek contract provides in part:

"The cut in any contract logging year ending March 31,
not including cutting deficiencies from any previous year or
years, shall not exceed 35,000,000 feet board measure, Scribner
Decimal C Log Scale, without the written consent of the Area
Director."

We are in agreement that the cut can be increased during the
current logging year. Therefore, authority is granted to Raynier,
Incorporated to cut 43 million feet B.M. from the Crane Creek Unit
during the logging year that will terminate on March 31, 1956.

Sincerely yours,

[Handwritten Signature]

Area Director

cc: Central Office
Western Wash.

Mcaver:ha