

OREGON MAN-FOREST RELATIONSHIPS  
AND THE 1971 FOREST PRACTICES ACT

by

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## CHAPTER I

ABSTRACT. Since the inception of white settlement, Oregon man-forest relationships have progressively matured. The 1971 Forest Practices Act is the culmination to date of increasing societal concern for the protection of the forest environment and the conservation of its resources. The Act has resulted in an increased employment of forest practices which reduce damage to the forest environment, a greater degree of state natural resource agency cooperation and coordination, and a widened regulatory role for the Department of Forestry. The effectiveness of the Act's Forest Practice Rules as environmental safeguards, however, is reduced by the vagueness of their language, the Rules seem not to adequately encourage the practice of sustained yield forestry in Oregon, nor does the Act appear to provide for adequate inclusion of the public in the rule-making process. Nevertheless, in a conceptual sense, the Act represents a public affirmation that forest practices should be conducted with the recognizance that man, the forest land, and its natural resources, are interrelated, interdependent parts of a complex system.

## INTRODUCTION

The Oregon Forest Practices Act of 1971 may be interpreted as the resultant of shifting societal values in an environmental age, which evidence an increased societal interest in the welfare of the forest environment and its many resources. The purpose of this paper is to conduct a two-fold analysis of the 1971 Act, evaluating its role as a mechanism for maintaining the productivity of the total forest resource, and its role as a policy statement representative of contemporary perception of the forest land. With this thought in mind the paper commences with an examination of the evolution of man-forest relationships in Oregon, proposing that one can indeed discern a progression towards what I choose to call a forest land ethic. Some of the more important "milestones" in the evolution of forest enterprise and forest law are noted chronologically in Table 1. In the process of this analysis, Oregonian legislation relating to the forest environment and its resources, and the manner in which the forest resources were utilized and administered, in stated time periods, are given special emphasis in the belief that

focus upon those aspects will best reveal earlier societal perceptions of the forest. Following the historical analysis, attention is turned to the contemporary perception of the forest land through analysis of the 1971 Forest Practices Act. The Act has already completed its first year in operation, presenting an opportunity to conduct a preliminary evaluation—exploring its intent, the efficacy of the machinery it has created, its impact upon forest practices, and the roles played by forest land owners and operators, environmentalists, and state resource agencies. The research paper concludes with a discussion of the Act's accomplishments, its shortcomings, and the relationship that the concepts expressed within the Act bear to the philosophical concept of a land ethic.

TABLE 1.— SOME SIGNIFICANT DATES IN THE EVOLUTION OF OREGON MAN-  
FOREST RELATIONSHIPS

|  | Year       |
|--|------------|
| Fort Vancouver Construction Begun  | 1824       |
| First Sawmill Established in Oregon at Champoege   | 1836       |
| First Large Influx of Settlers to Oregon<br>Via the Oregon Trail   | 1843       |
| Nestucca and Siletz Forest Fires   | 1848-1849  |
| Passage of the First State Law Exhibiting<br>a Concern for the Effects of Forest Fires                       | 1864       |
| Coos Bay Forest Fire   | 1868       |
| Steam Donkey Yarding Replaces Oxen Yarding   | 1890       |
| Passage of First Forestry Law- Exhibited Concern<br>for Protection of the Timber Resource                    | 1893       |
| State Game and Forest Warden Law Enacted   | 1899       |
| Private Interests Initiate Cooperative<br>Forest Fire Protection Patrol                                      | 1904       |
| First Effective Forestry Law Enacted   | 1911       |
| Fire Patrol Act Passed   | 1913       |
| High Lead Logging Method Developed   | 1915       |
| Reforestation Act Passed   | 1929       |
| Tillamook Burns  | 1933-39-45 |
| Oregon Becomes the Leading Lumber Producing State  | 1939       |
| Forest Conservation Act Passed   | 1941       |
| State Legislative Committee Report Calls for<br>Integrated Management of All Natural Resources               | 1948       |
| Game Commission Report Calls for Adoption of Forest<br>Practices Which Will Reduce Damage to Fishery Habitat | 1954       |
| Forest Practices Act Passed  | 1971       |

## CHAPTER II

### THE PRE-REGULATORY ERA OF MAN-FOREST RELATIONSHIPS: 1824-1893

This chapter examines some attitudes held by the earliest white inhabitants of Oregon and traces the evolving utilization of the forest resources during the first seventy years of white settlement. I have arbitrarily chosen to commence the historical analysis with the 1824 date, the year in which the Hudson Bay Company began the construction of Fort Vancouver on the Columbia River.

White newcomers to western Oregon found a landscape composed of ridge after ridge clothed in dense, dark coniferous forest, rising from the Pacific to the Cascade crest, punctuated only by the Willamette Valley floor, and the lesser valleys of the Umpqua and Rogue. The pioneer perception of the North American forest as an antagonistic element to be either avoided or tamed and used primarily as a reservoir for food and fiber, is a familiar theme of American historical thought. Only as settlement progressed, population increased, and primeval forests declined in extent did a change occur in American attitudes toward their primitive land. Oregon's history parallels America's in that regard.

#### Activities of Early White Inhabitants

White men traveled within and drew sustenance from the forests, but generally sought a less foreboding domain to call home. Early trappers and traders numbered so few in so vast a region that their interaction with the forest environment resulted in but slight alteration of its primitive quality. The fur resource was ruthlessly exploited during the 19th century, until by 1826, the once abundant beaver was a scarce item in the lower Willamette Valley. The fur trade rapidly declined to insignificance before the midpoint of the 19th century, but the traders soon recognized

that the prolific forests offered hope of economic gain through exploitation of the timber resource. The first commercial sawmill in the Oregon country was established at Fort Vancouver in 1825 by Dr. John McLoughlin, then the Hudson Bay regional proctor. That sawmill produced lumber for domestic consumption and for export. In establishing important "firsts" one may proceed to the initiation of the first commercial sawmill within the presently defined boundary of Oregon—we may choose between: a mill built at Champoege by Thomas McKay in 1836, a sawmill built at the mouth of Chehalem Creek in 1838 by Ewing Young and Solomon Smith, or one built at Oregon City by Dr. John McLoughlin in 1844.<sup>1</sup> We can conclude that circa 1840 a fledgling lumber industry existed in Oregon.

#### Some Effects of Post 1843 Settlement

The Oregon country was at this time still sparsely settled, the white population consisting of scattered pioneer families, small missions, and trappers and traders. In 1843 the first large wagon train crossed the Western United States to Oregon, via the Oregon Trail, initiating significant settlement of the Oregon country. The Willamette Valley, possessed of gently rolling prairies, alluvial soils, and friendly confines contrasting sharply with the primeval forests surrounding it, was a natural magnet to settlement. The settlers mostly occupied the fringes of the Valley, where the forested foothills merged with the plains—a site where timber was plentiful for fuel and construction uses.

The early homesteader's utilization of timber resulted in only slight localized reduction of the vast stock of timber in the Oregon forests; however, in his frequent employment of the age-old practice of forest burning for agricultural crop production, he was oblivious to the dangers that the practice presented during the dry season, and great damage was

inflicted upon the forests where this practice was carelessly applied. Man-caused forest fires represent one of the two man-actions which have most profoundly affected the nature of the Oregon forest environment and its resources. In the 1845 to 1855 decade, the period of initial population influx, seven times as much land was deforested as had been in the preceding three decades, and most of this was a result of fire.<sup>2</sup> At least four major fires occurred during this 19th century phase of forest exploitation. The Nestucca fire in 1848 burned 380,000 acres of coastal forest.<sup>3</sup> A huge fire in 1849 apparently burned at least 500,000 acres of coastal forest between the Siuslaw and Siletz rivers.<sup>4</sup> The Yaquina fire, sparked within a few miles of Corvallis, swept across the Coastal Range in 1853 to Yaquina Bay, burning 480,000 acres and destroying an estimated 25 billion board feet of timber.<sup>5</sup> In 1868 the Coos Bay fire burned 300,000 acres of timber land.<sup>6</sup> An estimate in 1911 placed the destruction due to major fires during the prior century at over 4 million acres and 160 billion board feet of timber.<sup>7</sup> An undetermined but certainly significant amount of that destruction could be traced to the carelessness of the white newcomers who sometimes left campfires burning, causing forest fires. Land clearing by fire, adjacent to settlements, often resulted in fire spread into the forests. As a result, a state law was passed in 1864, setting penalties for any individual who "maliciously or wantonly set fire on any private or other grounds other than his own or those of which he is in lawful possession, or shall willfully or negligently permit or suffer the fire to pass from his own grounds or premises to the injury of another".<sup>8</sup> This has sometimes been labeled the first "forestry" law in Oregon, but it had negligible impact in reducing the occurrence of forest fires. It did represent the first official societal concern

expressed for the effects of forest fires, but its intent was to protect settlements, not the forest environment, from the ravages of fire.<sup>9</sup>

### Logging Methods of the Era

Man's logging activities comprise the second man-action that has profoundly affected the nature of the Oregon forest environment and its resources. By 1850, 30 small sawmills were operative in Oregon, and by 1872 this number had increased to 153.<sup>10</sup> The greatest impetus for this expansion was the discovery of gold in California which resulted in rapid increase of population in the territory, which in turn created a demand for lumber that could not be met from within California. The young Oregon lumber industry quickly began to export lumber to California, in addition to increasing production to meet the demand of an expanding domestic market. An examination of the logging methods employed by the early mill owners and operators of the era provides insight into man's 19th century interaction with the Oregon forests.

### The Axe and Oxen Age

The lumbermen logged only where timber was most accessible—along and immediately adjacent to streams and bays, and on gentle terrain where the crude methods then employed could succeed with a minimum of difficulty. The axe was the felling and bucking tool, and the ox was called upon to drag the logs from stump to landing, where they were then floated to the mill. The oxen skidded timber over grooved skid roads built from logs. At times, horse teams were also employed to yard timber.<sup>11</sup> For approximately fifty years (1840-1890) the axe and oxen era held sway. Loggers cut the best trees that were accessible and worried little about the well-being of surrounding trees, saplings, and seedlings and paid little attention to the effect on streams of trees felled into or skidded through

them. The wastage of timber cut was extremely high. It has been estimated that only 25% of the wood volume of a tree survived the logging and milling process to become lumber.<sup>12</sup> Although wasteful and damaging by today's standards, the impact of the oxen yarding method upon the residual forest was slight when compared to that of its immediate successor.

#### The Saw and Steam Donkey Age

Introduced circa 1870, the steam donkey engine had by 1890 largely replaced the ox as the motile force transporting logs from stump to landing. The donkey engine could not only move larger loads in shorter time spans, but it could operate in rugged terrain, on slopes too steep for oxen yarding. The steam powered cable system, while possessed with impressive power and speed, was non-maneuverable and destructive to the forest. The huge logs dragged upon the forest floor smashed most objects in their path. Smaller saplings, seedlings, forest floor vegetation, and the surface soil itself, were crushed and demolished when subjected to the gouging actions of the huge loads. Donkey yarding has been cast as the most destructive agent employed by man in the Oregon forests.<sup>13</sup>

The adoption of steam railways to transport logs from yardings to mills or water landings also occurred during the second half of the 19th century. By 1880 the crosscut saw had replaced the axe as the primary felling and bucking tool.

#### Status of the Lumber Industry and the Forests at the Close of the Era

Equipped with better tools, employing more efficient methods, and faced with an ever increasing demand for lumber, by the 1880's the industry embarked upon the large scale logging of Oregon's forests and lumbering became firmly established as an industry of considerable economic importance. Along the Columbia and at Coos Bay large mills produced lumber

for a thriving California market, a growing local and Eastern U.S. market, and an important international market. For example, the Willamette Steam Mills Lumbering and Manufacturing Company of Portland in 1886 was sending cargoes to California, Mexico, Central America, Peru, Chile, Hawaii, and China, in addition to producing for local markets.<sup>14</sup> In the upper Willamette Valley, and in Eastern Oregon, mills were smaller and produced only for local consumption.

Throughout this period the relationship between man and forest was essentially uncomplicated. As the era unfolded, the timber within the forest became its prime resource, and aside from the game and timber it yielded, the forest was seen as an obstacle to settlement. While recognizing the stark magnificence of the forest, man was primarily concerned with wresting from it what he needed to survive and to prosper. If, in this process, portions of the forest were radically altered or destroyed, what matter when no man could comprehend the vastness of that formidable environment, or even conceive that the availability of its immense biotic wealth could ever be jeopardized.

## CHAPTER III

## THE REGULATORY ERA—THE ESTABLISHMENT OF FOREST POLICY IN OREGON: 1893-1960

If the seventy years of pre-regulatory man-forest relationships in Oregon were characterized by an absence of concern for the conservation of any forest resources, the sixty-odd years of the regulatory era were characterized by the development of a dominant concern for the conservation of one resource—timber. Only an incipient realization in Oregon of the importance of other forest resources and the interdependence of all forest resources emerged within this era. The following sections trace the development of those concerns, particularly as evidenced by the passage of numerous protective and regulatory "forestry" laws.

The Inception of Societal Concern for Forest Protection  
Late Nineteenth Century Legislation

The inception of societal concern for the status of the forests was revealed by the passage in 1893 of an Act which recognized "the urgent necessity for the protection of timber and other properties from fires", and which set penalties for those who caused such fires.<sup>15</sup> However, no apparatus was created to enforce the Act's provisions, the State instead relying upon citizen information to arrest and prosecute offenders.<sup>16</sup> The Act apparently had negligible effect in reducing the occurrence of destructive forest fires, probably due to the lack of an effective enforcement apparatus, the vast expanse and remoteness of Oregon's forests, and a generally apathetic public.

In 1899, the legislature passed the Oregon State Game and Forest Warden Law, which created the position of State Game and Forest Warden, and placed with him, in addition to the responsibility to enforce game laws, the responsibility to enforce all forest laws then existing.<sup>17</sup>

The Act limited the total sum that could be paid to deputy forest wardens for enforcement duties to \$500.00 per year, with a daily maximum of \$3.00 per warden.<sup>18</sup> Thus, the expenses of one deputy on duty for 180 days would have exhausted the appropriation. This appropriation was woefully inadequate and rendered it all but impossible for the State Warden to adequately enforce the Act's provisions; the appropriation was raised in 1901 to \$2500.00 per year, but this provided for only six deputy wardens, a number which the State Warden still thought far too few to provide for effective enforcement.<sup>19</sup> In effect, this well-intentioned Act never effectively coped with the problems of forest protection.<sup>20</sup>

#### Private Accomplishments and the Abortive Legislation of 1905 and 1907

The arrival of the twentieth century saw the blossoming of national interest in the status of the country's natural resources, chiefly expressed through the "conservation movement", directed primarily by Gifford Pinchot and his followers. Conservationists heeded the cry that timber resources were being rapaciously plundered and squandered without thought. "Timber famine" became a popular prediction. In the Pacific Northwest, the conditions of extremely dry summers and a careless, uneducated public whose behavior in the forests was commonly irresponsible posed a continuing threat to the region's forests. In 1902 disastrous fires swept the entire region, and the Columbia fire blazed through the Cascade forests on both sides of the Columbia, destroying 170,000 acres of prime timber in Oregon alone. As a result, in 1904, the first instance of positive societal action to protect the forests from fire was accomplished by private interests. The Willamette Valley and Cascade Mountain Road Company hired a fire warden to patrol their timber lands and a Springfield lumber company organized the first cooperative fire patrol in Oregon,

in which the company and landowners whose timber lands adjoined their own, jointly patrolled their holdings. Other private interests called for state cooperation, realizing that ultimately, effective protection of forest lands under intermingled ownerships could succeed only through legislative edict.

In 1905 the Oregon legislature enacted the first state law which embodied both a concern for forest protection and a means to accomplish it. The law set closed burning seasons, and empowered counties to appoint fire rangers (paid by contributing private landowners) who possessed the authority to arrest violators. The law failed, at least according to some observers, because the rangers, paid by private interests, hesitated to arrest violators from fear of resulting public ire from a citizenry who generally exhibited little understanding of the threat that fire posed to the forests.<sup>21</sup> In 1907 the legislature passed a law containing similar protective provisions to the 1905 law, but added a provision which created a State Board of Forestry, empowered to investigate forest conditions in Oregon and to recommend needed action to the next legislature. Unfortunately, the bill appropriated only \$500.00 to accomplish said purpose and needless to say, the Act achieved little.

### The Establishment of Effective Forest Policy

#### The 1911 and 1913 Legislation

In 1908 the Governors Conference on natural resources was held at the White House and the stir it created through the country was felt in Oregon and as a result, in 1909 a Conservation Commission was established to investigate the resource base of Oregon and recommend needed action to conserve those resources. In the same year a group of Pacific Northwest timber men organized the Western Forestry and Conservation Association,

dedicated to advancing the cause of forest protection and efficient utilization of the timber resource.

In 1911, the increasingly effective pressure exerted by organized conservation interests, coupled with the results of the Conservation Commission report, led to the passage of the first effective forestry legislation in Oregon. Its protective provisions were similar to those of the 1907 law, but it created the office of State Forester which in effect created the State Department of Forestry, reorganized the Board of Forestry, and appropriated \$60,000 for the biennium to administer the provisions of the Act. Fire protection districts covering the entire state were organized, through which the State Forester was empowered to protect all forest lands from fire. This was the first and most important step in the creation of a successful forest protection policy in Oregon.

One weakness of the 1911 Act was the voluntary aspect of landowner cooperation. Those landowners who choose not to pay fire protection assessments unfairly benefited from fire protection service since their land had to be patrolled anyway, due to the hazard they presented to intermingled, contributing landownerships. Thus in 1913 the Fire Patrol Act was passed. This Act stipulated that non-contributing ownerships must patrol their lands or the state would do so at the expense of the landowner. This was for its time the most enlightened forest protection law in the nation. It established in Oregon the precedent of regulation, or restriction, of private forest interests in the public welfare. For approximately 20 years fire protection continued to be the prime public concern and the prime administrative responsibility of the State Forestry Department.

### 1912—1913 Concerns for Non-Timber Forest Resources

During the early stages of the twentieth century, at a time when concern for the timber resource had become evident, there appeared to have been little concern for the conservation of other forest resources. For example, a 1912 report by the State Game Warden (concerning the status of fishery habitat protection) states: "The propagation of fish is not sufficient if we allow our streams to be polluted with the filth of factories, mills and cities. . .".<sup>22</sup> Logging operations are conspicuously absent from that statement and no mention of fishery habitat problems in streams flowing through forested regions can be found elsewhere in the report. In 1913 the state legislature amended the wording of Section 42a, chapter 232, the Game Code of Oregon, to include "slashing of trees and brush" to a long list of other pollutants which "no person . . . shall cast, or suffer, or permit . . . to be thrown, cast or discharged in any manner . . . into the waters of the State of Oregon."<sup>23</sup> It seems certain, however, that their inclusion in 1913 does not indicate a public recognition of the existence of severe slash problems in Oregon forest streams, or a public commitment to correction of those logging practices responsible for pollution in forest streams, since the law's provisions were primarily directed to lumber industry sites, such as sawmills or pulpmills, or to carriers of lumber, such as railroads, steamboats, or other water vessels.<sup>24</sup>

### The Reforestation Act of 1929

In 1929 the Forest Fee and Yield Tax Act (The Reforestation Act) was passed. The law hoped to stem the tide of tax delinquent private forest lands which were being returned to the state in depleted, unstocked condition, by adopting taxation procedures which it was hoped would encourage the retention of private cutover forest lands for the purpose of regene-

rating a new crop of trees.<sup>25</sup> By setting a token tax on harvested forest land so registered under the provisions of the Act but with the stipulation that a yield tax upon harvest of another forest crop would be due the state, it was hoped that: (1) millions of acres of cutover private forest land in Oregon would be restocked; (2) the counties would generate at least some tax revenue rather than none on delinquent land. For various reasons, the Act failed to accomplish what its supporters hoped it would,<sup>26</sup> but the passage of this law probably marks the development, in this policy formulating era, of a concern for the future productivity and renewability of the timber resource.

#### Developing Concerns for Non-Timber Forest Resources

The relationship of logging practices to other forest resources, particularly wildlife resources and habitats, undeveloped in 1913, remained relatively unrecognized into the 1930's. However, a 1936 State Planning Board report of the status of Oregon's wildlife resources did note the importance of sufficient cutover stands in a given area to provide a suitable habitat of game.<sup>27</sup> In addition, one recommendation specifically concerned itself with "splash dam logging", a forest practice considered detrimental to stream fishery habitat.<sup>28</sup> The concern expressed in this recommendation is perhaps indicative of an embryonic awareness by resource managers and analysts during the 1930's of the complex relationships existing among forest resources and of the necessity to consider the effects that management of one resource might have on another.

By the 1940's an increased awareness of the interdependent nature of the various natural resources was manifest in Oregon resource reports. For example, a 1948 legislative report on Oregon wildlife resources concluded that "we must move forward to a new concept of management of our

natural resources, an integrated management based on a recognition of the relation and interdependence of soils, waters, forests, and wildlife and of man's relation to them, and structurally planned and designed to succeed."<sup>29</sup> This sounds strikingly similar to contemporary expressions of concern in our "environmental era". The point to consider is that many people did, a quarter century past, realize the shortcomings of the then existing approach to natural resource management and the on-going depletion of Oregon's environmental quality, yet many years passed before their concerns were widely embraced by society. The 1948 proponents of environmental concern and effective resource management were largely ignored by the mainstream of public and private interests. A matured awareness of the interrelationship between the fishery resource and the timber resource is revealed by the contents of a 1954 report of the Game Commission to the State Water Resources Board, in which a series of logging practices detrimental to aquatic wildlife are listed and corrective actions proposed, some of which are quite similar to the Forest Practice Rules promulgated under the 1971 Forest Practices Act.<sup>30</sup> Apparently, by the 1950's awareness of the need for integrated forest management had matured in the minds of many individuals. It remained for the decade of the sixties to bear the fruits of those concerns.

#### Logging Methods Developed Within the Era

The application of new technology to logging practices continued into the twentieth century. The "wedding" of the steam donkey engine to the spar tree, and later the spar post, resulted in the high lead yarding system, which achieved a greater movement of logs per input of effort than any previous system. The Oregon Department of Forestry in 1943 labeled the steam donkey-high lead logging method as". . .the most

destructive of all methods used in the harvesting of a forest crop. All trees left by the cutting crew were flattened by the yarding crews, and vast areas of logged stands were left with no seed source to start new forests."<sup>31</sup> In time, lighter weight gas and diesel donkeys appeared which could be easily transported, and whose operation resulted in less destruction to the forest environment. By 1940 the chain saw had been introduced and the crawler tractor (the "cat") rivaled the donkey-high lead method as the most important yarding system. Despite the damages done by the "cats" to stream beds and forest soils that are today recognized as shortcomings of tractor logging systems, for its time, the introduction of the "cat" represented an advance in terms of greater efficiency and lessened damage to the forest environment, due to its great maneuverability.

#### The Regulation Controversy and the 1941 Forest Conservation Act

In the early twentieth century, the fear of "timber famine" led to increased pressure for public regulation of private forest practices and even for public ownership of private forest lands. The Copeland Report to Congress in 1933 strongly urged major expansion of public ownership.<sup>32</sup> Gifford Pinchot and others favored federal regulation, believing state regulation would be ineffective in a political environment where state legislatures were dominated by timber interests. Despite gradual improvement in private forest management, in 1940 both the Chief of the Forest Service and the Secretary of Agriculture strongly recommended to President Roosevelt that private forest practices be federally regulated. Faced with imminent federal regulation, The Oregon legislature, with the approval of timber interests, enacted the Forest Conservation Act. State regulation guided by state interests was deemed preferable to regulation from Wash-

ington. The Act's policy statement was broad in scope:

The preservation of the forests and the conservation of forest resources for the equal and guaranteed use of future generations, and the protection of forest and water resources and the continuous growth of timber on state lands suitable therefore are hereby declared to be the public policy of the State of Oregon.<sup>33</sup>

In spite of the inclusive nature of that policy statement, the regulatory requirements of the Act were quite narrow in scope, limited to the regulation of those forest practices deemed necessary to insure a continuing, or sustained yield of timber from Oregon's forests. Notwithstanding the specific inclusion of the water resource in the Act's policy statement, and at least one opinion that an important objective of the Act was watershed protection,<sup>34</sup> no provision within the Act directly addressed itself to watershed protection. The Act's regulations provided for watershed protection only in the indirect sense that forest lands adequately restocked provide, beyond the primary benefit of a new tree crop, a secondary benefit of increased site protection from erosion. During this entire era no legislation was enacted that sought to regulate the quantity and quality of the forest water resource. The State apparently had adopted the generally accepted position that forests protected from denudation would yield the desired quantity and quality of water.

Thus, the one significant objective of the Act was to provide sufficiently timbered forests for Oregon's future. In effect, then, regulatory provisions were restricted to only one major category of forest operations, regeneration. The Act specified that when harvested, an adequate number of commercial specied trees must be retained to assure adequate natural regeneration, or satisfactory stocking could be achieved, with State

approval, by other means, such as artificial regeneration. All operations would be inspected within one year of harvest and the State Forester was empowered, in the case of violations not corrected, to correct the conditions at the expense of private owners (up to a stated maximum per acre expenditure). The Act was the first of its kind in the country and certainly was a progressive attempt to assure some silvicultural management for Oregon's forests on a long term basis. Subsequently, the Act was revised several times in an effort to keep pace with the advancement of silvicultural knowledge and changing forest conditions. Despite its narrowness, the Act remained viable through the 1950's. It stood as the basic Oregon statute expressive of a concern for the conservation of the forest environment and its resources, until succeeded by the Forest Practices Act of 1971.

## CHAPTER IV

## THE ENVIRONMENTAL ERA: POST 1960 AND THE 1971 FOREST PRACTICES ACT

The Development of Concerns for the Environmental Quality of the Oregon Forest

In America, the 1960's was an "environmental" decade. Rachel Carson's Silent Spring was published in 1962, followed by Stuart Udall's Quiet Crisis in 1964. Those two eloquent messages, and many later ones of a similar nature, were representative of, and stimulated, the concern of Americans in the 1960's for the quality of their physical environment. Within the decade, then, a new, important phase in the evolution of man-forest relationships surfaced in Oregon and in the nation. A widespread societal concern had arisen for the conservation of a number of forest resources whose status had been previously ignored, or, at best, lightly regarded. We have seen fit to label this phenomenon the "environmental movement". Many factors have been cited as catalysts in its emergence, but for the purpose of this paper we need only recognize the reality of the movement. With respect to the Oregon forest environment, the foremost environmental issues were probably the practice of clearcutting and the degradation of stream environments caused by careless logging practices.

Passage of the 1971 Forest Practices Act

During the decade many individuals and organizations connected with forest resources management had begun to feel that the Forest Conservation Act was outdated and needed revision. Since 1941, the composition of much of the Oregon forest had changed, new logging techniques had been introduced, logging operations had pushed into formerly remote and ruggedly terrained forested areas, while silvicultural knowledge had greatly increased. To many, the time apparently seemed ripe for the enactment of a new regulatory law to replace the Forest Conservation Act—a new law whose provisions

would reflect the contemporary situation of the forest resource system. Additionally, many people connected with the resource system realized that societal concerns of 1941, or 1951, for protecting the "renewability" of the forest timber resource, had widened in the 1960's to a concern for the viability of the total forest environment and its many natural resources.

As a result, in 1968 the Board of Forestry, with the general concurrence of the timber industry, decided that new legislation might be the most effective vehicle through which Oregon could address both the forest environmental issue and the problems of an outdated Act. The Board therefore appointed a study committee to draft such legislation. The committee concluded that the new legislation should absorb the functions of the Forest Conservation Act and in addition establish forest practices rules which emphasized the protection of the non-timber resources of the forest environment. One and one-half years later the committee released its draft bill to public scrutiny. Despite a general agreement on many of the draft's provisions, the timber industry found enough areas of disagreement to form an ad hoc committee for the purpose of drafting an alternative bill. Other interested parties joined in contributing alternative proposals; on January 6, 1971 the Board of Forestry approved a bill which was the resultant of a compromise among the major interest groups concerned. The bill was passed by the legislature in relatively unaltered form, and became effective on July 1, 1972.

### Analysis of the 1971 Forest Practices Act

#### Content Analysis

The first section of the Forest Practices Act expresses similar intent to that of the Forest Conservation Act (refer to appendix I & p.18). There is, however, one important difference—it lists specific forest

resources to be conserved (forest tree species, soil, air, and water resources, and wildlife and aquatic habitats), and expressly encourages "forest practices that maintain and enhance such resources". The Conservation Act lacked this specificity in reference to non-timber resources of the forest.

Section 3 of the policy statement is important because it empowers the Board of Forestry to develop and enforce forest practice rules. Section 3(b) stresses the coordinative aspect of the Act.

Paragraph 527.660 is a key provision because it defines the nature of the mechanism through which forest practice rules will be recommended. Regional Forest Practice Committees will formulate Forest Practice Rules for the approval of the Board of Forestry. Paragraph 527.650 sets the all important qualifications for the Forest Practice Committee membership, and procedure for appointment. These two paragraphs together constitute a significant departure from the structure of the Forest Conservation Act. The applicable rules in the 1941 Act were incorporated within the body of the Act whereas the Forest Practices Act has instead provided for an appointive body whose duty is the recommendation of rules to the Board. This constitutes a much more flexible framework than that possessed by the Conservation Act.

Paragraph 527.670 is essential to the implementation of the Act, since it provides a pre-operational notification procedure, without which the forest practice rules could not be enforced. Paragraph 527.680 and 527.690 provide violation and correction procedures which are similar to those of the Conservation Act.

Paragraph 527.710 represents what I consider to be the most vital provision of the Act. The five categories of forest logging operations

to be regulated by the forest practice rules are defined. They are: harvesting, slash disposal, reforestation, road construction and maintenance, and chemical application. They include every manner of major forest operation conducted in the course of timber management. Herein lies the greatest difference between the two Acts. The Forest Practices Act is wide in regulatory scope, covering all major forest operations, whereas the Forest Conservation Act was narrow in only regulating reforestation procedures.

One matter not specifically clarified by the Act is that of ownership applicability. To whose forest lands do the provisions of the Forest Practices Act apply? The State Attorney General ruled that the Act's provisions apply to all forest lands, no matter the ownership, within the State. Recognizing the impossibility of watch-dogging the tremendous number of forest operations conducted upon federal forest land in Oregon, the State reached an agreement with each federal agency concerned that acknowledged on the part of the federal agency that indeed the Act did apply to their forest land, and on the part of the State of Oregon that the federal agencies would themselves regulate forest practices on federal lands, said regulation to proceed from standards at least as high as those of the State of Oregon. The existence of state and private forest land within the boundaries, working units, or fire control units of the Forest Service posed an additional complication, but one easily dealt with. The Forest Service had previously administered the provisions of the Conservation Act on those lands, and the arrangement was continued, in a new agreement, for the purpose of administering the provisions of the Forest Practices Act.

### The Role of the Regional Forest Practice Committees

For the purpose of administration the State was divided into three regions, Northwest, Southwest, and Eastern, with a committee appointed for each. A key requirement of the Act states that at least two thirds of the committee members must be private landowners or timber owners, or represent such owners. Membership of a Committee is thus dominated by men representing timber interests (refer to Appendix II). The Committees were appointed by September, 1971, and had submitted proposed forest practice rules to the Board of Forestry by December, 1971. To accomplish the task of formulating rules most Committee meetings took the form of working sessions in which the Committee presented proposed rules for discussion, and/or deliberated rule proposals presented to them. Representatives of all interest groups with a direct stake in the rules were usually present at those sessions, however, some environmentalists were unhappy with the manner in which sessions were conducted.<sup>35</sup> Some observers have reported that it was common procedure for Committee members to first present and explain a proposed rule, then ask timber industry representatives if they would approve it. Environmentalists present were not asked to approve in similar manner and the composition of the Committee gave timber industry representatives a dominant voice in the final selection of forest practice rules, while environmentalists were reduced to stating proposals which seldom received serious consideration. The final Committee rules were evaluated by the Board of Forestry, adopted, and after review of public comment, became effective on July 1, 1972.

The Regional Forest Practice Committees are on-going bodies which meet a number of times each year as circumstances require, to review experiences under the Act, to discuss the effectiveness of the Forest Prac-

tice Rules, and to deliberate on possible improvements to existing rules. Thus, the Committees represent a flexible mechanism through which the Forest Practice Rules can be updated to meet changing conditions.

#### The Nature of the Forest Practice Rules

The forest practice rules represent the end product of the Forest Practices Act provisions. They are the mechanism which guides the selection and employment of forest practices in Oregon forests. The establishment of three forest regions recognized the existence of three generally different Oregon forest environments: a Northwest region, possessing a wet, cool climate, convoluted topography, and generally deep forest soils, a Southwest region of drier and hotter climate than the Northwest, but with generally similar topography and soil conditions, and an Eastern region which is arid, subject to temperature and precipitation extremes, and possesses fragile soil and water resources. Consequently, forest vegetation types are also different in the three regions, and the net result was a need to formulate rules for harvesting, reforestation, and road construction and maintenance for each of the three regions. Two categories of forest operations, chemical applications and slash disposal, were determined to be similar enough in character throughout their range of use in Oregon to enable the formulation of one set of rules for each, to be applicable to all three regions simultaneously.

In regard to protectional content, the Rules seem to be heavily oriented towards the forest stream environment and its related aquatic resources, and to a lesser extent the forest soils resource. The remainder of the natural elements of the forest environment mentioned in the Act, the air resource and terrestrial wildlife habitats, are infrequently alluded to, and few specific rules have been formulated for their benefit.

While the Act itself does not mention recreational and scenic resources of the forest, the Rules do make reference to scenic resource considerations, albeit in a non-definitive manner.

One of the most interesting facets of the Forest Practice Rules is their quality of semantic confusion. In my opinion the best single characterization of the Rules is that they are couched in "iffy" language. The presence of key phrases possessed of fuzzy interpretational character is universal. For example, the words and phrases "whenever possible", "if possible", "consider", "minimize", "consider carefully", etc., are frequently employed. The presence of such phrases results in potentially wide latitude for interpretation. The State Fish and the State Game Commissions, and environmentalists, fought to exclude such phrases but in most instances had no success.<sup>36</sup> This absence of specificity can provide a flexibility in interpretation which may in some instances conceivably result in a more effective set of rules but the question is whether this flexibility limits the effectiveness of the rules as environmental safeguards, and actually compromises the integrity of the Act.

The Rules contain a state-wide forest stream classification system, consisting of Class I and Class II categories. Class I streams are those recognized as having significant values for domestic use, water recreation, and/or containing valuable fisheries. They are afforded greater protection than are Class II streams, which consist of all streams not in Class I.

The practice of leaving buffer strips is a subject the Rules discuss, but despite the considerable attention the Rules pay to the protection of forest stream environments, the necessity or non-necessity of establishing streamside buffer strips is confusingly treated. Seemingly contradictory statements are made in reference to this protective device. The State

Department of Forestry says that the intent is to force an operator to show cause why he does not need a buffer strip,<sup>37</sup> but environmentalists might interpret the rules as loopholes enabling an operator to disdain the use of the buffer strip in situations where it is actually needed.

#### The Role of State Agencies in Implementation of the Forest Practices Act

Several state agencies have responsibilities in the status of the Oregon forest environment and its natural resources. These agencies interact in various ways with the implementation and operation of the Forest Practices Act. The Department of Forestry plays the most important and active role, the Fish Commission and the Game Commission play less active although important roles, and the Department of Environmental Quality's role is a relatively minor one. The following sections discuss these roles and also relate some attitudes expressed by individuals in the agencies, concerning the operation of the Forest Practices Act.

The Department of Forestry. The responsibility to administer the provisions of the Forest Practices Act resides with the Department of Forestry. The Service division of the Department possessed an already existing machinery for inspection and enforcement of the Act, due to its similar responsibility under the provisions of the Forest Conservation Act. The division had a field force of twenty-five forest protection officers administering the Conservation Act but no additional manpower was allocated to the Department when the Forest Practices Act was passed. The twenty-five field men were given the additional responsibility of inspecting and enforcing regulations governing all five categories of forest operations. The Department requested, to no avail, that the state legislature approve additional manpower allocations deemed necessary to effectively administer the Act. Within the Department an office supervisory force was reorganized,

and a new position of Forest Practices Act Administrator was created. In order to more effectively meet the demands placed upon the Department staff by the Act, extensive training programs were conducted prior to the Act's effective date by forest hydrologists, and soils, engineering, silvicultural, and fishery specialists from Oregon State University, the State Fish and Game Commissions, the National Forest Service, and the timber industry.<sup>38</sup> Notifications of proposed forest operations are processed at Salem and those operations which appear to have potentially serious environmental implications are pre-inspected by Department personnel, subsequent to which, approval, modifications, or disapproval of intended operations may result. The Department's immediate goal is to inspect each on-going operation at least once. The Department feels that, based on first year results, the Act has successfully encouraged the implementation of forest practices which reduce damage to the forest environment.

The Fish Commission and the Game Commission. The Fish Commission and the Game Commission were closely consulted during the drafting stages of the Forest Practices Act legislative process. Both Commissions officially supported the Act during legislative hearings, voicing their approval of the Act's recognition that non-timber resources of the forest deserved to be protected and productively maintained, and the Act's direct reference to the need to establish coordination between those agencies concerned with resources of the forest environment.<sup>39</sup> The two agencies also played an important role in the development of the Regional Forest Practice Rules, where their expertise was utilized in the formulation of rules relating to the protection of forest stream environments.

Fishery biologists from either the Fish Commission or the Game Commission often accompany Department of Forestry officers on preliminary field inspections of proposed forest operations whose approval has been withheld, due to their potentially adverse impact upon the forest stream environment. As a result, fishery biologist opinion is often incorporated in the final Department of Forestry decision with regard to the feasibility of the proposed operation. The Game Commission has estimated that during the first year of Forest Practices Act operation, 15% to 20% of fishery biologist working hours were spent in Forest Practices Act connected pursuits.<sup>40</sup>

The Fish Commission and the Game Commission have been very pleased with the first year experiences of the Act, especially with what they felt to be a high degree of first year cooperation between their respective Commissions, the Department of Forestry, and the timber industry.<sup>41</sup> Although they believe that the long-run prospect for the maintenance and improvement of the forest stream environment is encouraging, both Commissions stress that there is much room for improvement in administering the Act, that coordination of inter-agency expertise should improve, as should the competence of each agency to gain insight into the problems and approaches of the others, and both Commissions make clear that they will be disappointed if the desires expressed above do not materialize.<sup>42</sup>

The Department of Environmental Quality. The Department of Environmental Quality's present involvement with the Forest Practices Act is minor. They do not closely watchdog forest operations and have never attempted to question the propriety of the Forest Practice Rules. They have generally maintained a hands off policy, choosing not to intrude upon the traditional domain of the Department of Forestry. Although they are responsible for the promulgation and enforcement of state air and water

quality standards, they usually act, in a regulatory sense, with respect to the Forest Practices Act, only on a complaint basis. During the Act's first year in operation, such complaints were few and based primarily on aesthetic grounds.<sup>43</sup> The Department of Environmental Quality coordinates directly with the Department of Forestry only in regard to the establishment of slash burning guidelines. The Department of Environmental Quality determines the atmospheric conditions suitable for slash burning throughout the state and conveys them to the Department of Forestry which in turn actively implements slash burning procedures.

#### The Role of Forest Land Owners and Operators

Large Owners and Operators. The large timber owners and operators, whether they be individual private, or corporate entities, are the interest group with the most immediate economic stake in the status of the forest resources of Oregon, as they have a considerable amount of capital and land tied up in forest growth and timber production. Infused with a strong profit motive, they elicit continuing concern for governmental regulatory activities which affect their forest operations. Thus they are wary of governmental interference in private resource management; however, they admit that restrictions on individual or corporate freedom are necessary to insure the maintenance of productive forest resources, and they also acknowledge the existence of irresponsible parties, who might, without the restraints applied through governmental regulation, conduct destructive forest operations.

The large timber interests are favorably disposed to forest practice rules which are competently administered and which do not unduly disrupt their essential management operations. Since these timber interests dominate the membership and policy of both the Board of Forestry and the

Regional Forest Practice Committees, they have exercised the strongest influence upon the content of the Forest Practice Rules, and it is not surprising that they are generally pleased with the present rules under which they must operate. They have come to accept the contemporary atmosphere of public opinion regarding environmental issues and in many instances, voluntarily instituted, prior to the Act, forest practices which reduce damage to the forest environment. In effect, they can successfully function under the Forest Practices Act and they believe that the present rules sufficiently prevent the environmental degradation of the Oregon forests while maintaining a healthy economic and social environment.

Small Owners and Operators. Small, independent logging operators have been more affected by the Act, having had in most instances to make adjustments in their operating procedures. Some violations have occurred where operations were subcontracted to independent operators,<sup>44</sup> but generally speaking they appear to have adjusted well to the Act and support its provisions. Small, non-industrial forest landowners also have largely supported the Act, and its provisions have not, in many cases, changed their management procedures. Those small owners whose forests are managed often exhibit a sense of stewardship of the land which embodies most of the principles the Forest Practices Act is meant to encourage. Small non-industrial forest landowners who are not managing their forests for timber production have been little affected by most of the Forest Practice Rules, since forest operations are seldom conducted on their forest lands.

#### The Role of Environmentalists

Many environmentalists are not satisfied with the Forest Practices Act, or the Forest Practice Rules promulgated. One general aspect fre-

quently assailed by environmentalists is the inherent vagueness of almost all of the Forest Practice Rules. They see the inclusion of phrases which are subject to varying interpretation as having the effect of reducing the Rules to descriptive statements void of clearly stated base standards for forest operations—standards which they feel are necessary to maintain the integrity of the forest environment and its natural resources. They specifically object to the absence of any rules assuring intensive management of Oregon's private forest land.<sup>45</sup> Additional aspects of the Forest Practice Rules which are criticized are the absence of: (1) clear-cutting guidelines; (2) guidelines on appropriate logging methods to be employed in conjunction with angle of slope; (3) effective guidelines restricting machinery from streambeds; (4) effective guidelines on chemical applications adjacent to waterways.

#### The Impact of the Forest Practices Act Upon Forest Practices

What actual changes have occurred in forest practices as a result of the Act? Unfortunately, though the question is a straightforward one, it cannot be definitively answered. Because, in most instances, the Forest Practice Rules do not require the application of specific logging techniques in specific situations, but rather describe what facets of the forest environment should be protected during forest operations and what operational precautions should be taken, almost no conclusive evidence exists in reference to the adoption of specific forest practices in response to the Act. No studies have been conducted, nor statistics obtained, that correlate changing forest practices to the existence of the Act. My own impression, garnered from personal communication with representatives of resource agencies, the timber industry, and environmental organizations, and supplemented by impressions derived from various

documentary sources, is that subsequent to the implementation of the Forest Practices Act, an increasing number of forest operations have employed forest practices which exhibit a lessened impact upon the forest environment. This is particularly true in reference to operations conducted along forest streams. Operation of machinery in streambeds appears to be reduced, as has haphazard routing of roads along streams, and the side-casting of bulldozed material into streams or into positions where they will eventually move into streams. Despite the lack of a clear-cut rule defining the applicability of buffer strips to forest operation situations, the use of this practice has apparently increased. There also appears to be an increased use of skyline logging techniques on steep, fragile slopes and a decreased use of tractor logging on such slopes. The immediate clearing of Class I streams of deposited vegetative debris and the post-operational clearance of Class II streams are forest practices specifically mandated by the Forest Practice Rules that have been strictly enforced.

The factor which complicates evaluation of the Act's impact upon forest practices is that many forest landowners and operators had adopted many of these improved practices before the passage of the Forest Practices Act. In effect, it is extremely difficult to causally relate the contemporary employment of specific forest practices to implementation of the Forest Practices Act provisions. Department of Forestry data on first year Forest Practices Act experiences (Table 2.) show high compliance with Forest Practice Rules, State natural resource agencies unanimously agree that the Act has been successful to date, and no evidence to the contrary has been advanced by any source. The only conclusion that may be drawn is that the Act has resulted in an increased employment

of forest practices which have a lessened detrimental impact upon the forest environment.

Analysis of First Year Department of Forestry Experiences Under the Act

The data contained in Table 2. and other pertinent data discussed in this section were extracted from a 1973 Department of Forestry Report to the Regional Forest Practice Committees.<sup>46</sup> On a statewide basis, the data reveal that a high compliance percentage (93%) has been achieved on those operations inspected during the first year. Department man-hour data reveal that seventy-two percent of total time allocated to administration of the Forest Practices Act was expended for two functions, the processing of notifications and the inspection of forest operations; forty-nine percent of total man-hours was spent on inspectional activity alone, stressing the dominance of this activity and emphasizing that administration is primarily oriented to inspection and prevention.<sup>47</sup> One negative conclusion to be drawn from the data is that the Department cannot yet effectively administer the Act, as evidenced by the fact that, of those forest operations whose notifications were processed, only sixty-nine percent were inspected; ie., three of every ten operations were never inspected. This statistic is reflective of the Department's manpower shortage.

On a regional basis, several facts are evident; the great majority of forest operations occur in the two Western regions of the state, and the Eastern region, when compared to the two Western regions, has a higher percentage of forest operations requiring pre-operational field inspection and of forest operations requiring inspectional assistance of fishery resource personnel, and a lower percentage of compliance on inspection. One may infer that percentage-wise, more operations in Eastern Oregon possess forest environmental problems, and as a result, percent compliance

TABLE 2.— A REVIEW OF FIRST YEAR DEPARTMENT OF FORESTRY EXPERIENCES  
UNDER THE FOREST PRACTICES ACT

|  | Northwest<br>region | Southwest<br>region | Eastern<br>region | State<br>total |
|--|---------------------|---------------------|-------------------|----------------|
| (1) Notifications processed  | 6032                | 3051                | 1527              | 10610          |
| (2) On-going operations inspected  | 4131                | 2131                | 1050              | 7312           |
| (3) (2) as a percentage of (1)   | 68%                 | 70%                 | 69%               | 69%            |
| (4) Operations inspected exhibiting full compliance                                      | 3885                | 1974                | 929               | 6788           |
| (5) (4) as a percentage of (2)   | 94%                 | 93%                 | 88%               | 93%            |
| (6) Percentage of notifications requiring a pre-operational field inspection             | 9%                  | 7%                  | 17%               | 9%             |
| (7) Percentage of on-going operations requiring assistance of fishery resource personnel | 6%                  | 11%                 | 20%               | 9%             |

Source: Department of Forestry Report, op. cit., footnote 46.

on inspection is lower in Eastern Oregon. One could further surmise that the forest environment in Eastern Oregon is a relatively more fragile environment than that of Western Oregon, a supposition supported by foresters of the Department of Forestry.<sup>48</sup>

## CHAPTER V

## EVALUATION OF THE 1971 FOREST PRACTICES ACT

The purpose of this chapter is to evaluate the Forest Practices Act in its dual role as: (1) a regulatory mechanism designed to protect the forest environment and enhance its natural resources; (2) a public policy statement expressing man's relationship to the Oregon forest land.

The first two sections of this chapter identify and discuss what I consider to be the Act's most significant accomplishments and the Act's major shortcomings. The final section of this chapter evaluates the conceptual content of the Act in relationship to the philosophical concept of a forest land ethic.

Accomplishments

Although the Forest Practices Act has been in effect only one year, the consensus of knowledgeable persons interviewed during my research is that positive improvements have been realized.

(1) The very presence of the Act serves to direct attention to the need to preserve the integrity of the forest environment and its natural resources. In the sense that it is the public policy of Oregon, it sharpens the awareness of private citizens, corporate entities, and governmental institutions that maintenance of the total productivity of the forest is a public goal that should be achieved.

(2) By enlarging the categories of forest operations to be regulated to include virtually all major types of forest operations, and by specifically formulating rules which attempt to effect the conservation of other forest resources besides the timber resource, the Act represents a step forward towards integrated regulation of the total forest resources system.

(3) Through the creation of the Forest Practice Rules a mechanism has been established which forces forest landowners and operators to consider thoroughly the impact each operation may have on the forest environment, and to choose a method which will satisfy the interpretation of the Department of Forestry.

(4) Knowledgeable individuals agree that the Act has been successful in reducing damage to the forest environment. This is an important accomplishment and demonstrates that in practical terms, in the woods, the Act has resulted in the employment of better forest practices with respect to the protection of the forest environment and the conservation of its natural resources.

(5) The Act has widened the regulatory role of the Department of Forestry to include the responsibility to protect the physical quality of the forest environment, and to maintain the productivity of many forest resources. It has nudged the Department away from its former one resource emphasis, and it may provide the impetus to further development of a multi-resource approach to the administration of forest policy.

(6) The Act has resulted in an increased degree of inter-agency cooperation and coordination. This positive spin-off effect is probably one of the most significant accomplishments of the Forest Practices Act.

#### Shortcomings

Not everyone considers the provisions of the Act to be adequate. Persons interviewed and published statements have drawn attention to a number of shortcomings.

(1) Although the Forest Practice Rules require a plethora of practices designed to protect various resources of the forest environment, most rules are not definitive because of the profusive use of undefinable

phrases, such as "give special consideration", "where possible", etc. The presence of these phrases reduces the effectiveness of the Forest Practice Rules as guidelines for minimum standards necessary to assure the maintenance of a reasonably productive forest resource system.

For example, the utility of the buffer strip as a stream environment protective device has been demonstrated. In regard to buffer strip appropriateness, the 1971 Oregon State Game Commission guidelines concerning stream protection while conducting logging operations conclude that buffer strips along Class I streams are necessary to protect stream values and no exceptions are mentioned.<sup>49</sup> This protective practice is probably vital to the maintenance of Class I stream values yet the Forest Practice Rules give a conflicting and complicated set of guidelines from which an operator can justify almost any decision, whether it be to not leave, or to leave a continuous, or a non-continuous, buffer strip. The same case holds true for rules pertaining to the operation of machinery in streambeds. For each rule which limits machine operation in streambeds, a clause can be found which provides an exception. The Rules also discuss the need to give special care to operations on steep slopes, but no minimum guideline exists to regulate tractor use on steep slopes. The Forest Service commonly restricts tractor logging to slopes less than 40%,<sup>50</sup> and Oregon State Game Commission guidelines urge that tractor logging be confined to flat or gentle topography, on soils not wet.<sup>51</sup>

(2) The Act placed greatly increased responsibility upon the Department of Forestry while neglecting to provide the Department with the means to fully carry out that responsibility. The provisions of the Forest Practices Act provide the legal basis for forest environmental protection, but that protection cannot be achieved without additional

manpower and appropriate funding. The Department's present budget remains strongly skewed towards fire protection and insect and disease control (51.7%), and state forest management (38.8%).<sup>52</sup> Service forestry, the program administering, among other activities, the Forest Practices Act, receives only 4.9% of the Departmental budget.<sup>53</sup> The Department was not and still has not been allocated the additional manpower necessary to properly administer the Act.

(3) The Forest Practices Act proclaims the following: ". . . it is declared to be in the public interest to vest in the board authority to develop and enforce regional rules: (a) Designed to assure the continuous growing and harvesting of forest tree species. . . . ". This declaration could, I think, not unreasonably be interpreted to intend that the Oregon forests achieve their capability to grow timber and thus to provide for continued high level sustained yield forestry in Oregon. The Rules adopted, however, require what seems to be only minimum management and hence do not assure accomplishment of that capability. For example, the re-stocking standards are low, requiring only one-hundred to one-hundred fifty established seedlings per acre in Western Oregon, and the Rules do not require, on forest lands definitely managed for timber production, that harvest should not exceed net growth. Perhaps an additional shortcoming is that the Rules exempt Western Oregon forest lands of lesser productivity than fifty cubic feet per acre (per year) from the reforestation requirements. The question of level of forest management required is an important one because of the prediction for reduced timber harvests in Oregon for years to come.

(4) With respect to the formulation of the Forest Practice Rules, the public interest does not appear to be adequately represented. The

Board of Forestry, prior to mid-1973, was by law composed of a membership whose majority (six of eleven voting members) were representatives of the timber industry. The Forest Practices Act vests the Board with the authority to execute its provisions. A case could be made that a conflict of interest existed, since a majority of the Board whose duty was to see that the regulation of forest practices is properly executed were members of the very industry whose practices were being regulated. In 1973 the Oregon legislature passed an Act which increased the Board of Forestry voting membership from eleven to thirteen, the additional two members to represent the "public". The Forest Practices Act also specifies that the Board appoints the Forest Practice Committees, two-thirds of whose memberships must also represent timber interests. Nowhere is an adequate cross-section of public interests represented. Perhaps Committees which include more non-timber interest membership might result in the promulgation of forest practice rules which more closely correspond to societal desires than do the present Forest Practice Rules. In any case, the Act as it stands does not provide for an adequate inclusion of the public in the forest practice rule-making process.

#### The Forest Practices Act and a Forest Land Ethic

The objective of this concluding section is to explore the relationship that exists between the concepts expressed in the Forest Practices Act and the concept of a forest land ethic. The evolution of man-forest land relationships has been traced from the initial white occupation of Oregon to the present, and has revealed a progressive maturing of Oregon man-forest relationships with time. Aldo Leopold envisioned the ultimate establishment of an ethical relationship between man and land (the land ethic). If that attainment is possible, where along an evolutionary

pathway, possibly culminating in a land ethic, do the concepts expressed in the Forest Practices Act stand?

An ethic defines a set of moral principles governing the conduct of individuals or groups of individuals. Those principles often involve restraint or limitation of individual or group freedom. It has taken man thousands of years to evolve a somewhat effective ethical code guiding conduct between individuals and society. The land ethic that Leopold envisioned involved the synthesis of two conceptual elements. Concerning the first, Leopold stated that "all ethics so far evolved rest upon a simple premise: that the individual is a member of a community of interdependent parts. . . . The land ethic simply enlarges the boundaries of the community to include soils, waters, plants, and animals, or collectively: the land."<sup>54</sup> Secondly, the land ethic involves "the extension of social conscience from people to land."<sup>55</sup> Leopold felt that ultimately, our land management problems could only be solved through societal adoption of a land ethic which not only integrates man into the ecological concept of communities composed of interdependent parts, but proceeds one step further to attribute to the members of the land community the rights and respect presently afforded the human community.

Leopold believed that the flaw of the twentieth century conservation movement was its reliance upon economic motives; the implementation of a conservational practice was assured only when one could demonstrate that economic benefit would accrue from its adoption. The defect in that approach is that much of the earth biota have no economic value, in fact, whole biotic communities (swamp or desert communities, for example) often have none. Thus many elements of the land which have no clear economic value, but which may play an important role in stabilizing the physical

environment, tend to be ignored by man. To Leopold, the conservation movement, as popularly practiced, assumed ". . . that the economic parts of the biotic clock will function without the uneconomic parts."<sup>56</sup> In a man-land system governed by an ethical approach, economic criteria would not play the dominant role in determining man's actions upon the land. The existence of a land ethic approach would not preclude man from attempting to fulfill cultural wants but only insure that the primary criteria involved in the decision-making process in pursuit of those wants would be ethical criteria. The forest land ethic, as used in this paper, refers to the application of Leopold's philosophy to the guidance of man-forest land interactions.

How do the concepts of the man-forest land system contained within the Forest Practices Act compare to the concept of the forest land ethic? The philosophical intent behind the Forest Practices Act lacks the conceptual element which, in the final analysis, comprises the unique feature of a Leopold approach to man-forest land relationships, ie., the profession of respect for, and the recognition of the right to existence of each member of the forest land community. Each assertive pronouncement within the policy statement of the Act contains two concerns. They are: (1) a resolve to perpetuate the economic and social benefit derived via the timber resource; (2) a determination to minimize the disruption to the forest environment while in the pursuit of (1). The Act declares that the vital contributions that the forest resources make to man are "jobs, products, tax base, and other social and economic benefits". The inference may be drawn that the Act sets forth economic values as the primary benefits derived from the forest resources; the conclusion follows that the Act's intent to "encourage forest practices that maintain

and enhance such benefits" is based in large part on economic motives. The contemporary environmental movement, and the Forest Practices Act as a by-product of it, have resulted from societal desires, fueled by aesthetic and economic concerns, to restore or enhance the quality of the physical environment. Neither the environmental movement as a whole, nor the Forest Practices Act in particular, are characterized by the profession of a land ethic ideal.

In spite of its shortcomings, the Forest Practices Act has significance because it signals the realization of what we might label the first stage of Leopold's conceptual construction. It affirms that the forest land is indeed a community of interrelated, interdependent parts (man included), and that man must, therefore, manage the entire system, recognizing that his interplay with one forest resource may result in ramifications for the entire system of forest resources.

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## APPENDIX I

## OREGON FOREST PRACTICES ACT

527.610 Short title. ORS 527.610 to 527.730 and subsection (1) of ORS 527.990 are known as the Oregon Forest Practices Act.

527.620 Definitions for ORS 527.610 to 527.730. As used in ORS 527.610 to 527.730 and subsection (1) of ORS 527.990:

(1) "State Forester" means the State Forester or his duly authorized representative.

(2) "Operator" means any person who conducts an operation.

(3) "Board" means the State Board of Forestry.

(4) "Forest land" means land for which a primary use is the growing and harvesting of forest tree species.

(5) "Operation" means any commercial activity relating to the growing, harvesting or processing of forest tree species.

(6) "Landowner" means any individual, combination of individuals, partnership, corporation or association of whatever nature that holds an ownership interest in forest land, including the state and any political subdivision thereof.

(7) "Timber owner" means any individual, combination of individuals, partnership, corporation or association of whatever nature, other than a landowner, that holds an ownership interest in any forest tree species on forest land.

527.630 Policy. (1) Recognizing that the forest makes a vital contribution to Oregon by providing jobs, products, tax base and other social and economic benefits, by helping to maintain forest tree species, soil, air and water resources and by providing a habitat for wildlife and aquatic life, it is hereby declared to be the public policy of the State of Oregon to encourage

forest practices that maintain and enhance such benefits and such resources, and that recognize varying forest conditions.

(2) It is recognized that operations on forest land are already subject to other laws and to regulations of other agencies which deal primarily with consequences of such operations rather than the manner in which operations are conducted. It is further recognized that it is essential to avoid uncertainty and confusion in enforcement and implementation of such laws and regulations and in planning and carrying out operations on forest lands.

(3) To encourage forest practices implementing the policy of ORS 527.610 to 527.730 and 527.990 and to provide a mechanism for harmonizing, and helping to implement and enforce laws and regulations relating to forest land, it is declared to be in the public interest to vest in the board authority to develop and enforce regional rules:

(a) Designed to assure the continuous growing and harvesting of forest tree species and to protect the soil, air and water resources, including but not limited to streams, lakes and estuaries; and

(b) To achieve coordination among state agencies which are concerned with the forest environment.

527.640 Forest regions. The board shall establish a number of forest regions, but not less than three, necessary to achieve the purposes described in ORS 527.630.

527.650 Forest practice committees; members; qualifications; appointment; terms. (1) The board shall establish a forest practice committee for each forest region established pursuant to ORS 527.640. Each such committee shall consist of nine members, a majority of whom must reside in the region. Members of each committee shall be qualified by education or experience

in natural resource management and not less than two-thirds of the members of each committee shall be private landowners, private timber owners or authorized representatives of such landowners or timber owners who regularly engage in operations.

(2) Members of forest practice committees shall be appointed by the board for three year terms. Appointments under this subsection shall be made by the board within 60 days after July 1, 1972. If there is a vacancy for any cause, the board shall make an appointment to become immediately effective for the unexpired term. Each such committee shall select a chairman from among its members. A staff member of the State Forestry Department shall be designated by the State Forester to serve as the secretary, without voting power, for each such committee.

(3) Notwithstanding the terms of the committee members specified by subsection (2) of this section, of the members first appointed to each such committee:

- (a) Three shall serve for a term of one year.
- (b) Three shall serve for a term of two years.
- (c) Three shall serve for a term of three years.

527.660 Committees to recommend rules. Each forest practice committee shall recommend forest practice rules appropriate to the forest conditions within its region to the board.

527.670 Commencement of operations; notification of State Forester required; changes in operations. (1) The board shall designate the types of operations for which notice shall be required under this section.

(2) An operator, timber owner or landowner, before commencing an operation, shall notify the State Forester as required by subsection (3) of this section. The notification required by this subsection shall be filed with the State

Forester who shall then notify the Department of Revenue and the county assessor.

(3) The notification required by subsection (2) of this section shall be on forms provided by the State Forester and shall include the name and address of the operator, timber owner and landowner, the legal description of the operating area, and any other information considered by the State Forester to be necessary for the administration of the rules promulgated by the board pursuant to ORS 527.710. Promptly upon receipt of such notice, the State Forester shall mail a copy of the notice to whichever of the operator, timber owner or landowner did not submit the notification. The State Forester shall also mail to the operator, the timber owner and the landowner a copy of the rules applicable to the proposed operation.

(4) An operator, timber owner or landowner, whichever filed the original notification, shall notify the State Forester of any subsequent change in the information contained in the notification.

527.680 Violation by operator; citation; order to cease violation; order to repair damage; temporary order where violation continuing; service on operator. (1) Whenever the State Forester determines that an operator has committed a violation under subsection (1) of ORS 527.990, he may issue and serve a citation upon the operator or his authorized representative. The State Forester shall cause a copy of the citation to be mailed or delivered to the timber owner and landowner. Each citation issued under this section shall specify the nature of the violation charged and any damage or unsatisfactory condition that has occurred as the result of such violation.

(2) Whenever a citation is served pursuant to subsection (1) of this section, the State Forester:

(a) Shall issue and serve upon the operator or his authorized representative an order directing that the operator cease further violation and shall cause a copy of such order to be mailed or delivered to the timber owner or landowner; and

(b) May issue and serve an order upon the operator and shall cause a copy of such order to be mailed or delivered to the timber owner and landowner, directing the operator, where practical and economically feasible, to make reasonable efforts to repair the damage or correct the unsatisfactory condition specified in the citation within a period specified by the State Forester.

(3) In the event the order issued under paragraph (a) of subsection (2) of this section has not been complied with, and the violation specified in such order is resulting continuing damage, the State Forester by temporary order, may direct the operator to cease any further activity in that portion of the operation that is resulting in such damage. Such temporary order shall be in effect until the date of the expiration of the period as prescribed in subsection (4) of this section or until the date that the violation ceases, whichever date occurs first.

(4) A temporary order issued under subsection (3) of this section shall be served upon the operator or his authorized representative, and the State Forester shall cause a copy of such temporary order to be mailed or delivered to the timber owner and landowner. If requested by the operator, timber owner or landowner, the board, following the appeal procedures of ORS 527.700, must hold a hearing on the temporary order within five working days after the receipt by the board of the request. A temporary order issued and served pursuant to subsection (3) of this section shall remain in effect not more than five working days after such hearing unless the

order is sooner affirmed, modified or revoked by the board.

527.690 Failure to comply with order to repair damage; estimate of cost of repair; notification; board may order repair completed; cost of repair as lien upon operator, timber owner or landowner. (1) In the event an order issued pursuant to paragraph (b) of subsection (2) of ORS 527.680 directs the repair of damage or correction of an unsatisfactory condition, and if the operator does not comply with the order within the period specified in such order, the State Forester shall estimate the cost to repair the damage or the unsatisfactory condition as directed by the order and shall notify the operator, timber owner and landowner in writing of the amount of the estimate. Upon agreement of the operator, timber owner or landowner to pay the cost, the State Forester may proceed to repair the damage or the unsatisfactory condition. In the event approval of the expenditure is not obtained within 30 days after notification to the operator, timber owner and landowner under this section, the State Forester shall present to the board the alleged violation, the estimate of the expenditure to repair the damage or unsatisfactory condition and the justification for the expenditure.

(2) The board shall review the matter presented to it pursuant to subsection (1) of this section and shall determine whether to authorize the State Forester to proceed to repair the damage or correct the unsatisfactory condition and the amount authorized for expenditure. The board shall afford the operator, timber owner or landowner the opportunity to appear before the board for the purpose of presenting facts pertaining to the alleged violation and the proposed expenditure.

(3) If the board authorizes the State Forester to repair the damage or correct the unsatisfactory condition, the State Forester shall proceed,

either with his own forces or by contract, to repair the damage or correct the unsatisfactory condition. The State Forester shall keep a complete account of direct expenditures incurred, and upon completion of the work, shall prepare an itemized statement thereof and shall deliver a copy to the operator, timber owner and landowner. In no event shall the expenditures exceed the amount authorized by subsection (2) of this section. An itemized statement of the direct expenditures incurred by the State Forester, certified by the State Forester, shall be accepted as prima facie evidence of such expenditures in any proceeding authorized by this section.

(4) The expenditures in cases covered by this section shall constitute a general lien upon the real and personal property of the operator, timber owner and landowner within the county in which the damage occurred. A written notice of the lien, containing a statement of the demand, the description of the property upon which the expenditures were made and the name of the parties against whom the lien attaches, shall be certified under oath by the State Forester and filed in the office of the county clerk of the county or counties in which the expenditures were made within six months after the date of delivery of the itemized statement referred to in subsection (3) of this section, and may be foreclosed in the manner and with like effect as the liens created by ORS 87.010.

(5) Liens provided for in this section shall cease to exist unless suit for foreclosure is instituted within six months from the date of filing under subsection (4) of this section.

527.700 Appeals from orders of State Forester; appeals committee; hearings; judicial review. (1) Any operator, timber owner or landowner affected by any finding or order of the State Forester issued pursuant to ORS 527.680 or 527.690 may appeal to the State Board of Forestry.

(2) The board may delegate to an appeals committee, comprised of members

of the board, the authority to hear and decide appeals taken under this section. The board shall designate the appeals committee in the same manner that other committees of the board are designated. Any other member of the board is authorized to serve as an alternate to the appeals committee in the absence or incapacity of a member of the committee upon appointment by the chairman of the board. The board may establish such rules as it deems appropriate for the hearing of the appeals.

(3) A request for a judicial review of any decision of the appeals committee may be taken by any operator, timber owner or landowner affected by such decision. The review shall be taken to the circuit court of the county in which the land or any part thereof affected by the decision is located and must be taken within 30 days from the date of the decision by the appeals committee of the State Board of Forestry.

527.710 Duties and powers of board. The board, in carrying out the purpose of ORS 527.610 to 527.730 and subsection (1) of ORS 527.990:

(1) Where necessary to accomplish the purpose specified in ORS 527.630, shall promulgate, in accordance with applicable provisions of ORS chapter 183, rules to be administered by the State Forester establishing minimum standards for forest practices in each region or subregion, relating to the following:

- (a) Reforestation of forest land economically suitable therefor;
- (b) Road construction and maintenance operations on forest lands;
- (c) Harvesting of forest tree species;
- (d) Applications of chemicals on forest land; and
- (e) Disposal of slashing on forest land.

(2) Before promulgating such rules, shall consult with other agencies of this state or any of its political subdivisions that have functions with respect to the purposes specified in ORS 527.630; and

(3) May enter into cooperative agreements or contracts necessary in carrying out the purposes specified in ORS 527.630.

527.720 Purposes of rules; presumption of compliance with rules of other agencies. (1) Rules promulgated pursuant to ORS 527.710, in order to achieve the purpose of ORS 527.630, shall be designed to meet the objectives of the rules and regulations of other agencies in so far as they pertain to forest land.

(2) An operation performed in compliance with rules of the board designed to meet the rules and regulations of other agencies, and when such rules so designed have been approved by the other agencies pursuant to the review required by subsection (2) of ORS 527.710, shall be presumed to have complied with such other rules and regulations.

527.730 Construction. Nothing in ORS 527.610 to 527.730 and subsection (1) of ORS 527.990 shall prevent the conversion of forest land to any other use.

#### PENALTIES

527.990 Penalties. (1) Violation of ORS 527.670 or any rule promulgated under 527.710 is punishable, upon conviction, as a misdemeanor. Each day of operation in violation of an order issued under subsection (3) of ORS 527.680 shall be deemed to be a separate offense.

(2) Violation of subsection (1) of ORS 527.260 is a misdemeanor. Violation of subsection (3) of ORS 527.260 is punishable, upon conviction, by a fine of not more than \$250 or by imprisonment in the county jail for not more than 60 days, or both.

(3) Violation of ORS 527.540 is punishable upon conviction, by a fine of not more than \$100 or by imprisonment in the county jail for not more than 30 days, or both.

## APPENDIX II

## REGIONAL FOREST PRACTICE COMMITTEE MEMBERSHIPS

## Northwest Oregon Region

Mr. G.W. Nutter, Logging Manager  
N.W. Timber Division, Crown Zellerbach Corp.

Mr. Daniel Reese  
The Radjford Co.

Mr. Marvin Coats, Vice President  
Lands and Timber, Willamette Industries

Mr. Bruce Starker  
Owner-Manager, Starker Forests

Mr. Robert W. Madison, Division Forester  
Publishers Paper Co.

Mr. Rex Brown  
Carleton, Oregon

Mr. Robert F. Kline  
Georgia-Pacific Corp.

Mr. David Charlton  
Consulting Bacteriologist  
Metallurgical Engineers, Inc.

Mr. Richard Posekany  
Frank Lumber Company

## Southwest Oregon Region

Mr. Cliff Bryden, Woods Manager  
Roseburg Lumber Company

Mr. Jack Hanel  
Pacific Power and Light

Mr. Oscar Weed  
Western Oregon Timberlands Manager  
Weyerhaeuser Co.

Mr. Calvin W. Heckard  
Ashland, Oregon

Mr. B. Sam Taylor, Assistant Region Manager  
Boise Cascade Corp.

Col. Charles Kirk  
Ashland, Oregon

Mr. Charles Foster, Woodlands Manager  
International Paper Company

Mr. L.L. Lowell, Forester  
Woolley Log Co.  
Smith River Lumber Co.  
Drain Plywood Co.  
Mt. Baldy Mill, Inc.

Mr. Fred Sohn, President  
Sun Studs, Inc.

## Eastern Oregon Region

Mr. Bernard Agrons, Timberlands Manager  
Weyerhaeuser Co.

Mr. George Hanson  
Canyon City, Oregon

Mr. Jack Anderson, Resource Manager  
Louisiana Pacific Corp.

Mr. Loren Hughes  
La Grande, Oregon

Mr. Glen Parsons, Land Administrator  
Boise Cascade Corp.

Mr. Leo B. Morstad  
Klamath Falls, Oregon

Mr. Ted Young, Timberlands Manager  
Brooks Scanlon, Inc.

Mr. Walter Shumway, President  
Bar Running N Ranches, Inc.

Mr. Frank Thomas, Head Forester  
Eastern Oregon Mountain Fir Lumber Co.

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