(1) Intensifying management of timber through reforestation and stand improvement, balloon logging, fertilizing forests, and improved access.

(2) Increasing allowable cuts by shortening rotations, accelerating the liquidation of old growth and thereby maximizing in-

terest returns.

(3) Permitting logs to be exported from Alaska national forests.

Intensifying Management

We agree that intensifying management of national forest timber and improving access are desirable actions, justifying the costs involved. These actions would serve to increase timber yields. The effects of reforestation and timber stand improvement work can be reflected quite promptly in allowable cut provisions, but financing the large amount of this needed work and actually accomplishing it would, from a practical standpoint, need to be done over a period of years. Its benefits, therefore, would need to be phased in over a comparable span. We would not be in agreement with any suggestion the allowable cut be increased now, anticipating that the supporting forestry work will be accomplished some time in the future.

Balloon logging and utilization are still in the experimental stages and cannot be quantatively considered now in determining the allowable cut. The need at this time is for additional research which may lead in time to the development of economic aerial logging systems and methods of forest fertilization. There is a related need for research to develop ways of economically controlling and harvesting mortality

from insects and disease.

We oppose suggestions for proposals for rapid liquidation of oldgrowth timber and immediate shortening of rotations. This suggestion was first made in a manuscript prepared under the leadership of Dr. William A. Duerr at the Pacific Northwest Forest and Range Experiment Station in the period 1958-60. This manuscript, most of which was subsequently published as a Forest Service report, "Timber Trends in Western Oregon and Western Washington," considered at some length the question of the rate of old-growth timber liquidation in the Pacific Northwest.

Dr. Duerr's first review draft of the manuscript discussed a rapid acceleration of cutting which would result in the liquidation of most of the old-growth, publicly owned timber in the Douglas-fir region in a period of about 40 years. This was not presented as a proposal but to serve in analyzing impacts of changes in management policies. It was not published or considered as a practical management alternative because of undesirable social, economic, and technical effects that would

result from such a drastic change in the allowable cut.

The review manuscript did not adequately evaluate the feasibility and costs of expanded programs of forest regeneration, thinning of young stands, and of increasing log harvests through salvage which would be involved in such an acceleration of cutting. In addition, some of the basic assumptions underlying the discussion are unlikely to be realized. For example, it was assumed that private cutting would be increased to partly offset the necessary drastic reduction in cut on public lands after the public old-growth timber was liquidated. It is very