

been the case in the past, the public would have the use of any roads in the national forest that might be built for mining or logging.

The majority of the mineral deposits in the metallized areas are of the vein type and would require underground mining methods to remove the ore. Such mining operations do not leave huge open pits on the surface but require only a small opening at the surface. On large disseminated metal deposits, such as Kennecott's copper deposit near Glacier Peak, underground block caving could probably be used, as heavy snowfalls would make open pit mining difficult. Once the minerals have been extracted, the portal to the mine could be closed. Current interest tends more to the large low-grade ore deposits, some of which undoubtedly would have to be mined by open pit methods, but such open pits are tiny by comparison with the vast natural exposures of bare rock that are so widespread in the North Cascades.

In the North Cascades, where the growth of vegetation is rapid, the works of man, such as abandoned mines, are soon obliterated. From 1900 to 1958, the production of minerals from the North Cascades areas in and adjacent to the lands classified by S. 1321 has been in the neighborhood of 69 million dollars. Few people are aware of this activity, as the mines from which the metals came occupy very small areas and make up only a tiny fraction of the total landscape.

The largest mine in the Cascades was the Howe Sound property at Holden, on Railroad Creek, just outside the eastern border of the Glacier Peak Wilderness. In the 20-year period that this mine was in operation it produced metals having a total value of \$66,494,712. The ore deposit was discovered in 1887, but did not come into production until 1938, after 10 years of exploration and development. After producing \$38,434,257 in copper, \$20,703,414 in gold, \$5,679,529 in zinc, and \$1,677,512 in silver from 10 million tons of ore, the mine became unprofitable and was closed in 1957. The company then gave its Holden property to the Lutheran Church, which now maintains an attractive and much-used recreational camp, using some of the old mine-camp buildings for housing and recreation, and using the mine road for access.

The most recent Federal investigation of the mineral resources in the North Cascades is the study now nearing completion that was required by the Wilderness Act of 1964. This 3-year investigation by parties from both the U.S. Geological Survey and the U.S. Bureau of Mines has covered the 801,000-acre North Cascades Primitive area, which comprises the Pasayten Wilderness, the north part of the North Cascade National Park, and part of the Ross Lake National Recreation Area proposed by S. 1321.

William Pecora, Director of the U.S. Geological Survey, reports that \$600,000 has been spent on this work. This would be a shameful waste of the taxpayers' dollars if any legislation were to be passed prior to the time the results of this Federal Survey can be made available, not only to Congress but also to all interested parties. This means that the results must be published, so they will be readily available to all.

Currently the North Cascades have something to offer to all, and still most of the area can retain its primitive condition. However, with the creation of a National Park and restricted-use wilderness and recreation areas, the problems and congestion that plague the present National Parks in the west will be forced upon the North Cascades. The most logical approach to the management of the North Cascades appears to be the present multiple-use concept. Most of the area is suitable only for recreation, and increased access to the scenic parts of the North Cascades would be in the interest of the majority of the people who would use the area. Carefully regulated grazing, logging, and mining operations would affect only an extremely small part of the 1.2 million to 1.9 million acres under consideration and would not seriously impair the overall recreation values of the north Cascades.

Our modern society is recreation oriented, primarily because of the very high standard of living that we enjoy as an industrial nation. To maintain this standard we are dependent upon the continued availability of essential minerals.

Walter R. Hibbard, Director of the U.S. Bureau of Mines, has stated that the United States has used more minerals in the past 30 years than did the rest of the world in all recorded history. On a per capita basis we use 7 times as much steel, 9 times as much aluminum, and 6 times as much copper, lead, and zinc as the rest of the world. Each year the per capita consumption of minerals in the United States rapidly increases.

In the minerals vitally important to our economy, our country is by no means self dependent, and it is becoming less so each year. From 1953 through 1957