

Shifting sands causing problems on highway

by Marsha Shewczyk

An 80 acre sand dune, 87 percent of which is owned by Warm Springs tribal members, is encroaching upon Interstate 84 east of The Dalles. It is presenting a safety hazard to traffic on both the Union Pacific Railway and on the the east-west freeway.

After ten-years researching the problem a solution involving the Warm Springs Tribe will be undertaken. The Tribe has granted permission for the State of Oregon to quarry rock from the part of the dune owned by the Tribe and its tribal members to stop movement of the sand dune.

This sand dune has been slowly moving towards the interstate freeway for years. But as it creeps closer to the highway and the railroad tracks the sand is creating a safety hazard along with increasing the cost for the sand's removal each year.

The history of the sand dune began 10-20 thousand years back when towards the end of the last Ice Age an ice dam which blocked the Columbia River gave way. Five-hundred cubic miles of water was released into the Columbia River drainage producing a catastrophic flood from northeastern Washington to Portland, Oregon. Flood waters reached elevations of 800-1000 feet, stripping away the existing soil cover and leaving only barren land along the gorge.

Since that time strong westerly winds have funneled the sand from deposits, collecting it to form the dunes. Eight other active but smaller dunes exist in this general area.

Little dune movement occurs in the winter and spring months when the sand is wet. But when dry the dune is active, migrating towards the Columbia Rivker.

Aerial photographs taken in 1954, 1972 and 1982 show that the windward edge of the dune has advanced at the rate of approximately 250 feet in ten years or about 25 feet per year. At this rate the dune will move across the highway in approximately 130 years.

The Oregon State Highway Department has taken responsibility for removing the sand off the highway since 1956 when the highway was relocated to the south side of the Union Pacific railroad tracks by the U.S. Corps of Engineers as a result of the Dalles Dam construction.

The sand blowing onto the highway and the tracks was only a minor problem, initially. However, each succeeding year, more and more sand blows onto the highway and has to be removed.

Costs began increasing dramatically in 1965 when the freeway was opened. It was a 16.6 mile round trip to deposit the sand at a dump site.

Starting in 1980 sites with easy covering capabilities were no longer available and the sand was dumped into a wide moat next to Interstate 84, two miles east of the dune. The sand still had to be covered to prevent its blowing. To obtain the covering a 30 mile round trip was necessary.

In 1978 4,500 cubic yards of sand was removed from the highway taking 15 days at a



The sand dune marked Barrow's Area located seven miles east of The Dalles is slowly moving towards the Columbia River. The fine particled sand continuously has to be removed from the highway and railroad tracks to ensure safety. The Confederated Tribes of Warm Springs has donated rock from sections owned by the Tribe and its members to stabilize the dune. Work will begin this summer.

cost of \$10,000. In 1980, 38 days were spent to remove 11,000 cubic yards of sand at a cost of \$27,000. In 1981, 18,000 cubic yards of sand was hauled away taking 50 days at a cost of \$39,500. If the sand dune is not stabilized, the estimated annual cost for its removal by 1991 will be \$100 thousand annually.

The threat to public safety as well as the cost to the public are the primary considerations in discussion of the sand dune problem. The Union Pacific railway provides both freight and passenger service with a volume of 30 trains per day across the affected track. The interstate freeway has a traffic volume of approximately 7,300 vehicles daily.

The railway company's concern is for track alignment problems. The sand which blows from the dune filters into the ballast rock under the tracks causing the track structure to lose its resiliency, which in turn causes excessive rail wear and alignment problems.

On jointed rails the sand causes the joints to bind to the rail rather than allowing horizontal movement. In certain conditions and in hot weather expansion could cause the track to kink out of line.

Many ideas have been studied to eliminate the sand dune problem including the use of brush fences, straw mulch, mulch seeding of cereal eye, covering with tires, asphalt or cement. A mineral cover was decided upon as the best way to stabilize the dune.

The process of depositing a mineral blanket followed by aerial reseeding will begin in the fall of this year with work

continuing through the winter and spring if necessary.

After discussions with all the land owners involved as to the treatment of the dune the Warm Springs Tribe gave permission for the rock to be used as the mineral cover to be taken from the tribal property free of charge. The Oregon State High Department will distribute the rock over the dune.

Various types of vegetation will be seeded in the mineral cover according to steepness of slopes, moisture conditions, livestock exposure, wind exposure and visual impact. Both native and imported species will be used.

In permitting use of rock from land owned by the Warm

Springs tribal members the tribe acted as a landowner in the discussion of the problem. Because the land is located off the reservation it is under the jurisdiction of the superintendent. "The Tribe acted in the capacity as the majority land owner," according to Warm Springs soil conversationists Dean Elliot. They acted with other owners of the dune.

A cooperative agreement was reached between the superintendent, the Department of Transportation, the Union Pacific Railway and the Wasco County Soil Conservation District in deciding what to do to halt the dune's activity.

The cost of the project is estimated to be \$200,000. The

Union Pacific Railway is buffering the cost by paying one-third of the expenses in an effort to protect its interests.

As it stands now the sand dune produces nothing. With the new mineral cover and reseeding the dune's potential will increase. After grass is established, it may be possible to use the land for grazing. Wildlife should increase also, Elliott commented.

Trespass has been a problem in the past. Dune buggies and artifact hunters frequent the

area. A rock cover will discourage both. The area will be unsuitable for buggies and artifacts will be covered and thus preserved.

COCC may be faced with closure

In a statement to the Board of Directors June 9, COCC President Fred Boyle said that without an approved operating budget, the College will not be able to open this fall.

Directors agreed to present a reduced levy to voters August 10. Boyle announced that, "If we cannot pass a budget on August 10, then I would propose to give all employees of the College termination notices effective September 22, 1982."

Because two previous levy attempts have failed, any carryover funds will have to be reserved to pay unemployment claims.

In other business, the Directors reviewed the nursing program admission criteria and found it to be fair, honest and most responsive in meeting the

community's needs for selecting qualified students.

The Board also approved a change in senior citizen tuition. Rather than being admitted free of charge to all classes and events under present policy, seniors will be asked to pay one-half price. However,

Forestry camp in July

The Western Forestry Center will have two, one-week camp sessions for youth in 6th through 12th grades in July. Campers will stay at the Center's tree farm near Wilsonville. From there they will travel to sites throughout Northwest Oregon.

Each session costs \$85.00, enrollment is limited and a number of scholarships are available to those who cannot afford the camp fees.

courses and programs under the Senior Citizens Service Program will be offered for free, or at minimal fee, to cover the cost of the program.

Six faculty members meeting specific requirements were promoted, while an equal number were awarded tenure.

Although the Forestry Camp is not a 4-H program, information was sent to county 4-H Extension Agent. However, there are some excellent project materials available for 4-H Forestry Club leaders and members.

Contact Doris at the Warm Springs Extension Office (553-1161, ext. 238) for more information about the Summer Forest Camp or 4-H Forestry projects.