



Bagging to burn-Eddie Henderson puts deadly tansy ragwort plants in garbage bags so they can be hauled to the dump and burned. The plants are burned to eliminate their chances of surviving and spreading.

Spilyay Tymoo photo by Stwyer

Deadly tansy ragwort being removed from reservation

In an effort to prevent tansy ragwort from spreading any further on the reservation, the Extension service has employed Ernie Henderson for 500 working hours to pull out and burn the plants.

Tansy ragwort causes liver damage to livestock and wildlife if they eat it and can result in death. The weed although confined mainly to the northwest corner of the reservation, has been spotted as far down as Badger Creek. If the weed is allowed to spread where larger numbers of cattle are the losses of livestock would be severe.

No deaths have been caused by tansy ragwort on the reservation yet so the extension service's only concern now is the potential danger of the plant and not the fact that it's killed something. "We could have a lot of deaths if we allow it to spread," said Extension agent Clint Jacks. "If it's a new weed that cattle and horses haven't seen they're going start nibbling on it."

Tansy ragwort plants are not very palatable so the large plants are usually not eaten. Seedlings can be accidentally eaten by cattle and horses in a pasture situation and cause poisoning.

Beginning work early in the morning, Henderson, helped by his two sons and a friend, search the clearcuts and roadsides for tansy ragwort. When they locate some plants, they begin pulling them out root and all and pile them on stumps. The plants are collected from the stumps after work every day and hauled to the dump where they are burned. Plants left behind are sprayed for seed and die a short time later.

Tansy ragwort is a biennial plant, which means it takes two years before it completes its life cycle, and has to reseed to live. The plants spread principally by seeds and one plant can produce as many as 150,000 seeds. Most of the seeds fall within a few hundred feet of the parent plant but some are carried great distances by wind and water. Tansy ragwort plants can survive through hot and dry summers and in areas with temperatures reaching 20 degrees below zero.

The cinnabar moth larva has been imported to the reservation to help eliminate tansy ragwort. Cinnabar moth larvae are very specific to tansy ragwort and won't eat anything else. Biological control has worked successfully in the

Williamette Valley but Jacks doesn't know if it'll work over here.

The Extension service has a five-year program to eliminate the tansy ragwort and they hope to see a good reduction after the first year.



POISONOUS PLANTS- Tansy Ragwort, like these one-year old plants, can be fatal to cattle, horses, and wildlife if they eat them.

Spilyay Tymoo photo by Stwyer

Kah-Nee-Ta's licenses withdrawn, but water tests O.K.

by Cynthia Stowell

Concerned about the quality of domestic water at Kah-Nee-Ta, the Oregon Health Division has cancelled the resort's operating licenses, maintaining that the state does not have jurisdiction on the reservation. Meanwhile, an independent study of Kah-Nee-Ta's water system has so far indicated that the water is good.

The license cancellation followed a report by the district sanitarian that pointed out numerous problems with the structure and performance of the water filtration system. Kah-Nee-Ta manager Bill Pauli remarked, "I can appreciate (the district sanitarian's) concern, but I don't believe the reason for the license removal is bad water—I think it's just a matter of jurisdiction."

Chief of Environmental Services for the state Doug Pike concurred. While the sanitarian's August 7 water sample showed some contamination, the decision to remove licenses was not the direct outcome. The incident simply brought the legal problem to the attention of the Health Division. "I wasn't aware we were issuing licenses until this came up," said Pike. But legal counsel soon advised the state that it did not have the authority to enforce its regulations while still risking liability, so the licenses were withdrawn.

The Health Division had been issuing three types of licenses at Kah-Nee-Ta: for the travel accommodations, restaurants and swimming pools. These "courtesy" licenses were probably requested by the Tribes years ago when the Wasco County

Health Department was responsible for licensing, said Pike. When authority was transferred to the state in 1973, Kah-Nee-Ta's licenses went from one computer to the other unnoticed, with the county still inspecting under contract with the state.

While the state's familiar green and yellow certificates will no longer be posted at Kah-Nee-Ta, Pike predicted that inspection services could continue, although it might require a special contract. Pike noted that licenses will still be issued to private citizens who operate facilities on the reservation.

Patching it back together

The Environmental Protection Agency is taking up where the state left off by giving Kah-Nee-Ta three directives: to filter all water going into the storage tank, to ensure that all water is in contact with chlorine for at least 30 minutes, and to maintain a chlorine residual level of .4 in the water supply. A report on compliance is due by September 5, but Pauli says that Kah-Nee-Ta is already meeting nearly all the standards. Pike in turn said he had received word from EPA that Kah-Nee-Ta had "patched the (water) system back together" and that it was being "operated satisfactorily."

"We don't think there's anything wrong with the water," said Pauli, but just in case there is, we're having it studied by an independent engineering firm." Century West Engineering in Bend has been taking daily water samples since August 14, and according to Jeff Daggett, none have turned up coliforms, indicators of bacterial contamination. Century West

is also inspecting the water distribution, treatment and collection system, and although Daggett was reluctant to offer impressions before the final report is completed September 10, he said simply, "It seems adequate."

Sick employees

An employee complaining of digestive ailments started the recent chain of events by calling the Wasco County Health Department in early August. Dennis Illingworth from the county and Ed Barnes, the district sanitarian from Bend, visited Kah-Nee-Ta on the afternoon of August 7 to take samples, look over the system and talk with employees. Barnes' report stated that he had found five other workers who shared the symptoms of diarrhea and vomiting and that "in many instances" their symptoms disappeared when they stopped drinking the water.

Illingworth was more cautious about linking the employee illnesses with the water, but stated that "the potential is there. The system is not a correct water system and it does not meet federal or state standards."

Illingworth, who had previously inspected only kitchen facilities at Kah-Nee-Ta, decided after the early August phone call that it was time to take a look at the water system. In addition to a formal complaint registered last year, Illingworth said that he continued to hear comments about the water every time he inspected the facilities and finally decided it was "time something was done."

What he and Barnes did on August 7 was to take one water sample at the Juniper Kitchen and two samples of

raw river water, as well as examine the functioning of the entire system. Their Juniper sample revealed bacterial contamination at the level of 12 parts per 100 milliliters, causing Illingworth to conclude, "The place should not be using that water." Barnes recommended that Kah-Nee-Ta's licenses be withdrawn.

Mixing good with the bad

The major problem in Illingworth's mind is that there exists a "potential that both treated and untreated water enter the system at the same time." By "untreated" water, he means river water that is pumped directly into the distribution system without being filtered or chlorinated.

Barnes also pointed out stagnation in the Warm Springs River near the intake, large amounts of organic material in the storage tank, and problems with the filtration system's self-cleaning mechanism. In a written response to the Health Division, Pauli said that Barnes' report was "based on inaccurate information, insufficient data and testing, a lack of knowledge of the water system, and erroneous interpretations of fact."

However, Pauli said the sanitarian's report was being used for "in-house purposes" and some changes have been made since the August 7 visit. But he is counting on Century West's month-long study to offer the bottom line on the performance of Kah-Nee-Ta's water system.

Human error

The Barnes report served to correct a problem that, according to engineer Puri, never should have existed. Puri

designed Kah-Nee-Ta's first real filtration system, which was installed early this spring. But operators, worried that guests' needs could not be met with the new slower pumps, were at times bypassing the filtration plant and pumping river water directly to consumers.

Puri has maintained all along that the 295,000 gallons per day pumping capability combined with the 500,000 gallon storage tank can more than adequately provide for resort guests, who consume an average of 200,000 gallons a day and have not exceeded 400,000 gallons a day in the past year.

Pauli, who was admittedly skeptical, now agrees that the system is adequate for Kah-Nee-Ta's needs. As long as he has the authority, Pauli will see to it that all of Kah-Nee-Ta's water passes through the filtration plant.

Increasing chlorine contact

The decision to use only filtered water after Barnes' visit was apparently the key to solving Kah-Nee-Ta's immediate water problems. Tests since then have all been negative. But chlorination is still not up to EPA standards in at least one section of the resort. While EPA requires 30 minutes contact time with chlorine, water at the Village is only in contact with the chemical disinfectant for a little over 10 minutes. Puri does not see this as a problem, however.

Explaining that the more particles in the water the more contact time is needed, Puri feels that since all Kah-Nee-Ta's water is now filtered, chlorination time need not be that long. Besides, 80-90% of the bacteria are killed in the

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