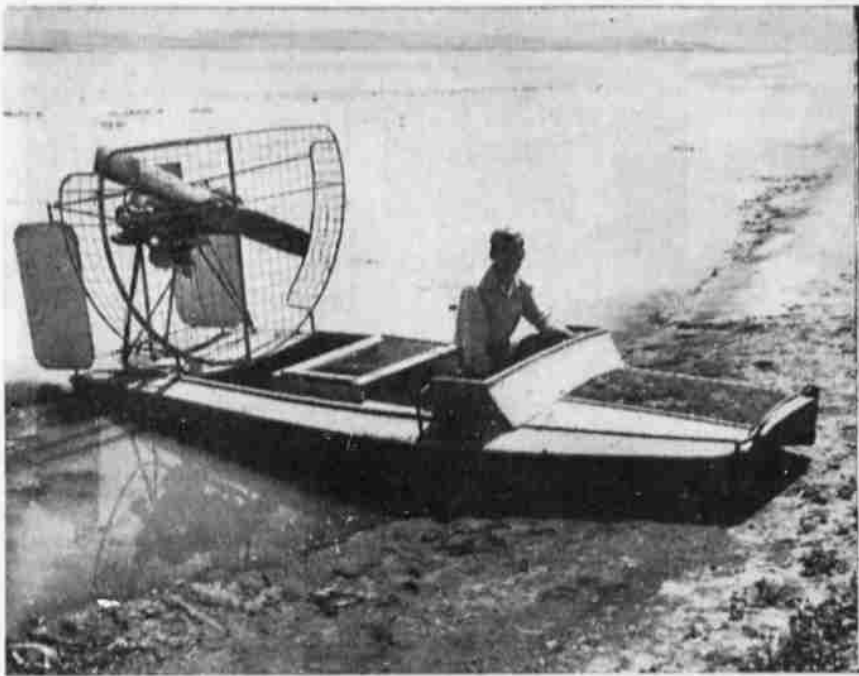


Tulelake Duck Hospital Saves Botulism Victims



AN AIR THRUST boat is used to pick up the ducks from the swamp and return them to a central loading dock deep in the heart of the reserve.



THEY COME LOADED IN PENS like the one shown above. Workers put all they find in the boxes and haul them from the reserve to the hospital where they are lifted out for inspection.



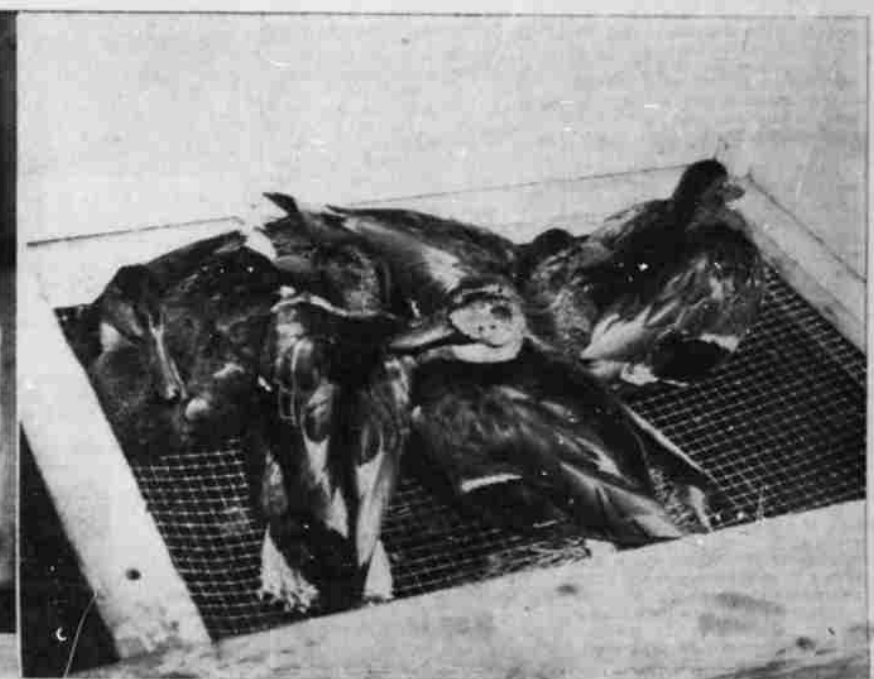
A DRINK OF WATER is the first thing the afflicted duck is treated to. Here Bob Russell (left) and Leroy Giles give this pintail a drink with the aid of a long rubber tube and a bulb.



LEECHES SOMETIMES CHOKE the helpless ducks before help arrives. Here James Fisher (right) holds a pintail while Russell pulls a leech out of the bird's nostrils with a pair of tweezers.



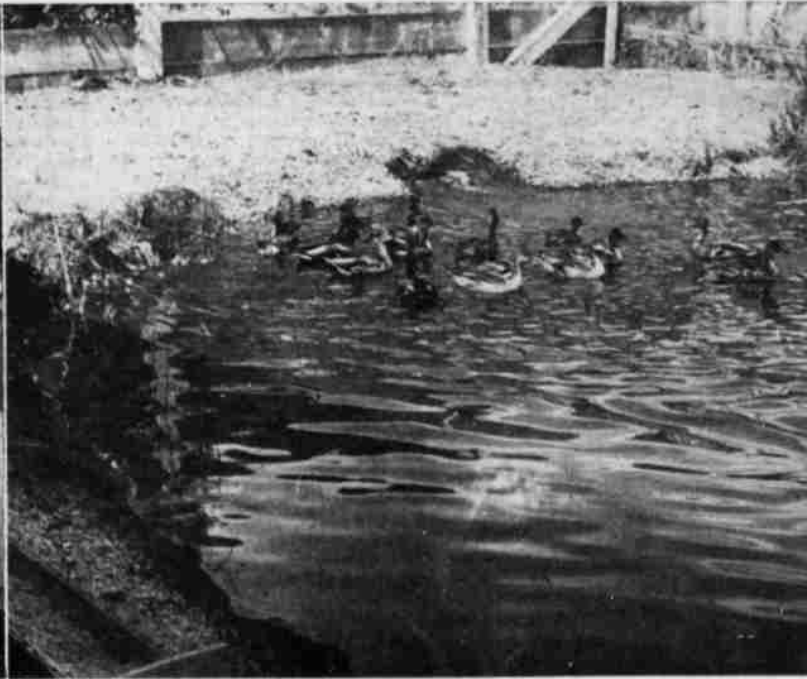
ANTI-TOXIN IS ADMINISTERED to the most seriously ill ducks in the effort to revive them. Here is Russell again, giving a mighty sick duck the treatment.



THESE DUCKS ARE RESTING in the raised, mesh-wired bottom pens following their first treatment. They'll stay here until they are well enough to be released to the pond.



ALMOST WELL, so this duck is lifted from the pen to be taken to the big pond, where he will be watered and fed until his complete recovery.



PADDLING HAPPILY IN THE WATER these ducks can eat their fill of barley and loaf until such time as they are well enough to fly over the eight-foot fence surrounding the pool and rejoin their flocks for the migration south.



A LONG SHED IN THE SUN houses the duck hospital. The operation is located at the site used during the CCC days for the same purpose, at headquarters on the West-side road out of Tulelake.

By BILL JENKINS

Botulism, the ever-threatening western duck disease, is again taking its toll of the southbound bird population in the Klamath basin area. Combatting the disease is a crew of 11 government men who work up to 18 hours a day taking care of the sick ducks and nursing them back to health. These pictures were taken last week at the duck hospital site on the Tulelake westside road where up to 40 and 50 ducks a day are rescued from the marshes and put back in flying condition.

Botulism is the disease often referred to by duck hunters as the "limber-necked disease" due to the fact that a stricken bird is unable to hold up his head. He cannot use either his wings or his legs when badly hit and a general weakness leaves him easy prey to duck hawks, owls, starvation, thirst and leeches.

Called the "western duck disease" botulism occurs only in alkaline soil and thus is limited largely to the western states and to certain parts of Canada and the Midwest.

Research by government biologists has pointed to the fact that the disease is caused by an anerobic organism (one that can and does live in the absence of oxygen) and is related to the food poisoning suffered by humans. The main danger areas are always those bordering shallow

stretches of water where the shoveller ducks dip into the mud and strain out their food. They take in the organism which thrives in the airless mud and in a short time are rendered helpless.

There are, of course, differing theories as to the cause of the illness. One theory has been advanced in this area is that it is an outgrowth of lead poisoning caused by the millions of shotgun pellets that fall into the water. Another belief that has held sway for many years is that the "swamp gas" that bubbles through the water is the cause. Whatever it may be, the disease accounts for deaths of untold thousands of ducks each year despite efforts to control it.

At the present time an 11-man crew is kept busy picking up and treating the ducks on the lower lake reserve. The birds are picked up with the aid of an aero-thrust boat. This is a thin metal shell powered with a four-cylinder airplane type motor and propeller mounted on the rear enabling the boat to travel over very shallow stretches of water. In fact, it will travel over wet mud if sufficiently pushed.

After the birds are picked up they are brought in by truck over the 13-mile route to the hospital. Each duck is first given a drink of water. This is done by shoving a rubber tube down its throat and squeezing in a bulb full of

water. Affected birds are unable to drink due to their limber-necked condition, and often drown due to this cause.

With the use of their necks gone the ducks fall easy prey to leeches which swarm in these areas. The leeches crawl up the duck's nostrils and cut off his air, choking him to death. Biologists pull the leeches out with the aid of a pair of small tweezers and make sure the nasal passages of the bird are clear.

When a duck is badly stricken he is given a shot of botulism anti-toxin, followed by a second shot if necessary. Their eyes are then cleaned. One symptom of the disease is the presence of a mucous substance secreted around the eyes of the duck. As they are unable to dip their heads in the water this substance hardens and serves to blind the bird. This scum is carefully washed from around the eyes before the duck is placed in a resting pen.

When a duck is well enough to raise his head and has regained at least partial use of his legs he is moved to the "graduation center." This is a pool, about 50 feet long, enclosed by a wire mesh fence eight feet high. Running water flows through the pool at all times and an ample supply of barley is kept laid out in the troughs and tossed into the water for the ducks.

When a bird has recovered the use of his wings well enough to be able to clear the fence he is considered cured. This may take anywhere from three days to two weeks.

Botulism in direct relation to the size of the duck, just as food poisoning strikes the weak a harder blow than the healthy man. This is given as the main reason why geese so seldom suffer from the disease. Their great size and the fact that they seldom feed in the same areas combine to give them at least a partial immunity from the disease.

Control measures adopted in addition to the hospital are herding of the ducks to keep them away from the infected areas and an effort to control the water levels so that the organism will be unable to live in the feeding area. This is done by control of ditches and by draining some areas. Dry areas will not sustain the disease and thus are safe for the ducks as resting grounds.

Some trouble has been encountered this year in that south winds of any velocity tending to pile the water up at the dike end of the reserve creating ideal conditions for the disease. The area will be flooded, if enough water is available, prior to duck season this year and this will erase the disease. Straight up and down ditches will not support the disease as ducks will not feed in these areas.