

# Wetlands provide benefits to community, wildlife

Let's start with a brief introduction to wetlands. Wetlands can be either natural (much like the one located at Warm Springs Meadows), or man-made. The functions and processes that occur in wetland areas are similar. Wetlands can be seen as nature's cleansing and filtering system. They are very efficient at purifying water that has biological or natural "pollution" problems. There are other benefits also associated with wetland areas. They can moderate or reduce downstream flood damage by absorbing the initial shock of high water flows and then slowly releasing captured water (desynchronize peak flows). Wetlands can provide valuable and often essential wildlife habitat for a variety of water-dependent species, such as assorted waterfowl, beaver, mink, otter, and various amphibians. Other wildlife may benefit from wetlands, although they may not be critical to their survival. Wetlands can also be scenic and visually-pleasing to look at and visit. So what about the problem?

The "problem" facing the Tribes is one of meeting water quality standards or limits set by the Environmental Protection Agency (EPA). At this time, water that has been treated at two levels is being released into Shitike Creek. Specifically, raw sewage from community housing and official buildings in Warm Springs is piped to the sewage lagoon facility for treatment. By the time the water gets to the third (and last) lagoon, it is virtually devoid or lacking in solid particles and is actually fairly clean. This water is chlorinated to kill bacteria and then released into the Creek. The "problem"

What benefits would be realized from a wastewater wetland along Shitike Creek? There are a number of positive and a few negative attributes that would generally come with a wetland. Some can be easily managed to reduce negative effects. They can be listed:

**POSITIVE:**

- 1) Water quality would be improved beyond the standards or requirements set by EPA; the Tribes would meet all water quality parameters for the entire year. No fines would be handed down from the EPA.
- 2) Fish habitat and water quality would be improved in both Shitike Creek and the Deschutes River.
- 3) Wildlife habitat would be created within the community area that would provide for migratory needs of certain waterfowl species, and other water-dependent organisms.
- 4) Bird-watching and educational opportunities would be created. Viewing decks or platforms could be placed above the wetland to assist viewing and to attract visitors.
- 5) Monetary gains could be realized for local businesses where visitors are attracted to the wetland for bird-watching (proximity to Highway 26 and Museum).
- 6) Flood control could be enhanced to a certain degree for the lower Shitike Creek areas (Museum, Mill, Housing).
- 7) Expenditures for wetland construction and annual operating costs would be significantly lower than other alternatives (such as a new treatment plant or facility) to solve the water quality problem.

**NEGATIVE:**

- 1) Potential safety hazard for children in the community.
- 2) Potential health concerns with increased mosquito populations and other disease vectors or carriers.
- 3) Possible loss of parts of the wetland following severe flood events.

The proposal to use a wetland within the community to solve the problem is not a new idea. These types of man-made or constructed wetlands have been used in Germany for centuries to provide water cleansing and eliminate pollutants. In fact, there are a number of these types of wetland uses in the State of Oregon. The city of Hillsboro, which has about 35,000 residents, uses a large wetland to provide polishing of treated water before releasing it into the Tualatin River. Cannon Beach also has a moderate-sized wetland used to naturally cleanse treated water before release into the Pacific Ocean. There are many examples in the United States. Many smaller communities which have similar problems with TSS and BOD levels, and which cannot afford to build new and expanded treatment facilities, often resort to use of constructed wetlands to meet water quality standards.

Some key points to review are:

- Water to be released into the wetland will have been treated to a high degree; raw sewage will not be released into the wetland.
- The wetland will be just an additional intermediate step between the last lagoon and the Creek. Water that

has been "polished" in the wetland area will flow back into the Creek, but will be of higher quality.

-Negative aspects of having a wetland in the community can be managed to a certain degree. Mosquitoes, for example, can be reduced through at least three methods; control of water depth and flow, use of natural predators such as swallows or mosquito fish, and by small-scale spraying of natural bacteria, *Bacillus thuringiensis* ("Bt"), to control breeding success (often used in forestry to control spruce budworm).

-Relative to other alternatives to solve the problem, the wetland proposal will cost significantly less in terms of both construction and management.

-As the community grows in the future, sewage rates will increase, and thus treatment will have to be expanded. The use of a wetland in the community would probably not be a very long-term solution. The wetland would suffice for say 15 to 25 years easily, then expansions to the wetland or use of a different alternative would be required to continue meeting water quality standards.

Currently, the Land Use Committee is studying this alternative as well as others to find the best solution to the water quality problem. If you have an opinion, suggestion, or comment regarding this proposal, please write or call Land Use Committee, Chairman: Ron Suppah, Jr.; if you would like more information or would like to read or hear about examples in other communities, come by the Natural Resources office or call Chris M. Gannon, at 553-3557. Thank you.



Wetlands bordering streams help purify water entering system and provide habitat for wildlife.

is that the treated water released into Shitike Creek does not meet water quality standards for two particular parameters or measurements; Total Suspended Solids (TSS) and Biological Oxygen Demand (BOD). Fish can be negatively affected by high levels of both TSS and BOD. These water quality standards are exceeded only about half of the year, meaning that for the other half, the Tribes are meeting EPA regulations.

What choices are available? Currently, the Tribes have applied for and have been granted a five-year waiver from the EPA. The waiver allows continued release into Shitike Creek for up to five years based on "new" and agreed upon water quality standards that could be met without taking any action at all. The "grace" period is granted so that the Tribes have time to investigate alternate solutions to the problem and develop a plan of action to meet the previous standards at the end of the waiver period. After five years, previous water quality standards must be met or the EPA may begin to levy monetary fines against the Tribes.

There are a number of actions that the Tribes could take to solve this relatively small water quality problem; such as building a new or upgrading existing treatment facilities, or piping the water to a site where it could be used for irrigated agriculture. Another alternative is the development and management of a man-made wastewater wetland to provide additional, natural treatment for the water (called polishing). This area would be about six to seven acres in size and would have a very natural appearance with varying water depth; a few inches to three feet. It would need to be located near the lagoons so that water from the third lagoon could be easily piped to the wetland instead of being released directly into Shitike Creek. Design criteria or requirements would be drawn up in advance of construction. These requirements would specify how the wetland will be built, what it would look like, how deep the water would be, and any additional needs in terms of wildlife or fish.

## ECE activities scheduled for January

**Logo Search-**  
The Warm Springs Early Childhood Education Parent Club is having a logo search. Anyone is eligible to submit a logo that would be appropriate to represent the E.C.E. parent club. Parent club is made up of parents/guardians of children in the Head Start, Head Start/Day Care, Tribal Preschool, Day Care and Laich Kev programs, send your logo to "Parent Club Logo", Head Start, P.O. Box C, Warm Springs, OR 97761. Call Sharlayne Garcia at 553-3549 for more information.

**Bake Sale-**  
The Early Childhood Education Parent Club will be having a bake sale, Friday, January 10, 1992 from noon till 4 p.m. in the Administration Building lobby. Come support parent club and grab some delicious cookies, cupcakes, pies, cakes, and snacks! Great stuff for Friday fun at the office or the weekend ahead at home.

**E.C.E. Meeting set-**  
There will be a parent club general meeting, Wednesday, January 15 at 7 p.m. in the Community Center Social Hall. All parents of children in Early Childhood Education programs are encouraged to attend.

**Nutrition workshop-**  
The E.C.E. Parent Club is having a nutrition workshop for parents and guardians on Monday, January 20

**New energy source**  
**BPA looks at geothermal resource**  
Northwest Power Planning Council Chairman Ted Hallock of Oregon today applauded the Bonneville Power Administration's announcement that the regional power marketer is ready to test the use of geothermal energy to supply some of the Northwest's electricity

from 6:30 to 8:30 p.m. in the Community Center social hall. The workshop is the first in a three part series dealing with nutritious meals for children. "Breakfast will be focused on, in this workshop, complete with sample breakfast meals that are quick and easy to make and that kids love and are good for them. Come chef up with the parent club Monday, January 20, and learn to make a better breakfast!"

needs. "There appears to be an abundance of hot water under this region's mountains, and Bonneville's demonstration project should give us the information we need to tap it for electricity," Hallock said.

In its 1991 Northwest Conservation and Electric Power Plan, the Council calls on Bonneville and the region's utilities to finance a series of demonstrations of geothermal energy applications in the Northwest. The plan notes that the Northwest's geothermal resources could provide several thousand megawatts of electricity. (For comparison: Seattle uses about 1,000 megawatts of electricity.)

Bonneville is considering moving ahead on three pilot projects if utility co-sponsors can be found for each project. The three projects combined could provide up to 110 megawatts. Each pilot would also determine whether another 100 megawatts could be developed at each site.

If the resource is proven and sites selected where important wilderness areas and other natural resources will not be damaged, geothermal could become one of the region's most important new sources of renewable energy.

"We're happy to see Bonneville proceed with negotiations to select test sites for geothermal," said Oregon Council Member Angus Duncan, chair of the Council's power committee. "But the Council is still concerned that this resource not jeopardize the environmental integrity of the areas where it is developed. We expect Bonneville, sponsoring utilities and project developers to work with local and regional environmentalists and others to protect the areas where geothermal facilities will be located," Duncan added.

The Warm Springs Tribal Court Branch would like the tribal members to complete this survey poll and return it to the Tribal Court, P.O. Box 850, Warm Springs, OR 97761; or drop it off at the Court Receptionist desk as soon as possible.

Warm Springs Tribal Court Branch plans to set up meetings for the membership and interested parties for 1992. We need to know what you think about the following:

Would you be interested in attending a community meeting? Yes: No:

Suggestions for day of week, time, i.e. Afternoon or Evening:

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Suggestions for Topics:

- 1.
- 2.
- 3.

Other comments:

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# Old Days

Every 10 years the United States conducts a census. Agent John Smith was responsible for conducting the 1880 census. However, he was confronted by understandable suspicion from the Indians about the motives of the United States in conducting a census. In the following monthly report he details some of his frustrations.

Warm Springs  
May 3<sup>rd</sup> 1881

Sir

I have the honor to submit the following as my report of the nature and progress of the work at this Agency, during the month ending April 30<sup>th</sup> 1881.

### Indian Population

The Indians are more scattered over the reservation than at any previous time, during this year. Many have gone to work on small farms for the first time, while a number of the older farmers have been enlarging their enclosures. Quite a number of the men have gone off with leave, to assist the white settlers in gathering up their stock.

### Indian Census

It is a matter of regret that I have been unable to complete this work as was expected, and should have been done by the 30<sup>th</sup> ultimo. Had the census been confined merely to numbers ??? the three schedules of Industries, Education and Mortality it might have been completed with something near an accurate count, but the various questions asked naturally excites the suspicions of the Indians, especially the more uncivilized and superstitious, and makes them unwilling to give in satisfactory answers. Quite a number of families near the Agency have given in their census, but the work is so incomplete that no full statistics could be gained the fill up the three above mentioned schedules. The data on file in the office though it might do is not as accurate as an actual count. I have also been greatly hindered by the unusually severe winter we have passed through. The ground became so thoroughly soaked that it was nearly the middle of March before it was sufficiently settled and dry to admit of traveling. The roads became so impassable that it took a good deal of work to reopen them. All this and the discharging of one employe the last of March, made it impossible to complete the work by the 30<sup>th</sup> ultimo. The teacher spent much of the time during the winter in writing down the Warm Springs language, and should he remain the coming year will probably complete that work. I shall continue to take the census as fast as is possible, even though it may be too late to be of use to the Census Bureau.

The Physicians report shows that 95 persons were treated during the month, of which 78 were restored and one died, leaving 16 under treatment. The principal sickness has been ??????catarrhal nature.

### Number of Births

has been two, thus giving us a gain.

### The Day and Boarding School

has been in session since the 18<sup>th</sup> ultimo. The attendance was not as large as in the previous months, but has been more regular. The average is 31 4/10 out of 55 enrolled.

### The Apprentices

have been allowed to do some work for themselves in the way of sowing some grain and putting in of. They are making satisfactory progress, and willing to do all that they are told to do. While learning their trades it seems desirable that they should learn to make good homes for themselves and families, hence they are allowed time to work for themselves.

### The Policemen

have not been called upon to perform much active service, and as they receive no rations they have been allowed to work much of the time for themselves. They have always been prompt to drop their work, whenever they were required to go on duty.

### The Saw Mill

This has been placed in good running order by the present Sawyer, and during the month cut 36000 ft of lumber, mostly for ?????????? Indians. The balance for Department and the new school house to be built for the Warm Springs.

### The Grist Mill

Has had but little to do as the grain is well ground up, and it only run as an occasional grist came in.

### Employee

The sawyer has been up at the new saw mill nearly every day except Sabbath. The Miller has put his time mostly in the Blacksmith shop. The Supt of Farming was engaged in putting in the Department crop, as also looking after the ????? stock and farming interests. The Clerk has ????? with the office work and the issuing of supplies and his duties as Chief of Police. The laborer for the Pistas has been engaged in working the roads with some of his people.

### Moral and Religious Work

This has been quite successfully carried on. The Sabbath services always find a crowded house and eager listeners. The Council has had to meet but seldom, and then mostly to settle disputes as to the ownership of property.

During this month the principal work will be gardening. Many of the Indians will have more acreage plowed than in former years.

To  
The Commissioner of  
Indian Affairs  
Washington D. C.

Very respectfully  
Your Obed Servt  
John Smith  
US Indian Agent