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## News Release

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### **DEQ Discourages Eating Whole Fish from Tar Creek Area: Fish Fillets Are Safe**

The Oklahoma Department of Environmental Quality (DEQ) concludes that skinless fish fillets from all species in the Tar Creek Superfund site and the Spring and Neosho Rivers are safe to eat. DEQ releases this information after the completion of a draft report of the analysis of metals in fish from the Tar Creek mining area. The report has been forwarded to the Office of the Secretary of the Environment and the Environmental Protection Agency for review. DEQ's data indicate that lead and cadmium are present and above safe levels for consumption in bottom feeding species like carp, buffalo and catfish when fish flesh and bones are combined/blended together. DEQ recommends individuals not consume the bones of fish. The safest practice is to consume only skinless fish fillets of fish caught in the Tar Creek mining area.

DEQ looked at levels of metals in fish from the Tar Creek area during a single sampling season. Additional analyses should be performed to confirm the initial findings, including the connection between the metals in fish and those found in the sediments coming from the Tar Creek site. DEQ will coordinate with state and federal agencies, Indian Tribes and other interested parties to identify resources and projects to further investigate these issues and to develop solutions.

Previously, local citizens and tribal members had questioned the safety of eating fish from the Tar Creek area and had requested that DEQ study fish tissue for the presence of heavy metals. This was a concern because the Spring and Neosho Rivers and their tributaries, particularly Tar Creek, have been impacted by runoff of heavy metals from abandoned lead and zinc mines. Chronic exposure to heavy metals has been linked to a variety of health problems.

In 2002, fish were collected from three sites on the Spring River and three sites on the Neosho River, as well as from four ponds. The ponds were located within the EPA designated Tar Creek Superfund area while the stream sites were outside the Superfund area proper but within the larger Tri-State mining district. A total of eight different species were collected including bottom feeders and sport fish. The fish were analyzed for lead, cadmium, and zinc. Three types of samples were analyzed: skinless fillets, whole ungutted fish and whole gutted fish. Levels of cadmium, zinc and lead in the samples were compared to safe fish consumption levels.

Using EPA recommended guidance, safe fish consumption levels for cadmium and zinc were determined. No skinless fillet portions of any fish exceeded the allowable levels for either cadmium or zinc. The allowable level of cadmium was exceeded in 20 % of whole, ungutted fish; all of these were bottom-feeding fish. Only a single sample of a

whole, ungutted fish exceeded the allowable zinc level and this was also in a bottom feeding fish.

DEQ developed a safe fish consumption level for lead and no fish fillets for any species exceeded the level. However, 40% of whole, ungutted fish and 21% of whole, gutted fish exceeded the safe level. Again, the fish species that exceeded the safe level were bottom-feeding species. It appears that this is the result of exposure by the bottom feeders to contaminated sediments on the bottom of rivers and ponds. Other types of fish do not have this exposure to sediments.

The presence of lead in whole fish containing bones is expected given the way lead is metabolized by living organisms. Lead is first present circulating in the body in blood, and then the majority of the lead is diverted to bone and stored there with small amounts being stored in soft organs like the liver. Lead is not stored in muscle or flesh tissue.

Based on all of this information, DEQ recommends individuals consume only skinless fillets and avoid eating the bones of any fish, whether ungutted or gutted, which are caught within the Tar Creek Superfund site and the Spring and Neosho Rivers.

The levels of lead found in whole, ungutted fish in this study were compared to published levels of lead found in whole, ungutted fish nationally. The results indicate the level for lead in fish tissue collected from the waters in the Tri- State Mining District is significantly higher than what one would expect to find in fish from other waters. Results for cadmium and zinc were inconclusive or not significant.

While these results are an indicator of a problem that DEQ believes people in the Tar Creek area should know about, the results are based on samples collected in a single season. Since variation in living organisms like fish can be expected, further sampling over time would produce a more accurate picture of metal concentrations in fish.

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