

Will ozone study provide answers?

BY: Trey Wilkinson

Sublette County residents are aware of ozone issues plaguing the area; however, many want to know what will happen next. The University of Wyoming (UW) in conjunction with a number of other agencies is attempting to find answers.

The study comes as a response to ozone advisories issued over the course of the last several years, including two this year on Feb. 4 and 5.

Dr. Robert Field, a temporary associate professor of environment and natural resources at UW, and Dr. Derek Montague, a professor in the Department of Atmospheric Science at UW, were at Big Piney High School (BPHS) last Thursday to show and tell students and faculty about the most recent "sampler" study being conducted in the county.

The "sampler" study involves placing 50 passive samplers that will collect ozone over a period of eight hours over an area of about 1,600 square miles including Big Piney, Marbleton, Cora, Pinedale and Boulder with boundaries close to US Highways 191, 189, 351 and 353.

In the collection phase, ozone diffuses into the sampler and a chemical reaction takes place. The sample is then sent to a lab and scientists can deduce how much ozone was in that given area during that specific time.

Following the conclusion of the study, data collected will allow scientists to make a weather map for ozone in specific areas.

"To accomplish placing and collecting the samplers in a 30-minute period we have 16 teams from federal, county, state and city government as well as industry and citizen groups supporting the University of Wyoming," Field said.

Field said he and others spent many months driving through the area to find sites that would give an even distribution for collecting data.

"We started looking in late summer (2008) and completed our selection last week," he said. "We have co-located our monitors at other high-tech monitoring stations that are run by the Wyoming DEQ (Department of Environmental Quality)."

Beyond the volunteer teams placing samplers for the survey, Field said they hope to attract 20 volunteers to wear samplers on the same day as the survey.

The scientists are also using a mobile laboratory (moving approximately every three to four weeks) consisting of high-tech equipment including video, which will be monitoring ozone in the area until the end of July.

As for the passive-sampler survey, Field said it would be completed at the end of April. The UW School of Energy and Resources and the DEQ are providing funding for the project.

Field, his colleagues, agencies and others involved have the task of predicting when high levels of ozone will occur to collect the best results.

So how will they anticipate high levels?

"We will follow the recommendations of the Wyoming DEQ advisories," Field said. "We will also be looking for weather patterns that are conducive to the formation of ozone."

Such weather patterns include cold temperatures, clear skies and snow cover.

When asked what the point of the study is, Field replied, "It is to better understand the distribution of ozone across Sublette County when levels are predicted to be high. We are hoping to help all concerned better understand the science behind the production of ozone in the wintertime in Sublette County."

On Thursday, Field and Montague spent time with BPHS students and faculty explaining the logistics of the ozone sampler study and to further explain ozone in general.

"People expect Wyoming air to be exceptionally clear all the time," Field said to the students. "So this is unusual and a new area of research."

One student asked if there was a link between ozone and cancer. Montague dispelled the notion that cancer was a product of ozone. However, the professor did reaffirm the fact that ozone is a serious health issue.

BPHS teacher Cole Clifford asked Montague how severe the ozone problem really was.

"In the last four years there has only been one year in which we didn't have non-attainment," Montague replied. "During the other three years there have been about three days each year in which ozone levels reached non-attainment."

Montague also explained that the energy industry is working hard to minimize its negative environmental impact.

"Companies have converted diesel engines to those that run on natural gas, which is a much cleaner burning fuel and releases fewer emissions," he said. "Then there is the question of leakage. Questar in particular is one company working hard to prevent leakage."

Part of the experience for BPHS students included heading outside to the mobile air-monitoring station located near the school. Students had an opportunity to see how technology is used to collect ozone and look at the instruments used to collect samples that are separated using ozone analyzers.

Field said students at Pinedale High School (PHS) would have a similar opportunity in May, as the group will attend PHS for a comparable lesson at that time.

"We're fortunate the schools are allowing us on their premises," Field said. "This is important scientific research, but also an outreach effort."

Field was asked when he thought the next ozone advisory would hit Sublette County.

"This is unsure, but if they do occur they are likely in the next eight weeks," he said.

When asked what the point of the study is, Field replied, "We are hoping to help all concerned better understand the science behind the production of ozone in the wintertime in Sublette County."