

Seminar makes it clea

By CHUCK RAASCH
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The message was painfully clear. The audience, although trying to smooth over the rough spots with frequent smatterings of uncomfortable laughter, couldn't take it any other way.

After all, they'd heard it for three days, from a variety of sources. Even the novice at Thursday's closing session of the Pecora IV Symposium at the Downtown Holiday Inn in Sioux Falls could sense it.

"Our planet is in trouble," said Robert Cook, the deputy director of the U.S. Fish and Wildlife Service.

"It doesn't take too much intuition to summarize that the world is in trouble," said Allan Marmelstein, of the U.S. Fish and Wildlife Service's Washington office.

David Carneggie, of the Sioux Falls EROS Data Center, wondered aloud if it isn't too late to save the world's natural resources, no matter what amount of technology is applied to the fight.

"One wonders if we're just doing a futile exercise in trying to apply remote sensing to those dwindling resources," Carneggie said.

The three-day symposium was designed to bring together wildlife managers and experts in the areas of remote sensing plus those who are trying to bring the two fields closer together.

The idea behind this year's symposium is that, with the rapidly advancing technology in remote sensing, there are now new and faster ways of managing wildlife that wildlife managers should know about,

Carneggie said.

At the same time, Carneggie said, the remote sensing experts should be given a view of wildlife management so they know what in their field can and can't be applied to wildlife.

The bottom line is that, while man's advancing civilization and his technology is tearing wildlife down, he should also use his technology to slow the destruction process or stop it altogether.

Neither of the final session's two main attractions— Robert Herbst, assistant secretary of the Department of the Interior, and Robert Frosch, administrator of NASA— were able to make it to Sioux Falls Thursday.

But their replacements, Cook and Dr. Noel Hinners, NASA's assistant administrator, carried messages

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about the future in their respective fields.

Cook said that environmentalists, the government and, slowly, even the general public is realizing that the world's "resources are dwindling while their competing demands are growing."

The federal government, he said, will wage the battle against the dwindling natural resources on four fronts:

- Preservation of valuable wetlands.
- Protection of barrier islands.
- Preservation of rivers.
- Perpetuation of non-game wildlife species.

That battle, Cook said, is magnified in Alaska, where Herbst is leading a fight to preserve 33 rivers and 93 million acres of land. It's the clas-

sic battle over natural resources—environmentalists, on one hand, who want to keep the land and rivers as they are, and business interests, who want unlimited development.

So far, the battle over Alaska has not been won or lost, Cook said. The Senate earlier this year killed legislation to protect the land and the rivers, but Herbst, and other federal officials haen't given up.

Hinners' address sounded almost like the passages of a 1950 science fiction novel when he told of NASA's short-term future plans. (See related story).

While the messages in Thursday afternoon's closing session carried

their share of doom, there was optimism that man's technology can somehow turn the alarming rate of wildlife loss around.

Both Carneggie and Marmelstein urged the crowd to be realistic in its approach toward saving wildlife. They suggested that a combination of conventional biological surveys, aerial photography and satellite imagery would be necessary to monitor wildlife and its habitat.

"If we have learned one thing from this symposium it's that, if we have the technique to help our wildlife, then we had better get on with the job," Carneggie said.

NASA plans push the imagination

By CHUCK RAASCH

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It wasn't H.G. Wells speaking, but if you wandered into the room without knowing what the subject was, you may have believed it.

A NASA space scientist was telling the participants in the Pecora Symposium in Sioux Falls Thursday what his organization is doing with your tax money. It wasn't the "War of the Worlds," but the imagination wouldn't have to stretch much further to believe it.

NASA's associate administrator for space science, Noel Hinners, told stories about developments in America's space program that may make space pioneer John Glenn sit up and take notice.

These are some of the things NASA is working on:

—Recruiting men and women scientists and technicians for the Skylab flights, which will begin late next year. Hinners said that NASA is changing its philosophy on the people it will send in orbit under the Skylab plan. He said that, rather than training astronauts to do the scientists' and the technicians' jobs, those people will themselves be sent into space. Referred to as "payload specialists," the scientists and technicians will be able to carry out their

work better, and will have the advantage of more sophisticated space vehicles than did the astronauts of the 1960s.

—Setting up its so that people can live in it comfortably for extended periods of time.

—Looking at the complete human life cycle, including the food chain, man's nutritional requirements, photosynthesis, and other areas, so that an entirely self-contained environment can be set up in a space capsule. This work is geared for possible future space flights to far-away planets, where a source of food will be required to sustain the travelers over years of time.

—Studying the effects of pressurized spray cans on the ozone layer and the effects of increasing amounts of ultra-violet light on Earth. Hinners said NASA scientists are also looking into the effects of microwave transmission on the environment, on what the buildup of industrial emissions is doing to the atmosphere, and about what possible global heating and cooling effects all of it causes.

—Analyzing the data from NASA space junctures to Mars, and anticipating the December arrival of Pioneer Venus on that planet.