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	0	0	0	0

"CORRESPONDENCE TRACKING"

TYPE: INFORMATION

DOCUMENT NUMBER: 9120263

FROM: RAPPOPORT, MIKE

TO: OSTP

DATE OF
CORRESPONDENCE: 01/19/91

SUBJECT: NAVAJO GENERATING STATION

ASSIGNED TO:

ACTION REQUIRED:

SENDER'S DUE DATE:

OSTP DUE DATE:

DATE COMPLETED: -----

COPIES TO: Nancy Maynard
D. Allan Bromley

WHITE HOUSE TRACKING #:

CONTACT PERSON:

REMARKS:

DATE RECEIVED:

FILE: ENVIRONMENT

DATE: December 19, 1990
TO: Interested Parties
FROM: Mike Rappoport
RE: Navajo Generating Station

Knowing of your interest in the Grand Canyon visibility issue, I thought you might want to review the enclosed summary of initial conclusions of the comprehensive study sponsored by the Navajo Generating Station (NGS) participants.

You will note that the conclusions of this independent study contradict the National Park Service's WHITEX experiment and reinforce conclusions of the report recently issued by the National Academy of Science's National Research Council. In short, the study found that the Navajo Generating Station has minimal impact on winter haze in the Grand Canyon.

In addition to the summary, I have enclosed several news articles which you may also find of interest.

Please do not hesitate to let me know if you would like any further information.

Enclosures

NAVAJO GENERATING STATION VISIBILITY STUDY A STATUS REPORT

The Navajo Generating Station Visibility Study was conducted by a group of the nation's leading atmospheric scientists and engineers over an 81-day period from January to March, 1990.

Funded by the Salt River Project and the other owners of the Navajo Generating Station, the study's major participants included the University of Minnesota, The National Oceanic and Atmospheric Administration (NOAA), Systems Applications, Inc., Battelle Northwest Laboratories and the Desert Research Institute at the University of Nevada. The work was managed by Sonoma Technology, Inc., and Aerovironment, Inc.

This \$12.5 million independent study is the most comprehensive visibility study conducted in the United States. It expanded upon many of the tracer techniques of the 1987 National Park Service WHITEX experiment, which suggested the NGS plant is responsible for up to 70 percent of the wintertime haze at the Grand Canyon.

For example, the NGS study employed 26 receptor sites to collect its data, while WHITEX used only one in the Canyon. The NGS study was conducted over an 81-day period, as compared to the 45 days of the WHITEX study. And approximately 2,100 tracer site-days were analyzed by the NGS study, as compared to the 70 in WHITEX.

The NGS study's principal objective was to estimate what improvement in visibility might occur in the Grand Canyon during the winter months if NGS sulfur emissions were reduced. Like the WHITEX experiment, it focused on the impact of NGS emissions on visibility at Hopi Point in the Canyon. The primary issue of concern was to quantify NGS' contribution to visibility impairment resulting from sulfates formed from its emittants.

Although the data analysis and modeling efforts are still in progress, some initial results and conclusions that address the NGS Visibility Study objectives are now available. These results will be refined and expanded in the next few months, but it is expected that the general thrust of the conclusions will not change significantly.

The study's preliminary results are considerably different from the Park Service WHITEX experiment and reinforce the conclusions of a critique conducted by the National Academy of Sciences earlier this year.

The NGS study found that during a substantial portion of the winter study time, NGS emittants did not impact Hopi Point. Even when they were near the Canyon, several phenomena reduced the effect of NGS on visibility:

1. Of the vast majority of the times when NGS emittants were near Hopi Point, the relative humidity was so low that the amounts of visibility-impairing sulfates were very small. On numerous occasions when the NGS emissions were present at Hopi Point, their effects on visibility were so small that their arrival and departure were undetected by the visibility monitoring equipment.
2. During the few times when humidity was high and NGS emittants were near Hopi Point, sulfate formation often was limited due to the absence of oxidizing agents such as hydrogen peroxide.
3. When, on infrequent occasions, the levels of humidity and oxidizing agents in the atmosphere were high enough to form sulfates, visibility was often obscured by fog, clouds, or night time and/or darkness.

The study found that in only four to seven percent of the 4-hour test reading periods were NGS emittants present at Hopi Point with elevated humidity. In about half of those instances, it was either cloudy or at night.

Other initial conclusions from the study include:

- For sulfates derived from NGS emittants to play a significant role in light extinction (affecting visibility) at the Canyon, they would usually have to be associated with a relative humidity of over 70 percent.
- The transport of emittants from the direction of the NGS plant to the Canyon was usually associated with drier air, when sulfate formation is likely to be low. Hence, these NGS emittants could not substantially impair visibility.
- Long range transport of pollutants from outside the study region, frequently from the west and southwest, was a major source of visibility impairment at the Canyon on several occasions during the study.

- The times of worst visibility in the Canyon occurred when NGS emittants were not in the vicinity of the Canyon and when hazy air was being transported into the region from southwest of the Canyon.
- During the periods when NGS emittants were present at the Canyon, the average light scattering values were no greater than when the emittants were absent.
- The use of tracers alone is inadequate for determining the contribution of individual sources to regional haze situations such as occur in the Grand Canyon.
- Overall, 1990 represented an average year in terms of the number of visibility episodes and the weather conditions associated with reduced visibility at the Grand Canyon. The weather conditions that accompanied episodes of reduced visibility during 1990 were similar to the conditions that occurred during the WHITEX episodes and were representative of winters in the Grand Canyon.

The Energy Daily

627 National Press Building
Washington, D.C. 20045
(202) 638-4260
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Wednesday, December 12, 1990

Volume 18, Number 237

New Study Sees Smaller Effect From Navajo Plant On Grand Canyon

BY MARK CRAWFORD

Sulfur dioxide emissions from the Navajo Generating Station in Arizona are having a relatively small effect on visibility in the Grand Canyon during the winter, according to the preliminary results of an extensive study, financed by the plant's owners, that is trying to determine whether the coal-fired power plant is eroding scenic vistas in the national park. The news could thwart any effort by the Environmental Protection Agency to force the plant to be retrofitted with scrubbers to reduce SO₂ stack gases.

The 2,250 megawatt station was targeted almost three years ago following an experiment sponsored by EPA, the National Park Service and electric utility organizations. Stack tracers released from the power

plant in 1987 were detected by a lone monitoring station at Hopi Point in the Grand Canyon. The data from the Winter Haze Intensive Tracer Experiment (WHITEX) was strong enough in the minds of National Park Service and EPA researchers to initiate a regulatory action against the Navajo station.

From the outset, however, the adequacy of the WHITEX data has been challenged. And just six weeks ago, the National Research Council issued a report stating that there were major flaws in the data and analyses underlying the Park Service's findings. Indeed the original intent of the \$2 million

WHITEX was to test methods for isolating the causes of haze in the Canyonlands National Park rather than the Grand Canyon.

The owners of Navajo station—the Salt River Project, the Los Angeles Department of Water and Power, the U.S. Department of Interior's Bureau of Reclamation, Arizona Public Service, Nevada Power, and Tucson Electric—now say that they have data that discredit key assertions made by EPA and the Park Service. Initial results from the \$12 million, utility-sponsored study of winter-time haze suggest that emissions from the power plant are present in the Grand Canyon during approximately 30 percent of the winter months.

The 30 percent figure could be viewed as sufficiently large to require scrubbers on the plant, if its sulfur emissions are being converted to sulfates at high rates and eroding visibility in a major way. These conditions exist, however, primarily when humidity exceeds 70 percent, or when clouds are present as plant emissions are blown in a southwesterly direction into the Grand Canyon. But Son-

oma Technology, the Santa Rosa, California, contractor that is leading the utility study, reports that it appears that such conditions occurred at most 7 percent on the time. The WHITEX study reported the conditions were likely to occur about 70 percent of the time.

Atmospheric modeling and sampling data, Sonoma says, indicate that outside sources of sulfur contribute significantly to the production of sulfate particles and to reduced visibility. Weather conditions, specifically low-pressure systems, that sweep through the area adversely affect visibility. The periods of worst visibility at Hopi Point, the contractor adds, can be linked with storms and the movement of air coming from the Southwest, California, or northern Utah.

Higher rates of visibility impairment at Hopi Point, in fact, occurred at times when the plume from the Navajo plant was being blown in the opposite direction of the canyon. This phenomena is attributed by Sonoma to the importation of particle-laden, sulfate bearing air from the Southwest.

Only a portion (40 percent) of the immense

amounts of data collected in this utility study have been analyzed—mostly that taken from an array of sampling stations located in and around Hopi Point. SRP and Sonoma will not have a complete report ready until sometime in January or late February. Even so, utility executives believe they have sufficient informa-

tion for EPA to withdraw its February 1990 draft proposal that calls for the installation of scrubbers on the Navajo station.

In a November 26 letter to William Rosenberg, EPA's assistant administrator for air and radiation, Henry Nickle of Hunton & Williams, which represents SRP, insisted that if the agency proceeds with regulatory action, then it must revise its analyses to take into account findings invalidated by the National Research Council. Moreover, he says it has to consider the new results from the utility's study on the Navajo Generating Station's emissions. Copies of the data are being provided to industry and university researchers, as well as to EPA.

The final outcome of this issue rests on whether the power plant's contribution to visibility impairment in the Grand Canyon is deemed to be "significant." Preliminary data collected by utility contractors suggest substantial improvements will not occur if scrubbers are installed. It appears that much of the time, when Navajo station emissions are in the Grand Canyon the humidity is low and large quantities of sulfate are not formed. The utility

New Study Sees Smaller Effect... *(Continued from page one)*

further argues that when humidity levels are sufficiently high and power plant emission are funneling into the park, visibility is frequently obscured anyway by rain, clouds, or darkness.

Even if the plant is shown to have a far lower impact on visibility than suggested in WHITEX, agency regulators may not change their stance on the Navajo station. EPA is currently under a court order to formally determine by February 1 whether the impact of emissions are large enough to warrant the installation of pollution equipment.

Trying to describe this threshold quantitatively is impossible, since EPA has not defined it scientifically. The Clean Air Act does not require such a determination, says David Stonefield, an environmental engineer at EPA's Office of Air Quality Planning and Standards. The law merely says that the installation of more effective pollution controls can be required when emissions from an industrial plant "may reasonably be anticipated to cause or contribute to any impairment of visibility" in a Class I air region.

Although Stonefield can't put numbers on impact of the Navajo's station on visibility in the canyon, he says, "I know it when I see it." And even if the agency is in error, Stonefield argues that the new emission controls would lead to a net improvement of visibility regionally. Says Stonefield of the sulfur plume from the plant's stacks (200 tons a day at times), "That stuff goes some place."

COMMENTARY

WARREN BROOKS

Curbing haze at \$2 billion a mile

One of the weapons used by the Reagan administration against regulatory overkill was the Office of Information and Regulatory Affairs (OIRA), operating under the budget director.

Unfortunately, Democrats in Congress, particularly Sen. John Glenn of Ohio, have waged such effective guerrilla warfare against OIRA. Dick Darman has chosen to let the agency fade back into the shadows, rather than risk possible defunding.

But, under an executive order issued by President Reagan, OIRA

The vindictive tone of this indictment, with the prospect of a scalp on the EPA belt, shows it has nothing to do with improving Canyon visibility.

can still bring egregious issues to what is now known as the President's Council on Competitiveness. That council, directed by Vice President Dan Quayle, has been putting together a highly professional staff under Al Hubbard, who reportedly is being considered for OIRA director, where he would also sit as a council member and bring OIRA's worst cases to the council's attention.

We have another prime candi-

date. The midlevel bureaucrats in the Air Division of the Environmental Protection Agency plan one of the most outrageous insults to consumers in even its own illustrious history of misspent billions. They are pushing the EPA to rule this February that the Navajo Generating Station in Arizona, some 80 miles downwind of the Grand Canyon, is the main source of wintertime haze over the Canyon, and must spend up to \$4 billion (over a 20-year period) to cut its sulfur dioxide emissions by 90 percent.

This will cost its 1.2 million electricity customers about \$140 million a year in higher rates, and might raise total average visibility over the Canyon by two miles on a base of about 150 — or a haze reduction cost of about \$2 billion per mile.

To put it another way, since the haze reduction is limited to about 4 percent to 7 percent of the days within a three-month wintertime period, during which the Canyon has a net of about 350,000 visitors, the cost per visitor actually affected is about \$7,000. The cost per Arizona household is about \$110 per year.

It all started with a 1982 lawsuit by the Environmental Defense Fund under the Clean Air Act, charging EPA and the National Park Service (NPS) were not doing enough about Canyon visibility impairment.

In the eight years since, more than \$20 million has been spent not on haze reduction but just trying to find someone to blame it on and charge it to. That's not easy since the Canyon is a clear shot some 500 miles downwind of Los Angeles, the land of the Big Smog and home to 10 million car-driving, barbecuing fools.

So NPS and EPA looked around for a nice deep corporate pocket and landed on the Navajo Generating Station's power plant. There were several problems. First, the power plant burns the cleanest sulfur coal in the nation with emissions below those allowed by the new Clean Air Act.

Second, because of climate conditions, the Navajo Generating Station cannot contribute anything to summertime haze, when visitor numbers are greatest. The only time you get the right combination of humid-

ity and wind directions to push Navajo Generating Station smoke toward the Canyon is in the winter. And the only time that SO₂ can affect visibility is when the relative humidity is high enough to form aerosol sulfates (SO₄).

All of this explains why the efforts to blame the Canyon's haze problems on the Navajo Generating Station have been so costly and futile. More than \$15 million has been spent putting tracer gases in the Navajo Generating Station smokestack, and measuring their appearance at Canyon sites in two major studies.

The first study, done by NPS at a cost of \$2 million, was so full of holes it had to be reviewed by a special panel of experts appointed by the National Research Council of the National Academy of Sciences that after another half-million dollars or so of analysis concluded that even though NPS had proved the presence of some NGS gases at the Canyon "did not quantitatively determine the fraction of SO₄ aerosol and resultant haze ... attributable to NGS emissions." It thus had absolutely no basis to regulate!

Instead of retreating, EPA regulators seized on the slender thread from the National Research Council's conclusion "that at some times during the study period NGS contributed significantly to haze in [the Canyon]," but the National Research Council scorned the National Park Service claim that this was more than 70 percent.

That's why EPA was thrilled to discover that a really first-quality study commissioned by Navajo Generating Station and just completed at a cost of more than \$12 million under the supervision of the University of Minnesota also showed NGS tracer gases present during 21 percent of the measurement periods at Hopi Point.

What they ignored is that most of those times, relative humidity was well below 70 percent and visibility was thus above normal. On only 4 percent to 7 percent of the times were both high humidity and power station pollutants present and vision

(Continued on next page)

impaired, and half of those occasions came when it was either cloudy or at night.

That is to say that if *all* of the Navajo Generating Station sulfur emissions were scrubbed away, you would theoretically see only a tiny effect on, at most, about 2 percent to 3 percent of wintertime days, affecting less than 0.7 percent of all visitor days. Worse, the study showed that "The times of worst visibility in the Canyon occurred when NGS emittants were *not* in the vicinity of the Canyon and when hazy air was being transported into the region from southwest of the Canyon." In other words, from Los Angeles.

More important, "during the period when the NGS emittants were present at the canyon, the average light-scattering values were no greater than when the emittants were absent." So there is *no* evidence that spending \$4 billion to reduce emissions from the Navajo Generating Station will have *any* effect whatsoever on winter visibility.

You would never know this from an exultant report in the newsletter *Inside EPA*, which quoted an EPA source saying this study "has incriminated a power plant as a major polluter and will likely bolster EPA's proposed controls for the source." It rejoiced, "If the controls are imposed, it will mark the first time EPA

has regulated a single power plant based on its contribution to visibility impairment in a National Park."

The vindictive tone of this indictment, with the prospect of a scalp on the EPA belt, shows it has nothing to do with improving Canyon visibility, only with expanding EPA's turf.

No wonder top EPA management are reportedly trying to figure out how to avert this classic regulatory obscenity. Mr. Quayle should lend them a hand and save power consumers from the terminal yuppieism of William Reilly's EPA.

Warren T. Brookes is a nationally syndicated economics columnist.

THE ARIZONA REPUBLIC

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Wednesday, December 12, 1990

Some Canyon haze tied to LA

Smog slips past mountains, taints region, study says

By Jonathan Sidener

The Arizona Republic

Los Angeles smog fouls desert skies over Arizona and Nevada, and it contributes to the haze in the Grand Canyon, a new air-pollution study says.

Not all of Los Angeles' notoriously nasty air remains trapped in the basin's stagnant atmosphere, according to a study by researchers from Washington University in St. Louis. Some slips past the mountain barrier east of the city and reaches neighboring states, the six-year study says.

Los Angeles air pollution travels at least 240 miles and reaches the Grand Canyon, contributing to a haze that limits visibility in the once-crystal-clear air of the natural wonder, university researcher Warren White said.

The smog was tracked from Los Angeles to Meadview, Ariz., 15 miles from the northwestern mouth of the Grand Canyon. The study does not show whether the city's pollution reaches Phoenix, White said.

"The significant result of the study is that Los Angeles air reaches an area where the air should be so clear," White said. "If it weren't for Los Angeles, the air in Meadview would still be clear."

Although the study implicates the California air as a source of Grand Canyon haze, it does little to clarify the debate over other sources of the haze, White said.

The Salt River Project is embroiled in a controversy with the National Park Service and U.S. Environmental Protection Agency over sulfur-dioxide emissions from its Navajo Generating Station and the role they play in canyon haze. The SRP has argued that California haze reaches the canyon.

The Washington University researchers tracked a "tracer" chemical, methylchloroform, from Los Angeles to Meadview. Four tracking stations — two in California; one on Spirit Mountain, near Laughlin, Nev.; and one in Meadview — traced Los Angeles pollution farther downwind than any previous research. The continuing project next will check to see whether Los Angeles pollution is reaching Colorado, White said.

"There's a lot of excitement about the study because it lets you see direct evidence of Los Angeles pollutants in the desert," said Edward S. Macias, one of the authors of the study.

White said the study firmly establishes that one chemical comes from Los Angeles, but it also indicates that a whole range of air pollution reaches the desert states.

"We're interested in methylchloroform because it comes from the Los Angeles Basin, not because it's important in its own right," he said.

"It's an indication of how much Los Angeles air is reaching the area. If you have this one chemical, you have everything that comes from Los Angeles, all the compliments of Los Angeles smog."

Scientists from Desert Research Institute in Reno and the Scripps Institution of Oceanography in La Jolla, Calif., participated in the study.

EDITORIALS

THURSDAY, DECEMBER 13, 1990

Canyon haze

Truth creeps in on little cat feet

Slowly, the truth is emerging about the winter haze in the Grand Canyon. The Navajo Generating Station near Page doesn't look like the sole culprit.

Like Carl Sandburg's fog, truth often comes on little cat feet. That style of entrance is fitting when the subject is haze in the Grand Canyon.

It is especially fitting when the prime suspect is the Navajo Generating Station near Page, operated by the Salt River Project and owned by SRP, the U.S. Bureau of Reclamation, Los Angeles Department of Water and Power, Tucson Electric Power, Arizona Public Service Co. and Nevada Power.

NGS has been the focus of blame for Canyon haze ever since a six-week Winter Haze Intensive Tracer Experiment study in January and February of 1987 concluded that as much as 70 percent of the the haze is sulfur dioxide emitted from the plant.

There is little debate over the fact that the plant — unequipped with scrubbers for the removal of sulfur dioxide — does make a contribution to the atmosphere.

But a review of the WHITEX study by the National Academy of Science's National Research Council was unable to conclude just how "significant" that particular contribution was to the haze in the Canyon, or how long it lasted.

All the while, SRP has argued that all of the facts should be gathered before a rush to judgment requires NGS to install extraordinarily expensive scrubbers.

SRP put its money where its mouth was, funding a \$12 million study of Canyon haze that, unlike WHITEX, used 24 monitoring stations, a full complement of chemical tracers, ground-level and upper-air sampling, as well as local and regional-scale meteorological assessment.

Preliminary results from that study indicate that control of NGS sulfur dioxide emissions would have only minimal impact on improving visibility in the Canyon.

Why? Because, just as SRP has argued all along, Canyon pollution is a regional problem, not attributable to a single, isolated source. Large metropolitan and industrial areas of the West contribute to the haze, along with agricultural activities and even the diesel-powered buses used as shuttles in the national parks.

All of this has now been reaffirmed by a six-year Washington University study, which concluded that Los Angeles air pollution travels hundreds of miles and creeps into the Grand Canyon, contributing to the haze.

Preventing degradation of the Grand Canyon's majesty should be everyone's calling. But it is no easy task to handcuff the polluting culprits and haul them away. The facts keep coming in on little cat feet, complicating the quest for easy answers.

"CORRESPONDENCE TRACKING"

TYPE: ACTION

DOCUMENT NUMBER: 9120210

FROM: SIMONS, ROSS B.

TO: DR. BROMLEY

DATE OF
CORRESPONDENCE: 01/17/91

SUBJECT: SCIENTIFIC DIVING PROGRAMS IN THE FEDERAL GOVERNMENT

ASSIGNED TO: Nancy Maynard

ACTION REQUIRED: DAB SIGNATURE

SENDER'S DUE DATE: OSTP DUE DATE: 01/11/91

DATE COMPLETED:

COPIES TO: D. Allan Bromley

WHITE HOUSE TRACKING #:

CONTACT PERSON:

REMARKS:

*Completed by
DAB, 2/19/91*

DATE RECEIVED: 01/25/91

FILE: ENVIRONMENT-~~MARINE SCIENCE~~

THE WHITE HOUSE

WASHINGTON

February 22, 1991

Dear Dr. Simons:

Thank you for your letter of January 17 in which you raise the issue of the U.S. scientific diving program. I have talked with Dr. Dallas Peck, the Director of the U.S. Geological Survey, who has, from its initiation, been the Chairman of the Committee on Earth and Environmental Sciences within the Federal Coordinating Council for Science, Engineering and Technology (FCCSET). The CEES has substantial activity already in ocean science and it seems to me that the appropriate forum for interagency discussion of the issues that you raise would fall under that committee. I am told that the chief oceanographer of the Navy has had a special interest in this area and that clearly he is someone who would necessarily be heavily involved. Might I suggest that you call Dallas Peck directly to discuss with him the major issues that, in your view, require resolution so that we can respond effectively to your request.

In addition, the National Oceanic and Atmospheric Administration has an Undersea Research Program that conducts worldwide scientific diving operations with academia, private organizations, industry and the military. It has developed extensive diving regulations and standards that apply to all aspects of its diving and shipboard activities. The NOAA program specifically addresses safety requirements, systems certification, equipment design and mission procedures.

Again, my thanks for your gracious permission allowing us to use the Renwick Gallery for the reception for the Medalists of Science and Technology. The ambiance in the Gallery is exactly what we would like to have for such events and its geographic location makes it doubly ideal.

With all best wishes,

Sincerely yours,

A handwritten signature in dark ink, appearing to read "D. Allan Bromley". The signature is fluid and cursive, with the first name "D. Allan" and last name "Bromley" clearly distinguishable.

D. Allan Bromley
Assistant to the President
for
Science and Technology

Dr. Ross B. Simons
Deputy Assistant Secretary
for Research
Smithsonian Institution
Washington, D.C. 20560



SMITHSONIAN INSTITUTION

Washington, D.C. 20560
U.S.A.

RECEIVED

91 JAN 25 AM 11:18

OFFICE OF THE
DIRECTOR

17 January 1991

Dr. D. Allan Bromley
Director, Office of Science and
Technology Policy
17th Street and Pennsylvania Avenue, N.W.
Washington, D.C. 20506

Dear Dr. Bromley:

You may recall that, at the reception for the National Medal of Science and the National Medal of Technology recipients at the Renwick Gallery, you encouraged me to call upon you if an issue arose with which the OSTP could be helpful in relation to the Smithsonian. I now have an intriguing matter before me, which I hope your staff might offer some advice on.

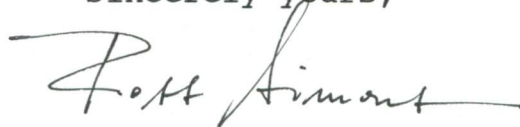
Over the course of the past year, the Smithsonian has been restructuring its scientific diving program, and finds that it is among the largest federal entities in this field. However, with the exception of NOAA, little current information exists on the scientific diving programs in the federal government. The last study seems to have been undertaken by NOAA in 1975, under the auspices of OSTP's predecessor, through the Intergovernmental Committee on Marine Science and Engineering. We are increasingly faced with difficult issues having to do with operational and training standards for scientific diving, reciprocity, with other federal agencies and universities, and shipboard diving. It would be most useful to have a panel chartered to reexamine these issues, and to see, to the extent possible, what consensus might emerge for a standardized approach.

- 2 -

It is my hope that, somewhere in the OSTP system, this issue can be addressed. The Smithsonian stands ready to vigorously participate in this process and offer assistance as appropriate. Your consideration of this matter would be greatly appreciated.

With best wishes, I am,

Sincerely yours,

A handwritten signature in cursive script, reading "Ross B. Simons". The signature is written in dark ink and is positioned below the typed name.

Ross B. Simons
Deputy Assistant Secretary
for Research

"CORRESPONDENCE TRACKING"

TYPE: ACTION

DOCUMENT NUMBER: 9120104

FROM: SHAPIRO, JERRY

TO: DR. BROMLEY

DATE OF
CORRESPONDENCE: 01/16/91

SUBJECT: THE ENVIRONMENT AND NATIONAL PARKS

ASSIGNED TO: Nancy Maynard

ACTION REQUIRED: AS NECESSARY

SENDER'S DUE DATE:

OSTP DUE DATE:

DATE COMPLETED:

4/1/91

COPIES TO: D. Allan Bromley

WHITE HOUSE TRACKING #:

CONTACT PERSON:

REMARKS: 1/23/91 Called Jean Croft - she is following up on background.

3/25/91 Inside EPA article in ref to this letter. Ken Yale decided not to meet with this group writing the letter. Because it is inappropriate to get involved w/ EPA's institutional rulemaking process, any response could pull DAB into a broader policy debate.

DATE RECEIVED: 01/19/91

FILE: ENVIRONMENT-NAT'L PARKS

Tickie Sutton

THE KAMBER GROUP<BOB BONITATI (0
1920 L ST NORTHWEST SUITE 700
WASHINGTON DC 20036 16AM

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2022238700 MGMB TDRN WASHINGTON DC 1026 01-16 0137P EST

THE HONORABLE D ALLAN BROMLEY
ASST TO THE PRESIDENT, SCIENCE & TECHNOLOGY
OLD EXECUTIVE OFFICE BLDG SUITE 358
17 ST & PENNSYLVANIA AVE NORTHWEST
WASHINGTON DC 20500

DEAR DR BROMLEY:

IN SEPTEMBER OF LAST YEAR, WE WERE ENCOURAGED TO LEARN EPA
ADMINISTRATOR WILLIAM REILLY HAD STATED IN A NATIONAL PRESS CLUB
SPEECH THAT:

"SOUND SCIENCE IS OUR MOST RELIABLE COMPASS IN A TURBULENT SEA OF
SIREN SONGS. SCIENCE CAN LEND MUCH-NEEDED COHERENCE, ORDER AND
INTEGRITY TO THE OFTEN COSTLY AND CONTROVERSIAL DECISIONS THAT MUST
BE MADE."

AS A GROUP OF SCIENTISTS WHO HAVE FOLLOWED A FEDERAL REGULATORY ISSUE
FOR WELL OVER A YEAR, WE ARE WRITING TO CALL TO YOUR ATTENTION AN
EGREGIOUS EXAMPLE WHERE SOME AT THE EPA ARE NOT LIVING UP TO
ADMINISTRATOR REILLY'S "SOUND SCIENCE" PROCLAMATION.

IN AN EFFORT TO ENFORCE THE VISIBILITY PROVISIONS OF THE 1977 CLEAN
AIR ACT, THE AGENCY HAS INITIATED A BEWILDERING AND GRATUITOUS \$4.4
BILLION REGULATORY PROPOSAL TO IMPROVE GRAND CANYON VISIBILITY DURING
A FEW DAYS IN THE WINTER.

IN THE PROCESS, THE EPA HAS (1) SINGLED OUT ONE EMISSION SOURCE AS
THE "MAJOR CONTRIBUTOR" TO GRAND CANYON HAZE WHILE OVER A DECADE OF
PRIOR RESEARCH SUGGESTS THE CONTRARY; (2) MANIPULATED THE DATA OF ONE
BRIEF SCIENTIFIC EXPERIMENT IN ORDER TO MEET ITS OWN PRECONCEIVED
CONCLUSIONS; (3) PROMOTED AN ARTIFICIAL CRISIS SITUATION TO JUSTIFY
ITS CONTROVERSIAL REGULATORY INITIATIVE (4) AND HAS IGNORED A
THOROUGH AND PROFESSIONAL REVIEW BY AN EMINENT NATIONAL ACADEMY OF
SCIENCES PANEL.

WE ARE NATURALLY QUITE TROUBLED BY EPA'S ACTIONS IN THIS CASE.
INSTEAD OF MAKING STRIDES TO IMPROVING GRAND CANYON VISIBILITY, WE
ARE CONCERNED THIS POLICY WILL DAMAGE THE AGENCY'S OWN CREDIBILITY
AND MOST IMPORTANTLY IMPEDE FUTURE EFFORTS TO IMPROVING VISIBILITY IN
ALL OF OUR NATIONAL PARKS.

RECOGNIZING YOUR DESIRE TO NURTURE AND PROMOTE THE USE OF PROPER
SCIENCE IN THE NATION'S PUBLIC POLICY-MAKING PROCESS, WE ASK THAT YOU
INTERVENE IN THIS MATTER, SO THAT YOU CAN ASSURE THAT ADMINISTRATOR

To reply by Mailgram Message, see reverse side for Western Union's toll-free numbers.



REILLY'S CALL FOR "SOUND SCIENCE" BECOMES REALITY AND NOT JUST RHETORIC.

AS YOU MAY RECALL, IN AUGUST OF 1989, THE EPA SINGLED-OUT THE NAVAJO GENERATING STATION (NGS), A CLEAN-COAL FIRED POWER PLANT AS THE MAJOR CONTRIBUTOR TO WINTER-TIME GRAND CANYON HAZE. IN TURN, THE AGENCY PROPOSED THAT THE OWNERS OF THE PLANT INSTALL 90 PERCENT SULFUR-SCRUBBING EQUIPMENT AT A COST TO ITS RATEPAYERS OF OVER \$4 BILLION OVER THE LIFE OF THE PLANT.

IT HAS BEEN WELL ESTABLISHED THAT THERE ARE SEVERAL REGIONAL CONTRIBUTORS TO VISIBILITY IMPAIRMENT. OVER 10 YEARS OF GOVERNMENT/INDUSTRY RESEARCH HAS SHOWN THAT AS MUCH AS TWO-THIRDS OF THE CONTRIBUTION IS NATURAL, HAVING NOTHING TO DO WITH HUMAN CAUSES. THE REMAINING THIRD IS ATTRIBUTED TO URBAN SOURCES AS FAR AWAY AS CALIFORNIA, COPPER SMELTERS IN ARIZONA, MEXICO AND NEW MEXICO AND OTHER POWER PLANTS IN THE SOUTHWEST.

NEVERTHELESS, EPA HAS CHOSEN TO FOCUS ON THE RESULTS OF ONE BRIEF NATIONAL PARK SERVICE EXPERIMENT CALLED WHITEX, CONDUCTED DURING A SIX-WEEK PERIOD IN THE WINTER OF 1986-87, WHICH SUGGESTS THE NGS PLANT IS RESPONSIBLE FOR UP TO 70 PERCENT OF WINTERTIME HAZE.

WHAT IS MOST TROUBLING IS THAT THE WHITEX TEST WAS AN EXPERIMENTAL ONE, NOT ORIGINALLY DESIGNED TO REACH THE CONCLUSIONS FOR WHICH IT IS NOW BEING USED. AFTER ROUGHLY A QUARTER OF THE STUDY HAD BEEN COMPLETED, THE EPA REQUESTED THAT THE STUDY BE CHANGED FROM RESEARCH (DESIGNED TO DETERMINE WHETHER ANY OF THREE METHODS OF ANALYSIS COULD BE USED FOR ATTRIBUTION PURPOSES) TO AN ATTRIBUTION STUDY TO QUANTIFY THE EXTENT OF NGS'S CONTRIBUTION TO GRAND CANYON HAZE.

THE SCIENTISTS INVOLVED IN THE STUDY HAD INSUFFICIENT DATA, INADEQUATE METHODS AND NOT ENOUGH TIME TO MEET SUCH AN OBJECTIVE. YET THE SCIENTISTS WERE PUT UNDER PRESSURE TO DO SO. IN OUR VIEW, THE WHITEX REPORT REPRESENTS EXTREME ABUSE OF SCIENCE AND IT IS DISCOURAGING THAT THE EPA WOULD RESORT TO SUCH MEANS TO JUSTIFY A REGULATORY DECISION.

RECOGNIZING THIS CONTROVERSY, INTERIOR SECRETARY MANUAL LUJAN REQUESTED THE NATIONAL ACADEMY OF SCIENCES (NAS) TO REVIEW THE PARK SERVICE WHITEX EXPERIMENT. THE NAS CRITIQUE, RELEASED IN OCTOBER, 1990, DISPUTED THE CONCLUSIONS OF THE PARK SERVICE EXPERIMENT AND CONCLUDED WHITEX FAILED TO SHOW HOW MUCH OR HOW OFTEN NGS EMISSIONS AFFECT WINTER-TIME HAZE IN THE GRAND CANYON.

IN ADDITION, THE SALT RIVER PROJECT AND THE OTHER OWNERS OF THE NAVAJO GENERATING STATION LAST YEAR SPONSORED THE MOST DETAILED AND COMPREHENSIVE STUDY EVER CONDUCTED ON VISIBILITY IN THE UNITED STATES. THE INITIAL RESULTS FROM THIS \$12.5 MILLION INDEPENDENT AND PEER-REVIEWED STUDY ARE ALSO VASTLY DIFFERENT FROM THOSE OF THE WHITEX EXPERIMENT. THE BASIC FINDING WAS THAT NGS EMITTANTS ONLY MADE A CONTRIBUTION TO GRAND CANYON VISIBILITY IMPAIRMENT IN LESS THAN

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FOUR TO SEVEN PERCENT OF THE TEST READING PERIODS, IN ABOUT HALF OF THESE INSTANCES, IT WAS EITHER CLOUDY OR AT NIGHT,

YET DESPITE THIS NGS STUDY AND THE NATIONAL ACADEMY OF SCIENCES CRITIQUE, THE EPA REMARKABLY APPEARS TO BE ADVOCATING ITS ORIGINAL REGULATORY PROPOSAL, AND IT IS LIKELY THAT THE AGENCY WILL PROPOSE BY FEBRUARY, 1991, THAT THE NGS PLANT MUST INSTALL SCRUBBERS TO REMOVE 90 PERCENT OF ALL SULFUR DIOXIDE EMISSIONS.

AS A GROUP OF SCIENTISTS WHO HAVE STUDIED THIS ISSUE FOR SEVERAL YEARS, WE BELIEVE SUCH A POLICY WOULD BE WASTEFUL AND WOULD DO ALMOST NOTHING TO IMPROVE WHAT CAN BE SEEN AT THE GRAND CANYON, AND IN THE PROCESS, IT COULD PERMANENTLY TARNISH THE REPUTATION OF FUTURE GOVERNMENT-SPONSORED SCIENCE USED FOR POLICY-MAKING PURPOSES.

WE WOULD LIKE TO MEET WITH YOU AT YOUR EARLIEST CONVENIENCE TO FULLY DISCUSS THIS ISSUE AND WHAT STEPS COULD BE TAKEN TO PREVENT OTHER INSTANCES OF SCIENCE ABUSE WITHIN THE FEDERAL GOVERNMENT.

SINCERELY,

DR JERRY L SHAPIRO
IESCO
770 WELCH ROAD
PALO ALTO, CA 94304

DR WALT ENGLAND
TRACER TECHNOLOGIES
5820 OBERLINE DRIVE SUITE 203
SAN DIEGO, CA 92121

DR WAYNE SIMMONS
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DEPARTMENT OF CHEMISTRY
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PUGET SOUND POWER & LIGHT
411 108TH AVE NE
BELLEVUE, WA 98007

MR LYNNE TEUSCHER
TRACER TECHNOLOGIES
5820 OBERLINE DRIVE SUITE 203
SAN DIEGO, CA 92121

13:38 EST

MGMCOMP

"CORRESPONDENCE TRACKING"

TYPE: ACTION

DOCUMENT NUMBER: 9120168

FROM: LARSON, PETER L.

TO: DR. BROMLEY

DATE OF
CORRESPONDENCE: 01/14/91

SUBJECT: RULEMAKING FOR FOSSIL COLLECTION ON PUBLIC LANDS

ASSIGNED TO: Nancy Maynard

ACTION REQUIRED: AS NECESSARY

SENDER'S DUE DATE: OSTP DUE DATE:

DATE COMPLETED: -----

COPIES TO: D. Allan Bromley

WHITE HOUSE TRACKING #:

CONTACT PERSON:

REMARKS:

*NO response appropriate
from OSTP. Ltr. forwarded
to SI. to be action
WJD 2/7/91*

DATE RECEIVED: 01/18/91

FILE: ENVIRONMENT-~~FOSSILS~~

9/20/68

14 January 1991



Dr. D. Allan Romley
Science Advisor to the President
Office of Scientific & Technology Policy
New Executive Building
Washington, D. C. 20506

Dear Dr. Romley:

Enclosed please find a copy of a letter by Dr. James Martin of South Dakota School of Mines & Technology to The Honorable Manuel Lujan, Secretary of the Interior (Dr. Martin copied this letter to you in December). You will also find 4 copies of my letter to Dr. Martin addressing the issues raised in his letter to Lujan as well as the supporting documentation. I applaud Dr. Martin's desire to become involved in the process of rulemaking for fossil collection on public lands. Unfortunately, entering the discussion at the eleventh hour with little knowledge of the efforts expended in the last ten years on this issue may cause a "muddying of the waters". That is why I felt it necessary to answer Jim's concerns and give him more background information.

Thank you for your attention to this matter. It is still our hope that the proposed regulations will be published soon and thus public comment allowed. It would be a betrayal, to the many individuals and organizations who have invested years of work in their attempt to arrive at reasonable and equitable resolution in this complex issue, if the procedure is aborted now. Any effort you can make to ensure the procedure goes forward will be deeply appreciated.

Sincerely,

Peter L. Larson, President

Black Hills Institute of Geological Research, Inc.

Science Officer: American Association of Paleontological Suppliers

PLL/mkz

Enclosures

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Peter L. Larson
President

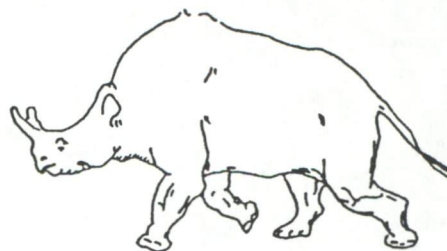
Neal L. Larson
Vice President

Robert A. Farrar
Secretary-Treasurer

**SOUTH DAKOTA
SCHOOL OF MINES
AND TECHNOLOGY**



**MUSEUM OF GEOLOGY
PHONE (605) 394-2467**



December 25, 1990

The Honorable Manual Lujan, Jr.
Secretary of the Interior
Room 6151 - Main Interior Building
1849 C Street NW
Washington, DC 20240

Dear Secretary Lujan:

My communication concerns the management of vertebrate fossils on public lands. First, by means of introduction, I sincerely believe my comments reflect the consensus of professional vertebrate paleontologists in this country. By professional, I mean those who collect the data and specimens, preserve them in public-access institutions, conduct research and utilize the specimens for education. I do not mean those who sell these non-renewable resources for personal gain. I was hired by a public museum my last year in high school and have been associated ever since, taking only time and funds to pursue a doctorate in order to conduct the science in a professional manner. Subsequently, I have edited a number of books, published over 50 scientific papers, am on the South Dakota task force for paleontology, just completed tenure as elected president of the SD Academy of Science, and am a member of the Ethics Committee of the Society of Vertebrate Paleontology, the only national organization representing the concerns of professional paleontologists. I hope this introduction does not seem pretentious; I only wish you to understand my background and my sincerity to speak for the profession and for the scientists and mathematicians of this state.

Recently, the popularity of dinosaurs has brought paleontology to the public eye. Problems generated by this popularity include the introduction of persons selling fossils and a tremendous increase in collection by amateurs. As a result, most of the important data that must be documented during collection has been disregarded, many fossils have been irreparably damaged by inadequate removal techniques, scientists have no means by which to find the ultimate location of specimens, and most important fossiliferous areas are being systematically destroyed.

The problems have been addressed by a number of groups in the last few years, including the National Academy of Sciences, various state governments, and most recently by the Bureau of Land Management and U.S. Forest Service. Surprisingly, in most of these deliberations, the views of the professional paleontologists have been little regarded. The Society of Vertebrate Paleontology has rejected the views of the National Academy, the BLM, and U.S. Forest Service as having a devastating impact upon the fossil resources and the science responsible for their interpretation.

Rapid City, South Dakota 57701

Therefore, my letter is to advise you that the professional paleontologists (See the Feb. 1990, News Bulletin of the Society of Vertebrate Paleontology for documentation) and most natural scientists are against the negotiated rules proposed by the BLM, Mr. Frank Snell, negotiator, and the U.S. Forest Service, Mr. Thomas King, negotiator. Moreover, many of the rank and file members of these organizations are likewise against these proposed regulations. In particular, item 3 is of concern to the scientific community as it allows anyone to collect fossils from BLM and Forest Service lands with no collecting permit as long as their excavations are not greater than 18 square feet. As most vertebrate fossils are much smaller than 18 square feet and because no restrictions were imposed on how many adjacent 18 square feet plots could be opened, the resultant allows collection of almost any vertebrate fossil with no regard as to their scientific importance and with no collection standards. Moreover, it is only urged that any specimen of scientific importance be housed in a public repository. This results in open season on vertebrate fossils, with no regard for important stratigraphic and taphonomic collection data, and allows removal of scientifically important specimens from the public realm.

Secondly, although not directly addressed in the negotiated rules, my discussions with Mr. Thomas King, who represents the Forest Service in these matters, told me that commercial collectors will be allowed to collect and sell vertebrates from public lands under permit. My feeling is that it should be unlawful to sell the public trust, particularly as it is a nonrenewable resource not essential for human survival. Between the "casual collector" and the "commercial collector", I think that vertebrate paleontology, and particularly, the subdisciplines of biostratigraphy and paleoecology, will be destroyed as sciences in South Dakota and the Western United States as a whole.

With these problems in mind, the natural question arises "what should be done?" First, the persons who have spent their entire lives and thousands of dollars in gaining the education and ability to collect, curate, and study these resources have the best background to determine the rules for collecting these limited resources. The elected officers and the Government Liaison Committee of the Society of Vertebrate Paleontology are the most logical sources for these decisions. Because the collection procedures and many of the ultimate interpretations of fossil vertebrates are similar to those of archaeology, fossil resources should be administered through the Regional Archaeologists as is now the case in most areas. Under this system, permits may be issued to qualified individuals and institutions, guaranteeing that these resources will repose in public institutions where they will be available for everyone, amateur and professional alike, in perpetuity!

It would seem that these specimens which represent the scientific data base of a number of disciplines should be more properly regarded in the light of endangered remains and not as rocks to be bought and sold. They should remain as public property much like wildlife. We are on the verge of a destruction similar to the near extinction of bison in the 1800's, but with many more creatures involved, many of which are little known.

The scientists within South Dakota have recognized these problems, and the South Dakota Academy of Science Executive Committee has unanimously passed a resolution considering all fossils on public lands within the state as public property. State government has just formed a task force to study who should collect vertebrate fossils from what lands. Certainly, fossils from public lands should be collected only under permit; enough private land exists to satisfy the commercial entities, and certain public areas could be opened under supervision to satisfy amateur collectors.

I hope that you will sincerely review any regulations concerning collection of fossil vertebrates with scientific goals in mind. If you have any questions or concerns, please do not hesitate to contact me (605-394-2427), and I look forward to receiving your views on this matter.

Sincerely,

James E. Martin, Ph.D.
Curator of Vertebrate Paleontology
Professor, Geology and Geological Engineering
SD School of Mines and Technology
Research Geologist, SD Geological Survey

cc.

Director Cy Jameson, Bureau of Land Management
Dr. D. Allen Bømler, Science Advisor to President
Dr. Edwin Snyder, Secretary, National Geographic Society
U.S. Senator Larry Pressler, South Dakota
U.S. Senator Thomas Daschle, South Dakota
U.S. Representative, Tim Johnson, South Dakota
Dr. Dallas Peck, Director, U.S. Geological Survey
Dr. John Pojeta, Jr., Chief, Paleontology & Stratigraphy Branch, U.S. Geological Survey
Governor George Mickelson, South Dakota
Dr. Thomas Kilian, President, Board of Trustees, SD Historical Society
Dr. Sam Gingerich, President, SD Academy of Science
State Geologist, Merlin Tipton, South Dakota
Dr. Micheal Woodburne, President, Society of Vertebrate Paleontology
Dr. Anthony Barnosky, Chairman, Government Liaison Committee, Society of Vertebrate Paleontology
Dr. Robert Hunt, Government Liaison Committee, Society of Vertebrate Paleontology
U.S. Senator Malcolm Wallop, Wyoming
U.S. Senator Alan Simpson, Wyoming
Governor Michael Sullivan, Wyoming
U.S. Senator Robert Dole, Kansas
U.S. Senator Nancy Kassenbaum, Kansas
U.S. Senator Robert Kasten, Jr., Wisconsin
U.S. Senator Herb Kohl, Wisconsin
U.S. Senator John Glenn, Ohio
U.S. Senator Howard Metzenbaum, Ohio



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Peter L. Larson
President

Neal L. Larson
Vice President

Robert A. Farrar
Secretary-Treasurer

13 December 1990

The Honorable Manual Lujan, Jr.
Secretary of the Interior
Room 6151 - Main Interior Bldg.
1849 C Street NW
Washington, D.C. 20240

Dear Secretary Lujan:

I was extremely distressed to learn that plans to publish the proposed regulations, for paleontological (fossil) collecting on lands administered by the Bureau of Land Management, have been cancelled. This is troubling, not only to me, but to the American Association of Paleontological Suppliers (an organization of commercial fossil dealers), to amateur collectors, professional paleontologists and geologists. By cancelling the publication of these proposed regulations, the Bureau of Land Management impacts adversely all scientific, educational and commercial paleontological collecting activities.

Organizations, individuals, the National Academy of Sciences, the Forest Service and the Bureau of Land Management have spent thousands of dollars over many years striving to arrive at reasonable and equitable regulations. This process has included: 1. The publishing of proposed regulations for fossil collecting, by the BLM in 1982, which met with much resistance and were consequently withdrawn. 2. A three year study by a committee established by the National Academy of Sciences culminating in a published report entitled, *Paleontological Collecting*. This report provided guidelines for fossil collecting on public land by amateur, commercial and professional collectors. 3. An approved amendment to the 1987 Appropriations Act requiring that the BLM follow the NAS guidelines in the preparation of any regulations for paleontological collecting on public lands. 4. In 1989 and 1990, the BLM committed itself to a "Negotiated Rule-Making Process" for the express purpose of arriving at agreement between all parties with a stake in the regulation of fossil collecting on public lands. Participants in this process represented the Bureau of the Land Management, The US Forest Service, The US Geological Survey, State geological surveys, The Paleontological Society, the Society of Vertebrate Paleontology, Museums, the American Federation of Mineralogical Societies (amateur

collectors), unaffiliated amateur paleontologists and the American Association of Paleontological Suppliers. These participants, with varied and sometimes competing interests, arrived at a consensus in full support of specific regulation criteria based on the NAS guidelines and in keeping with the concept of "Multiple Use". We feel that these criteria provide a basis for writing fair and reasonable regulations for fossil collecting, by all interested parties, on public lands.

When leaving the last Negotiated Rule-Making session in May of 1990, the participants were told to expect the proposed regulations, based on our criteria, to be published in the Federal Register in October 1990. After having personally devoted thousands of hours and thousands of dollars to this task, of arriving at criteria for reasonable and equitable regulation of fossil collecting on public lands, I am dismayed that this now seems to be wasted effort.

Since 1982, I have written numerous letters, made countless trips and telephone calls, served on the committee established by the National Academy of Sciences and was an elected representative of the American Association of Paleontological Suppliers for the recent Negotiated Rule-Making process. This long-term commitment was solely for the purpose of achieving clear and equitable regulation of fossil collecting on public lands for all concerned parties. As a personal participant and as former President and now Science Office of the AAPS, I believe that after this tremendous investment, by myself and many others, that we are due certain explanations. Therefore, I request that you, as the Secretary of the Interior, direct the Bureau of Land Management to answer the following questions for us.

1. What are the specific reasons for the Bureau decision to halt this process and refusal to publish, for public comment, the proposed regulations governing fossil collecting on public lands.
2. In the absence of such regulations, what is the BLM policy for:
 - a. Vertebrate or invertebrate fossil collecting on public lands by paleontologists employed by public institutions?
 - b. Vertebrate or invertebrate fossil collecting on public lands by paleontologists employed by private companies or institutions?
 - c. Vertebrate or invertebrate fossil collecting on public lands by individuals who wish to sell fossils?

- d. Vertebrate or invertebrate fossil collecting on public lands by amateur paleontologists?
 - e. Vertebrate or invertebrate fossil collecting on public lands by students?
 - f. Vertebrate or invertebrate fossil collecting on public lands by geologists and paleontologists employed by the federal government?
- 3. Once a fossil has been collected and removed from public lands, who owns the fossil?
 - 4. What specific laws or regulations are the basis for the BLM policy governing fossil collecting on public lands? (Under the Freedom of Information Act, I request copies of all such laws and regulations.)
 - 5. What penalties will be imposed for non-compliance with these BLM policies?

It is very important that the Department of the Interior provide answers to these questions to all the people and organizations, who participated, in good faith, in the Negotiated Rule-Making Process. I request that an official response be prepared and be made available to all those participants as well as to any others who have valid interests in this issue. A swift response is important and necessary. We have worked hard, invested a great deal of time and money and now want to know why the fruits of that labor are being ignored. The policies of the Federal Government have been unclear and now, with no new regulations forthcoming, we are still completely in the dark as to the Bureau's policies regarding fossil collecting on public lands. It is, therefore, imperative that we know what activities are and are not acceptable where such collecting is concerned.

Please accept my thanks in advance for your immediate attention to our concerns. I await your response.

Sincerely,



Peter L. Larson, President
Black Hills Institute of Geological Research, Inc.
Science Officer: American Association of Paleontological Suppliers
PLL/mkz
See attached sheet for listing of those copied.

Lujan letter copied to these people

D. Allen Romley, Science Advisor to the President
 Cy Jameson: Director, Bureau of Land Management
 The Honorable Larry Pressler: U.S. Senator, South Dakota
 The Honorable Thomas Daschle: U.S. Senator, South Dakota
 The Honorable Tim Johnson: U.S. Representative: South Dakota
 The Honorable Pete Domenici: U.S. Senator, New Mexico
 The Honorable Jeff Bingaman: U.S. Senator, New Mexico
 The Honorable Malcolm Wallop: U.S. Senator, Wyoming
 The Honorable Alan Simpson: U.S. Senator, Wyoming
 The Honorable David Boren: U.S. Senator, Oklahoma
 The Honorable Don Nickles: U. S. Senator, Oklahoma
 The Honorable Nancy Kassebaum: U.S. Senator, Kansas
 The Honorable Robert Dole: U.S. Senator, Kansas
 The Honorable Robert W. Kasten, Jr.: U.S. Senator, Wisconsin
 The Honorable Herb Kohl: U.S. Senator, Wisconsin
 The Honorable John Glenn: U.S. Senator, Ohio
 The Honorable Howard M. Metzenbaum: U.S. Senator, Ohio
 The Honorable Christopher Dodd: U.S. Senator, Connecticut
 The Honorable John Heinz: U.S. Senator, Pennsylvania
 The Honorable Arlen Specter: U.S. Senator, Pennsylvania
 The Honorable Dave Durenberger: U.S. Senator, Minnesota
 Dr. Donald Wolberg, Secretary, The Paleontological Society;
 @ New Mexico Bureau of Mines, Socorro, New Mexico
 Dr. John Pojeta, Jr.: Chief, Paleontology & Stratigraphy Branch at
 U.S. Geological Survey, Reston, Virginia
 Dr. Carl Koch: Editor, *Paleontological Society Newsletter*
 Dallas Peck: U.S. Geological Survey
 Frank Snell: Bureau of Land Management
 Tom King: U.S. Forest Service
 John Boland: President, American Federation of Mineralogical Societies
 John Alf: Rocky Mountain Federation of Mineralogical Societies
 Glen Crossman: Mid-American Paleontological Society
 Glenn Rockers: President, American Association of Paleontological Suppliers
 Gael Heddon: Vice President, American Association of Paleontological Suppliers
 June Zeitner: Contributing Editor, *Lapidary Journal*
 Members of the American Association of Paleontological Suppliers
 George F. Melloy, Bethlehem, PA
 Hugh Rose, Tucson, AZ



11 January 1991

Dr. James E. Martin
Museum of Geology
South Dakota School of Mines & Technology
Rapid City, South Dakota 57701

Dear Jim:

**Black Hills
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Geological
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P.O. Box 643 217 Main Street
Hill City, South Dakota 57745
USA

(605) 574-4289
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Peter L. Larson
President

Neal L. Larson
Vice President

Robert A. Farrar
Secretary-Treasurer

I received a copy of your letter to the Honorable Manual Lujan, Jr., Secretary of the Interior, dated 25 December 1990. Certain issues that you raised and the way in which they were addressed in your letter concern me greatly. As you know a great many people, including myself, worked for many years in an attempt to help our government establish policies, for the collection of fossils, which would be beneficial to the science of paleontology. This issue is complex and there are no simplistic answers. For a history of the long and arduous process that yielded the proposed regulations with which you disagree, I refer you to my enclosed letter to Secretary Lujan dated 13 December 1990. I delivered this same letter to the Museum for you on 18 December 1990 when you were not able to keep our appointment. I feel that it is important for you to know all the background involved in the writing of these regulations and to consider the rights and interests of all parties. Once, of course, these policies are implemented, then everyone must abide by the same rules. Don't forget De-Na-Zin!

Enclosed is also a partial copy of the report of the Government Liaison Committee taken from the Society of Vertebrate Paleontology's (SVP) News Bulletin, dated February 1989. This report gives the results of the membership poll concerning their acceptance of the specific recommendations of the National Academy of Science Committee on Guidelines for Paleontological Collecting (NAS recommendations also enclosed). In addition, you will find the results of the Negotiated Rulemaking "Draft Agreements", "Meeting Notes" from the final Salt Lake session and a document entitled: "Scientific Contributions by Commercial Fossil Collectors.". It is my hope that you will closely examine these documents as I address the points made in your letter.

page two: Martin letter

1. First of all, I am surprised by your reluctance to allow amateurs access to public lands. Most paleontologists - yourself included - became interested in fossils as children, by direct contact with fossils in the field. Public lands administered by the Bureau of Land Management (BLM) and the Forest Service (FS) are administered under the principle of "Multiple Use". Therefore, the general public and not just special interest groups should have access to these lands. Present access by amateurs and student groups is so unclear and unevenly regulated that it is necessary to spell out what is acceptable and what is not (see my 13-12-90 letter to Lujan).

2. The SVP is not the only national organization of professional paleontologists. The Paleontological Society, with a U. S. Membership more than twice the total membership of SVP, is the largest organization of professional paleontologists in the world. The PS firmly supports the NAS report and the Negotiated Rulemaking process initiated by the BLM and FS. In addition, there are at least six other organizations of Professional Paleontologists (see page 41 of the NAS report).

3. Fossils were bought and sold long before their scientific value was realized. Commercial collecting has been an integral part of the science of paleontology since, at least, the early 1800's (see enclosed document: "Scientific Contributions by Commercial Collectors."). Therefore the recent popularity of dinosaurs did not "include the introduction of persons selling fossils" as you state in your letter.

4. I certainly agree that for fossils to have maximum scientific usefulness, then proper collecting techniques and data retrieval are absolutely essential. However, making criminals out of children and denying public access is not the solution, **education** is. The PS is deeply committed to education. I would suggest that the SVP needs to take an active role in teaching amateurs and commercial people how to improve their collecting techniques. This would help retrieve the information as well as specimens. There will never be enough collectors to adequately collect the millions of fossils which weather out and are destroyed by the elements every year. It is blatantly untrue that "the most important fossiliferous areas are being systematically destroyed". Most amateurs and

page three: Martin letter

commercial collectors love fossils just as much and, in some cases, perhaps more than you do. Creating and fostering barriers will not help the science of paleontology. In fact, without amateurs and commercial collectors, paleontology will receive less interest and funding than the currently inadequate levels. Only by working together to resolve our differences, improve data retrieval and to encourage an interest in fossils will paleontology advance.

5. The views of the professional paleontologists have not been ignored by the BLM and FS. The long process of arriving at reasonable regulations has always made the scientific concerns of primary importance. This is reflected in the overwhelming majority of scientists as participants on the NAS committee (see number six for listing) and in the Negotiated Rulemaking process. Participants in the Negotiated Rulemaking sessions included one geologist, two invertebrate paleontologists, two sellers of fossils (commercial collectors), one BLM representative, one FS representative, three amateurs and seven vertebrate paleontologists. **Consensus was reached!**

6. The SVP did not "reject" the views of the NAS report. I refer you to the 1989 membership poll (enclosed). Nine out of the ten NAS committee's recommendations were approved by the membership. The vote on recommendation 3 (255 yea - 18 nay) overwhelmingly supports the recommendation that no permits are necessary for surface collecting and approves access by amateurs. The vote on recommendation 5 (185 yea - 133 nay) supports controlled commercial collecting on public lands. The SVP delegates to the Negotiated Rulemaking sessions while expressing concerns did not block consensus on the issue of amateur collecting. Those delegates were in full support of all other agreements upon which consensus was reached including that on commercial collecting. As a member, you cannot speak for the SVP, anymore than I can, unless you are able to back up what you think the SVP stands for with facts. It is inappropriate for you to speak for the Society and for "most natural scientists". The NAS Committee (made up of four vertebrate paleontologists, three invertebrate paleontologists, one paleobotanist, one geologist, two attorneys, one industry representative and myself as a

page four: Martin letter

geologist and seller of fossils) can speak for geology and paleontology. It is that report's recommendations to which the Bureau of Land Management and the Forest Service are bound by Congress in writing collecting regulations for public lands.

7. The legal issues of amateur and commercial collecting have been addressed in the Federal Land Management Policy Act (1976), the NAS report and by various solicitors' opinions. This is public land and special interests must not take precedence over the rights of all citizens. Amateurs and commercial collecting are legal and proper activities. Again, education, communication and cooperation are the keys to solving any potential problems.

8. It is not just Professional Paleontologists "who have spent their entire lives and thousands of dollars" in gaining the education and ability to collect, curate and study "fossils". Amateurs and commercial collectors (myself included) have done the same. On this road of education, field experience is an absolute necessity.

9. Regional Archaeologists are not the people to administer programs on paleontology. This has been the case in the past and most of your colleagues will, I think, disagree with you and enumerate the problems this causes. Please refer to the discussion on "Paleontology and Archaeology" beginning on page 11 of the NAS report (as well as the appendix).

10. Public institutions do not always allow access to fossils. As a case in point: I am denied access to even viewing the *Tyrannosaurus* at your institution (my Alma Mater). The director of the Museum (Phil Bjork) has denied this access to me even though my research needs are valid and not in conflict (in fact, they would be complimentary) to the research needs of your museum. As you know, even though you have never chosen to visit our facilities (which are only 30 minutes away from you), our collections are always accessible to you and all other researchers.

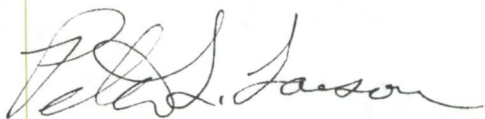
Please consider the contributions which amateurs and commercial collectors make to the science of paleontology (see NAS report). They,

page five: Martin letter

after all, are usually the discoverers; the foot soldiers who bring new species and new localities to the attention of the professional paleontologist. It is quite often, they who found the fossils displayed in the museums. Most new displays in museums are constructed with specimens purchased from commercial collectors or donated by amateurs. Virtually every museum has purchased fossil specimens (including yours). Schools and Universities rely, heavily, upon specimens purchased from commercial collectors for teaching paleontology and related sciences. Dismissing these people as "destroyers" is not only unfair, it is **wrong**. They are to be applauded, respected and thanked for their contributions. Continued collaboration will bring even greater rewards to the science of paleontology.

Finally, I once again invite you to visit our Institute. I can see no scientific reason for us to be on opposite sides of this issue which is so important to the science of paleontology. Paleontology needs amateurs and it needs commercial organizations such as the American Association of Paleontological Suppliers and Black Hills Institute. I sincerely look forward to working with you toward resolving the conflicts which exist within this, our chosen field.

With sincerity and an offer of friendship,

A handwritten signature in cursive script, appearing to read "Peter L. Larson".

Peter L. Larson, President
Black Hills Institute of Geological Research, Inc.
Science Officer: American Association of Paleontological Suppliers
PLL/mkz
Enclosures

See attached sheet for those copied

page six: Martin letter

CC:

The Honorable Manuel Lujan, Jr., Secretary of the Interior
Cy Jameson: Director, Bureau of Land Management
D. Allen Romley, Science Advisor to the President
The Honorable Larry Pressler: U. S. Senator, South Dakota
The Honorable Thomas Daschle: U. S. Senator, South Dakota
The Honorable Tim Johnson: U. S. Representative, South Dakota
The Honorable George Mickelson: Governor, State of South Dakota
Dr. Thomas Kilian, President: Bd of Trustees, S. D. State Historical Society
Paul Knecht, S. D. Governor's Office of Economic Development
Dr. Dallas Peck: U. S. Geological Survey
Dr. John Pojeta, Jr., Chief, Paleontology & Stratigraphy Branch at
U. S. Geological Survey; Reston, Virginia
The Honorable Malcolm Wallop: U. S. Senator, Wyoming
The Honorable Alan Simpson: U. S. Senator, Wyoming
The Honorable Howard M. Metzenbaum: U. S. Senator, Ohio
The Honorable John Glenn: U. S. Senator, Ohio
The Honorable Robert Dole: U. S. Senator, Kansas
Dr. Anthony Barnosky, Chair: S.V.P Government Liaison Committee
Dr. Donald Wolberg, Secretary, The Paleontological Society
Tom King, U. S. Forest Service
Frank Snell, Bureau of Land Management
John Boland, American Federation of Mineralogical Societies
John Alf, Rocky Mountain Federation of Mineralogical Societies
Glenn Rockers, President: American Association of Paleontological Suppliers
Gael Hebdon, Vice. Pres: American Association of Paleontological Suppliers

5. CONCLUSIONS AND RECOMMENDATIONS

The Committee was faced with some difficult and controversial issues. Nevertheless, the ten recommendations given below (with annotations) constitute a strong consensus and they were approved unanimously by the full Committee on September 14, 1986.

Recommendation #1. A uniform national policy on paleontological collecting should be adopted by all federal agencies. Existing statutory authority is adequate for implementation of such a policy.

Recommendation #2. Each state should adopt a uniform paleontological policy for state-owned lands.

Recommendation #3. All public lands should be open to fossil collecting for scientific purposes. Except in cases involving quarrying or commercial collecting, collecting fossils on public lands* should not be subject to permit requirements or other regulation.

The Committee recommends the following procedures and definitions:

Reconnaissance Collecting: Requires no advance notice to any public land manager; no permit is required. Such collecting is a day or less at any one locality and involves surface collecting by hand tools.

Extended Stay Collecting: Requires written advance notice to the land manager so that applicable rules can be known and followed;** no permit is required. Consists of surface collecting for more than one day by using hand tools.

* Other than National Parks

**This procedure should be kept simple and fast to allow a collector to explore more fully a newly discovered exposure or an unexpectedly productive site.

Quarrying for Fossils: For this report, a paleontological quarry is defined as an excavation of greater than two (2) cubic yards initiated for the extraction of fossils. Collecting fossils by quarrying should be controlled by a permit procedure. Permit forms should be simple.

Recommendation #4. Fossils of scientific significance should be deposited in institutions where there are established research and educational programs in paleontology. These repositories will ensure that specimens are accessioned, maintained, and remain available for study and education. There is no justification for requiring that fossils be deposited in an institution in the same state in which they were found; such requirements discourage paleontological research.

Recommendation #5. Commercial collecting of fossils from public lands should be regulated to minimize the risk of losing fossils and data of importance to paleontology. Permit applications must be subject to review by paleontologists qualified to assess the projects' potential impact on related research programs. Applications must receive the endorsement of a paleontologist who is willing to supply guidance to the commercial operation. Specimens deemed to be of special scientific interest must be deposited in a public institution, such as a museum, college, or university.

Past experience has clearly shown that commercial collecting has both benefited and hurt paleontological research. Many unique and scientifically important fossils have been discovered and made available to science by commercial collectors. Conversely, there are documented instances of important fossils disappearing into private hands with no opportunity for scientific study. The Committee believes that a permitting procedure for commercial collecting that would ensure access to specimens by scientists would meet the needs of both the scientific community and commercial interests.

Recommendation #6. Private landowners should follow the guideline that commercial collecting of fossils be undertaken with thorough scientific oversight to ensure that the scientific usefulness of specimens is not impaired.

Recommendation #7. Blanket paleontological inventories, mitigation, or salvage activities should not be undertaken, funded, or required by government agencies as a routine part of environmental assessment, impact analysis, permitting, land management, or similar programs.

By facilitating the work of scientists, land managers and other agencies can take advantage of the most effective means of accomplishing inventory objectives, i.e., increasing knowledge of fossil distributions on public lands. Thus, surface paleontological collecting should be encouraged on all public lands, including Areas of Critical Environmental Concern, Research

Natural Areas, Wilderness Study Areas, and Designated Wilderness Areas. There is no need to conduct general paleontological inventories on all public lands. Land managing agencies should contact the U. S. Geological Survey and appropriate state geological surveys to determine the need for a reconnaissance survey or limited-scope paleontological inventory where land development is contemplated. Development includes among other things urbanization, surface mining, dams, airport, and highway construction. In order to avoid unnecessary conflict and work, agencies should make these contacts in the early stages of land use planning and decision making. The Committee sees no need for land managing agencies to produce "Paleontological Resource Sensitivity" maps such as that produced for the Province of Alberta (Appendix P).

Recommendation #8. Land managers or developers who require scientific guidance on perceived paleontological problems should initially seek advice from the U. S. Geological Survey, or appropriate state geological surveys, which in turn may wish to contact appropriate paleontological organizations.

Recommendation #9. The Department of the Interior, in cooperation with the professional paleontological community, should identify and evaluate potential paleontological localities of national significance (on both public and private lands) for designation as National Natural Landmarks (NNLs), pursuant to the existing National Natural Landmark Program administered by the National Park Service (36 CFR 62). [See Appendix Q.]

Designation of a paleontological NNL should be made by the Secretary of the Interior with the advice of a National Paleontological Advisory Committee, which should include representatives of the subdisciplines of paleontology, recommended by the Paleontological Society.

All such localities should remain open for collection of fossils by the scientific community and by collectors commissioned by recognized educational and scientific institutions.

All such NNLs should be limited to the smallest area necessary to achieve their intended purpose.

Any individual or group may propose a fossil locality for designation as an NNL.

Type sections of rock formations and type localities of species are working tools for field stratigraphers, sedimentologists, paleontologists, and other scientists. Type sections and type localities should not for that reason alone ordinarily be designated National Natural Landmarks.

Recommendation #10. The paleontological societies of the nation should develop permanent and broadly based educational programs to inform landowners and commercial and amateur collectors of the research needs of professional paleontologists.

MEETING NOTES

The notes of the meeting on commercial fossil collecting that was held in Salt Lake City, Utah, on May 15, 1990, and endorsed by the participants, are as follows:

1. Need for Formal Oversight and Consultation by Professional Paleontologists.
 - a. Designated review process by oversight group consisting of representatives of professional societies, museums, universities, Federal Government (USGS), and State government when application is received.
 - b. Statement of interest from scientific researcher(s) (optional) may be provided with application.
 - c. Ongoing monitoring of and consultation as to collecting activities.
 - Continued involvement by oversight group (see paragraph a. above or their designees.)
 - d. Ongoing monitoring of and consultation as to laboratory process and product by oversight group or their designees.
 - e. Annual reporting and review.
 - f. Final report supplied to Federal land manager and parties involved in oversight group, with copy to Paleontological Society Archives at University of Illinois for long-term safekeeping.
2. Access to fossils by scientific researchers and educators over time (fossils stay in United States to maintain access to fossils and database).
 - a. House fossil in public institution.
 - b. Make fossils available to public institutions.
 - c. Disposition of fossils determined by oversight group.

3. Must be workable for all parties.

a. Surface collecting - commercial

- (1) One-year limit on permit.
- (2) Nonexclusive.
- (3) Acreage limits requested by plan of operation would be approved by oversight committee.
- (4) Same definition as before regarding use of tools.
- (5) Entire process as described in #1 except final report supplied at end of 1-year permit.

b. Quarry collecting

- (1) Survey may be required at BLM/FS discretion.
- (2) Detailed plan of operation with map and reclamation plan.
- (3) Bond for permit compliance.
- (4) Insurance.
- (5) Entire oversight process as described in #1.
- (6) Exclusive permit would be for a 1-year period and would be renewable up to 10 years if production occurs within first 2-year period and continues each year thereafter. At the end of 10-year period, permit terminates.
- (7) Following termination, anyone may apply for a permit for that area.

c. Appraisals.

- (1) No appraisal in advance.
- (2) Initial minimum price per acre set by BLM/FS.
- (3) Application process for permit.
 - (a) Application would include Plan of Operation.
 - (b) Application would be evaluated by BLM/FS including EA process, and oversight group.

- (c) Would be advertised.
 - (d) Other applications with competitive bids would be accepted.
 - (e) Applications would be processed by BLM/FS oversight group.
 - (f) Permit would be issued based on both bid and plan of operation.
- d. Oversight Committee.
- (1) Three people minimum from representative groups (see item 1,a).
 - (2) Determined by BLM/FS in consultation with professional community.
 - (3) Oversight committee would be composed of members with appropriate expertise (taxonomic, geographic, stratigraphic).
 - (4) Applicants for permit will pay costs of oversight group for their travel and for technical services in the evaluation process and permittee will pay for technical services through period of permit.
- e. Compensation to commercial finder of scientific specimens equivalent to normal collection costs as determined by BLM/FS in consultation with oversight committee.
- f. Permits are nontransferable; permittee remains responsible for activities of others on site.
- g. Wherever possible, oversight committee will include local State representation.
- h. With certain exceptions, fossil vertebrates are rare. Normally, only common vertebrates will be considered for commercial collection.
- i. With certain exceptions, fossil invertebrates are common. Normally only common fossil invertebrates will be considered for commercial collection.
- j. With certain exceptions, fossil plants are common. Normally, only common fossil plants will be considered for commercial collection.

- k. With certain exceptions, trace fossils are common. Normally, only common trace fossils will be considered for commercial collection.
- 1. Permits may be revoked for noncompliance.
- 4. Must be cost effective, i.e., commercial collectors would bear cost.
 - a. Filing fee at the time of application.
 - b. Reimbursable account for each permit.
 - c. Applicant pays cost for scientific oversight (designated professional society acts as banker for costs of scientific oversight).
- 5. Protection of fossils for public good.
 - a. Recognition and/or designation of ACES's in the planning process prior to acceptance of application.
 - b. Plan of Operation included with application.
 - c. Exchange of permit areas if area is found to be exceptionally valuable.
- 6. Scientifically valuable fossils shall go to museums or research institutions (public or private) within United States.

The following contains the meeting notes for May 17, 1990. This session continued work on item 3 above starting with element 3e. Those elements have been added to item 3 on the previous page.

- 7. Field collection standards meet needs of scientific researchers.
 - a. Covered in Plan of Operations.
- 8. Must meet legal requirements.

9. Availability of common fossils to consuming public.

By consensus, the group moved to eliminate item 3a., surface collecting, from consideration in proposed rulemaking.

The following statement was developed by the group as its consensus position regarding the commercial collection of fossils on public lands:

"Federal lands are closed to commercial fossil collecting except under permit as agreed to at the Salt Lake City, Utah, meeting of May 17, 1990."

It was requested that the following statements be made a part of the consensus opinion:

By Michael Woodburne:

"The Society of Vertebrate Paleontology (SVP) has maintained a consistent and fundamental policy that commercial collectors be prohibited from Federal lands. This was reaffirmed on September 8, 1989, when nearly 50% (498) of the voting membership of the SVP voted 469 no, 28 yes, 1 abstain, as to whether commercial collectors should have access to nonrenewable vertebrate paleontological resources on Federal lands. At the same time, the membership voted 342 yes, 51 no, 105 abstain that they would consider access by commercial collectors to Federal lands under conditions of professional supervision. The conditions described in recommendation no. 5 appear to satisfy this caveat in a reasonable fashion. Should the procedures indicated herein for recommendation no. 5 prove unworkable, the SVP still retains its fundamental position. Nevertheless, the SVP would still be open to further discussions on this issue."

By Gary Glass:

"The State Geologist of Wyoming recognizes that the 5/17/90, deliberations of the group speak to some concerns of the State. While not wishing to block the consensus of the group on this matter, the State Geologist stands aside and is not part of the consensus on this issue. The State Geologist registers his belief that the need for commercial collecting of any fossils on Federal lands was not demonstrated during the meeting of 5/17/90, and this remains a primary concern to the State Geologist."

(Final revision, 1/26/90)

DRAFT AGREEMENTS

BUREAU OF LAND MANAGEMENT (BLM)
NEGOTIATED RULE MAKING:
FOSSIL COLLECTION ON FEDERAL LANDS

December 4-6, 1989

GENERAL AGREEMENTS

Participants in the Negotiated Rule Making on Fossil Collection on Federal Lands convened by the Bureau of Land Management (BLM) reached consensus decisions and/or recommendations on the following points:

The BLM will provide participants of the Negotiated Rule Making on Fossil Collecting with the date and content of regulations that will appear in the Federal Register. (This will occur after the draft has gone through Department of Interior, Office of the Solicitor, Office of Management and Budget, Legislative Council, other Federal agency review, and has been filed with the Federal Register).

The BLM agrees to provide a 60-day comment period, rather than 30 days, to allow interest groups to inform/consult with constituents before developing comments. The U.S. Forest Service (USFS) will provide a 90-day comment period.

Once a regulation or regulations for BLM or USFS have been developed, the Federal Interagency Paleo Group will urge other Federal land management agencies (Corps of Engineers, Bureau of Reclamation, U.S. Fish & Wildlife Service, National Park Service, etc.) to develop or adopt (as far as possible) consistent regulations.

The participants in the Negotiated Rule Making on Fossil Collection request that an active U.S. Geological Survey (USGS) vertebrate paleontologist be on any Federal interagency working group.

The BLM will circulate to its State and District offices a memo which provides names, addresses, function, and expertise of various professional and regional amateur paleontological societies which may be useful to land managers and developers. The basis of this list will be Appendices G and H of the National Academy of Sciences (NAS) report Paleontological Collecting, which lists and describes professional and regional amateur paleontological societies. In addition, the Federal Interagency Paleo Group will discuss the issue of professional expertise and how paleontological information can be obtained by other agencies.

AGREEMENTS AND RECOMMENDATIONS

The participants in the BLM Negotiated Rule Making on Fossil Collecting on Federal Lands reviewed the recommendations in the National Academy of Sciences (NAS) report Paleontological Collecting, and reached consensus agreements on the points listed below. (Consensus was defined as the best solution that could be reached at this time, addressing, to the maximum extent possible, those interests represented at this meeting. It does not imply unanimity, but does mean that those present can live with the solution, even though it may not be their first choice.) These are recommendations to the Bureau of Land Management, and to other Federal land management agencies, which the group would like to be considered in the drafting of future regulations.

1. **A uniform national policy on paleontological collecting should be adopted by all federal agencies. Existing statutory authority is adequate for implementation of such a policy.**

Note: "Uniform" means standard approach and intent of regulations and, as much as possible, standard application across all Federal land management agencies and in all areas of the country. "Uniform" allows for the development of some specific land use limitations which may be applied to specific critical fossil deposits or areas to assure their protection.

2. **Each state should adopt a uniform paleontological policy for state-owned lands.**

This group endorses the concept of each state adopting a uniform paleontological policy for state-owned land. The Federal interagency working group will work cooperatively with state counterparts to exchange advisory/consulting help or mutual assistance for paleontological issues affecting adjoining Federal/State lands.

3. **All BLM and USFS lands, except those covered by the Wilderness Act or specifically set aside, shall be open to fossil collecting for scientific, recreational, and educational purposes.**

It is of utmost importance for information exchange, protection of resources and wise land management decisions that non-commercial collectors notify the BLM or USFS of their intention to collect fossil resources, and complete the attached informational form whenever a vertebrate fossil is discovered.¹

¹ The Society of Vertebrate Paleontology recognize that the 12/4-6/89 deliberations of the group speak to some of the concerns of the Society, including information exchange, monitoring of collecting activity on Federal lands, and education of the collecting public. While not wishing to block the consensus of the group on this matter, the Society stands aside and is not part of the consensus on this issue. The SVP registers its strong belief that vertebrate fossils should only be collected under a procedure wherein permits are required for all activities regardless of the size of the area affected or disturbed. Without a consistent permitting procedure, SVP believes that BLM is unable to exercise its

This notification shall result in a rapid agency response to that collecting can occur in an expeditious manner. If a specimen of unique scientific interest is discovered, the government requests that the collector consider depositing the fossil at an accredited institution for research and educational purposes. The collector will receive public recognition for this contribution to science.

The Federal land manager will provide the collector with relevant information about areas to be visited and a form to be returned if the collector discovers a vertebrate fossil. The form will request the following information:

- 1) identity of individual(s) and/or institution
- 2) date of collection
- 3) geographic location
- 4) stratigraphic level
- 5) depository and date of deposit
- 6) paleontologist consulted, and
- 7) brief description of discovery, collection and site characteristics.

Additional information from the collector (maps, photographs) will be helpful.

The accompanying letter from the land management agency will stress that scientifically important fossils should be deposited in a recognized public or scientific institution.

Where (a) there is a potential for significant disturbance of other resources (e.g., endangered species, archeological resources or wilderness areas, etc.); (b) mechanized equipment or explosives are used; or (c) the area of surface disturbance is more than 18 square feet (for BLM lands only); scientific, recreational, or educational collectors will be required to apply for a permit prior to collecting paleontological specimens on Federal land.

In every case, collectors are responsible for following all applicable laws and regulations. If questions arise, collectors should check with local land managers for information.

Designated sites or areas may be set aside for specific periods of time to allow for scientific study and research.

4. Fossils of scientific significance should be deposited in accredited institutions where there are established research and educational programs in paleontology. These repositories will ensure that specimens are accessioned, maintained, and remain accessible/available for study and education. "Accredited institution" refers to a

responsibility to protect the quality of scientific values as provided for under the Federal Land Policy and Management Act of 1976 (Sec. 102(a).8).

public or private organization which has established fossil collections such as colleges, universities, state geological surveys and museums.

5. An ad hoc working group composed of professionals/scientists, commercial collectors, and agencies (USGS, USFS, BLM, Society of Vertebrate Paleontology (SVP), Paleontological Society (PS), American Association of Paleontological Suppliers (AAPS)) will explore scientific, administrative and legal issues related to commercial collection of fossils on Federal lands. This working group will be convened by the Bureau of Land Management.
6. NAS recommendation #6, "Private landowners should follow the guideline that commercial collecting of fossils be undertaken with thorough scientific oversight to ensure that the scientific usefulness of specimens is not impaired," was not addressed by the participants in the regulatory negotiation meeting. The group agreed to address this issue after discussing and reaching a decision on NAS recommendation #5, which pertains to commercial collecting on Federal lands.
7. In specific areas with known fossil resources and where there will be significant development or disturbance, the fossils should be inventoried at appropriate intervals.

The Federal Land Policy and Management Act of 1976 states in (Section 102(a).2) that: "The national interest will be best realized if the public lands and their resources are periodically and systematically inventoried and their present and future use is projected through a land use planning process coordinated with other Federal and State planning efforts."

BLM and USFS will see that this recommendation is integrated into internal working procedures for the management of Federal lands under these agencies' jurisdictions. The National Park Service will continue its policies to do inventories and mitigation studies on lands which it manages.

For BLM, providing for the proper management, use, and protection of fossils will be accomplished using the regular planning and environmental assessment processes required by the Federal Land Policy and Management Act, and the National Environmental Policy Act, as follows:

A. Planning

1. During scoping, the first step in planning for an area, the BLM will consult with the USGS, appropriate state agencies, local colleges and universities, accredited museums, and professional societies.

2. If fossil resources are identified as being an issue in scoping a specific area, a literature review and further consultation will be undertaken. A very limited reconnaissance inventory may be undertaken.
3. Based on information assembled and analyzed, planning decisions will be made for the best management, use and protection of fossils on public land.
4. Areas containing fossils of significant scientific value that require special management attention will be designated Areas of Critical Environmental Concern (ACECs) in planning. Special rules will be developed, such as closing the area to collecting except under permit. ACECs may also be designated as National Natural Landmarks (NNL's) or Research National Areas.

B: Environmental Assessment

For all actions proposed for public land, an environmental assessment will be completed and will cover fossils if any are impacted.

The USFS will adopt steps similar to those of the BLM to include fossil resource issues in the forest, land and resource management process, as required by the National Forest Management Act.

8. Depending upon circumstances and needs, land managers or developers who require scientific guidance on perceived paleontological problems should seek advice from the U.S. Geological Survey, appropriate state geological surveys, state agencies, local colleges or universities, museums, and/or professional societies.
9. The Department of the Interior, in cooperation with the professional and amateur paleontological community, should identify and evaluate potential paleontological localities of national significance (on both public and private lands) for designation as National Natural Landmarks (NNLs), pursuant to the existing National Natural Landmark Program administered by the National Park Service.

BLM currently has procedures to establish Areas of Critical Environmental Concern (ACECs). In addition, the BLM and USFS have procedures to designate Federal lands as NNLs, which include provisions for public involvement. Special rules may be established as needed for specially designated areas.

10. The paleontological societies of the nation should develop permanent and broadly-based educational programs to inform landowners and commercial and amateur collectors of the research needs of professional paleontologists.

SCIENTIFIC CONTRIBUTIONS

by

COMMERCIAL FOSSIL COLLECTORS

Peter L. Larson - 1989

Fossils have been collected and sold as objects of beauty and scientific interest for hundreds of years. Virtually every museum in the world has acquired specimens from commercial collectors. These specimens are used for display, research and education. The paleontological teaching collections in universities are nearly all purchased specimens. These collections are indispensable in providing the necessary "hands-on" experience to students of the earth sciences. Many fossils, collected by commercial collectors, reside in private collections where they are shared with many people who otherwise would not be able to enjoy this "hands-on" experience. Through the years many important scientific discoveries have been made by those who sell fossils. The following is a brief listing of a few such contributions:

1. (1810's) Mary Anning; of Lyme Regis, Dorset, England; discovered undescribed ammonites, the first Ichthyosaur, the first Plesiosaur and many additional marine reptiles. This gave the fledgling science of paleontology its first glimpse of Mesozoic reptilian radiation.
2. (1842 to present) Horace C. Hovey, in 1842, sold the first crinoid specimens from the Mississippian Age, Crawfordsville, Indiana locality. Since that time, thousands of specimens have been sold to researchers, museums and private collectors throughout the world. This "collecting for profit" resulted in the discovery and description of hundreds of new echinoderms, arthropods and other invertebrates. As a direct result of this extensive commercialization, these deposits have received worldwide acclaim. Consequently, there are Crawfordsville specimens on display in virtually every major museum.
3. (1861) The first *Archaeopteryx* was discovered by commercial quarriers of the Solnhofen Limestone in Bavaria, Germany. This and subsequent specimens of this type, and other fossils (fishes, dinosaurs, flying reptiles, ichthyosaurs, lizards, mollusks, echinoderms, arthropods, etc.) collected at this important deposit have been sold. This "feathered-dinosaur" provided science with evidence for evolution, the origin of birds, and the affinities of the birds with dinosaurs.

4. (1867) Charles H. Sternberg decided to make the collection and sales of fossils his life. Thus began a voyage which would encompass not only his own life, but those of his sons as well. The Sternbergs made so many contributions that it is impossible to list them all. They include: Mosasaurs, plesiosaurs, fishes, flying reptiles and birds from the Cretaceous, Niobrara Chalk (Kansas); the first (and still best) dinosaur mummies (Wyoming); the first complete carnivorous dinosaur skeleton (Alberta); the first complete titanotherium skeleton; the first articulated "La Brea" skeletons; the development of "modern" collecting techniques for large specimens, and on and on.

5. (1870 to present) Fossil fishes have been and are quarried and sold from the lake deposits of the Green River Formation in western Wyoming, USA. Only because of the thousands upon thousands of specimens which are quarried each year is it possible to study large samples. Many rare vertebrates and invertebrates came to light which would never have been seen. The Tynskys, Ulrichs, Hebdons and others are still finding important specimens which bring to light an ancient lacustrine ecosystem.

6. (1877) William Reed discovered the famous Como Bluffs Dinosaur Quarries, in Wyoming, and sold the bones, location and himself to O. C. Marsh. From these quarries came our first clear look at the huge Sauropod dinosaurs and other life forms of the Jurassic Age, Morrison Formation.

7. (1880's to present) Bernard Hauff, et al., commercially quarried virtually all of the ichthyosaurs, plesiosaurs, crocodiles, flying reptiles, fishes, mollusks, arthropods, etc. from the Jurassic, Poseidon Shales of Holzmaden, West Germany. These were sold to museums and collectors throughout the world and have been described, figured and photographed. They provide a source of wonder, excitement and learning for generation after generation. The Hauff family, the Fischer family and others are still finding, preparing and selling specimens.

8. (1930's to present) Marion C. Bonner and his sons are still active in the Niobrara Chalk of Kansas. He discovered and collected the first "complete" Plesiosaur from these deposits and probably the best Hesperornis (toothed bird) skull. Many museums (notably Los Angeles County Museum) display the many wonderful fossils collected by this man and his sons.

9. (1950's to present) A. Allen Graffham discovered many new localities and taxa of echinoderms and trilobites in the Paleozoic deposits of Oklahoma. This has increased our understanding of important time periods, faunas and marine environments.
10. (1970) Vivian Jones, who owns a rockshop in Delta, Colorado, discovered the Dry Mesa Quarry in the Morrison Formation of western Colorado. From this quarry came two giant sauropod dinosaurs, "Supersaurus" and "Ultrasaurus". This is one of the most important Morrison localities discovered in this century.
11. (1978) Rock shop owner, Marion Brandvold, discovered dinosaur nesting grounds on the Peebles ranch, in the Two Medicine Formation, near Choteau, Montana. This important locality is the basis for the research of Jack Horner. That research is teaching us many surprising things about how dinosaurs lived and has forever changed our concepts about their social behavior.
12. (1980) Ed and Ava Cole discovered a new dinosaur (Avaceratops) and an important Judith River Fauna at Careless Creek, near Ryegate, Montana.
13. (1981 to present) Bill Hawes and Paula Ott, working in a joint venture with Dr. Richard Lund of Adelphi University, succeeded in reopening the closed, Bear Gulch locality near Lewiston, Montana. This resulted in the discovery of new taxa of Paleozoic fishes and the unfolding of a greater understanding of evolutionary mechanisms in strained environments.
14. (1988) Stan Wood, in Scotland, discovered the earliest known reptile and many new amphibians by working and reworking Devonian Age deposits abandoned, by scientists, decades earlier.

It would require a good-sized book to list all the contributions to the science of paleontology made by commercial collectors. Nearly all commercial collectors (those people who make a living collecting, preparing and selling fossils) have provided at least one major, scientific discovery to the field. Obviously these people had a significant impact upon our knowledge of prehistoric life. Their continued involvement in and contributions to the science of paleontology is a necessity.

SVP News Bulletin Feb 1989

The vote of the Society membership was transmitted to the President on June 30, 1988, as follows:

Recommendation	Yea	Nay
Recommendation 1	304	18
Recommendation 2	-11	11
Recommendation 3	255	66
Recommendation 4	306	15
Recommendation 5	185	133
Recommendation 6	294	25
Recommendation 7	131	189
Recommendation 8	278	41
Recommendation 9	292	26
Recommendation 10	310	8

On the basis of these results, the majority of those members voting endorsed all NAS recommendations except for #7, which states that blanket paleontological inventories, mitigation, or salvage activities should not be undertaken by government agencies. The majority vote supports paleontological inventories, mitigation, and salvage on federal lands. On the basis of numerous demonstrated vertebrate fossil discoveries of scientific significance during the course of federal inventory and salvage surveys, it is evident that such efforts are important and useful activities and should be encouraged, especially when paleontologically sensitive areas will be impacted by construction or development activities.

We endorse the recommendation in this regard made by the National Park Service's Conference on Fossil Resources in 1987: "Paleontological inventories and surveys are necessary elements in the planning process of NPS areas. They should be done when deemed appropriate by the land manager. Qualified professional paleontologists should be consulted during this process."

In addition to #7, NAS recommendation #5 was of great concern to many SVP members receiving the highest number of comments of any item on the ballot. Comparison of ballots with appended comment sheets indicated that the large negative vote on #5 was prompted by a concern that simple regulation of commercial interests was not sufficient, rather that prohibition of commercial collecting on federal lands was desirable. Seventy individuals stated that commercial collecting of vertebrate fossils on federal lands should be prohibited (60 of the 70 voted nay on recommendation #5). This was the single most prevalent comment among all 10 NAS recommendations. Thus there is significant majority support for (vote of 245/73) stringent regulation and/or prohibition of commercial collecting on federal lands.

Perhaps the strongest reservation about commercial collecting on public or private lands is that contextual information, primarily in the areas of sedimentology and taphonomy, is lost or poorly recorded. Additional frequently mentioned concerns are the documented cases of unethical practices by commercial collectors, commercial operations masquerading as legitimate academic institutes, the great increase in sales of scientifically important specimens to interior decorator and hobbyists, and the rapidly inflating prices that create profound security problems for institutional collections. In the case of the National Park Service, commercial

collecting is prohibited by the Organic Act and park enabling legislation.

The Society is on record since 1973 as opposed to the commercialization of fossil resources (SVP Bulletin, 1973, no.99, p.4).

NAS recommendation #3 also received numerous comments by individuals who believe that a permit should be required to collect vertebrate fossils on federal lands. The procedure to acquire such a permit should be simple and time-efficient. Land managers should always receive notification of intent to collect on federal lands, and of the presence of collectors on site.

On October 12, 1988, the members and officers of the Society of Vertebrate Paleontology adopted the following resolution concerning the report issued by the National Academy of Sciences on paleontological resources:

"The Society of Vertebrate paleontology recognizes the effort of the National Academy of Sciences (NAS) in preparation of the recent advisory document on the protection, management, and collection of paleontological resources on federal lands. The NAS report is meant to serve a broad spectrum of interests and specialties in paleontology. To that end, the NAS committee worked to prepare a report that serves the general community of this discipline.

However there remain some significant concerns expressed by members of the Society over the applicability of some of the recommendations in the NAS report: specifically for the protection, management and collection of vertebrate fossils.

With regard to Recommendation #3, the Society supports the intent of this recommendation to allow simplified access to fossil resources for scientific purposes. The Society is not opposed to reasonable permitting procedures, but prefers a permit application process that does not exceed 30 days.

Recommendation #5, while endorsing regulation of commercial collecting, does not sufficiently provide for control of this enterprise. We feel that the impact of commercialization is greater and more of a problem in the case of vertebrates than in other areas of paleontology and that outright prohibition, not regulation of commercial collecting on public lands, is the solution to this problem.

Vertebrate fossils are national treasures that should be conserved whenever possible in public institutions for purposes of display, research, and education. Much of the scientific significance of vertebrate fossils depends upon accurate and detailed observations of their geological setting. Once divorced from sedimentological and taphonomic contexts, a fossil vertebrate suffers irreplaceable information loss. Commercial enterprises commonly lack properly trained personnel competent to observe and record detailed contextual data essential to the science of vertebrate paleontology. The Society strongly endorses the present policy of the National Park Service whereby no commercial collecting is permitted on any land administered by the National Park Service, and recommends this policy to other federal land management agencies.

Recommendation #7, which recommends against routine inventory, mitigation, and salvage of paleontological resources on government lands, was rejected by

majority vote of the membership. Because vertebrate fossils are non-renewable and rare, effective land management may require such activities. In general, vertebrate fossils should not be destroyed by projects that impact federal lands. Federal land managers are urged to contact competent professional paleontologist paleontologists when questions of inventory and salvage of vertebrate fossil resources arise."

ASSOCIATED SOCIETIES LIAISON REPORT

An excellent response by the SVP membership to requests for proposals (symposia, field trips, short courses, etc.) resulted in an increase in interaction between SVP and associated societies during 1988. Some of the activities in progress and planning include: 1) 1988 Geological Society of America Annual Meeting, Denver: SVP co-sponsored (with GSA and the Paleontological Society) a full-day symposium/workshop entitled "Computer Assisted Phylogenetic Programs in Research and Teaching"; co-organized by Kevin Padian. 2) 1989 Geological Society of America Annual Meeting, St. Louis: planned co-sponsorship (with GSA and the Paleontological Society) of a pre-meeting short course on dinosaurs; organized by Kevin Padian and Dan Chure. 3) July 1989: International Geological Congress/SVP co-sponsored field trip, entitled "Classic Mesozoic-Cenozoic Vertebrate Localities"; organized by John Flynn and Malcolm McKenna. 4) August 1989: tentative approval for a GSA Penrose Conference, co-sponsored by SVP, on "Late Eocene-Oligocene and Biotic Evolution"; organized by Don Prothero and Phil Bjork.

SVP would welcome any suggestions/proposals for interactive/co-sponsored symposia, workshops, field trips, etc. Of particular interest is the possibility for SVP sponsored, half-day symposia during the annual meetings of GSA. There has been very successful SVP co-sponsorship of symposia and field trips at GSA sectional meetings in the past, and we encourage creative proposals for SVP participation at future GSA section meetings. Please send proposals to John Flynn, Dept. of Geology, Field Museum of Natural History, Chicago, IL 60605-2496. Any proposals for interaction with affiliated biological societies can be sent to Michael Bell, Dept. of Ecology & Evolution, SUNY, Stony Brook, NY 11794-5245.

The motion to accept the resolution of the committee was made by Robert Hunt and seconded by Ken Rose. Pete Larson, as the only member of the NAS Committee present, defended the recommendations of the Academy and pointed out the document attempted to represent the diverse interests of all paleontologists. He reminded the Society that four vertebrate paleontologists from the SVP had served on the NAS Committee and that all had approved the recommendations. He also expressed a concern about the possible alienation of amateurs which could result from passage of the GLC resolution. Several other members provided comments in support of the resolution, one additional negative comment was provided from the audience. Upon completion of discussion, President MacFadden called for a vote by show of hands. The resolution was passed by a vote of 198 in favor, 2 opposed.

DATABASE MANAGEMENT COMMITTEE REPORT

Michael Novacek reported that Bruce MacFadden formed a database management committee comprising Gerry Smith, Brooks Britt, Sam McLeod, John

Damuth, and Novacek (as chairman). The committee was thus born but it did not convene. Instead, Mike issued a questionnaire on database management in the June SVP News Bulletin. Response to the questionnaire was not yet satisfactory, and Mike strongly urged that all institutions provide the requested information. The survey will be the basis for a proposal to NSF describing trends and needs in database management in vertebrate paleontology, and seeking funds for a workshop at the Austin meetings. He also noted the auspicious timing of this program, as an October ASC (Association of Systematic Collections) workshop stressed the need for coordination in computerization at a disciplinary level. If the SVP workshop is convened in 1989, our discipline will be among the more innovative in an area that promises to provide new opportunities for collections support. Jim Edwards at NSF has been very encouraging in this regard. Suggestions for topics to be considered in the workshop can be communicated to Mike or other members of the committee.

FUTURE ANNUAL MEETINGS

Bruce MacFadden announced the following meeting locations for future meetings:

- 1989 - University of Texas, Austin
- 1990 - University of Kansas, Lawrence
- 1991 - San Diego, California

HONORARY MEMBER (read by Bruce MacFadden)

President MacFadden read the following description without identifying the recipient: The nominee has been a member of the Society since 1943, for many years a faculty member at the University of Texas studying crocodilians and other archosaurs. He has also rendered exceptional service to the Society. He was Vice President of 1974, President in 1975, member-at-large 1977-79 and News Bulletin editor in 1978. He also chaired advisory committees for systematic resources in vertebrate paleontology, which compiled major reports in 1972 and 1977. The 1977 report, entitled "Fossil Vertebrates in the United States, the Next Ten Years" for the National Science Foundation was an important step in gaining outside recognition on the value and meanings of vertebrate paleontology collections. For those of you who haven't guessed who it is by now, we take pleasure in nominating this year's distinguished senior colleague for honorary membership, Wann Langston.

At the completion of his reading, Wann Langston was given a resounding approval as a honorary member by all present.

NOMINATING COMMITTEE (read by Bruce MacFadden)

Nominations were placed as follows: Rufus Churcher for Vice-President; David Whistler for Secretary-Treasurer; Mark Goodwin for Member-at-large. Bruce further announced that Jay Lillegren had resigned from the Executive Committee due to an impending absence from the country, and that Margery Coombs had been appointed to fill this vacancy.

The nominations presented were elected unanimously. President MacFadden formally passed the leadership to Mike Woodburne with the "official ceremonial hat" originated by past president Lillegren.



All members of the American Association of Paleontological Suppliers will:

1. Strive to stay informed and comply with National, State and Local regulations pertaining to collecting activities and general business practices.
2. Obtain permission from landowners or governmental authorities to gain access to collecting sites.
3. Assure that all lands, properties, flora and fauna are left without damage to property or ecology as a result of collecting activities.
4. Require that fossil materials received from outside collectors are obtained in compliance with the above collecting guidelines set forth by the Association.
5. Report to proper local authorities any significant discoveries of scientific or public interest.
6. Strive to place specimens of unique scientific interest into responsible hands for study, research, and preservation.
7. Make no misrepresentation as to identity, locality, age, formation, repairs or restoration of paleontological specimens.
8. Conform to professional business practices when obtaining and disposing of specimens.
9. Maintain a good credit standing among fellow suppliers of earth science materials.
10. Encourage good relations and cooperation with agencies, institutions, and organizations actively involved in paleontological pursuits.

AAPS is a nonprofit organization under IRS regulations—IED 460365714.



**Commerce
Promoting
Science**

A MERICAN A SSOCIATION of P ALEONTOLOGICAL S UPPLIERS

AAPS was established in 1978 as an organized forum for discussion of all issues related to the field of paleontology and their impact on Commercial Collecting. The Association's further purpose is to strengthen the ties between the scientific community and commercial collectors in order to advance research and education in and about the field of paleontology.

The Association emphasizes ethical standards in the conduct of all aspects of Commercial collecting. To that end, a Code of Ethics was adopted and is included in the AAPS Constitution. Each member agrees, in writing, to support this Code.

There are three membership categories in AAPS. *General Members* are legitimate businesses which derive a significant portion of their income from the sale of paleontological related materials and/or services. *Associate Members* are professional paleontologists in the scientific community. These members provide expertise and advice in identification, recognition and tracking of important specimens. They also offer on-going education to all AAPS members about scientific advances in the field of paleontology. *Honorary Members* are formerly active, and now retired, Commercial Collectors.

The Association holds two general business meetings each year. The Annual Meeting is held in conjunction with the Tucson Gem & Mineral Show in February (at which new officers are elected). A Mid-Year Meeting is held in conjunction with the Denver shows in September.

In 1987, AAPS established a scholarship fund for graduate level study in the field of paleontology. It will be awarded for field-based research projects. The Paleontological Society agreed to assist the AAPS in selecting the candidate who will receive this award. An auction, which is open to the public, is held in Tucson each year with proceeds donated to this fund.

Members are actively involved in educating regulatory agencies, the academic community and the general public about the contributions of Commercial Collectors to the Science of Paleontology. An AAPS member served on the "Committee on Guidelines for Paleontological Collecting" convened by the National Academy of Science. The recommendations of that committee were accepted by the Secretary of the Interior as guidelines for any future regulations governing collecting on public land.

AAPS members served, most recently, as official delegates to negotiated rulemaking sessions concerning regulation of fossil collecting on public land. Those sessions included delegates from the Bureau of Land Management, U.S. Forest Service and National Park Service, as well as delegates from the scientific, amateur and commercial paleontological communities. The purpose of this involvement is always to ensure that the Commercial Collectors' concerns are heard and that their rights are protected.

A A P S

For further information about the Association, contact any of the following members:

- Aurora Mineral Corporation
- Black Hills Institute of Geological Research, Inc.
- The Bug House
- California Rock & Mineral
- Carroll Biological Supply Company
- Carroll Enterprises, Inc.
- Crista-Galli
- Custom Paleo
- Den's Petrified Critters
- Ehrle's Minerals & Fossils
- From the Earth
- Gem City Lapidary-Nature Source
- Geological Enterprises
- Geoscience Enterprises
- Great Basin Research
- Hawes Fossils
- International Ventures, Inc.
- J & S Fossils
- Jaws International
- L.B. Stone
- Langs Fossils
- Larry Martin's Fossils
- Mineral & Fossil Gallery
- Natures Own
- N.E.W.S.
- Niobrara Paleontology
- Paleo-Search
- Parsons Minerals & Fossils
- Phoenix Fossils
- Potomac Museum Group
- R.J.B. Fossils
- Rocky Mountain Mining Company
- Rosser's Rocks
- Russel-Zuhl
- Sahara Sea Collection
- T.R. Lapidary
- Tetra
- Trilobites Unlimited
- Tynsky's Fossils
- Tynsky's Fossil Fish
- Wards Natural Science Establishment, Inc.
- Warfield Fossil Quarries
- West Desert Collectors
- Western Paleontological Laboratories
- Wholesale Paleo

"CORRESPONDENCE TRACKING"

TYPE: ACTION

DOCUMENT NUMBER: 9120179

FROM: COADY, E. PATRICK

TO: DR. BROMLEY

DATE OF
CORRESPONDENCE: 01/14/91

SUBJECT: GLOBAL ENVIRONMENTAL FACILITY

ASSIGNED TO: Nancy Maynard

ACTION REQUIRED: A.S.A.P.

SENDER'S DUE DATE: 01/23/91

OSTP DUE DATE: 02/01/91

DATE COMPLETED: -----

COPIES TO: D. Allan Bromley
Ken Yale

WHITE HOUSE TRACKING #:

CONTACT PERSON:

REMARKS:

*No response Reg'd
at this time.
WSB 2/15/91.*

DATE RECEIVED:

FILE: *Environment*

THE WORLD BANK
Washington, D.C. 20433
U.S.A.

DATE: January 14, 1990
TO: See Distribution
FROM: E. Patrick Coady, U.S. Executive Director
SUBJECT: Global Environment Facility (GEF)

Summary

Recent conversations with Bank staff, U.S. government officials and the NGOs have revealed that a letter to UNEP proposing individual organizational ideas and projects for the Scientific and Technical Advisory Panel of the GEF would be a good idea. I plan to inform UNEP now of our interest and follow it up later with another letter containing our recommendation. For this second letter, I need your assistance in identifying individuals and possibly proposals.

Background

Bank staff tell me there was a meeting the week of January 3rd in New York chaired by UNEP that discussed the structure and potential make-up of the Scientific and Technical Advisory Panel. The structure, and how it is to do its work, is still undefined but the Panel's make-up, roughly 7-9 people, as now envisaged would consist mostly of scientists specializing in each of the areas covered, e.g., bio-diversity and global warming. The Chairman is likely to be a "recognized spokesman" of the Third World and the Panel would be rounded out by some economists or similar types to help integrate scientific recommendations into policy.

Staff believe that our ideas and recommendation would be welcomed and sooner rather than later. In their view, we are likely to be more successful if we acted before the formal invitations to submit ideas, etc. was issued to the participants of the Paris meeting by the UNEP office in Nairobi, which could be any time now.

I also understand the NGOs had a meeting on January 7, to identify possible individuals for the Panel but there was some uncertainty whether they were looking for just a possible chairman or potential U.S. scientists for the Panel. In any case, they are working to develop this information for a meeting here on January 16th. Additionally, some thought is also being given to whether someone from AID should be recommended.

Next Steps

I would like each agency to provide me, as soon as possible, but certainly no later than January 23, 1991:

- the names of scientists and their interests relative to the Panel's responsibilities, e.g., global warming, bio-diversity, etc., for nomination;
- ideas with respect to organization and administration of the Panel; and,
- ideas for research and/or projects and, if possible, some indication of their priority and why.

FYI

According to Bank staff, the amount of time and commitment required of the individuals selected would be on the order of a week every two or three months, although nothing definite has been established. An honorarium of some type, as yet undetermined, would be paid.

cc: Deputy Assistant Secretary Folsom, U.S. Treasury
Mr. Nelson Coar, U.S. Treasury
Mrs. Anna Quandt, U.S.A.I.D.
Ms. Molly O'Neal, State Department

Distribution:

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Assistant Secretary for Internal Affairs
Smithsonian Institution

The Honorable D. Allan Bromley
Assistant to the President for Science & Technology
The White House