

STEPHEN E. KRAVIT

ATTORNEY AT LAW

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DAVID L. De BRUIN
BENJAMIN WAISBREN
CRAIG H. ZETLEY

OF COUNSEL TO
GODFREY & KAHN, S. C.

April 16, 1986

Mr. Frank C. Craighead, Jr.
P. O. Box 156
Moose, Wyoming 83012

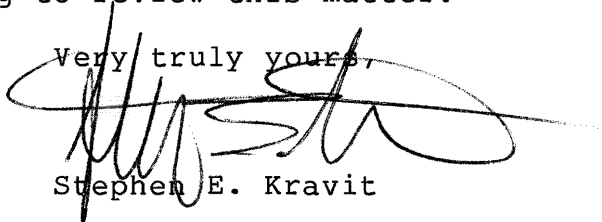
Re: May v. U.S.
Case No.: 86-C-385

Dear Mr. Craighead:

Enclosed for your information is the complaint that was filed April 15, 1986, in this matter. After you have had a chance to review this complaint, would you please call me collect with your comments.

Thank you for agreeing to review this matter.

Very truly yours,

A handwritten signature in dark ink, appearing to be 'S. E. Kravit', written over the typed name.

Stephen E. Kravit

SEK:cat
Enclosure

UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF WISCONSIN

U.S. DIST. COURT
EASTERN DIST. OF WIS.

JUNE MAY, Personal Representative
of the Estate of William Roger May,

'86 APR 15 P1:51

Plaintiff,

Case No.

v.

COMPLAINT

VERONICA M. WILSKY
CLERK

UNITED STATES OF AMERICA,

86-C-0385

Defendant.

Plaintiff, June May, as the personal representative of the estate of William Roger May, by her attorneys, the Law Offices of Stephen E. Kravit, complains against defendant as follows:

GENERAL ALLEGATIONS

1. June May is an adult resident of the State of Wisconsin residing at 1252 North 12th Place, Sturgeon Bay, Wisconsin, and is the personal representative of the estate of her son, William Roger May.

2. This action against the United States of America arises under the Federal Tort Claims Act, 28 U.S.C. §§ 1346(b), 2671-2680, as more fully set forth herein, this Court having exclusive jurisdiction over this action pursuant to 28 U.S.C. §1346(b).

3. On June 19, 1985, plaintiff filed a claim under the Federal Tort Claims Act with the following agencies of the United States Government:

- (a) The United States Fish and Wildlife Service,
Department of Interior;
- (b) The United States Department of Agriculture;
- (c) The National Park Service, United States
Department of the Interior; and
- (d) The Bureau of Land Management, United States
Department of the Interior.

Copies of these claims are attached hereto and incorporated herein by reference as Exhibit A.

4. By letter dated October 16, 1985, the Office of the Solicitor of the United States Department of the Interior notified plaintiff of its administrative determination denying the claims so filed. A copy of this denial is attached hereto as Exhibit B.

5. On June 25, 1983, at 2:30 a.m., William Roger May was sleeping in a tent in the Rainbow Point Campground, Hebgen Lake Ranger District, in the Gallatin National Forest, West Yellowstone, Montana. At that time he was attacked by a bear, dragged alive into the woods, killed and consumed by the bear, as more particularly described in Exhibit A attached hereto.

6. At the time of his death, William Roger May was a resident of the State and Eastern District of Wisconsin. On August 6, 1984, June May, mother of the decedent, a resident of the State and Eastern District of Wisconsin, was appointed personal representative of his estate.

FIRST CLAIM

7. Plaintiff realleges and incorporates by reference paragraphs 1 through 6 above.

8. In the 36 hours prior to the bear attack, there were at least six reports of bear activity in the immediate vicinity of the Rainbow Point Campground.

9. Such reports of bear activity were known by agents and employees of the United States responsible for the Rainbow Point Campground.

10. The United States owed a duty to persons camping at the Rainbow Point Campground to warn campers of the specific danger presented by bear activity known to them, and/or to prevent camping in the Rainbow Point Campground while bears were known to be active in the vicinity of the campground.

11. Defendant failed to warn decedent or his friend, Ted Moore, of the bear activity, or to prohibit camping in the Rainbow Point Campground during this period while it was aware of bear activity in the immediate area.

12. The United States issued guidelines for management involving grizzly bears in the greater Yellowstone area in December, 1979, updated June 18, 1981, which imposed upon employees and agents of the United States, including the Inter-Agency Grizzly Bear Study team (hereinafter "IGBS") certain ministerial obligations, including the following:

- A. Grizzly bear management guidelines required use of established campsites to be adjusted as necessary to prevent activities which could attract grizzlies;
- B. Grizzly bear management guidelines required areas where grizzly-human encounters were probable or likely to be closed to human use either temporarily or permanently as necessary to reduce conflict potential;

- C. Grizzly bear management guidelines required that campground visitors be contacted each evening regarding bear danger and food storage, and that walk-through contacts be made in any campground loop where bears had been active within the past week;
- D. Grizzly bear management guidelines required immediate report by radio or telephone to the Yellowstone Communication Center of the sightings of grizzly bears, including description of bears, location, activity, and further including any occurrence of a bear in a developed area;
- E. Upon information and belief, general management practices and standard operating procedures of agents and employees of the United States responsible for campgrounds in the Yellowstone area mandated the closing or prohibition of tent camping at the Rainbow Point Campground under the circumstances known to the United States on June 25, 1983.
- F. Grizzly bear management guidelines required that nuisance or problem bears, and especially bear 15 (the killing bear), be relocated to a more natural grizzly habitat or be exterminated under the circumstances known to the United States before Roger May was killed and consumed on June 25, 1983.

13. The aforementioned guidelines and procedures, among others, were violated by agents and employees of the United States in their operation of the Rainbow Point Campground on or about June 25, 1983, in at least the following respects:

- A. On or about June 25, 1983, the Rainbow Point Campground was open to all forms of camping, including tent camping, notwithstanding knowledge by agents and employees of the United States that there were at least six grizzly bear sightings at or near the Rainbow Point Campground within 36 hours previous to the time Roger May was killed and consumed. Three of the sightings were within several hours of the incident, and two of these sightings were in the Rainbow Point Campground itself;

B. Roger May and his friend Ted Moore were at all times legally camped at Rainbow Point Campground in the Gallatin National Forest, West Yellowstone, Montana. May and Moore were invitees, and were at all times in compliance with all U.S. government laws, regulations, and policies with respect to camping in grizzly bear country. The United States, having undertaken a ministerial duty to warn campers in its designated campgrounds of potential grizzly bear danger, and further having undertaken as a ministerial matter duties to protect lawful campers in its designated national forest campgrounds from unprovoked grizzly bear attacks, wrongfully and negligently failed to warn Roger May of the following material facts known to the government at the time, but not communicated to Roger May or any other camper via campground signs or bear literature distributed to campers:

1. The month of June, 1983, was the height of mating season for grizzly bears causing, as a general matter, more aggressive and unpredictable behavior among the grizzly population;

2. The United States, through its agents and employees in the IGBS, knew that natural foods for grizzly bears, *low?*
[particularly pinenuts,] were in abnormally low and inadequate supply in and around Yellowstone National Park in June of 1983. The IGBS further knew that when natural foods are low in Yellowstone National Park, grizzly bears are prone to leave the park hungry and cause human-grizzly interactions in areas adjacent to the park. The IGBS further knew that in years of poor pinenut production, hungry bears travel more widely and interact with humans more often. The IGBS further knew that 1981 and 1982 were poor pinenut years and that at and before the time when Roger May was killed and consumed, all the bears in the Yellowstone area, including bear 15 (the killing bear in this case), were short of natural foods and were, in fact, starving.

in the fall of 1982?

*supply
of low food
few elk carcasses
elk carcasses*

3. The Rainbow Point Campground is a "Situation I" grizzly bear habitat, meaning that this was an area most likely to involve human-grizzly interaction problems.
4. Bear 15 (the killing grizzly bear in this case) was a "studied" bear, meaning that from the time it was a cub until approximately six months before the killing incident, it wore a radio collar and was supervised and monitored by agents and employees of the United States through its IGBS. During this period of study, the United States and its agents and employees knew the following specifically with reference to bear 15:
 - a. Bear 15 had roamed numerous places throughout the Yellowstone area, but in the years after 1980, had focused its wanderings, and had placed its home and habitat, within the immediate vicinity of the Rainbow Point Campground.
 - b. Bear 15 had characteristics known to the United States and its agents and employees which were not typical of grizzly bears, including a propensity to violent interaction with other bears, livestock, and wild elk; a taste for fresh meat rather than the more typical vegetarian (pinenuts) or carrion eating habits of other grizzly bears; caching behavior; and a complete lack of fear of human contact. Bear 15 was habituated to humans through the direct acts of agents and employees of the United States during the time this bear was studied by the IGBS from 1974 to 1982, when, on approximately 15 occasions, the bear was injected with various drugs and handled by humans in a non-threatening manner as part of the IGBS study. In addition to habituating this bear to humans, repeated trapping conditioned bear 15 to associate food with humans.

not necessarily

C. Bear 15 should have been relocated to a remote region far outside any area with human-grizzly interaction potential. Special knowledge by agents and employees of the United States through the IGBS of the unusual behavior and proclivities of bear 15 required remote relocation, which the United States wrongfully and negligently failed to do.

impossible

14. As a result of the breaches of duty by the United States through its agents and employees alleged in this claim, plaintiff was injured in its person and property in the amount of \$3,000,100.

SECOND CLAIM

15. Plaintiff realleges and incorporates by reference paragraphs 1 through 14 above.

16. From approximately 1974 to 1982, defendant had been supervising and monitoring the particular bear which attacked May. During this time, on approximately 15 occasions, the bear was injected with various drugs, including Sernylan, Acepromazine, and M-99.

17. Defendant had a duty to use due care in supervising and monitoring this bear, and in administering drugs to this bear.

18. As a result of the repeated dosages of these drugs, and repeated handling by humans, the propensity of this bear to attack humans was increased.

19. Bear 15's attack on May resulted from the repeated doses of these drugs, bear 15's complete habituation to humans, bear 15's U.S. government-induced association of food with humans, and from defendant's wrongful and negligent breach of its duty to use due care.

*animal immobilization
with phenylephrine*

*Dr. Whysse S. Seal
Vet. Univ. of Minnesota*

*PCP
anal dist*

20. As a direct and proximate result of the breach of duty by defendant alleged in this claim, plaintiff was injured in its person and property in the amount of \$3,000,100.

THIRD CLAIM

21. Plaintiff realleges and incorporates by reference paragraphs 1 through 20 above.

22. Prior to the attack by bear 15, Roger May had applied a camphophenic medication (calamine lotion) to his foot.

23. Defendant had a duty to warn campers at the Rainbow Point Campground that the use of calamine lotion may serve to attract bears in the area.

24. Defendant wrongfully and negligently failed to issue any such warnings to campers in any of its camping literature or signage at the Rainbow Point Campground.

25. The calamine lotion applied by Roger May may have served to attract the bear which attacked him.

26. As a direct and proximate result of the defendant's failure to warn alleged in this claim, plaintiff was injured in its person and property in the amount of \$3,000,100.

PRAYER FOR RELIEF

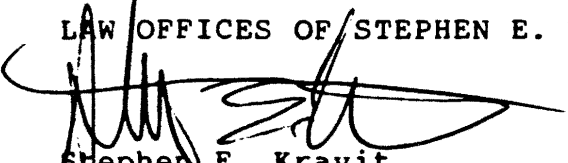
WHEREFORE, plaintiff demands judgment awarding damages against defendant for wrongful death, pain and suffering of Roger May, loss of society and companionship to his survivors, and such other damages as under all the circumstances of the case are just

pursuant to Montana Code Annotated §27-1-323 (1981) in the amount of \$3,000,100, plus costs of this action and such further relief as the court may deem just.

Dated at Milwaukee, Wisconsin, this 15th day of April, 1986.

Respectfully submitted,

LAW OFFICES OF STEPHEN E. KRAVIT



Stephen E. Kravit
David L. De Bruin

Post Office Address:
757 North Broadway, Suite 600
Milwaukee, WI 53202
(414) 271-7444

Of Counsel:
Stephen Johnson, Esq.
JOHNSON, HERLACHE, JOHNSON
& JOHNSON
14 South 3rd Avenue
Sturgeon Bay, WI 54235
743-2211

CLAIM FOR DAMAGE, INJURY, OR DEATH

INSTRUCTIONS: Prepare in ink or typewriter. Please carefully the instructions on the reverse side and supply information requested on both sides of this form. Use additional sheet(s) if necessary.

FORM APPROVED
OAG NO
03-2897

1. SUBMIT TO: United States Fish and Wildlife Service, Dept. of Interior
P.O. Box 2546
Denver, Colorado 80255

2. NAME AND ADDRESS OF CLAIMANT (Number, street, city, State, and Zip Code) June May, Personal Representative of the Estate of Roger May
1252 N. 12th Place
Sturgeon Bay, WI 54235

3. TYPE OF EMPLOYMENT

☐ MILITARY
☒ CIVILIAN

4. AGE

23

5. MARITAL STATUS

single

6. NAME AND ADDRESS OF SPOUSE, IF ANY (Number, street, city, State, and Zip Code)

N/A

7. PLACE OF ACCIDENT (Give city or town and State; if outside city limits, indicate mileage or distance to nearest city or town)

Rainbow Point Campground, Hebgen Lake, Gallatin County, West Yellowstone, Montana

8. DATE AND DAY OF ACCIDENT

June 25, 1983

9. TIME

(A.M. OR P.M.)

2:30 a.m.

10. AMOUNT OF CLAIM (in dollars)

A. PROPERTY DAMAGE

100.00

B. PERSONAL INJURY

2,000,000.00

C. WRONGFUL DEATH

1,000,000.00

D. TOTAL

3,000,100.00

11. DESCRIPTION OF ACCIDENT (State below, in detail, all known facts and circumstances attending the damage, injury, or death, identifying persons and property involved and the cause thereof)

See Attachment A

12. PROPERTY DAMAGE

NAME AND ADDRESS OF OWNER, IF OTHER THAN CLAIMANT (Number, street, city, State, and Zip Code)

BRIEFLY DESCRIBE KIND AND LOCATION OF PROPERTY AND NATURE AND EXTENT OF DAMAGE (See instructions on reverse side for method of substantiating claim)

Sleeping bag, clothing

13. PERSONAL INJURY

STATE NATURE AND EXTENT OF INJURY WHICH FORMS THE BASIS OF THIS CLAIM

See Attachment E

14. WITNESSES

NAME

ADDRESS (Number, street, city, State, and Zip Code)

Ted Moore, Jr.

P. O. Box 32217, Charlotte, NC 28232

I CERTIFY THAT THE AMOUNT OF CLAIM COVERS ONLY DAMAGES AND INJURIES CAUSED BY THE ACCIDENT ABOVE AND AGREE TO ACCEPT SAID AMOUNT IN FULL SATISFACTION AND FINAL SETTLEMENT OF THIS CLAIM

15. SIGNATURE OF CLAIMANT (This signature should be used in all future correspondence)

June M. May

16. DATE OF CLAIM

CIVIL PENALTY FOR PRESENTING
FRAUDULENT CLAIM

The claimant shall forfeit and pay to the United States the sum of \$2,000, plus double the amount of damages sustained by the United States. (See R.S. §3490, 5438; 31 U.S.C. 231.)

CRIMINAL PENALTY FOR PRESENTING FRAUDULENT
CLAIM OR MAKING FALSE STATEMENTS

Fine of not more than \$10,000 or imprisonment for not more than 5 years or both. (See 62 Stat. 698, 749; 18 U.S.C. 287, 1001.)

DESCRIPTION OF ACCIDENT

On June 24, 1983, Ted Moore and Roger William May, of Sturgeon Bay, Wisconsin, were camped in the Rainbow Point Campground, Hebgen Lake Ranger District, in the Gallatin National Forest, West Yellowstone, Montana. They were sleeping in their heavy-duty tent in Loop A, Unit 17, when at 2:30 a.m., they were awakened by a bear. Roger May was dragged from his tent by the bear, but was still alive at the time when Ted Moore scared the bear off. A few minutes later, the bear returned, again attacked May, dragged him into the forest, killing him, and then consuming approximately one-third of him.

May and Moore were awakened by the bear as it shook the tent in which they were sleeping. The tent was a canvas tent with aluminum poles. The tent collapsed, and Moore and May spoke to one another, but immediately following this, May began screaming. The bear pulled May through a hole torn in the roof of the tent. Moore climbed through the hole in the tent, stood up, and discovered a large bear standing over May approximately ten feet away. May was screaming at this time.

When Moore stood up, the bear grabbed May in the area of his ankle on one leg and dragged him approximately 30 feet at a run. By this time the bear had dragged May to the edge of the clearing. Moore picked up a tent pole, charged the bear, yelling, and threw the tent pole at the animal. The bear backed off and left May. At this point May was still able to talk.

Moore returned to the tent in an attempt to find his glasses, car keys and a flashlight. Because the tent was collapsed and Moore did not have his glasses, he spent some time looking for these items. He has testified that he spent at least a few minutes looking for these items. During this time, May lie bleeding and severely injured near the edge of the woods.

Moore heard May scream again, and then the screaming stopped. The bear had returned and dragged May further into the woods. There the bear stopped and fed on portions of May's body. Approximately 70 pounds of the body was missing when it was found. The bear had consumed part of the contents of May's body cavity, and muscle tissue from his neck, upper arms and upper legs.

The final report of the investigative team assembled to investigate this killing found that the campers had complied with all regulations for camping in bear country. It further found that while food sources for bears were secure on federal lands, food sources on nearby private lands were an attractant. While the investigative team did not find any overt explanation for the attack, the report did find that May had applied a camphophenic medication on his foot, and that this medication had an extremely strong smell to it. However, no warnings were issued with respect to the use of such medications.

Although there had been several reports of bear activity in the area near the Rainbow Point Campground prior to the attack upon May, no warnings were given to campers in that area. The

STATE OF WISCONSIN
Door County

ss.

I, Marilyn Atkins, Register in Probate of said county, do hereby certify that the copy hereunto annexed
has been compared by me with the original Domiciliary Letters in the
Matter of the Estate of William May, Deceased

now on file and of record in my office and required by law to be in my custody, and that said copy is a
true copy thereof and that such letters are still in full force
and effect.

IN TESTIMONY WHEREOF, I have hereunto
set my hand and affixed the seal of the
Circuit Court of said County, at the Court-
house in the city of Sturgeon Bay, in said

county, this 18th

day of June, 1985

Marilyn Atkins
Register in Probate

ATTACHMENT B

By _____
Deputy

Vol. 15 Pg. 1726

IN THE MATTER OF THE ESTATE OF

WILLIAM MAY

} DOMICILIARY
LETTERS

Deceased

File No. 84PR83

THE STATE OF WISCONSIN, to June May

WHEREAS, William May died domiciled in

Door County, Wisconsin, on May 23, 1983, and

WHEREAS, you have been appointed personal representative and have fully qualified;

NOW THEREFORE, these letters are issued to you, and you are ordered to administer this estate according to law.

(SEAL)

IN TESTIMONY WHEREOF, I have signed

these letters and affixed the seal of the Court

on August 6, 1984

JOHNSON, HERLACHE, JOHNSON & JOHNSON

Attorney

14 S. Third Avenue
Sturgeon Bay, WI 54235

Address

Address

Marilyn Atkins

Circuit Judge

Marilyn Atkins
Register in Probate, acting as
Probate Court Commissioner

10000000

10000000

1978 Revision

10000000

10000000

10000000

10000000

LOCAL FILE NUMBER				STATE FILE NUMBER			
DECEDENT - NAME FIRST WILLIAM		MIDDLE ROGER		LAST MAY		SEX Male	DATE OF DEATH (Mo., Day, Yr.) June 25, 1983
RACE - White (Specify) White		AGE - Last Birthday (Years) 23	UNDER 1 YEAR Mo. Days 23	UNDER 1 DAY Hours Min. 23	DATE OF BIRTH (Mo., Day, Yr.) May 13, 1960		COUNTY OF DEATH Gallatin
CITY, TOWN OR LOCATION OF DEATH West Yellowstone		HOSPITAL OR OTHER INSTITUTION - Name of inst. or other give street and number Rainbow Point Campground				IF HOSP. OR INST. Indicate DO OP/Exam. Rm., Inpatient (Specify) N/A	
STATE OF BIRTH (If not in U.S.A. name country) Wisconsin		CITIZEN OF WHAT COUNTRY USA		MARRIED NEVER MARRIED WIDOWED DIVORCED (Specify) Never Married		SURVIVING SPOUSE (If wife give maiden name) N/A	
SOCIAL SECURITY NUMBER Unknown		USUAL OCCUPATION (Give kind of work done during most of working life even if retired) Stock Clerk		KIND OF BUSINESS OR INDUSTRY Shipbuilding		WAS DECEDENT EVER IN U.S. ARMED FORCES (Specify Yes or No) No	
RESIDENCE - STATE Wisconsin		COUNTY Door	CITY, TOWN OR LOCATION Sturgeon Bay		INSIDE CITY LIMITS (Specify Yes or No) No	STREET AND NUMBER Newman Tr. Ct.	
FATHER - NAME FIRST Merlin		MIDDLE May		LAST June		MOTHER - MAIDEN NAME FIRST Werkheiser	
INFORMANT - NAME (Type or Print) June May				MAILING ADDRESS STREET OR R.F.D. NO. CITY OR TOWN STATE ZIP 319 Pennsylvania St. Sturgeon Bay, Wis. 54981			
CEMETERY OR CREMATORY - NAME St. Peter's & Paul				LOCATION CITY OR TOWN STATE Institute, Wisconsin			
BURIAL CREMATION, REMOVAL OTHER (Specify) Removal - Burial				MORTUARY OR OTHER - NAME AND ADDRESS Dahl Memorial Chapel P.O. Box 1063 Bozeman, MT 59717			
DATE OF DISPOSITION (Month, Day, Year) June 26, 1983				PERSON IN CHARGE OF DISPOSITION License Number John J. Johnson 406			
To Be Completed by CERTIFYING PHYSICIAN Only 23a. To the best of my knowledge, death occurred at the time, date and place and due to the cause(s) stated (Signature and Title) Doris Fisher DATE SIGNED (Month, Day, Year) 6/28/83 HOUR OF DEATH 2:30A NAME OF ATTENDING PHYSICIAN IF OTHER THAN CERTIFIER (Type or Print) Doris Fisher, Coroner, 1815 Sourdough Rd., Bozeman, Montana 59717 NAME AND ADDRESS OF CERTIFIER (PHYSICIAN OR CORONER) (Type or Print) Doris Fisher, Coroner, 1815 Sourdough Rd., Bozeman, Montana 59717				To Be Completed by CORONER Only 24a. On the basis of examination and/or investigation, in my opinion death occurred at the time, date and place and due to the cause(s) stated (Signature and Title) Doris Fisher DATE SIGNED (Month, Day, Year) 6/28/83 HOUR OF DEATH 2:30A PRONOUNCED DEAD (Mo., Day, Yr.) 6/25/83 PRONOUNCED DEAD (Hour) 5:30A			
LOCAL REGISTRAR 25a. (Signature) Michael G. Gaudin				DATE RECEIVED BY LOCAL REGISTRAR (Mo., Day, Yr.) June 28, 1983			
27. IMMEDIATE CAUSE (ENTER ONLY ONE CAUSE PER LINE FOR (a), (b), AND (c))							
PART I (a) Massive Trauma DUE TO, OR AS A CONSEQUENCE OF							
(b) Hemorrhage DUE TO, OR AS A CONSEQUENCE OF							
(c) Grizzly Bear pulled deceased out of tent and ate major portions of body.							
PART II OTHER SIGNIFICANT CONDITIONS - Conditions contributing to death but not related to cause given in Part I (a), (b), and (c)							
ACCIDENT SUICIDE HOMICIDE UNDET OR PENDING INVESTIGATION (Specify) Accident		DATE OF INJURY (Mo., Day, Yr.) 6/25/83		HOUR OF INJURY 2:30A		DESCRIBE HOW INJURY OCCURRED Grizzly Bear pulled deceased out of tent and ate major portions of body.	
INJURY AT WORK (Specify Yes or No) No		PLACE OF INJURY - At home, farm, street, factory, office, building, etc. (Specify) Forest Service Campground		LOCATION STREET OR R.F.D. NO. CITY OR TOWN STATE Rainbow Point on Hebgen Lake, West Yellowstone, Mt.		AUTOPSY (Specify Yes or No) No	
						WAS CASE REFERRED TO CORONER? (Specify Yes or No) Yes	

STATE OF MONTANA }
County of Gallatin } SS

I hereby certify that this is a full, true and correct copy of the document now on file and of record in my office.

Witness my hand and Official Seal this 3 day of May, 1985

Gary W. Pringle, Clerk & Recorder

By: Nancy L. Brown

CORONER'S REPORT

CASE NO: _____

DATE: 6/25/83

DECEASED: William Roger May

AGE (DATE OF BIRTH): 23 5/13/60

DATE AND TIME OF DEATH: Approximately 2:30P

LOCATION: Rainbow Point Campground Loop A Area 17

Heggen Lake, West Yellowstone, Mt.

CIRCUMSTANCES & DESCRIPTION OF SCENE: Remains found approximately 300 Ft. from the tent site. Head connected to torso, neck tissue missing; skin and muscle tissue missing from chest wall, chest crushed, rib cage broken, heart visible from lungs appeared to be collapsed. Abdominal cavity contained liver and small amt of intestine. Stomach, spleen, intestines missing. All of the skin and connective tissue missing on the front of the remains down to the pubic area. Shoulder exhibited multiply striped lacerations perpendicular to body with much tissue missing. Lower arms and hands intact. Lower legs and feet intact with rt. bl sock still on body. Tissue missing from buttocks, back scapular area and back neck.

Body tissue, emesis, and copious blood found in trail between tent site and body. The body had done much bleeding before the site of disemboweling. The next significant amt. of tissue was at the site of about 30cc of emesis smeared over approx 10' diameter. A blood soaked part of undershirt found on bank of road.

NEXT OF KIN: (over)

Mother: Sturgeon Bay, Wisconsin notified by S.O. Deputy Emsader 414-743-41

PERSONAL POSSESSIONS: _____

Camping gear and sleeping bag (zipper ripped out of bag from top to bottom) with puncture holes found on ground approx 3' from tent.) back pack and overnight d left at scene at request of Forest Service Ranger, Ralph Meyer. To be released to friend Ted Moore at the completion of Fish and Game investigation.

Wallet containing cards and \$66 to be sent to mother in Wisconsin.

FUNERAL HOME: Carl

COMMENTS (PHOTO'S, INVESTIGATIVE OFFICERS, DEPARTMENT INVOLVED): _____

Photos by R. Pearson Deputy Sheriff and Brad Brisbin. Ranger Meyer, ambulance personnel, sheriff Onstad at scene.

CO D: Massive trauma and hemorrhage

MOD: Accidental Grizzly Bear 50# male trapped at scene evening of 6/25/

SIGNED: _____

Coroner

GALLATIN COUNTY

OFFICE OF CORONER
1815 SOURDOUGH ROAD
BOZEMAN, MONTANA 59718

DORIS FISHER SCENE INVESTIGATION—Wm May CORONER

May's companion, also from Sturgeon Bay Wisconsin stated that the two had arrived at the campsite 6/24/83. Dishes were washed, food stored in auto parked about 6' from tent. No food stuffs were stored in the tent. Moore stated that he was awakened by the tent shaking—then the tent collapsed. He then heard May screaming for him and "Help me!" Moore stated that he got out of the tent and saw the bear standing over Roger. Moore yelled and the bear dragged May approximately 30'. Moore ran at the bear, and threw a tent pole at the bear. The bear ran off. At this time, Moore asked, "Are you still alive?" May answered: "Ya! But I'm hurt!" Moore ran back to the tent to get a flashlight and the keys to the car. Moore heard May scream and the brush thrashing around. Another man came by and went to call for help. Another man showed up and he and Moore were unable to locate May. Remains of May found approximately 300 ft. from tent site in clearing about 50' from road adjacent to beginning of forest.

The trail used by the bear to drag the body was blood stained with blood on upright branches approximately 3' off the ground. Approximately 30' from tent, evidence of bowel tissue, approx. 30' further, the grass was flattened, much fluid with small amount of emesis smeared into the grass. No large ants. of body tissue found, except for blood staining. On the bank of the ditch, adjacent to the road, part of a blood soaked undershirt was found. The sleeping bag was found about 3' from the tent. The zipper, which was closed was separate from the bag, full length. The bag exhibited multiple puncture holes. Human brown hair at this site. Tent was torn at top, large hole made in several directions, hair found in tent.

All of the belongings in the tent were explored for any food or object which would attract a bear. None were found. Ranger stated that dirty clothes, clothes worn while cooking dinner, after shave or anything smelling sweet will attract a bear.

Fish and Game and a Grizzly Study team would investigate the area. The Forest Service closed the camp ground and secured the scene.

Ted Moore went to the Pony Express to stay. The body was taken to the ambulance garage to be transported to Dahl.

Ross Mac Phearson will be releasing news for the Forest Service 646-7369

Blood from heart and head hair obtained by Dr. Kurtz at the mortuary.
Pubic hair requested by R. Rivers, M.E.. To be obtained by the mortuary in Sturgeon Bay and sent to the Crime Lab.
Jim Ramsey picked up samples for Bozeman Lab.

Doris Fisher, Coroner

NATURE AND EXTENT OF INJURIES

Roger May died of massive trauma and hemorrhaging caused by a grizzly bear attack. Death was not instantaneous but rather was the result of two separate attacks separated by a matter of a few minutes. May experienced extreme pain and suffering as a result of the bear clawing and biting him through the tent, dragging him accross the camping ground by his shoulder, and tearing large portions of tissue from his body. After the bear was initially scared off, May continued to suffer the pain while his companion, Roger Moore, searched for a flashlight, car keys and for Moore's glasses. May then experienced the terror of the bear's return, the bear again attacking him, and this time killing him, as the bear dragged May's body deeper into the forest.

At the time of his killing, May was laid off from a position he had held with Bay Building, Inc., 605 North 3rd Avenue, Sturgeon Bay, Wisconsin, as a tool room attendant. He had worked in that capacity from August, 1978 through July, 1982, and would probably have been called back off the layoff sometime in 1985. At the time he was laid off in July, 1982, May was earning approximately \$380 per week, and had a complete package of fringe benefits which included profit sharing.

May is succeeded by his father, Merlin May, 2900 Whitehall Road, Lot 11, Muskegon, Michigan 49445; and his mother, June May, 1252 North 12th Place, Sheboygan, Wisconsin 54235. In addition he is succeeded by six brothers and sisters: Captain Marie May

Richard J. May, Frank M. May, Lynne M. May, Robert T. May, and Anne M. May. Roger May had no dependants, although he did make contributions to the support of his mother in the amount of approximately \$20 per month.

June May became the personal representative of the estate of Roger May. Attached as Attachment F is a copy of the bill she received in connection with May funeral.



DAVIS MORTUARY

1414 MICHIGAN STREET

743-5638

STURGEON BAY, WISCONSIN 54229

September 19, 1983

Mrs. June May
319 Pennsylvania St.
Sturgeon Bay, Wisconsin

Services rendered for William R. May, deceased.

June 25, 1983	Casket and Professional Service	\$1,795.00
	Vault	380.00
	Charges, Montana Funeral Home	555.00
	Air Freight from Montana	278.46
	Cemetery Opening & Closing	150.00
	Cemetery, Non-Member fee	60.00
	Honorarium, Rev. Gilsdorf	25.00
	St. Bay Florist	47.25
	Six copies Death Certificate	14.00
		\$3,304.71

CLAIM FOR DAMAGES, INJURY, OR DEATH

Instructions on the reverse side and supply information requested on both sides of this form. Use additional sheet(s) if necessary.

OMB NO.
43-25977

1. SUBMIT TO: National Park Service United States Dept. of Interior 655 Parfet Street, P.O. Box 25287 Denver, Colorado 80225			2. NAME AND ADDRESS OF CLAIMANT (<i>Number, street, city, State, and Zip Code</i>) June May, Personal Representative of the Estate of Roger May 1252 N. 12th Place Sturgeon Bay, WI 54235		
3. TYPE OF EMPLOYMENT ☐ MILITARY ☒ CIVILIAN	4. AGE 23	5. MARITAL STATUS single	6. NAME AND ADDRESS OF SPOUSE, IF ANY (<i>Number, street, city, State, and Zip Code</i>) N/A		
7. PLACE OF ACCIDENT (<i>Give city or town and State; if outside city limits, indicate mileage or distance to nearest city or town</i>) Rainbow Point Campground, Hebgen Lake, Gallatin County, West Yellowstone, Montana				8. DATE AND DAY OF ACCIDENT June 25, 1983	9. TIME (A.M. OR P.M.) 2:30 a.m.
10. AMOUNT OF CLAIM (in dollars)					
A. PROPERTY DAMAGE 100.00	B. PERSONAL INJURY 2,000,000.00	C. WRONGFUL DEATH 1,000,000.00	D. TOTAL 3,000,100.00		
11. DESCRIPTION OF ACCIDENT (<i>State below, in detail, all known facts and circumstances attending the damage, injury, or death, identifying persons and property involved and the cause thereof</i>) See Attachment A					
12. PROPERTY DAMAGE					
NAME AND ADDRESS OF OWNER, IF OTHER THAN CLAIMANT (<i>Number, street, city, State, and Zip Code</i>) BRIEFLY DESCRIBE KIND AND LOCATION OF PROPERTY AND NATURE AND EXTENT OF DAMAGE (<i>See instructions on reverse side for method of substantiating claim</i>) Sleeping bag, clothing					
13. PERSONAL INJURY					
STATE NATURE AND EXTENT OF INJURY WHICH FORMS THE BASIS OF THIS CLAIM See Attachment E					
14. WITNESSES					
NAME		ADDRESS (<i>Number, street, city, State, and Zip Code</i>)			
Ted Moore, Jr.		P. O. Box 32217, Charlotte, NC 28232			
I CERTIFY THAT THE AMOUNT OF CLAIM COVERS ONLY DAMAGES AND INJURIES CAUSED BY THE ACCIDENT ABOVE AND AGREE TO ACCEPT SAID AMOUNT IN FULL SATISFACTION AND FINAL SETTLEMENT OF THIS CLAIM					
15. SIGNATURE OF CLAIMANT (<i>This signature should be used in all future correspondence</i>) June M May					16. DATE OF CLAIM
CIVIL PENALTY FOR PRESENTING FRAUDULENT CLAIM The claimant shall forfeit and pay to the United States the sum of \$2,000, plus double the amount of damages sustained by the United States. (<i>See R.S. §3490, 5438; 31 U.S.C. 231.</i>)			CRIMINAL PENALTY FOR PRESENTING FRAUDULENT CLAIM OR MAKING FALSE STATEMENTS Fine of not more than \$10,000 or imprisonment for not more than 5 years or both. (<i>See 62 Stat. 698, 749; 18 U.S.C. 287, 1001.</i>)		

CLAIM FOR DAMAGE, INJURY, OR DEATH

Instructions on the reverse side and supply information requested on both sides of this form. Use additional sheet(s) if necessary.

questioned on both

OMB NO
43-2507

1. SUBMIT TO: United States Dept. of
Agriculture, Federal Building
P. P. Box 7669
Missoula, Montana 59807

2. NAME AND ADDRESS OF CLAIMANT (Number, street, city, State,
and Zip Code) June May, Personal Representative
of the Estate of Roger May
1252 North 12th Place
Sturgeon Bay, WI 54235

3. TYPE OF EMPLOYMENT

☐ MILITARY
☒ CIVILIAN

4. AGE

23

5. MARITAL
STATUS

single

6. NAME AND ADDRESS OF SPOUSE, IF ANY (Number, street, city, State, and
Zip Code)

N/A

7. PLACE OF ACCIDENT (Give city or town and State; if outside city limits, indicate
mileage or distance to nearest city or town)

Rainbow Point Campground, Hebgen Lake, Gallatin
County, West Yellowstone, Montana

8. DATE AND DAY
OF ACCIDENT

June 25, 1983

9. TIME
(A.M. OR P.M.)

2:30 a.m.

10. AMOUNT OF CLAIM (in dollars)

A. PROPERTY DAMAGE

100.00

B. PERSONAL INJURY

2,000,000.00

C. WRONGFUL DEATH

1,000,000.00

D. TOTAL

3,000,100.00

11. DESCRIPTION OF ACCIDENT (State below, in detail, all known facts and circumstances attending the damage, injury, or death, identifying
persons and property involved and the cause thereof)

See Attachment A

12. PROPERTY DAMAGE

NAME AND ADDRESS OF OWNER, IF OTHER THAN CLAIMANT (Number, street, city, State, and Zip Code)

BRIEFLY DESCRIBE KIND AND LOCATION OF PROPERTY AND NATURE AND EXTENT OF DAMAGE (See instructions on reverse side for method of substantiating claim)

Sleeping bag, clothing

13. PERSONAL INJURY

STATE NATURE AND EXTENT OF INJURY WHICH FORMS THE BASIS OF THIS CLAIM

See Attachment E

14. WITNESSES

NAME

ADDRESS (Number, street, city, State, and Zip Code)

Ted Moore, Jr.

P. O. Box 32217, Charlotte, NC 28232

I CERTIFY THAT THE AMOUNT OF CLAIM COVERS ONLY DAMAGES AND INJURIES CAUSED BY THE ACCIDENT ABOVE AND AGREE TO ACCEPT SAID
AMOUNT IN FULL SATISFACTION AND FINAL SETTLEMENT OF THIS CLAIM

15. SIGNATURE OF CLAIMANT (This signature should be used in all future correspondence)

June M. May

16. DATE OF CLAIM

CIVIL PENALTY FOR PRESENTING
FRAUDULENT CLAIM

The claimant shall forfeit and pay to the United States the sum
of \$2,000, plus double the amount of damages sustained by the
United States. (See R.S. §3490, 5438; 31 U.S.C. 231.)

CRIMINAL PENALTY FOR PRESENTING FRAUDULENT
CLAIM OR MAKING FALSE STATEMENTS

Fine of not more than \$10,000 or imprisonment for not more
than 5 years or both. (See 62 Stat. 698, 749; 18 U.S.C. 287, 1001.)

CLAIM FOR DAMAGE, INJURY, OR DEATH

INSTRUCTIONS: Prepare in ink or typewriter. Please read carefully the instructions on the reverse side and supply information requested on both sides of this form. Use additional sheet(s) if necessary.

FORM APPROVED
OMB NO
43-8297

1. SUBMIT TO: Bureau of Land Management
United States Dept. of Interior
P.O. Box 36800
Billings, Montana 59107

2. NAME AND ADDRESS OF CLAIMANT (Number, street, city, State, and Zip Code) June May, Personal Representative
of the Estate of Roger May
1252 N. 12th Place
Sturgeon Bay, WI 54235

3. TYPE OF EMPLOYMENT

☐ MILITARY
☒ CIVILIAN

4. AGE

23

5. MARITAL
STATUS

single

6. NAME AND ADDRESS OF SPOUSE, IF ANY (Number, street, city, State, and Zip Code)

N/A

7. PLACE OF ACCIDENT (Give city or town and State; if outside city limits, indicate mileage or distance to nearest city or town)

Rainbow Point Campground, Hebgen Lake, Gallatin
County, West Yellowstone, Montana

8. DATE AND DAY
OF ACCIDENT

June 25, 1983

9. TIME
(A.M. OR P.M.)

2:30 a.m.

10. AMOUNT OF CLAIM (in dollars)

A. PROPERTY DAMAGE

100.00

B. PERSONAL INJURY

2,000,000.00

C. WRONGFUL DEATH

1,000,000.00

D. TOTAL

3,000,100.00

11. DESCRIPTION OF ACCIDENT (State below, in detail, all known facts and circumstances attending the damage, injury, or death, identifying persons and property involved and the cause thereof)

See Attachment A

12. PROPERTY DAMAGE

NAME AND ADDRESS OF OWNER, IF OTHER THAN CLAIMANT (Number, street, city, State, and Zip Code)

BRIEFLY DESCRIBE KIND AND LOCATION OF PROPERTY AND NATURE AND EXTENT OF DAMAGE (See instructions on reverse side for method of substantiating claim)

Sleeping bag, clothing

13. PERSONAL INJURY

STATE NATURE AND EXTENT OF INJURY WHICH FORMS THE BASIS OF THIS CLAIM

See Attachment E

14. WITNESSES

NAME

ADDRESS (Number, street, city, State, and Zip Code)

Ted Moore, Jr.

P. O. Box 32217, Charlotte, NC 28232

I CERTIFY THAT THE AMOUNT OF CLAIM COVERS ONLY DAMAGES AND INJURIES CAUSED BY THE ACCIDENT ABOVE AND AGREE TO ACCEPT SAID AMOUNT IN FULL SATISFACTION AND FINAL SETTLEMENT OF THIS CLAIM

15. SIGNATURE OF CLAIMANT (This signature should be used in all future correspondence)

June M. May

16. DATE OF CLAIM

CIVIL PENALTY FOR PRESENTING FRAUDULENT CLAIM

The claimant shall forfeit and pay to the United States the sum of \$2,000, plus double the amount of damages sustained by the United States. (See R.S. §3490, 5438; 31 U.S.C. 231.)

CRIMINAL PENALTY FOR PRESENTING FRAUDULENT CLAIM OR MAKING FALSE STATEMENTS

Fine of not more than \$10,000 or imprisonment for not more than 5 years or both. (See 62 Stat. 698, 749; 18 U.S.C. 287, 1001.)



United States Department of the Interior

OFFICE OF THE SOLICITOR

DENVER REGION
P.O. BOX 25007
DENVER FEDERAL CENTER
DENVER, COLORADO 80225

October 16, 1985

NPS.RM.0816

REGISTERED MAIL
RETURN RECEIPT REQUESTED

T-D-4073

Mr. Steven E. Kravit
Attorney at Law
Suite 600
757 North Broadway
Milwaukee WI 53202

Attention: Mr. David L. De Bruin

Re: Tort Claim of June May, Personal Representative of
the Estate of Roger William May

Dear Mr. De Bruin:

We have considered the claim in the amount of \$3,000,100 you filed against the United States as attorney for Ms. June May, personal representative of the estate of Roger William May for personal injuries and wrongful death resulting from an attack and mauling by a grizzly bear in the Rainbow Point Campground of the Gallatin National Forest on June 25, 1983 near West Yellowstone, Montana. The fatality occurred at approximately 2:30 a.m. when a grizzly bear, which inhabited Yellowstone National Park, the Gallatin National Forest, and State and private lands, attacked and killed Mr. May for unknown reasons.

The Federal Tort Claims Act makes the United States liable for the negligent acts of omissions of its employees. A complete review of the file and the investigation report of this incident prepared by the Forest Service of the U.S. Department of Agriculture, the National Park Service, and the Fish and Wildlife Service of the U.S. Department of the Interior fails to show any evidence of negligence on the part of any employee of the United States. Accordingly, while we regret the occurrence of this tragic accident, we have no alternative but to deny the claim of Mrs. June May.

EX. B

In accordance with 28 CFR § 14.2(b)(ii) and pursuant to an agreement between the Office of General Counsel, U.S. Department of Agriculture, this administrative determination constitutes compliance with 28 U.S.C. § 2675(a) by the agencies with whom claims were filed.

If you are dissatisfied with the determination, you are entitled to: (a) reconsideration of your claim by filing with the undersigned within 6 months after the date of mailing of this determination, a written request for reconsideration setting forth the basis for such request; or (b) institute suit immediately, but within a period of 6 months from the date of the mailing of this determination.

Sincerely yours,



Lowell L. Madsen
Acting Regional Solicitor
Rocky Mountain Region

cc: Regional Director, Rocky Mountain Region, National Park
Service, Denver, Colorado
Superintendent, Yellowstone National Park, Yellowstone
National Park WY 82190
Regional Director, Fish and Wildlife Service, Region VI,
Denver, Colorado
State Director, Bureau of Land Management, Montana State
Office, PO Box 30157, Billings MT 59107

Mr. Jeffrey Nesvet
Office of the General Counsel
U.S. Department of Agriculture
Room 2321, South Building
Washington DC 20250

Mr. Larry Jakub, Regional General Counsel
U.S. Department of Agriculture
PO Box 7669
Missoula MT 59807

Supervisor, Gallatin National Forest,
Federal Building
PO Box 130
Bozeman MT 59771

W. R. MERSCHAT

732 SOUTH GRANT AVENUE
CASPER, WYOMING 82601

May 22, 1985

Dr. Frank C. Craighead, Jr.
P.O. Box 156
Moose, Wyoming 83012

Dear Frank:

GRIZ '85 is history--let's hope GRIZ '86 (if Murie Audubon approves) sees a continued effort to save the bear. Perhaps Griz '86 might be best held in Jackson or Yellowstone to see habitat, areas, fishing bridge, etc. first hand. In any case, I will continue to work for the bear.

Frank, if you have anything written on your talk, I'd like a copy for the proceedings I still want to publish. I've enclosed some news clippings and several papers I promised. Tapes of the symposium will arrive shortly (on me).

The grizzly paw bookends arrived in fine shape. My sincere thanks for such a thoughtful gift. My best grizzly books now have a special look and area.

The afternoon field trip to Hat-Six Ranch was enjoyable. My boy still talks about the 16 dead rattlers. The lone live one didn't impress him too much.

My family is planning on attending the G.Y.C. annual meeting at Lake Hotel in Yellowstone over the weekend of June 7, 8, 9. Tom McNamee will be in from New York. If you go, let's visit.

Best regards,



W.R. Merschat

WRM/jlh
Enc.

off. 307 265 7252
h. 307 265 6942

Expert says no evidence links 'angel dust' to attacks by grizzlies on people

By ANDREW MELNYKOVYCH
Star-Tribune staff writer

CASPER — There is no evidence that the drug commonly known as "angel dust" causes grizzly bears to tranquilized with it to later attack and eat humans, a leading expert on the use of the drug in animals said Saturday.

Dr. Ulysses S. Seal, a veterinarian at the University of Minnesota, told a grizzly bear management conference the drug, also known as PCP or Sernylan, has been used thousands of times in grizzlies, black bears and other large carnivores.

None of those animals has later become unusually aggressive towards humans, he said.

Related story, A3

In fact, Seal said, Sernylan proved itself to be the safest and most effective drug for the tranquilizing of both wild and captive animals. Far fewer bears died as a result of its use than with other immobilizing drugs, he said.

But PCP's effects on humans led to a 1979 ban on its manufacture, Seal said. Although the drug was

first developed as a human anesthetic, it was found to produce psychotic behavior in some patients, he said.

Despite its reputation for producing long-lasting psychological problems, PCP rarely, if ever, has a permanent effect on occasional users, Seal said. It does, however, produce short-term effects such as violent behavior and a drug-induced form of schizophrenia, he said.

Please see BEARS, A16

Bears

Continued from A1

Chronic abuse of PCP can cause severe problems, Seal said, but they are often difficult to attribute solely to PCP abuse, since use of other drugs is often involved.

Because of its effects on humans, PCP was withdrawn from medical use in 1965, Seal said. It continued to be used in animals under the trade name Sernylan, he said.

The drug's lurid reputation as a human hallucinogen led to speculation that it might lead to bizarre behavior in animals tranquilized with Sernylan, Seal said.

No evidence of such an effect was ever found, even in bears tranquilized 10 times or more, he said. Both grizzly and black bears were less likely to get into trouble with humans in the first months after being tranquilized with PCP, he said.

Nevertheless, the case of a grizzly that killed and ate a Michigan camper near Yellowstone National park in 1983 led to speculation that PCP was a factor in the man's death, Seal said.

The grizzly, Bear 15, had been tranquilized with PCP in each of the five preceding years, with the last capture coming 10 months before the killing, Seal said. It never showed any long-lasting effects of the drug, he said.

Bear 15 was, however, used to humans and had a history of feeding at campgrounds, cabins and other places where it could gain access to garbage, he said. That is why it was in the area where the camper was killed, Seal said.

"PCP had no significant effect on the behavior of this bear and made no contribution to his predation on the camper," he said.

Other bear attacks in which PCP has been implicated are "one or two orders of magnitude more far-fetched," according to Seal.

PCP's only contribution to attacks may come as animals recover from the drug and show a tendency to move toward any sound or motion, he said. That, combined with a biting reflex, can pose a danger to researchers and onlookers, he said.

C

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ANIMAL IMMOBILIZATION WITH PHENCYCLIDINE

DRAFT MAY 3 1985 CASPER WY

To Fowler

Introduction

Chemical immobilization of captive and free-ranging wild species has profoundly altered wild animal medicine and the study of the biology and ecology of free ranging wild species (Nielson et al., 1983). Modern zoo animal medicine is critically dependent upon the ability to handle the living animal for diagnosis and frequently for treatment (Fowler, 19). The use of radiotelemetry depends upon our ability to capture, handle and release living animals with a minimum of trauma. The importance of this capability for wild animal immobilization and anesthesia is evident in hundreds of research and clinical articles which take as a matter of course the use chemical immobilization techniques. However, the hazards associated with anesthesia are reflected in the continuing search for 'better' drugs and methods in human and animal medicine. Products of this research provide the resource upon which wildlife biologists depend for applications.

The introduction of phencyclidine and etorphine (M-99) provided major improvements in our ability to handle wild species. They replaced such chemicals as nicotine which had a blessedly short term of use and succinylcholine which has such a

narrow margin of safety that death rates are unacceptably high for routine use either on captive or free-ranging animals. However it is not an anesthetic, the duration of action is short and recovery rather too prompt.

Unfortunately all of the more powerful anesthetic drugs have psychedelic activity in humans which has led to their abuse as agents for the mood altering effects. This feature of the activity of the barbiturates and morphine derivatives combined with their addictive potential has powered a continued search for effective injectable anesthetic and analgesic agents without physical dependency properties. One such agent with much early promise was phencyclidine or PCP (Table). It is a powerful anesthetic and analgesic agent which does not lead to physical dependency with repeated use. However, it soon became apparent that it had powerful psychotomimetic effects, which precluded its use as an anesthetic in humans. These properties led to its becoming a significant drug of abuse for its mood altering effects.

The early years of PCP's use in the late 60's and early 70's resulted in a new population of patients appearing in emergency rooms with acute toxicity, acute psychoses, coma, and a variety of symptoms with disorientation. The initial response by many of the practitioners to patients with a set of symptoms very

similar to schizophrenia reflected deep concern that this was a new chemical epidemic that might easily produce chronic psychosis in most users (Fauman and Fauman, 1975; Erard et al., 1980; Sioris and Krenzelder, 1978). This early response has moderated with recognition that PCP is one of many drugs of abuse, frequently used in combination with other drugs and that very few if any users have developed long lasting psychosis with its one time or occasional use (Erard et al., 1980; Davis, 1982; McCarron et al., 1981; Aniline and Pitts, 1982). However the use of PCP appears to be spreading and it may now be the 4th or 5th most frequently used illicit drug in this country.

History of phencyclidine

The synthesis of phencyclidine was reported in 1926 (Kotz and Merkel, 1926) as part of a study of the reaction of Grignard reagents with hindered nitriles. It was found to have potent anesthetic and analgesic properties in a study of compounds related to cyclohexamine (Chen, 1959; Domino, 1964). Simpler syntheses and preparation of many related compounds soon followed (Kalir et al. 1969; Maddox et al., 1965) as part of a search for intravenous non-barbiturate, non-narcotic anesthetics useful in human medicine.

The remarkable quieting effects of PCP on rhesus

monkeys and promising tests in other species led to its being patented under the trade name 'SERNYL' in the UK (Parke, Davis, and Co., 1960) and 'SERNYLAN'(1963) in the USA. It was found to be an effective total anesthetic with analgesic and amnesic properties when used for surgery in about 1000 human patients. However, 10 - 20% of patients had very stormy post surgical recovery periods exhibiting acute toxic psychoses. Most of these toxic reactions occurred in young and middle-aged males, presaging latter events with the abuse of PCP. The toxic reactions were managed clinically by treatment with chlorpromazine with no reports of prolonged ill effects (Domino, 1964; National Institute on Drug Abuse, 1978; Sioris and Krenzelok, 1978). The psychotomimetic and hallucinogenic actions of PCP led to its investigation as a possible model drug for producing the symptoms of schizophrenia. Indeed the symptoms associated with the toxic PCP psychosis made it difficult to recognize as a drug toxicity in the hospital emergency room, without a history of drug ingestion, until the advent of laboratory assays.

These unfavorable reactions led to removal of the drug from further human clinical use by the company in 1965. It was released for use as a veterinary anesthetic, primarily for use in primates, in 1967 under the trade name of Sernylan. Apparently the first street use of this drug was noted about this time in

San Francisco. The street use of PCP escalated in the early 70's and it was rescheduled as a Class II controlled substance by Federal Legislation in 1978. Legal synthesis was halted in April 1979 because of the complexities of meeting the necessary legal requirements for manufacture and the relatively small market for its use. PCP has been unusual as a drug of abuse because of the ease of its synthesis with readily available precursors and equipment. The legal restrictions have served primarily to provide greater penalties for its illicit production and distribution without any real impact on its availability (except for legitimate use).

There currently is much interest in research on the mechanisms of action of PCP and the related drug - ketamine - because of the abuse and psychotomimetic properties of PCP and the usefulness of ketamine for human anesthesia. The problem of site and mechanism of action (specific receptors) has been refractory. Recent receptor binding studies indicate that PCP binds to the opiate sigma receptor and that the psychotomimetic effects of PCP may be mediated by this receptor (Murray and Leid, 1984). The drugs exhibit properties suggesting actions at dopaminergic receptors as well at adrenergic and cholinergic receptors. The schizoform or psychotic behaviors of PCP abusers can be treated with the phenothiazine (acepromazine, promazine, chlorpromazine) drugs and haloperidol which counteract many of

the adverse actions of PCP including the hallucinations, hypertonicity, hyperactivity, and salivation.

Chemistry, Pharmacology and Mechanism of Action

Pure PCP, as the free base is insoluble in water, and is usually prepared as the white crystalline hydrochloride salt which is freely soluble in water and alcohol. It has a molecular weight of 244 and melts between 234 and 236 degrees Celsius (Maddox et al., 1965). It is very stable and not destroyed by boiling or cooking - hence meat eaten from animals killed with this drug has produced unexpected behavior at the dinner table. People can have psychedelic responses to as little as 5 - 10 mg of the ingested drug and can be anesthetized with 15 - 30 mg of the drug given intravenously. Tolerance has been noted in most species studied so that larger doses are required for effect with frequent usage. However, physical dependence has not been found in chronic administration studies to animals or on withdrawal from humans accustomed to daily use of PCP. The tolerance is likely due to induction of microsomal P-450 enzymes responsible for metabolism of the drug. Our studies in wolves and tigers indicate that withdrawal for 2 -3 weeks allows the tolerance to disappear, suggesting that little unchanged PCP remains in these carnivores after 10 days.

Detection and assay of PCP levels in blood, tissues and urine requires modern laboratory facilities. Blood levels in coma (anesthesia) range from 125 to 200 ng/ml of plasma in three species (Table , note the log scale of concentration). Partial consciousness returns when levels fall below 100 ng/ml and mobility, albeit poorly controlled, is possible at levels of 25 ng/ml. Intravenous injection of 1 mg/kg of PCP (Figure) to dogs, an anesthetic dose in this species, yields a plasma half-life of 2 - 3 hours which is similar to results obtained in rhesus monkeys and humans (Wilson and Domino, 1978). Unchanged PCP is undetectable in plasma at 24 hours in these single low dose experiments. However, in clinical studies of high dose (200 - 500+ mg) PCP intoxicated humans, it has been observed that coma producing levels may persist for days and that untreated severe depression can result in death. A partial explanation is that the drug is secreted in ionized form (Figure) into the stomach, accumulates, passes into the higher pH of the duodenum, and is reabsorbed in the unionized form into the circulation thus providing a recycling mechanism. A treatment strategy for such patients includes gastric suction for direct removal of drug and acidification (iv ammonium chloride and cranberry juice po) to promote excretion by the kidneys (McCarron et al., 1981).

The indications of prolonged (days and weeks) toxic effects of PCP may result from several mechanisms (Table)

including the gastric recirculation just mentioned, uptake and slow release by adipose tissue, and formation of persistent tissue depots. Studies in mice and rats suggest that the relative importance of these mechanisms will vary from species to species and are dose dependent. All of these studies indicate that the free form of PCP is essentially gone within 7 - 10 days except with enormous doses (Figure , 25 mg/kg in the case of the rat studies shown here) and that only metabolites may remain (Martin, 1981). The search for toxic metabolites has yielded a host of novel compounds, but few have had significant pharmacological activity. Studies of human patients presenting with severe acute PCP toxicity have found that the drug is cleared within about 2 weeks. The persistent mental symptoms occurring in a small fraction of patients are cleared within 2 to 8 weeks.

Actions in human and animal clinical studies

The actions of phencyclidine upon humans and animals might be considered first in the context that PCP is an anesthetic drug and then in terms of its own peculiar properties. The progressive signs of an anesthetic drug's effects (Table) given to a standing animal begin with agitation and progress to full recumbency if the dose is adequate. All of these descriptive terms have been applied to

human patients (except relaxed tail) in the clinical descriptions of stages of PCP effects. PCP, and to a lesser extent the related compounds ketamine and tiletamine, also results in increased salivation, hypertonicity, nystagmus, catatonia, convulsions at higher doses, and frequently delirium during induction and emergence from anesthesia. These effects were recognized very early in the human and animal studies. It was noted in a 1969 publication that bears, especially polar bears, exhibited many complications with the use of PCP alone that were reduced with the addition of promazine (Seal and Erickson, 1969). Clinical publications recommended the use of phenothiazines to counteract the delirium and the hypertonicity (Giannini et al., 1984; McCarron et al., 1981; Sioris and Krenzelok, 1978). Concerns that excessive hypotension might result from the combination of PCP and the phenothiazines have not materialized with routine use in the animal studies or for the treatment of acute toxic PCP psychosis in humans (Giannini et al., 1984; Seal et al., 1970). It is a part of the recommended treatment for the more persistent PCP toxic psychosis syndrome. One of these tranquilizing drugs - acepromazine - has been used routinely with PCP for the capture of grizzly bears in Yellowstone.

Street use and adverse effects

What are the characteristics of PCP abuse? The clinical patterns of acute PCP intoxication have been tabulated for 1000 patients by McCarron et al. (1981) (Table). The major patterns reflect both the anesthetic and the delirium properties of the drug. Acute brain syndrome refers to patients with disorientation and any combination of confusion, lack of judgement, inappropriate affect, or loss of recent memory. The minor patterns (Table) include agitated and violent behaviors. In animals we would refer these behaviors to the excitement phase of chemical immobilization which is more pronounced when anesthetic drugs are used without the addition of a tranquilizer. Frequent reference has been made to the incidence and severity of violent behavior associated with the use of PCP. This study found an incidence of violent behavior of about 10% in acutely intoxicated patients which was controlled with a tranquilizer or by reducing stimulation of the patient to a minimum. These symptoms disappeared in a short time (24 hours) in these acutely ill patients.

A notable feature of studies of PCP users is that they routinely are multiple drug users (Table). This has been true also of PCP patients with a more prolonged psychosis. However, the production of a prolonged psychosis occurs with all abused

drugs (Table), including alcohol and cannabis (marijuana), which are rather more socially acceptable at present. This pattern of multiple use, plus the extensive impurities in street drugs, complicates the interpretation of the early cases with a persistent or recurring psychosis. An alternate explanation for the occasional patient developing a full psychosis with occasional or single time use of PCP is that the drug has precipitated a condition already present. This rationale is more widely accepted now with the appreciation of the infrequent occurrence of prolonged psychosis except in frequent users and the results of early studies in schizophrenic patients in whom PCP exacerbated the disease.

Patients presenting with a more prolonged psychosis requiring 4 to 8 weeks of treatment (Table) were typically (80%) young males with an arrest history and evidence of poor judgement (Erard et al., 1980). They have visual hallucinations and laboratory tests indicate some liver pathology (elevated SGOT). Many of these symptoms are difficult to distinguish from schizophrenia. Indeed a direct comparison of patients with PCP psychosis with newly diagnosed schizophrenia patients found few distinguishing features.

Indicators useful for analysis of animal studies

Dosage

Frequency of immobilization

Time since last drugging

Other drugs - esp tranquilizers

Behavior changes

Drug kinetics

Aspects of physiology affecting drug disposition

Literature data for Ursidae

Field biologists working with black bears (Ursus americanus), brown bears (Ursus arctos), and polar bears (Ursus maritimus) have conducted trials with each of the immobilizing agents on trapped and free ranging animals. Early workers (Erickson, 1957) poured ether into culvert traps containing a black bear followed by administration of pentobarbital. This of course was extremely dangerous for everyone and also was not very effective. Succinylcholine (Table), sometimes followed by pentobarbital, was then used extensively in black and brown bears but the margin of safety was low, recovery could be explosive. SCC is a neuromuscular blocking agent not an anesthetic which has led to its interdiction as a suitable agent for handling of

animals. Mortality with SCC was a continuous hazard (Table) with a 5 to 10-fold higher rate than more recent agents. This mortality risk limited the conduct of serial studies.

The availability of phencyclidine and the demonstration of its effectiveness and safety for bears, especially in combination with a tranquilizer, led to its place as the primary agent for capture and handling of bears for about 15 years. Its major drawback has been the lack of an antagonist. There have been more than 7000 bear immobilizations with PCP although only a fraction of these have been reported in the published literature. The PCP dosage requirements for immobilization of brown and polar bears are about 0.6 to 1.0 mg/kg for zoo or captive animals, 1.0 to 2.0 mg/kg for animals captured in traps (culvert or Aldrich snares), and 2.0 to 4.0+ mg/kg for animals darted from helicopters. The differences presumably reflecting the state of stimulation of the pituitary- adrenal system and the sympathetic nervous system and the release of catecholamines. These hormones appear to be able to antagonize the depressant effects of the PCP drug family with the result that the excitatory effects predominate.

Etorphine (M-99) has also been effective for the capture and handling of bears. However its perceived greater expense and the definitely greater risk to humans limited its use

until recent years as supplies of PCP have been depleted. This member of the morphine family enjoys the definite advantage of an antagonist which allows rapid and elective reversal of the anesthetic drug effects. A more recent addition to this group of narcotic drugs is carfentanyl which has a shorter induction time at safe doses than etorphine. It also can be reversed by M-50/50 and naloxone, however there are indication that it may be recycled for several days with a hazardous continuing depression. This will require development and use of a slow release form of one of the antagonists. The cycle continues.

The unavailability of PCP and the risks of the narcotics have led to the development of mixtures of a weaker member of the PCP family - ketamine - with xylazine (Rompun) a depressant tranquilizer. Satisfactory dosages of the mixture have been established for immobilization of all three species. A major limitation of this combination has been the prolonged depressant effects of the xylazine component and its depressant effect upon the temperature regulatory system. This has increased the risk of hypothermia in cold weather and hypothermia in hot weather. However the recent reports of antagonists (alpha-2 adrenergic blocking agents, yohimbine and tolazoline) give promise of reducing this risk and allowing for prompt elective reversal. These antagonists have been shown effective in deer, wolves, dogs, elk, and bears. The lack of a suitable

antagonist for the effects of the PCP family reflects our uncertainties concerning the mechanism of action of this drug.

Field Studies of Black Bears

These black bear PCP immobilization data are from the Minnesota black bear studies of Lynn Rogers spanning the years 1969 - 1979 (Figure). Trapping captures were made in culvert traps and Aldrich snares. Bears whose locations were known from radiotelemetry data were immobilized in their dens during the winter and particularly in March. Thus we have information on male and female bears captured throughout the year. Blood samples were collected at each of these captures and analyzed for hematology, blood chemistries and hormones. Many of these animals were fitted with radio collars and followed systematically for several years following capture. Cumulatively, these studies provided detailed demographic information, home range data, data on movement patterns, and incidentally information on the behavioral consequences of drugging black bears with PCP.

There were 884 drugging events of 293 bears (Figure , note the log scale on the y axis) of which 693 events involved PCP and promazine (Sparine). Males comprised 348 of the captures and females 536. Ages spanned 3 months to 10+ years. It is

notable that 139 bears, nearly half, were captured 2 or more times. At least 19 bears were captured and drugged 10 or more times. The record for a single animal is 27 captures over 10 years. In addition, some animals were recaptured several times in a given season and were released without drugging. These events are not included in these totals. Bears that were "trap prone" are of especial interest since Yellowstone brown bear #15 was captured 21+ times over a 10 year span prior to killing the camper in 1983.

Convulsions (Figure) were noted in 48 animals and 78 drugging events. A higher proportion of males convulsed as been reported in other studies (Table). Bears trapped multiple times had fewer convulsions. There were 17 deaths associated with handling the bears of which 5 were with succinylcholine and 12 with PCP. Virtually all deaths recorded in this study were the result of human predation. The 17 study animals (11 males and 6 females) shot as nuisances, were usually seeking food around cabins and homes. None had convulsions during their immobilization. The distribution of times after drugging ranged from 1 to 2000 days, with 5 occurring during the first 2 months post drugging. The remainder were killed 1 to 6 years after their last immobilization. The category 'other' includes 2 cubs killed by a train, 1 electrocuted, 3 killed by cars, several probably poached, 2 cubs deserted by the sow, and several of

unknown causes.

The behavior after recovery and release of trapped bears drugged with PCP and promazine followed a characteristic pattern of decreased movements for 18 - 36 hours with a resumption of normal foraging and movement patterns. This interpretation is based upon long term tracking of individual animals to establish home ranges and migratory patterns. The multiple recaptures (more than 10) included 18 females who successfully bred and produced young in many of the years.

Dispersals ?

Sudden shifts in pattern ?

Agonistic encounters with other bears ?

People incidents (nuisance killings) ?

Reproductive success ?

Body weights ?

Hematology ?

SGOT ?

Field Studies of Wolves

Events

Animals

Pack structure

Movement patterns

Reproduction

Mortality

Captive Studies of Wolves

Events

Animals

Pack structure

Pack interactions

Marking

Behavioral testing

Reproduction

Mortality

Serum chemistries

Hematology

Hormones

Data for Brown Bears

The data presented here on immobilization of brown bears with PCP and acepromazine are from the National Park Service Interagency Grizzly bear Study at Yellowstone Park and were provided by Bonnie Blanchard, research Wildlife Biologist for this analysis. Another set of data have been made available by H. V. Reynolds Game Biologist of the Department of Fish and Game, Alaska from Alaskan grizzly bear studies. The analysis of these data is not complete and is not included here. He has 12 years of observations on 356 grizzlies immobilized 532 times with 118 animals drugged 2 or more times. He found that bears tended to avoid human contact in active study areas and in one set of detailed observations the animal was less active after the immobilization for a few days. He noted no instances on self-mutilation or self-destructive behavior in animals that had been drugged.

There were 166 events in the Yellowstone studies (Figure) involving 102 bears from 1975 through 1984. The animals were mostly captured in culvert traps and drugged in the traps. The animals were trapped and drugged during the spring and summer months while free ranging. Ages ranged from cubs to more than 10 years. There were 58 males captured 93 times and 42 females captured 72 times with no significant difference in

overall capture frequency. There were 2 capture related deaths, both due to dart trauma and none related directly to the drugs. There were convulsions at 13 of the events in 10 of the bears. One bear, #15, convulsed on 4 of the 5 occasions he was handled with PCP and acepromazine.

Capture frequency (Figure , again note the log scale of frequency) is only partially represented by these data since only PCP drugging events are included. It is likely that some grizzly bears are as trap prone as black bears since 21 trapping events are recorded for bear 15, but only 5 involved the use of PCP. Subtracting 17 bears captured for the first time in 1984, then 37 of 85 (44 %) animals were captured and handled 2 or more times with PCP and acepromazine. Many of these animals were fitted with radio collars and followed after release. The biologists noted that they tended to move up to 10 miles from the site of capture, rest for a day or 2 and then return to the area of capture. This post drugging behavior should be familiar to anyone who has undergone general anesthesia.

Data from Grizzly Bear #15.

This animal was first captured in 1971 as a cub and released without drugging. He was capture 3 times at the Yellowstone dump in 1974 and the use of M-99 is recorded at the

3rd 1974 capture. This male was first radio-collared in August of 1976 and had a functioning collar every year through 1983 with multiple captures in 1977 and 1978 and again in 1982.

Phencyclidine was first used in 1977 and again in once each year in 1978, 1980, 1981, and 1982. His last capture with PCP was in August 8 months prior to the attack on the camper in June of 1983. He was captured 2 more times in 1982 and drugged once with M-99 and the final time in October 1982 was released without drugging. He was monitored and observed a number of times in 1983 seeking food on private property. His body weight record indicates weights ranging from 385 to 480 pounds between August 1976 and August 1981. He was weighed at 608 lbs in August of 1982, estimated at 635 lbs in October of 1982, and weighed 435 lbs at the final capture in June of 1983. These data suggest that he had eaten very well during the late summer and fall of 1982 prior to denning, had lost 200+ lbs during the winter, and was just beginning to regain weight. His movement pattern appears to be that of an animal accustomed to foraging for food around human habitation and not disturbed by human presence. There is no evidence for unusual behavior prior to the event and the animal was retrapped near the scene of the killing.

Summary and Conclusions

The drug features of bear 15's history that are pertinent for analysis of the possible role of PCP in his killing and eating of a camper (Table) are that he received PCP at a dosage of 1. to 1 mg/kg, 5 times during the preceding 6 years and no more than once in a given year. He received acepromazine as a tranquilizer each time except for the first occasion in 1977. The last dose (mg/kg) was given 10 months prior to the event. He was captured twice following the last PCP immobilization and was exhibiting what appear to be typical movement patterns for him. He had several months prior to hibernation to metabolize and excrete the drug prior to hibernation. The substantial weight loss during hibernation would have mobilized any drug stored in adipose deposits and allowed it to be metabolized. We know from drugging black bears during denning (hibernation) that they are capable of metabolizing the drug and maintaining normal physiological functions including parturition, lactation, nursing and rearing of cubs. He had 6 - 8 weeks of activity after emerging from the den to excrete any remaining drug. It is likely that he did not have an idiosyncratic sensitivity to PCP since he had been drugged 4 times prior to 1982 and had not attacked people or made an unusual nuisance of himself.

Familiarity with food resources around human presence and habitations, a strong interest in traps (perhaps for the bait) and a lack of fear of human presence suggest that this animal was strongly hungry, may have been frustrated in its attempts to eat at nearby private property, and simply took an opportunity. It would be of value to further explore the behavior and neuroendocrine physiology of animals that are especially trap prone to determine if appetite and the opioid system might play a significant role in their behavior.

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