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Monthly Planet, 1987, February

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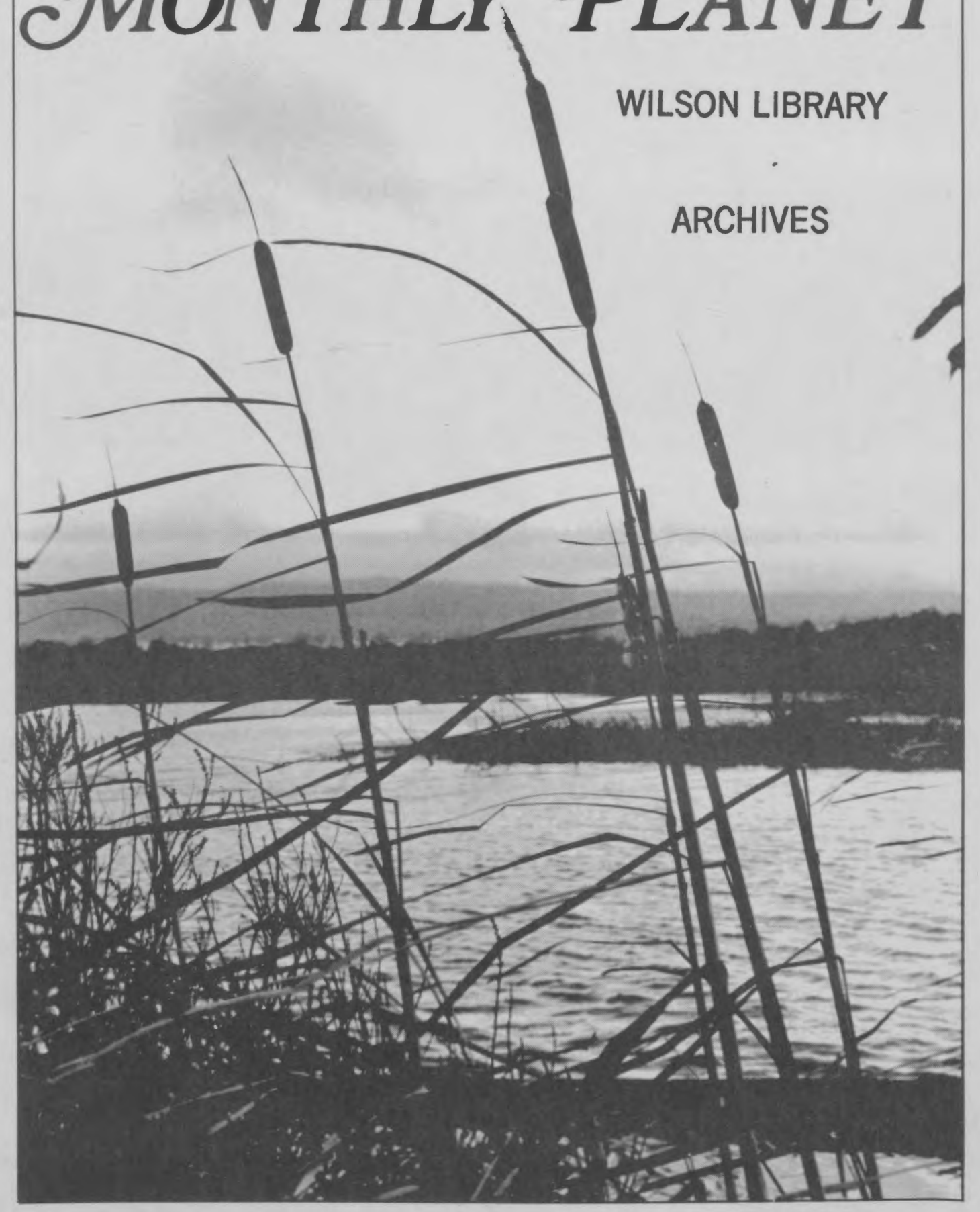
MONTHLY PLANET



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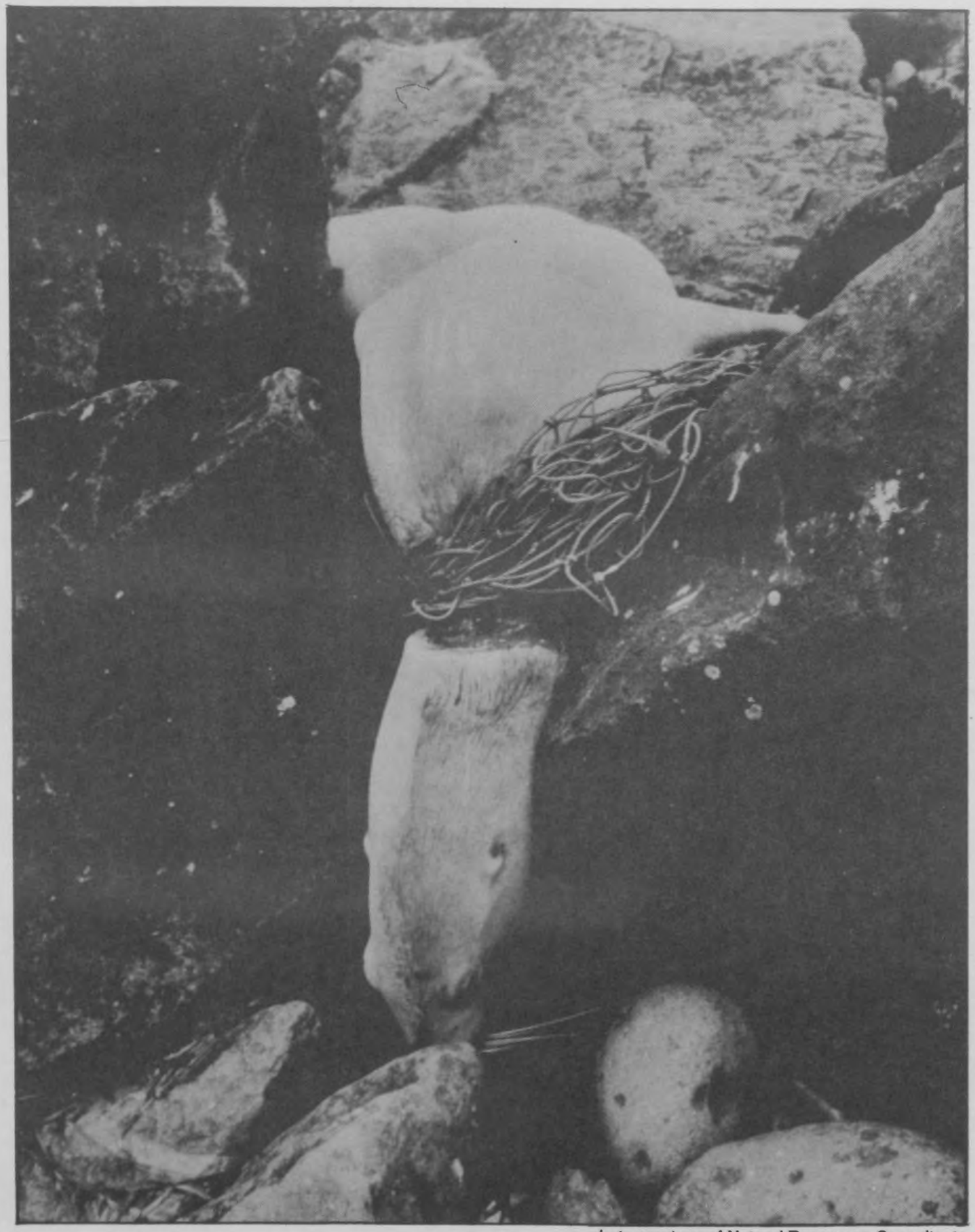

photo courtesy of Natural Resources Consultants

Net webbing entangles sea lion. Marine debris takes its toll on marine mammals.
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Arctic National Wildlife Refuge: A Wilderness in Jeopardy

by Ken Bennett

Alaska's Arctic National Wildlife Refuge's (ANWR) 1002 land area may lose its status as a wildlife refuge because of the U.S. Department of the Interior's recommendation to open the area for oil and gas development.

In an environmental impact statement released last November, the Interior Department endorsed the U.S. Fish and Wildlife Service's (FWS) scenario to lease the 1002 area for oil development. That endorsement will be presented to Congress in March of this year, and Congress will then have the power to decide the fate of the 1002 area.

The 1.55 million acre ANWR 1002 area is one of the last undisturbed Arctic coastal plains possessed by the United States. It is directly east of Prudhoe Bay, and its boundaries extend from the crest of the Brooks Range, then north to the Beaufort Sea.

The refuge is a seasonal habitat for polar bears, grizzly bears, muskoxen, wolves, Arctic foxes, and a breeding area for several species of waterfowl and birds.

More importantly, though, the refuge is a traditional calving ground for the 180,000 member Porcupine caribou herd, and to a lesser degree, a calving area for the estimated 14,000 member Central Arctic caribou herd.

In the resource assessment report released by the Interior Department they conclude that there is a 95% chance that the ANWR coastal plain contains more than 4.8 billion barrels of oil, and a 5% chance that it contains 29.4 billion barrels of oil. But, in terms of actual oil recovery, the land may yield only 6 million to 9.2 billion barrels.

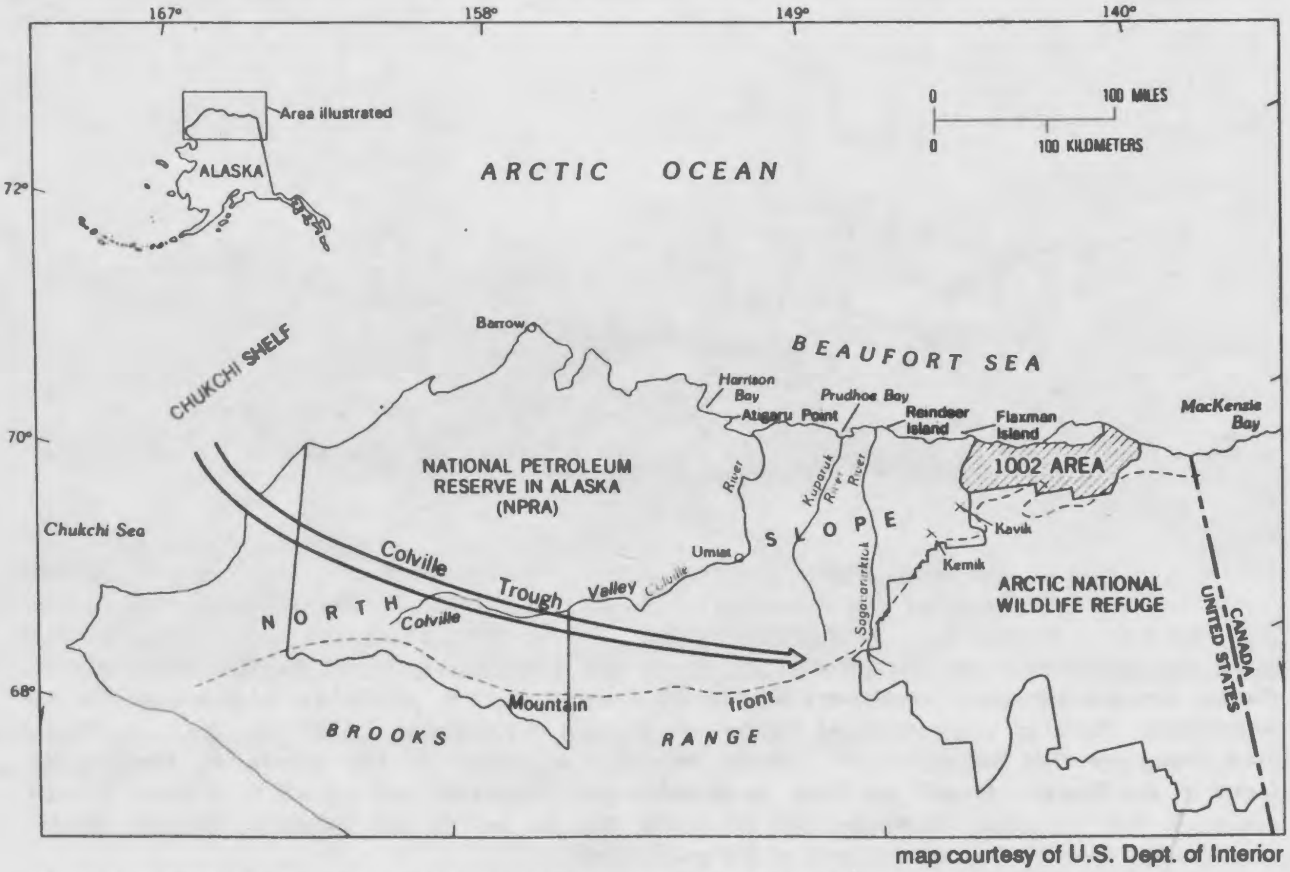
The report also states that there may be a problem in recovering the oil because the coastal plain is water-deficient. It is estimated that each exploratory well will need 15 million gallons of water. The lack of lakes in the region will prove to be a formidable obstacle to oil recovery.

> "Who really knows what will happen to the (Porcupine caribou herd) if they lease the coastal plains?"
>
> *-John Miles, Dean , Huxley College*

John Miles, Dean of Huxley College at Western Washington University, opposes leasing the refuge. "In my view," Dr. Miles said, "the ANWR coastal plain is more valuable for its wildlife aesthetics than its oil potential.

"I'm concerned with the impact on the Porcupine caribou herd (PCH). Who really knows what will happen to the PCH if they lease the coastal plains?"

Dr. Miles also stated that he is not opposed to oil development, but favors more efficient energy use of our present resources. He supports a responsible approach to energy consumption. "We can



map courtesy of U.S. Dept. of Interior

A calving area for caribou, the ANWR 1002 area may lose its wilderness refuge status.

leave it there (oil) for future use," he commented.

In a statewide survey conducted by the Dittman Association of Anchorage, Alaska, the residents of Alaska have expressed a strong desire to see oil development on the ANWR land. The current recession that Alaska is experiencing has stimulated the state to increase its oil development.

"...each exploratory well will need 15 million gallons of water."

The residents of Kaktovik, Barter Island, the only people inhabitating the ANWR 1002 area, however, feel differently. They are against any industrialization that will diminish their opportunities to pursue a subsistence life style.

The debate over the proposed leasing has reopened a war between developers and conservationists. It could well prove to be the environmental battle of the 1980's.

Marine Debris Endangers Sea Life

by Jim Wiggins

Each year nine million tons of solid waste produced in the United States is dumped directly into the oceans. An even greater amount reaches the sea via rivers and municipal drainage systems. This waste, along with large commercial fishing nets, harms birds and marine mammals and is often fatal.

According to ten-year-old government statistics, merchant vessels dump six million tons of debris into the earth's oceans each year. The world's navies dump an estimated 74,000 tons of trash overboard, and the U.S. Coast Guard estimates that recreational boaters contribute another 34,000 tons of trash.

This marine debris, which is dumped into our waters and now lines our beaches, goes beyond esthetics. It also kills many forms of marine life.

The major contributor to this modern floatsom is plastic. Marine debris begins with the purchase of plastic products such as small toys, a six pack of pop or the use of plastic vegetable bags in grocery stores.

Some items of particular concern are styrofoam packing pellets, six-pack yokes and disposable cigarette lighters.

Seabirds often confuse small pieces of plastic for their natural forage. During nesting season these bits of plastic may be fed to the young who literally starve to death. Fifty of the 280 worldwide species of seabirds are known to ingest plastic.

Large sea animals also may consume forms of plastic. Whales, dolphins and turtles are known to mistake plastic bags for jelly fish which are part of their diet. Some fish confuse plastic beads as nourishment and later die of starvation.

Fishing nets are another source of sea life destruction. These sheer gill nets or the heavier trolling nets can inadvertently catch diving birds and seals.

Nets lost during storms continue to entangle sea life. Drifting "ghost nets", sometimes floating for years, kill seals, whales, seabirds, turtles and fish. Driftnet fishing fleets lose approximately 600 miles of net each year in the North Pacific alone.

Japan, Korea, and Taiwan heavily fish the North Pacific. Their 700 ship fleet, used to catch squid, employs 20,000 miles of nets set each day. Individual salmon nets are nine miles long and 26 feet deep. Squid nets, consisting of a very fine mesh, are 14 to 30 miles in length.

Diving birds and mammals which feed on squid are unable to detect many fishing nets, and consequently, these nets entrap and drown them. The environmental group Greenpeace estimates the Japanese salmon fleet kills 250,000 to 750,000 diving birds per year.

Paul Watson of the Sea Shepherd Society said an average of six miles of net are lost every day. These nets kill about 15,000 marine mammals and 1 to 2 million migratory sea birds every year, he said. An average of six dolphins are lost per net set.

To preserve many species of marine wildlife and fish stock, the practice of "ocean strip mining" must be looked at more seriously, says Greenpeace. Lost fishing nets and marine debris are taking an unnecessary toll on marine life. The practice of using the oceans as a garbage dump is outdated and lacks foresight. Alternatives such as recycling and not littering are simple solutions to a complex problem. Individually we make an impact on the environment; we have the choice.

photo courtesy of Natural Resources Consultants

Glaucous-winged gull is caught in plastic six-pack holder

Fight Against Asbestos Continues at Western

by N.S. Nokkentved

Although it is used throughout many of the buildings on Western's campus, the only real hazard from asbestos is the insulation on the ceiling of the Carver Gym.

The sprayed-on asbestos ceiling insulation is dangerous only if disturbed, University Safety Officer Jose Harrison said.

When students throw balls at the ceiling, however, the impact knocks chunks of the insulation loose. Balls are bounced off the ceiling especially in the smaller side gyms which are closer to the ceiling. The indentations from the impacts are obvious.

"It's the kind of thing students shouldn't mess with," Harrison said. He hopes to further a program to educate students about the dangers of the asbestos. The ceiling has been sprayed with a latex material made for the purpose of sealing or "encapsulating" the asbestos insulation.

This encapsulation costs about $15,000 to $20,000 and has been done twice - the last time being four years ago. Harrison estimated the cost to remove the asbestos to be about $90,000 plus dumping fees at the hazardous waste facility at Arlington, Oregon.

"There really isn't a problem (at Western)," Harrison said. All the "friable" asbestos on campus has been sealed, and the material is inspected every year, he said.

Jose Harrison

Asbestos normally is dangerous only in the form known as "friable", the loose fibers used with a binder as sprayed-on insulation.

Fallout from asbestos insulation, which may occur without physical disruption of the material, is a function of degradation of the binder and the rate may vary due to structural vibrations, humidity changes and air movements.

Friable asbestos should be removed from buildings, but an acceptable temporary measure is to encapsulate it, sealing it either by painting or covering it, according to Washington health standards.

"I wish we had money to do it all. Then it would just be one less thing to worry about," Harrison said.

"Harrison estimated the cost to remove the asbestos to be about $90,000 plus dumping fees..."

The physical plant handles the actual sealing or removal of asbestos. An encapsulation/removal program has been in place for more than 10 years with the objective of total or near total removal, Pete Harris, director of the physical plant said. But, like other programs at Western, it is dependent on funds.

The physical plant budget includes money every year for the encapsulation/removal program, Harris said. Sealing of the asbestos is a temporary solution. It is removed as the budget allows.

"Encapsulation" should be redone every three to four years depending on the application and location, Harrison said. To insure all these insulated areas are properly sealed, he said, records at Western are being checked. The places that haven't been redone will be done, he said.

Another concern was brought to his attention by custodians, Harrison said. They were concerned with dust produced when buffing the asbestos tile used in most of the buildings at Western. But, Harrison said, tests conducted on campus by the Washington Department of Labor and Industries showed that no asbestos fibers were produced during buffing of the tiles.

One other place at Western where a danger from asbestos exists is in the auto maintenance shop when brakeshoes are being fitted. During the grinding procedure operators are required to wear masks and care is taken to insure no other workers are in the area. Careful records are kept of all workers who handle asbestos, and they receive a yearly physical.

Another recent test by Labor and Industries in Western's steam plant and the steam pipe tunnels beneath campus showed no asbestos fibers.

"Encapsulation" is done in a number of ways. Ceilings are sprayed with a latex base foam, some areas are covered with "sheet-rock", pipe insulation may be wrapped with plastic and some areas are painted with various heavy paints.

"Asbestos is only a hazard if it is disturbed, and then only in large quantities," Harris said. It is a naturally occurring substance present in many natural environments and it is far from the only hazard on campus, he said.

Dick Honstein of the Physical Plant, who is one of the few people at Western who works with asbestos, said it is important to keep the problem in perspective. Before the ceiling insulation was encapsulated, the dust in Carver Gym was tested after normal activities (not including balls hitting the ceiling), and no asbestos fibers were found.

"It's the people working with it and handling it that are in danger," Honstein said. "The threat to students is minimal."

1985 © *Do Not Litter* by Sally Anderson

Bags of asbestos temporarily are stored at the Physical Plant and then shipped to Arlington, Ore.

Asbestos

Asbestos is a generic term used to designate six natural, inorganic minerals - actinolite, amosite, anthophyllite, crodidolite, tremolite and chrysotile. Chrysotile is the most common form used in the United States.

It is fireproof and makes an excellent insulator for hot appliances or, when sprayed on, fire protection for structural steel in large buildings. Its uses also include insulation on air ducts in schools, brake linings of automobiles and insulation in hair dryers.

All six forms of asbestos readily form respirable fibers which lodge permanently in the lungs. The fibers are easily identified when dust particles from air samples are examined under an electron microscope.

The inhaled fibers may lead to a nonmalignant respiratory disease known as asbestosis for which no remedy is known. And, they may cause cancer with a latency period of 15 to 30 years.

The exposure level that has caused cancer in the past is not known.

Even though the dangers were known, asbestos was used widely during the 50s and 60s as building insulation in attics, around air ducts and to protect structural steel from fire. Insurance companies at the time felt the risk from fire was sufficient to justify the risk to human health, University Safety Officer Jose Harrison said.

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Please Recycle

Washington Sea Grant:

Marine Resources Education

by Judy Hockett

What is Red Tide?
How will the new tax laws affect my fishing business?
What is the procedure for commercial fish smoking?
What causes electrolysis? How can it be prevented?
How can I help in salmon enhancement projects?

When the people of Whatcom, Skagit, and San Juan Island counties have questions about marine-related problems, the North Sound Office of the Washington Sea Grant advisory service in Bellingham helps find the answers. Sea Grant serves the community by providing technical assistance and educational programs to those who use, manage, or simply enjoy the area's marine resources.

The Sea Grant office is located near the waterfront, tucked back in the corner of Harbor Mall. The windows of the tiny office are obscured by notices such as:

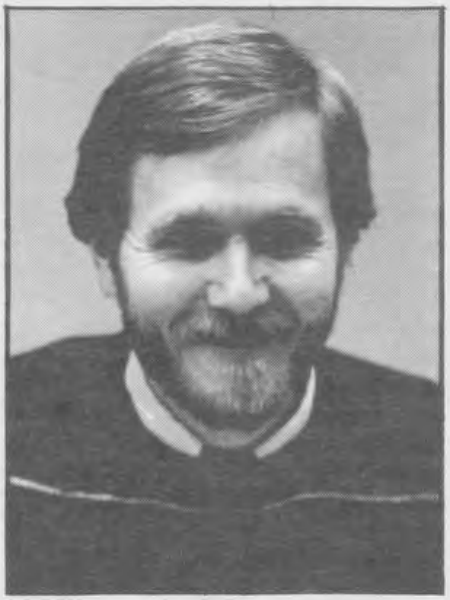
Warning: Beach logs kill!
Stranded marine animals: some do's and don't's.
Fishermen! Hear Alaska Fisheries Report on KUGS-FM 89.3 Thursdays at 5:15.

Inside, the walls are lined with books and pamphlets covering a wide variety of subjects including aquaculture, seafood processing and marketing, oceanography, marine resource regulation and coastal resources.

Jim Humphreys, marine field agent for the North Sound Office, described the function of the Sea Grant Advisory Program as much like that of a county agricultural extension agency. It is available to help coordinate efforts in solving problems that arise in the marine community. Assistance ranges from answering simple questions on permits or licensing to presenting workshops and short courses on marine topics.

The community projects in which Sea Grant has been involved include the development of the Maritime Heritage Center, the annual Maritime Festival and an ongoing salmon enhancement program in cooperation with the Bellingham Vo-Tech Institute. Sea Grant workshops have covered subjects on business management and planning for commercial fishermen, sanitation in seafood processing and in-water survival-suit training.

Washington Sea Grant maintains close ties with other agencies, institutions and marine related industries. These include the National Food Processors Association, the Pacific Science Center and Aquarium, the Environmental Protection Agency and the Washington State Departments of Fisheries, Natural Resources and Ecology. Additional backup support is available from other Washington Sea Grant offices as well as from the University of Washington which serves as the research institution for the state program.



Jim Humphreys

One of the most essential functions of the Sea Grant Office, Humphreys said, is arranging the publication of the information acquired through its research. In this way, Washington Sea Grant acts as a link between academic theory and the marketplace, and keeps the lines of communication open between the research community, marine-related industry and the public.

Washington Sea Grant provides workshops and other information resources to fishing fleets in Bellingham Bay.

National Sea Grant

by Judy Hockett

In an effort to develop and protect one of the nation's most vital and fragile resources, the sea, Congress passed the National Sea Grant College and Program Act (P.L. 89-688) in 1966.

It was patterned after the 1862 Morrill Act which instituted the Land Grant College System of agricultural experimentation stations and extension services. The Act provides funds for the establishment and operation of Sea Grant Colleges and coordinated programs of research, education, and advisory services.

The Sea Grant Act provides an annual budget of $50 million and limits federal support for any local Sea Grant office to two-thirds of the total cost of its program. The remainder of the funding comes from state and local sources. With a one-third matching fund requirement, Sea Grant's customers are expected to become active partners in the development of effective research and education activities.

The specific nature of what the Sea Grant Program does is best illustrated by a sampling of some of its activities:

-Prompted by a massive fuel oil spill of Nantucket, Mass., the Sea Grant program at the Massachusetts Institute of Technology organized a university-industry seminar to review the problem. At the request of the industry, Sea Grant began a comprehensive study of oil spills. A status report on computer modeling of oil slicks to predict the spread of surface oil has been published as an MIT Sea Grant technical paper and distributed to the marine community.

-To help promote public awareness of the devastating force of a hurricane three faculty members at Texas A&M University have written "Hurricane and the Texas Coast." The booklet was published by Texas A&M's Sea Grant Program. Since 1975 13,000 copies have been distributed to the public.

-The University of Washington's Institute for Food Science and Technology has developed an automated test for paralytic shellfish poisoning that is easier and faster than the standard mouse bioassay. The automated test allows the Washington Department of Social and Health Services to process more shellfish samples in their monitoring of beaches for determining when beaches should be open or closed to harvesting.

In the 20 years since its inception, the National Sea Grant network has grown to include 31 programs operating at universities in 29 coastal states and Puerto Rico.

Local fishing fleet spends winter repairing nets and equipment.

Investing in Ethics:

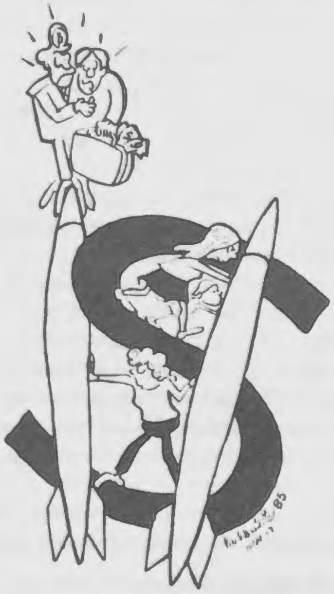
A Guide to Socially Responsible Investing

by Denise Ackert

When all the years of education begin to pay off chosing "ethical investments" will narrow the staggering array of options facing the potential investor.

Recent growth in socially responsible investments, including options such as mutual funds, money market funds and revolving funds, has made it possible to make money by investing in companies whose products, services and policies are based on sound environmental and social practices. The socially responsible investor looks for and supports investments which espouse his or her ethical standards.

Ethical accounts often do better than the average account. A major New York bank found, 18 of 20 quarters, the stock performance of companies with investments in South Africa did not fare as well as the stock of companies not involved in that nation.



In a study of 25 utilities, the dividends and stock price increases of nuclear companies provided returns of 124 percent over an eight-year period. Non-nuclear utilities had a 269 percent return over the same period.

As the demand for ethical investment options grows, so does the number of firms involved in socially responsible practices. For example, the World Pax Fund excludes from its investment portfolio those companies engaging in military activities as well as those with the Department of Defense contracts.

The Calvert Social Investment Managed Growth Portfolio and the Money Market Portfolio are two socially responsible funds that promise to avoid companies that pollute, discriminate, manufacture weapons, use or promote nuclear energy or operate in South Africa.

Locally, the Cascadia Revolving Fund exists with this same philosophy in mind. Kathleen Kendziorski, a financial planner for Financial Network Investment Corporation of Seattle, explained how the fund operates.

Socially Responsible Investing Books and Guides

Here is a list of books to guide those who are "in the money" and want to invest responsibly.

"Directory of Socially Responsible Investments, by the Funding Exchange and the Institute for Community Economics," 1985,
from: Funding Exchange
135 East 15th St.
New York, NY 10003
This directory is the best resource available on socially responsible investing. It has 50 entries with good descriptions and is organized into three sections: Community Investments, Socially Screened Securities and a listing of research organizations and publications.

"Earthbank Guide to Sustainable Economics," edited by Catherine Burton and Geralynn Rackowski, 1985, $8.50.
from: Earth Bank Association
P.O. Box 87
Clinton, WA 98236
This guide covers a wide field of "sustainable economics." Topics covered include "land and natural resource stewardship," "appropriate technology," "community self-reliance," and "education, media, and networking resources." The "Capital" section covers barter and granting resources and lists the major SRI resources of money market and mutual funds, revolving loan funds, credit unions, and investment advisers.

"Ethical Investing," by Amy L. Domini and Peter D. Kinder.

"Good Money 1985: Guide to the Social Investment Community," 1985, $10.
from: Social Investment Forum
711 Atlantic Ave.
Boston, MA 02111
This guide describes members of the Social Investment Forum, the SRI Trade Association. About 30 groups are listed with a detailed description of each.

> "The socially responsible investor looks for and supports investments which espouse his or her ethical standards."

"Through this fund, local investors will be able to financially support regional, socially responsive business by opening a savings account at Sound Savings and Loan and directing it to the Cascadia Fund. The money will be used as collateral for loans approved by the Fund's Board of Directors.

"There is now over $100,000 in the fund's account, and loans to local socially responsible business and nonprofits are now being reviewed," Kendziorski said. "Two pilot loans have already been granted. One gave short term assistance to SANE, a peace

organization with an established record. The other underwrites the publication of *Mommy and Daddy are Fighting,* a book being used with children experiencing violence in their homes. The fund is also working with Puget Sound Cooperative Federation to make loans to area cooperatives."

It is rare to find a company that is completely "clean" because people have different viewpoints on which holdings are ethical and which are not. The choice depends on what the investor considers socially responsible.

Making that choice can make a difference in the way companies view their own holdings. If an investment group is losing investors due to unethical practices, financial pressure will spur them to look for more "responsible" investments.

A good example of this theory in action is the case of companies pulling their investments out of South Africa because of personal ethics, or more commonly, pressure from individual investors.

Money has become a voting tool in our society. Using financial power to support social values not only brings about fiscal returns, but also the satisfaction that money is circulated within companies that reflect those socially responsible values.

All investors want to make money, but ethical investors are set apart from the rest. They want to make a profit in a way that will have a positive impact on society.

The A.S. Environmental Center of Western Washington University is sponsoring a lecture on "Responsible Investing" February 23 at 7:00 p.m. in the Wilson Library Presentation Room.

Recycling Resources

ASSOCIATED STUDENTS RECYCLING CENTER....open seven days a week, dawn to dusk.....676-3088

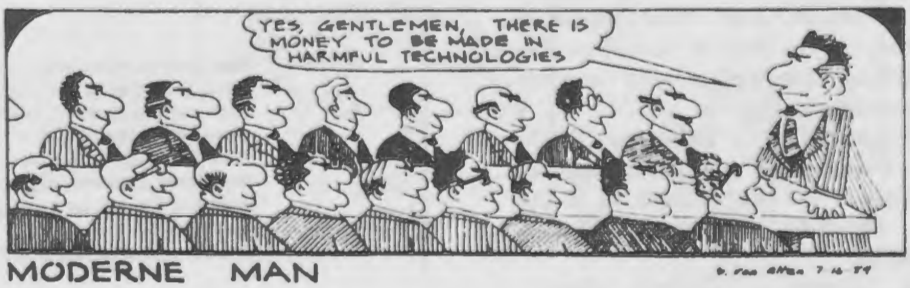
BELLINGHAM COMMUNITY RECYCLE: 733-8307

THE ECOLOGIC.... Available in V.U. 113, and 227, grocery stores and from Bill Englander, Bellingham Public Works 676-9701

NORTHWEST RECYCLING: 733-0100

YOU CAN BUY FOOD IN BULK AT: Bellingham Community Food Co-op, Thriftway in Fairhaven, Mark and Pack, and Fred Meyers.

Chicago Board of Trade: Financial center of the midwest.



MODERNE MAN

Bruce Von Alten

Disposing Household Toxics:

What you don't know may hurt you

by Cindy Bailey

Few people are aware of the dangers presented by the improper disposal of hazardous household products.

When products such as anti-freeze, oven cleaner, motor oil, or paint thinner are disposed of improperly they often find their way into the soil, the groundwater and Bellingham Bay, or are incinerated with the rest of Whatcom County household waste.

Few people believe that their single household will have much of an effect. 116,500 people live in Whatcom County; each resident produces an average of 160 lbs of household hazardous waste per year. The combined effect , 18,640,000 lbs. household hazardous waste, is testimony in itself that individual actions do make a difference.

Dumping these substances down drains, into storm gutters, into the trash, or onto the ground is a common and easy disposal method. This waste often finds its way into the local dump or landfill and then into the environment by a number of pathways.

For example, if oil from a car oil change is dumped into the storm drain, it will not be collected by sewage treatment plants and so will end up in Bellingham Bay.

Because of the difficulty in regulating household toxic waste no disposal laws exist.

In 1985 Washington state passed legislation requiring all local governments to implement a disposal plan for household hazardous wastes by 1991.

The Public Works Department of Bellingham designed a storage facility for these dangerous wastes in 1982, and in 1984 Arlington, Oregon agreed to donate trench space for Whatcom County's household toxic waste.

Ground space for storing these wastes is limited. It is important to first use up these products with their intended purposes, or give them to someone who will use them instead of bringing them into a toxic substance facility.

Bill Englander of the Bellingham Public Works Department said public lack of education is the major obstacle in the effort to stop improper disposal procedures.

The Whatcom County Health Department maintains safety requirements regarding the materials it picks up and disposes .

The substances must be in sturdy containers carrying the original manufacturer's label, and the label must indicate exactly what is in the container. The amount of waste to be disposed of must be under five gallons to be considered household hazardous waste.

The Environmental Health Department of Whatcom County makes appointments with Bellingham citizens to pick up their toxic substances at no charge.

This waste goes to the Health Department Toxic Waste Storage facility where it is separated into corrosive, toxic, flammable, or reactive substances. The substances are stored in plastic lined 55 gallon drums and shipped to a hazardous waste facility in Arlington, Oregon once a year.

To arrange for disposal of household hazardous waste phone 384-1565 or 676-6724. For more information on the disposal of household toxic waste, please refer to the chart below.

Recommended Disposal Methods for Common Household Products

Product/Chemical	Disposal Recommendation
Pesticide Products: Rat poison, insecticides, weed killer	A, B, C
Empty Pesticide Containers:	B, C
Flammables: Alcohol, acetone, turpentine, lacquer, paint thinner, other petroleum distillates such as gasoline and kerosene.	A, B, C
Caustics: Oven cleaner, drain cleaner, bleach.	B, C
Strong Acids: Battery acid, muriatic acid.	A, B, C
Weak Acids: Acetic acid, toilet bowl cleaner, vinegar, lactic acid.	B, C, D
Out-dated Medicines:	D
Paint, Paint Remover:	B, C
Waste Motor Oil:	E

Disposal Methods

A. Take to a Hazardous Waste Collection Site. In Whatcom County call 676-6724 or 384-1565 to arrange for pick-up.
B. Wrap securely in plastic bag and dispose with other household refuse. Notify your collector.
C. Take to an authorized solid waste landfill.
D. Wash down drain with large quantities of water or flush down toilet. It is illegal to put flammables or strong acids or caustics into the sewer.
E. Deposit at local oil recycling depot.

Community Right to Know Program

by Sally Toteff

The Washington Department of Ecology has kicked off a campaign to acquaint the public with the "Community Right to Know" law passed by the 1985 Legislature. The law provides for disclosure of information on hazardous substances, pesticides, hazardous air and water emissions, health impacts from chemical exposures, and environmental compliances of Washington businesses.

"The Right to Know law provides an opportunity for citizens to find out about chemical hazards in their own communities," said Ecology Director Andrea Riniker. "There are more than 60,000 chemical substances on the market today, and some of them in common use have been found to potentially threaten public health and the environment."

> "...to minimize the threat to the public from chemical hazards in the community..."

Ecology operates a Hazardous Substances Information Office as part of the "Right to Know" program. Staff personnel answer a statewide toll-free hotline, (1-800-633-7585) during weekday office hours. A free brochure and stickers are available for the asking.

The program is funded by a tax on certain Washington businesses and industries.

Since December, 1985, the office has responded to more than 2,000 requests for information. Requests for information range from questions about toxic wastes generated by particular business and industrial facilities to concerns about pesticides used along Washington roadsides. The most common inquiry, however, is about proper disposal of various household chemical wastes.

Answers to questions about hazardous materials don't come easily and Ecology personnel work closely with other agencies to provide accurate information to the public.

For instance, questions about hazardous substances in the workplace are referred to the "Worker Right to Know" program administered by the Washington Department of Labor and Industries. Local health departments across the state often have staff assigned to environmental health issues. And Washington's Department of Social and Health Services and the Federal Environmental Protection Agency administer programs on chemical hazards.

The common thread in these programs is to minimize the threat to the public from chemical hazards in the community, through a variety of information and education programs.

For further information, call the Hazardous Substance Information Office hotline or write the Dept. of Ecology, Mail Stop PV-11, Olympia, Wa. 98504.

Ozone

The southern spring without ozone, is for tomorrow.

Gap in Ozone Layer Lies Above Antarctica

by Laurent Notarianni

The 20th of October ,1986, an american scientist transmitted a message from the south pole and confirmed the presence of a hole in the ozone layer. This hole above Antarctica, she reported, is as wide as all of Europe.

The ozone layer acts as a cloak around the earth which protects humans, animals, and plants from the ultraviolet rays of the sun. It serves as an umbrella; without this protector life would be impossible on earth.

"...in 1985 scientists found...the falling of the ozone layer was speeding up dangerously."

The ozone layer is situated between 15 and 40 miles above the entire surface of the earth and was formed molecule by molecule 2.7 billion years ago.

At the beginning of the 80s, physical scientists noted a decrease of 1% per decade in the quantity of ozone, and in 1985 scientists found during the southern spring the falling of the ozone layer was speeding up dangerously.

Finally, on the 20th of last October the fears of the most pessimistic climatologists were confirmed : a several thousand mile hole is torn in the ozone layer.

"Freon propellants ...chain react with and break down ozone molecules..."

Immediately the scientific community began to realize a few answers to previously unexplained phenomena: the accumulation of chlorine in the atmosphere, the increase of skin cancer, the instability of agriculture among others.

If this destruction of the atmosphere continues to accelerate death of thousands will ensue. The intensity of the temperatures and the ultraviolet radiation from the sun would be fatal for human beings.

Life on the planet would face torrid summers, a diminishing supply of drinking water, and extreme, violent dust winds. Crops would burn and some entire regions would become deserts. Worse, the glaciers and ices of the poles would melt, raising the sea level by 132 feet; Tokyo, New York, Vancouver, and Bellingham would be submerged, and populations would be forced to take refuge to higher altitudes.

What can explain this deterioration of our atmosphere? The most probable cause is air pollution. Freon propellants in aerosol hair sprays, deodorants, disinfectant sprays and spray paints, together with carbon gases from factories, cars, and planes, chain react with and break down ozone molecules, thus creating a hole in the ozone layer.

Which measures need to be taken? Ecologists all over the world agree that aerosol use must be stopped, and consequently Oregon state has banned the use of all aerosols.

Shelves of options are available to the consumer who decides to individually stop aerosol use. Pump sprays are a viable alternative and are "freon-free."

A tear in the ozone layer threatens plant and animal life in Antarctica.

"I think man's gradual, creeping contamination of the planet, his sending up of dust into the air, his strontium additive in our bones, his discharge of industrial poisons into rivers that once flowed clear, his mixing of chemicals with fog on the east wind add up to a fantasy of such grotesque proportions as to make everything said on the subject seem pale and aenemic by contrast."

E.B. White (1956)

"Loyalty to petrified opinion never yet broke a chain or freed a human soul."

Mark Twain, 1887

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