

Mining Industry Viewpoints Criticized

There are always two sides to a story and the Fairbanks Daily News Miner was recently a platform for both.

Columnist Celia Hunter wrote "a few words on public funds and private profit." In that article, she criticized the mining industry for what she perceives as a two-sided view of the government's role in mining.

Hunter's argument is based on what she calls the mining industry's "metamorphosis" of two opposite ideas. In one respect, they want to get the government off the backs of private industry and in the other respect, according to Hunter, they want provisions for public access to accelerate mineral industry development.

She cites a mining industry study entitled "Future Mineral Freight Estimates, Interior Alaska," where she claims this "metamorphosis is nowhere more evident."

"There isn't a group of people in this state more vociferous in their hatred of governmental interference in business than the mining fraternity...but when the flow of funds is out of the public storehouse into a 'support system' of highways and railroads to provide access to mineral deposits, the tune changes radically."

Hunter added that U.S. mineral production is "just not competitive in world markets," because "other countries can produce minerals cheaper than we can." That fact, she argues, is the reason the mining industry has failed to

expand and has cut back on production and processing. It is not because the government has unreasonably decided to ignore subsidizing the mining industry.

In the News-Miner's Letters to the Editor, an undisclosed author accused Hunter of being "selective."

The letter charged that in the past Hunter advocated rail expansion from Fairbanks to Delta for the purpose of developing a successful barley export trade; but, when it comes to mining she criticizes access as "using public funds to provide the means for private industry to make a profit."

The letter points out that the primary users of the Alaska Railroad are miners — in 1981 they accounted for 75% of total freight tonnage hauled over the tracks. The fallacy in Hunter's argument then, is that since agriculture could not afford to support the construction and operation expenses of rail expansion, those costs would have to be subsidized.

Rail expansion constructed for mine usage, the letter pointed out, would "end up subsidizing a host of other beneficial activities." Would mining then be subsidizing the Alaska Railroad and other industries if it financed expansion?

Hunter's column and the response it evoked skims the surface of a complex issue, one we hope will be aggressively addressed by the new state administration.

Pesticides...

Continued from page 7

According to Thimann, three valuable properties make 2,4-D the "most generally useful herbicide." It is harmless to man; it is rapidly destroyed by bacteria in the soil; and it has the special ability to kill broadleaved plants without harming narrowleaved plants which include grasses, wheat, barley, corn, rice, etc. He claims that the "use of 2,4-D in Britain in the immediate post-war years is credited with causing a 30% increase in overall wheat yields."

He refutes claims that 2,4-D is a hazardous chemical. "The representative of Friends of the Earth claimed 2,4-D was carcinogenic, mutagenic, caused birth defects and other illnesses, not a word of which was correct," Thimann said. He also pointed out that the discovery of 2,4-D arose from work on "natural plant hormones, to which it is related," and not from chemical testing by the Army which has been claimed before.

As Dr. Edwards describes it, "(2,4-D) is, of course a naturally occurring chemical in plants, which kills them by being applied in much greater doses than would normally be present, so that the plants are over-stimulated and actually 'grow themselves to death.'"

The Environmental Protection Agency, in a Fact Sheet issued in April, 1980 stated that none of the information available on 2,4-D supported a regulatory action to remove 2,4-D products from the market.

But public concern persists. The number of people worried about the potential adverse health effects of 2,4-D has intensified — so much so that a National Coalition for a Reasonable 2,4-D Policy was formed. With the threat of 2,4-D being discontinued as an herbicide, the Coalition provides a clearinghouse for farmers, foresters, aerial applicators, chemical formulators and all others concerned with the possibility of losing the use of 2,4-D.

Because of the charges filed by the Alaska Survival group, the Alaska

Railroad was ordered in August to stop spraying herbicides along its tracks.

Tom Mercer, a ten year farmer from the Talkeetna area, claimed that his multiple-sclerosis was caused by drinking water that had been contaminated by herbicides. Judy Price, a nine year resident, blames her thyroid condition and continuous respiratory infections on exposure to the sprays used by ARR.

The Railroad said all sprays they used were first approved by the State Department of Environmental Conservation. Because of the controversy, the Matanuska Electric Association voluntarily suspended its use of herbicides.

Even though the debate continues, both sides have a few months to examine their respective arguments. No herbicides will be used by anyone before next spring. Until then, judges from across the country will probably bear much of the burden in weighing conflicting reports about the uses and effects of 2,4-D.



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Resource Review

December 1982



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Message From The Executive Director

By Paula P. Easley



A while back I wrote about the prospect of making wilderness lands available to environmental groups so they could manage them "as is," or develop resources on them. An example cited was the Rainy Wildlife Sanctuary in Louisiana wherein its 27,000 acres are managed by the Audubon Society strictly for the sake of the wildlife existing there.

Coexisting harmoniously with the wildlife are gas-producing wells bringing Audubon almost a million dollars a year and cattle grazing that nets additional income. (This proves that developing energy and protecting land values are not mutually exclusive, doesn't it?) I asked for comments from readers and was underwhelmed with the response.

The Nature Conservancy is a conservation organization I hold in high regard. That organization is willing to pay for preserving lands it wants instead of shifting that responsibility to taxpayers, as has been the growing trend.

A solicitation letter from the Nature Conservancy tells us how the organization functions. "...we don't sue or picket or preach. We simply do our best to locate, scientifically, those spots on earth where something wild and rare and beautiful is thriving, or hanging on precariously. Then we buy them."

In the past thirty or so years the Nature Conservancy has acquired -- by purchase, gift, easement and horse trading -- some 1,800,000 acres in 2,800 areas in all the 50

states and elsewhere. An impressive track record for the relatively small group, wouldn't you say?

The fundraising letter says \$29,000,000 has been raised for its land preservation fund and people are asked to contribute \$10 to help buy additional land. (To receive membership material, write the Conservancy at 1800 North Kent Street, Arlington, Virginia 22209.)

It bothers me that huge blocks of federal land and the resources they contain (which belong to us) continue to be put in restrictive single-use classifications managed by the government with tax dollars for the benefit of far too few people. How much better that these lands be sold to provide income to the nation and, if the buyer chooses, to generate income from development of valuable resources they contain.

Already a major public controversy is the Reagan administration's plan to "privatize" some of the federal lands. A growing number of environmental writers and economists is wondering if federal ownership of almost a third of the nation's land mass is in the public interest after all.

As this issue is debated, we must seriously ask: "Do politicians and bureaucrats conserve, manage and plan for the use of natural resources more responsibly than private property holders?" We must also question if wilderness areas are best preserved from ecological harm by the government, or might private environmental groups do a better job.

Polls Show Americans Favor Development

Based on the results of several national surveys, a majority of the American electorate favors resource development that balances economic and environmental interests.

Public opinion surveys also confirm that views advocated by U.S. environmental groups do not reflect the opinions of a majority of Americans. Even the most optimistic surveys indicated only 13 percent of the general public regards themselves as active in the environmental movement.

According to a poll conducted by Sindlinger & Company, almost 65 percent

of those sampled favor policies that attempt to stimulate economic growth and achieve energy independence while protecting the environment.

A recent Gallup Poll also found more than 75 percent of Americans believe it possible to maintain strong economic growth and still maintain high environmental standards. The Gallup Poll also revealed that 76 percent of Americans favor increasing oil exploration and other commercial uses on federal lands. In addition, almost 84 percent favor spending more money to improve existing national parks rather

than expanding the national park system.

The Sindlinger and Gallup polls also reported 70 percent of the American public favoring enlarging the area of offshore drilling on the East and West coasts while almost 82 percent favor prospecting for strategic minerals on public lands.

The polls indicated that of those Americans expressing an opinion of James Watt, a majority approves of the controversial interior secretary.

The Pesticide Issue Comes to Alaska

By Bridget Baker, Projects Coordinator

Pesticides were bound to become an issue in Alaska sooner or later. That is why, in April 1982, the Resource Development Council brought to Anchorage one of the foremost authorities on the subject to speak at its Annual Meeting.

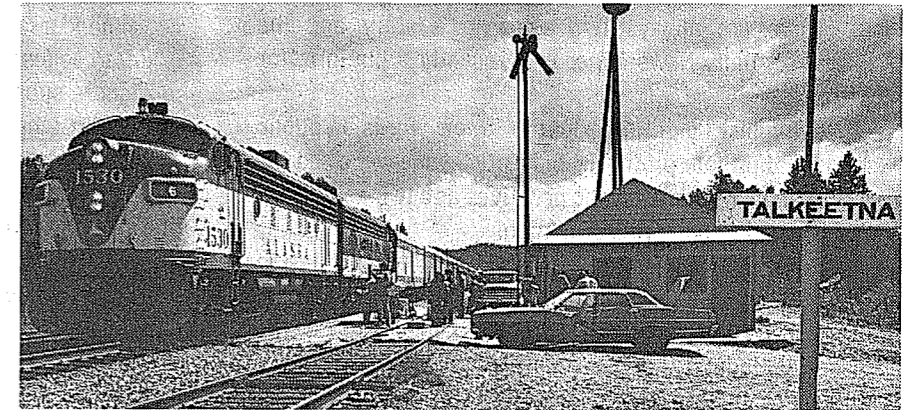
Dr. J. Gordon Edwards, professor of biology and entomology at the San Jose State University, addressed some of the problems related to what he calls the "super anti-pesticide pseudo-environmental movement." He traced the beginning of this movement to the year 1962 when Rachel Carson published *SILENT SPRING*, a controversial bestseller that most scientists felt raised exaggerated fears about the use of agricultural chemicals. Edwards claimed that since then, "pseudoenvironmentalists have made great use of Miss Carson's wild claims, and collected millions of dollars in donations from people they frightened with them."

He stated that much of the non-scientific emotionalism surrounding this issue is perpetuated by the apparent bias of some of the news media. "It is difficult to explain their eagerness to publicize 'kooky' views, while refusing to report well-documented data provided by qualified authorities."

This has resulted, Edwards believes, in a situation whereby many decisions concerning the restrictions on pesticides and additives have been based on political rather than scientific considerations.

Although Dr. Edwards' speech focused primarily on refuting allegations surrounding the pesticide DDT, (which has been largely banned since 1972), his observations are useful in analyzing a more recent controversy surrounding another chemical pesticide: 2,4-D.

For 37 years, 2,4-dichlorophenoxy (2,4-D) has been used as an herbicide almost everywhere in the world where weeds grow. It has been called the "most generally useful of all herbicides," and has been heralded by some scientists as "the single greatest advancement in



A group of Talkeetna residents, who call themselves Alaska Survival, filed suit against the Alaska Railroad for its use of pesticides.

weed control and one of the most significant gains in agriculture."

More recently, however, the early patents on 2,4-D have expired, releasing the chemical to the public domain. It has received an enormous amount of criticism since then, much of it from environmental groups such as Greenpeace, Sierra Club and Friends of the Earth. Claims have been made that 2,4-D causes deformed fetuses, genetic mutation, multiple-sclerosis and cancer.

This debate has been growing in intensity in the lower-48 and it reached Alaska in 1980 when Greenpeace, a national environmental organization, opposed the herbicides being used by the Alaska Railroad (ARR). By 1982 the controversy had filtered into Alaska's courtrooms when a group of Talkeetna residents who call themselves ALASKA SURVIVAL filed suit against ARR.

Alaska Survival charged that the herbicides being sprayed on the 470-mile line were polluting their food and water supplies and making them and their animals sick. They wanted the court to force ARR to file environmental impact statements required by several federal laws including the Clean Water Act. Until such statements were prepared and approved, Alaska Survival thought the spraying program should be stopped.

Since the mid-1960s the Railroad has used herbicides to control weed growth along the right-of-way between Seward and Fairbanks. 2,4-D is used in combination with the chemical picloram

to make up the primary spray used — Tordon 101. Some say Tordon 101 is virtually identical to the chemical defoliant 2,4,5,-T (a component of Agent Orange used in Vietnam.) Consequently 2,4-D, which was developed simultaneously with 2,4,5,-T, is often not distinguished as the separate compound it is.

Wendall Mullison, a former employee of Dow Chemical USA, was one of the developers of 2,4-D. He is firmly convinced that the chemical is "as safe for human uses — in agriculture and forestry — as are many of the items that appear on the family table or in the medicine cabinet."

Like Dr. Edwards, Mullison thinks an important consideration of the herbicide controversy depends on where consequential information is obtained. He presents it in the form of a question: "Is the case for or against herbicides to be based on scientific evidence or anecdotal stories?"

He acknowledges that "anecdotes can be valuable if there is no scientific evidence, but when there is evidence the stories should be discarded."

Dr. Kenneth Thimann, a professor of biology at the University of California-Santa Cruz, is considered one of the world's true expert on the subject of 2,4-D. He has a worldwide reputation as a biologist, plant physiologist and biochemist; but, his specialty is plant growth regulating substances, of which 2,4-D is one.

Continued on page 8

RDC Supports Prince William Sound Disposals

The Resource Development Council explained that the second grant was commonly referred to as the community grant selections, while the first was selection of its United States Forest Service Grant lands within Prince William Sound to foster community development. Testifying at a DNR hearing on land disposals within the Sound, RDC Executive Director Paula Easley urged development and expansion of communities," Easley stressed. "The servicing by the Alaska Ferry System, a sanitary disposal site for each selected area having more than 50 lots and interpretation to conclude that these Statehood Act provides for the selection of up to 400,000 acres from within national forests in Alaska. She said the purpose of the grant was to further the for the Environment to its members concerning the hearing asked that testimony be based on recreational use of the sound. The alert suggested the land acres are available to the state from other public lands which shall be adjacent to established communities or suitable for prospective community centers and recreational areas. She

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result in "ultimate lock-up." An alert sent by the Alaska Center for the Environment to its members recommended suitable recreation sites in addition, RDC In concluding, Easley said "selections intended for public recreation use only are without authority and will only continue the repeated denial by the U.S. Forest Service."

Indoor Pollution...Continued from page 5

The effects of smoking can also be troublesome in other indoor situations. For example, studies have shown that particle levels up to 1,000 microgram per cubic meter exists in bars, restaurants, transportation facilities and vehicles. Often pollution levels are found to be higher in cafeterias and poorly ventilated offices than outdoors near major manufacturing plants. (Dissident members of the RDC staff cite another study which concluded a nonsmoker would have to spend 100 hours in a smoke-filled room to consume the equivalent of one filter-tip cigarette. The debate continues.)

The only good thing about having the smoke stay in the air longer is that it can reveal an air quality problem. If the smoke smell seems to hang around for excessive periods, other pollutants you can't smell indoors may be staying too long as well.

Household chemicals can cause a variety of ailments -- among them headaches, depression, rashes, eye irritation, nausea and rapid heartbeat.

Americans are now spraying, misting and scrubbing their homes with an ever-growing number of chemicals. All the ingredients are seldom listed on the cans. Experts explained that the second grant was commonly referred to as the community grant selections, while the first was selection of its United States Forest Service Grant lands within Prince William Sound to foster community development. Testifying at a DNR hearing on land disposals within the Sound, RDC Executive Director Paula Easley urged development and expansion of communities," Easley stressed. "The servicing by the Alaska Ferry System, a sanitary disposal site for each selected area having more than 50 lots and interpretation to conclude that these Statehood Act provides for the selection of up to 400,000 acres from within national forests in Alaska. She said the purpose of the grant was to further the for the Environment to its members concerning the hearing asked that testimony be based on recreational use of the sound. The alert suggested the land acres are available to the state from other public lands which shall be adjacent to established communities or suitable for prospective community centers and recreational areas. She

As a general rule, good ventilation can eliminate most indoor pollution problems. But how much ventilation is adequate? Most experts seem to agree that you're safe if your house gets at least one air exchange every two hours. Extremely low air-exchange rates are great for energy-efficiency, but not so great if they create a polluted home. If your house is excessively humid or too tight, the most popular solution, although expensive, is an air-to-air heat exchanger, which allows ventilation of the home without losing much of the heat.

If indoor air quality sounds like a losing and hopeless battle, don't be discouraged. Americans are bombarded with so many health warnings that there's a growing temptation to throw up our hands and surrender. Remember though, you can at least control what happens in your own home.

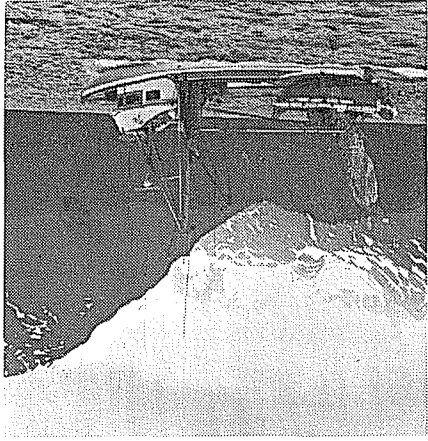
Industry has done a marvelous job in meeting clean air standards. Now it's up to each one of us to clean our own indoor air. After all, it is rapidly becoming apparent that indoor concentrations may pose a much greater threat to our health than the air outdoors.

No Marine Sanctuaries in Alaska

Scores of letters sent by RDC membership to the National Oceanic and Atmospheric Administration (NOAA) regarding the establishment of marine sanctuaries were partly responsible for the federal government's decision to abandon its plans for several Alaska

Kachemak Bay was one of 18 cities considered for marine sanctuary designation by the National Oceanic and Atmospheric Administration.

One of Alaska's greatest problems involves use and availability of land that allows sound economic development for Nation as well. The creation of marine sanctuaries would further greatly intensify the difficulty of developing and utilizing the mineral resources offshore along Alaska's coastline."



Paula Easley, Executive Director, said "For a change we were on the offensive, and environmental groups were unable to justify their position that the sanctuaries were necessary in any sense of the word. "When situations such as this one arise, we count on our members to carry information to the press and other groups so that our position is known throughout the state," Easley said.

Easley gave special credit to Easy Oil and Gas Association for making their research available to RDC and to Alaska's congressional delegation for responding quickly and forcefully to the issue.

Bitter public opposition developed in Alaska early this fall when NOAA announced that it was studying 18 sites for possible sanctuaries, ranging from highly valuable Beaufort Sea oil lease areas to the critical Kachemak Bay fishery. Of the sites under consideration, at least five encompassing millions of acres were to be designated marine sanctuaries.

Joining the Resource Development Council in opposing the federal program for Alaska were a number of Alaskan groups and individuals.

Senator Ted Stevens warned Alaskans would be "up in arms" if there was another federal action to set aside vast areas with resource production potential.

The National Marine Sanctuary Program would have complicated development of marine resources, especially oil, gas, minerals and fisheries. The program would have added an additional and unnecessary layer of protection over existing laws and regulations.

Few Americans See Time-of-Day

A survey conducted by Ebasco Business Consulting Company has found that barely one in a thousand customers of U.S. electric utilities is being billed on a time-of-day rate. The poll of more than 100 large utilities across the country showed that only 0.11 percent of residential customers are on time-of-day rates. 0.25 percent of commercial users and 6 percent of industrial customers. The survey found that few utility customers are interested in being billed for their electricity at a different rate depending on the time they use power. Of the 13 million users to whom an unrestricted time-of-day rate was available, only 7,000 are taking advantage of the scheme.

Out of 102 utilities responding to the Ebasco survey, 70 either now have, had recently or are now planning to soon have a time-of-day rate for at least one class of service. The introduction of time-of-day rates, a fairly recent development, was one of the goals of the Public Utility Regulatory Policies Act of 1978.

John Katz, Commissioner of the Department of Natural Resources, also opposed the plan, citing there was no need for sanctuaries in Alaska at this time.

RDC has received numerous letters from individuals and groups throughout the state objecting to the establishment of marine sanctuaries. Here are some excerpts from those letters:

"One of Alaska's greatest problems involves use and availability of land that allows sound economic development for Nation as well. The creation of marine sanctuaries would further greatly intensify the difficulty of developing and utilizing the mineral resources offshore along Alaska's coastline."

—Dr. Earl Beistline

"As a professional biologist there appears to be nothing unique in the sanctuaries status. Many other areas of Alaska's waters contain similar ecosystems and species."

—Robert O. Baker, Ph. D.

"Coastal Zone Management, the Federal Rivers and Harbors Act, the Clean Air and Water Acts, and resource use regulations, coupled with public legal and moral protection for Alaska's waters."

—Terry Brady

"We have had too much federal set-aside of land and resource lock-up and manipulations by the government of the United States. It is absolutely outrageous that Uncle Sam is now considering further restrictive uses of what is left of the tree domain."

—Joseph Henri

"We cannot fail to recognize that there are those who would use the program for the exclusive purpose of impeding resource development, especially hydrocarbon development."

—Joe Mathis

Alaska Support Industry Alliance

Indoor Pollution

The discovery that pollutant concentrations are often higher indoors than out raises questions about energy conservation and casts into doubt much of the air pollution epidemiology done to date.

By Carl Portman, Editor

Editors Note. This story is the second in a series regarding pollution and the Clean Air Act.

Despite the fact that U.S. industry pays over \$16 billion annually to meet clean air standards as required under the Clean Air Act of 1970, much of the air Americans inhale is dirty and actually life-threatening. Studies indicate that industry efforts to clean the environment has resulted in cleaner air; the root of the problem is found indoors where most Americans spend their time.

At the core of the Clean Air Act controversy is the extent to which adverse health effects result from exposure to current levels of air pollutants. Regulatory strategies have been measured by the responses of concentrations of outdoor pollutants. In this approach, outdoor pollution levels, measured at particular locations, are assumed to be the sole determinants of exposure to people living in that area.

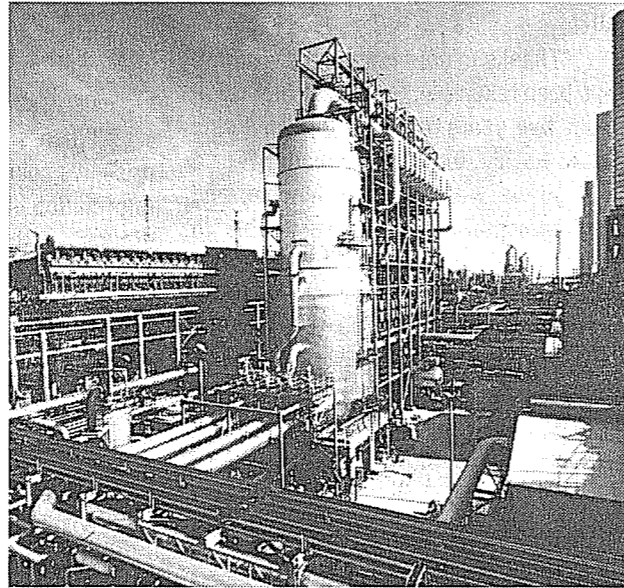
Yet outdoor concentrations may have little to do with the true exposures to pollution we all experience since indoor pollutants often exceed outdoor concentrations, particularly in new homes tightly sealed to prevent heat loss.

Studies indicate that most people in the United States spend up to 90 percent of their time indoors rather than out. Therefore, levels of indoor pollution are very important in determining people's total exposure.

Indoor pollution is growing worse as many new buildings are being designed with reduced air infiltration to conserve energy. Existing structures are being remodeled and building engineers are shutting air vents in many public buildings.

A typical home should have an infiltration rate of about one complete air change per hour. Conservation steps such as extensive use of vapor barriers, weather stripping and caulking reduce this rate, causing indoor pollution to build.

Scientists have measured staggering levels of dangerous air pollutants -- some of them regulated outdoors -- in kitchens, living rooms, school lunchrooms and offices. The National Academy of Sciences recently concluded that chronic exposure to high levels of the toxic gases and chemicals given off by stoves, heaters,



Industry pays over \$16 billion annually to keep the skies clean. However, it's become more evident that the greatest pollution exposures occur indoors where most Americans spend their time.

carpeting, furniture, wall paneling, wood preservatives, cigarettes, permanent-press clothing and home cleaners may account for substantial sickness and even death.

The chief contributors to indoor pollution are formaldehyde, radon, indoor combustion, household products and occupant activity, namely smoking. The problem of indoor pollution is not new since formaldehyde has been around over 100 years and radon is as old as the earth itself. It's just that in the leaky old houses, pollution didn't have a chance to hang around. With the exchange of air slowed to about every five hours or more in the new and well-insulated houses, the bad air stays around longer.

Formaldehyde

Formaldehyde is a great bonding agent that has found its way into an enormous number of products, such as plywood, particleboard, carpet backing, draperies, furniture, cosmetics, permanent-press clothing, fertilizer, towels, hair sprays, grocery bags, newsprint, soap and household disinfectants. It's even in toothpaste! More than a third of the amount produced annually winds up in wood

In the Living Room

1. Benzopyrene from tobacco smoke.
2. Carbon monoxide from tobacco smoke.
3. Formaldehyde from carpets, drapes, furniture, plywood in subflooring and paneling, tobacco and wood smoke.
4. Nitrogen dioxide from wood and tobacco smoke.
5. Radon from brick or stone fireplace.

In the Kitchen

1. Ammonium hydroxide from window cleaner.
2. Carbon monoxide from gas stove.
3. Formaldehyde from gas stove, particleboard in cabinets, curtains, wallpaper, plastic appliances.
4. Hydrogen cyanide from gas stove.
5. Nitrogen dioxide from gas stove.
6. Potassium hydroxide from spray oven cleaner.
7. Propane, butane, nitrous oxide from aerosol sprays.

In the Bathroom

1. Aluminum chloride from deodorant.
2. Formaldehyde from carpet, curtain, cabinet, shampoo, toothpaste, disinfectant.
3. Hydrocarbons from aerosol sprays.
4. Radon from water in sink and tub.
5. Vinyl acetate polymer from hairspray.
6. Trichloroethylene in shoe cleaner.

products. Because of the amounts used, there are always formaldehyde gas emissions from these products.

According to Dr. Thad Godish, director of the Indoor Air Quality Research Laboratory at Ball State University, particleboard subflooring is the biggest source of formaldehyde fumes in most homes, followed by wall-to-wall carpeting. Formaldehyde foam insulation caused so many health problems in the 1970s that the Product Safety Commission voted to ban the insulation last February.

The people most at risk from formaldehyde are those 20 million Americans living in mobile homes. Constructed with large amounts of plywood and particleboard, most mobile homes also contain furnishings loaded with the chemical.

Dr. Godish says there is no way to avoid contact with formaldehyde no matter what type house you live in. But good ventilation helps lower the fumes within the house. He pointed out that exposure can also be limited by using only exterior-grade plywood indoors and covering all exposed plywood with latex-based paint.

Indoor Combustion

Fireplaces and wood-burning and coal-burning stoves also contribute to fouling indoor air. A well-installed airtight stove shouldn't pollute much, but a crack in the stovepipe can leak smoke and dangerous particles indoors. Open fireplaces are much worse since downdrafts and changes in air pressure can easily push pollutants into the house.

Gas stoves are by far the worst offenders of clean air indoors. A study at the Lawrence Berkeley Laboratory found that gas stoves released large amounts of pollutants into indoor air, especially during warmup periods.

Radon

Radon has always been present, emitting small amounts of radiation from soil, stone and water. It wasn't inside long, but with the new tighter construction and weatherproofing, radon levels are increasing at alarming rates.

A study conducted by David Bodansky, chairman of

the Department of Physics at the University of Washington, found that if Department of Energy (DOE) plans are implemented for the reduction of air through buildings, radon could result in 20,000 additional lung cancer deaths in the United States each year. His study agreed with findings of the Environmental Protection Agency (EPA). DOE argues that the EPA is overestimating since its residential conservation program would only reach 30 percent of the houses in the country.

The State of Alaska is currently studying plans to strengthen thermal standards in new buildings. Unless there is compliance with possible new state requirements, financing could be refused.

Critics of new conservation programs contend that an air exchange rate of one time per hour is essential in preventing the buildup of radon indoors. Radon is often part of the house, contained in the brick, stone, plaster, sand and gravel used in construction. The gases can also come directly from soil, seeping into the house from foundation and basement cracks.

"Right now it looks like radon is a localized problem in certain areas with high concentrations of natural radon," says Dr. James Berk of Lawrence Berkeley Laboratory. "There's a real potential for problems in tight homes, but we don't know yet how serious."

Radon levels can be reduced by increasing ventilation, sealing cracks in the basement and painting exposed interior concrete with a polyurethane or epoxy sealant.

Smoking

It's not just the person on the filter end of the 615 billion cigarettes who breathes tobacco smoke, which includes tar, nicotine, carbon monoxide, formaldehyde and other chemicals, it's the non-smoker too. Referred to by doctors as "passive smokers," people who never touch a cigarette are involuntarily breathing a substantial amount of "side-stream smoke." Children of smokers are more likely to have bronchitis, pneumonia and other respiratory problems while mates of heavy smokers have been found to have a higher lung-cancer rate than non-smoking couples.