

THE Quiet Zone

The Future of Peace and Quiet

The world is undoubtedly as loud as it has ever been, and opportunities for peace and quiet are as limited as they have ever been. Yet, there is reason to hope for a more peaceful and quiet future. During the last century, the nature of noise has changed. It is no longer just an urban and industrial problem. Even the most remote parks and some of the wealthiest communities have significant noise problems. And as a result, noise has evolved from a local city issue to a national issue. The advocates for peace and quiet, however, are just starting the effort to capture and organize the public interest in creating quieter communities, and turn their desire into a reality.

HISTORY OF THE SOUNDSCAPE

Noise has been a problem for thousands of years. Perhaps the first interest in noise came not from the public, but from the gods. According to the Epic of Gilgamesh, the earliest version

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FROM THE DIRECTOR

This edition of the *Quiet Zone* is dedicated to what could be. The feature article, "The Future of Peace and Quiet," provides a vision of a quieter, more peaceful future, and a historical context for today's anti-noise movement.

In three accompanying articles we explain what NPC is doing to quiet trucks, motorcycles and cars; lawn equipment; and watercraft. These projects are part of our ongoing effort to focus on at least one urban, one suburban, and one rural or wilderness noise issue each year.

Noise is definitely not the price we have to pay for living in a technologically advanced society. What is lacking is not the know-how, but the political will, to make the world quieter. All of us must work together to create that political will. Even if motorcycles, trucks, lawn equipment, or watercraft are not your issue, I urge you to support these efforts and recognize that a victory for anyone in the anti-noise movement is one step on the path to peace and quiet.

Peace and Quiet,



Les Blomberg,
Executive Director

Quiet Classrooms Campaign Successful

Due in part to the hundreds of letters and postcards the American National Standards Institute (ANSI) received as a result of the last Quiet Zone newsletter, and due in large part to the thousands of hours donated by acoustical experts across the country, the new classroom acoustics standard survived an appeal by the Air-Conditioner and Refrigeration Institute.

In our last newsletter we asked that you send letters and postcards to ANSI, saying the new standard for quiet classrooms was in the public interest. The ANSI Appeals Board agreed! The Classroom Acoustics Standard, which can be purchased for \$35 from the Acoustical Society of America (<http://asastore.aip.org>), remains an invaluable tool for improving education. If your children's school is too noisy, or if your school district is contemplating an expansion or renovation, you should purchase a copy of the standard for the school.

This victory, combined with SONY abandoning their Disturb the Peace advertising campaign that they used to sell incivility and their overpowered car stereo systems, continues our successful streak of Quiet Zone campaigns. We are hoping to continue that record this year. Thank you very much for your help in these campaigns.

THE FUTURE OF PEACE AND QUIET

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of the Biblical flood story, “The world bellowed like a wild bull, and the great god was aroused by the clamor. Enhil heard the clamor and he said to the gods in council, ‘The uproar of mankind is intolerable and sleep is no longer possible by reason of the babel.’ So the gods agreed to exterminate mankind.”

After the waters receded, noise levels again began to rise. It has taken thousands of years for humankind to create the really big racket of today, but by 1899, noise was already the number one “quality of life” complaint in New York City.

The City Improvement Society of New York reports that in 1899 a large majority of the whole number of complaints that were filed with it referred to one subject—noise; and this tendency, it says, is becoming constantly more marked.

Charles Mulford Robinson, 1901,
The Improvement of Towns and Cities, 72-73.

The Quiet Zone

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The Quiet Zone is published twice a year by the Noise Pollution Clearinghouse, a non-profit organization dedicated to creating more livable cities and more natural rural and wilderness areas by reducing noise pollution at the source.

Noise was a major problem in 1899, yet today’s biggest noisemakers were years away. The Ford Motor Company and the Kitty Hawk flight were still four years off, and it was many years later that the car and airplane became ubiquitous. The 20th century saw a great increase in noise, which was most often accompanied by the burning of fossil fuels. This increase was driven primarily by the internal combustion (and later turbine) engine(s). By the end of the century, the electron also made its debut on the list of noise fuels with electrically powered amplifiers, speakers, and other equipment.

By the 1970s Congress recognized that noise “presents a growing danger to the health and welfare of the Nation’s population, particularly in urban areas” (Noise Control Act of 1972). In response, Congress passed the Noise Control Act. That act opened the EPA Office of Noise Abatement and Control (ONAC). ONAC had a brief life that ended when Congress gave into President Reagan’s demands to not fund EPA’s noise work in 1981. If that office had not been closed, many major noise sources would be significantly quieter today.

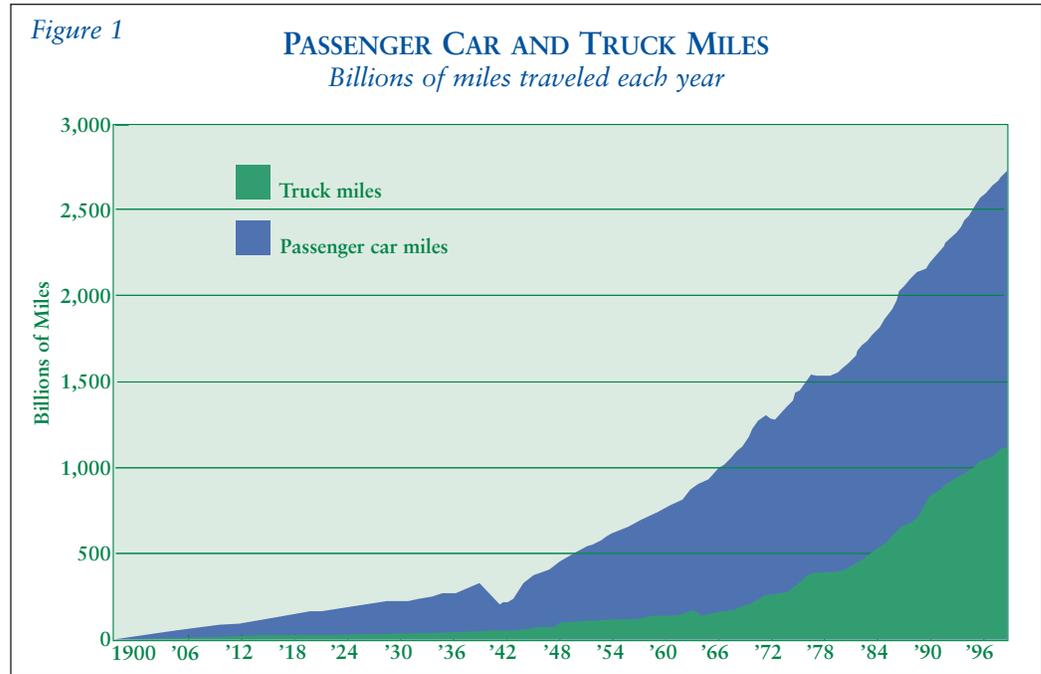
Instead of a growing effort to quiet our communities, the last 30 years have seen an unprecedented growth in noise. By the 1970s, the automobile and the plane were no longer the unheard noises they were at the turn of the century. They had become the old and established ones. And their use kept growing. By the year 2000, passenger car traffic (vehicle miles traveled) had increased to 175% of 1970 levels. Small truck use in 2000 was 750% of 1970 levels; large trucks, 261%; and combination tractor-trailers, 385%. Commercial aircraft vehicle miles traveled has also taken off: 273% of 1970 levels. Air cargo in the year 2000, which is a large percentage of nighttime flights, had grown to 545% of 1970 levels.*

Also, the invention of new noise sources has overshadowed the growth in the old sources. The last 30 years have seen the invention (or vastly increased use) of numerous new noise sources. Figure 2 provides a list of newly invented noises that are quickly becoming ubiquitous.

The story of the soundscape during the past 100 years is the story of the **invention** of new noise sources, the **growth** in the quantity of those sources, and the **spread** of those sources into previously quiet areas. During the 20th Century, modern transportation noise went from unheard to ubiquitous. In most communi-

* US DOT, Federal Highway Administration, *Highway Statistics 2000*, Table VM-1; *US BTS National Transportation Statistics 1999*, Tables 1-9 and 1-28; US DOT, *Air Carrier Traffic Statistics Monthly*, Dec. 2000.

ties today, transportation vehicles produce the ambient noise 24-hours-a-day on which the many other noises are overlaid. And unfortunately, the invention of new noise sources did not end with the car and airplane, as Figure 2 shows. Moreover, noise has spread far beyond urban boundaries. Not even remote areas in our national parks are free of the intrusive noise from aircraft, all-terrain vehicles, snowmobiles, and powerboats.



NOISE BECOMES A NATIONAL CONCERN

It was the growth of noise which led to the Noise Control Act of 1972, but it will probably be the spread of noise into previously peaceful areas that will lead to future efforts to control noise. To understand why this is so, we need to again look at the changes to the soundscape in the past 100 years.

Interestingly, just as at the beginning of the 20th Century, by the end of the century, noise remained the number one quality-of-life complaint in New York City. Noise triggered 83% of the calls to the New York City Quality-of-Life Hotline in 2001. That fact raises the question, has anything changed?

The answer is that much has changed. First, the noise sources have evolved. In New York City and

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Figure 2

SOME NEW SOURCES OF NOISE

- Car alarm**—1920 (mechanical bell; 1970s—modern electronic alarm)
- Jake brake**—1961 (became common more recently)
- Snowmobile**—1961 (became common more recently)
- Leaf blower**—1970s
- Vacuum street sweeper/sewer sucker**—1970s
- ATV**—1970 (developed earlier in Japan for utility reasons)
- Cigarette boats**—1970 (name of a racing boat and later a manufacturing company)
- Weedwhacker**—1971
- OSHA back up warning devices required**—1971
- Jet Ski**—1973
- Fed Ex**—1973 (overnight air cargo)
- Cell phone**—1973 (first patent for hand-held mobile phone, Motorola); also 1965 shoe phone from Get Smart and 1966 Bat Phone

- Boom car**—1975 (first component stereo system for automobiles)
- Commercial SST, Concorde**—1976 (commercial flight), 1971 (mach 1)
- Skateboard park** (Skateboard City in Port Orange, Florida)—1976
- Boom box**—1981 (Webster's Dictionary)
- Power vented furnace and water heater**—1982
- Natural gas combined cycle turbine power plant**—Late 1987 (the jet engine mounted on the ground was unleashed when the "Industrial Fuel Use Act of 1978" was rescinded, clearing way for new natural gas power plants)
- Mufflers that replicate various classic cars**—1990s
- Cars that honk when locked**—late 1990s

THE FUTURE OF PEACE AND QUIET

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other cities, industrial and manufacturing noise sources have declined while transportation-related sources have increased.

The greatest changes in the soundscape have occurred in suburban and rural areas. The 20th Century saw a movement of many people from urban to suburban life and a large increase in population (a growth of approximately 200 million people). Particularly since WWII, hopes for quieter neighborhoods, lower crime rates, and better schools have attracted more and more people to suburban and rural communities. They have taken the noise with them, however, to what were quieter suburban and rural areas. Larger suburban lawns mean larger and noisier lawn equipment. Greater suburban distances to work, shopping, etc. mean more and larger highways with more cars and more trucks all travelling at greater speeds. As the population of the suburbs grew, there were more people using more noise sources.

What has changed most is that noise is no longer primarily an urban concern; it has become a national concern. According to the US Census, noise is among the greatest quality-of-life concerns citizens have about their neighborhood. Figure 3 provides a ranking of neighborhood problems in the American Housing Survey.

Analysis of the 1993 Census data shows that noise is twice as likely to be a neighborhood problem for renters than for homeowners. Also, serious neighborhood noise problems are far more common in poor neighborhoods than in affluent neighborhoods. The urban noise problem remains a major concern and city dwellers remain the most impacted. Nonetheless, an interesting trend has developed in the last 50 years that will make it increasingly more likely that future efforts at noise control will succeed.

The spread of noise into previously quiet areas has led to the suburbanization of the noise problem. The growing noise levels in suburban, rural, and wilderness areas, and the growing noise experience by the middle class and wealthy people is changing how our country looks at noise. It used to be that people with an interest in quiet and the financial means merely had to move to the suburbs. That is no longer true. People cannot easily buy a home in a quiet neighborhood, and they cannot be confident that it will remain quiet. The suburbs are now filled with people who have already bought their dream home, and who don't want to add another hour to their daily commute as the price for a quiet neighborhood. Instead of moving to a quieter place that might not remain so, they are increasingly seeking to make their neighborhoods quiet.

One interesting result of the suburbanization of the noise problem is that public support for future noise control efforts will transcend typical political divisions. Noise is not just a "liberal" or "environmental" issue. Much of the funding for NPC comes from politically conservative sources. In addition, more conservative suburbs and gated communities tend to have a great interest in noise and have some of the most restrictive noise regulations in the nation. People of all political parties find excessive noise bothersome. The implication is that, at least at local levels, political affiliation does not determine support of a noise control policy. On a national level, there is still opposition to noise-control policies from persons with political affiliations leaning in the direction of less government regulation (and from individuals or groups with an interest in a particular noise source, for example, snowmobiles or jet skis), but the suburbanization of the noise problem is weakening that opposition.

Reducing transportation noise remains a high priority of those seeking a quieter world, but it is by no means the only goal. The best gauge NPC has as to what the public wants to quiet is the frequency of calls

Figure 3

RANK OF NOISE IN US CENSUS SURVEYS OF NEIGHBORHOOD PROBLEMS

1975	1985	1995
1. Noise	1. People	1. People
2. Traffic	2. Noise	2. Noise
3. Poor Street Lighting	3. Traffic	3. Traffic
4. Crime	4. Litter or Housing Deterioration	4. Crime

US Census, Annual Housing Survey, 1975, Table A-4; American Housing Survey, 1985 and 1995, Table 2-8. Note: A new category of neighborhood problems, specific people in the neighborhood, was added in the 1980s but was not present in the 1970s surveys.

and emails to NPC concerning particular types of noises. NPC has been tracking the concerns of people contacting the office since 1997. Figure 4 shows the ranking of caller concerns, grouped by noise source. A sampling of 8,000 calls reveals a number of noise sources that stand out as most frequently causing problems.

The number of calls increase every day, but the general trends remain. Airports and highways are at the top of the list. Stationary and mobile amplified noises are creeping up the list, and the list is getting longer as new noises are invented.

THE FUTURE OF NOISE CONTROL

During the 20th Century, modern life was noisy. Some people have come to assume that the cost of living in a technological society is living with noise. This is, however, far from the truth. In many cases, technology could have been used to reduce or eliminate noise. But to rely solely on quieter technology to solve our 21st Century noise problems is to misunderstand the changes that have occurred to the soundscape over the last 100 years and what it will take to quiet our soundscape.

One example of the failure of quieter technology is aviation noise. The aviation industry claims the technology (that the government made them use) is a great success, with many commercial aircraft 20 decibels quieter than they were before 1970. The quieter aircraft technology, however, has not resulted in quieter communities. The reductions in noise from individual sources have not kept pace with the increasing instances of interference and the new nighttime uses of aircraft for cargo. Neighbors experience the failure of the quieter technology in terms of lost quality of life, lost sleep, lower performance of students in schools, and palpable anger in communities. Perhaps the most telling evidence of the failure of quieter aviation technology is that FAA officials are starting to wear bullet-proof vests and use bodyguards at public hearings. Under such conditions, eventually even the FAA will insist on a better noise policy.

Noise control technologies have also proven to be ineffective at protecting wild and natural soundscapes. In otherwise peaceful areas, the noise footprint of the quietest-technology snowmobiles, for example, are still greater than a mile on both sides of the trail. For the many commonly used noisy snowmobiles, the footprint is even greater. When the urban, industrial, or transportation soundscape meets the natural soundscape, the natural soundscape always loses. Noise always trumps natural quiet. Natural quiet never interferes with urban noise. It is not just the noise level but also the presence of noise at all that is problematic in wildlands.

Figure 4

CALLS TO NPC BY NOISE SOURCES OF CONCERN

% OF CALLS	NOISE SOURCE
12.09	Airports and Airplanes
9.31	Highways
8.83	Industrial and Commercial
7.81	Stationary Amplified*
5.85	Boom Cars
4.26	Barking dogs
3.19	Automobile Racetracks
3.14	Construction
3.04	Lawn Equipment
3.03	Rail
2.83	Off-road Vehicles and Snowmobiles
2.81	Motorcycles
2.54	Noise in Parks and Wilderness Areas
2.24	Outdoor Events*
2.12	Gun Clubs
1.94	Watercraft
1.90	Bars and Restaurants*
23.08	All Other Noise Sources Combined

* The Stationary Amplified category includes some Outdoor Events and some Bars and Restaurants. This is a result of inconsistencies in the way NPC tracks issues.

Finally, quieter technology too often addresses newly invented noises only after they have become a significant problem. Since the invention of noise sources has been a major factor in the growth of noise, there is a great need for a noise policy that will be proactive and prevent the next invented noise from becoming a problem.

The growth in noise during the 20th Century and the more recent spread of noise into formerly quiet places are the main drivers of renewed interest in noise control. Public interest is growing for a comprehensive noise policy that is more than just advocacy for quieter technology. People are seeking:

- Quiet suburbs
- Housing stock with better sound insulation/isolation

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- Better noise ordinances and better enforcement of noise ordinances
- Increased local control in regulating noisy public transportation facilities such as highways and airports
- Quieter trucks, motorcycles, highways, and trains
- Quieter industrial plants and commercial buildings
- Quieter construction sites
- Protection of the soundscape of parks and wildlands
- Quieter products
- Noise labels or a way for consumers to know if an appliance is noisy or quiet before they buy it
- Resources and information concerning noise pollution

In the future, the impetus for noise control will not be solely from urban areas. Noise has become a national concern, including people concerned about suburban, rural, and wilderness areas. The next “Noise Control Act” will not single out urban areas and will have broader political support. Urban areas will continue to demand attention. Efforts to control sprawl will require more attractive urban areas and a better quality of life for high-density urban populations. Suburban and wilderness areas, however, will probably be the drivers that push noise onto the national agenda.

We know from the Census that millions of Americans are concerned about noise in their neighbor-

hoods. We know that this concern is often greater than concerns about crime and other social problems. All that remains is to turn the increasing interest in quiet into a reality. And that is exactly what NPC is trying to do.

As a national concern, noise is a relatively new issue. The US House, Senate, and President do not take noise as seriously as it deserves because the millions of people concerned about noise have not yet organized into a strong political force. NPC is the largest grassroots noise organization, but our mailing list is now 10,000 people, and our budget, \$200,000. We have more unrealized potential than past accomplishments. When our mailing list is 100,000 and our budget is \$2,000,000, we will have the numbers and resources sufficient to regularly shape national noise policy. We will not have isolated victories such as our recent campaigns, but regular victories.

At NPC’s current rate of growth we should achieve those levels in 10 years. We’re hoping we don’t have to wait that long to significantly influence public policy, since we know the interest is there. With your help, we can make sure peace and quiet get the attention they deserve—sooner! Help us spread the word. Support our efforts to build a national coalition. Get a friend to sign up for the *Quiet Zone*. We’re building a movement at a rate of a couple dozen or so people a day. If each current supporter brought in two new supporters, we could triple our size by the summer. The next century could be quieter than the last, but only if those wishing that to be so start working together.

WHAT THEY SAID ABOUT NPC:

- ◆ CBS News *Sunday Morning*: “The nation’s major anti-noise interest group.”
- ◆ *Biography Magazine*: “The largest online noise library in the world with countless resources to help frazzled victims.”
- ◆ *Smithsonian Magazine*: “The limited budget battler of rogue sound waves.”
- ◆ Yahoo “Pick Of The Week” Web Site Award: “A clean, comprehensive library of resources for combating noise and fostering the growth of ‘civil cities’.”
- ◆ *The Utne Reader*: “An exhaustive library and network.”
- ◆ ABC News with Peter Jennings: “The leader in the battle for peace and quiet.”



Illegal in Every State

(Yet heard on every highway)

They are illegal in every state, yet heard on every highway: muffler-less trucks, motorcycles, and cars. Across the country, it's the same story. A New York State highway official told us, "These noise regulations are never enforced."

Our illegal muffler project is designed to encourage and simplify enforcement, and to counter the claim of motorcyclists that "Loud Pipes Save Lives." Focused primarily on trucks, motorcycles, and the growing number of cars with modified exhaust systems, our illegal muffler project will begin a long process of changing the way muffler noise regulations are written and violations are addressed.

NPC's researchers are compiling state muffler regulations and identifying needed improvements, opportunities for better enforcement, and novel approaches to silence this growing problem.

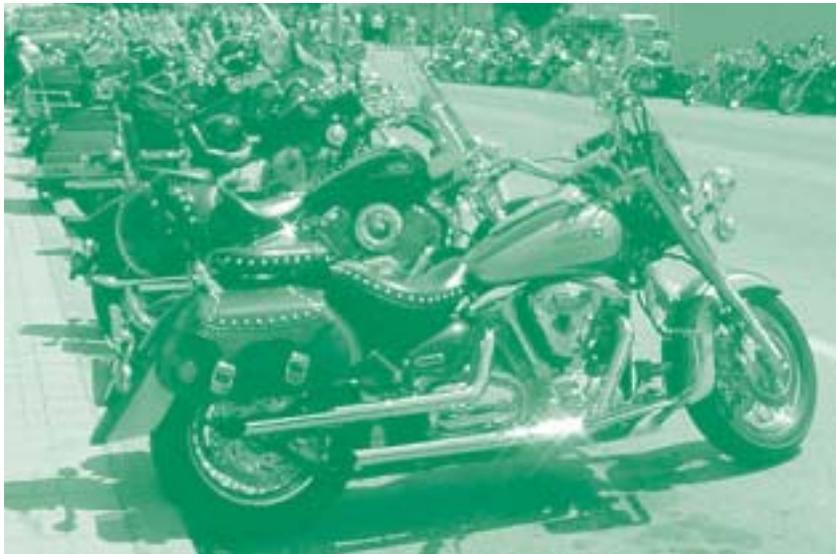
Some of the options NPC is investigating include:

- Developing a new, easier, and more accurate noise measurement procedure that can actually be performed by police in the field
- Using the existing vehicle inspection process that already exists in 30 states to enforce muffler regulations
- Using truck weigh stations as an opportunity to measure truck noise

- Creating easily enforced, non-decibel-based regulations for straight pipes
- Reducing the permissible noise levels for trucks and motorcycles prescribed by the EPA
- Developing sound level limits for cars that states can adopt (federal law limits what states can do for trucks and motorcycles, but not cars)

NPC will also examine Federal Highway Traffic Safety accident data and insurance data to refute the often-heard claim of motorcyclists that "Loud Pipes Save Lives." Preliminary research shows that the high fatality rate for motorcycles is due, not to a lack of noise from their vehicles, but to a lack of safety features found in automobiles, such as seat belts and air bags, due to driving without a helmet, and due to a significantly higher rate of drunk driving, driving with excessive speed, and driving without a license or with a suspended license.

Finally, NPC will be identifying and evaluating inexpensive sound level monitoring equipment in a *Consumer Reports*- style report. This will provide communities with the information they need before purchasing equipment for noise enforcement.





Quiet Lawns

For the last 50 years, Americans have been moving to the suburbs and rural areas, in part to escape the noise of urban and industrial areas. Unfortunately, they brought the industrial soundscape with them. The source of much of the urban and industrial background noise, the internal combustion engine, is quickly becoming the source of the background noise in suburban and rural areas. Even areas remote from highways cannot escape the din of lawn equipment. Just as Americans settle onto their porch or deck for a peaceful end to a busy day, a chorus of lawn mowers, weed whackers, hedge trimmers, and leaf blowers drown out the sound of birds.

Larger suburban lawns have generated a host of time-saving tools that, while making lawns neat and clean, fill the air with aural litter (and other air pollutants). Many are so loud that the operator ought to be wearing earplugs to prevent hearing loss. The result is that on any given summer night, the drone of lawn equipment disturbs the peace. And in neighborhoods frequented by lawn services, the days can be filled with constant noise as the service starts at one end of the neighborhood and doesn't turn off the lawn mowers and leaf blowers until they reach the other end. As the number of stay-at-home parents, telecommuters, and people with home occupations increase, so does the resentment towards lawn services.

Increasingly, citizens are trying to turn off the din of lawn equipment. Communities are realizing that it makes no sense to create the "perfect" landscape by polluting the soundscape. Hundreds of cities and towns have banned or restricted gas-powered leaf blowers.

Communities are limited, however, in what they can do. Noise ordinances typically provide little protection to the soundscape from lawn equipment. The problem is that lawn equipment is too noisy and too ubiquitous to regulate. Most of the equipment is too noisy to meet community property line standards, and since almost everyone owns a lawn mower, communities have had to exempt them from regulation (except time-of-day restrictions and bans on certain equipment that is not

yet widely distributed).

The EPA, in the Noise Control Act of 1972, is charged with controlling noise of products such as lawn equipment as well as helping local communities write noise ordinances that are effective. In fact, during the 1970s, the EPA studied lawn mower noise as part of an effort to reduce noise emissions, but the EPA Office of Noise Abatement and Control (created by the Noise Control Act) closed in 1981, before quieter standards or noise labeling of lawn mowers was achieved. (The European Union recently adopted lawn mower regulations and this may influence mowers marketed in both the United States and EU.)

The lawn and garden industry has been slow to respond to community desires for quieter equipment. Ironically, since the equipment is so loud that it is exempted from most community standards, regulations do not pressure the industry to produce quieter equipment.

Like the industry, the marketplace is also slow to respond to the preference for peaceful and quieter communities. First, consumers have no way of knowing just how loud the equipment they are purchasing is. The noise level of the equipment is not available (except for leaf blowers, in which case the levels are misleading), and the sales staff does not know the loudness of the equipment. In addition, it is difficult to test and compare equipment as it is often sold in boxes and not "demo'ed" before being purchased.

Second, people purchasing quieter lawn equipment are not doing it for themselves, but for their neighbors. Rarely are people bothered by the noise of their own lawn mower as much as their neighbors are. The noise of mowing doesn't interfere with the activity of mowing like it does with other activities, such as reading a book in a lawn chair, eating and conversing on a porch or deck, or napping on the couch. In a self-interested marketplace, concern for your neighbor is not rewarded and not profitable.

Third, no one can buy peace and quiet. Consequently, businesses cannot make money selling it. Peace and

The goal of Quiet Lawns is to encourage the production and use of quieter lawn equipment.

quiet cannot be made like lawn mowers and leaf blowers are made and cannot be sold like they are sold. It is not profitable to create peace and quiet; it already exists—until lawn mowers and leaf blowers are purchased and used. It is the marketplace for lawn equipment that disrupts the peace and quiet of neighborhoods. Moreover, it takes only one noisy leaf blower to disturb the peace.

The result of the lack of information about noise levels, the lack of a reward for the purchaser of quiet equipment, and the fact that quiet cannot be created and sold, is that individuals cannot currently translate the desire for peace and quiet into a demand that the market can satisfy. Since there is no economic incentive to purchase quieter equipment, and it is nearly impossible for a consumer to even find quieter equipment, the industry has little incentive to build quieter lawn equipment.

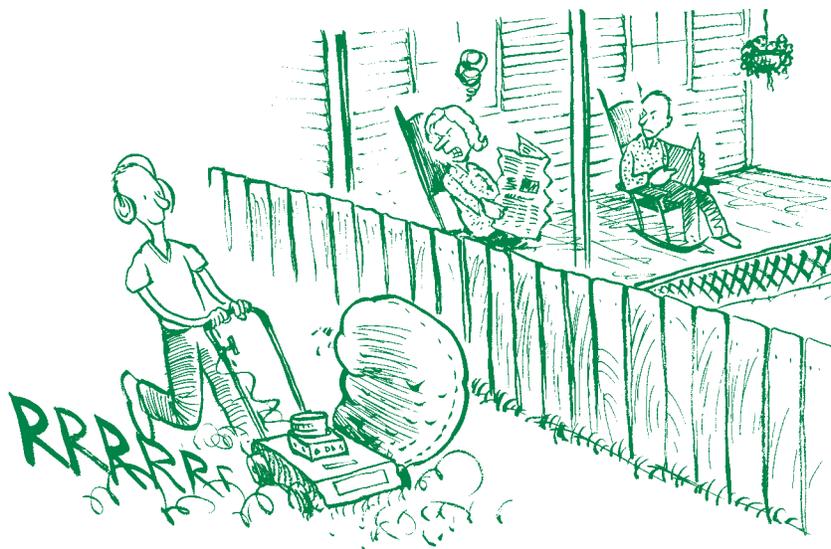
Communities, therefore, are left with a marketplace that currently doesn't reward quiet products, an industry that has little incentive to build quieter equipment, and a federal government that has abdicated its responsibility to control noise.

The NPC Quiet Lawns Project is designed to provide information on noise levels so consumers can purchase quieter lawn equipment and create a marketplace for

Quiet Lawns Will:

- Identify quieter lawn equipment and document noise levels so that consumers may make better-informed choices about noise when purchasing lawn equipment. The results will be published in a small booklet, a fact sheet that can be used at retail shops, and on the internet.
- Document the effectiveness of the equipment, so that quiet equipment buyers need not suffer reduced performance along with reduced noise.
- Create a demonstration project with green landscapers and homeowners to promote the effectiveness and quality of quieter lawn equipment.
- Create a model noise ordinance that permits extended hours of operation for quieter lawn equipment and more limited hours of operation for noisier lawn equipment.

It makes no sense to try to create the "perfect" landscape by polluting the soundscape.



quiet equipment by doing what the federal government hasn't done for 30 years: test and publish noise levels of lawn equipment. In addition, by creating a demonstration project with lawn services that are using quieter equipment, NPC hopes to show that quieter is also profitable. Finally, by developing a model noise ordinance for lawn equipment, NPC will provide communities with an effective means to regulate lawn equipment noise and encourage the purchase and use of quieter equipment.

The project will mean, not only quieter, more peaceful neighborhoods, but also cleaner air and reduced energy use. The quietest lawn equipment is also the cleanest. Electric and human-powered lawn equipment tends to be 10 to 20 decibels quieter (one-half to one-fourth as loud) as gas-powered equipment. Electric equipment is also much cleaner than the two-cycle engines that power most lawn machines. Moreover, two-cycle engines are very inefficient compared to electric models.

Improvements in battery technology are making electric lawn equipment a viable option; from a hand-held trimmer to a riding lawn mower, electric lawn equipment promises "greener" landscapes and "cleaner" soundscapes.



Quiet Lakes

Jet skis, cigarette boats, cutouts. Our lakes are too loud. Powerboats in general are too loud. NO state boat noise regulation is as stringent as the federal truck noise standard. Remarkably, our lakes would be quieter if we could magically replace the powerboats with diesel trucks that float. Many boats are so noisy that the captain would be required to wear earplugs or earmuffs if he or she was on a factory floor.

How is it that we've turned our lakes into the New Jersey Turnpike and our boats into a factory floor? Lax and out-of-date regulation, poor enforcement, and years of powerboat lobbying of state legislatures. Citizens would never have chosen noise levels for boats that are louder than those permitted for trucks. In fact, almost all lake users would support quieter boats and quieter lakes. Only the cigarette boat owner would rather listen (and rather you listen) to his boat than a loon.

While a lack of citizen participation has led to noisy lakes, citizen activism can lead to quiet lakes and quiet boats. At the Noise Pollution Clearinghouse, we are converting the interest in quieter lakes into action. Quiet Lakes is a multi-year project to ensure that sailboaters don't have to listen to cigarette boats miles away; that canoers have opportunities for peace and quiet, away from the buzz of jet skis; and that lake property owners can have relief from oversized engines with undersized mufflers.

QUIET LAKES HAS THREE GOALS:

- To limit noise caused by three of the noisiest watercraft on our waters: jets skis, airboats, and cigarette boats.
- To reduce the noise levels of watercraft in general.
- To create quiet lakes, quiet days, and quiet times where or when the internal combustion engine does not dominate the lake soundscape.

To accomplish these goals, NPC has developed a three-phase plan including the creation of tools and resources for citizens, education and public awareness, and political action.

Phase I, beginning in 2003, will create the tools that will:

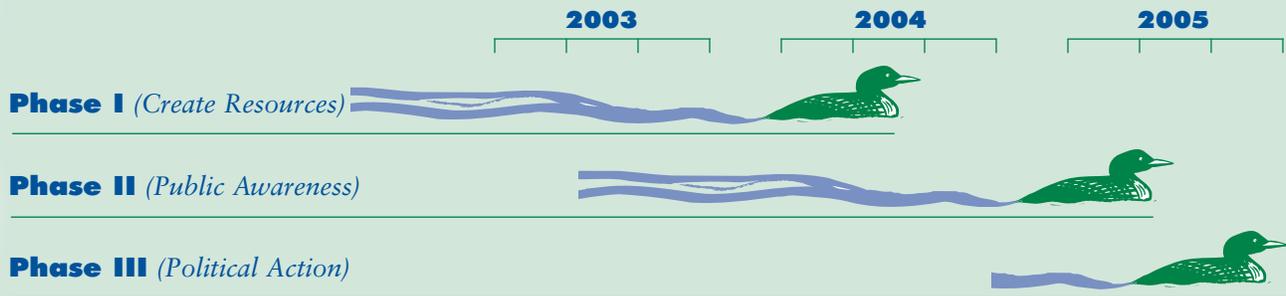
1. Raise public awareness about boat noise and its solutions.

2. Motivate community action to quiet lakes.
3. Educate and empower citizens to challenge outdated noise regulations.
4. Identify unenforced but otherwise effective existing laws.
5. Identify opportunities to change outdated and lax boat noise regulations.

THE TOOLS INCLUDE:

1. "Lake Acoustics 101," a primer for lake homeowners and lake users detailing the unique acoustical properties of the lake soundscape. The report will document how noise travels on water (e.g., why you can sometimes hear people clearly even though they are across the lake), and how boat noise interferes with the lake soundscape.
2. "Why Tractor-Trailer Trucks Are Quieter than Boats," a report outlining the weak and ineffective regulations used to protect the lake soundscape in states across the country. It will highlight what works and what doesn't in the protection of the lake soundscape, and identify violations of existing laws and opportunities to strengthen laws. It will also expose tricks the industry has used to claim jet skis are quieter than they really are and to weaken state regulations.
3. "Quiet Lakes," a report defining and determining the number and percent of quiet lakes in each state. The report will be used to show the need for more quiet lakes and quiet times, as well as highlight where people can find peace and quiet.
4. "The Loon vs. the Jet Ski," a CD that highlights the fact that when the natural lake soundscape meets the industrial soundscape of the internal combustion engine, the lake soundscape always loses. The recording will be used at public hearings and forums by people engaged in local efforts to limit jet skis (similar recordings will be made for airboats and cigarette boats). The CD will raise awareness of the problem and catch media attention. Several natural lake soundscapes will be contrasted with the noise of jet skis (as well as airboats and cigarette boats). Graphs and posters showing the lake soundscape with the jet ski superimposed on it will also be

Timeline for Quiet Lakes



included in the package. Finally, a frequency analysis showing the similarity of the noise of a jet ski and another lakeside pest, the mosquito buzzing one's ear, will provide a humorous and appealing critique of the nuisance.

5. "Cheaper by the Decibel," a study of the relationship between lake property values and quiet.
6. "Drowning in Noise," a booklet detailing the noise costs of jet ski use in the United States. This booklet, published in 2000, will be updated and reprinted.
7. **Model Noise Ordinance and Voluntary Good Neighbor Policy** that can be adopted by communities and lake associations.
8. "Soggy Earmuff Award," a list of boats on which earmuffs should be worn to protect the hearing of the operator. This report is designed to pressure manufacturers to adopt quieter technology. Many of these boats are so loud that the Environmental Protection Agency (EPA) and World Health Organization (WHO) recommend limiting operation to only a few minutes a day without earmuffs.

Phase II, beginning in the summer of 2003, will raise public awareness of the problem of lake noise and the solutions. NPC will publicize the tools developed in Phase I at lake association meetings, at boat shows, and in media related to quiet lake users. We will also begin recruiting leaders of lake associations and other organizations as well as individuals who are interested in leading local efforts to quiet lakes. The tone of the campaign will be positive and fun. The unreasonable positions taken by the powerboat industry lend themselves to parody and satire. Resources such as the loon vs. the jet ski, when used at public hearings, with its aural and visual images, will resonate with lake users. So will "Why Tractor-Trailer Trucks are Quieter than

Boats," with its cover and posters featuring a lake filled with quieter semi-trucks miraculously zipping around the lake.

In raising public awareness, we will point out the excesses of some of the industry in fun and humorous ways (not mean and nasty) and then move on to provide a serious and achievable path to peace and quiet. Many firms manufacturing quieter products, including quieter powerboats, will see Quiet Lakes as an opportunity to market their products. In buying or selling a home, "Quiet Neighborhood" is an attractive feature. With our effort, the same will be said about lake homes on quiet lakes.

Phase III, starting in the winter of 2005, will target a handful of key states and communities to set a precedent for peace and quiet, with standards manufacturers will have to build to and regulations that other states and communities can copy. We will be looking to:

1. Ban the sale and use of boats with cutouts unless they have been permanently disabled.
2. Segregate jet skis and airboats to "Noisy Lakes."
3. Adopt new boat product noise standards that are significantly quieter than tractor-trailer truck noise standards.
4. Adopt "on the water" noise regulations that are easy, safe, and inexpensive to enforce.
5. Force compliance with existing noise regulations.
6. Adopt model noise ordinances and voluntary good neighbor policies in lake communities and associations.
7. Create quiet lakes, or lakes with quieter times or quiet days.

Leave a Legacy of Peace and Quiet

Many of the values that we hold dear, such as peace and quiet, remain important to our friends, families and communities long after we are no longer here ourselves. Including the Noise Pollution Clearinghouse in your will is one way to help sustain the quality of life you believe in for your community and loved ones.

Leaving a Legacy of Peace and Quiet is easy through a simple bequest. You should consult your lawyer or estate planner, but a basic bequest might read “I give and bequeath to Noise Pollution Clearinghouse (Montpelier, Vermont) the sum of \$XXX.” Bequests can also be made as a percentage of your total estate, or the remainder of your estate after all other bequests are fulfilled. Please contact us if you have decided to, or are thinking about, including NPC in your will.

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