



# NITROGEN IN THE NEWS

## Message Tips and Best Practices for Researchers and Communications Staff

The widespread use of chemical fertilizer to boost crop yields has inadvertently added unwanted fertilizer to natural systems, at times with disastrous results. Nitrogen pollution harms human health, chokes estuaries with fish-killing algae and threatens biodiversity by encouraging the growth of weeds that can also increase fire risks. Though most nitrogen pollution comes from nitrogen fertilizer, other sources include animal manure, sewage waste and smokestack and tailpipe emissions. Despite the seriousness of the problem, few people know about it.

Over the last five years, Resource Media has worked closely with some of the nation's leading nitrogen scientists as well as communities affected by nitrogen pollution to raise awareness and press for solutions. We've seen first-hand the difficulties that researchers face in translating their findings into compelling media stories. This tipsheet includes practical tips gleaned from this work, public opinion research and ongoing analyses of media coverage of nitrogen issues.

# TIPS:

## **TIP 1** Connect to Issues Your Audience Knows and Cares About

Most public opinion research and our own fieldwork demonstrate that people connect to issues that affect them personally, such as their health. While the concept of the nitrogen cascade is useful in providing a framework for understanding the complexity and reach of nitrogen pollution, readers will be far more interested in how nitrogen pollution affects their own drinking water or air quality. For example, if they live in a coastal region, you could stress the threats to their favorite fish or shellfish. Excess nitrogen's effect on beloved parks like Yosemite or Rocky Mountain National Park also moves people.

Resource Media's analysis of nitrogen-related media coverage showed that scientists often stress the complexity of the issue, leading with an explanation of how nitrogen cascades through the environment. The truth is, making complexity the key message is a conversation stopper. When it comes to the imbalance of the nitrogen cycle and its cascade of effects, even highly educated reporters aren't able to grasp its nuances and complexity. An editor at the Los Angeles Times once told us, "I can't get my reporters to get the carbon cycle right, let alone something new like the nitrogen cycle." If the research you are publicizing is related to the nitrogen cascade, first connect the science with a current event or regional impact, and then describe the cascade. One expression that illustrates the concept is, "a single atom of nitrogen can bounce from one problem to another like a felon on a crime spree." (Thanks to Alan Townsend of University of Colorado for the suggestion).



Connect to issues people care about, like drinking water safety.

## **TIP 2** Highlight Practical Solutions

Reinforce the fact that nitrogen pollution can be reduced. Mention solutions like using mass transit, fuel-efficient cars and reducing energy use. Describe straightforward agricultural solutions such as winter cover crops, "no till" cultivation methods, buffer strips and the timing of fertilizer application to show that progress can be made. (For a complete list of practices, see [www.NitrogenNews.com: FarmSolutions](http://www.NitrogenNews.com: FarmSolutions)).



Highlight practical solutions, like these winter cover crops grown by Iowa farmers

## TIP 3 Don't Make Readers Choose Between Feeding the Planet and Reducing Nitrogen Pollution

The challenge of chemical fertilizer use is often described like this: "Without nitrogen fertilizer to grow crops, the world couldn't feed itself. But if humanity doesn't cut back on the nitrogen it pumps into the environment, we will choke the oceans and ourselves." Opinion research shows that when the positive benefit of chemical fertilizer is described first, people hear only that and dismiss the need to reduce its use—regardless of its adverse effects. Therefore, make it clear that nitrogen use can be reduced without threatening our food supply. For example,

**"The widespread use of chemical fertilizer to boost crop yields has inadvertently added unwanted fertilizer to our natural systems, with often-harmful results. By increasing the adoption of farm practices that improve the efficiency of chemical fertilizer use, we can reduce runaway nitrogen and still grow the food we need."**



Mention farm practices such as no-till, which can reduce nitrogen pollution and still enable us to grow the food we need.

## TIP 4 Define Reactive Nitrogen

If writing for a broad audience, spell out that you are referring to "reactive nitrogen," not just nitrogen. Also, don't assume that your audience will understand the difference between reactive nitrogen

and atmospheric nitrogen. To avoid smart-aleck comments on articles and blogs that point out that all nitrogen is natural or inert, define the term, such as:

Every living thing needs nitrogen, and yet nearly all nitrogen that surrounds us is beyond our grasp. Nitrogen must be transformed from its abundant, 'unfixed' state into reactive nitrogen to be usable by plants or animals.

## TIP 5 Acknowledge the Issue May be New to Your Audience

Most people have little to no awareness of how excess nitrogen is affecting their health, their favorite lake or the abundance of wildflowers. Unfortunately, lack of awareness leads to skepticism: the more alarmist the description, the more likely people will reject it. This makes it important to carefully pick and focus on the one or two effects that your audience will care about, rather than including a laundry list of problems. For example,

Though agricultural communities and residents of the Chesapeake Bay are likely to be familiar with the issue, most Americans aren't aware of nitrogen fertilizer, let alone nitrogen pollution. Yet the problem is not new to scientists, who have been studying the problem for the last 40 years and noting how nitrogen pollution kills fish and crabs in coastal areas and creates nitrous oxide, a potent greenhouse gas.



Most people are unaware of nitrogen pollution, or its potential to affect their health or favorite lake, like this lake in Colorado.

## TIP 5 Language Matters

The words you choose make all the difference. One national poll shows that almost twice as many Americans are concerned about “chemical nitrogen fertilizer” running off into rivers and streams than “farm runoff” getting into rivers and streams. The best approach? Instead of a generic term like “farm runoff,” describe what is causing the problem, whether it is organic cow manure, CAFO sewage, or inefficiently applied nitrogen fertilizer.

Instead of:	Translate to:
Farm runoff, nutrient pollution	Define the source, such as excess manure, chemical fertilizer, or sewage
Hypoxia	Low oxygen levels in water
Eutrophication	Excessive algae and plant growth spurred by phosphates and nitrates from fertilizer or sewage
Harmful algal blooms	Toxic algae
Loss or Lost	Released
Mitigate	Lessen, reduce
Limited	Inhibited by, cannot grow without
Budget	Accounting, balance sheet
Anthropogenic	Human-caused
N Cascade	Nitrogen pollution

## TIP 6 Avoid Jargon

While technical language is appropriate for scientific journals, it can confuse journalists and their readers. For example, the term “nutrient” is commonly used by agricultural or environmental professionals or scientists to describe excess nitrogen or phosphorous from agriculture, sewage systems or industry. For most general audiences, however, it is counterintuitive to think of a nutrient as a pollutant. “Nutrient management” likewise has little meaning for most audiences. Unless you are talking to experts, describe the source of the pollution, such as fertilizer, sewage or manure. “Nitrogen loss” is another misleading term for non-scientists, who believe it is mislaid or gone forever. Other frequently used nitrogen science terms are included in the chart to the left.



Instead of using the term nutrient, describe the source of nitrogen pollution, such as manure, when communicating to non-agricultural audiences.

For additional background, expert sources, and fact sheets on nitrogen pollution, see [www.NitrogenNews.com](http://www.NitrogenNews.com)

### ABOUT RESOURCE MEDIA

Resource Media is a nonprofit PR firm that develops and executes smart communications strategies for the environment and public health. For more information, visit [www.resource-media.org](http://www.resource-media.org)