



Connecticut Chapter  
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<http://www.sierraclub.org/connecticut>  
Martin Mador, Legislative Chair

Environment Committee  
March 4, 2016  
Testimony in Support of SB 231 AAC Pollinator Health

I am Martin Mador, 130 Highland Ave., Hamden, CT 06518. I am the volunteer Legislative Chair for the Connecticut Chapter of the Sierra Club. I hold a Masters of Environmental Management degree from the Yale School of Forestry and Environmental Studies.

Sierra has been fortunate to work with organizational members of the Safe Grounds Coalition, which has focuses on important issues such as pesticides. We join in the testimony filed by our colleagues such as Citizen's Campaign for the Environment, CT NOFA, Environment CT.

It is well established that pollinators are vital to health of the natural world, and to our food supply.

It is now well established that neonicotinoid pesticides are toxic to bees, one of our most important pollinators.

It is highly appropriate we address this issue, as the knowing and intention introduction of toxics into our environment is a critical environmental issues. It must be done only with full knowledge and understanding of the effects and consequences.

Perhaps the most useful concept I have embraced in my years of advocacy is the **Precautionary Principle**. Applied in many parts of the world, even encoded in EU law, but not yet fully established in the US, it is an exceptionally useful guide to deciding when to take action, especially when there is some uncertainty. From the statement of the Wingspread Conference:

It is necessary to implement the Precautionary Principle: When an activity raises threats of harm to human health or the environment, precautionary measures should be taken even if some cause and effect relationships are not fully established scientifically.

Legal concepts of proof beyond a reasonable doubt simply do not apply. It is the duty and obligation of a government to protect the health of our population as well as the natural world.

Short excerpts from a dozen published references to the Precautionary Principle follow my testimony here.

Restricting the application of neonicotinoid pesticides is clearly necessary.

As to the language of SB 231, we are not satisfied with the limited task force membership. It must be amended to require:

- knowledgeable scientific experts on the effects of pesticide toxins
- knowledgeable advocates representing the public interest

## **The Precautionary Principle**

Selected Excerpts from the Literature

noun

1. the precept that an action should not be taken if the consequences are uncertain and potentially dangerous

Collins English Dictionary - Complete & Unabridged 2012 Digital Edition

© William Collins Sons & Co. Ltd. 1979, 1986 © HarperCollins

Publishers 1998, 2000, 2003, 2005, 2006, 2007, 2009, 2012

Contemporary definitions for precautionary principle

in environmental matters, the theory that if the effects of a product or action are unknown, then the product should not be used or the action should not be taken

Word Origin 1988

<http://dictionary.reference.com/>

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The Wingspread Consensus Statement on the Precautionary Principle

The release and use of toxic substances, the exploitation of resources, and physical alterations of the environment have had substantial unintended consequences affecting human health and the environment. Some of these concerns are high rates of learning deficiencies, asthma, cancer, birth defects and species extinctions; along with global climate change, stratospheric ozone depletion and worldwide contamination with toxic substances and nuclear materials.

We believe existing environmental regulations and other decisions, particularly those based on risk assessment, have failed to protect adequately human health and the environment - the larger system of which humans are but a part.

We believe there is compelling evidence that damage to humans and the worldwide environment is of such magnitude and seriousness that new principles for conducting human activities are necessary.

While we realize that human activities may involve hazards, people must proceed more carefully than has been the case in recent history. Corporations, government entities, organizations, communities, scientists and other individuals must adopt a precautionary approach to all human endeavors.

Therefore, it is necessary to implement the Precautionary Principle: When an activity raises threats of harm to human health or the environment, precautionary measures should be taken even if some cause and effect relationships are not fully established scientifically.

<http://www.sehn.org/wing.html>

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The precautionary principle is the concept that establishes it is better to avoid or mitigate an action or policy that has the plausible potential, based on scientific analysis, to result in major or irreversible negative consequences to the environment or public even if the consequences of that activity are not conclusively known, with the burden of proof that it is not harmful falling on those proposing the action. It is a major principle of international environmental law and is extended to other areas and jurisdictions as well.

This principle is important in that it allows one to anticipate harm and take appropriate precautions even in the absence of scientific consensus that the action or policy is harmful and what might be the level of harm.

As a result, policy makers are able to make discretionary decisions to delay such an action until scientific

findings emerge that provide sound evidence that no harm will result. It is analogous to such commonplace aphorisms as "an ounce of prevention is worth a pound of cure," "better safe than sorry," "look before you leap," and the ancient medical principle associated with Hippocrates of "First, do no harm."

In some legal systems, as in the law of the European Union, the application of the precautionary principle has been made a statutory requirement. However, a rigid application of this principle also has drawbacks, such as ignoring possible risks associated with not doing the proposed activity or policy, perhaps resulting in banning a technology that brings advantages out of concern for potential negative impacts. Under such a scenario, the cellular phone might not have been permitted until it could be proved not to be a carcinogen. In the case of the pesticide DDT, if the precautionary principle were to be applied universally and narrowly, it would mean that DDT could not even be introduced into regions heavily infected by malaria because of the deleterious potential impacts of DDT on the fauna.

The precautionary principle recognizes a social responsibility to protect the public from exposure to harm, when scientific investigation has found a plausible risk. Its development as part of international law reflects a growing international recognition of the human responsibility to care for the environment and others and to find legal avenues to prevent actions that might cause severe or irreversible consequences to either.

[http://www.newworldencyclopedia.org/entry/Precautionary\\_principle](http://www.newworldencyclopedia.org/entry/Precautionary_principle)

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#### The Precautionary Principle: Protecting Public Health and the Environment

Ted Schettler, MD, MPH, Katherine Barrett, PhD, Carolyn Raffensperger, MA, JD  
Science and Environmental Health Network  
Adapted from an essay by Schettler et al. in: McCally 2002.

The precautionary principle is a guide to public policy decision making (Raffensperger and Tickner 1999, Schettler et al. 2002). It responds to the realization that humans often cause serious and widespread harm to people, wildlife, and the general environment. According to the precautionary principle, precautionary action should be undertaken when there are credible threats of harm, despite residual scientific uncertainty about cause and effect relationships.

<http://www.healthandenvironment.org/articles/doc/540>

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Environment management rule that if a threat of serious or irreversible damage to the environment or human health exists, a lack of full scientific knowledge about the situation should not be allowed to delay containment or remedial steps if the balance of potential costs and benefits justifies enacting them. In other words, "prevention is better than cure." Also called preventative principle.

<http://www.businessdictionary.com/definition/precautionary-principle.html>

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In line with the mandate given by the Third Ministerial Conference on Environment and Health, WHO has

developed an approach that will promote preventive public health measures in areas of emerging concern about environmental impacts on children's health. The approach focuses on how the precautionary principle can be applied to the protection of children's health and that of future generations. In so doing, the goal of WHO is to guide and improve decision-making in environment and health under conditions of uncertainty and complexity, while stimulating scientific development and more sustainable forms of economic development. The approach is sufficiently flexible to be applied by all countries in the WHO European Region, regardless of their available resources.

[http://www.euro.who.int/data/assets/pdf\\_file/0003/91173/E83079.pdf](http://www.euro.who.int/data/assets/pdf_file/0003/91173/E83079.pdf)

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WHEREAS, the Precautionary Principle dictates that where threats of serious or irreversible damage to people or natural systems exist, lack of full scientific certainty relating to cause and effect shall not be viewed as sufficient reason to postpone measures to prevent the degradation of the environment or protect human health. The precautionary principle requires a careful analysis of available alternatives using the best science and selection of the alternative presenting the least potential threat to human health and natural systems; and selecting the alternatives that minimize human impacts to human health and the environment often results in long-term cost savings; and

WHEREAS, the United States has endorsed the Precautionary Principle in international and other statements such as the Rio Declaration of the 1992 United Nations Conference on the Environment and the Persistent Organic Pollutant Treaty; and

WHEREAS, the city of San Francisco has adopted a number of successful environmental ordinances applying a precautionary principle approach to specific City purchases and activities including the Integrated Pest Management Ordinance, the Resource Efficient Building Ordinance, the Healthy Air Ordinance, and the Environmentally Preferable Purchasing Ordinance; and

[http://sfgov.org/sites/sfgov.org.sffood/files/migrated/ftp/uploadedfiles/sffood/policy\\_reports/Precautionary%20Principle%20r0129-03.pdf](http://sfgov.org/sites/sfgov.org.sffood/files/migrated/ftp/uploadedfiles/sffood/policy_reports/Precautionary%20Principle%20r0129-03.pdf)

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The Precautionary Principle is defined as follows:

When human activities may lead to morally unacceptable harm that is scientifically plausible but uncertain, actions shall be taken to avoid or diminish that harm. Morally unacceptable harm refers to harm to humans or the environment that is

threatening to human life or health, or

serious and effectively irreversible, or

inequitable to present or future generations, or

imposed without adequate consideration of the human rights of those affected.

The judgement of plausibility should be grounded in scientific analysis. Analysis should be ongoing so that chosen actions are subject to review. Uncertainty may apply to, but need not be limited to, causality or the bounds of the possible harm.

Actions are interventions that are undertaken before harm occurs that seek to avoid or diminish the harm.

Actions should be chosen that are proportional to the seriousness of the potential harm, with consideration of their positive and negative consequences, and with an assessment of the moral implications of both action

and inaction. The choice of action should be the result of a participatory process.

Source: UNESCO COMEST report The Precautionary Principle

<http://www.precautionaryprinciple.eu/>

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Over the past decades, the PP has become an underlying rationale for a large and increasing number of international treaties and declarations in the fields of sustainable development, environmental protection, health, trade and food safety. In its most basic form, the PP is a strategy to cope with scientific uncertainties in the assessment and management of risks. It is about the wisdom of action under uncertainty: 'Look before you leap', 'better safe than sorry', and many other folkloristic idioms capture some aspect of this wisdom. Precaution means taking action to protect human health and the environment against possible danger of severe damage. However, in the international arena, different views exist of what precaution is and the PP has different interpretations.

The PP is often seen as an integral principle of sustainable development, that is development that meets the needs of the present without compromising the abilities of future generations to meet their needs. By safeguarding against serious and, particularly, irreversible harm to the natural resource base that might jeopardize the capacity of future generations to provide for their own needs, it builds on ethical notions of intra- and inter-generational equity.

The Precautionary Principle, World Commission on the Ethics of Scientific Knowledge and Technology (COMEST)

<http://unesdoc.unesco.org/images/0013/001395/139578e.pdf>

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The precautionary principle enables rapid response in the face of a possible danger to human, animal or plant health, or to protect the environment. In particular, where scientific data do not permit a complete evaluation of the risk, recourse to this principle may, for example, be used to stop distribution or order withdrawal from the market of products likely to be hazardous.

Communication from the Commission on the precautionary principle (COM(2000) 1 final of 2 February 2000)

#### SUMMARY

The precautionary principle is detailed in Article 191 of the Treaty on the Functioning of the European Union (EU). It aims at ensuring a higher level of environmental protection through preventative decision-taking in the case of risk. However, in practice, the scope of this principle is far wider and also covers consumer policy, European legislation concerning food and human, animal and plant health.

This Communication establishes common guidelines on the application of the precautionary principle.

The definition of the principle shall also have a positive impact at international level, so as to ensure an appropriate level of environmental and health protection in international negotiations. It has been recognised by various international agreements, notably in the Sanitary and Phytosanitary Agreement (SPS) concluded in the framework of the World Trade Organisation (WTO).

#### Recourse to the precautionary principle

According to the European Commission the precautionary principle may be invoked when a phenomenon, product or process may have a dangerous effect, identified by a scientific and objective evaluation, if this evaluation does not allow the risk to be determined with sufficient certainty.

Recourse to the principle belongs in the general framework of risk analysis (which, besides risk evaluation, includes risk management and risk communication), and more particularly in the context of risk management which corresponds to the decision-making phase.

The Commission stresses that the precautionary principle may only be invoked in the event of a potential risk and that it can never justify arbitrary decisions.

The precautionary principle may only be invoked when the three preliminary conditions are met:

- identification of potentially adverse effects;
- evaluation of the scientific data available;
- the extent of scientific uncertainty.

#### Precautionary measures

The authorities responsible for risk management may decide to act or not to act, depending on the level of risk. If the risk is high, several categories of measures can be adopted. This may involve proportionate legal acts, financing of research programmes, public information measures, etc.

#### Common guidelines

The precautionary principle shall be informed by three specific principles:

- the fullest possible scientific evaluation, the determination, as far as possible, of the degree of scientific uncertainty;
- a risk evaluation and an evaluation of the potential consequences of inaction;
- the participation of all interested parties in the study of precautionary measures, once the results of the scientific evaluation and/or the risk evaluation are available.

In addition, the general principles of risk management remain applicable when the precautionary principle is invoked. These are the following five principles:

- proportionality between the measures taken and the chosen level of protection;
- non-discrimination in application of the measures;
- consistency of the measures with similar measures already taken in similar situations or using similar approaches;
- examination of the benefits and costs of action or lack of action;
- review of the measures in the light of scientific developments.

#### The burden of proof

In most cases, European consumers and the associations which represent them must demonstrate the danger associated with a procedure or a product placed on the market, except for medicines, pesticides and food additives.

However, in the case of an action being taken under the precautionary principle, the producer, manufacturer or importer may be required to prove the absence of danger. This possibility shall be examined on a case-by-case basis. It cannot be extended generally to all products and procedures placed on the market.

<http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=URISERV%3A132042>

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The precautionary principle or precautionary approach to risk management states that if an action or policy has a suspected risk of causing harm to the public or to the environment, in the absence of scientific consensus that the action or policy is not harmful, the burden of proof that it is not harmful falls on those taking an action.

The principle is used by policy makers to justify discretionary decisions in situations where there is the possibility of harm from making a certain decision (e.g. taking a particular course of action) when extensive scientific knowledge on the matter is lacking. The principle implies that there is a social responsibility to protect the public from exposure to harm, when scientific investigation has found a plausible risk. These protections can be relaxed only if further scientific findings emerge that provide sound evidence that no harm will result.

In some legal systems, as in the law of the European Union, the application of the precautionary principle has been made a statutory requirement in some areas of law.

Regarding international conduct, the first endorsement of the principle was in 1982 when the World Charter for Nature was adopted by the United Nations General Assembly, while its first international implementation was in 1987 through the Montreal Protocol. Soon after, the principle integrated with many other legally binding international treaties such as the Rio Declaration and Kyoto Protocol.  
[https://en.wikipedia.org/wiki/Precautionary\\_principle](https://en.wikipedia.org/wiki/Precautionary_principle)

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What is fundamentally new about the precautionary approach is that it asks not, "How much harm is acceptable?" but instead asks, "How much harm is avoidable?" It invites us to set goals, examine alternative ways of achieving those goals, set benchmarks, check our progress, and engage affected parties in decisions. It asserts an important, even heroic, role for government, and it offers us all an opportunity to re-energize participatory democracy and continue building a multi-issue social movement grounded in science, ethics, social justice, and public health.  
[http://www.sehn.org/erf\\_Montague.html](http://www.sehn.org/erf_Montague.html)

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The precautionary principle is an emerging principle of international law but has only recently been proposed in North America as a new basis for environmental policy. On the surface it is a simple, commonsense proposition: in the face of possible harm, exercise precaution. But the enthusiasm the principle has stirred among public advocates suggests it has a deeper appeal. It is, in fact, based on values related to "forecaring for life" and the natural world. The principle cannot effectively be invoked without stating these values up front. The principle makes it clear that decisions and developments in science and technology are based first of all on values and only secondarily on scientific and technological fact and process. Moreover, a precautionary approach is best carried out in the context of goals that embody the values of communities and societies.

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<http://www.sehn.org/pdf/putvaluesfirst.pdf>

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