

# **Facing Uncertainty: *Local Governments and the Precautionary Principle***

Terra Bowling, J.D.  
National Sea Grant Law Center

**MASGP 08-020.** This publication was supported by the National Sea Grant College Program of the U.S. Department of Commerce's National Oceanic and Atmospheric Administration under NOAA Grant #NA060AR4170078, the Mississippi-Alabama Sea Grant Consortium and the University of Mississippi. The views expressed herein do not necessarily reflect the views of those agencies.



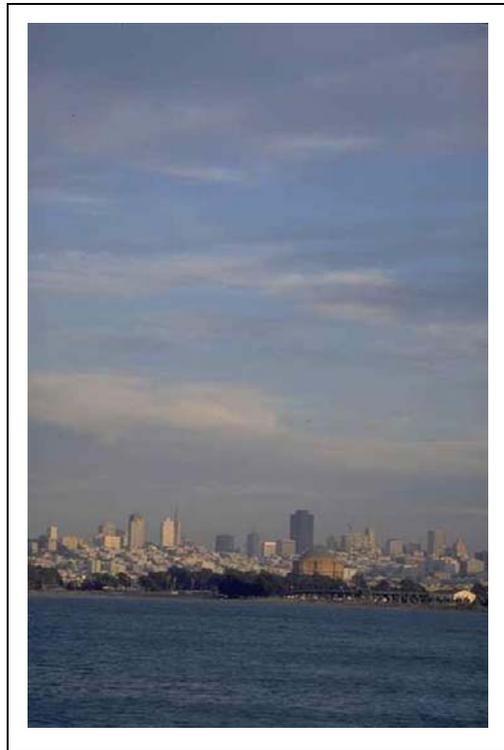
## Introduction

The precautionary principle is a framework for governments to develop and evaluate health and environmental laws. Instead of the traditional question of, “How much harm is allowable?” the precautionary principle asks, “How little harm is possible?”<sup>1</sup> The principle allows lawmakers to take precautionary measures when science cannot yet fully establish a cause-and-effect relationship, but can provide reasonable evidence of harm.

In 2003, San Francisco became the first local government in the nation to adopt an ordinance outlining the precautionary principle. The San Francisco ordinance requires officers, boards, commissions, and departments to implement the precautionary principle, which has five elements: anticipatory action, right to know, alternatives assessment, full cost accounting, and participatory decision process. Since implementation, the ordinance has provided a new way for the city and county of San Francisco to frame and develop health and environmental laws and policies.

For instance, the San Francisco Board of Supervisors adopted a purchasing ordinance in 2005 that requires the city to use safer alternatives when purchasing commodities for the city, such as cleaning products or electronics. The ordinance also sets product categories that specify which products in the categories will be given preference over the next few years. The list was created with input from residents, business owners, and city employees.<sup>2</sup>

The ordinance in San Francisco has served as a model for other local governments that have implemented or have considered a precautionary measure. Examples include Marin and Mendocino Counties in California; Berkeley, California; Eugene and Portland, Oregon; and Seattle, Washington. Although many other state governments have or are attempting to apply ecosystem based management in their management plans and laws, the precautionary principle has remained outside the primary regulatory mechanism in the United States—the risk management approach.



<sup>1</sup> SEATTLE PRECAUTIONARY PRINCIPLE WORKING GROUP, A POLICY FRAMEWORK FOR ADOPTING THE PRECAUTIONARY PRINCIPLE, available at <http://www.watoxics.org/files/seattle-pp-whitepaper> . [hereinafter *Seattle*].

<sup>2</sup> [http://www.takingprecaution.org/inact\\_bayarea.html](http://www.takingprecaution.org/inact_bayarea.html) .

Traditionally, federal, state, and local governments in the United States have followed a “risk management” approach to regulate health and environmental issues. As mentioned above, this approach asks how much harm is allowable, rather than how little harm is possible.<sup>3</sup> For instance, if a certain plastic used to make toys contained toxic chemicals, a traditional risk assessment might determine the level of harm that would likely occur and lawmakers might use the risk assessment to determine the level of exposure that would be acceptable.<sup>4</sup>

Additionally, the risk management approach requires evidence of actual harm before regulations may be enacted to prevent harm, meaning that governments attempt to manage risk rather than prevent it.<sup>5</sup> Some policy makers have referred to this approach as the “dead body approach,” meaning that damage must be proven before action is taken.<sup>6</sup>

In some instances, lawmakers have abandoned the concept of risk assessment when addressing the negative health and environmental effects of human activity. Instead, they have turned to the precautionary approach, an idea that entails acting when there is indication of harm rather than proof of harm.<sup>7</sup>

In its strategic plan for 2006-2011, NOAA identified ecosystem-based management as one of its five goals. In keeping with the spirit of implementing ecosystem-based management through a local government approach, this publication is intended to help coastal communities to incorporate ecosystem-based management and sustainable development principles into planning and management.



<sup>3</sup> *Seattle*, *supra* note 1, at 10.

<sup>4</sup> *Id.*

<sup>5</sup> *Id.*

<sup>6</sup> Laura A. Haight, *Local Control of Pesticides in New York: Perspectives and Policy Recommendations*, 9 ALB. L. ENVTL. OUTLOOK 37, 87 (2004).

## The Precautionary Principle

### History

At the root of the precautionary principle is the German principle of *vorsorge*, or foresight.<sup>8</sup> The principle encompasses the belief that society should seek to avoid environmental damage by careful planning and by stopping potentially harmful activities.<sup>9</sup> In the 1970s, the *Vorsorgeprinzip* was incorporated as a fundamental principle of German environmental law and has been used to implement programs regarding acid rain, global warming, and North Sea pollution.<sup>10</sup>

The principle has been used widely by European countries, first appearing in international environmental agreements in the 1980s.<sup>11</sup> For example, the Cartagena Protocol on Biosafety of 2003 supports the use of the precautionary principle by countries importing genetically modified organisms.<sup>12</sup> The Stockholm Convention on Persistent Organic Pollutants of 2001 uses the precautionary principle model for adding banned chemicals to its list.<sup>13</sup> The principle is also used in the Bergen declaration on sustainable development, the Maastricht Treaty on the European Union, the Barcelona Convention, and the Global Climate Change Convention.<sup>14</sup>

In 1992, the United States became bound to use the precautionary principle when the federal government signed and ratified the Rio Declaration.<sup>15</sup> However, the principle has not been widely implemented.<sup>16</sup> Some scholars have suggested that the principle has failed to become an overarching policy in U.S. federal law because the magnitude of environmental problems are just now becoming apparent, because most environmental policies in place have focused on cleaning up messes rather than taking preventative approaches, and, finally, because the political system is influenced by commercial interests that are in opposition to a precautionary approach.<sup>17</sup>

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<sup>7</sup> Scott LaFranchi, *Surveying the Precautionary Principle's Ongoing Global Development: The Evolution of an Emergent Environmental Management Tool*, 32 B.C. ENVTL. AFF. L. REV. 679, 681 (2005).

<sup>8</sup> JOEL TICKNER, CAROLYN RAFFENSPERGER, AND NANCY MYERS, *THE PRECAUTIONARY PRINCIPLE IN ACTION: A HANDBOOK* (1st ed.), 2. Available at <http://www.mindfully.org/Precaution/Precaution-In-Action-Handbook.pdf>.

<sup>9</sup> *Id.*

<sup>10</sup> *Id.*

<sup>11</sup> *Id.*

<sup>12</sup> *Seattle*, *supra* note 1, at 7, citing The Cartagena Protocol on Biosafety of 2003, available at <http://www.cbd.int/biosafety/protocol.shtml>.

<sup>13</sup> *Seattle*, *supra* note 1, at 7, citing The Stockholm Convention on Persistent Organic Pollutants of 2001, available at <http://chm.pops.int/>.

<sup>14</sup> TICKNER et al., *supra* note 8, at 2.

<sup>15</sup> *Id.*

<sup>16</sup> *Id.* at 3.

<sup>17</sup> Nancy J. Myers and Carolyn Raffensperger, eds., *Precautionary Tools for Reshaping Environmental Policy* 9 (2006).

Although not specifically mentioned in U.S. laws, the precautionary principle is evident in numerous federal laws that incorporate “foresight, prevention, and care, and give regulators authority to take action to prevent possible but unproven harm.”<sup>18</sup> For instance, the Food and Drug Administration (FDA) requires all new drugs be tested before they are put on the market.<sup>19</sup> Additionally, the Environmental Protection Agency (EPA) may stop the marketing of a new substance and require testing if “the agency determines the substance may present an unreasonable risk or if exposures are predicted to be significant.”<sup>20</sup>

When a group of activists, scholars, scientists, and lawyers convened at the Wingspread Conference in Racine, Wisconsin in 1998, the group produced this statement on 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. The process of applying the precautionary principle must be open, informed and democratic and must include potentially affected parties. It must also involve an examination of the full range of alternatives, including no action. In this context the proponent of an activity, rather than the public, should bear the burden of proof.*<sup>21</sup>

Since the Wingspread conference, many state and local governments and agencies began looking at the precautionary principle as a means of regulating health and environmental issues. In its final report, the U.S. Commission on Ocean Policy recommended the adoption of a precautionary approach to managing the ocean environment. (USCOP, 2004). Although many entities have implemented some form of the principle, many of the regulations and policies share some of the same characteristics.

## Elements

As evidenced in the Wingspread Statement above, the precautionary principle means that indication of potential harm, rather than proof of harm can trigger government action. Even when full scientific certainty about cause and effect is not available, governments may take action. According to one local government group, “[t]he precautionary principle is intended to apply to a range of situations that involve both a threat of harm and scientific uncertainty. This means that the precautionary principle should be applied when two instances hold true 1) when we suspect our actions may pose a threat to human or ecological health and 2) when scientific uncertainty might otherwise keep us from taking action to prevent harm.”<sup>22</sup>

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<sup>18</sup> *Id.* at 5.

<sup>19</sup> *Id.*

<sup>20</sup> *Id.*

<sup>21</sup> TICKNER et al., *supra* note 8, at 2.

<sup>22</sup> *Seattle*, *supra* note 1.

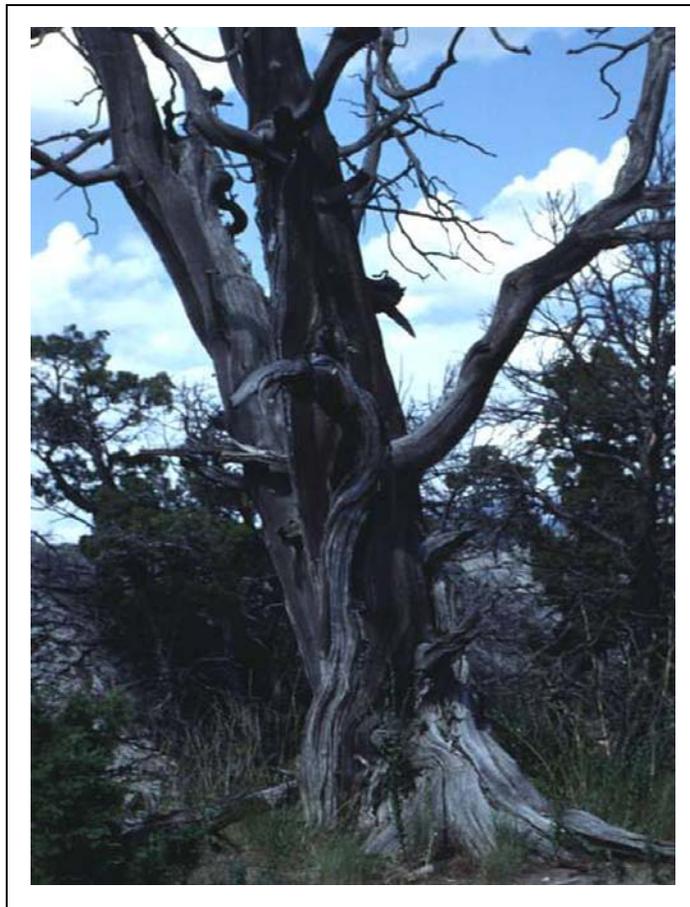
The "Precaution in Action Handbook" (TICKNER et al., *supra* note 8, at 4-5) cites the following essential components of a precautionary approach to environmental and public health decision-making:

- **Taking precautionary action before scientific certainty of cause and effect.** Most of the international treaties stating the precautionary principle incorporate it as a general duty on states to act under uncertainty. This provides a mechanism of accountability for preventing harm. General duties - obligations to act in a certain way even in the absence of specific laws - are not uncommon in the United States. For example, the Occupational Safety and Health Act demands that an employer "furnish each of his employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical injury."
- **Setting goals.** The precautionary principle encourages planning based on well-defined goals rather than on future scenarios and risk calculations that may be plagued by error and bias (see risk assessment discussion below). For example, Sweden has set the goal of phasing out persistent and bioaccumulative substances in products by the year 2007. The government is now involving a variety of stakeholders in determining how to reach that goal. Sometimes called "backcasting" in contrast to the more usual "forecasting" of an uncertain future, this type of planning creates fewer miscalculations and spurs innovative solutions.
- **Seeking out and evaluating alternatives.** Rather than asking what level of contamination is safe or economically optimal, the precautionary approach asks how to reduce or eliminate the hazard and considers all possible means of achieving that goal, including forgoing the proposed activity. Needless to say, alternatives proposed to a potentially hazardous activity must be scrutinized as stringently as the activity itself.
- **Shifting burdens of proof.** Proponents of an activity should prove that their activity will not cause undue harm to human health or ecosystems. Those who have the power, control, and resources to act and prevent harm should bear that responsibility. This responsibility has several components:
  - **Financial responsibility.** Regulations alone are not likely to spur precautionary behavior on the part of governments or those who are proponents of a questionable activity. However, market incentives, such as requiring a bond for the worst possible consequences of an activity or liability for damages, will encourage companies to think about how to prevent impacts. Such assurance bonds are already used in construction projects as well as in Australia to minimize damage from development projects.
  - **The duty to monitor, understand, investigate, inform, and act.** Under a precautionary decision-making scheme, those undertaking potentially harmful activities would be required to routinely monitor their impacts (with possible third party verification), inform the public and authorities when a potential impact is found, and act upon that knowledge. Ignorance and uncertainty are no longer excuses for postponing actions to prevent harm (see uncertainty discussion below).
- **Developing more democratic and thorough decision-making criteria and methods.** The precautionary principle requires a new way of thinking about decisions and weighing scientific and other evidence in the face of uncertainty. This type of precautionary decision-flow, addressing both new and existing activities, is described in a later section. Because difficult questions of causality are in essence policy decisions, potentially impacted publics must be involved in the decision process. Thus, structures to better involve the public in decision-making are required under a precautionary approach.

## Importance

Presumably, the precautionary principle would result in a healthier environment for the local area. The Seattle Precautionary Principle Working Group submitted a white paper to the city and King County for consideration for amending the city and county's comprehensive plans.<sup>23</sup> Seattle's working group noted, "[t]he precautionary principle's emphasis on alternatives assessment and public involvement in decision making will enhance the City's/County's ability to make healthier and more sustainable choices – choices which will encourage decision-makers to move beyond finding cures to harm already done and, instead, look to prevent harm to our health and the environment in the first place."<sup>24</sup>

Aside from the projected environmental and health benefits, why would lawmakers want to use the precautionary approach in their decision-making? For some governments, the precautionary principle only reinforces environmental protection policies that may already be in place. In its working group, Seattle and King County noted that adopting the principle "would amplify existing value statements and policies emphasizing environmental protection without requiring additional resources for the city and county."<sup>25</sup> Additionally, in its working group, before San Francisco enacted its precautionary principle ordinance, it had several ordinances in place that expressed the same elements as the precautionary principle.



<sup>23</sup> *Seattle, supra* note 1.

<sup>24</sup> *Id.*

<sup>25</sup> *Seattle, supra* note 1, at 19-20

San Francisco ordinances that expressed precautionary principle elements cited in a white paper, *The Precautionary Principle and the City and County of San Francisco* (March 2003), prepared by the city:

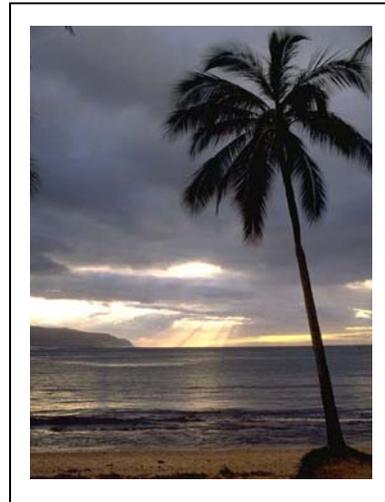
- *The Resource Conservation Ordinance was adopted in 1992 to impose certain requirements upon City departments to recycle and reduce the amount of waste they generate. The ordinance was amended in 2000 to require City departments to develop Resource Conservation Plans, make City departments accountable for reducing waste, and to add buy-recycled provisions.*
- *The City of San Francisco is pioneering environmentally sound ways to manage urban pests and protect public health and the environment, through its integrated pest management program (IPM). The IPM Ordinance, passed in 1996, mandates that San Francisco eliminate the use of the most toxic pesticides and use only chemical pesticides from an approved list of reduced risk pesticides.*
- *San Francisco was one of the first cities to enact a resource-efficient building ordinance, adopted in July 1999, which requires standards of resource efficiency in all city buildings and calls for a series of pilot projects to demonstrate state-of-the-art green building technology. Such technology promotes maximum efficiency in energy and resource use with minimum negative impacts on the environment and human health.*
- *In 1999, the City and County of San Francisco adopted an Environmentally Preferable Purchasing Ordinance with the goal of reducing the health and environmental impact of products used in its operations. (This program is currently limited in scope.)*
- *In 2002 San Francisco became the first city in the country to ban the use of arsenic treated wood in all City construction projects. The Pressure Treated Wood Containing Arsenic Ordinance requires City departments to select less toxic alternatives when using pressure treated wood in buildings, parks, or piers.*
- *The Urban Forest Council Ordinance, adopted in 2001, guides the stewardship of San Francisco's trees by promoting a healthy and sustainable urban forest that benefits all San Franciscans while ensuring public health and safety. The Council's mission is to protect the community interest and ensure that San Francisco realizes the full range of tree benefits into the future. Less than twenty percent of the earth's original forests are still standing—and in the U.S., less than four percent. The City's ban on purchasing tropical hard-woods and virgin redwood protects is designed to reduce demand for wood from our last remaining old-growth forests in favor of sustainable alternatives.*

*In June 1999, the Board of Supervisors unanimously passed a resolution urging all City agencies and departments and all medical facilities within San Francisco to eliminate mercury use in order to protect and preserve human and environmental health. This was followed by an ordinance banning the sale of mercury thermometers within the City and County of San Francisco.*

## Authority

Although the United States had not expressly cited the precautionary principle in federal laws or policies, its presence is evident in several federal environmental statutes:

- *Under the U.S. Toxic Substances Control Act, the Environmental Protection Agency (EPA) may halt the marketing of a new substance and require safety testing or other measures if the agency determines that the substance may present an unreasonable risk or if exposures are predicted to be significant.*
- *As a precautionary measure, the Food and Drug Administration requires all new drugs to be tested before they are put on the market.*
- *National Environmental Policy Act is precautionary in two ways: 1) It emphasizes foresight and attention to consequences by requiring an environmental impact assessment for any federally funded project, and 2) it mandates consideration of alternatives including a “no-action” alternative. NEPA is one of the best national examples of precautionary action. The National Environmental Policy Act requires that any project receiving federal funding and which may pose serious harm to the environment undergo an environmental impact study, demonstrating that there are no safer alternatives.*
- *The Clean Water Act established strict goals in order to “restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.”*
- *The Occupational Safety and Health Act (OSHA) was designed to “assure so far as possible every working man and woman in the Nation safe and healthful working conditions.”<sup>26</sup>*



In the San Francisco white paper published to support the city’s adoption of its resolution, the authors note that aside from the US laws that point to support of a precautionary approach, other US law supports precautionary action. For instance, the public trust doctrine holds that states hold certain natural resources to be preserved for the public and future generations. “The Precautionary Principle and Public Trust Doctrine share the same ethical underpinning – protection of the public good. Public Trust Doctrine gives the state a duty to protect certain natural resources for the greater good. The Precautionary

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<sup>26</sup> TICKNER et al., *supra* note 8, at 2.

Principle and the tools of its implementation provide means for carrying out that duty.”<sup>27</sup>

## Examples

In addition to San Francisco, other local and state governments and entities have implemented precautionary ordinance or measure. Below are examples:

- *Berkeley City Council Resolution*  
In 2003, the Berkeley city council passed a resolution calling for the development of a precautionary principle ordinance, beginning with an “environmentally preferable purchasing policy.” The purchasing policy was passed in 2004 and regulated the purchase of products or services used by the city. In 2006, a Precautionary Principle ordinance was added to the city code, specifying the application of the precautionary principle by the city in existing and future policies, making it the second city in the nation to create such a policy.
- *Los Angeles Unified School District*  
The Los Angeles Unified School District has implemented the precautionary principle in its integrated pest management policy. It specifies the application of the precautionary principle in its policy by recognizing that:
  - “no pesticide product is free from risk or threat to human health, and
  - Industrial producers should be required to prove that their pesticide products demonstrate an absence of the risks enumerated ... rather than requiring that the government or the public prove that human health is being harmed.”<sup>28</sup>
  - The policy calls for the formation of a pest management team that must approve products and pest management practices used in the school district. The policy also called for the development of an integrated pest management manual to implement the policy.
- *Mendocino County, California*



<sup>27</sup> THE PRECAUTIONARY PRINCIPLE AND THE CITY AND COUNTY OF SAN FRANCISCO (March 2003). Available at <http://www.sfenvironment.org/downloads/library/13precprinwhitepaper.pdf> .

<sup>28</sup> LOS ANGELES UNIFIED SCHOOL DISTRICT INTEGRATED PEST MANAGEMENT POLICY available at <http://www.calisafe.org/> .

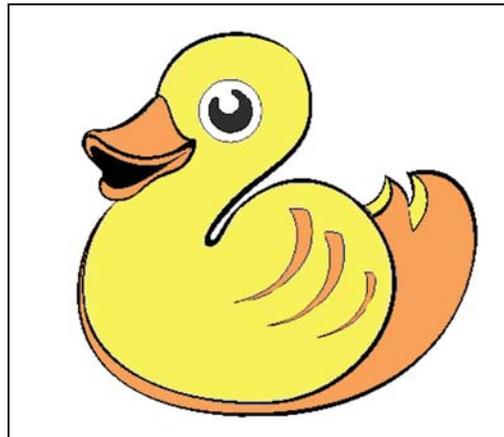
Mendocino County also adopted an ordinance that implemented a precautionary principle policy in 2006. It provides guidance to county departments on decisionmaking practices that will lead to a healthier environment.<sup>29</sup>

- *New York*  
In 2006, the State of New York passed a law requiring schools to purchase environmentally-sensitive cleaning and maintenance products that minimize adverse impacts on children's health and the environment.<sup>30</sup>
- *New Jersey*  
In 2002, New Jersey adopted the School Integrated Pest Management Act that requires all schools to adopt an Integrated Pest Management policy, plan, and notification system.<sup>31</sup>

### Legal challenges

In 2006, San Francisco passed a regulation banning the manufacture, distribution, and sale of toys or child care articles intended for children under the age of three containing toxic chemicals called phthalates and bisphenol-A. The law was based on the city's precautionary principle policy.

After the ordinance was passed, a lawsuit was filed against the city by a group of retailers, manufacturers, and chemical companies. The companies claimed that the ordinance was preempted by state and federal law and that they would suffer irreparable harm in the form of lost profits. Before a court decision was made in the suit, city supervisors amended the ordinance to ban only products appearing on a city list. In October 2007, the California legislature passed a law banning the manufacture, sale, and distribution of toys made with bisphenol-A and limiting phthalates in products intended for children under the age of three. The state law will take effect January 1, 2009.



<sup>29</sup> MENDOCINO COUNTY PRECAUTIONARY PRINCIPLE POLICY, available at <http://www.environmentalcommons.org/mendoprecaution/> .

<sup>30</sup> <http://www.ogs.state.ny.us/bldgadmin/environmental/default.html> .

<sup>31</sup> <http://www.nj.gov/dep/enforcement/pcp/pcp-ipm.htm> .

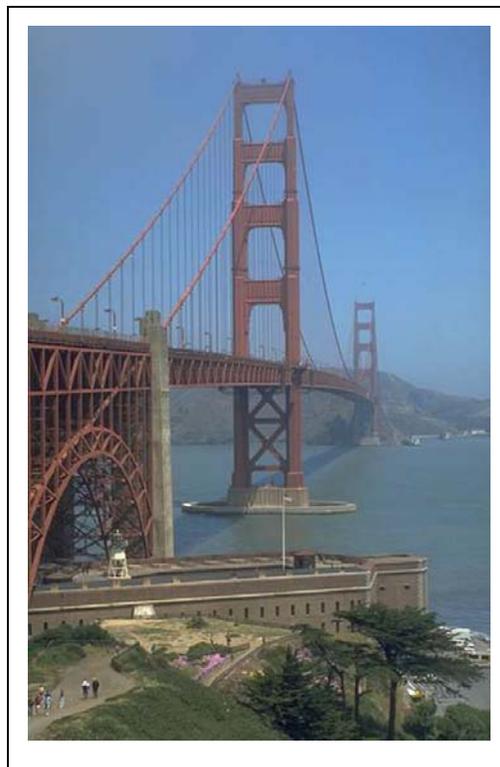
## Implementing ordinances and similar measures in other coastal areas

In “Implementing the Precautionary Principle: A Tool for Georgia’s Local Governments,” the authors note that public involvement in the drafting process is key to implementing the precautionary principle. “It is important that the local governments gain widespread public support for the precautionary principle if the policy is to be effective in their communities. Each local or state government that has enacted an ordinance or statute requiring use of the precautionary approach in some aspect of its decision-making process began by involving the public in the drafting process.”<sup>32</sup> For instance, the city of Seattle’s working group included a wide range of interest groups, including the League of Women Voters of Washington, the American Lung Association of Washington, and the Institute for Children’s Environmental Health.<sup>33</sup>

Important elements to include in a precautionary principle ordinance include: scientific assessment, monitoring, mitigation, and periodic review of restrictions.<sup>34</sup> Please see the appendix below for a list of model ordinances and ordinances available for guidance in crafting a precautionary principle measure.

## Conclusion

The precautionary principle offers local governments, especially coastal communities, a new way to incorporate sustainable development principles into planning and management. Although the pre-cautionary approach may initially draw criticism from those worried that decisions will be made without conclusive science, the approach actually will help lawmakers avoid unnecessary risk. Under the precautionary approach, local governments do not have to wait to take action until damage is done to their communities, but allows lawmakers to take precautionary measures when science cannot yet fully prove that harm will occur. By using the precautionary principle, local governments may better protect the health and vitality of their communities.



<sup>32</sup> EMILY FRANZEN AND LAURIE FOWLER, IMPLEMENTING THE PRECAUTIONARY PRINCIPLE: A TOOL FOR GEORGIA’S LOCAL GOVERNMENTS, available at <http://www.eco-act.org/PPBackground.pdf> .

<sup>33</sup> *Id.*

<sup>34</sup> *Id.*

## Appendix

### Georgia Model Ordinance

<http://www.eco-act.org/PPOrdinance.pdf> .

### San Francisco Precautionary Principle Resolution

[http://www.sfgov.org/site/uploadedfiles/sfood/policy\\_reports/Precautionary%20Principle%20r0129-03.pdf](http://www.sfgov.org/site/uploadedfiles/sfood/policy_reports/Precautionary%20Principle%20r0129-03.pdf) .

### Los Angeles School District Integrated Pest Management Policy

<http://www.calisafe.org/policy.html> .

### Mendocino Partnership for the Precautionary Principle

<http://www.environmentalcommons.org/mendoprecaution/> .

### Berkeley Precautionary Principle Ordinance

<http://www.ci.berkeley.ca.us/citycouncil/2006citycouncil/packet/032106/2006-03-21%20Item%2002%20Precautionary%20Principle%20Ordinance.pdf> .

### Multnomah County

<http://www2.co.multnomah.or.us/cfm/boardclerk/viewdetail.cfm?DocID=9099> .

### New York Green Schools

<http://www.ogs.state.ny.us/bldgadmin/environmental/default.html> .

### New Jersey IPM Policy

<http://www.nj.gov/dep/enforcement/pcp/pcp-ipm.htm> .

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**MASGP 08-020.** This publication was supported by the National Sea Grant College Program of the U.S. Department of Commerce's National Oceanic and Atmospheric Administration under NOAA Grant #NA060AR4170078, the Mississippi-Alabama Sea Grant Consortium and the University of Mississippi. The views expressed herein do not necessarily reflect the views of those agencies.

