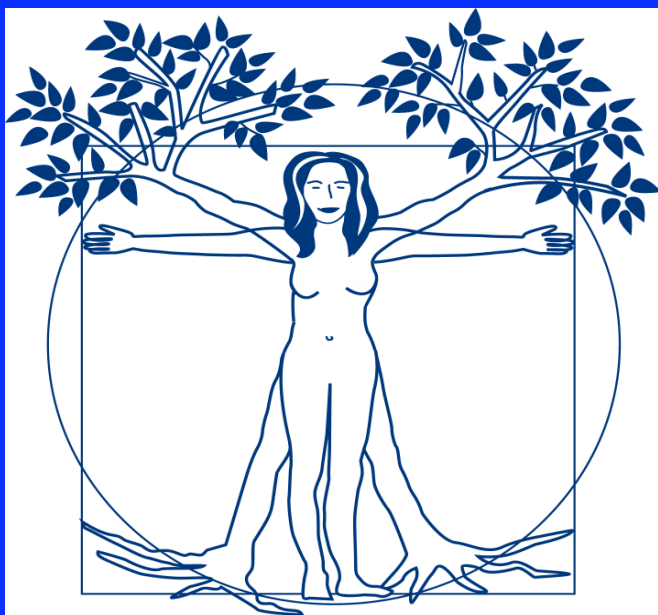


THE PRECAUTIONARY PRINCIPLE AND THE PUBLIC TRUST DOCTRINE



**SCIENCE
& ENVIRONMENTAL
HEALTH
NETWORK**

www.sehn.org

Carolyn Raffensperger
Air Quality Management
District

Los Angeles

August 2003

20th century assumptions

- We could measure and manage risk.
- The earth and our bodies could absorb whatever toxicants or loss of species that came our way.
- New technologies and increasing wealth meant that we should defer problems to future generations because they would be better able to solve them.

More 20th century assumptions

- Government has a limited role in environmental protection because it interferes with the market and individual liberty.
- Privatization is the best approach to natural resources like air quality and it's the best approach to government

The real story: environmental indicators show signs of stress

- More than 1/2 of all accessible surface fresh water is used by humans; much is contaminated
- 1/4 of the bird species on Earth have been driven to extinction
- Approximately 2/3 of major marine fisheries are fully exploited, overexploited or depleted

*Vitousek et al.

More signs of stress

- Novel synthetic industrial chemicals contaminate the world's ecosystems, including humans and other species
- The food supply of humans and other creatures is contaminated at levels of concern; e.g. mercury, PBDEs

Human health signs of stress:

- Human health indicators show increasing signs of environmental stressors e.g., asthma, neurodevelopmental disorders, incidence of some malignancies and birth defects.
- There are some patterns we don't yet understand, e.g. cause(s) and apparent increasing prevalence of autism.

Where has this lead us?

We realize

- 1) that the old assumptions don't work
- 2) emerging patterns in the world
signal trouble

Assumptions for the 21st century

- We have an obligation to prevent harm to the commonwealth.
- Values and ethics are essential to decision-making.
- Science can provide guidance but not the whole answer.
- Uncertainty and surprise are intrinsic to a complex world.
- Government has a key role to play
- There are things as or more important than money
- We hold the commonwealth in trust for future generations

Two concepts embody these new assumptions

- The precautionary principle
- The public trust doctrine

What is the precautionary principle?

The Rio Declaration: “Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.”

What is the precautionary principle?

Wingspread Statement: “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.”

Wingspread statement

Jan., 1998

1. People have a duty to take anticipatory action to prevent harm.
2. The burden of proof lies with the proponents, not with the public.
3. Before using a new technology, process, or chemical, or starting a new activity, people have an obligation to examine "a full range of alternatives."
4. Decisions applying the precautionary principle must be "open, informed, and democratic" and "must include affected parties."

The role of goals

- Setting goals helps incorporate values.
- Provides guidance on what alternatives will be most helpful;
- Determines what questions the research agenda can most fruitfully address;
- Determines what precautionary actions will prevent harm and help meet the goal.

The Precautionary Principle has been characterized as an:

- Ethical Directive, Belief or Philosophical guide
 - Treaty Preambles
 - German word for precautionary principle means literally “forecaring”
 - President’s Commission on Sustainable Development
- Regulatory tool
 - Risk management (rather than prevention?)
 - Administrative Agency activity
- Overarching principle guiding the research agenda, legislation, regulation and judicial action

Common elements of the precautionary principle

- All formulations include:
 - Plausible threats of harm
 - Lack of scientific certainty
 - Precautionary action to prevent harm

Evidence or plausibility of harm

- Serious, irreversible, cumulative
- Biologic, ecologic, economic

Scientific uncertainty

- Uncertainty about cause:effect relationship
 - Uncertainty about contributing factors
 - Uncertainty about magnitude of effect
- Uncertainty, indeterminacy, ignorance
 - More data
 - Unpredictability of complex systems
 - Asking the right questions

Cigarettes and lung cancer—evidence for causation

- 1945—Ochsner—Incidence rises together
- 1950—Doll & Hill—case-control study
- 1953—Wynder—tar causes cancer in mice
- 1954—Follow up studies show association, and that greater exposure > greater risk

- 1990s—biological mechanism(s) described (genetic factors; mutations)

When is “proof” difficult to establish?

- Non-specificity-
 - many exposures “cause” multiple diseases; e.g smoking
 - many diseases have multiple “causes”
- Long latent period between exposure and disease
- Windows of vulnerability: exposure is most dangerous when occurs at a particular time
- Exposures are ubiquitous; no “control” population
- Unidentified susceptible populations mixed in with the general population

Strategies for coping with uncertainty

- Detection
 - Early; systematic monitoring
- Prediction
 - Learn from earlier experience; cross-disciplinary; think ecologically; unintended effects are not necessarily unpredictable
- Systemic tolerance
 - Redundancy; resilience
- Prevention
 - Avoid rather than manage harm

Precautionary Action

- Anticipatory and preventive
- Increases rather than decreases options
- Can be monitored and reversed
- Increases resilience, health, integrity of whole system
- Enhances diversity (one size does not fit all)

Who is responsible for
implementing the precautionary
principle?

Responsibilities

- Industry and business have an obligation:
 - to test their products
 - provide the information to the public
 - take responsibility and pay for any damage they cause

Responsibilities

- Government has obligations to:
 - Serve as a trustee for the commonwealth
 - Protect the commonwealth for this and future generations
 - Give the benefit of the doubt (of scientific uncertainty) to public health and well-being
 - Choose the least harmful alternative
 - Actively promote democracy

Responsibilities

- The public has responsibilities to:
 - Hold government accountable for their trustee responsibilities
 - Actively participate in democratic decision-making

What is the Public Trust?

- A Public resource
- Held in trust
- By a public entity
- Managed for this and future generations

One formulation of the public trust doctrine

“For the benefit of present and future generations, the State and its political subdivisions shall conserve and protect Hawaii's natural beauty and all natural resources, including land, water, air, minerals and energy sources, and shall promote the development and utilization of these resources in a manner consistent with their conservation and in furtherance of the self-sufficiency of the State. All public natural resources are held in trust by the State for the benefit of the people.” (Hawaii Constitution)

History of the Public Trust

- Ancient Roman Law
- U.S. tidal lands and waters
- U.S. wildlife
- State Common Law
- State Constitutions
- Hawaii Supreme Court

The Public Trust and the Precautionary Principle

“Where scientific evidence is preliminary and not yet conclusive regarding the management of fresh water resources which are part of the public trust, it is prudent to adopt ‘precautionary principles’ in protecting the resource.” (Hawaii Supreme Court in Waiahole Ditch)

The Public Trust and the Precautionary Principle (cont.)

- “where uncertainty exists, a trustee’s duty to protect the resource mitigates in favor of choosing presumptions that also protect the resource.”
- “The absence of firm scientific proof should not tie the commission’s hands in adopting reasonable measures designed to further the public interest.” (Hawaii Supreme Ct in Waiahole Ditch)

The public trust doctrine and precautionary principle

- Public Trust Doctrine establishes a general duty to take precautionary action.
- Public Trust Doctrine shifts the burden of proof. Hawaii Supreme Court said the big farms and golf courses had the burden of proof, not the Water Commission.
- Public Trust Doctrine requires preventive action in the face of uncertainty.

“We are entering the century of the environment.... In this century everyone who considers himself a realist will be forced to justify his behavior in light of the contribution it made toward the preservation of the environment”

Ernst von Weizsacker