

# SOUNDING ALARMS: DOES INFORMATIONAL REGULATION HELP OR HINDER ENVIRONMENTALISM?

KATHERINE RENSHAW\*

## TABLE OF CONTENTS

Introduction .....	655
I. Informational Regulation .....	658
A. How Informational Regulation Works.....	658
B. Rationales for Informational Regulation.....	660
C. Informational Regulation as an Alternate Approach to Environmental Regulation .....	663
D. Criticisms of Informational Regulation .....	665
E. Can Warnings be Effective? .....	669
F. Proposition 65: California’s Approach to Informational Regulation .....	671
II. Case Study: Labeling Mercury-Contaminated Seafood.....	674
A. The Problem of Mercury Pollution .....	674
B. Regulating Mercury Pollution.....	677
C. Regulating Seafood Consumption .....	681
D. California’s Approach to Mercury Contamination in Seafood .....	685
III. Analyzing California’s Approach to Mercury Contamination .....	690
A. Dangers of California’s Choice of Regulatory Mechanism.....	690
B. Alternatives to California’s Direct Product Labeling ....	692
C. Does California’s Approach Have Distinct Advantages Over Other Regulatory Strategies? .....	693
Conclusion.....	695

---

\* Law Clerk, 2006–2007 to the Hon. Jan E. DuBois, Eastern District of Pennsylvania; Editor-in-Chief, *New York University Environmental Law Journal* 2005–2006, J.D., 2006, New York University School of Law, B.A. (Philosophy) with distinction, 2002, Carleton College. I would like to thank Professor Katrina Wyman for her comments on earlier versions of this Note and the staff of the *N.Y.U. Environmental Law Journal* for their valuable insights and edits.

## INTRODUCTION

After yet another national election in which environmental issues have had only a marginal impact,<sup>1</sup> environmentalists have been forced to reevaluate fundamental strategies and approaches in order to remain relevant and sympathetic to the American public. Although environmental values are widely held,<sup>2</sup> the values don't run deep; environmental concerns rarely make the short list of issues that Americans care enough about to influence their voting patterns.<sup>3</sup> In response to the seeming marginalization of the movement, a controversial article urged that "[w]hat the environmental movement needs more than anything else right now is to take a collective step back to rethink everything."<sup>4</sup>

In an editorial responding to this article, Nicholas Kristof stated that the fundamental problem leading to this "death of environmentalism" is that "environmental groups are too often alarmists."<sup>5</sup> By continually declaring each environmental problem a catastrophe or an imminent disaster, environmental organizations lose credibility if problems turn out not to be as severe as predicted. As Kristof explained, "environmental alarms have been screeching for so long that, like car alarms, they are now just an

---

<sup>1</sup> See, e.g., Michael Kilian, *Environmental Issues Lose Political Clout: Conservationists Lean Toward Kerry in Campaign Ruled by Iraq, Economy*, CHI. TRIB., Oct. 18, 2004, at 17 ("[T]o the frustration of environmentalists, their issues are having only marginal impact on a bitterly contested race . . .").

<sup>2</sup> See Felicity Barringer, *Paper Sets Off a Debate on Environmentalism's Future*, N.Y. TIMES, Feb. 6, 2005, at 1.18 ("The [environmental] movement has always been able to count on overwhelming expressions of support for its goals; polls consistently show approval of 70 percent to 80 percent or more.").

<sup>3</sup> See News and Communications, Duke Univ., Survey: Why Pro-Environmental Views Don't Always Translate Into Votes (Sept. 20, 2005), [http://www.dukenews.duke.edu/2005/09/nicholaspoll\\_print.htm](http://www.dukenews.duke.edu/2005/09/nicholaspoll_print.htm) (last visited Apr. 13, 2006). In the 2004 election, for example, polls reflected that environmental issues had little or no impact on voters; moreover, these issues only appeared once during the entire presidential debates. See Margaret Kriz, *Out of the Loop*, NAT'L J., Feb. 5, 2005, at 346.

<sup>4</sup> MICHAEL SHELLENBERGER & TED NORDHAUS, *THE DEATH OF ENVIRONMENTALISM: GLOBAL WARMING POLITICS IN A POST-ENVIRONMENTAL WORLD* 7 (2004).

<sup>5</sup> Nicholas D. Kristof, Op-Ed., *I Have a Nightmare*, N.Y. TIMES, Mar. 12, 2005, at A15. For a criticism of Kristof's assessment of the environmental movement, see Andrew Christie, *The Death of Environmentalism?: Mr. Kristof's Kool-Aid*, COMMON DREAMS, Mar. 15, 2005, <http://www.commondreams.org/views05/0315-23.htm>.

irritating background noise.”<sup>6</sup>

Kristof is certainly right that sounding environmental alarms has been a key component of the environmental movement’s arsenal. Many credit the publication of Rachel Carson’s *Silent Spring* as launching the modern environmental movement by informing (and thus alarming) the public of the dangers of pesticides.<sup>7</sup> In the middle of the twentieth century, environmentalists utilized highly public environmental disasters to drive support for environmental regulation.<sup>8</sup> Aside from litigation, the primary tool utilized by environmental organizations to achieve positive environmental change is the orchestration and manipulation of public pressure on corporate and political decision-makers. Sounding alarms has historically been an effective means of mobilizing a political base to make environmentally unsound decisions politically unsupportable. As Kristof points out, however, after fifty years of environmental alarms, the noise may have blended into background clatter. This raises an important question: Would environmentalists be more effective if their strategies shifted away from “alarming” the public?

At the same time, now that environmentalists find themselves squarely outside of the political decision-making process,<sup>9</sup> strategies must be explored that depart from traditional reliance on command and control mechanisms to bring about environmental change. In the current political climate, there is little promise of centralized enforcement of current environmental regulations, let alone tightening up of the regulatory regime; for environmentalists to achieve new victories, decentralized approaches to environmental problems must be sought.

One appealing approach is a reliance on informational regulation. While not a novel approach to managing environmental risks, informational regulation holds the unique

---

<sup>6</sup> Kristof, *supra* note 5.

<sup>7</sup> See, e.g., Al Gore, *Introduction* to RACHEL CARSON, *SILENT SPRING*, at xv (1994).

<sup>8</sup> See Michael Allan Wolf, *Environmental Law Slogans for the New Millennium*, 35 U. RICH. L. REV. 91, 99 (2001). Wolf states that “[d]isasters breed environmental law” and links the origin of several such laws to specific ecological calamities. *Id.*

<sup>9</sup> “National environmental groups have less political clout today than they’ve wielded at any other time since their movement sprang up in the late 1960s.” Kriz, *supra* note 3, at 344.

advantage of being politically palatable to conservatives while still enforcing some level of corporate accountability. However, informational regulation has been assailed as the quintessential example of environmental alarmism as it relies upon raising the visibility of environmental risks to elicit risk-avoiding behavior on the part of consumers.

This Note will examine the use of warning labels for mercury-contaminated seafood as an example of this informational regulation approach.<sup>10</sup> The danger of mercury contamination in seafood is gaining recognition as a serious public health problem, with the possibility of over 600,000 children born each year vulnerable to dangerously high mercury levels.<sup>11</sup> Confronted with uncertainty as to the efficacy of the Environmental Protection Agency's ("EPA") approach to mercury regulation, environmental organizations have been pursuing a strategy of warning consumers about the dangers of mercury, essentially relying on individual choices to regulate the risks. While the EPA and the Food and Drug Administration ("FDA") have jointly issued advisories warning pregnant women and children about the dangers of mercury-contaminated seafood, environmentalists and other concerned organizations have been advocating a more comprehensive warning strategy with notices available for consumers at the point of purchase of contaminated seafood.<sup>12</sup> This is a promising venture for environmentalists because it appeals to fundamental values about health and safety of children as well as holding pragmatic appeal for its decentralized approach to the problem. On the other hand, this approach opens environmentalists up to charges of alarmism. Congressmen Richard Pombo and Jim Gibbons have recently accused environmentalists of being alarmist in their response to the dangers of mercury contamination in seafood.<sup>13</sup> Pombo argues that "it is clear that some special interest groups are crying wolf in their

---

<sup>10</sup> Warning labels are a subset of the broader category of informational regulation. I will be using the terms interchangeably.

<sup>11</sup> Kathryn R. Mahaffey, U.S. EPA, Methylmercury: Epidemiology Update, (Jan. 26, 2004), <http://www.epa.gov/waterscience/fish/forum/2004/presentations/monday/mahaffey.pdf> (remarks made at the Fish Forum, San Diego).

<sup>12</sup> See *infra* notes 144–45, 175–76 and accompanying text.

<sup>13</sup> See RICHARD W. POMBO & JIM GIBBONS, COMM. ON RES., U.S. HOUSE OF REPRESENTATIVES, MERCURY IN PERSPECTIVE: FACT AND FICTION ABOUT THE DEBATE OVER MERCURY 17 (2005), *available at* [http://resourcescommittee.house.gov/Press/reports/mercury\\_in\\_perspective.pdf](http://resourcescommittee.house.gov/Press/reports/mercury_in_perspective.pdf).

claims about the Bush administration and public health.”<sup>14</sup>

This example serves as a useful case study on the desirability of informational regulatory approaches as a means of achieving both immediate risk management goals and larger environmental ends, such as a reduction in mercury emissions. An analysis of the problem of mercury contamination in seafood demonstrates that not only can labeling serve as a politically and economically feasible regulatory approach, it can also promise risk management for problems arising from prior regulatory failures.

Although using informational regulation to address mercury contamination could be perceived as feeding an alarmist fire, this approach is actually the most narrowly tailored response to the real risks presented by mercury contamination. While labeling can potentially serve this important risk management function, in many cases it cannot be a replacement for centralized regulation. Nonetheless, labeling is an attractive approach because it can demonstrate regulatory failings and thus has the potential to shift political and grassroots support towards developing stronger ex ante controls.

## I. INFORMATIONAL REGULATION

### A. *How Informational Regulation Works*

Informational approaches work in two ways: they inform people of potential risk exposure and they can change the behavior of risk producers.<sup>15</sup> From the consumer’s perspective, warning labels allow an individual to perform a personalized risk assessment and make purchase decisions based on that assessment. The effectiveness of this assessment is thus highly dependent upon both the accuracy of the information conveyed as well as the success of conveying that information.<sup>16</sup>

---

<sup>14</sup> Bruce Geiselman, *Reps, Groups Debate Mercury Risk*, WASTE NEWS, Feb. 28, 2005, at 15; accord Bob Condor, *It’s Hard to Swallow This Mercury Report*, SEATTLE POST-INTELLIGENCER, Feb. 21, 2005, at F1.

<sup>15</sup> Alexander Volokh, *The Pitfalls of the Environmental Right-To-Know*, 2002 UTAH L. REV. 805, 815 (2002).

<sup>16</sup> See W. Kip Viscusi, *Predicting the Effects of Food Cancer Risk Warnings on Consumers*, 43 FOOD DRUG COSM. L.J. 283, 290 (1988). As Viscusi explains, a warning will be most successful if it conveys to consumers risk information in an accurate and effective manner. Thus, it is desired that individuals read the information, process it, and form accurate

Informational strategies for risk control are ideally suited for situations where only a small percentage of the populace is prone to the particular risk, because it is these situations where more stringent regulation can be under- or overinclusive.<sup>17</sup> Informational strategies are flexible because they allow individuals to choose their optimum level of risk exposure. One of the most common ways to inform consumers of risk directly is through the use of hazard warning labels. Warning labeling takes numerous forms including labels attached to a particular product, leaflets provided with products, and point-of-purchase displays.<sup>18</sup>

Informational regulation can be used not merely to warn consumers of potential dangers of their purchasing decisions (such as warnings about carcinogens), but additionally these approaches can allow consumers to make proactively better environmental choices. Thus a consumer can opt, with their purchasing power, to buy a product with fewer environmental externalities, such as choosing recycled over non-recycled paper.<sup>19</sup> In recent years this market for “environmentally friendly” products has grown considerably, driven by rising consumer demands.<sup>20</sup> Informational regulation has been used to facilitate this demand largely by

---

assessments of the risk based upon the warning message. These risk assessments in turn will then affect the consumer’s purchase decision.

*Id.*

<sup>17</sup> SUSAN G. HADDEN, A CITIZEN’S RIGHT TO KNOW: RISK COMMUNICATION AND PUBLIC POLICY 157 (1989). A common example of such a risk is an allergy; because only a small portion of people must be wary of peanuts, it is better to warn those affected rather than keep peanuts out of everything.

<sup>18</sup> W. KIP VISCUSI & WESLEY A. MAGAT, *Information Processing and Individual Decisions*, in LEARNING ABOUT RISK 1, 1 (1987).

<sup>19</sup> See Peter S. Menell, Symposium, *Environmental Federalism: Structuring a Market-Oriented Federal Eco-Information Policy*, 54 MD. L. REV. 1435, 1435 (1995). This proscriptive use of environmental labeling has been suggested as another means of reducing regulatory costs. *Id.*

<sup>20</sup> In a Gallup poll, more than 90 percent of consumers responded that they sought out products or packaging that was environmentally safe and that they were willing to pay higher costs for such products. Frank Lautenberg, *Pulling the “Green” Over Our Eyes*, N.Y. TIMES, Apr. 22, 1991, at A17. In another poll, conducted by Gerstman & Meyers, Inc., 78 percent of those polled responded that they would pay at least 5 percent above market price for “environmentally friendly” products and 47 percent responded that they would pay up to 15 percent over market price. Consumers when polled indicated that when they chose products with environmental labels, they were hoping to “minimize problems of air quality, water quality, and solid waste disposal.” Jamie A. Grodsky, *Certified Green: The Law and Future of Environmental Labeling*, 10 YALE J. ON REG. 147, 149 (1993) (summarizing various consumer polls).

labeling, at the point of purchase, the “environmentally friendly” nature of the product.<sup>21</sup>

As a means of regulating risk, informational regulation can also operate by creating incentives for manufacturers to reformulate products to reduce risks. Thus, informational approaches may in a way operate as a system of regulation by proxy: a regulator can achieve the same results as direct regulation by creating the necessary incentives for the manufacturer to remove the risk themselves. In this way, if directly regulating the risk proves politically infeasible, the same regulation may be achieved by imposing the more palatable informational regulation.

### B. *Rationales for Informational Regulation*

There are four primary normative rationales for adopting an informational approach to environmental regulation. First, informational regulation can help to improve the efficient functioning of the market. One cause of inadequate environmental protection arises from failures in the marketplace. Environmental hazards are often described as externalities of the production process, or costs that companies impose on third parties. If the market functioned ideally, individuals could force the internalization of these costs through bargaining. However, high transaction costs and an inadequate supply of information prevent those affected by pollution or other environmental externalities from bargaining effectively.<sup>22</sup> For example, an employee exposed to workplace hazards will be unable to bargain effectively for adequate compensation for this exposure if that employee lacks information regarding the hazards. Inadequate information can impair not only market actors but regulators as well because “[w]ithout basic data, externalities cannot be identified and internalized, and those who bear the costs of pollution cannot be made whole.”<sup>23</sup> Thus regulations requiring disclosure of information can, in a pointed manner, correct these market failures.<sup>24</sup> If the cause of an environmental problem is traced to a

---

<sup>21</sup> Menell, *supra* note 19, at 1435–36.

<sup>22</sup> As Daniel Esty explains, “[i]nadequate information and related transaction costs make Coasean contractual exchanges of environmental rights infeasible in many circumstances.” Daniel C. Esty, *Environmental Protection in the Information Age*, 79 N.Y.U. L. REV. 115, 117 (2004).

<sup>23</sup> *Id.* at 121–22.

<sup>24</sup> Cass R. Sunstein, *Informational Regulation and Informational Standing*:

failing in the market resulting from inadequate information, then providing the necessary information can correct these problems without involving cumbersome regulations.<sup>25</sup>

A second normative rationale is that informational disclosures can promote individual autonomy. This argument comes from the emerging “right to know” movement which suggests that members of the public have a fundamental right to know the risks to which they are being exposed.<sup>26</sup> The environmental right to know movement arose in response to the juxtaposition of a growing concern about environmental exposures to hazardous chemicals and the realization that little or no information about such exposures was readily available.<sup>27</sup> This right has been codified in varying degrees at the local, state and federal level.<sup>28</sup> The liberty interest of the consumer underlies this entitlement rationale. As Professor Cass Sunstein explains, “[i]f people are unaware of the consequences of their choices, they are, to that extent, less free.”<sup>29</sup> Thus, information disclosure promotes individual autonomy by providing individuals with knowledge of the risks involved in their choices and allowing them to decide whether or not to encounter those risks.

Third, informational regulation serves to foster the democratic process. Forcing disclosure of environmental information to the public can lead to a “democratization” of the environmental decision-making process because “more people can participate in the policy dialogue on any and every scale.”<sup>30</sup> Informational regulation can promote civic involvement because access to

---

Akins and Beyond, 147 U. PA. L. REV. 613, 624 (1999). Sunstein explains that market failures in the form of inadequate information arise for various reasons: “Because information is generally a public good . . . workers and consumers may attempt to free ride on the efforts of others, resulting in too little information being provided.” *Id.*; see also W. KIP VISCUSI, RATIONAL RISK POLICY 27 (1998).

<sup>25</sup> As a means of regulating the market, informational strategies are preferred to command and control approaches. Although informational strategies do not allow the market to function without intervention, they are more consistent with a role of government as fine-tuner of markets, rather than as controller of markets. See HADDEN, *supra* note 17, at 12.

<sup>26</sup> See generally *id.* (discussing the right to know movement).

<sup>27</sup> *Id.* at 15.

<sup>28</sup> See *id.* at 19–44 for a description of various right to know laws.

<sup>29</sup> Cass R. Sunstein, *Informing America: Risk, Disclosure, and the First Amendment*, 20 FLA. ST. U. L. REV. 653, 655 (1993).

<sup>30</sup> Esty, *supra* note 22, at 169.



information assists citizens in making knowledgeable assessments.<sup>31</sup> Informational disclosure improves the quality of deliberation because it strives to insure that all participants are equally knowledgeable. Additionally, requiring informational disclosure helps to prevent agencies or other information-generating bodies from withdrawing and thus “impoverishing” this dialogue.<sup>32</sup>

Finally, informational regulation can be justified by a utilitarian rationale: informational regulation can provide indirect incentives for industry to undertake self-regulation and thereby reduce risky activities. Modern day environmental pollutants are often not visible or tangible, leading to a difficulty for both regulators and consumers in adjusting behavior in response to these pollutants.<sup>33</sup> Additionally, many problems that arise from environmental pollutants do not manifest themselves until a long time after initial exposure.<sup>34</sup> The long range and difficult to detect effects of global warming produced by carbon dioxide and other greenhouse gas pollutants typify the category of invisible environmental threats.<sup>35</sup> Informational technology and regulation can serve to render these invisible dangers visible and as a result force industry to recognize these externalities. Programs such as the Toxics Release Inventory (“TRI”), which requires facilities to report, in a standardized manner, annual releases of toxic pollutants are an example of this aspect of informational regulation.<sup>36</sup> By bringing the dangers to light, informational regulation can create incentives for self-regulation: if the public at large learns of the risks being produced by industry, pressure from communities and organized groups may create strong incentives to reduce risk. Moreover, raising the visibility of the risks may bring attention from regulators as well as the community, and thus when unable to hide, industry might be incentivized to voluntarily reduce

---

<sup>31</sup> Sunstein, *supra* note 29, at 657.

<sup>32</sup> William F. Pederson, *Regulation and Information Disclosure: Parallel Universes and Beyond*, 25 HARV. ENVTL. L. REV. 151, 197 (2001).

<sup>33</sup> Esty, *supra* note 22, at 132.

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

<sup>35</sup> *Id.* at 133.

<sup>36</sup> See generally Bradley C. Karkkainen, *Information as Environmental Regulation: TRI and Performance Benchmarking, Precursor to a New Paradigm?*, 89 GEO. L.J. 257, 286 (2001) (describing how, among other things, TRI creates high degrees of transparency for outside parties concerning the regulated entities).

risk producing activities in order to avoid governmental interference.

C. *Informational Regulation as an Alternate Approach to Environmental Regulation*

In addition to these normative justifications, informational regulation can also be justified by its comparative benefits to alternative regulatory approaches. There are four potential approaches that a regulatory agency can take in order to manage risky products: maintain the status quo and leave risk management to market forces; ban the product entirely; directly alter the risk; or adopt a warning program. Arrayed on a spectrum, bans and direct interventions fall on the more intrusive and costly side, and the “no action” alternative falls on the other end. Informational regulation can thus be seen as an “intermediate” policy option.<sup>37</sup>

Command and control approaches have traditionally dominated environmental regulation in the United States via a series of centralized regulatory programs, aimed at particular types of environmental problems through congressionally enacted statutes.<sup>38</sup> As our experience with environmental policy and regulation has evolved, numerous commentators have reached a consensus that the traditional command and control approach (which includes the more involved ban and direct regulation options) has “failed miserably.”<sup>39</sup> Centralized regulation ignores variations in different industries, different regions, as well as

---

<sup>37</sup> WESLEY A. MAGAT & W. KIP VISCUSI, INFORMATIONAL APPROACHES TO REGULATION 4 (1992); see also VISCUSI, *supra* note 24, at 28 (“As a practical matter, information often plays a constructive role in giving policymakers an intermediate policy option when there is insufficient evidence to warrant direct regulation, but enough concern about a potential risk to alert the public of the need for care.”).

<sup>38</sup> See Richard Stewart, *A New Generation of Environmental Regulation?*, 29 CAP. U. L. REV. 21, 28 (2001).

<sup>39</sup> Rena I. Steinzor, *Devolution and the Public Health*, 24 HARV. ENVTL. L. REV. 351, 352–53 (2000) see also Eric W. Orts, *Reflexive Environmental Law*, 89 NW. U. L. REV. 1227, 1236 (1995) (“Although most critics recognize that command and control has achieved significant success in some cases, they emphasize that it is a blunt instrument for achieving environmental goals.”); Stewart, *supra* note 38, at 21 (Command and control regulation “has been criticized on the grounds that it is unduly rigid, cumbersome, and costly; fails to accommodate and stimulate innovation in resource-efficient means of pollution prevention; fails to prioritize risk management wisely; is patchwork in character . . . and relies on a remote centralized bureaucratic apparatus that lacks adequate democratic accountability.”).

different tolerance levels for risks.<sup>40</sup> Although centralized command and control regulation has been the paradigm of environmental regulation, more flexible approaches are needed to achieve further environmental improvements. Essentially, critics maintain that while central regulation has brought about considerable positive change in the past, this system is “reaching its inherent limits and is no longer capable of ensuring sustainable environmental progress at tolerable social cost.”<sup>41</sup>

As focus shifts away from command and control regulation, informational regulation stands poised to claim a more central role in environmental regulation.<sup>42</sup> While informational regulation has, in various incarnations, held a role in the American regulatory structure since the rise of the modern administrative state,<sup>43</sup> it is only recently gaining prominence in environmental law. Because such informational regulatory strategies do not directly regulate production they are perceived to be more “benign,” and therefore are often preferred over traditional command and control regulation.<sup>44</sup> Thus, critics concerned with the over-inclusiveness of command and control can support informational regulation as a less drastic alternative. Additionally, informational regulation can address command and control’s tendency to underregulate. Command and control relies upon a highly centralized structure

---

<sup>40</sup> See Stewart, *supra* note 38, at 31.

<sup>41</sup> *Id.* at 21. The statutory structure arising from the earlier generations of the environmental movement managed to get the “low hanging” fruit, leaving a need for current generations to implement more nuanced and sophisticated tools to achieve more elusive regulatory goals. See, e.g., Jonathan H. Adler, *Free & Green: A New Approach to Environmental Protection*, 24 HARV. J.L. & PUB. POL’Y 653, 658–59 (2001) (“The initial generation of environmental policy was effective principally because it was plucking low-hanging fruit . . . . Environmental problems were obvious and economical policy measures were readily available. Not so anymore. Today few low-hanging fruit remain, and the existing regulatory system is ill-equipped . . . to reach any higher.”).

<sup>42</sup> See Michael P. Vandenbergh, *From Smokestack to SUV: The Individual as Regulated Entity in the New Era of Environmental Law*, 57 VAND. L. REV. 515, 530 (2004). Vandenbergh characterizes informational regulation as “one of the most promising developments” arising from the recognition of the need to supplement or replace traditional regulatory instruments such as command and control and economic incentives. *Id.*

<sup>43</sup> For example, the Securities and Exchange Commission, a cornerstone of the New Deal, relies heavily on mandatory disclosures of information to regulate corporations. See Sunstein, *supra* note 24, at 618; David W. Case, *Corporate Environmental Reporting as Informational Regulation: A Law and Economics Perspective*, 76 U. COLO. L. REV. 379, 384 (2005).

<sup>44</sup> Volokh, *supra* note 15, at 806.

that often struggles with “ossification,” the outcome of which is limited regulation.<sup>45</sup> An effective warning regime relies far less upon complicated bureaucratic structures, and as a decentralized approach to risk management can conceivably avoid many of these problems of ossification. As a more “benign” possibility, informational regulation can also be used in situations where it is politically infeasible to work out a centralized regulation to address a risk. For example, although it was politically infeasible for the FDA to ban saccharin from food products, the FDA could use its regulatory authority to require warning labels that lead to a significant reduction in saccharin consumption.<sup>46</sup> Without the tool of informational regulation, this risk would have been underregulated as FDA was not willing (or able) to ban the additive.<sup>47</sup> Thus regulators can embrace informational regulation as an alternative or a supplement to the highly criticized command and control approach because informational strategies can compensate for the under- and overinclusiveness of command and control regulation.

#### D. *Criticisms of Informational Regulation*

Despite the promise of informational regulation, numerous critiques highlight the dangers of relying upon this method as a means of risk regulation. Informational regulation has been criticized both for being an ineffective form of regulation as well as for causing detrimental effects. In general, informational regulation relies upon the ability of the consumer to meaningfully process and apply complex hazard warning information. This ability is a limited one, as consumers are not the extensive information processors that regulatory agencies are considered to

---

<sup>45</sup> See generally Thomas O. McGarity, *Some Thoughts on “Deossifying” the Rulemaking Process*, 41 DUKE L.J. 1385 (1992). The term “ossification” describes the “increasingly rigid and burdensome” nature of the rulemaking process, resulting in part from requirements imposed by judicial scrutiny of agency decisions. See *id.* at 1385–86.

<sup>46</sup> See W. Kip Viscusi & Richard J. Zeckhauser, *Hazard Communication: Warnings and Risk*, 545 ANNALS AM. ACAD. POL. & SOC. SCI. 106, 113 (1996).

<sup>47</sup> See John Henkel, *Sugar Substitutes: Americans Opt for Sweetness and Lite*, FDA CONSUMER MAG., Nov.–Dec. 1999, at 12, 14. The FDA proposed to ban saccharin from the market in 1977. *Id.* This proposal led to public outcry and eventually the passage by Congress of the Saccharin Study and Labeling Act, which placed a two-year moratorium (which has been subsequently extended) on any ban of the sweetener. *Id.*

be.<sup>48</sup> Regulators can inadvertently render warnings less effective by including more information than can be easily processed by consumers, which can lead consumers to ignore the warning entirely.<sup>49</sup> Additionally, consumers are limited in their ability to accurately process low-level risks,<sup>50</sup> which creates another obstacle to the effectiveness of warning labels as a form of risk management.

Another consequence of relying on informational regulation is the problem of dilution. Dilution has been defined as the “risk that additional warnings about relatively inconsequential hazards may cause consumers to become less attentive to labels as a whole.”<sup>51</sup> The messages contained in warnings can become diluted either from a crowding out effect of too many warnings in general, or from having too much information included in a single warning. Essentially dilution results from information overload and can reduce the effectiveness of all warnings, and potentially even result in the discrediting of the regulator.<sup>52</sup> This line of criticism clearly echoes Kristoff’s insight about environmental warnings evolving into simply background noise. The problem of dilution is the problem of crying wolf: “Much like the little boy who cried wolf, myriad warnings that surround everyone and often call attention to trivial or well-known risks tend to reduce the attention that is paid to all warnings, thereby reducing their overall effectiveness.”<sup>53</sup> If everything is considered a “risk,” consumers will eventually ignore all warnings, since the advertised risk either cannot be avoided or

---

<sup>48</sup> See James R. Bettman et al., *Cognitive Considerations in Presenting Risk Information*, in *LEARNING ABOUT RISK*, *supra* note 18, at 13, 25.

<sup>49</sup> See Victor E. Schwartz & Russel W. Driver, *Warnings in the Workplace: The Need for a Synthesis of Law and Communication Theory*, 52 U. CIN. L. REV. 38, 59 (1983).

<sup>50</sup> See Steve P. Calandrillo, *Responsible Regulation: A Sensible Cost-Benefit, Risk Versus Risk Approach to Federal Health and Safety Regulation*, 81 B.U. L. REV. 957, 1000–03 (2001).

<sup>51</sup> Lars Noah, *The Imperative to Warn: Disentangling the “Right to Know” from the “Need to Know” About Consumer Product Hazards*, 11 YALE J. ON REG. 293, 297 (1994).

<sup>52</sup> See VISCUSI, *supra* note 24, at 44; Sunstein, *supra* note 24, at 627–28; see also Frank B. Cross, *The Public Role in Risk Control*, 24 ENVTL. L. 887, 960 (1994).

<sup>53</sup> Michael D. Green, *When Toxic Worlds Collide: Regulatory and Common Law Prescriptions for Risk Communication*, 13 HARV. ENVTL. L. REV. 209, 223 (1989).

is simply the product of an over zealous regulator.<sup>54</sup>

Another aspect of the dilution problem is that if there are too many warnings, consumers will not be able to distinguish among risks. If both trivial and more serious risks are accompanied by similar warnings, consumers will be unable to make appropriate comparative risk assessments.<sup>55</sup> As warnings do not account for any benefits lost by avoiding a particular product, they will not enable consumers to efficiently analyze potential risk-risk tradeoffs.<sup>56</sup> Informational regulatory structures must thus be wary of either diluting all messages of risk from an inundation of warnings or of diluting an individual message because it uses the same wording as a message regarding a less severe risk.

Another way that information programs are ineffective is that they rely upon the ability of the individual to read and comprehend the information presented. Thus warnings and labels cannot be utilized by the tens of millions of functionally illiterate Americans.<sup>57</sup> Numerous studies demonstrate that “a public policy which depends upon communicating tends to discriminate against the disadvantaged—the undereducated, the elderly, and the poor—who have a greater incidence of reading difficulties.”<sup>58</sup> Additionally, studies show that warning programs are regressive in that consumers who pay attention to warnings tend to be educated,

---

<sup>54</sup> See Noah, *supra* note 51, at 381–82. Congress recognized this danger of dilution in enacting the Federal Hazardous Substances Labeling Act in 1960, stating that

[i]f labeling were required to caution against the risk of even the most trifling indisposition, there would hardly be any substance going into the household which would not have to bear a cautionary labeling, so that consumers would tend more and more to disregard label warnings, thus inviting indifference to cautionary statements on packages of substances presenting a real hazard of substantial injury or illness.

H.R. REP. NO. 1861, 86th Cong., 2d Sess. (1960), *reprinted in* 1960 U.S.C.C.A.N. 2833, 2837, *quoted in* Noah, *supra* note 51, at 382.

<sup>55</sup> Noah, *supra* note 51, at 384.

<sup>56</sup> See Michael S. Yesley, *Afterword: Policy Issues in Risk Labeling*, in BANBURY REPORT 6: PRODUCT LABELING AND HEALTH RISKS 313, 316 (Louis A. Morris et al. eds., 1980).

<sup>57</sup> Cross, *supra* note 52, at 959. As of 1990, “estimates of the Department of Education [were] that a full one-third of us, seventy million Americans over the age of [f] seventeen, [were] either functionally illiterate or only barely literate.” H.W. LEWIS, *TECHNOLOGICAL RISK* 45 (1990).

<sup>58</sup> Raymond E. Schucker et al., *The Impact of the Saccharin Warning Label on Sales of Diet Soft Drinks in Supermarkets*, 2 J. PUB. POL’Y & MKTG. 46, 55 (1982).

professional individuals with high incomes.<sup>59</sup> Thus, informational regulation may protect consumers in an inconsistent manner, whereas a more stringent regulatory approach such as a ban would be more effective in reaching a greater number of individuals.

A warning regime can also be rendered ineffective by the actions of a product manufacturer. Once disclosure of risks is mandated, manufacturers have incentives to create the impression that any risks involved in the use of a product are trivial and outweighed by product benefits, regardless of the veracity of that impression.<sup>60</sup> Depending upon the actions of consumers necessarily relies upon their perceptions, which are vulnerable to manipulation both by product manufacturers as well as exterior influences such as the media.<sup>61</sup> Conflicting messages about a product risk from regulators, manufacturers, and the media can reduce the efficacy of the warning label as a means of risk management.

Finally, even if warnings are heeded by consumers, overcoming the problems of ineffective regimes and diluted messages, consumers are likely to overreact to the warnings. Consumers overreact when their response to a warning is incommensurate with the level of risk posed by the product subject to the warning. As discussed above, individuals have difficulties comprehending low-probability risks, which could result in overreaction as well as underreaction.<sup>62</sup>

---

<sup>59</sup> James A. Zellner, *Market Responses to Public Policies Affecting the Quality and Safety of Food and Diets*, in CONSUMER DEMANDS IN THE MARKETPLACE 55, 66 (Katherine L. Clancy ed., 1988). This disparity of impact was demonstrated in a study examining consumer responses to warning labels for saccharin. Although the warning labels did effect overall consumption of diet sodas containing saccharin, the response to the labels varied considerably. The study detected the early response to the warnings in neighborhoods with a high proportion of college-educated households, delayed response in neighborhoods with high concentrations of children, and no change in stores serving neighborhoods with high concentrations of the elderly and household heads with less than high school education. Schucker et al., *supra* note 58, at 54–55.

<sup>60</sup> See Jon D. Hanson & Douglas A. Kysar, *Taking Behavioralism Seriously: The Problem of Market Manipulation*, 74 N.Y.U. L. REV. 630, 724–43 (1999).

<sup>61</sup> *Id.*

<sup>62</sup> See Viscusi, *supra* note 16, at 287–88.

### E. *Can Warnings be Effective?*

One of the inherent limitations of relying upon informational regulation is that success is dependent upon individuals actually reading labels or other provided risk information. Prior evidence has reflected somewhat mixed findings as to the extent to which people actually read warnings.<sup>63</sup> Moreover, even if consumers are reading and responding to warnings, it is nearly impossible to quantify the effects that the warnings have on consumer behavior. For example, although consumption of soda with saccharin dropped by two percent once cancer warnings were printed on the cans, it is difficult to determine whether the warning labels themselves, the larger publicity or a change in tastes bears the responsibility for the shift.<sup>64</sup> However, one study undertaken by the FDA to analyze the effects of the saccharin warnings determined “[t]hat news and media events had no apparent effect on diet [saccharin-containing] soft drink sales.”<sup>65</sup> This suggests that the correlation between decreased sales of diet soda and the presence of the warning labels could demonstrate that the labels were effective in warning consumers. Despite the inability to scientifically quantify the effects of product labeling, these correlations are promising.<sup>66</sup>

Aside from the saccharin example, there are numerous indications that direct product labeling can influence consumer choices based on health. The FDA mandated the use of nutrition labeling for packaged foods in 1994, requiring that such foods be sold with a label listing basic information such as fat, cholesterol, caloric, sodium and carbohydrate content of a serving of the food.<sup>67</sup> In a recent survey, 85 percent of respondents said that they read these nutrition labels closely, some or all of the time.<sup>68</sup>

---

<sup>63</sup> MAGAT & VISCUSI, *supra* note 37, at 8 (discussing U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES, REVIEW OF THE RESEARCH LITERATURE ON THE EFFECTS OF HEALTH WARNING LABELS, A REPORT TO THE UNITED STATES CONGRESS (1987)).

<sup>64</sup> *Id.* at 6.

<sup>65</sup> Schucker et al., *supra* note 58, at 54.

<sup>66</sup> See Wesley A. Magat & W. Kip Viscusi, *Implications for Economic Behavior*, in LEARNING ABOUT RISK, *supra* note 18, at 125, 125–30.

<sup>67</sup> Nutrition Labeling of Food, 21 C.F.R. § 101.9 (2005).

<sup>68</sup> Marian Burros, *Read Any Good Nutrition Labels Lately?*, N.Y. TIMES,



Additionally, 66 percent said that the provided information was used to decide whether or not to buy a product.<sup>69</sup> Thus there are indications that consumers have the requisite savvy to utilize provided information regarding nutritional content to make purchasing decisions. However, follow up questions revealed that people using the nutrition labels do not necessarily have a comprehensive understanding of the information they are presented with. The poll suggested that people may only look at one or two items of information presented on the label while ignoring everything else.<sup>70</sup>

Other experience demonstrates that consumers can be extremely responsive to campaigns directed at promoting purchasing choices that are beneficial for both health and environmental reasons. An example of the efficacy of labeling in the crossroads of environmental and health concerns comes from recent experience with farmed and wild caught salmon. Environmental groups have been urging consumers to pick wild salmon over farmed, taking such actions as advertising in full page ads in the New York Times and holding demonstrations.<sup>71</sup> Environmental groups are concerned largely because salmon farms pollute waterways and farmed salmon are contaminated with hazardous materials.<sup>72</sup> This pressure from environmentalists was then coupled with a recent study in *Science* that found heightened PCB levels in farmed fish,<sup>73</sup> suggesting a good motivation for opting for wild over farmed salmon for health concerns.<sup>74</sup> In 2002, salmon began to be labeled with their origin as either farmed or wild, pursuant to the 2002 Farm Bill.<sup>75</sup> The result of making this information available has been a marked shift in the demand for

---

Dec. 1, 2004, at F1.

<sup>69</sup> *Id.*

<sup>70</sup> *Id.*

<sup>71</sup> See Jeff Barnard, *Wild-Salmon Prices Go Up in Sign of Campaign Success*, SEATTLE TIMES, May 5, 2004, at B6.

<sup>72</sup> *Id.*; see also, e.g., Environmental Defense, Oceans Alive: Salmon, <http://www.oceansalive.org/eat.cfm?subnav=fishpage&group=Salmon> (last visited May 23, 2005).

<sup>73</sup> Ronald A. Hites et al., *Global Assessment of Organic Contaminants in Farmed Salmon*, 303 SCIENCE 226, 227 (2004).

<sup>74</sup> Barnard, *supra* note 71.

<sup>75</sup> See The Farm Security and Rural Investment Act of 2002, Pub. L. No. 107-171, 116 Stat. 134 (2002).

wild salmon, greatly increasing prices.<sup>76</sup> As one fishermen noted, “What we have now is an informed public that wants our product.”<sup>77</sup>

Determining the efficacy of warning labels depends largely on what the goals of the warnings are. If the warnings seek to reduce consumption of a product because the product is inherently dangerous, it may be preferable to ban the product.<sup>78</sup> However, if the intent is simply to inform the public of a potential risk and let consumers determine for themselves their preferred risk exposure, a quantifiable change in demand is not necessarily required for success. A program that requires disclosure of information that does not even lead to regulation or self regulation can “still be legitimately counted as successful if it increases public understanding of the issues and leads to a more informed decision not to disturb the status quo.”<sup>79</sup>

F. *Proposition 65: California’s Approach to Informational Regulation*

As discussed above, the “right to know” movement has helped to foster informational regulation as a preferred regulatory strategy. One poignant example of the right to know movement’s impact on informational regulation is California’s Proposition 65. Proposition 65, the Safe Drinking Water and Toxic Enforcement Act was passed by a substantial majority of California voters in 1986.<sup>80</sup> To satisfy the consumer’s “right to know,” Proposition 65 requires that businesses must provide a clear and reasonable warning prior to knowingly and intentionally exposing any individual to a chemical listed by California as known carcinogens

---

<sup>76</sup> Barnard, *supra* note 71.

In 2002 [prior to labeling], when asked what salmon they would choose at the grocery or a restaurant, 29 percent said wild salmon, 26 percent farmed salmon, and 35 percent had no preference, according to the survey done by Riley Research Associates of Portland. [In 2004], 58 percent preferred wild salmon, and 10 percent farmed.

*Id.*

<sup>77</sup> *Id.* It is worth noting that *The New York Times* recently surveyed salmon sold with the label “wild” and determined that of the seven samples, only one was actually “wild.” Marian Burros, *Stores Say Wild Salmon, but Tests Say Farm Bred*, N.Y. TIMES, Apr. 10, 2005, at 1.1.

<sup>78</sup> See Viscusi, *supra* note 16, at 290.

<sup>79</sup> Pederson, *supra* note 32, at 161.

<sup>80</sup> Richard Simon, *Bradley Handed Only L.A.-Area Defeat in Valley*, L.A. TIMES, Nov. 6, 1986, at B8 (Proposition 65 received 63 percent of the vote).

or reproductive toxins.<sup>81</sup> Proposition 65 requires labeling of products that contain carcinogens or reproductive toxins (as designated by the state) at levels constituting a “significant risk.”<sup>82</sup> This “significant risk” is defined through regulations as a lifetime cancer risk of 1-in-100,000.<sup>83</sup>

This statute has two primary underlying goals: to provide individuals with adequate information to choose optimal risk exposure and to reduce overall exposure to toxic chemicals.<sup>84</sup> Although Proposition 65 has received mixed reviews as to its success on achieving the former,<sup>85</sup> on the latter front, due to product reformulations, the statute could largely be considered successful.<sup>86</sup> Proposition 65 can be enforced by either public prosecutors (including the Attorney General) or by “any person in the public interest.”<sup>87</sup> Failure to comply with the statute results in heavy daily fines, twenty-five percent of which go to the plaintiff initiating the enforcement action, thus critics refer to Proposition

---

<sup>81</sup> CAL. HEALTH & SAFETY CODE § 25249.6 (West 1999). The statute provides: “No person in the course of doing business shall knowingly and intentionally expose any individual to a chemical known to cause cancer or reproductive toxicity without first giving clear and reasonable warning to such individual. . . .” *Id.*

<sup>82</sup> *Id.* § 25249.10(c). Specifically, the statute provides an exemption if “the person responsible can show that the exposure poses no significant risk.” *Id.* Therefore, labeling is required for exposures that constitute a significant risk.

<sup>83</sup> CAL. CODE REGS. tit. 22 § 12721(b) (2000). This risk threshold level has been highly criticized as being far too low to be of real concern to consumers. As Magat and Viscusi explain,

[i]f individuals with typical attitudes towards risk-dollar trade-offs fully understood the risks involved and could act upon them, then to avoid this risk, they would be willing to pay less than a penny more for a product they purchased weekly and which posed a lifetime risk of 1 chance in 100,000. Thus a risk of 1 in 100,000 might well be viewed as the *de minimis* risk level rather than a significant-risk threshold.

MAGAT & VISCUSI, *supra* note 37, at 164.

<sup>84</sup> Clifford Rechtschaffen, *The Warning Game: Evaluating Warnings Under California’s Proposition 65*, 23 *ECOLOGY L.Q.* 303, 306–07 (1996).

<sup>85</sup> These criticisms are discussed *infra* at notes 92–94 and accompanying text.

<sup>86</sup> See generally Rechtschaffen, *supra* note 84 (describing Proposition 65’s success in achieving significant product reformulations, and thus reductions in risk exposure). Much like California’s strict emissions laws, Proposition 65’s effects on product reformulation are having nationwide impacts because it is “cheaper to reformulate or relabel [products] nationally than to have separate distribution for different states.” Randolph B. Smith, *California Spurs Reformulated Products*, *WALL ST. J.*, Nov. 1, 1990, at B1.

<sup>87</sup> CAL. HEALTH & SAFETY CODE § 25249.7(c)–(d).

65 as a “bounty hunter” statute.<sup>88</sup> Proposition 65 is undoubtedly one of the most ambitious implementations of an informational regulatory regime.<sup>89</sup>

However, Proposition 65’s warnings have been singled out as leading to overreaction by consumers. Proposition 65 has been criticized both because the warnings are “alarmist” in relation to the actual risk posed by the products, and because they have had little effect on actually changing consumer behavior. The wording required for carcinogens (“WARNING: This product contains a chemical known to the state of California to cause cancer”)<sup>90</sup> has been shown to lead consumers to irrational responses.<sup>91</sup> When analyzing consumer response to Proposition 65 warnings, Professors Magat and Viscusi found that consumers identified the risk of a labeled product to be equivalent to the cancer risk of smoking .58 packs of cigarettes.<sup>92</sup> Another study found subjects estimating the lifetime cancer risk from a Proposition 65-labeled product as 1 in 8, which is at least 12,500 times greater than the actual risk.<sup>93</sup> Thus, consumers’ limited ability to process informational disclosures has been shown to lead to irrational responses to Proposition 65 warnings. This has lead analysts to conclude that “Proposition 65 warnings are ill-suited to conveying the low levels of risks involved.”<sup>94</sup>

In sum, while informational regulation could be a promising alternative to command and control regulation, there are dangers in following this approach. These dangers are even more salient for

---

<sup>88</sup> See, e.g., Int’l Found. for the Conservation of Natural Res., Fisheries Comm., Proposition 65 Action Against Grocers: a Case of NGO Ingenuity, <http://fisheries.ifcnr.com/article.cfm?NewsID=409> (last visited Mar. 27, 2006) (referring to Proposition 65 as “a loaded weapon pointed directly at the heart of large, profitable corporations”).

<sup>89</sup> Rechtschaffen, *supra* note 84, at 306 (“Proposition 65 represents the most ambitious attempt by any state to regulate hazardous chemical exposure through information disclosure rather than by direct mandate.”).

<sup>90</sup> CAL CODE REGS. tit. 22 § 12601(b)(4)(A)(2000).

<sup>91</sup> See MAGAT & VISCUSI, *supra* note 37, at 161–65.

<sup>92</sup> *Id.* at 173.

<sup>93</sup> Volokh, *supra* note 15, at 828 (citing MAGAT & VISCUSI, *supra* note 37, at 171–74).

<sup>94</sup> Viscusi, *supra* note 16, at 284. Paradoxically, despite consumers’ overreaction to the meaning of Proposition 65 warnings, the warnings themselves have been met with “indifference.” Cross, *supra* note 52, at 962. See also, Susan G. Hadden, *Regulating Product Risks through Consumer Information*, 47 J. SOC. ISSUES 93, 99 (1991).

environmentalists at a time when they are working to maintain credibility and avoid the label of being “alarmists.” At the same time, the limitations of traditional command and control regulations are also compounded by the current administration that has not been particularly amiable to environmental regulations. The following case study will analyze this problem of whether informational regulation is worth these dangers.

## II. CASE STUDY: LABELING MERCURY-CONTAMINATED SEAFOOD

### A. *The Problem of Mercury Pollution*

As the EPA points out in its massive mercury study, mercury, like all elements, exists on earth in the same quantity that it has always existed.<sup>95</sup> What has changed is the form that quantity of mercury is in. Mercury exists in three forms in the environment: elemental mercury, inorganic mercury and organic/methyl mercury.<sup>96</sup> Prior to industrialization, most of earth’s mercury was trapped in fuels such as coal. Industrialization created a need for these fuels; some studies have shown a two- to fivefold increase in mercury concentrations in the air and water since the pre-industrial era.<sup>97</sup> When coal is burned, inorganic mercury is released into the atmosphere in a form that is not particularly harmful to humans, but capable of traveling great distances.<sup>98</sup> Although other activities contribute to mercury in the environment, coal-burning power plants are the single largest source of mercury pollution.<sup>99</sup> Moreover, the EPA believes that the pollution from the combustion of coal bears the “greatest responsibility” for the direct

---

<sup>95</sup> OFFICE OF AIR QUALITY PLANNING AND STANDARDS & OFFICE OF RESEARCH AND DEV., U.S. EPA, MERCURY STUDY REPORT TO CONGRESS, VOLUME I: EXECUTIVE SUMMARY, EPA-452/R-97-003, at 2-1 (1997) (hereinafter EPA MERCURY STUDY REPORT).

<sup>96</sup> *Id.*

<sup>97</sup> *Id.* at 3-3.

<sup>98</sup> *Id.* at 2-1.

<sup>99</sup> *See id.* at 3-5. According to the EPA’s report, the largest stationary sources of mercury emissions are: coal and oil burning electric power plants (32.8%), municipal waste incinerators (18.7%), commercial and industrial boilers powered by coal or oil (17.9%), medical waste incinerators (10.1%), hazardous waste incinerators (4.4%), and manufacturing plants (10%). *Id.* at 3-6 tbl.3-1. For specific analysis of mercury emissions from coal fired plants, see generally ENVTL. WORKING GROUP ET AL., MERCURY FALLING: AN ANALYSIS OF MERCURY POLLUTION FROM COAL-BURNING POWER PLANTS (1999).

deposition of mercury in the continental United States.<sup>100</sup>

The primary mercury exposure pathway for humans is by consuming seafood, in particular large, long-lived predators.<sup>101</sup> When airborne mercury gets into water it is converted into methylmercury which is highly toxic to humans.<sup>102</sup> Through the process of bioaccumulation, large predators in the water amass significant amounts of mercury in their tissue.<sup>103</sup> All fish have methylmercury in their tissue to some degree, but it becomes more concentrated the further up the food chain the fish is found.<sup>104</sup> Once accumulated into the tissues of fish, methylmercury cannot be removed by any type of cooking method.<sup>105</sup> On average, ninety-five percent of methylmercury is absorbed by a person eating contaminated fish.<sup>106</sup>

Mercury exposure has been linked to neurological damage for centuries. Mercury poisoning was prevalent among milliners in Victorian England who were exposed to high levels of mercury when using it to cure the exterior layer of fabric on a hat. These hatters suffered from symptoms such as “uncontrollable muscle tremors and spasms in their limbs, distorted vision, confused speech, and eventually full blown hallucinations, psychosis, and early death.”<sup>107</sup> Numerous epidemiological studies have documented the effects of large scale mercury exposure in other contexts. Symptoms typically encountered in these epidemiological studies include “fatigue, headache, decreased

---

<sup>100</sup> Regulatory Finding on the Emissions of Hazardous Air Pollutants from Electric Utility Steam Generating Units, 65 Fed. Reg. 79,825, 79,827 (Dec. 20, 2000).

<sup>101</sup> See COMM. ON THE TOXICOLOGICAL EFFECTS OF METHYLMERCURY, NAT’L RESEARCH COUNCIL, TOXICOLOGICAL EFFECTS OF METHYLMERCURY 16 (2000).

<sup>102</sup> This conversion occurs when the inorganic mercury, upon entering water encounters bacteria and is incorporated into sediment where it is methylated into methylmercury, a form which is extremely toxic. *Id.* at 16–17.

<sup>103</sup> *Id.*

<sup>104</sup> *Id.* An example that demonstrates the extent of this magnification estimates that although the total volume of mercury deposited on a twenty-five acre lake over an entire year would amount to about 1/70th of a teaspoon, under the right conditions this amount could contaminate the entire lake to the point where fish are unsafe to eat. Janet Raloff, *Mercurial Risks from Acid’s Rain*, 139 SCI. NEWS 152, 153 (1991).

<sup>105</sup> Jane M. Hightower & Dan Moore, *Mercury Levels in High-End Consumers of Fish*, 111 ENVTL. HEALTH PERSP. 604, 604 (2003).

<sup>106</sup> *Id.*

<sup>107</sup> Wendy Thomas, Note, *Through the Looking Glass: A Reflection on Current Mercury Regulation*, 29 COLUM. J. ENVTL. L. 145, 146 (2004).

memory, decreased concentration, and muscle or joint pain.”<sup>108</sup> Other studies have found correlations between methylmercury and impairments of the immune and reproductive systems, at even modest levels.<sup>109</sup> Although all human brains are vulnerable to the effects of mercury exposure, as a neurotoxin, mercury is most dangerous for developing brains. Thus the groups most at risk to the effects of mercury are pregnant women, women who might become pregnant and small children. A pregnant woman can transmit large quantities of mercury to her fetus because mercury becomes more concentrated as it passes through the umbilical cord.<sup>110</sup> A small concentration of mercury that may have no effect on a woman can have a greatly magnified impact on her developing fetus.

Recently, Dr. Jane Hightower performed a study among her patients complaining of symptoms such as depression, loss of hair, metallic taste, headaches, arthritic pain in joints, irritability, tremors, and numbness and tingling in hands and feet, along with cognitive problems such as memory loss and confusion.<sup>111</sup> Dr. Hightower began testing the mercury levels of her patients and found a correlation between elevated mercury and these types

---

<sup>108</sup> Hightower & Moore, *supra* note 105, at 604. Some experts have also posited a correlation between mercury exposure via vaccinations and autism. See Arthur Allen, *The Not-So-Crackpot Autism Theory*, N.Y. TIMES MAG., Nov. 10, 2002, at 66. Thus, it is possible, though highly speculative, that mercury exposure via fish consumption may also correlate to autism.

<sup>109</sup> COMM. ON THE TOXICOLOGICAL EFFECTS OF METHYLMERCURY, *supra* note 101, at 156–61. Some studies have found an association between myocardial infarction and mercury levels close to the EPA’s recommended reference dose, or RfD. See, e.g., Eliseo Guallar et al., *Mercury, Fish Oils, and the Risk of Myocardial Infarction*, 347 NEW ENG. J. MED. 1747, 1747–54 (2002). Other general symptoms of mercury exposure include muscle stiffness, dysesthesia, hand tremor, dizziness, loss of pain sensation, muscle cramps, upper arm muscular atrophy, arthralgia, lumbago, leg tremor, tinnitus, leg muscular atrophy, chest pain, palpitations, fatigue, visual dimness, and staggering. Yoshiharu Fukuda et al., *An Analysis of Subjective Complaints in a Population Living in a Methylmercury-Polluted Area*, 81 ENVTL. RES. 100, 104. (1999).

<sup>110</sup> Kathryn R. Mahaffey et al., *Blood Organic Mercury and Dietary Mercury Intake: National Health and Nutrition Examination Survey, 1999 and 2000*, 112 ENVTL. HEALTH PERSP. 562, 569 (2004) (finding mercury levels in umbilical cords to be, on average, seventy percent higher than mercury concentrations in the mother’s bloodstream).

<sup>111</sup> See Sam Roe & Michael Hawthorne, *Toxic Risk on Your Plate*, CHI. TRIB., Dec. 11, 2005, at 1; Craig Welch, *State Investigators Go Fishing for Leads on Mercury’s Menace*, SEATTLE TIMES, Oct. 27, 2002, at A1.

of symptoms.<sup>112</sup> Moreover, Dr. Hightower found a positive correlation between fish consumption and mercury elevations in her study patients.<sup>113</sup> “Elevated” levels of mercury are defined as those which exceed a blood mercury level corresponding to the EPA’s recommended reference dose (“RfD”).<sup>114</sup> Currently, EPA’s recommended RfD is set at 0.1 micrograms of mercury per kilogram (“ $\mu\text{g Hg/kg}$ ”) of body weight per day, and the recommended level of whole mercury blood level corresponding to that RfD is 5.0 micrograms per liter (“ $\mu\text{g/L}$ ”).<sup>115</sup> Dr. Hightower found that when her test subjects reduced their fish consumption, their mercury levels were reduced, but this reduction took longer than five months for many individuals.<sup>116</sup>

This and the previous epidemiological studies suggest that consuming fish contaminated with mercury can lead to a host of health problems, which are exacerbated in the sensitive populations of children and pregnant women. Once in fish, mercury cannot be removed, and therefore, to reduce future mercury levels in fish, mercury emissions must be reduced.

### B. *Regulating Mercury Pollution*

As discussed above, the primary contributors to mercury pollution are coal-fired utility plants. However, until recently no regulation restricted mercury emissions from these and other sources. Mercury regulations under the Clean Air Act came into consideration after a panel convened by the National Academy of Sciences found that existing levels of methylmercury produced by power plants created an “unacceptable” health risk to children.<sup>117</sup>

---

<sup>112</sup> Hightower & Moore, *supra* note 105, at 604–05; *see also* Jane E. Allen, *A Catch to Eating a Lot of Fish: As More People Turn to Seafood as a Source of Lean Protein, the Risk of Mercury Poisoning Rises*, L.A. TIMES, May 26, 2004, at F3.

<sup>113</sup> Hightower & Moore, *supra* note 105, at 606.

<sup>114</sup> *Id.* at 604.

The reference dose is an amount of methylmercury, which when ingested daily over a lifetime is anticipated to be without adverse health effects to humans, including sensitive subpopulations. At the RfD or below, exposures are expected to be safe. The risk following exposures above the RfD is uncertain, but risk increases as exposures to methylmercury increase.

EPA MERCURY STUDY REPORT, *supra* note 95, at O-2.

<sup>115</sup> Hightower & Moore, *supra* note 105, at 604.

<sup>116</sup> *Id.* at 608.

<sup>117</sup> Andrew C. Revkin, *Milestone Report on Mercury Emissions*, N.Y. TIMES,



These findings led EPA to announce that it was “appropriate and necessary” to regulate coal and oil fired electric utilities under Section 112 of the Clean Air Act, in December 2000.<sup>118</sup> The end result of this determination was the promulgation of the Clean Air Mercury Rule in 2005.<sup>119</sup>

Prior to this regulatory shift, mercury exposure was dealt with solely through the separate advisory systems of the FDA and EPA, which warned consumers about the risks of consuming contaminated seafood. The National Academy of Sciences panel concluded that these warnings were insufficient to protect vulnerable populations, calling instead for a reduction in mercury concentrations.<sup>120</sup> EPA scientists, in examining exposure during pregnancy, have estimated that nearly one in six children born in the U.S. could be at risk for neurological and learning disorders because of mercury exposure, estimating that 630,000 out of 4 million babies born each year are at risk.<sup>121</sup>

On December 15, 2003, EPA proposed two alternatives for controlling mercury emissions: require sources to install maximum

---

July 12, 2000, at A16.

<sup>118</sup> Regulatory Finding on the Emissions of Hazardous Air Pollutants from Electric Utility Steam Generating Units, 65 Fed. Reg. 79,825 (Dec. 20, 2000).

<sup>119</sup> See Standards of Performance for New and Existing Stationary Sources: Electric Utility Steam Generating Units, 70 Fed. Reg. 28,606, 28,649 (May 18, 2005) (to be codified at 40 C.F.R. pts. 60, 72, 75) [hereinafter EPA Mercury Rule]. In response to four petitions, one submitted by fourteen states, a second submitted by five environmental groups, a third submitted by the Jamestown Board of Public Utilities, and a fourth submitted by the Integrated Waste Service Association, EPA has decided to reconsider this rule. Standards of Performance for New and Existing Stationary Sources: Electricity Utility Steam Generating Units: Reconsideration, 70 Fed. Reg. 62,213, 62,214–15 (Oct. 28, 2005).

<sup>120</sup> See Regulatory Finding on the Emissions of Hazardous Air Pollutants from Electric Utility Steam Generating Units, 65 Fed. Reg. at 79,830.

<sup>121</sup> See Mahaffey, *supra* note 11; see also Jennifer 8. Lee, *E.P.A. Raises Estimate of Babies Affected by Mercury Exposure*, N.Y. TIMES, Feb. 10, 2004, at F2. In response to this study, the U.S. Tuna Foundation has stated that

this estimate is not based on any science. Instead, the activists have distorted a government study designed for another purpose to come up with estimates that make good headlines but have no basis in fact. Here is the real fact: every scientific study has found is [sic] that no one in the U.S. has anywhere near the amount of mercury in their system known to cause a health problem.

U.S. Tuna Found., Questions and Answers About Mercury and Seafood, <http://www.tunafacts.com/mercury/qanda.cfm> (last visited Mar. 27, 2006). Dr. Hightower’s study, however, seems to contradict this statement. See generally, Hightower & Moore, *supra* note 105.

achievable control technology (“MACT”)<sup>122</sup> or utilize a market-based cap and trade program.<sup>123</sup> EPA received a record number of comments concerning these alternatives<sup>124</sup> and has since issued its final rule.<sup>125</sup>

The new rule, known as the Clean Air Mercury Rule (“Mercury Rule”) relies upon a market based cap-and-trade program to reduce nationwide utility emissions of mercury.<sup>126</sup> The EPA modeled this system on the Acid Rain Program, which most critics consider a success.<sup>127</sup> Additionally, new sources<sup>128</sup> will be required to meet new source performance standards.

In a separate, but related action on March 15th, EPA revised and reversed its December 2000 finding that it was appropriate and necessary to regulate coal and oil fired power plants under Section 112 of the Clean Air Act.<sup>129</sup> The impact of this finding is that it relieves EPA of the responsibility to regulate mercury regulations

---

<sup>122</sup> This standard is the maximum in hazardous pollutant emissions possible, while taking into account the costs of emission reductions, other environmental or health impacts, and energy considerations. Clean Air Act § 112(d)(2), 42 U.S.C. § 7412(d)(2) (2000).

<sup>123</sup> Proposed National Emission Standards for Hazardous Pollutants, 69 Fed. Reg. 4652, 4652 (proposed Jan. 30, 2004) (codified at 40 C.F.R. pts. 60, 63) (revision of earlier suggestion).

<sup>124</sup> EPA received over 4,500 unique comments on the Proposed Clean Air Mercury Rule. See EPA, Controlling Power Plant Emissions: Public Comments, [http://www.epa.gov/mercury/control\\_emissions/comment.htm](http://www.epa.gov/mercury/control_emissions/comment.htm) (last visited Mar. 6, 2006).

<sup>125</sup> EPA Mercury Rule, *supra* note 119, at 28,649. The new mercury rule was issued in conjunction with the Clean Air Interstate Rule (“CAIR”), which EPA issued on March 10, 2005. U.S. Env’tl. Prot. Agency, Clean Air Interstate Rule, <http://www.epa.gov/CAIR/> (last visited Apr. 10, 2006); Rule to Reduce Interstate Transport of Fine Particulate Matter and Ozone (Clean Air Interstate Rule) 70 Fed. Reg. 25,162 (May 12, 2005) (codified at 40 C.F.R. pts. 51, 72, 73, 74, 77, 78, 96).

<sup>126</sup> EPA Mercury Rule, *supra* note 119, at 28,606.

<sup>127</sup> See, e.g., Byron Swift, *How Environmental Laws Work: An Analysis of the Utility Sector’s Response to Regulation of Nitrogen Oxides and Sulfur Dioxide Under the Clean Air Act*, 14 TUL. ENVTL. L.J. 309, 408–09 (2001) (stating that the cap and trade program created “significant environmental and economic benefits”).

<sup>128</sup> “New” refers to construction starting on or after January 30, 2004. EPA Mercury Rule, *supra* note 119, at 28,610.

<sup>129</sup> Revision of December 2000 Regulatory Finding on the Emissions of Hazardous Air Pollutants from Electric Utility Steam Generating Units and the Removal of Coal- and Oil-Fired Electric Utility Steam Generating Units from the Section 112(c) List, 70 Fed. Reg. 15,994 (Mar. 29, 2005) (codified at 40 C.F.R. pt. 63).

through the use of MACT.

This rule has been widely criticized as an ineffective approach to addressing mercury pollution. According to a report by the Government Accountability Office (“GAO”), EPA’s economic analysis leading to the decision to adopt the cap-and-trade approach, rather than the MACT approach was seriously flawed.<sup>130</sup> The rule has been challenged by a coalition of eleven states who claim that the new rule actually slows down reductions in mercury emissions.<sup>131</sup> Environmental organizations, including Environmental Defense, National Wildlife Federation and Sierra Club have additionally challenged the rule.<sup>132</sup> The states and environmental organizations essentially argue that the EPA has failed to satisfy its duties under the Clean Air Act by choosing the least effective alternative to reduce mercury emissions.<sup>133</sup> Additionally, these groups are concerned with the potential for “hot spots” of mercury pollution resulting from the cap and trade approach.<sup>134</sup> Thus, although the EPA has issued a new rule to regulate mercury emissions, the rule arguably exacerbates problems of mercury pollution rather than reducing those problems.

Even if the EPA effectively regulated domestic mercury pollution, there may be little to no effect on the amount of mercury present in fish for years, if ever. As a long-range pollutant, mercury impacting the United States is not solely from the United States. Approximately forty percent of the total deposition of mercury in the United States comes from a “global reservoir” of mercury in the Earth’s atmosphere.<sup>135</sup> Thus controls on sources in

---

<sup>130</sup> U.S. GOV’T ACCOUNTABILITY OFFICE, CLEAN AIR ACT: OBSERVATIONS ON EPA’S COST-BENEFIT ANALYSIS OF ITS MERCURY CONTROL OPTIONS 15 (2005), available at <http://www.gao.gov/new.items/d05252.pdf> (“EPA’s initial economic analysis of the two policies it is considering has a number of shortcomings.”).

<sup>131</sup> See Michelle O’Donnell, *States Challenge Break on Mercury for Power Plants*, N.Y. TIMES, May 19, 2005, at B9.

<sup>132</sup> Press Release, Earthjustice, Conservation Groups Challenge Weak EPA Mercury Rule for Power Plants (May 17, 2005), available at <http://www.earthjustice.org/news/display.html?ID=995>.

<sup>133</sup> *Id.* In response to formal petitions from these groups, the EPA has agreed to “reconsider” the Clean Air Mercury Rule. See *supra* note 119.

<sup>134</sup> O’Donnell, *supra* note 131; see also Paul Krugman, Op-Ed., *The Mercury Scandal*, N.Y. TIMES, Apr. 6, 2004, at A23 (explaining that because mercury is a heavy metal, it is prone to concentrate in hot spots).

<sup>135</sup> OFFICE OF AIR QUALITY PLANNING AND STANDARDS, U.S. EPA, DEPOSITION OF AIR POLLUTANTS TO THE GREAT WATERS: THIRD REPORT TO

the United States would not fully address all problems of mercury contamination in the United States. However, as the EPA has determined that “about three times as much mercury is being added to the global reservoir from U.S. sources as is being deposited from it,” reductions in emissions in the United States can have a dramatic impact on world wide mercury levels.<sup>136</sup>

Moreover, even if all global emissions of mercury were ceased, it would take at least fifteen years for the mercury reservoirs in the oceans and the atmosphere to return to pre-industrial conditions.<sup>137</sup> It is therefore difficult to determine how much, and over what time period, mercury concentrations in fish would decline as a result of regulations on mercury emissions in the United States.<sup>138</sup>

### C. *Regulating Seafood Consumption*

Due to the dangers posed by mercury in seafood, the FDA as well as the EPA have attempted to regulate this consumer risk. As discussed above, the current “safe dose” set by the FDA and EPA is a daily dose of 0.1 µg/kg.<sup>139</sup> About half of people who eat fish daily, which accounts for 1 to 2 percent of the U.S. population, eat enough fish every day to exceed this “safe dose.” Of the more sensitive populations, “about 4 million, or 7% of all women of child-bearing age, eat enough mercury-contaminated fish to potentially exceed what the EPA considers a safe dose . . . [and] about 3 million children ages 3 to 6 eat enough mercury-contaminated fish to potentially exceed” that level.<sup>140</sup>

After years of releasing separate and sometimes conflicting guidelines about safe levels of mercury consumption, the FDA and EPA jointly released the following advisory for women who may become pregnant, pregnant women, nursing mothers, and young children:

By following these 3 recommendations for selecting and eating fish or shellfish, women and young children will receive the benefits of eating fish and shellfish and be confident that they

---

CONGRESS II-8 (2002).

<sup>136</sup> EPA MERCURY STUDY REPORT, *supra* note 95, at O-1 to O-2.

<sup>137</sup> *Id.* at 3-3 to 3-4.

<sup>138</sup> *See id.*

<sup>139</sup> *See supra* notes 114–15, and accompanying text.

<sup>140</sup> ENVTL. WORKING GROUP ET AL., *supra* note 99, at 21.

have reduced their exposure to the harmful effects of mercury.

1. Do not eat Shark, Swordfish, King Mackerel, or Tilefish because they contain high levels of mercury.
2. Eat up to 12 ounces (two average meals) a week of fish and shellfish that are lower in mercury.
  - Five of the most commonly eaten fish that are low in mercury are shrimp, canned light tuna, salmon, pollock and catfish.
  - Another commonly eaten fish, albacore (“white”) tuna has more mercury than canned light tuna. So, when choosing your two meals of fish and shellfish, you may eat up to six ounces (one average meal) of albacore tuna per week.
3. Check local advisories about the safety of fish caught by family and friends in your local lakes, rivers and coastal areas. If no advice is available, eat up to six ounces (one average meal) per week of fish you catch from local waters, but don’t consume any other fish during that week.

Follow these same recommendations when feeding fish and shellfish to your young child, but serve smaller portions.<sup>141</sup>

One of the FDA’s biggest concerns in drafting the advisory was to find a way to warn against the dangers of eating some seafood without scaring consumers away from fish altogether. Fish has been heavily promoted by the FDA, and thus the agency attempted to strike a balance in their advisory, opening the advisory by stating that:

Fish and shellfish are an important part of a healthy diet. Fish and shellfish contain high-quality protein and other essential nutrients, are low in saturated fat, and contain omega-3 fatty acids. A well-balanced diet that includes a variety of fish and shellfish can contribute to heart health and children’s proper growth and development. So, women and young children in particular should include fish or shellfish in their diets due to

---

<sup>141</sup> U.S. DEPT. OF HEALTH AND HUMAN SERVS. & U.S. EPA, WHAT YOU NEED TO KNOW ABOUT MERCURY IN FISH AND SHELLFISH (2004) [hereinafter FDA/EPA ADVISORY], available at <http://www.epa.gov/waterscience/fishadvice/advisory.pdf>.

the many nutritional benefits.<sup>142</sup>

The FDA and EPA publicized the advisory, sending out press releases and information to doctors' offices.<sup>143</sup> There was no effort, however, to make this information available at the point of sale of the affected seafood. Thus, the agencies relied upon consumer interest in obtaining the information from their doctors or through their own personal research for the warning to be effective.

This reliance is proving to be ill-advised. In order for a warning to be effective at bringing risk assessment into consumers' purchasing decisions, that warning must be placed in such a way that it can be actually integrated into the decision.<sup>144</sup> If the FDA had actually wanted to incorporate the warning into consumers' purchasing decisions, their use of a public education strategy rather than either point of purchase or direct labeling was woefully inadequate. Even the American Medical Association has criticized these warnings as being inadequate to protect consumers stating that: "Given the limitations of national consumer fish consumption advisories, the Food and Drug Administration should consider the advisability of requiring that fish consumption advisories and results related to mercury testing be posted where fish, including canned tuna, are sold."<sup>145</sup> The FDA advisory fails to reach numerous consumers because there is no way of guaranteeing that a consumer is aware of such a warning at the

---

<sup>142</sup> *Id.* Although the FDA promotes seafood consumption as a means to promote coronary health, recent studies have suggested that mercury itself can increase an adult's risk of heart's disease and thus "mercury may . . . attenuate the protective effects of fish on cardiovascular health." Jyrki K. Virtanen et al., *Mercury, Fish Oils, and Risk of Acute Coronary Events and Cardiovascular Disease, Coronary Heart Disease, and All-Cause Mortality in Men in Eastern Finland*, 25 *ARTERIOSCLEROSIS, THROMBOSIS, & VASCULAR BIOLOGY* 228 (2005).

<sup>143</sup> See U.S. EPA, <http://www.epa.gov/waterscience/fishadvice/factsheet.html> ("FDA and EPA are planning a comprehensive educational campaign. . . . The agencies will work with state, local and tribal health departments to get information out into their communities. Physicians, other health professionals, and health care associations will be sent information to distribute through their offices. Extensive outreach through the media is also planned.") (last visited Feb. 27, 2006).

<sup>144</sup> See Viscusi, *supra* note 16, at 298–99.

<sup>145</sup> COUNSEL ON SCIENTIFIC AFFAIRS, AM. MED. ASS'N, CSA REPORT 13-A-04, MERCURY AND FISH CONSUMPTION: MEDICAL AND PUBLIC HEALTH ISSUES 9 (2004), available at <http://democrats.senate.gov/dpc/hearings/hearing16/AMA%20Report%20on%20Mercury%20-%20June%202004.pdf>.

time of purchase.

Additional criticisms allege that the FDA advisory on its face is not sufficiently protective of those vulnerable to mercury. The Environmental Working Group used the Data Quality Act to petition the FDA to change their advisory because the consumption advice is not accurate.<sup>146</sup> The organization demonstrates that a 140-pound woman eating a six-ounce can of albacore tuna each week, consistent with the advisory, would consume mercury in excess of the reference dose by thirty percent.<sup>147</sup> Additional evidence that the FDA advisory is insufficient can be found in Dr. Hightower's study. Although the five children in the study did not consume tile fish, swordfish, king mackerel or shark (the only fish addressed in the FDA advisory in effect at the time of the study), they all had mercury levels in excess of the RfD, most likely attributable to consumption of tuna.<sup>148</sup> She concluded that "[g]iven that fish consumption is promoted to reduce the risk of coronary heart disease, the need to improve information and publicity on the risks entailed is great."<sup>149</sup>

Finally, critics assail the advisory for being too vague and thus unhelpful. For example, the FDA and EPA advise that when serving young children to "[f]ollow these same recommendations . . . but serve smaller portions."<sup>150</sup> This guidance is hopelessly vague; not only are portion sizes not delineated, but who qualifies as "young children" is left undefined.

The seafood industry has asserted a different line of criticism alleging that the advisory goes too far and thus leads to an

---

<sup>146</sup> Press Release, Env'tl. Working Group, Proposed EPA Mercury Rule Leads World in Wrong Direction: Group Intensifies Legal Challenge to Tuna and Seafood Advisory (Mar. 14, 2005), *available at* <http://www.ewg.org/issues/mercury/20050314/index.php>. The Environmental Working Group originally petitioned the FDA in December 2003. Letter from Jane Houlihan, Vice President for Research, Env'tl. Working Group, to Dr. David Acheson, Chief Med. Officer, Office of Sci., Ctr. for Food Safety and Applied Nutrition, U.S. Food and Drug Administration 1, 5 (Dec. 22, 2003), *available at* [http://www.ewg.org/issues\\_content/mercury/20031222/FDA\\_DQChallenge.pdf](http://www.ewg.org/issues_content/mercury/20031222/FDA_DQChallenge.pdf). The FDA, in February 2005, denied the request to change the advisory, and the Environmental Working Group subsequently filed an appeal of that decision in March 2005. *See* Press Release, Env'tl. Working Group, *supra*.

<sup>147</sup> Letter from Jane Houlihan to Dr. David Acheson, *supra* note 146, at 6.

<sup>148</sup> Hightower & Moore, *supra* note 105, at 606.

<sup>149</sup> *Id.* at 607.

<sup>150</sup> FDA/EPA ADVISORY, *supra* note 141.

irrational chilling effect on fish consumption. The president of the National Fisheries Institute has claimed that “focus groups have shown that the target audience of young women threatened to move away from fish broadly, not just targeted fish.”<sup>151</sup> From this evidence the Institute concluded that the advisory resulted in “a transfer of solid demonstrated benefits for a reduction in perceived risks.”<sup>152</sup> The United States Tuna Foundation has told consumers, despite Dr. Hightower’s findings to the contrary, that “[n]obody eating canned tuna in the U.S. has ever consumed the amount of mercury that comes close to what scientists call the ‘no observed adverse effect level’—or the level linked to adverse health effects.”<sup>153</sup> The tuna industry stresses to consumers that “[n]ot only is canned tuna completely safe but also, it is one of the healthiest foods that a growing child can eat.”<sup>154</sup> Thus the FDA’s advisory has been assailed as both under- and overprotective.

In sum, a lax regulatory structure combined with a limited warning mechanism has left many susceptible consumers without adequate protection from mercury contamination. According to the most recent estimate, this will leave over 600,000 children born in the United States each year vulnerable to neurological damage from mercury exposure.<sup>155</sup>

#### D. *California’s Approach to Mercury Contamination in Seafood*

California has taken a unique approach to counter the problem of mercury-contaminated seafood. Attorney General Bill Lockyer has attempted to use Proposition 65, the “right to know” statute discussed above, to require information about mercury exposure to be posted at the point of sale for affected seafood. Mercury can be addressed using Proposition 65, because it has been identified by California as a known toxin.<sup>156</sup> Although mercury occurs naturally

---

<sup>151</sup> Jennifer 8. Lee, *U.S. Issues Guidelines on Eating of Some Tuna*, N.Y. TIMES, MAR. 19, 2004, at A16.

<sup>152</sup> *Id.*

<sup>153</sup> U.S. Tuna Found., *supra* note 121.

<sup>154</sup> *Id.* It is also interesting to note that the Tuna industry disagrees with the FDA’s serving size for canned tuna. While the FDA defines a single serving as six ounces, the Tuna industry defines it as two ounces. *Id.* A typical can is six ounces.

<sup>155</sup> See Mahaffey, *supra* note 11.

<sup>156</sup> OFFICE OF ENVTL. HEALTH HAZARD ASSESSMENT, STATE OF CAL. ENVTL. PROT. AGENCY, SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT OF 1986,



in seafood, it could still be considered a “contaminant” because “where some portion of a toxin present in food has been introduced by man, the entirety of that substance present in the food will be treated as an added substance.”<sup>157</sup>

Lockyer embarked on this approach by suing to enforce Proposition 65 against grocers, restaurants and tuna manufacturers whose products contain mercury. Lockyer acted in response to two organizations (Sea Turtle Restoration Project and the As You Sow Foundation) who, after testing swordfish from Californian supermarkets, found high levels of mercury present. The organizations then filed a sixty day notice of intent to sue five grocery chains (Safeway, Kroger, Albertsons, Trader Joe’s, and Whole Foods). On January 17, 2003, Lockyer responded by bringing a suit attempting to force those grocery chains to warn customers about the mercury content in tuna (fresh not canned), swordfish and shark.<sup>158</sup> The suit has since been extended to include various restaurants and additional grocers.<sup>159</sup>

The California Grocers Association (“CGA”) and the California Restaurant Association (“CRA”) urged their members to post warning signs suggested by the Attorney General’s Office in order to avoid liability.<sup>160</sup> Although signs did begin to appear pursuant to this recommendation,<sup>161</sup> surveys conducted by the Sea Turtle Restoration Project in November 2003 suggest that

---

CHEMICALS KNOWN TO THE STATE TO CAUSE CANCER OR REPRODUCTIVE TOXICITY 11 (2005), available at [http://www.oehha.ca.gov/prop65/prop65\\_list/files/P65single052005.pdf](http://www.oehha.ca.gov/prop65/prop65_list/files/P65single052005.pdf).

<sup>157</sup> United States v. Anderson Seafoods, Inc., 622 F.2d 157, 161 (5th Cir. 1980) (discussing FDA statute).

<sup>158</sup> Press Release, Office of the Attorney Gen., Attorney General Lockyer Pushes Grocers to Warn Consumers about Mercury in Fish (Jan. 17, 2003), available at <http://caag.state.ca.us/newsalerts/2003/03-010.htm>.

<sup>159</sup> Interestingly, Lockyer sued the restaurant companies at their request. The restaurants hoped to preclude similar lawsuits by consumer groups such as Turtle Island Restoration Network and As You Sow. See Alan J. Liddle, *Chains Settle State’s Lawsuit, Agree to Post Fish Warnings in California Outlets: Will Inform Diners of Mercury Dangers*, NATION’S RESTAURANT NEWS, Feb. 21, 2005, at 1, 115.

<sup>160</sup> Letter from Peter Larkin, President, California Grocers Ass’n, to CGA Members (Feb. 14, 2003), available at <http://www.cagrocers.com/images/pdf/CGAletter1.pdf>; Memorandum from John D. Dunlap III, President and CEO, California Restaurant Ass’n, to CRA Members (Apr. 24, 2003), available at <http://www.calrest.org/pdf/prop65memo.pdf>.

<sup>161</sup> Jane Kay, *Grocers Post Mercury Warnings on Fish: Safeway and Others Respond to State Suit*, S.F. CHRON., Feb. 21, 2003, at A17.

compliance with warning requirements was somewhat patchy.<sup>162</sup> Looking at 109 grocery stores, the survey found that 41 percent of surveyed stores had no signs whatsoever in fresh or frozen seafood areas and that 73 percent had either failed to post signs or posted them in places that are difficult for customers to see.<sup>163</sup>

The survey also found that 93 percent of stores had no warnings near canned tuna,<sup>164</sup> which is not surprising considering that the most controversial aspect of this suit was to what extent it applied to canned tuna, which constitutes a major portion of many American's fish consumption.<sup>165</sup> The suggested wording of warning signs includes the statement that "[m]ercury levels in canned tuna vary. Tuna steaks and canned albacore tuna have higher levels of mercury than canned light tuna."<sup>166</sup> Although the Attorney General's Office, when communicating with the CGA, suggested that grocers post the recommended warnings signs near all fish "whether fresh, frozen, or canned,"<sup>167</sup> canned tuna producers requested of the CGA that they "do not place any warnings in or around canned tuna and that you do not use any warning that references canned tuna."<sup>168</sup> Dave Burney, executive director of the Tuna Foundation, unambiguously contested the connection between canned tuna and the Attorney General's suit

---

<sup>162</sup> Jane Kay & Erin Hallissy, *Many Stores Not Warning of Mercury: Survey Finds that Signs About Fish Are Often Missing, Unreadable*, S.F. CHRON., Nov. 24, 2003, at A15; ANDY PERI, SEA TURTLE RESTORATION PROJECT, MERCURY WARNING SIGN SUPERMARKET COMPLIANCE SURVEY SUMMARY 2003, at 3 (2003), available at <http://www.seaturtles.org/pdf/Hgsurvey3.pdf>.

<sup>163</sup> PERI, *supra* note 162, at 7.

<sup>164</sup> *Id.*

<sup>165</sup> Twenty percent of all seafood consumed in the United States is canned tuna. *Scientists Warn of Toxins in Fish*, MED. LETTER ON CDC & FDA, Dec. 19, 2004, at 43.

<sup>166</sup> Letter from Susan S. Fiering, Deputy Attorney General For Bill Lockyer Attorney General, to Charles Ivie, Esq and Jennifer Laser, Esq. (attorneys for CGA) (Feb. 10 2003), available at <http://www.cagrocers.com/images/pdf/AGletter.pdf>.

<sup>167</sup> *Id.*

<sup>168</sup> Letter from Donald J. Binotto, Managing Dir., StarKist Seafood (Feb. 13, 2003), available at <http://www.cagrocers.com/images/pdf/delmonteletter.pdf>. This letter was sent out to grocers with Letter from Peter Larkin, *supra* note 160, as an example of one of many sent from other canned tuna suppliers. These letters also served as indemnification notices as the canned tuna suppliers committed that if, "the non-posting of signs in the canned tuna aisle results in any claims, they will fully indemnify the grocers for any Proposition 65 or related claim of failure to warn whether it is made by the Attorney General or by any private party." *Id.*

stating that “[n]o one in the food industry wants a Proposition 65 warning anywhere near their food. If we decide that we’re being impacted by that language, we will certainly bring a case against the state.”<sup>169</sup>

The tuna industry’s strong reaction against the Attorney General’s action likely stemmed in part from the Proposition 65 suit that the industry itself was facing brought from the private organization Public Media Center. Under strong pressure, the Attorney General’s Office eventually did its own testing of canned tuna, concluding that “mercury levels in both canned albacore and light tuna exceed the exposure threshold that triggers the Proposition 65 warning requirement,”<sup>170</sup> and subsequently filed its own suit against tuna manufacturers. The suit requests that tuna manufacturers either post warning signs in grocery aisles, similar to those requested in the earlier suit, or directly label tuna cans.<sup>171</sup> In contrast to the CGA and CRA, the Tuna Foundation has vigorously opposed the Proposition 65 suit with David Burney declaring that “[t]his suit is not grounded in science and will needlessly scare consumers away from affordable foods that are good for them.”<sup>172</sup> Part of the industry’s opposition stems from the allegation that the use of Proposition 65 labeling would put at risk an educational campaign that the industry had undertaken.<sup>173</sup>

Grocery stores posting warnings have reported reduced sales for fresh seafood, indicating that they are effectively shifting demand.<sup>174</sup> Seizing on this development, numerous environmental

---

<sup>169</sup> Kay, *supra* note 161.

<sup>170</sup> Press Release, Office of the Attorney Gen., Attorney General Lockyer Files Lawsuit Against Canned Tuna Companies for Failing to Warn Consumers About Exposure to Mercury (June 21, 2004), *available at* <http://ag.ca.gov/newsalerts/release.php?id=690>. It is important to remember though that the action level for Proposition 65 is much lower than the RFD (0.1) for mercury established by the FDA.

<sup>171</sup> *Id.*

<sup>172</sup> Press Release, U.S. Tuna Found., Tuna Industry to Challenge Proposition 65 Suit Filed by California Attorney General: Companies Prepared to Affirm Safety/Compliance of Canned Tuna in Court (June 21, 2004), *available at* <http://www.tunafacts.com/press/2004/june21.cfm>.

<sup>173</sup> *Id.* This campaign centered on California and had the goal of providing advice to pregnant and nursing mothers about how to incorporate fish into their diets.

<sup>174</sup> See, e.g., Jerry Hirsch, *A Hook for Landing Mercury-Wary Eaters*, L.A. TIMES, Feb. 27, 2006, at C1 (“Advisories warning women of childbearing age to avoid fish with high mercury levels have eaten into Holiday [Quality Foods’] sales. Over the last two years, the chain’s sales of fresh fish have fallen 3

organizations have issued calls for grocers nationwide and tuna manufacturers to issue similar warnings.<sup>175</sup> The rationale is that if Safeway's stores are warning consumers in California, they should be warning consumers everywhere of the potential dangers of mercury. The first grocer outside of California to pledge to post warnings concerning mercury contamination in seafood was Wild Oats Markets, Inc., a chain of natural food stores.<sup>176</sup> While environmentalists have seized the issue, others have used these campaigns as a rallying cry that yet again environmentalists are being alarmist, or even "fearmongers," by over-hyping the threat of mercury poisoning as "a platform for fighting eco-battles and raising money."<sup>177</sup>

On February 4, 2005, the San Francisco County Superior Court approved a settlement agreement between Lockyer and the sued restaurant chains requiring those restaurants to post warnings signs for patrons.<sup>178</sup> The settlement divides the restaurants into

---

percent while the number of questions shoppers ask about mercury has risen, said David Parrish, Holiday's director of perishables."). One novel response to this decrease in sales of fish has been to begin proactively using informational regulation by introducing a new line of certified low-mercury fresh fish. *Id.* See *supra* notes 19–21 and accompanying text for a discussion of proactive labeling.

<sup>175</sup> See, e.g., Oceana, Letter to Your Grocer, <http://northamerica.oceana.org> (follow the "Seafood Contamination" hyperlink; then follow the "Get Involved!!!" hyperlink) (last visited Mar. 27, 2006); Sea Turtle Restoration Project, Action Alerts: Urge Safeway to Label Mercury-Laden Fish Nationwide, <http://www.seaturtles.org/actionalertdetails.cfm?actionAlertID=67> (last visited Mar. 27, 2006). The Sea Turtle Restoration Project is seeking to publicize this issue in part to reduce demand for swordfish in order to protect sea turtles from longline fishers. See Sea Turtle Restoration Project, Got Mercury: Mercury, Seafood, Sea Turtles & You, <http://www.seaturtles.org/pdf/MercuryFactSheet3.pdf> (last visited Mar. 27, 2006) ("By removing swordfish from your dinner plate, you will protect sea turtles and your health as well.")

<sup>176</sup> Press Release, Mercury Policy Project, Health, Environment Advocates Applaud Wild Oats Commitment to Post Mercury Seafood Warnings in Stores for Mothers, Children (May 13, 2003), *available at* <http://www.commondreams.org/news/2003/0513-08.htm>.

<sup>177</sup> Fish Scam, <http://www.fishscam.com/index.cfm> (last visited Apr. 10, 2005). Fish Scam is a project of the Center for Consumer Freedom, a group supported by "restaurants, food companies and more than 1,000 concerned individuals." Fish Scam, About Us, <http://www.fishscam.com/about.cfm> (last visited Apr. 10, 2005).

<sup>178</sup> Press Release, Office of the Attorney Gen., Attorney General Lockyer Announces Court Approval of Settlement Requiring Major Restaurant Chains to Post Warnings About Mercury in Fish (Feb. 4, 2005), *available at* <http://ag.ca.gov/newsalerts/release.php?id=452>; see also Settlement Agreement, Ex. B, California *ex rel.* Lockyer v. Benihana, Inc., No. 4319 (Cal. Super. Ct. 2005).

two groups, requiring different warning signs for each group. The first group, which includes all but two of the restaurants involved, agreed to post signs that include the following detailed warning:

**WARNING!** Nearly all fish and shellfish contain some amount of mercury and related compounds, chemicals known to the State of California to cause cancer, and birth defects or other reproductive harm. Certain fish contain higher levels than others. **Pregnant and nursing women, women who may become pregnant, and young children should not eat the following fish: Swordfish, Shark, King Mackerel, Tilefish.** They should also limit their consumption of other fish, including tuna.<sup>179</sup>

The remaining two restaurant chains agreed to post a more generic, prototypical Proposition 65 warning that states:

**Warning:** Chemicals known to the State of California to cause cancer, or birth defects or other reproductive harm may be present in foods or beverages sold or served here.<sup>180</sup>

The settlement agreement also requires the restaurants to pay fines for their violations.<sup>181</sup>

Although not fully resolved, these Proposition 65 lawsuits demonstrate an innovative approach to the problem of regulating consumer risk exposure to mercury. Recognizing both that the current regulatory regime is incapable on its own of removing the risk of mercury exposure, and that the warning approach of the FDA is inadequate to reach most consumers at the time of purchase, California has attempted to mandate a more detailed and powerful warning mechanism. The remaining portion of this Note will analyze this approach to determine whether it is overly alarmist, or a desirable and rational response to a serious risk.

### III. ANALYZING CALIFORNIA'S APPROACH TO MERCURY CONTAMINATION

#### A. *Dangers of California's Choice of Regulatory Mechanism*

Proposition 65, California's approach to regulating mercury in fish, is plagued by the same problems of any warning regime.

---

<sup>179</sup> Settlement Agreement, Ex. B, *Benihana*, No. 4319.

<sup>180</sup> Settlement Agreement, Ex. C, *Benihana*, No. 4319.

<sup>181</sup> Press Release, Office of the Attorney Gen., *supra* note 178.

Although mercury contamination is clearly a risk that requires regulation, in order to avoid being “alarmist,” environmentalists should proceed cautiously with informational regulation to address this risk if that strategy will result in creating irrational responses, and to examine whether an alternative regulatory approach could better address the risk.

In terms of effectiveness, no evidence currently exists to demonstrate the effects of these new warnings. As discussed above, merely raising public awareness of the issue is an important goal of informational regulation. The publicity surrounding these lawsuits has definitely raised the visibility of the issue, so the warnings have not been without effect. The effectiveness of the warnings themselves, though is debatable. For example, the warnings posted in restaurants are likely ineffective because they are not specifically correlated with any menu items.<sup>182</sup>

One of the primary criticisms of the Proposition 65 warning regime is that, because so many foods could potentially contain carcinogenic or toxic materials, that eventually all foods will be subject to a warning label.<sup>183</sup> Thus, if this suit is successful and followed by numerous other suits, eventually Californian supermarkets will be flooded with warnings. In and of itself, the mercury suit will not impact dilution problems directly, but the danger lies in creating an avalanche of similar suits.

Additionally, many are concerned that warning about mercury contamination in seafood will shift demand to less healthy alternatives such as meats that are higher in fat and cholesterol, as a result of an irrational, overreaction to the warnings.<sup>184</sup> This mirrors complaints about warning labels for foods in general, which argue that “the public should be more concerned with maintaining a healthy diet than with warnings about possible low-level carcinogens in food products.”<sup>185</sup> There exists a real danger

---

<sup>182</sup> The warnings for the second group of restaurants that do not even correlate to fish are even more likely to be ineffective. For a critique of this type of Proposition 65 warning, see Viscusi, *supra* note 16, at 292 (“In terms of assisting consumer choice, a broadly based warning sign such as this [generic restaurant sign] would be of no assistance to enable consumers to make non-cancerous decisions from a restaurant menu.”).

<sup>183</sup> See *supra* notes 51–56 and accompanying text.

<sup>184</sup> See *supra* text accompanying notes 141–42.

<sup>185</sup> Noah, *supra* note 51, at 387; see also, David McCallum, *Risk Factors for Cardiovascular Disease: Cholesterol, Salt and High Blood Pressure*, in RISK COMMUNICATION 67, 69 (J. Clarence Davies et al., eds., 1987) (“[Risk

that warning labels will distort the trade-off between the dangers of mercury and the importance of low-cholesterol sources of protein. Thus, the beneficial health effects of seafood must not be overlooked when evaluating the benefits of a warning program that may in fact reduce consumption of seafood. To better determine the desirability of the warning regime, the alternatives for risk management must also be analyzed.

### B. *Alternatives to California's Direct Product Labeling*

The first alternative to labeling is to maintain the status quo and depend upon the FDA's general risk advisory that is already in place. This advisory is currently not available at the point of purchase for the affected seafood, except in California. For this information to have an impact at the point of purchase then, consumers must recall the complex information from long-term memory—a difficult task.<sup>186</sup> According to Michael Bender, director of the Mercury Policy Project, “[i]n the United States, 30 to 50 percent of women of childbearing age are not even aware that mercury in fish presents an exposure to risk.”<sup>187</sup> Thus, without further regulation, a large number of affected individuals will not receive or be able to adequately process, information to make informed choices about the risk of mercury exposure. A labeling system that puts warning information directly at the point of purchase would therefore be preferable to the status quo as a means of risk management. Moreover, as discussed above, the FDA advisory has been attacked as being grossly inadequate on its own terms to express the true level of risk.<sup>188</sup>

A second alternative would be to rely upon direct regulation to reduce or eliminate mercury emissions and in turn reduce the amount of mercury in the food supply. At the outset, however, it is important to note that even if all mercury emissions were halted immediately, mercury would be present in the food supply for years.<sup>189</sup> Elimination of mercury emissions also seems highly unlikely in the current political climate. Although the EPA has

---

communication] campaigns must recognize overall nutrition and the interaction of dietary factors.”).

<sup>186</sup> Bettman et al., *supra* note 48, at 30.

<sup>187</sup> Anahad O'Connor, *Federal Draft Advisory Warns Some People to Limit Tuna*, N.Y. TIMES, Dec. 12, 2003, at A32.

<sup>188</sup> See *supra* notes 145–50 and accompanying text.

<sup>189</sup> See *supra* notes 95–99 and accompanying text.

arguably embarked on directly regulating mercury, claiming that its Mercury Rule will reduce mercury emissions by seventy percent by the year 2018, the flexibility built into the rule could actually delay achieving that reduction until the year 2030.<sup>190</sup> At this point, aside from the current litigation over the Mercury Rule, environmentalists have little recourse to directly regulate emissions of mercury. Direct regulation to counter this problem, no matter how desirable, cannot realistically achieve substantial reductions in risk from mercury-contaminated seafood in the near future.

A third, more dramatic alternative would be to enforce a ban on the sale of all mercury-contaminated seafood.<sup>191</sup> This is not a reasonable option because the dangers of mercury contamination fall mainly on particular sensitive populations, and thus a ban would be over-broad as a means of risk management. A ban on certain types of fish could result in the same sorts of consumer overreactions that warnings cause.

Looking at the alternatives to a more inclusive labeling program, California's use of Proposition 65 appears to be an attractive alternative. Unfortunately, no real alternative to reducing the risk of mercury contamination exists.

### C. *Does California's Approach Have Distinct Advantages Over Other Regulatory Strategies?*

Informational regulations are particularly desirable in situations in which particular individuals may need to take precautions to avoid a risk, while other individuals bear no danger from that risk.<sup>192</sup> Warnings have the flexibility not only to inspire the most cautious response possible but also to "enable consumers to form accurate judgments of the risk level and take appropriate action."<sup>193</sup> In contrast to other regulatory approaches, warning

---

<sup>190</sup> JAMES E. MCCARTHY, CONG. RESEARCH SERV., MERCURY EMISSIONS TO THE AIR: REGULATORY AND LEGISLATIVE PROPOSALS 7 (2004), available at <http://ncseonline.org/NLE/CRSreports/04may/RL31881.pdf>.

<sup>191</sup> The FDA has previously banned the sale of swordfish due to high mercury levels. In December, 1970, the FDA recalled swordfish from commerce. See Richard D. Lyons, *Mercury Found High in 89% of Swordfish Tested*, N.Y. TIMES, Dec. 24, 1970, at 1; see generally Note, *Health Regulation of Naturally Hazardous Foods: The FDA Ban on Swordfish*, 85 HARV. L. REV. 1025 (1972).

<sup>192</sup> Cf. MAGAT & VISCUSI, *supra* note 37, at 8 (arraying alternative regulatory approaches to risk).

<sup>193</sup> Viscusi & Zeckhauser, *supra* note 46, at 109.



consumers enables them to make informed decisions about their own risk exposure. If the information conveyed is accurate and comprehensible, consumers not at risk for the adverse effects of mercury will know that they do not need to alter their behavior in response to the warnings. A more traditional regulatory approach would lack the flexibility to reduce risk for one segment of the population and not others. This suggests that a labeling approach may be particularly beneficial to manage the risk arising from mercury-contaminated fish, as that risk falls disproportionately on a distinct segment of the population. Warning labels such as those adopted in the recent settlement agreement that specifically address those sensitive individuals are thus preferable to a broader regulatory approach such as a ban.

Although Proposition 65 has been assailed by critics as leading to ineffective and overwhelming warnings, it has been praised for its ability to encourage reformulation of dangerous products.<sup>194</sup> Even if warnings about mercury contamination in seafood would be ignored by consumers or contribute to dilution effects in a marketplace flooded with seafood, if the warnings “raise consciousness” and thus force product reformulation, they could be justified.<sup>195</sup> In this case, however, the “manufacturers” have no control over the mercury content of their products. Fishers and seafood packagers bear no responsibility for the presence of mercury in seafood, and thus warnings about the dangers of mercury in seafood cannot result in product reformulation to remove this risk from the marketplace. Perhaps though, if the warnings are effective and demand is shifted from swordfish or tuna, fishers who seek those fish could have a newfound incentive to advocate for an improved regulatory structure to better deal with the problem of mercury contamination. As it stands now, fishers (like the Tuna Foundation) tend to deny the problem so that demand isn’t shifted away. If their ability

---

<sup>194</sup> See, e.g., Rechtschaffen, *supra* note 84, at 306–07 (“[While] Proposition 65 has had mixed success in realizing its underlying statutory goals of providing individuals with sufficient information to make meaningful choices and reducing exposure to toxic chemicals. . . . [i]n the consumer marketplace, where substitute chemicals are available, Proposition 65 has encouraged significant product reformulation.”).

<sup>195</sup> See Michael Barsa, *California’s Proposition 65 and the Limits of Information Economics*, 49 STAN. L. REV. 1223, 1239, 1242–47 (1997) (suggesting “consciousness raising” as an alternate paradigm to information economics as a means of analyzing the success of Proposition 65).

to deny mercury contamination is compromised by an effective informational regime, perhaps these large commercial organizations would begin to exert political pressure to reduce mercury emissions. This could have the long term effect of reducing mercury content in fish.

A wider availability of information regarding this issue could also put direct pressure on the EPA to better regulate mercury emissions. As Professor Daniel Esty explains, “[a]n information-rich environmental regime cannot put a stop to special-interest manipulation of the policymaking process, but it can expose poor choices and weak results, thereby helping to reinforce pressures for better performance.”<sup>196</sup> If public awareness of the dangers of mercury exposure was heightened, it could result in a demand for more accountability from the EPA.

These advantages, taken in conjunction with the lack of regulatory alternatives, make California’s use of point of purchase labeling for mercury-contaminated fish an attractive option. Proposition 65, however, is only a California statute. The conclusion of this Note will examine whether, beyond requests for voluntary labeling, environmentalists can work with the FDA to implement point of purchase labeling on a nation-wide basis.

#### CONCLUSION

Mercury exposure from contaminated seafood poses a serious risk that must be addressed. The FDA and EPA’s current joint advisory is inadequate to reach and impact all potentially affected consumers. Although informational regulation has shortcomings, it is the best suited means to address risks that isolated population segments face. The FDA has the authority to mandate labeling of all mercury-contaminated seafood through the Federal Food, Drug and Cosmetic Act (“FFDCA”) of 1938. Under the FFDCA, the FDA is responsible for ensuring the safety of the public from harmful food products.<sup>197</sup> If the FDA determines that a product is safe enough to be sold to consumers, but demonstrates a safety risk, the FDA can require that the product be labeled to warn of

---

<sup>196</sup> Esty, *supra* note 22, at 185.

<sup>197</sup> 21 U.S.C. §§ 301–95 (1994). The FDA must “protect the public health by ensuring that . . . foods are safe, wholesome, sanitary, and properly labeled.” *Id.* § 393(b)(2).

that risk.<sup>198</sup> The authority to require labeling is somewhat limited, however. As discussed in *Alliance for Bio-Integrity v. Shalala*:

In general, foods shall be deemed misbranded if their labeling fails to reveal facts material with respect to consequences which may result from the use of the article to which the labeling relates under the conditions of use prescribed in the labeling or under such conditions of use as are customary or usual.<sup>199</sup>

The FDA has stated that it “is unwilling to require a warning statement in the absence of clear evidence of a hazard;”<sup>200</sup> however the myriad studies detailing the hazards of mercury exposure seem sufficient to meet this threshold requirement. It would not be unusual for the FDA to utilize labeling for situations where a particular subgroup is effected by a product hazard, in fact, “[t]he agency’s primary tool for handling a situation where population subgroups may be at increased risk from a food ingredient that is safe for most people is to use [ingredient] labeling to inform those persons who need or want to avoid the ingredient.”<sup>201</sup> However, the FDA is quite hesitant to utilize its authority to mandate warnings for food products, out of concerns closely related to the criticisms of informational regulation discussed above.<sup>202</sup> Moreover, the FDA has come out in opposition of Lockyer’s Proposition 65 suit, suggesting that it may not be following in Lockyer’s footsteps any time soon.<sup>203</sup> Perhaps if environmental and public health organizations refocus their efforts to directly pressure the FDA, this could influence the FDA to mandate mercury labeling nation-wide.

This case study demonstrates that sounding alarms might actually be the most rational, narrowly tailored response to address risk exposure. These lessons are especially poignant in the current political climate in which environmentalists find themselves more

---

<sup>198</sup> See Food Labeling; Declaration of Ingredients, 56 Fed. Reg. 28,592, 28,614–15 (proposed June 21, 1991).

<sup>199</sup> 116 F. Supp. 2d 166, 178 (D.D.C. 2000).

<sup>200</sup> 56 Fed. Reg. at 28,615.

<sup>201</sup> Food Labeling; Declaration of Ingredients, 61 Fed. Reg. 22,993, 22,993 (1996).

<sup>202</sup> See Noah, *supra* note 51, at 319–20.

<sup>203</sup> See Bob Egelko, *FDA Opposing State Warnings on Canned Tuna; Top Official Sides with Firms in Mercury Suit*, S.F. CHRON., Aug. 20, 2005, at B1. However, it appears that the FDA’s opposition to the suit stems from concerns of preemption, and thus, perhaps the FDA could be persuaded to exercise this preclusive authority to better regulate mercury warnings.

2006]

*INFORMATIONAL REGULATION*

697

or less shut out of the command and control regulatory process. Although in this instance, informational regulation cannot directly counteract the risk itself, this strategy provides the only way for consumers to be protected at all. While environmentalists are in truth often alarmists, sometimes the public needs to be alarmed.