

# APPLICATION OF DAUBERT IN ENVIRONMENTAL CRIMINAL AND CIVIL CASES\*

## INTRODUCTION

Following the seminal case of *Daubert v. Merrell Dow Pharmaceuticals, Inc.*,<sup>1</sup> challenges to expert testimony in civil and, to a lesser extent, criminal cases increased dramatically. The purpose of this paper is to examine the application of *Daubert* in environmental criminal and civil cases. To provide background information, Part I of this article discusses the *Daubert* trilogy of cases. Part II examines *Daubert* challenges in environmental criminal cases. Part III examines *Daubert* challenges in environmental civil cases. In addition, Part III discusses whether *Daubert* applies to administrative bodies, such as the Environmental Appeals Board. Finally, Part IV examines whether or not *Daubert* will prove to be significant in future environmental criminal cases.

### **I. The Daubert Trilogy of Cases.**<sup>2</sup>

The so-called *Daubert* trilogy refers to the cases of *Daubert v. Merrell Dow Pharmaceuticals, Inc.*,<sup>3</sup> *General Electric Co. v. Joiner*,<sup>4</sup> and *Kuhmo Tire Co., Ltd. v. Carmichael*.<sup>5</sup> *Daubert* and *Kuhmo* establish the trial judge's role as gatekeeper of expert testimony, and set forth the criteria to determine if expert evidence is admissible. *Joiner* establishes the standard for appellate review of a trial court's ruling on the admissibility of expert evidence. The following discussion examines these cases in chronological order.

#### **A. *Daubert v. Merrell Dow Pharmaceuticals, Inc.***

In *Frye v. United States*,<sup>6</sup> the United States District Court for the District of Columbia established a test for the admissibility of expert testimony. The *Frye* court held that testimony "must be sufficiently established to have gained general acceptance in the particular field in which it

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\* Research assistance for this article was provided by Catesby Major, a second year law student at the University of Kansas School of Law.

<sup>1</sup> 509 U.S. 578 (1993).

<sup>2</sup> Some commentators recognize a "fourth leg" under the *Daubert* line of cases. In *Weisgram v. Marley Co.*, the United States Supreme Court held that a "court of appeals may direct entry of judgment as a matter of law for the party that lost the jury verdict upon a determination by the appellate court that the verdict cannot be sustained due to an error in the admission of expert evidence." *Weisgram*, 528 U.S. 440 (2000); see also John L. Watson, "The Four Legs of the Gatekeeper's Table-*Daubert*, *Joiner*, *Kuhmo Tire*, and *Weisgram*," ABA Fall Meeting. For purposes of brevity, however, this article will not discuss the *Weisgram* opinion.

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

<sup>4</sup> 522 U.S. 136 (1997).

<sup>5</sup> 526 U.S. 137 (1999).

<sup>6</sup> 293 F. 1013 (D.C. Cir. 1923).

belongs."<sup>7</sup> Although often criticized, the "general acceptance" test was used for seventy years by the majority of courts to determine the admissibility of scientific evidence at trial.<sup>8</sup>

In *Daubert*, however, the United States Supreme Court unanimously held that the general acceptance test was superseded by the Federal Rules of Evidence. More specifically, the Court held that nothing in the text of Rule 702<sup>9</sup> requires "general acceptance as an absolute prerequisite to admissibility."<sup>10</sup> Instead, based on the language of Rule 702, the Court promulgated a two-prong test to aid trial courts in assessing the admissibility of expert testimony. This test requires a trial judge to "determine at the outset, pursuant to Rule 104(a),<sup>11</sup> whether the expert is proposing to testify to (1) scientific knowledge that (2) will assist the trier of fact to understand or determine a fact in issue."

To determine whether a theory or technique is scientific knowledge, the Court enumerated four factors that trial judges could consider: (1) whether the expert's theory and underlying methodology can be, or has, been tested; (2) whether the technique or theory has been subjected to peer review and publication; (3) whether the technique or theory has a "known or potential rate of error"; and (4) whether the technique or theory has been generally accepted in the scientific community.<sup>12</sup> This inquiry is "a flexible one," and "must be solely on principles and methodology, not on the conclusions they generate."<sup>13</sup> The *Daubert* court rejected the argument that this more liberal standard of admissibility would generate negative consequences. The Court believed that "[v]igorous cross-examination, presentation of contrary evidence, and careful instruction on the burden of proof are the traditional and appropriate means of attacking shaky but admissible evidence."<sup>14</sup>

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<sup>7</sup> *Id.* at 1014.

<sup>8</sup> *See Daubert*, 509 U.S. at 585.

<sup>9</sup> Federal Rule of Evidence 702 governs the admissibility of expert testimony. More specifically, Rule 702 provides "If scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto in the form of an opinion or otherwise." Fed. R. Evid. 702.

<sup>10</sup> *Daubert*, 509 U.S. at 589.

<sup>11</sup> Federal Rule of Evidence 104(a) governs preliminary questions of admissibility. More specifically, Rule 104(a) provides "Preliminary questions concerning the qualification of a person to be a witness, the existence of a privilege, or the admissibility of evidence shall be determined by the court . . . In making its determination it is not bound by the rules of evidence except those with respect to privileges." Fed. R. Evid. 104(a).

<sup>12</sup> *Daubert*, 509 U.S. at 593, 594.

<sup>13</sup> *Id.* at 594-95. The Court also noted that other Federal Rules of Evidence could apply in making an admissibility determination. For example, Rule 403 allows the exclusion of relevant evidence "if its probative value is substantially outweighed by the danger of unfair prejudice, confusion of the issues, or misleading the jury . . . ."

<sup>14</sup> *Id.* at 596.

**B. *General Electric Co. v. Joiner***

*Daubert* did not address the standard of appellate review for evidentiary rulings. Under the *Frye* "general acceptance" test, the standard of review was de novo. In *General Electric Co. v. Joiner*,<sup>15</sup> the United States Supreme Court unanimously held that appellate review under *Daubert* is abuse of discretion. *Joiner* recognized that "cases arise where it is very much a matter of discretion with the court whether to receive or exclude the evidence; but the appellate court will not reverse in such a case, unless the ruling is manifestly erroneous."<sup>16</sup>

**C. *Kumho Tire Co. v. Carmichael***

In *Kumho Tire Co. v. Carmichael*,<sup>17</sup> the United States Supreme Court provided trial courts further guidance to determine whether or not expert testimony should be admitted. In another unanimous ruling, *Kumho* held that "*Daubert's* general holding—setting forth the trial judge's general gatekeeping obligation—applies not only to testimony based on scientific knowledge, but also to testimony based on technical and other specialized knowledge."<sup>18</sup> The Court reasoned that the language of Rule 702 makes no distinction between "scientific" knowledge and "technical" or "other specialized" knowledge.<sup>19</sup> Therefore, the *Daubert* factors may apply to the testimony of experts who are not necessarily scientists.<sup>20</sup> Regardless of whether the expert is a scientist or not, a trial court must simply determine whether the testimony has a "reliable basis in the knowledge and experience of his discipline."<sup>21</sup>

Additionally, *Kumho* held that a trial judge determining the admissibility of expert testimony may consider one or more of the *Daubert* factors.<sup>22</sup> The Court noted that *Daubert* expressly stated that the factors do not constitute a "definitive checklist or test," and that the gatekeeping inquiry must be "tied to the facts" of the case at bar.<sup>23</sup> For example, the Court recognized that it would not be "surprising" in a particular case if a "claim made by a scientific witness has not been the subject of peer review, for the particular application at issue may never previously have interested any scientist."<sup>24</sup> Consequently, "[t]he factors identified in *Daubert* may or may not be pertinent in assessing reliability, depending on the nature of the issue, the expert's particular expertise, and the

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<sup>15</sup> 522 U.S. 136 (1997).

<sup>16</sup> *Id.* at 142 (citing *Spring Co. v. Edgar*, 99 U.S. 645 (1879)).

<sup>17</sup> 526 U.S. 137 (1999).

<sup>18</sup> *Id.* at 141.

<sup>19</sup> *Id.* at 147.

<sup>20</sup> *Id.* at 138.

<sup>21</sup> *Id.* at 149.

<sup>22</sup> *Id.* at 138.

<sup>23</sup> *Id.* at 150 (citing *Daubert*, 509 U.S. at 593).

<sup>24</sup> *Id.* at 151.

subject of his testimony."<sup>25</sup> As such, a trial court should consider the *Daubert* factors where they are reasonable measures of the expert's reliability.<sup>26</sup>

## II. *Daubert* Challenges in Environmental Criminal Cases.

While the use of environmental science and *Daubert* challenges in civil cases is well established, there are few reported decisions involving *Daubert* in environmental criminal cases. Two such cases are briefly discussed below.

### A. *U.S. v. Hansen*<sup>27</sup>

Christian Hansen owned and operated an industrial plant known as LCP Chemicals-Georgia ("LCP") in Brunswick, Georgia. The LCP plant operated continuously year-round, and generated hazardous wastes, including elemental mercury, mercury-contaminated sludge, wastewater, chlorine contaminated wastewater, and extremely caustic wastes with high pH values.<sup>28</sup> These wastes were subject to several environmental regulations, including wastewater limitations on pH, the Resource Conservation and Recovery Act ("RCRA"), and chlorine as required by LCP's National Pollutant Discharge Elimination System ("NPDES") permit.<sup>29</sup>

Following several violations of LCP's NPDES permit, the Georgia Environmental Protection Division ("EPD") turned the plant over to the U.S. Environmental Protection Agency ("EPA") for cleanup. An investigation ensued, and the government indicted Hansen and others involved at LCP for numerous substantive environmental law crimes. These crimes included: violating the Clean Water Act by exceeding the NPDES permit; violating RCRA by storing wastewater on a cellroom floor and permitting some to escape into the environment; violating the Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA") by failing to notify EPA of unpermitted releases of chlorine or wastewater into the environment; and violating the Endangered Species Act by taking an endangered species as a result of discharging mercury into a nearby marsh, creek, and river.<sup>30</sup>

The district court sentenced Hansen to 108 months of imprisonment, a fine of \$20,000, a special assessment of \$2,050, and two years of supervised release.<sup>31</sup> Hansen appealed this ruling, and raised several issues before the Eleventh Circuit Court of Appeals. In particular, Hansen argued that the district court erred in admitting testimony from Daniel Teitelbaum and Christopher Reh, two of the government's expert witness.<sup>32</sup>

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<sup>25</sup> *Id.* at 150.

<sup>26</sup> *Id.* at 152.

<sup>27</sup> 262 F.3d 1217 (11th Cir. 2001).

<sup>28</sup> *Id.* at 1226.

<sup>29</sup> *Id.*

<sup>30</sup> *Id.* at 1231.

<sup>31</sup> *Id.* at 1232.

One week before trial, Hansen requested a Daubert hearing and to exclude the testimony of expert witnesses regarding scientific conclusions and exhibits. Teitelbaum's expert testimony dealt with several issues. First, he was to testify about the effect of high mercury levels on endangered species pursuant to the Endangered Species Act. The district court rejected Hansen's motion to exclude this testimony, and stated that the motion did "not identify the source, the substance, or most importantly the methodology of this testimony" and that, therefore, there was "no underlying methodology or reasoning for the court to assess."<sup>33</sup> At trial, Hansen failed to object or examine Teitelbaum after the government moved to present him as a witness. Consequently, the district court directed that the jury consider him an expert in his field.

Additionally, Teitelbaum testified concerning the plant employees' potential exposure to hazardous substances. In preparation for trial, he reviewed numerous biological samples, conducted several interviews, and reviewed several documents. Based on this information, he found a large amount of spillage of sodium hydroxide, numerous chlorine leaks, and spills and leaks of hydrochloric acid at the plant.<sup>34</sup> He concluded that as the sodium hydroxide contained a high pH and was caustic, contact with the spillage could cause a first-to third-degree burn. Furthermore, exposure to the chlorine leaks could cause extreme injuries to lungs, eyes, the upper airways, and under some circumstances, death. At trial, no objection was made to this testimony. Under these facts, the Eleventh Circuit rejected Hansen's argument that the district court erred in admitting Teitelbaum's testimony. Citing *Daubert*, the Court stated that scientific evidence is admissible if: 1) the expert is qualified to competently testify regarding the subject at issue; 2) the witness's methodology is deemed sufficiently reliable by the type of inquiry proposed in *Daubert*; and 3) the testimony assists the trier of fact in understanding the evidence. The court ruled that "Hansen's motion for a Daubert hearing was neither addressed to the charges to which Teitelbaum testified, or his testimony in general, nor supported by the source, substance, or methodology of the challenged testimony. Hansen failed to object to either Teitelbaum's qualification as an expert or his testimony during trial. Teitelbaum's testimony was based on his review of biological samples, interviews, and documents, and assisted the trier of fact in understanding the potential injuries that could result from the conditions at the plant. The district judge did not abuse his discretion by denying the motion or by admitting the testimony."<sup>35</sup>

Hansen also argued that the district court erred in admitting testimony from Christopher Reh, a second expert witness presented by the government. Reh, as an employee of the National Institute for Occupational Safety and Health, was qualified by the district court as an expert in the field of industrial hygiene. Reh and his colleagues made two visits to the plant and tested the workers' breathing zone exposure levels, collected urine samples from 58 workers, and conducted physical examinations of 65 workers. Their results indicated that the workers were placed in imminent danger of death or serious bodily injury, and that Hansen was aware of the workers' exposure to hazardous substances. The Eleventh Circuit summarily held that Reh's testimony supported both of those

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<sup>32</sup> *Id.* As stated above, the other defendants were also convicted and appealed their sentences. Hansen, however, is the only defendant who argued the government's expert testimony should have been excluded by the district court.

<sup>33</sup> *Id.* at 1232-33.

<sup>34</sup> *Id.* at 1233.

<sup>35</sup> *Id.* at 1234.

propositions. Accordingly, "the district court did not abuse its discretion by admitting the testimony of Reh."

**B. U.S. v. Cunningham**

In *United States v. Cunningham*,<sup>36</sup> Noble Cunningham and members of his family operated R & D Chemical Company ("R & D"). Cunningham worked as a salesman for R & D, which sold a machine known as the RM-2000 Chrome Removal System ("RM-2000") to electroplating companies throughout Ohio.<sup>37</sup> The RM-2000 employed a barium compound to remove hexavalent chromium from rinse water generated throughout the electroplating process. Following treatment by the RM-2000, the rinse water could be directly discharged into a sewer system. The RM-2000 generated a yellow sludge that contained the barium compound and hexavalent chromium. R & D assured its customers that it would collect the yellow sludge, and instructed them to store the sludge in 55-gallon drums, which it then picked up and brought to the Cunningham farm.<sup>38</sup>

In June of 1988, the Ohio Environmental Protection Agency, ("Ohio EPA") discovered 496 55-gallon drums of the sludge on the Cunningham farm. The majority of these drums were rusted and/or corroded, some were missing tops, and the sludge was leaking onto the ground. EPA informed Cunningham that the sludge was a hazardous waste, and Cunningham subsequently stored some of the drums in the parking lot of a company known as Rose Lab. Rose Lab did not have a permit to store, treat, or dispose of hazardous waste. Cunningham then hired a truck driver to pick up the drums from Rose Lab and dump their contents at a landfill that also did not have a permit to store, treat, or dispose of hazardous waste.

The district court convicted Cunningham of conspiring to transport hazardous waste, illegally transporting hazardous waste, and illegally disposing of hazardous waste. On appeal, Cunningham argued that the district court erred by refusing to allow him to question Joe Stillwell, who worked as Rose Lab's plant manager.<sup>39</sup> At trial, Cunningham's attorney established that Stillwell possessed an undergraduate degree in chemistry, and that Cunningham told Stillwell the yellow sludge was a non-hazardous material. When Cunningham's attorney asked Stillwell if he believed the yellow sludge was hazardous, the government objected.

The district court allowed Cunningham to make a proffer of Stillwell's testimony. Stillwell stated that the sludge could not be dissolved in hydrochloric acid, and therefore, the material was not hazardous. He also stated, however, that he did not take anything else into account in concluding that the sludge was not hazardous.<sup>40</sup> Following this proffer, the district court sustained the government's objection to Stillwell's testimony.

The Eleventh Circuit affirmed, holding that "Cunningham failed to establish the reliability of Stillwell's proffered testimony under the standards laid out by the Supreme Court in [Daubert] and

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<sup>36</sup> 194 F.3d 1186 (11th Cir. 1999).

<sup>37</sup> *Id.* at 1190.

<sup>38</sup> *Id.*

<sup>39</sup> *Id.* at 1196.

<sup>40</sup> *Id.*

[Kuhmo]."<sup>41</sup> The court noted that Stillwell based his opinion on an "unproven testing method, was unfamiliar with the relevant regulations and disagreed with the EPA's regulatory determination that barium was a hazardous waste. Thus, Cunningham failed to demonstrate that the reasoning or methodology underlying Stillwell's opinion was scientifically valid."<sup>42</sup> As the government had shown that Stillwell's opinion was based on an unproven testing method and that he was unfamiliar with relevant regulations, Cunningham had not shown that Stillwell's opinion was "scientifically valid" by *Daubert* standards. Therefore, the district court did not abuse its discretion by limiting Cunningham's questioning of Stillwell. Moreover, the Court found that Stillwell's opinion was irrelevant because none of the government's witnesses had testified that RD-344 was soluble.<sup>43</sup>

### III. Daubert Challenges in Environmental Administrative and Civil Cases.

As a practical matter, it would appear that the *Daubert* standards would not apply to administrative cases. It is well-settled that "agencies are not bound by the strict rules of evidence governing jury trials."<sup>44</sup> Nevertheless, several administrative bodies have considered, and in some cases, applied *Daubert* to determine the admissibility of expert testimony.<sup>45</sup>

In *In re Solutia, Inc.*,<sup>46</sup> the Environmental Appeals Board ("EAB") considered an argument that *Daubert* should apply to an administrative proceeding. Solutia Inc. was issued a unilateral administrative order ("UAO") by U.S. EPA Region II (the "Region") under section 106(a) of CERCLA.<sup>47</sup> The Region asserted that Solutia manufactured and sold non-A-Grade adhesives to Morgan Materials, Inc. ("Morgan"). At Morgan's warehouse, EPA discovered approximately 2,000 fifty-five gallon drums containing flammable liquids in the form of solvent-based industrial adhesives. These drums contained hazardous constituents, including toluene, vinyl, styrene, and acetate.

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<sup>41</sup> *Id.* at 1197.

<sup>42</sup> *Id.* at 1197 (citing *Daubert*, 509 U.S. at 592-93).

<sup>43</sup> Although there are few *Daubert* challenges in environmental criminal cases, *Daubert* hearings are common in non-environmental criminal cases. Expert testimony has been challenged with regard to fingerprint identification, DNA evidence, explosives, and polygraphs. *See, e.g., United States v. Cline*, 188 F. Supp.2d 1287 (D. Kan. 2002) (fingerprint identification); *United States v. Beasley*, 102 F.3d 1440, 1445 (8th Cir. 1996) (DNA evidence); *United States v. Nichols*, 169 F.3d 1255 (10th Cir. 1999) (explosives); *United States v. Campos*, 217 F.3d 707, 712 (9th Cir. 2000) (polygraphs).

<sup>44</sup> *See, e.g., Bennett v. NTSB*, 66 F.3d 1130, 1137 (10th Cir. 1995); *Calhoun v. Bailar*, 626 F.2d 145, 148 (9th Cir. 1980).

<sup>45</sup> *See, e.g., In re Lobsters, Inc.*, 2001 WL 1632538 (N.O.A.A. 2001); *In re Solutia, Inc.*, 2001 WL 1549338 (E.P.A. 2001); *In re City of Salisbury*, 2000 WL 190658 (E.P.A. 2000); *In re Tiger Shipyard, Inc.*, 1999 WL 1678486 (E.P.A. 1999).

<sup>46</sup> 2001 WL 1549338 (E.P.A. 2001).

<sup>47</sup> Solutia Inc. was subsequently created as a spin-off of the Monsanto Company's chemical business. For purposes of consistency, I refer to Solutia, rather than Monsanto, when discussing the alleged illegal acts and activities.

The UAO contended that Solutia "arranged for the disposal of treatment, or arranged with a transporter for transport for disposal or treatment, of hazardous substances which came to be located at the Site," and that Solutia was a responsible party under CERCLA.<sup>48</sup> Solutia responded that it qualified for the useful product defense under CERCLA as the sale of non-A-Grade adhesives to Morgan was the sale of a useful product.

In support of this argument, Solutia presented an affidavit from Gary S. Winfield, an employee of Solutia. This affidavit stated that Winfield was contacted by Donald Sadkin, president of Morgan, who sought "any product he could purchase for resale." Sadkin and Winfield agreed that the non-A-Grade materials could be sold as an adhesive. The EAB found that the affidavit demonstrated Winfield's knowledge of the material, and that his interactions with Sadkin demonstrated a sale of a useful product rather than an arrangement for the disposal of hazardous substances. In addition, Winfield testified that resale by Morgan had been realized.

The Region objected to this testimony, and argued that the "testimony is legally inadequate . . . with respect to either the reason for the transaction or the nature of the material." In support of this argument, the Region suggested that the EAB consider the evidence in light of Federal Rule of Evidence 702 and the four *Daubert* factors. The EAB rejected this argument.

In summary fashion, the EAB noted that "agencies are not bound by the strict rules of evidence." Consequently, "Rule 702 and the *Daubert* factors are not controlling principles."<sup>49</sup> Other administrative cases have similarly endorsed the position that *Daubert* does not apply to administrative bodies.<sup>50</sup>

In contrast, other administrative bodies, including the Environmental Appeals Board, have suggested that the *Daubert* factors "may provide useful guidance in determining the weight of evidence presented in an administrative proceeding."<sup>51</sup> In *In re City of Salisbury*, the EAB recognized that although not controlling, *Daubert* and its progeny could provide guidance in determining the reliability of expert testimony. Similarly, in *In re Lobsters, Inc.*, the National Oceanic and Atmospheric Administration ("NOAA") noted that the "formal rules of evidence do not necessarily apply to these proceedings."<sup>52</sup> Nevertheless, the administrative law judge ("ALJ") stated that the "*Daubert* factors may be used, not to exclude evidence, but to determine the reliability of expert testimony." Accordingly, the ALJ stated that in the *Daubert* hearing, he was guided by the Federal Rules of Evidence and *Daubert* to "determine the reliability of the evidence presented by each qualified expert."<sup>53</sup>

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<sup>48</sup> *Id.*; 42 U.S.C. § 9607(a)(3).

<sup>49</sup> *Id.* The EAB also rejected the Region's argument for other reasons, including that the Region's argument was untimely as it was not previously raised.

<sup>50</sup> See, e.g., *In re Tiger Shipyard*, 1999 WL 1678486 (E.P.A. 1999) (recognizing that *Daubert* is based on Rule 702 and the Federal Rules of Evidence do not apply to administrative hearings).

<sup>51</sup> See *In re Lobsters, Inc.*, 2001 WL 1632538 (N.O.A.A. 2001); *In re Matter of Salisbury*, 2000 WL 190658 (E.P.A. 2000).

<sup>52</sup> *In re Lobsters, Inc.*, 2001 WL 1632538.

<sup>53</sup> *Id.*

The applicability of *Daubert* in administrative hearings appears unclear. All administrative bodies recognize that they are not bound by the Federal Rules of Evidence or *Daubert*. Some agencies, however, at least consider *Daubert* as a guide in determining the admissibility and/or reliability of expert testimony.

In environmental civil cases, there does not appear to be a clear trend or commonality as to the application of *Daubert*. In *United States v. Great Lakes Dredge & Dock Co.*,<sup>54</sup> the United States, on behalf of the U.S. Department of Commerce, National Oceanic and Atmospheric Administration, brought suit against a dredging company that hired a towing company to tow 500-foot lengths of dredge pipe. The action sought damages under the National Marine Sanctuaries Act (NMSA) for destruction of the sea bottom in the Florida Keys Marine Sanctuary that was caused when the towing company's tugboat ran aground.

The United States requested damages pursuant to § 1432 of the NMSA for "the cost of . . . acquiring the equivalent of a sanctuary resource," and for the value of lost use of the resource "pending acquisition of an equivalent" resource. A Habitat Equivalency Analysis ("HEA") was used to scale the equivalent area to be restored, in order to quantify the damages for lost interim services and the acquisition of equivalent resources. The defendants argued that the HEA should not have been accepted by the district court for two reasons. First, the use of an HEA was not appropriate under *Daubert* as a methodology for determining damages in the case. Second, the underlying "scientific data" used in the mathematical equations as input parameters did not satisfy the requirements imposed by *Daubert*. The court rejected both of these arguments.

The Eleventh Circuit first determined that the district court did not abuse its discretion when it ruled that use of the HEA was appropriate and that the underlying scientific data satisfied *Daubert*. The court held that the HEA was peer reviewed and accepted for publication prior to trial. The court further held that the scientific data used in the mathematical equations were adequately addressed and upheld by the district court. Accordingly, the district court properly accepted the HEA.

In *United States v. SCA Services of Indiana, Inc.*,<sup>55</sup> the Fort Wayne Reduction Site (the "Site") was operational from 1966 or 1967 until June 1976. In June of 1986, the Site was placed on the National Priorities List ("NPL") by the Environmental Protection Agency ("EPA"). On February 22, 1989, the United States filed a complaint against SCA Services of Indiana, Inc. ("SCA") seeking recovery of response costs incurred and to be incurred in conducting remedial action at the Site. Following a consent decree between SCA and EPA, SCA filed a third party complaint, alleging that each third party defendant was jointly and severally liable under § 107(a) of CERCLA. The third party defendants eventually filed a claim against fourth-party defendants, and one of these defendants was Hardware Wholesalers, Inc. ("HWI").

To establish liability against HWI, the fourth-party plaintiffs submitted an affidavit of their expert witness, Stephen D. Meyers, who concluded that HWI's waste stream at the Site resulted in the release or threatened release of hazardous substances. In response, HWI filed a motion to strike the affidavit, alleging the Meyers' affidavit was unreliable and inadmissible because it established no scientific method for his conclusions. In particular, HWI alleged that Meyers' conclusion was unreliable as the affidavit failed to explain how he determined that all classes and types of the

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<sup>54</sup> 259 F.3d 1300 (11th Cir. 2001).

<sup>55</sup> 1995 WL 569634 (N.D. Ind. 1995).

substances listed in the affidavit (allegedly generated and disposed of by HWI) contain hazardous constituents. For example, HWI argued that Meyers' conclusion was erroneous because it was highly unlikely that the substances he listed, such as enamels, thinners, and pesticides would contain the same substances and that all would contain hazardous constituents. Accordingly, Meyers' conclusions were speculative and therefore not admissible.

The court agreed with HWI, recognizing that "a conclusion that certain products contain various hazardous constituents, and that all products in this class contain the same hazardous constituents, must be supported by some sort of foundation. Meyers' affidavit clearly lacks this foundation." Consequently, HWI's motion to strike Meyers' affidavit was granted.

*Great Lakes & SCA Services* appear to be representative of *Daubert's* application in environmental civil cases. There does not appear to be a trend of exclusion or admissibility of expert testimony in the environmental context. It appears as though courts simply apply the *Daubert* factors—there is no thread of commonality among the cases.

#### **IV. Possible Implications in Future Environmental Criminal Cases.**

As discussed above, there are very few reported *Daubert* challenges in criminal environmental cases. The probable explanation for this phenomena is that prosecutors are reluctant to introduce evidence that is questionable under the *Daubert* trilogy. Many commentators believe that it is difficult to predict the outcome of a *Daubert* challenge. Although *Daubert* and its progeny was intended to simplify admissibility determinations, some argue that judicial decisions are inconsistent from one court to the next.<sup>56</sup> This inconsistency may stem from the fact that most judges lack the necessary scientific training to adequately assess a *Daubert* challenge. Moreover, a recent study estimates that approximately forty-four percent of judges have not even read the *Daubert* opinion.<sup>57</sup>

### **CONCLUSION**

The effect of *Daubert* and its progeny on environmental criminal and civil cases is unclear. *Daubert* challenges in the environmental criminal arena are rare, primarily because prosecutors are wary of introducing questionable expert testimony. Although *Daubert* challenges in the civil context are more prevalent, no clear trend on the admissibility of expert testimony has arose. Finally, although the Federal Rules of Evidence do not apply to administrative proceedings, at least some administrative bodies look to *Daubert* and the Federal Rules as guidance.

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<sup>56</sup> See, e.g., Craig L. Montz, "Trial Judges as Scientific Gatekeepers After *Daubert*, *Joiner*, *Kuhmo Tire*, and Amended Rule 702: Is Anyone Still Buying This?," 33 U. W. L.A. L. Rev. 87, 103 (2001).

<sup>57</sup> Montz, *supra* note 56 at 108.