

**EARTH PAPER**

by

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## INTRODUCTION

Writing is a scary thing sometimes. You start out intending to discuss and analyze why a cruise ship and its loyal vacationing patrons should not be allowed to flush their toilet into the ocean a few miles away from where you are swimming with your family. You finish by trying to explain why the end of the world may be coming. . .and probably there is no stopping it. See, I told you it was scary. However, there is hope at the end of this discussion.

I began my research by trying to understand how it was legal that cruise ships and gambling boats were allowed to dump sewage into the water just a few miles away from the Florida beach that my family and I visit regularly. When I first heard about this practice I thought the person who had informed me was just some tree hugging surfer who had no clue what he was talking about. This practice was so obviously hazardous and irresponsible that there was no way legislation would actually allow it. However, as I started to research I found that not only was it legal to dump raw sewage right into the ocean, but that sewage is not even the worst thing being disposed of in our seas. It turns out that anyone can obtain a permit to dump just about anything into the ocean as long as they follow the proper

procedures. Instantly, I had my idea for a paper; now I just needed an environmental class.

Enter Earth Jurisprudence. When I signed up for the class I knew nothing about this ideology and frankly, I didn't want to know about it. I figured I could write my paper, throw in something about this new theory, dismiss it, and be done. But then, as time passed, Earth Jurisprudence affected me in a way that almost always gets me interested, it began to irritate me.

First, a speaker came to class who explained to us that the common fallacy among religious movements that believe "there was bliss in the beginning and there will be bliss in the end" was the starting point where many of human's exploitive behaviors are based. Yet she never explained what she felt happened in the beginning, or for that matter, what she believed would happen "in the end." Normally, it doesn't really matter what the speaker's personal beliefs are; however, since the speaker was a nun I thought it was relevant to the conversation.

Next, I read a book called *Wild Law* written by Cormac Cullinan which attacked my favorite philosopher Rene Descartes. The book partially blames Descartes and others in his era for the movement among humans where we began to destroy everything in our path for personal gain. As if, in the early 1600's people all over Earth were reading about this French philosopher and saying, "Yes, Cartesian Dualism sounds right to me, mind and

body are two separate things and therefore we shall govern ourselves accordingly!"

To top it all off, throughout *Wild Law* words like "practice" are spelled with an "s" instead of a "c" which for some reason was driving me bananas. However, once I got past that, I started to "realise" a little more about natural laws from Cormac Cullinan.

Then I looked at Thomas Berry's book, *The Great Work*. It had an interesting quote at the top from *The Bloomsbury Review*. The quote described the book as, "The modern equivalent of the biblical book of Revelation." That caught my eye because I feel like I have a good grasp on the book of Revelation. As I started reading I began to understand where Thomas Berry's idea of the Great Jurisprudence was coming from. It was not an antireligious or antihuman stand at all. Instead it was more of an inclusive relationship with everything in the universe, not just humans.

He was trying to communicate that although we are the most complex and intelligent beings on the planet that does not give us the right to exploit and destroy anything and everything on our way to great personal gain. This was more in line with what I feel a religious leader should be furthering. That we as humans are supposed to understand the incredible gifts which were given to us and use them for the good of all, including

non-humans, instead of using them to gain more for ourselves at the expense of everything and everyone else on planet Earth. So with that, I began to analyze some of the laws that I was reading about dumping in the ocean and how they would stack up against an Earth Jurisprudence analysis.

### **EARTH JURISPRUDENCE PRINCIPLES**

Thomas Berry would say that if we are to successfully transition away from our current exploitation and destruction of Earth into an era of living harmoniously with her then we must begin by adjusting the way we presently think.<sup>1</sup> Not an easy thing to do. Humans did not always think as we do now.<sup>2</sup> It was only over the last few centuries that we started to manipulate Earth for profit instead of living in balance with her.<sup>3</sup> Since we as a species have been around much longer than a few centuries, there is still hope that we can revert back to our more compatible years with Earth. However, to accomplish this, according to Berry, humans will have to undergo at least three fundamental changes in the way we think.<sup>4</sup> Each of these new schools of thought depends on each other and intertwines throughout the principles of Earth Jurisprudence. They are:

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<sup>1</sup> THOMAS BERRY, THE GREAT WORK 24 (1999).

<sup>2</sup> *Id.*

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

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

1) Everything on Earth is made up of the same common elements. These elements started as the smallest particles imaginable, they bonded and evolved and eventually changed into what we see today.<sup>5</sup>

2) Since the very beginning Earth has been changing and evolving. This evolution did not intend to stop in the twenty first century, therefore the decisions we make today will significantly affect the way Earth changes in the future.<sup>6</sup>

3) The Earth operates with an inherent sense of consciousness. It is different from the way humans take in information and make decisions; however it is a form of consciousness.<sup>7</sup> Because Earth has this consciousness we cannot continue to regulate as if we are able to "out smart" her by constant exploitation and extraction.

**A. EVERYTHING ON EARTH DERIVED FROM THE SAME COMMUNITY OF ELEMENTS**

The first of these changes essentially says that we have to step back and remember to look at the big picture again. For centuries humans have been on a quest to understand how things work. We as a species want to figure out and analyze everything. We have continuously been engaged in experiments

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<sup>5</sup> *Id.* at 25.

<sup>6</sup> *Id.* at 26.

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

which dissect material and break down matter in ways that were previously thought to be unimaginable.<sup>8</sup> With this humans have discovered a number of truths which are transcending the way scientists and ordinary humans think today. However, Berry feels that in addition to breaking everything down we must remember how that tiny cell, molecule, or atom operates in the grand scheme of things.<sup>9</sup>

All matter on Earth has the same common elements. This is a critical point in beginning to change our current thought process. Through evolution the building blocks of elements bonded together with other elements to form matter.<sup>10</sup> This matter eventually took the shape of trees, dirt, plants, animals, water, the atmosphere, and the entire planet.<sup>11</sup> Additionally, after billions of years, some of these atoms combined with other atoms to form the beginning of humans.<sup>12</sup>

Essentially, this means that what we observe beneath our microscope is the same thing that makes up humans, just in less complicated form. For example, carbon which has evolved over millions of years into a different form is still carbon, just complicated carbon. The Earth has been combining and weaving atoms together for billions of years, constantly changing the

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<sup>8</sup> *Id.* at 25.

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

<sup>10</sup> *Id.* at 28.

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

<sup>12</sup> *Id.* at 30.

landscape and the inhabitants of Earth. All the while the same elements were constant and unchanging. Everything that we experience, ever have experienced, and ever will experience all have had the same common elements, and they always will.

If this first step is accepted then it begins to change the way we write and enforce our laws. Currently our laws are made mostly from the human perspective as if we are the only subjects that have rights on this planet.<sup>13</sup> If we do put environmental constraints in a law, it is normally done to lessen the effect that certain actions will have on humans if left unregulated. Earth Jurisprudence and the new principle explained above requires us to regulate in a way that does not put the human ahead of nature, but instead incorporates human rights into the all encompassing laws of nature.<sup>14</sup>

#### **Application I:**

##### **The Marine Protection Research and Sanctuaries Act**

The Marine Protection Research and Sanctuaries Act (MPRSA) was enacted by Congress on October 23, 1972<sup>15</sup> and was intended to regulate all types of dumping into ocean waters.<sup>16</sup> The law applies to American vessels who wish to dump waste anywhere in

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<sup>13</sup> CORMAC CULLINAN, *WILD LAW* 52 (2002).

<sup>14</sup> *Id.* at 90.

<sup>15</sup> Charles B. Anderson, *Ocean Dumping and the Marine Protection, Research and Sanctuaries Act*, 1 *LOY. MAR. L.J.* 79, 82 (2002) (discussing the origins of the Marine Protection, Research and Sanctuaries Act).

<sup>16</sup> The Marine Protection, Research and Sanctuaries Act (MPRSA), 33 U.S.C. §§ 1401-1445 (2007).

the ocean.<sup>17</sup> The MPRSA also applies to foreign vessels that wish to dump materials anywhere in the American territorial zone.<sup>18</sup>

The territorial zone consists of the twelve nautical miles that extend out from American soil.<sup>19</sup> Congress may also establish regulations seaward another twelve miles past the territorial zone called the contiguous zone<sup>20</sup> if the regulation is to control pollution, navigation and sanitation of that area.<sup>21</sup> The MPRSA states that if an American vessel wishes to dump materials into the ocean they must first obtain a permit from either the EPA or the Army Corps of Engineers depending on what substance they intend to dump.<sup>22</sup>

Congress enacted the MPRSA because they believed that there was a danger to human health, welfare, marine environment and ecological systems when dumping in the ocean was wholly unregulated.<sup>23</sup> However, even with the regulations in place the dumping is just as harmful to those systems as it ever was. This is because the statutes and regulations were enacted not to

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<sup>17</sup> MPRSA § 1401(c).

<sup>18</sup> See MPRSA § 1411(b)(1).

<sup>19</sup> Barry Hart Dubner, *On the Interplay of International Law of the Sea and the Prevention of Maritime Pollution—How Far Can a State Proceed in Protecting Itself from Conflicting Norms in International Law*, 11 GEO. INT'L ENVTL. L. REV. 137, 141 (1998) (discussing where countries territorial lines end as one proceeds further towards the sea).

<sup>20</sup> *Id.* at 142.

<sup>21</sup> See MPRSA § 1411(b)(2)

<sup>22</sup> Gerard C. Keegan, Jr. *The Dredging Crisis in New York Harbor: Present and Future Problems, Present and Future Solutions*, 8 FORDHAM ENVTL. LAW J. 351, 365 (1997) (discussing how the MPRSA delegates the responsibility to approve permits to the EPA and the Army Corps of Engineers).

<sup>23</sup> See MPRSA § 1401(a).

protect the ocean, but instead to protect America and its "territory." The danger to the ocean, the environment and essentially humans is still present when we enact laws where we are only protecting our immediate interests.

A sad example of territorial and human centered lawmaking is found in the regulations which allow for medical waste to be disposed of in the sea. The MPRSA seems to take an immediate stand against certain contaminants by stating that no permit shall ever be issued to parties wishing to dispose of radiological, chemical, biological warfare, high level radioactive, or medical waste into the ocean.<sup>24</sup>

The legislative reasoning of the statute states that the washing ashore of potentially infectious medical waste poses a serious risk to public health and marine communities<sup>25</sup> and that the "operators of such vessels *must take immediate action to stop disposing of such wastes in ocean waters.*"<sup>26</sup> Potentially infectious medical waste is defined as "infectious agents; human blood and blood products; pathological wastes; sharps; body parts; contaminated bedding; surgical wastes; and other disposable medical equipment and material."<sup>27</sup> However, after having described all the appalling materials which have been previously dumped into the ocean the statute continues on.

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<sup>24</sup> See MPRSA § 1412(a).

<sup>25</sup> 33 U.S.C. § 2501(1) (2007).

<sup>26</sup> 33 U.S.C. § 2501(3) (emphasis added).

<sup>27</sup> 33 U.S.C. § 2502(1).

The statute states that if one really wants to dispose of medical waste into the ocean then they need not apply for a permit<sup>28</sup>, they just have to be sure to proceed at least fifty nautical miles off shore before dumping.<sup>29</sup> The materials must be "sterilized, properly packaged, and sufficiently weighted to prevent the waste from coming ashore after disposal."<sup>30</sup> The statute does not even bother to define the words "sterilized," "properly packaged," or "sufficiently weighted." Apparently Congress decided to leave that interpretation up to the good judgment of the person who decides to dump body parts and contaminated medical bedding into the ocean. What one interprets from this is that Congress is not against individuals dumping medical waste in the ocean per se, but instead they are against dumping medical waste in the ocean close to American shores where it can affect American citizens.

As lawmakers, if we apply the first point of a transcended Earth Jurisprudence way of thinking we can see the danger in this sort of regulation. Everything on Earth is made up of the same basic elements. If the elements that make up our matter cannot process the toxicity of a certain material, and we are the most complex, intelligent, analytical matter ever, then how

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<sup>28</sup> As was stated previously in note 24, those who wish to dump medical waste could not obtain a permit even if they tried because of the overall ban on medical waste.

<sup>29</sup> 33 U.S.C. § 2503(2)-(3).

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

are the same elements that make up water, going to do so? Those elements will deal with it in the same fashion as ours would. . .revolt. It may take an extended period of time, longer than any of us might live,<sup>31</sup> however, eventually water will become less and less two parts hydrogen, one part oxygen and more parts toxic.

This means that water, as we know it, would essentially die and change into a different form, a form that will likely not be able to support the same life it does today.<sup>32</sup> On the positive side for water, water is not sacrificing as much as humans are. This is because water is not nearly as complex as humans are, therefore it is going to have a lot easier time rebuilding and revitalizing itself than us. In the end the species we are eliminating by destroying water is ourselves. So the first fundamental change in our lawmaking must be that we cannot continue to damage other Earth matter, living or non living, and believe that it will somehow react differently than our own matter would.

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<sup>31</sup> I stress the word "might."

<sup>32</sup> For everyone who is following along, this is not far off from what the Book of Revelations predicts.

## B. THE EARTH IS STILL IN A CONSTANT STATE OF CHANGE

The second aspect of our present system of beliefs that needs to shift is the attitude that this planet has stopped changing.<sup>33</sup> Since the beginning, whether you choose to believe in creation, the big bang, both, neither or something else, the universe has been changing. I do not know of anyone who believes that on the first day of the universe Earth looked the way it does today. Earth took time to develop.

Furthermore, the Earth did not evolve over fourteen billion years just to conclude in the 21<sup>st</sup> century.<sup>34</sup> Even if an individual does not believe that the Earth and its inhabitants have been around that long,<sup>35</sup> it is still apparent that animals, plants, people and the environment have had to adapt and change over time.

Berry defines this constant evolution and change as "cosmogogenesis."<sup>36</sup> It means that the world and universe are continuously coming into being through a sequence of

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<sup>33</sup> See Barry, *supra* note 1, at 26.

<sup>34</sup> *Id.* at 27.

<sup>35</sup> There are a large number of Christian believers who feel that evolution has not been proven as of yet. They believe that the account in Genesis of seven days is much more accurate. Without getting into the nuances of all the arguments, their belief is that the Earth is somewhere around 6,000 to 10,000 years old. This is from the time line which can be traced through the book of Genesis. For a more intensive look at these arguments see author Ken Ham or his website "[answersingenesis.org](http://answersingenesis.org)."

<sup>36</sup> See Barry, *supra* note 1, at 26.

irreversible transformations.<sup>37</sup> During this development or transformation the universe is constantly changing from a less complex universe to a more complex universe.<sup>38</sup>

To view this theory through the evolutionary lens of all living things on earth, this is essentially saying that in the beginning there was primordial soup and now billions of years later there are humans. If one does not believe in evolution then this theory would say that in the beginning humans were rubbing sticks together to make fire, and now we can split the atom, land objects on Mars and enjoy high definition televisions. Humans, as we are, right now in the 21st century, were not intended to be the end of the transformation. According to Berry, humans are Earth's most complex creation thus far.<sup>39</sup> However, this extreme and unprecedented intricacy may also be our demise.

Our intellect seems to have manifested in us a sense of domination and superiority over everything else on the planet.<sup>40</sup>

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

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

<sup>39</sup> *Id.* at 32.

<sup>40</sup> See Cullinan, *supra* note 13, at 45. Cullinan continues Berry's thought that philosophers like Rene Descartes (1596-1650) "killed the Earth and all its living beings." Descartes and others in his era began to believe that humans were separate from all else on the universe based on one uniquely human quality, the ability to think and reason. This supposition is best known as Cartesian Dualism and is summed up by Descartes simple statement, "I think therefore I am." This theory was grounded in the belief that mind and matter are inherently separate. It hypothesized that if one could not physically sense anything, (i.e. blind, deaf, no capacity for taste, etc.) how could one be sure that they truly existed. Descartes believed that if he could not physically sense anything in this world he could still prove that he existed based on the fact he thought that he existed. That combined with

Increasingly, and at break neck pace over the past few centuries, people have acted on this apparent authority by exploiting Earth in every possible way for their own personal gain.<sup>41</sup> Whatever one's beliefs are, no reasonable theory I know of preaches this sort of dominance and destruction. We have to realize that the actions we take now, the decisions we make now, the laws we enforce now will have a huge affect on how the Earth evolves later because the Earth is not finished with its development. The Earth is going to continue to push forward and change; this could be a good thing or a devastating thing for our species.

Despite the overwhelming evidence that the Earth is constantly evolving and the signs that human-made pollution is causing devastating results to the environment, we continue to pass regulations that act as if Earth is stagnant and unchanging. For example, we have recently decided on a new place to store the environment's "public enemy number one". . . the ocean floor. Carbon dioxide has recently been approved for "storage" in the ocean floor by Annex I of the International Maritime Organization's (IMO) MARPOL 73/78 treaty.<sup>42</sup>

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his belief that there is a God and that logically this God must be good, resulted "Cogito ergo sum" or "I think, therefore I am."

<sup>41</sup> See Cullinan, *supra* note 13 at 38-42.

<sup>42</sup> International Maritime Organization, [http://www.imo.org/Environment/mainframe.asp?topic\\_id=1336](http://www.imo.org/Environment/mainframe.asp?topic_id=1336) (last visited April 22, 2007).

## **Application II:**

### **The International Maritime Organization**

In 1912, months after the Titanic sank, the first Safety Of Life At Sea (SOLAS) committee convention was held.<sup>43</sup> The convention was created in an attempt to enact regulations which would help protect human life at sea.<sup>44</sup> Thirty years later at the SOLAS convention of 1948 the IMO was created.<sup>45</sup> Their main purpose was to “develop and maintain a comprehensive regulatory framework for shipping.”<sup>46</sup> The IMO began setting the shipping standards which signature countries could incorporate into their own private doctrines.<sup>47</sup>

Since the enactment of the IMO there have been 167 signature countries agree to abide by the IMO regulations.<sup>48</sup> The United States signed on in 1950.<sup>49</sup> In 1983 the IMO enacted the Convention for the Prevention of Pollution by Ships (MARPOL 73/78) which was a combination of two treaties written in 1973 and amended in 1978.<sup>50</sup> The treaty sets forth, in six different

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<sup>43</sup> International Maritime Organization (IMO), [http://www.imo.org/About/mainframe.asp?topic\\_id=3](http://www.imo.org/About/mainframe.asp?topic_id=3) (last visited April 22, 2007).

<sup>44</sup> *Id.* As shown by the timing of the creation of the SOLAS, it was not intended that the “L” in the acronym stand for anything other than human life.

<sup>45</sup> *Id.*

<sup>46</sup> *Id.*

<sup>47</sup> *Id.*

<sup>48</sup> *Id.*

<sup>49</sup> International Maritime Organization, [http://www.imo.org/About/mainframe.asp?topic\\_id=315&doc\\_id=840](http://www.imo.org/About/mainframe.asp?topic_id=315&doc_id=840) (last visited on April 22, 2007).

<sup>50</sup> See IMO, *supra* note 42.

categories, the guidelines which a signature country must follow when drafting their own ocean dumping regulations.<sup>51</sup>

Annex I regulates the prevention of pollution by oil.<sup>52</sup> Annex II regulates the prevention of pollution by noxious liquid substances in bulk.<sup>53</sup> Annex III regulates the prevention of pollution by harmful substances carried at sea in packaged form.<sup>54</sup> Annex IV regulates the prevention of pollution from sewage and Annex V regulates garbage dumping by ships.<sup>55</sup> Annex VI regulates the prevention of air pollution by ships.<sup>56</sup> On February 10, 2007 Annex I was expanded to include carbon storage in the ocean floor.<sup>57</sup>

This means that signature countries may now begin to enact legislation which allows them to regulate under water storage of carbon emissions. The carbon dioxide will be captured and shipped, possibly by existing pipeline, to an empty geological opening in the ocean floor.<sup>58</sup> However, if the emissions are caught at a plant which is not near an existing pipeline then a

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<sup>51</sup> International Maritime Organization, [http://www.imo.org/Conventions/contents.asp?doc\\_id=678&topic\\_id=258](http://www.imo.org/Conventions/contents.asp?doc_id=678&topic_id=258) (last visited April 22, 2007).

<sup>52</sup> *Id.* Annex 1 entered into force on October 2, 1983.

<sup>53</sup> *Id.* Annex 2 entered into force on April 6, 1987.

<sup>54</sup> *Id.* Annex 3 entered into force July 1, 1992.

<sup>55</sup> *Id.* Annexes 4 and 5 respectively. Annex 4 was entered into force on September 27, 2003 and annex 5 was enacted on December 31, 1988.

<sup>56</sup> *Id.* Annex 6 was entered into force on May 19, 2005.

<sup>57</sup> *Id.*

<sup>58</sup> International Maritime Organization - How Does Carbon Sequestration Work? [http://www.imo.org/Environment/mainframe.asp?topic\\_id=1548](http://www.imo.org/Environment/mainframe.asp?topic_id=1548) (last visited April 22, 2007).

pipeline would have to be built, or the carbon would have to be delivered by other means of conventional transportation.<sup>59</sup>

Extensive tests must be done on the carbon emissions and on the storage site before dumping is allowed.<sup>60</sup> The former is to ensure that the carbon dioxide being captured is not mixed with any other gases.<sup>61</sup> The latter is to be as certain as possible that there will be no leaks once the carbon is deposited there.<sup>62</sup> Also the pipelines which will transport the carbon must be competent to safely deliver the carbon emissions without damaging the surrounding environment.<sup>63</sup>

Lawmakers who realize that Earth is still in a state of change would not have allowed this form of dumping. By injecting carbon emissions into the ocean floor, humans are once again forcing Earth to deal with more of our waste. However, this time we have come up with a completely new way to store our waste, a way that is even more unnatural than our current procedures. While it is damaging and dangerous to introduce carbon dioxide into the atmosphere at the rate that humans presently are, we can at least be assured that for the great majority of Earth's existence there has been carbon present in

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<sup>59</sup> *Id.* Both options of delivery include the catch twenty two problem of introducing more carbon emissions into the atmosphere, just to get the carbon emissions out of the atmosphere.

<sup>60</sup> *Id.*

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

<sup>62</sup> *Id.*

<sup>63</sup> *Id.*

the air. Obviously the levels and amounts of carbon in the atmosphere have varied throughout time and without getting into any "Inconvenient Truths"<sup>64</sup> these have mainly corresponded to the temperature on Earth.

Accordingly, carbon dioxide has always been present in ocean.<sup>65</sup> There are studies that show that there are as many as 40,000 billion tons of carbon dioxide in the ocean as compared to 7500 billion tons in the atmosphere.<sup>66</sup> However, the difference here is that carbon dioxide has never been present in the ocean in this form. This means that the environment has never naturally injected large amounts of carbon gases into the crevices of its floor, and we are not sure what will happen if these gases are suddenly released.<sup>67</sup>

To allow this sort of "storage" humans must continue to believe that the Earth is unchanging and these gases that are sequestered are never going to be set free by a living Earth. If the gases eventually escape then the environment is in the same position as it was before the sequestration, the only

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<sup>64</sup> See Al Gore's documentary, *An Inconvenient Truth* (2006), and his personal electric bill, for a better breakdown of the effect the rising carbon dioxide emissions are having on the earth's atmosphere.

<sup>65</sup> Karen N. Scott, *The Day After Tomorrow: Ocean CO<sub>2</sub> Sequestration and the Future of Climate Change*, 18 GEO. INT'L ENVTL. L. REV. 57, 59 (2005) (discussing the benefits to carbon sequestration).

<sup>66</sup> *Id.*

<sup>67</sup> *Id.* at 64. Knowledge is limited because the longest ongoing project of humans injecting carbon for storage in the ocean floor is ten years in Norway. A project there has currently sequestered three percent of its nation's carbon emissions under the sea floor since it was authorized to begin work in 1996.

change being that other generations will have to deal with it. Maybe that is the point.

Having an Earth centered perspective, we realize that these gases may or may not continue to be locked away for the next thousand years, but the Earth is definitely going to change over that time. It is against Earth Jurisprudence principles to force the natural world to adjust to our unwelcome contaminants for the good of our species alone. Admittedly, these are difficult decisions because the chance to remain at the *status quo* sounds very attractive; but a lawmaker with an Earth Jurisprudence perspective has another approach to tackling these types of possibly beneficial but risky regulations.

The method is to use precautionary principles before making a decision where the consequences of that decision are not entirely known.<sup>68</sup> Essentially, to steal a phrase, precautionary principles say, "it is better to be safe than sorry." The precautionary principles set out basic guidelines which can assist a decision maker in determining whether a regulation should be enacted when there are potential but unknown harmful effects.<sup>69</sup>

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<sup>68</sup> The IMO declares that the annexes and decision to allow carbon sequestration was made under a precautionary principle analysis. Parts of their decision to allow carbon storage do match up, however overall the addition to allow carbon storage fails the test. [http://www.imo.org/Environment/mainframe.asp?topic\\_id=1463](http://www.imo.org/Environment/mainframe.asp?topic_id=1463) (last visited April 22, 2007).

<sup>69</sup> Science and Environmental Health Network (SEHN) <http://www.sehn.org/ppfaqs.html> (last visited April 22, 2007).

The five main steps in the analysis are: 1) set a goal, 2) examine all alternatives to accomplish the goal, 3) monitor results and make corrections as needed, 4) transparent decision making, and 5) shift the burden of proof to the responsible parties.<sup>70</sup>

The IMO's goal was to significantly lower carbon dioxide levels in the near future and in turn to slow down the increasing acidification of the ocean.<sup>71</sup> The best way to accomplish this goal without decelerating the economy was to find somewhere else to put the carbon emissions.<sup>72</sup> So as far as the first step is concerned, the IMO is in line with precautionary principles. They set a goal and they are working towards the completion of that goal.

The next step is to examine all possible alternatives to accomplish the goal intending to choose the least harmful one.<sup>73</sup> Here the decision to store carbon dioxide in the ocean begins to falter. The IMO does not appear to assess the other real alternative which would have been to require all signature countries to lower their carbon emissions. MARPOL 73/78 is a treaty that countries voluntarily agree to abide by;<sup>74</sup> however, the IMO still has power. Instead of giving countries a free

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

<sup>71</sup> See IMO, *supra* note 57.

<sup>72</sup> *Id.*

<sup>73</sup> See SEHN, *supra* note 69.

<sup>74</sup> See IMO, *supra* note 49.

pass, the committee could have issued a statement finding that this form of storage is not a reasonable alternative to lowering carbon dioxide in the atmosphere because of the unknown long range risks to the environment.

This declaration would have made sense since the risks involved with long-term, mass quantity carbon storage in the ocean are still basically an unknown. A study done by the International Panel on Climate Change (IPCC)<sup>75</sup> hypothesized about some of the possible consequences. It stated that a slow leak would probably result in large mortality rates among many ocean organisms.<sup>76</sup> This, of course, would have a trickle down, effect on all "organisms" on the planet. The true extent of the damage was unknown though because results would vary depending on the leak size, length of time before discovery and location.<sup>77</sup>

Even more threatening was the fact that this same study stated that **no model exists** to determine what the effects could be of an abrupt, extensive leak from an ocean storage site.<sup>78</sup> Essentially the experts are saying that they have no idea how harmful an abrupt extensive leak would be; however, the risks

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<sup>75</sup> The IMO website directs the reader to the IPCC study for further reading on carbon sequestration.

<sup>76</sup> Intergovernmental Panel on Climate Change (IPCC), Carbon Dioxide Capture and Storage: Summary for Policymakers, [http://arch.rivm.nl/env/int/ipcc/pages\\_media/SRCCS-final/SRCCS\\_SummaryforPolicymakers.pdf](http://arch.rivm.nl/env/int/ipcc/pages_media/SRCCS-final/SRCCS_SummaryforPolicymakers.pdf) (last visited April, 22 007).

<sup>77</sup> *Id.* at 14.

<sup>78</sup> *Id.*

will become more definite in the years ahead as carbon storing becomes more and more prevalent.<sup>79</sup>

This is clearly against the precautionary principle which always errs on the side of safety. The precautionary principle states that research and risk assessment need to be clearly developed before the regulation is approved, not as an effect of the approved regulation.<sup>80</sup> Therefore, this decision fails the second step of the precautionary principle because it does not choose the least harmful alternative to achieving the goal.

It appears that the IMO is in line with the next two steps of the precautionary principle. They allowed for total involvement in the decision making process and found that throughout the process there will be a need to constantly monitor and reassess the storage site to ensure that there are no leaks.<sup>81</sup> These are both concerns of new and potentially dangerous legislation. It is fundamental that the people who are going to be affected by risky regulation get to contribute their opinions in the decision making process.<sup>82</sup> Equally important is the idea that when legislation is passed the effects of that legislation should be constantly monitored so

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<sup>79</sup> The most dramatic models show that an abrupt leak could lead to seismic activity including earthquakes, tidal waves and land slides. It is amazing after the destruction and loss of human life alone after the tsunami in 2004 that this kind of sequestering, with even remote risks such as that, can even be contemplated. See Scott, *supra* note 68, 64.

<sup>80</sup> See SEHN, *supra* note 69.

<sup>81</sup> Carbon Sequestration: Frequently Asked Questions, [http://www.imo.org/Environment/mainframe.asp?topic\\_id=1548](http://www.imo.org/Environment/mainframe.asp?topic_id=1548), (last visited April 22, 2007).

<sup>82</sup> See SEHN, *supra* note 69.

adjustments can be made in mid course in order to minimize harm.<sup>83</sup>

The last element is switching the burden of proof to the responsible party.<sup>84</sup> The burden of proof always falls on the dumper to first establish that damage will not be done to the environment before the dumping is allowed.<sup>85</sup> In this respect the decision to store carbon emission in the ocean floor again fails the precautionary principle. As was previously argued the harmful effects of this kind of storage are not yet well known. Also there could potentially be a big problem with liability in the future if there is a leak which causes harm.

If more than one corporation is dumping into the same site then it becomes convoluted as to who will bear the brunt of compensation and clean up. In a perfect world all the parties which contributed to that particular site would band together and take responsibility; however, the likelihood that this would happen is slim to say the least. Realistically there would be extended litigation where each dumper would point their corporate finger at the other party and say, "it wasn't me." In this respect the premature decision to allow the storage of carbon in the ocean fails the last element of precautionary principles.

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<sup>83</sup> *Id.*

<sup>84</sup> *Id.*

<sup>85</sup> *Id.*

The IMO's logic behind the expansion of Annex I is the ability that ocean carbon storage will have in slowing the increasing acidity of the ocean due to the increasing amount of carbon in the atmosphere.<sup>86</sup> Some analysts have found that underwater storage could be in the range of thousands of gigatons of carbon emissions.<sup>87</sup> This could logically neutralize decades or even centuries of atmospheric pollution. Although this sounds good at first, it also could make for a much bigger problem in the future.

Environmentalists right now are finding it difficult to get through to big business and legislators. This is when the levels of carbon dioxide are off the charts and there is more widespread agreement than ever that changes need to be made immediately. How successful will these environmentalists and activists pushing for new laws in Congress be when the corporations have another hundred-year buffer zone? Even if carbon storage works to perfection, it only seems to be implementing one problem to slow down another. In the end we have two problems instead of one.

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<sup>86</sup> The carbon dioxide in the air is a key component to the acidic rise of the ocean. It is believed that the effects of the environment have lowered the pH of the ocean from 8.2 to 8.1 over the last 200 years. If "business as usual" continues experts agree that this drop could continue and within 250 years bring the ocean to pH balances that have not been seen in over 20 million years. See FAQ, *supra* note 79.

<sup>87</sup> See IPCC, *supra* note 76, at 12.

First, carbon emissions have not slowed because corporations have not been forced to cut their output. Second, there are large amounts of dangerous gases stored throughout the ocean floor. If we experience an abrupt leak, or a slow and gradual leak, then the effect on the environment could be disastrous. Earth Jurisprudence requires the precautionary principle to be applied when there is regulation proposed which could be harmful to the environment, and under this theory the decision to store carbon at the bottom of the sea fails the test.

### **C. A CONSCIOUS EARTH**

The third way that our thinking needs to change is to understand that there is a type of conscious intelligence in the universe. This consciousness is shown in the universe's overwhelming tendency to self-organize and always strive to compose more complexity and diversity.<sup>88</sup> This is essentially what humans have been doing for millions of years.<sup>89</sup> We have constantly been pushing our limits and abilities through out our existence on Earth. The growth of the human was not set in concrete and we moved faster at certain times and slower in

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<sup>88</sup> See Berry, *supra* note 1, at 26.

<sup>89</sup> *Id.* at 31.

others but always there was a drive within us to evolve and understand more and more.<sup>90</sup>

Earth's development over billions of years has been doing the same thing.<sup>91</sup> It means that from the very beginning, there has been an overwhelming drive within the universe to push forward and become something more.<sup>92</sup> It was not random and it was not determined, it was just driven, spontaneous creativity.<sup>93</sup> This creativity and complexity throughout time is something of an Earth consciousness.<sup>94</sup> The entire universe and all the building blocks that assemble the universe are working together to create something more.<sup>95</sup>

This driven creativity was eventually expressed in us, human beings, as the first creation with the ability to reflect upon the creation and the process itself.<sup>96</sup> As humans, we are Earth in a much shorter cycle. What would take the Earth billions of years to figure out by trial and error, we did over a span of a few million years. We are the first species, the first creation of this universe that has been able to

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<sup>90</sup> *Id.*

<sup>91</sup> *Id.* at 26-32.

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

<sup>93</sup> *Id.*

<sup>94</sup> See Cullinan, *supra* note 13, at 47 (explaining that quantum physics helped to clarify the understanding that the universe is made up of vast numbers of surging 'building blocks.' These building blocks which create matter have the inherent capability to organize and change in an infinite number of ways. Cullinan feels this is one quality of consciousness.).

<sup>95</sup> *Id.*

<sup>96</sup> See Berry, *supra* note 1, at 31.

contemplate our own existence, and our own demise.<sup>97</sup> As it turns out this may end up as having been too much of a burden.

With this consciousness eventually came the feeling of power.<sup>98</sup> Humans figured out that they had the ability to dominate and control almost every other thing on the planet whether it was living or not.<sup>99</sup> Humans eventually began to act upon this knowledge by exploiting the Earth's natural resources for the good of humans alone. With these exploitations came laws.<sup>100</sup> The laws reinforced and strengthened our exploitation of Earth.<sup>101</sup> The MPRSA's delegation of power to the Army Corps of Engineers is a good example of how we are continuing to regulate as if we are dominant over all things on Earth and we do not need to consider the welfare of anything on the planet except for ourselves.

### **Application III.**

#### **Dumping Of Dredged Materials**

The MPRSA created a bifurcated system in which two regulatory bodies were given the power to approve ocean dumping permits.<sup>102</sup> The EPA decides on all application types except for

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<sup>97</sup> See Berry, *supra* note 1, at 26-32.

<sup>98</sup> See Cullinan, *supra* note 13, at 52. ("The dominant cultures in our world are as convinced of the superiority of our species over others and of our right to rule the planet as most white South Africans once were about their right to oppress other South Africans").

<sup>99</sup> *Id.*

<sup>100</sup> See Cullinan, *supra* note 13, at 67.

<sup>101</sup> *Id.*

<sup>102</sup> See Keegan, *supra* note 22, at 365.

one, applications to dump dredged materials.<sup>103</sup> That responsibility was given to the Army Corps of Engineers ("the Corps").<sup>104</sup> Therefore, if an individual or corporation wants to dump dredged materials into the ocean then they have to get a permit from the Corps. If they want to dump anything else, then they submit their application to the EPA.

Dredged materials are the sediment that is scraped off the bottom of rivers, inlets and canals.<sup>105</sup> This material is removed in order to allow adequate clearance for vessels which are sailing inland on those waters to dispense with their cargo.<sup>106</sup> The sediment needs constant attention as it is continuously rebuilding itself as runoff from the surrounding land falls to the bottom of the river floor as the river makes its way toward the sea.<sup>107</sup> Also with cargo ships becoming larger the need for deeper dredging based on their increased draw is also becoming an issue.<sup>108</sup>

Dredged materials are especially dangerous because of the number of different toxins, chemicals and heavy metals which

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

<sup>104</sup> *Id.*

<sup>105</sup> Steven J. Moore, *Trouble in the High Seas: A New Era in the Regulation of U.S. Ocean Dumping*, 22 *Envtl. L.* 913, 920-921 (1992).

<sup>106</sup> See Anderson, *supra* note 15, at 81.

<sup>107</sup> See Keegan, *supra* note 22, at 384.

<sup>108</sup> See Keegan, *supra* note 22, at 385. Draw is the depth of water a ship needs underneath it in able to float. There are now cargo ships being built which need up to 50 feet of draw and beyond. Dredging to this depth is an extremely expensive project. For example the Army Corps of Engineers estimate that it will cost approximately 1 billion dollars to deepen the Brooklyn Harbor just five feet from forty to forty five feet.

make their way to the bottom of these inlets and canals.<sup>109</sup> The chemicals arrive in the river as run off from the land and various other point sources.<sup>110</sup> They then make their way down the river and settle at the bottom of the inlet.<sup>111</sup> Therefore, many times, the same toxic substances which are initially banned for ocean dumping by the MPRSA will end up in the sea anyway as part of the dredged material.<sup>112</sup> The conflict arises when we find that almost ninety percent of the dredged material which is dumped into the ocean is actually done by the Corps.<sup>113</sup> Essentially what we have is an agency that submits applications to and then approves itself.

Although it would be nice to think that the Core is looking out for the best interest of the citizens and environment try telling that to the people of New Orleans. In 1917 The Corps was put in charge of the levee system around New Orleans and the lower Mississippi after years of work on the Mississippi river.<sup>114</sup> The Corps have been working on the Mississippi since 1879 when Congress found that the numerous snags and hang ups on the river were significantly delaying interstate commerce.<sup>115</sup>

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<sup>109</sup> See Anderson, *supra* note 15, at 82.

<sup>110</sup> See Keegan, *supra* note 22, at 354.

<sup>111</sup> *Id.*

<sup>112</sup> See Anderson, *supra* note 15, at 82.

<sup>113</sup> See Keegan, *supra* note 22, at 370-71.

<sup>114</sup> Oliver Houck, *Can We Save New Orleans?*, 19 TUL. ENVTL. L.J. 1, 10 (2006).

<sup>115</sup> *Id.*

Congress utilized the Corps to ensure that the Mississippi remained navigable and they have been there ever since.<sup>116</sup>

The levee system on the lower Mississippi and in New Orleans was implemented and controlled mainly by the Corps.<sup>117</sup> The levees were intended to guide the Mississippi and create flood control around New Orleans; however, many agree that it was more about making money.<sup>118</sup> Money that developers made by building on inexpensive and previously unusable marshlands which dried up when the levees were constructed.<sup>119</sup> Money spent for dredging rarely used ports so big business and commercial barges could gain entry.<sup>120</sup> Even money spent to build canals such as the Mississippi River Gulf Outlet which may have actually increased flooding into New Orleans during Katrina and Rita.<sup>121</sup>

Since dredged materials make up the largest percentage of waste dumped into the sea,<sup>122</sup> and with price tags sometimes as big as a billion dollars,<sup>123</sup> the main issue tends to be money not the environment. However, the toxic chemicals and heavy metals that seep to the bottom of these inlets and canals can have some of the most devastating effects on marine wild life and

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

<sup>117</sup> *Id.* at 10.

<sup>118</sup> *Id.* at 17.

<sup>119</sup> *Id.* at 16.

<sup>120</sup> *Id.* at 15 n.67.

<sup>121</sup> *Id.* at 16 n.71.

<sup>122</sup> See Anderson, *supra* note 15, at 82.

<sup>123</sup> See Keegan, *supra* note 22, at 385.

ecology.<sup>124</sup> The environment simply cannot afford these types of conflicts of interest in our laws, because the largely unspoken for environment is always going to lose out. We need regulators and regulations which reflect our increased knowledge and oneness with nature.

The present trend in humans which relies on individuals to self-regulate is slowly eating away at Earth's resources and natural law.<sup>125</sup> This is because humans are often driven by money and power. Regulations such as the one outlined above only further this degradation. We dredge the ports and dump the waste anywhere we want with little oversight. This allows bigger and bigger ships to deliver more oil and more goods and it keeps the economy running smooth. . .for now. Increased consumption and destruction of the environment will not lead to human happiness; in fact, it is very likely to lead to the exact opposite, extinction.<sup>126</sup> Instead humans need to integrate themselves back into the natural flow of Earth's consciousness and evolution.<sup>127</sup> We do this by recognizing the unique qualities of every living and non living thing on Earth.<sup>128</sup> The human and the environment can thrive when this delicate balance is respected.

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<sup>124</sup> See Keegan, *supra* note 22, at 353-57.

<sup>125</sup> See Cullinan, *supra* note 13, at 66.

<sup>126</sup> *Id.* at 49.

<sup>127</sup> *Id.* at 119.

<sup>128</sup> *Id.* at 121.

## **CONCLUSION**

The three regulations in this paper are only a few of those which do not comport with a universal or Earth centered approach. Earth and everything in it is made up of the same basic elements as we are. Earth will continue to change. Those changes will either be able to support the life that we know today or not. However, if we do not change our current behaviors towards Earth then disaster could be just around the corner. We cannot continue to act or regulate as we have and expect the Earth to continuously provide for us as a species.

However, I believe that we still have time. This is where hope comes in. To effect real change we need to try to once again become closer to nature. Becoming closer to nature accomplishes two objectives. First, it gives us a deeper understanding of the natural world, and just like anything else, when we develop a deeper understanding of something we also develop a deeper respect for that thing. It is much harder to exploit and abuse something that you truly love. For example, I don't believe that a true dog lover would run a dog fighting ring, just as a true nature lover would have a much harder time seeing the upside to destroying the Florida wetlands in order to develop a few more shopping centers and car dealerships.

The same is true with the ocean and water. I don't know of any surfers who would paddle out for a session and then later that day throw litter into the ocean and onto the beach. This is because they are closer to the water on a daily basis than the average person. In turn they have developed a much deeper respect for the water and its inherent strengths and weaknesses.

So how do we get people to respect things they don't personally use or have a connection with? It is a difficult problem, but I think education is the key. Once people read about the damage humans are doing they can form their own opinions. Unless one is blinded solely by money, power, or some other greed, it will be impossible to ignore the trend that we have fallen into as humans.

I know that I respect nature a lot more now than I did before I took the Earth Jurisprudence class. I do not swat bugs and spiders to their death at my first sight of them. I do not try to kill the lizards that sneak into my house. I argue with my wife before cutting down a tree in my back yard, although I lose most arguments with her anyway. We use florescent light bulbs now and I take much shorter showers than before. We talk to our kids about why they should not litter, or waste food, or leave lights on when they are not in the room. We never did any of that before. Is it enough? Probably not, but hopefully it continues to spur us to more significant changes.

Unfortunately, most of these changes came from my readings and education in class, however there is another source which teaches the same thing however many of us lose sight of, God. All of the things I mention in the paragraph above, like killing lizards, using less energy around the house, talking to my kids about wasting food and everything else are all traits of following God's word too. This is the second benefit that sometimes comes out of becoming closer to nature. It can wake us up from a slumber where we think of God as secondary and ourselves and our own personal satisfaction as primary. I see a lot of correlation between Earth Jurisprudence and believing in God. Both God and the natural world are bigger than what we can truly understand. However, we get glimpses of his power and perfection by looking at wonder and complexity in all his creations. Those split seconds of clarity are what we need to remember before make a decision based on what is primarily good for our own personal human well being. If humans actually do that before making a decision, then we will change this direction of exploitation and over consumption. Who knows, we may even realize that we have it pretty good right now.