

# JOINING THE CONVENTION ON BIOLOGICAL DIVERSITY: A LEGAL AND SCIENTIFIC OVERVIEW OF WHY THE UNITED STATES MUST WAKE UP

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## INTRODUCTION AND SUMMARY

Life on Earth as we know it is under siege. Significant and probably irreversible changes to the natural world are now occurring. It is an undisputed fact that we are losing wild species in nature to extinction faster than in any geologic period since the dinosaur die-off roughly sixty five million years ago. It is also undisputed that ecosystem services from land, water, and air are degraded throughout the world and threatening food supplies, economic development, scientific advancements, and global security. The rapid advent of global warming and associated climate change makes the job of saving native plants, animals, and habitats even more difficult. Human beings need biological diversity to survive and prosper, but our natural support system is fraying.

Enter the Convention on Biological Diversity, sometimes called the “CBD” for short. The United States has signed but not yet ratified this international treaty, which has emerged as the best overarching tool to protect

species, habitats, and ecological processes important to human well-being. It has a seventeen-year track record building numerous success stories with its over 190 members; only Andorra, the Holy See (Vatican), and the United States remain as non-members.

Now more than ever, the engagement and leadership of the United States is necessary to protect biological diversity and the natural services enjoyed by Americans and others throughout the world. No country possesses an inventory, description, and understanding of its wildlife, habitat networks, and ecological processes greater than the United States. In addition, the U.S. possesses transparent laws, dispenses significant foreign aid, and embodies a tradition of public engagement that leads to greater biodiversity-related protection and enforcement than most countries. The U.S. has also been a good international partner in other environmental agreements and treaties such as the Convention on International Trade in Endangered Species (“CITES”), the Ramsar Convention on Wetlands, and the Montreal Protocol on Substances that Deplete the Ozone Layer. The interests of the United States stand to benefit greatly from such multilateral cooperation and continued ability to access biological diversity from other countries across the globe.

Significantly, no new federal or state laws are necessary for the United States to ratify and join the CBD, and absolutely no loss of legal or natural resource sovereignty is even possible under the express terms of the Convention. The United States will, in fact, benefit under the treaty by better organizing its own biodiversity-related programs, and by similarly helping non-U.S. geographic areas, many in strategically important locations. The United States will also benefit by possessing a formal seat at the table for important upcoming negotiations and discussions under the Convention, particularly with regard to the proposed

protocol on Access and Benefit-sharing (“ABS”), and by being connected to other Parties through various biodiversity-related projects such as scientific research, climate offsets, ocean protection, alien invasive species work, and enforcement coordination. Many worldwide biodiversity cooperative programs flow from the Convention, including partnerships with other U.N. agreements and the World Trade Organization.

Consistent with the plain language of the treaty’s text, which clearly supports U.S. Government discretion in all actions CBD-related, U.S. interests have also been protected by the so-called “Seven Understandings” and other official interpretations and clarifications developed with overwhelming bipartisan support in response to U.S. industry concerns in the early to mid 1990s. Indeed, the Convention’s implementation has been influenced by the U.S. Government interpretations. These interpretations represent a firm way of moving forward in international biodiversity matters.

Younger and future generations of American and global citizens will thank the President and Senate that finally enables the United States to take its rightful place as a member of the Convention on Biological Diversity. There is no longer any rational basis for the U.S. to stand apart from the world with regard to the treaty that is known as the convention for life on Earth. The Senate should ratify this convention at the earliest possible moment, along with other high priorities including the Law of the Sea

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Convention (“UNCLOS”) and the International Treaty on Plant Genetic Resources (“ITPGR”).

## UNDERSTANDING THE CONVENTION ON BIOLOGICAL DIVERSITY

### WHAT IS AT STAKE FOR HUMANITY AND THE NATURAL WORLD

The Convention on Biological Diversity<sup>1</sup> defines biological diversity as “the variability among living organisms from all sources including, *inter alia*, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part: this includes diversity within species, between species and ecosystems.”<sup>2</sup> As revealed by its linguistic roots, the term “biological diversity” (or “biodiversity”) describes the variety of life on our planet. It includes literally all of the millions of animals, plants, fungi, lichens, and microorganisms. It includes the evolutionary variation of life, built up over the several billion years of the planet’s existence—at the genetic, species, and ecosystem levels. And, it includes the stunning diversity of species and natural processes with and between many different ecological regions. In sum, biodiversity is all life on earth.<sup>3</sup>

The planet is currently losing biological diversity at a rate not seen since the mass species die off that claimed the dinosaurs in the Cretaceous geologic period sixty-five million years ago.<sup>4</sup> The loss of biological diversity, including the approximately 1.9 million existing known and identified species as part of the roughly 15 million estimated number of all total existing species,<sup>5</sup> can be lumped into three main, overarching causes: habitat loss and degradation; intentional take and related forms of trade or commerce; and various forms of pollution (e.g., dirty water, toxics, invasive species, greenhouse pollutants).

Aside from the many inherent, personal, and spiritual reasons to save nature, economists have estimated multiple *trillions* of dollars worth of benefits from a healthy balance of biodiversity: clean air and water, productive soils and wetlands, bio-commerce, recreation, eco-tourism, health costs and insurance savings.<sup>6</sup> The biodiversity crisis, already acute before the manifestations of global warming,<sup>7</sup> is now accelerating because massive amounts of greenhouse pollutants in the planet’s atmosphere could “drive the climate system” to “tragic consequences” that are completely “out of our control.”<sup>8</sup> Some of our current “needs” of fossil fuel energy, corporate agriculture, mass-manufacturing, urban development, suburban sprawl, and traditional transportation are ironically threatening our very survival. Biodiversity-rich oceans, forests, and other ecosystems could be a major part of the climate change solution.<sup>9</sup>

There is scientific consensus about the staggering decline of natural capital lost over the past century.<sup>10</sup> The Millennium Ecosystem Assessment (“MEA”) may be the most comprehensive assessment of the Earth’s ecosystems to date. The MEA was prepared by 1,360 experts from 95 countries (including a large contingent from the United States), and functioned as a broad partnership of international organizations, academics, scientists, non-profit groups, and private foundations.<sup>11</sup>

The central finding of the Millennium Ecosystem Assessment is that “(o)ver the past 50 years, humans have changed ecosystems more rapidly and extensively than in any comparable period of time in human history, largely to meet rapidly growing demands for food, fresh water, timber, fiber and fuel . . . [and the] degradation of ecosystem services could grow significantly worse during the first half of this century.”<sup>12</sup> Specific examples from the MEA

report are highly illuminating albeit sobering: more land was converted to cropland between 1950 and 1980 than between 1700 to 1850; withdrawals from rivers and lakes have doubled since 1960 (as has water use in general) and is expected to grow significantly; 60% of atmospheric carbon dioxide pollution since 1750 has taken place since 1960; world human population doubled from 3 to 6 billion people from 1960 to 2000; wood harvests for pulp and paper have

more than tripled since 1960; at least one-quarter of all commercially exploitable fish stocks are clearly over-harvested.<sup>13</sup>

The Assessment concludes there must be “significant changes in policies, institutions and practices that are not currently under way.”<sup>14</sup> Approximately 60% of the ecosystem services evaluated” in the MEA “are being degraded or used unsustainably.” The degradation of ecosystem services often causes significant harm to human well-being and represents a loss of natural assets or wealth of a country.<sup>15</sup> Disease, malnutrition, famine, poverty, and unrest will all result under almost all models without change. Reinvigorated implementation of the CBD, with the partnership and leadership of the United States, would be a constructive change of course.<sup>16</sup>

Even before the current understanding on the threats caused by global warming, the loss of habitat and species were already understood as a major threat to mankind.<sup>17</sup> Now, with the impacts of global warming already beginning, the full throttle of potential calamity becomes clear.<sup>18</sup> Consider this conclusion from the U.S. Department of Defense, Air Command Staff of the Maxwell Air Force Base in Alabama: “The emergence of harmful nonlinear, long-term, cumulative, anthropogenically generated changes to the Earth’s climate and natural environment pose a ‘serious threat to America’s national security.’”<sup>19</sup>

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This security risk involves more than the disturbing prospect of massive sea level rise and large parts of coastal America disappearing<sup>20</sup> and more than the continued pressure by refugees to breach our borders.<sup>21</sup> Take, for instance, the melting Himalayan glaciers and the changes wrought by dwindling water supplies for areas in China and India (i.e., Ganges, Yellow and Yangtze Rivers) as well as Afghanistan and Pakistan (i.e., Hindu Kush mountain region with 140 million rural residents including many susceptible to hostility toward the United States).<sup>22</sup> That these glaciers may not totally melt by 2035, as originally hypothesized by some scientists, means we still have time.<sup>23</sup> But without action, including adaptation guided by the CBD, it is no exaggeration to say that major natural upheavals and suffering will occur all over: from the Arctic and subarctic regions to Africa and the Americas.

Today, there is reason to believe that the odds of significant natural resource degradation leading to deadly human unrest throughout the world are quite high.<sup>24</sup> And it is not just environmental advocates who are calling the alarm. It is the military. It is the scientific establishment. It is the insurance and investment industries. Natural resource degradation, global food insecurity, and climate change are a volatile stew. The CBD is a stabilizing blueprint toward remedying many of these problems.<sup>25</sup>

#### THE CONVENTION ITSELF: PROVIDING FRAMEWORK, NOT PRESCRIPTION

The Convention on Biological Diversity was adopted on May 22, 1992 and entered into force on December 29, 1993. The U.S. signed the treaty on June 4, 1993. The CBD was the result of a decade's worth of diplomatic effort, originally led by the United States, which included several different U.S. administrations from both political parties. The preamble of the Convention is premised upon "the intrinsic value of biological diversity and of the ecological, genetic, social, economic, scientific, educational, cultural, recreational and aesthetic values of biological diversity and its components . . . (and) also of the importance of biological diversity for evolution and for maintaining life sustaining systems in the biosphere." The CBD further affirms "that the conservation of biological diversity is a common concern of humankind," is "(c)oncerned that biological diversity is being significantly reduced by certain human activities," and is "(d)etermined to conserve and sustainably use biological diversity for the benefit of present and future generations."<sup>26</sup>

The objectives of the Convention are three-fold: (1) the *conservation of biological diversity* (e.g., Articles 6-9, 11, and 14); (2) the *sustainable use* of its components (e.g., Articles 6, 10, and 14); and (3) the *fair and equitable sharing of the benefits* arising from the use of biological and genetic resources (e.g., Articles 14, 15, 16, and 19-21).<sup>27</sup> Thus, "conservation" of biological diversity, the "sustainable use" of its components and the "fair and equitable sharing of the benefits," together form the heart or basic agreement of the Convention. The central concept of "sustainable use," which also governs much of the U.S. public land system, is defined under the CBD as "the use of components of biological diversity in a way and at a rate that does not lead to

the long-term decline of biological diversity, thereby maintaining its potential to meet the needs and aspirations of present and future generations."<sup>28</sup> The CBD seeks to have parties integrate conservation and sustainable use into its decision-making, to avoid and minimize adverse impacts to biological diversity, and utilize customary and local efforts as appropriate.<sup>29</sup>

Perhaps the most fundamental point about the CBD is that its legal power is inherently limited by design. The Convention's clear enunciation of national control over domestic biological resources is the starting point:

States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own natural resources pursuant to their own environmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or areas beyond the limits of national jurisdiction.<sup>30</sup>

As a matter of interpretation, the CBD authorizes much but mandates little. Terms such as "as far as possible and as appropriate" are scattered throughout the treaty. However, the convention's conservation provisions and programs prompt countries such as the U.S. to focus on the "big picture" by connecting policies and funds in a manner that benefits all. Consequently, the CBD is considered more of a "framework" convention because it, *inter alia*, does not set many precise obligations.<sup>31</sup> As one scholar puts it, "a framework convention sets the tone, establishes certain principles and even enunciates certain commitments . . . As a rule, it does not contain specific obligations . . . nor does it contain a detailed prescription of certain activities."<sup>32</sup> Contrary to the rhetoric of some extreme ideologues who seemingly oppose involvement in any multilateral cooperative endeavor, the CBD creates a global structure that is implemented with wide latitude and discretion at the national level, specifically allows for negotiation (or rejection) of annexes or protocols, does not mandate binding dispute settlement and provides connection with other accepted international agreements. This concept of "framework" in conjunction with the precise language of the treaty is crucial in understanding the full sovereignty the United States retains when it becomes a party to the Convention on Biological Diversity.<sup>33</sup>

#### *Conservation Under the Convention*

Much of the conservation agenda of the Convention is contained in Articles 6, 8, and 14.<sup>34</sup> These articles and others cover the gamut of biodiversity conservation including tasks the CBD already does well: fostering coordination in addressing harmful invasive species, implementing a global strategy for plant conservation; providing support for vital scientific discipline of taxonomy; catalyzing large-scale protected area protection; and linking with important global warming and climate change efforts.<sup>35</sup> Every U.S. governmental analysis of the Convention's conservation provisions has concluded that existing U.S. laws already meet the commitments of the Convention.

Article 6 of the CBD, *General Measures for Conservation and Sustainable Use*, requests that “Each Contracting Party shall, in accordance with its particular conditions and capabilities: a) Develop national strategies, plans or programmes<sup>36</sup> for the conservation and sustainable use of biological diversity or adapt for this purpose existing strategies, plans or programmes which shall reflect . . . [such] measures . . . ; and b) Integrate as far as possible and as appropriate, the conservation and sustainable use of biological diversity into relevant sectoral or cross-sectoral plans, programmes and policies.” Although the U.S. currently does not possess a “biodiversity plan” *per se*, its impressive array of conservation statutes and programs to protect and use biological resources of all sorts certainly could be considered to constitute one *de facto*.<sup>37</sup> If anything, the CBD should help the U.S. coordinate and prioritize its biodiversity agenda even better.

Inherent in this system of federal protection is the important role that state governments play in the protection of biological diversity under the U.S. Constitution, as well as a variety of relevant natural resource statute and programs. States possess primary responsibility for fish, wildlife, habitat, and other “biodiversity” trusteeship duties (e.g., water rights) not otherwise covered by valid federal authority.<sup>38</sup> States also possess explicit authority under U.S. pollution statutes such as the Clean Air Act and Clean Water Act.<sup>39</sup> Because of this reality, state authorities, powers, and priorities would absolutely not be altered by the CBD unless the state voluntarily and willingly chose to do so. Same as with the national level of biodiversity-related programs, the states possess a rich tapestry of current, popular, and effective biodiversity programs.<sup>40</sup>

Article 8 of the Convention, *In-Situ Conservation*, is where the plans in Article 6 actually take root. It is also where the most comprehensive list of conservation commitments is explained. While it is clear that the list of measures to be considered under Article 8 conservation is long, it is equally clear that most measures are largely hortatory and/or plainly covered by existing U.S. laws or programs, which are quite well-developed and enough to center its entire Article 8 program, from “a” to “m.”

First and foremost, the U.S. has established “a system of protected areas and or areas where special measures need to be taken” under Article 8(a).<sup>41</sup> Integrally related to this natural system, the United States has developed and now manages “for the conservation of biological resources” pursuant to Article 8 (b)-(c) through various federal and state statutes relating wildlife, plants, fish, forests, wetlands, coasts, lakes, rivers, water, endangered species, rangelands, parks, refuges, and other public lands. The U.S. “promotes” the protection of domestic and foreign ecosystems, natural habitats and the maintenance of viable populations of species and “recovery plans” under CBD Articles 8(d), 8(f), 8(k), and 8(m).<sup>42</sup>

The U.S. similarly “promotes” environmentally sound and sustainable development “in areas adjacent to protected areas” under CBD Article 8(e) through statutes such as the Endangered Species Act (e.g., habitat conservation plans under Section 10), Coastal Zone Management Act state-federal plans, the Clean

Water Act’s wetland program, and the Bureau of Land Management’s Areas of Critical Environmental Concern (“ACEC”) program, among others. The United States’ philosophy on municipal, industrial, and hazardous waste is also consistent with CBD Article 8(e).<sup>43</sup> The U.S. has established “means” to regulate or control risk associated with living modified organisms under CBD Article 8(g) through several statutes.<sup>44</sup> The U.S. possesses authority to “prevent” the introduction of alien species under Article 8(h) through statutes such as the Federal Noxious Weed Act and the Nonindigenous Aquatic Nuisance Prevention and Control Act.<sup>45</sup> The U.S. “endeavors” under CBD Article 8(i) to provide conditions for present uses and conservation of biological diversity through all of its public land laws,<sup>46</sup> the Endangered Species Act, and countless state/local zoning ordinances.

The U.S. also already possesses—under its legal system of endangered species, public land, pollution, and environmental assessment laws—“processes” designed precisely to oversee predicted adverse impacts to biological diversity (under CBD Article 8(l)).<sup>47</sup> The U.S. legal system also, based on both its trustee role for Indian tribes as well as its respect for tribal sovereignty, possesses a rich legal fabric of respect for and maintenance under CBD Article 8(j) of Native American “knowledge, innovations and practices . . . relevant for the conservation and sustainable use of biological diversity.”<sup>48</sup> Pertinent to CBD Articles 8(m) and 22, the U.S. already actively participates in a number of multilateral initiatives to conserve, protect, use, and share biological diversity.<sup>49</sup> All these conventions, treaties, agreements, declarations, and funding actions<sup>50</sup> have proven constructive, some significantly so, to U.S. foreign and environmental policy across party lines over the past half-century.

Understanding and minimizing site-specific impacts to biodiversity is laid out in Article 14(a)-(b) of the CBD which, *inter alia*, states: “Each Contracting Party, as far as possible and as appropriate, shall . . . Introduce appropriate procedures requiring environmental impact assessment of its proposed projects that are likely to have significant adverse effects on biological diversity with a view to avoiding or minimizing such effects and, where appropriate, allow for public participation in such procedures . . . ensure that the environmental consequences . . . are duly taken into account.”<sup>51</sup> This request, which the United States already implements through environmental review procedures under the National Environmental Policy Act (“NEPA”), the grandparent of U.S. environmental law,<sup>52</sup> which generally mandates that “every federal agency action” “significantly” “affecting” “the quality of the human environment”<sup>53</sup> be accompanied with an “environmental impact statement” that includes “adverse environmental effects which cannot be avoided,” a reasonable number of “alternatives,” and “any irreversible and irretrievable commitments or resources.” Multilaterally, the United States regularly analyzes the environmental impacts of its commercial and other actions, even when the biodiversity at issue is outside the country.<sup>54</sup>

In fact, it could be argued that U.S. general adherence to NEPA and related environmental review laws is what already

places the country in a leadership position with regard to biodiversity conservation. Signed by President Richard Nixon, NEPA seeks “to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man.”<sup>55</sup> These environmental impact statements shall “recognize the worldwide and long-range character of environmental problems and, where consistent with the foreign policy of the United States, lend appropriate support to initiatives, resolutions, and programs designed to maximize international cooperation in anticipating and preventing a decline in the quality of mankind’s world environment.” They should also “initiate and utilize ecological information useful in restoring, maintaining, and enhancing the quality of the environment.”<sup>56</sup>

Applicable Council on Environmental Quality (“CEQ”) regulations make NEPA rules “binding on all Federal agencies” and as “a supplement to its existing authority and as a mandate to view traditional policies and missions in the light of the Act’s national environmental objectives.” Each “agency of the Federal Government shall comply with that section unless existing law applicable to the agency’s operations expressly prohibits or makes compliance impossible.”<sup>57</sup> The epitome of a “look before you leap” mandate, NEPA has been held to apply to a long list of federal actions with impacts upon biodiversity for some time now,<sup>58</sup> and long-standing triggers on whether an action will “significantly affect the environment” include proximity to park lands, prime farmlands, wetlands, wild and scenic rivers, ecologically critical areas, historic or cultural resources, and the degree to which the action may adversely affect an endangered or threatened species or its habitat.<sup>59</sup>

Because of its demand for accurate technical information, NEPA is often at the center of cutting edge environmental issues, such as those revolving around biodiversity loss and climate change.<sup>60</sup> And because of its positive procedural impact, NEPA (and all other open government laws such as the U.S. Freedom of Information Act<sup>61</sup>) is a model for CBD Article 10 Sustainable Use, Article 14 Impact Assessment, Article 17 Exchange of Information, and Article 18 Technical and Scientific Cooperation. In the U.S., this is particularly true for protecting federal public lands across jurisdictions (including lands and waters adjacent to Canada and Mexico), actions with federal permit approval (e.g., pollution, wetlands, species take), or any other major federal agency action.<sup>62</sup>

### *Equity Under the Convention*

Article 14 is a bridge provision of sorts in the CBD because it links the three objectives of the Convention with basic information needs.<sup>63</sup> Not only does Article 14 contemplate the examination of environmental impacts of many different types of actions, but it also acknowledges the existence of “adverse” actions and seeks to “minimize” them.<sup>64</sup> Information empowers the general public, in rich and poor countries alike, and in regions with different levels of biological diversity. The central “exchange” of the CBD is to provide money-poorer and biodiverse-rich countries (and their entities) with income while

providing cash-rich but biodiverse-poorer countries (and their entities) with access to the benefits of biodiversity.

Information is also at root of the Convention’s “Access” articles: Article 15 (Access to Genetic Resources) and Article 16 (Access to and Transfer of Technology), both of which institutionalize an incentive to conserve biological diversity in developing and developed countries alike. A careful read of these two articles reveals a similarity to the conservation provisions under CBD Article 8, namely the establishment of a *framework* for reciprocal access and an abundance of *qualifying* phrases (“as appropriate” or “shall endeavor”) that reinforce the ultimate freedom to contract, which Articles 15 and 16 authorize and encourage. In other words, the CBD encourages access to genetic resources but only on “mutually agreed terms.”<sup>65</sup> The principle of “prior informed consent,” is similarly prominent in this portion of the treaty.<sup>66</sup> “In many respects, U.S. scientists and genetic resource specialists welcome the central and clarifying role the CBD plays with regard to genetic resources . . . many scientists stress that the more consultative way of collecting samples preceded the CBD, and that those scientists and institutions that pay attention to the needs of other nations do best in securing biological research.”<sup>67</sup>

The “equity” provisions of the CBD are noteworthy for the balance struck in the text language.<sup>68</sup> Although parties retain the final say over their own genetic resources, each party “shall endeavor to create conditions to facilitate access” to those resources consistent with “the objectives of this Convention.”<sup>69</sup> Similarly, under Article 16, transfer of technology shall be provided under “fair and most favourable terms” (for developing countries) but shall be consistent with “intellectual property rights” (for developed countries).<sup>70</sup> Each “Party shall take . . . policy measures, as appropriate, to provide for the effective participation in biotechnological research activities by those Contracting Parties, especially developing countries, which provide the genetic resources for such research.”<sup>71</sup> And developed country Parties shall provide new and additional financial resources to enable developing country Parties to meet the agreed incremental costs<sup>72</sup> to them.<sup>73</sup> The CBD’s Bonn Guidelines (Access to Genetic Resources and Fair and Equitable Sharing of the Benefits Arising out of their Utilization) flesh out the meaning of these treaty articles in a constructive and generally agreed upon way.<sup>74</sup>

Relatedly, the Food and Agriculture Organization’s (“FAO”) International Treaty on Plant Genetic Resources (“ITPGR”), which the U.S. signed under President George W. Bush and which the Obama administration now seeks to ratify, supports the “conservation and sustainable use of plant genetic resources” and explicitly describes “harmony with the Convention on Biological Diversity” as one of its primary objectives.<sup>75</sup> The ITPGR’s successful ABS provisions on the sustainable use of genetic resources for certain food crops is a significant diplomatic break-through.<sup>76</sup> This equity model has been created by the U.S. and the rest of the world. It works, particularly because of its model standard material transfer agreement on ABS based upon a consensual multilateral bank of genetic resources.<sup>77</sup> It is



a foundation of success from which the U.S. and the CBD can continue to build upon.

## U.S. HISTORY AND INTERESTS WITH THE CBD

### LEADERSHIP BY EXAMPLE

It was the United States who championed the idea of a Biodiversity Treaty in the 1980s, and was influential in getting the effort off the ground in the early 1990s. Formal negotiations of the Convention began in February 1991 with the goal of completing negotiations in time for the United Nations Conference on Environment and Development in June 1992.<sup>78</sup> Beginning with the first Conference of Parties (“COP”) in 1994, the United States has sent a delegation of “observers” to CBD meetings of all kinds, including the most recent Conference of the Parties (COP 9 in Germany), providing necessary and constructive advice on the work programs of the Convention. Many countries still recognize the substantial contributions the United States has made to global conservation over the past century.

Today, the United States is essentially the last holdout to the CBD. This is a major abdication of American leadership and expertise in biodiversity matters. While there have been some success stories, overall biodiversity<sup>79</sup> has continued to decline worldwide. These struggles exist despite the laudable 2010 CBD biodiversity targets, which will not be met.<sup>80</sup> Now is an apt time for the United States to chart an intelligent course based on what has been learned<sup>81</sup> and built.<sup>82</sup>

### U.S. RATIFICATION PROGRESS IN THE 1990s

Previous history on the U.S. CBD ratification effort is important in understanding the current political and legal dynamics. When President Clinton and his administration transmitted the Convention to the U.S. Senate, after extensive consultations with all interested parties, he did so with “Seven Understandings” that accompanied the eventual bipartisan 16-3 positive vote out of the Foreign Relations Committee in 1994.<sup>83</sup> Clinton stated: “Biological diversity conservation in the United States is addressed through a tightly woven partnership of Federal, State, and private sector programs in management of our lands and waters and their resident and migratory species. There are hundreds of state and federal laws and programs and an extensive system of Federal and State wildlife refuges, marine sanctuaries, wildlife management areas, recreation areas, parks, and forests. These existing programs and authorities are considered sufficient to enable any activities necessary to effectively implement our responsibilities under the Convention. The Administration does not intend to disrupt the existing balance of Federal and State authorities through this Convention.” In addition, in August 1994, the U.S. State Department engaged in eleven written CBD question/answers with a block of Senate Republicans that has also become part of the treaty’s ratification history.<sup>84</sup> The Senate ratification process thereafter stalled.

### THE SEVEN UNDERSTANDINGS AND ELEVEN ANSWERS

These collective understandings, interpretations, and clarifications are a crucial part of any eventual U.S. implementing

package, and possessed wide bipartisan and interest group support when drafted. The treaty’s main legislative history, addressed and explained in order of the Senate’s Seven CBD Understandings below, also draws upon the Eleven Republican Questions and Answers, as well the Memorandum of Record (“MOR”) submitted by the Secretaries of Interior, Agriculture, and State.<sup>85</sup>

- 1) *The Government of the United States of America understands that Article 3 references a principle to be taken into account in the implementation of the Convention.*

Article 3 of the Convention reaffirms that countries such as the United States possess the sovereign right to use their own resources pursuant to their own environmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction.” This First Understanding makes clear that the principle of non-harm, well accepted in international law, must be understood “in the specific context within the Convention.”<sup>86</sup>

- 2) *It is the understanding of the Government of the United States of America with respect to provisions addressing access to and transfers of technology that: a) “fair and most favorable terms” in Article 16(2) means terms that are voluntarily agreed to by all parties to the transaction; b) with respect to technology subject to patents and other intellectual property rights, Parties must ensure that any access to or transfer of technology that occurs recognizes and is consistent with the adequate and effective protection of intellectual property rights, and that Article 16(5) does not alter this obligation.*

Article 16 of the Convention, entitled “Access to and Transfer of Technology,” is one of the central provisions of the treaty, noteworthy for its purposeful give and take. The United States’ understandings here make clear the Government’s stance on the basic primacy of contract and respect of legally protected property rights within the purposes of the Convention.<sup>87</sup> This Second Understanding is related to the next (number Three).

- 3) *It is the understanding of the Government of the United States of America with respect to provisions addressing the conduct and location of research based on genetic resources that: a) Article 15(6) applies only to scientific research conducted by a Party, while Article 19(1) addresses measures taken by Parties regarding scientific measures conducted by either public or private entities; b) Article 19(1) cannot serve as a basis for any Party to unilaterally change the terms of existing agreements involving public or private U.S. entities.*

Article 15 of the Convention governs “Access to Genetic Resources” and is generally ruled by “prior informed consent of the Contracting Party providing such resources.”<sup>88</sup> CBD Article 19(1) governs policy measures for the effective participation in biotechnological research activities by developing countries, and this understanding makes clear that pre-existing agreements are not changed by that article. In addition, the United States’

signature to the International Treaty on Plant Genetic Resources for Food and Agriculture (“ITPGR”) is “in harmony with the Convention on Biological Diversity.”<sup>89</sup> The ITPGR complements and supplements the CBD by reducing the transaction costs of ensuring fair and equitable benefit sharing for those crops included in the ITPGR’s multilateral system.

Together, the intellectual property provisos in Understandings Two and Three are significant, resolving a central concern of the influential biotech industry in the United States.<sup>90</sup> In actuality, the “biotechnology” industry is many industries premised upon using nature’s components and human ingenuity to make items of higher value. A “recombinant DNA technique” of altering species has proven to be particularly lucrative over the past several decades. Since the early 1990s, there has been an explosion of applications for biotechnology and biomimicry in medicine, pharmacology, agriculture, criminal justice, industrial products, toxic clean up, and consumer goods. There are thousands of such private businesses now, worth at least hundreds of billions of dollars.<sup>91</sup>

Many American businesses possess a tangible interest in how the Convention is implemented and have been strong supporters of the ratification.<sup>92</sup> Now, with over fifteen years of experience under its belt, the COP to the Convention would like to complete the negotiations of an international regime on ABS by October 2010 at the next COP in Japan.<sup>93</sup> The United States needs to be a formal part of this important multilateral dialogue, both in developing the CBD ABS policy and then implementing it. The powerful World Trade Organization (“WTO”) has constructively entered this dialogue by instructing the WTO TRIPS Council to examine “the relationship between the TRIPS Agreement and the Convention on Biological Diversity, the protection of traditional knowledge and folklore, and other relevant new developments raised by members.”<sup>94</sup> The World Intellectual Property Organization (“WIPO”) is also engaged in reconciling the relationship between biotechnological research activities and the CBD.

4) *It is the understanding of the Government of the United States of America that, with respect to Article 20(2), the financial resources provided by developed country Parties are to enable developing country Parties to meet the agreed full incremental costs to them of implementing measures that fulfill the obligations of the Convention and to benefit from its provisions and that are agreed between a developing country Party and the institutional structure referred to in Article 21.*

Because Article 20(2) of the Convention provides for “new and additional financial resources to enable developing country Parties to meet the agreed full incremental costs to them,” this U.S. understanding limits the committed U.S. financial resources to “agreed” costs and “agreed” payments by the GEF under Article 21 of the Convention. The Senate has asserted that this arrangement is a financial “safeguard” for the United States.<sup>95</sup>

5) *It is the understanding of the Government of the United States of America that, with respect to Article 21(1), the “authority” of the Conference of the Parties with respect to the financial mechanism relates to determining, for purposes of the Convention, the policy, strategy, program priorities and eligibility criteria relating to the access to and utilization of such resources.*

This understanding makes it clear that the Convention itself does not dictate the amount of such financial resources to be

made available. The GEF allows countries such as the United States to better control financial resources it contributes. In other words, the U.S. has protection from a majority of CBD members mandating certain funding levels because the Convention recommends funding for program priorities but the GEF approves and provides that funding.<sup>96</sup>

6) *The Government of the United States of America understands that the decision to be taken by the Conference of the Parties under Article 21, Paragraph 1, concerns “the amount of resources needed” by the*

*financial mechanism, and that nothing in Article 20 or 21 authorizes the Conference of the Parties to take decisions concerning the amount, nature, frequency or size of the contributions of the Parties to the institutional structure.*

This provision further protects, clarifies, and secures U.S. funding under this treaty consistent with the two previous understandings. The GEF and U.S. participation in it secures these American financial interests.

7) *The Government of the United States of America understands that although the provisions of this Convention do not apply to any warship, naval auxiliary, or other vessels or aircraft owned or operated by a State and used, for the time being, only on government non-commercial service, each State shall ensure, by the adoption of appropriate measures not impairing operations or operational capabilities of such vessels or aircraft owned by it, that such vessels or aircraft act in a manner consistent, as far as is reasonable and practicable, with this Convention.*

Although the “provisions of this Convention shall not affect the rights and obligations of any Contracting Party deriving from any existing international agreement,” Article 22(1), the United States “will make every effort to ensure that U.S. sovereign immune vessels and aircraft meet the standards of the Convention.”<sup>97</sup>

## THE BENEFITS OF U.S. RATIFICATION AND OF FULL MEMBERSHIP IN THE CBD

### GLOBAL SECURITY BY ENGAGEMENT

Thus, the CBD has catalyzed significant natural resource conservation, while also establishing itself as a valuable partner for diverse stakeholders all over the planet. A number of U.S. interests—national security, environmental, scientific, biotech industry, farming and food supply, religious, educational, Native American—would benefit from CBD ratification and have called for international engagement by the U.S. in these matters.<sup>98</sup> Perhaps the greatest immediate challenge is to prioritize the CBD within the context of a busy U.S. Senate schedule including the UNCLOS<sup>99</sup> and climate/energy considerations.

There is no doubt that the CBD should be a crucial part of the global environmental agenda for President Obama and his administration, and would help constructive U.S. multilateral outreach on such diverse issues as international security, poverty alleviation, and economic opportunity. Even the Bush II Administration, which was perceived by many as skeptical toward environmental protection, made positive statements about the CBD. At the Sixth COP in 2002, a high-ranking U.S. State Department official proclaimed:

The United States recognizes the importance of the Convention on Biological Diversity (CBD) as a valuable forum for international discussions on issues related to biological diversity. We appreciate the opportunity to participate ... as we have in previous CBD deliberations, with the aim of furthering our shared goals related to biological diversity ... The United States is committed to the objectives of the Convention, both at home and abroad. This commitment is reflected in the vibrant, ever-growing range of public and private sector programs and activities occurring throughout the United States related to protecting and sustainably using biological resources. The United States remains equally committed to assisting partner countries in their efforts to protect biodiversity through bilateral assistance, through its contributions to regional and

international organizations and financial institutions, through innovative debt reduction programs such as the Tropical Forest Conservation Act, and through a broad range of other benefit-sharing programs. In particular, we are pleased to be one of the largest contributors to the Global Environmental Facility (GEF)...<sup>100</sup>

At no point has any U.S. administration taken a significantly different view of the U.S. relationship with the CBD, and there continues to be strong interest by the U.S. Government in work plans on forests, marine and coastal areas, invasive alien species, Caribbean (and other eco-region) conservation, pollinators, food security,<sup>101</sup> and other Convention initiatives.

### ACHIEVING STRATEGIC U.S. ECOLOGICAL AND ECONOMIC GOALS

More is to be learned about species, natural systems, and the full economic benefits of biological diversity. The CBD’s three underlying purposes—conservation, sustainable use, and equity—are three principles that the U.S. Government supported even before the CBD was written. Time has not changed the conclusion for the United States that “Senate advice and consent would help complete the significant efforts and sound principles undertaken on a bipartisan basis by this and the previous Administration. Having addressed the appropriate and legitimate concerns raised in the past, it is now in the economic interests of the United States to ratify this agreement.”<sup>102</sup> Further, it is today even better understood that biodiversity threats are literally economic threats.<sup>103</sup>

Full U.S. engagement could be determinative for the ongoing ABS negotiations with regard to genetic and biological resources under the CBD and other related multilateral instruments. This area is another example of the inextricable relationship between economics and ecology. Five studies, “which are central elements of the negotiations,” were requested by the CBD Secretariat at the last COP on ABS:<sup>104</sup> (1) Recent developments in methods to identify genetic resources directly based on DNA sequences; (2) Identification of the different possible ways of tracking and monitoring genetic resources through the use of persistent global unique identifiers, including the practicality, feasibility, costs, and benefits of the different options; (3) How an international understanding on ABS could be in harmony and be mutually supportive of the mandates of and coexist alongside other international instruments and forums that govern the use of genetic resources; (4) Development of a comparative study of the real and transactional costs involved in the process of access to justice across jurisdictions; and (5) How can compliance be

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*Failure to engage will mean closed doors on access to genetic resources for U.S. companies and continuing market conflicts over U.S. biotech exports.*

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ensured in conformity with Indigenous Peoples and local communities customary law, national law, across jurisdictions, and international law, including human rights and trade.<sup>105</sup>

These are issues for which the United States simply must not be on the CBD sidelines because the United States has great interest in continued biological access. The United States is already engaged in current and productive CBD-related discussions at the FAO, WTO and WIPO on intellectual property rights and biological resources. A three-legged chair is ultimately unstable. The CBD brings a fourth and vital perspective in the overall debate, building upon the ongoing use of the non-binding but influential Bonn Guidelines.<sup>106</sup> As one genetic researcher has noted, “We need communication between different communities of folks—research talking to government—in order to solve the problems we face.”<sup>107</sup> Failure to engage will mean closed doors on access to genetic resources for U.S. companies and continuing market conflicts over U.S. biotech exports. Failure to engage means lack of full U.S. Government participation in the domestic and global conservation challenges for which it has tremendous expertise.

### OUTSTANDING LEGAL ISSUES

Based on the preceding analysis, fully engaging and joining the CBD raises three main issues for U.S. biodiversity diplomacy:

*First*, what will actually be negotiated on ABS at COP 10 in Japan in October 2010, and what will be the follow-up in 2011 and afterwards?<sup>108</sup>

*Second*, how will global warming, associated climate change, and ocean acidification impact the CBD’s future agenda?

*Third*, how will the CBD continue to intersect with other closely aligned treaties and multilateral entities including the ITPGR, UNCLOS, CITES, and the World Trade Organization?

### ACCEPTED PRINCIPLES

Despite the real challenges faced by the global community in stemming the environmental crises leading to biodiversity loss, climate change and ocean degradation, certain legal principles, and scientific facts have emerged over the past fifteen years:

1. The CBD is a framework convention. It provides the foundation for consensual action by parties, but does not dictate any particular results. This structure has successfully allowed the CBD to provide a template by which to solve real world problems while accommodating national circumstances.
2. The United States is already in full accordance with the substantive terms of the CBD, which provide discretion and flexibility based upon national circumstances. No new legislation at either the federal or state level is necessary for the United States to ratify and implement the CBD immediately, and future legislative and administrative amendments would not be precluded.
3. Sovereignty is fully retained by the United State on all issues, with no exceptions. Again, because of the terms and nature of the CBD, there is no plausible current

scenario where the United States, the states, or any citizen would be forced to take an action or refrain from an action because of the treaty itself. The CBD does not authorize any legal causes of action in U.S. federal or state courts.<sup>109</sup> In addition, to the extent the United States was to have a dispute with another nation-state party under CBD Article 27, the United States need only submit to negotiation and, if that fails, non-binding conciliation.

4. The United States needs a formal seat at the table for the ongoing ABS “negotiations” at the Convention on Biological Diversity, as well as issues pertaining to biodiversity conservation and sustainable development.<sup>110</sup> Even if an ABS agreement is reached in 2010 or thereafter, the United States will have tremendous interest in implementing any agreement at all available fora, particularly as it relates to “prior informed consent” and “mutually agreed terms.” The United States will also want to ensure that the new CBD rules on ABS are consistent with the FAO rules the U.S. recently helped create under the ITGPR, and negotiations at both the WTO and WIPO.
5. Addressing global warming is a monumental global development issue and environmental crisis that needs U.S. leadership. Climate change impacts biodiversity and is itself impacted by biodiversity.<sup>111</sup> Many important global security issues now flow from the CBD, including ways in which healthy forests, oceans and other ecosystems help stabilize the planet’s health and climate. The CBD provides unparalleled opportunities to stem the climate challenge.

### DEBUNKED MYTHS

In addition to CBD lessons learned, a few false and persistent attacks must be addressed:<sup>112</sup>

1. “The CBD will lock up land.” This is absolutely not true. No land or water or air use changes in the United States are required or anticipated as a result of the Convention. Nothing in the text of the treaty, nor its implementation over the last fifteen years, gives even the slightest indication that the CBD will require any alteration of any natural resource issue/biological diversity issue in the United States. For example, no new large networks of wilderness or roadless area can or will be required by ratification of this treaty. Further, no changes to private land rights would occur as a result of treaty ratification. Because CBD is a framework convention, specific actions under the treaty must be agreed upon by the U.S. Government—fully consistent with U.S. legal procedures and rights.
2. “The UN will win lawsuits against me.” This, too, is incorrect. Nothing in the text of the treaty, nor its implementation, gives any authority under the U.S. Constitution or any other law to provide an independent cause of action in a U.S. court. Biodiversity concerns already

are a part of NEPA analysis, irrespective of U.S. ratification of the treaty. The CBD is not regulatory.

3. “The operation of the CBD will cause financial harm to the United States.” This is also wrong. Participation in the Convention will save the United States money in the long run. The treaty does not mandate any significant expenditure of U.S. funds and, indeed, would almost certainly result in the more efficient use of financial resources by helping coordinate federal agencies, link other international agreements, and utilizing all available capital networks. Notably, the United States is a member of the GEF,<sup>113</sup> which is now the approved financial mechanism of the Convention but was not so when the Senate Foreign Relations Committee last actively took up the Convention. The GEF gives United States more voting control than does a straight up/down vote at the CBD.<sup>114</sup> The long-term objectives of the GEF Biodiversity Program are to catalyze sustainability of protected area systems, mainstream biodiversity in production landscapes/seascapes and sectors, safeguard biodiversity, and build capacity on access and benefit sharing.<sup>115</sup> CBD ratification would reinforce these efforts and give the U.S. even more influence.

## NEXT STEPS FOR THE OBAMA ADMINISTRATION AND THE U.S. SENATE

### PRIORITIZATION AT THE STATE DEPARTMENT

The many and diverse supporters of the CBD have been disappointed that Secretary Hillary Rodham Clinton’s State Department has to date omitted the CBD as a priority treaty deserving of short term ratification.<sup>116</sup> This can be easily rectified. While immediate ratification of the U.N. Law of the Sea Convention is certainly desirable, the trio of oceans, climate, and overall biodiversity are sensibly considered together. There is a logical argument to be made that the ITPGR should be considered in tandem with the CBD because the two are complementary.

### HEARING BEFORE THE SENATE FOREIGN RELATIONS COMMITTEE

Updating and building upon the information already gathered by the U.S. Senate, as well as the records of the U.S. Department of State and other federal agencies, the Senate Foreign Relations Committee should as soon as possible hold a ratification oversight hearing before a vote on the Senate floor, for which 67 “aye” votes are necessary under the U.S. Constitution. Although a new hearing is not technically required by the Senate rules for ratification, it would allow the new Administration to brief the Congress and the public on its plans and changes that have occurred over the past fifteen years. Such a hearing would allow further consensus to develop around the key positive points of the CBD.

Chairman John Kerry (D-MA) and Ranking Member Richard Lugar (R-IN), both past supporters of the Convention, should receive updates on the following issues:

1. Access and benefit-sharing (“ABS”) of genetic resources and other components of biological diversity, current negotiations at the CBD and other fora, and the precise relationship and lessons of the ITPGR to the CBD. The ITPGR contains an ABS multilateral system for essentially 35 core plant species along with a standard model material transfer agreement.<sup>117</sup> The ITPGR negotiation and ratification effort was supported by the Clinton and Bush II administrations.<sup>118</sup>
2. Understanding of the intersection between the CBD and global warming/climate change/ocean acidification abatement efforts.

The following individuals could potentially be asked to testify:

#### International Community

- Representative of the CBD
- Representative from the United Nations Environment Program
- Minister(s) from allies that have ratified the CBD (e.g., Japan, Germany, United Kingdom, India, Mexico, South Africa, Iraq).

#### U.S. Government

- Secretary of State, or Undersecretary
- CEQ Head
- EPA Administrator
- Secretary of the Interior
- Secretary of Agriculture
- Secretary of Commerce, Administrator of N.O.A.A.

#### Private and Public Interest Sectors

- Representatives from bio-technology and agriculture industries
- Representatives from scientific, educational, and conservation organizations
- Experts on international relations, global environment, national security

### COMMITTEE SUPPLEMENTAL REPORT (PROPOSED)

A supplemental report out of the Senate Foreign Relations Committee to the full Senate for floor consideration should affirm:

1. No new or state or federal law is needed to ratify or implement the Convention on Biological Diversity, and the United States retains all existing sovereignty;
2. The ITPGR could be ratified by the U.S. Senate in tandem with the CBD, as the two agreements’ provisions on ABS are complimentary and mutually supportive with U.S. diplomatic leadership;
3. The Senate does not need to take a position upon ratification of the Cartagena Protocol on Biosafety because the CBD does not require the U.S. to approve it now (or ever).<sup>119</sup>
4. Existing Congressional committees will continue to set “biodiversity” funding levels with sufficient instruction and oversight through the federal appropriations process mandated by the Constitution.


## CONCLUSION

U.S. leadership is needed to protect domestic and global biological resources. According to the best experts in the field, the past 50 years have witnessed changes in natural systems more rapid and extensive than in any comparable period of time in human history. The species extinction rate has increased by as much as 1,000 times background rates, and upward of one-third of mammal, bird, and amphibian species are now threatened with extirpation. The time to act is now. It is time for the United States to join the CBD.

The United States was a leader in drafting the Convention on Biological Diversity in the late 1980s and early 1990s, and the United States again needs to protect its interests. The United States currently has only observer status in the COP. Ratification of the Convention will, for instance, allow the U.S. to gain an official seat at the table for future decisions and negotiations under the Convention, including the pending negotiations of an ABS legal binding instrument.

The Convention will not necessitate the addition, repeal, or change of any U.S. laws. The U.S. State Department's transmittal package to the U.S. Senate found that no new legislation would be needed to implement the Convention. President Clinton signed the Convention and the State Department transmitted

it with accepted legal understandings in 1993-94. These understandings included statements ensuring that "the existing balance of Federal and State authorities" would not be disrupted and that the "intellectual property rights" of Americans would not be weakened under the treaty. The Senate Foreign Relations Committee favorably reported the Convention to the Senate floor in 1994 on a strong and bipartisan vote of 16-3. This should not be a controversial issue.<sup>120</sup> The CBD's values are as American as apple pie.<sup>121</sup>

The CBD is an important tool to help address the impacts of global warming, unstable weather patterns, and other abrupt changes caused by stressed ecological systems. The CBD helps humans and wild species impacted by these habitat changes through adaptation measures. Protecting biodiversity maximizes the resilience of ecosystems and large regions, indeed the entire world, so that use of land, water and air is done sustainably. This is good for food and water security, overall global well-being, and the long-term maintenance of biodiversity's many economically beneficial services. The CBD is the one legal tool that brings these important issues together. It should be ratified by the U.S. Senate in short order because it is without legal controversy, it will benefit the United States' people, and it will make the world a better place for all its inhabitants. 

## Endnotes: Joining the Convention on Biological Diversity: A Legal and Scientific Overview of Why the United States Must Wake Up

<sup>1</sup> Convention on Biological Diversity, *opened for signature* Jun. 5, 1992, 1760 U.N.T.S. 79, 31 I.L.M. 818 [hereinafter CBD].

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

<sup>3</sup> See generally S. REP. NO. 103-30, at 2-3 (1994) (The Senate Report on the CBD is an authoritative compilation of issues on both the treaty and U.S. interests in biological diversity).

<sup>4</sup> See, e.g., EDWARD O. WILSON, *DIVERSITY OF LIFE* 343 (1992) ("The Sixth Great extinction spasm of geologic time is upon us, grace of mankind."). See generally STEPHEN M. MEYER, *THE END OF THE WILD* (2006) (showing that many recent studies confirm this significant downward trajectory).

<sup>5</sup> See generally IUCN Red List, Species Extinction – The Facts (2007) [hereinafter IUCN], available at [http://cmsdata.iucn.org/downloads/species\\_extinction\\_05\\_2007.pdf](http://cmsdata.iucn.org/downloads/species_extinction_05_2007.pdf).

<sup>6</sup> See Robert Costanza et al., *The Value of the World's Ecosystem Services and Natural Capital*, *NATURE*, May 15, 1997, at 253-260; see generally Gretchen Daily et al., *Ecosystem Services: Benefits Supplied to Human Societies by Natural Ecosystems*, *ISSUES IN ECOLOGY*, Spring 1997.

<sup>7</sup> See BERNSTEIN ET AL., *CLIMATE CHANGE 2007: SYNTHESIS REPORT* 72-73 (2007) (asserting that the specter of global warming is a huge shadow over the planet's plants and animals, given that we are already above carbon dioxide (and other greenhouse pollutant) limits where potentially irreversible ecological changes could occur. The Intergovernmental Panel on Climate Change ("IPCC") found that the resilience of many ecosystems is likely to be destroyed by the dangerous combination of global warming threats and more "traditional" threats.); Chris D. Thomas et al., *Extinction Risks from Climate Change*, *NATURE*, Jan. 8, 2004, at 145-48 (concluding that too many species are already extinct due to global warming, such as dozens of harlequin frog species, or endangered with extinction, such as the polar bear, Edith's checkerspot butterfly, Kittlitz murrelet, American pika, and various coral reef ecosystems); Camille Parmesan & Gary Yohe, *A Globally Coherent Fingerprint of Climate Change Impacts across Natural Systems*, *NATURE*, Jan. 2, 2003, at 37-42 (highlighting that numerous scientists have reported a "globally coherent fingerprint of climate change impacts across natural systems" with three major manifestations:

(1) earlier timing of spring events and later autumn events ("phenology" changes); (2) extension of species' range poleward or upward in elevation; and (3) decline in species adapted to cold temperatures and an increase in species adapted to warm temperatures.); see generally CAMILLE PARMESAN & GALBRAITH HECTOR, *PEW CENTER ON GLOBAL CLIMATE CHANGE, OBSERVED IMPACTS OF GLOBAL CLIMATE CHANGE IN THE U.S.* (2004) (reporting that scientists have already predicted significant extinction rates by 2050 under a spectrum of emissions scenarios).

<sup>8</sup> James Hansen et al., *Target Atmospheric CO<sub>2</sub>: Where Should Humanity Aim?*, *THE OPEN ATMOSPHERIC SCI. J.*, 217, 217-29 (2008) (positing that 350 parts per million of atmospheric carbon dioxide pollution levels should be our societal target despite being at 385 ppm in 2009).

<sup>9</sup> See, e.g., UNITED NATIONS ENVTL. PROGRAMME, *BLUE CARBON: THE ROLE OF HEALTHY OCEANS IN BINDING CARBON 5* (2009).

<sup>10</sup> See, e.g., The IUCN Red List of Threatened Species, Summary Statistics (2010) (showing the plants and animals currently threatened with extinction), available at <http://www.iucnredlist.org/about/summary-statistics>; POPULATION VIABILITY ANALYSIS (Steven Beissinger & Dale McCullough, eds., 2002) (cross-cutting examination of mathematical degree of risk facing imperiled species; scientific data on shrinking species' range, resource availability, and other human-induced threats).

<sup>11</sup> See Millennium Ecosystem Assessment, available at [www.millenniumassessment.org/en/index.aspx](http://www.millenniumassessment.org/en/index.aspx) (indicating that the Millennium Assessment, finished in 2005, is a series of synthesis, scale, framework, and summary reports on biodiversity, desertification, wetlands and water, business and industry, and public health).

<sup>12</sup> See MILLENNIUM ECOSYSTEM ASSESSMENT, *MILLENNIUM ECOSYSTEM ASSESSMENT FINDINGS*, available at [www.millenniumassessment.org/documents/document.359.aspx.ppt](http://www.millenniumassessment.org/documents/document.359.aspx.ppt) [hereinafter FINDINGS].



<sup>13</sup> *Id.* See *Fish Facts*, The End of the Line, available at [http://endoftheline.com/campaign/fish\\_facts/](http://endoftheline.com/campaign/fish_facts/) (asserting that more recent studies from the FAO and World Wildlife Fund indicate the state of world fisheries is even worse than originally thought).

<sup>14</sup> FINDINGS, *supra* note 12.

<sup>15</sup> *Id.* See also Hansen, *supra*, note 8, at 225 (highlighting the Millennium Assessment warnings of “non-linear” ecological changes, i.e., changes in air, water, species, weather or land patterns that are abrupt and sudden due to “tipping points” in the ecological equilibrium of several millennia).

<sup>16</sup> See, e.g., Carl Bruch & Elizabeth Maruma Mrema, *More Than the Sum of Their Parts: Improving compliance with and enforcement of international environmental agreements through synergistic implementation*, THE ENVIRONMENTAL FORUM, 2009 (discussing the synergistic implementation of Biodiversity-Related MEAs at 27-29).

<sup>17</sup> See, e.g., U.S. ENVIRONMENTAL PROTECTION AGENCY, REDUCING RISK: SETTING PRIORITIES AND STRATEGIES FOR ENVIRONMENTAL PROTECTION 1 (1990).

<sup>18</sup> See, e.g., CBD SECRETARIAT, GINCANA 3: BIOLOGICAL DIVERSITY AND CLIMATE CHANGE 1 (2007).

<sup>19</sup> John Ackerman, *Climate Change, National Security, and the Quadrennial Defense Review: Avoiding the Perfect Storm*, STRATEGIC STUDIES Q., Spring 2008, at 56 (quoting CENTER FOR NAVAL ANALYSIS (CNA) CORPORATION, NATIONAL SECURITY AND THE THREAT OF CLIMATE CHANGE 6 (2007)).

<sup>20</sup> See, e.g., Press Release, U.S. National Science Foundation, Future Risk of Hurricanes: The Role of Climate Change (Oct. 8, 2008) (asserting that increased violent weather will contribute to these problems), [http://www.nsf.gov/news/news\\_summ.jsp?cntn\\_id=112394&org=AGS](http://www.nsf.gov/news/news_summ.jsp?cntn_id=112394&org=AGS) (last visited Apr. 18, 2010); News Release, National Center for Atmospheric Research, Global Warming Surpassed Natural Cycles in Fueling 2005 Hurricane Season, June 22, 2006, <http://www.ucar.edu/news/releases/2006/hurricanes.shtml> (last visited Apr. 18, 2010).

<sup>21</sup> See, e.g., Rajesh Chhabara, *Climate change refugees seek new international deal*, CLIMATE CHANGE CORP., Dec. 27, 2008, <http://www.climatechangecorp.com/content.asp?contentid=5871> (last visited Apr. 18, 2010).

<sup>22</sup> See, e.g., Lester Brown, *Melting Mountain Glaciers Will Shrink Grain Harvests in China and India*, EARTH POLICY INSTITUTE, Mar. 20, 2008, [http://www.earthpolicy.org/index.php?plan\\_b\\_updates/2008/update71](http://www.earthpolicy.org/index.php?plan_b_updates/2008/update71) (last visited Apr. 18, 2010).

<sup>23</sup> See, e.g., Damian Carrington, *IPCC officials admit mistake over melting Himalayan glaciers*, UK GUARDIAN, Jan. 20, 2010, <http://www.guardian.co.uk/environment/2010/jan/20/ipcc-himalayan-glaciers-mistake> (last visited Apr. 18, 2010).

<sup>24</sup> See, e.g., THOMAS FRIEDMAN, HOT, FLAT AND CROWDED (2008); Lauren Morello, *New Study Predicts Massive Food Shortages by Century's End*, CLIMATEWIRE, Jan. 09, 2009.

<sup>25</sup> See SUSAN FLETCHER, CONGRESSIONAL RESEARCH SERVICE, BIOLOGICAL DIVERSITY: ISSUES RELATED TO THE CONVENTION ON BIODIVERSITY (1995) (concluding that biodiversity loss was real and a threat to U.S. interests and that broad consensus existed with the President and Senate “after working with industry and environmental groups to resolve problems with some treaty language”, and affirming that “no new legislation would be needed to implement the treaty, as current law is regarded as sufficient to carry out the treaty terms”).

<sup>26</sup> CBD, *supra* note 1, pmb1.

<sup>27</sup> See *id.* art. 1. See generally LYLE GLOWKA ET AL., A GUIDE TO THE CONVENTION ON BIOLOGICAL DIVERSITY (1994) (Annotating the Convention).

<sup>28</sup> CBD, *supra* note 1, art. 2.

<sup>29</sup> See *id.* art. 10.

<sup>30</sup> *Id.* art. 3. See also *id.* art. 15.1 (“Recognizing the sovereign rights of States over their natural resources, the authority to determine access to genetic resources rests with the national governments.”).

<sup>31</sup> See, e.g., S. REP. NO. 103-30, at 5; IUCN, *supra* note 5, at 2; see also, Desiree McGraw, *The CBD – Key Characteristics and Implications for Implementation*, RECIEL, Vol. 11(1), at 18-19 (2002).

<sup>32</sup> *Id.* (quoting W. Lang, *International Environmental Cooperation*, in G. SIOSTEDT & S. UNO, THE SWEDISH INSTITUTE OF INTERNATIONAL AFFAIRS, INTERNATIONAL ENVIRONMENTAL NEGOTIATIONS: PROCESS, ISSUES AND CONTEXTS 19 (1993)).

<sup>33</sup> See generally Memorandum of Record by Secretaries Christopher, Babbitt and Espy to Senate Majority Leader George Mitchell (Aug. 16, 1994) (indicating that the U.S. retains full sovereignty under the “framework” conception of the CBD); President’s Message to the U.S. Senate transmitting the CBD, WEEKLY COMP. PRES. DOC. (Nov. 19, 1993) (“There are hundreds of State and Federal

Laws and programs and an extensive system of [lands and waters] . . . considered sufficient to effectively implement our responsibilities under the Convention.”).

<sup>34</sup> See S. REP. NO. 103-30, at 6-16 (describing each article of the CBD).

Other important CBD articles deserve attention for their impacts upon the conservation (and sustainable use) of biological diversity, including Article 5 (Cooperation); Article 7 (Identification and Monitoring); Article 9 (Ex-situ Conservation); Article 11 (Incentive Measures); Article 12 (Research and Training); Article 13 (Public Education and Awareness); and Article 25 (Subsidiary Body on Scientific, Technical and Technological Advice).

<sup>35</sup> For the current work program of the CBD, see Programmes, Convention on Biological Diversity, <http://www.cbd.int/programmes> (last visited Apr. 18, 2010).

<sup>36</sup> Over 160 of the 191 Parties to the Convention have completed their Biodiversity Action Plans under Article 6 and twenty-five parties have completed at least one revision: Angola, Austria, Belize, Bhutan, Botswana, Brazil, Cuba, Republic of Congo, Estonia, European Community, Finland, Indonesia, Japan, India, Latvia, Madagascar, Morocco, Netherlands, Philippines, Singapore, St. Vincent, Sweden, Thailand, United Kingdom and Vietnam.

<sup>37</sup> The beauty of the U.S. federal system is not only its breadth and depth, but also its advancement of U.S. biodiversity interests with multiple legal tools, many of which have been borrowed by other countries and, in reality, by the CBD. It is a long list, constantly evolving and most certainly not exclusive: National Forest Management Act, 16 U.S.C. §§ 1600-1616 (1976) (explicit “diversity” standard statute); National Park Service Organic Act, 16 U.S.C. § 1 (1916) (protection of natural resources for future generations); National Wildlife Refuge Administration Act, 16 U.S.C. §§ 668dd-668ee (1998); Marine Sanctuaries Act, 16 U.S.C. §§ 1431-1445 (2000); Federal Land Management and Policy Act, 43 U.S.C. §§ 1701-1784 (1976); Sikes Act (Department of Defense lands and waters), 16 U.S.C. §§ 670g-670o (1974); Farm Bill provisions (e.g., “Swampbuster” and Conservation Reserve Programs), 16 U.S.C. §§ 3801, 3821-23, 3831-3836 (1985); Antarctic Conservation Act, 16 U.S.C. §§ 2461-2466 (1979); Alaska National Interest Lands Conservation Act, 16 U.S.C. §§ 410, 460, 539, 3101-3233, 1631-42 (1934); Coastal Zone Management Act, 16 U.S.C. §§ 1451-1465 (1972); Outer-continental Shelf Lands Act, 43 U.S.C. §§ 1331-1376 (1953); Wilderness Act, 16 U.S.C. §§ 1131-1136 (1964); Endangered Species Act, 16 U.S.C. §§ 1531-1544 (1973); Lacey Act 16 U.S.C. §§ 701, 3371-78 (1900); Fish and Wildlife Coordination Acts, 16 U.S.C. §§ 661-666c, 670 (1934); Federal Aid in Wildlife Restoration Act, 16 U.S.C. §§ 669-669i (1937); Federal Aid in Fish Restoration Act, 16 U.S.C. §§ 777-777i (1950); Land and Water Conservation Fund Act, 16 U.S.C. §§ 4601-4611 (1990); National Environmental Education Act, 20 U.S.C. §§ 5501-10 (1995); Magnuson-Stevens Fishery Conservation and Management Act, 16 U.S.C. §§ 1801-1882 (1976); Federal Noxious Weeds Act, 7 U.S.C. §§ 2801-14 (2000); Federal Insecticide Fungicide Rodenticide Act, 7 U.S.C. §§ 136 (1947); Clean Water Act, 33 U.S.C. §§ 1251-1387 (1972); Clean Air Act, 42 U.S.C. §§ 7401(1970); Global Climate Change Prevention Act of 1990, 7 U.S.C. §§ 6701-10 (2004); Marine Mammal Protection Act, 16 U.S.C. §§ 1361-1407 (1972); Migratory Bird Treaty Act, 16 U.S.C. §§ 703-712 (1918); Scenic and Wild Rivers Act, 16 U.S.C. §§ 1271-1287 (1968); Wild Bird Conservation Act, 16 U.S.C. §§ 4901-4916 (1992); Tuna Conventions Act, 16 U.S.C. §§ 951-961 (1950); Great Lakes Fish and Wildlife Restoration Act, 16 U.S.C. § 941(1990); Colorado River Basin Salinity 43 U.S.C. §§ 1571-1599 (1974); African Elephant Conservation Act, 16 U.S.C. §§ 4201-4245 (2002); Rhinoceros and Tiger Conservation Act, 16 U.S.C. §§ 5301(1994); National Trail System Act, 16 U.S.C. §§ 1241-51(2009); and others.

<sup>38</sup> U.S. CONST. art. I, § 8; amend. X, XI; See also Susan George & William Snape, *State Endangered Species Acts*, in ENDANGERED SPECIES ACT: LAW, POLICY AND PERSPECTIVES 345-59 (Donald C. Baur & Wm. Robert Irvin, eds., 2d ed. 2010).

<sup>39</sup> See generally 42 U.S.C. § 7401(1970); 33 U.S.C. § 1251 (1972).

<sup>40</sup> See Association of Fish and Wildlife Agencies, <http://www.fishwildlife.org/> (last visited Apr. 18, 2010) (describing the different biodiversity-related activities done by the 50+ state fish and wildlife agencies).

<sup>41</sup> See S. REP. NO. 103-30, at 6-7.

<sup>42</sup> See generally cases cited *supra*, note 37, and particularly the Endangered Species Act, National Forest Management Act, Wildlife Refuge Act, and the National Environmental Policy Act.

<sup>43</sup> See Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. §§ 9601-9675 (1980); Resource Conservation and Recovery Act, 42 U.S.C. §§ 6901-6992k (1976).

<sup>44</sup> See, e.g., The Toxic Substances Control Act, 15 U.S.C. §§ 2601-2692 (1976); see generally Animal and Plant Health Inspection Service programs; Food and Drug Administration nanotechnology policies; and the National Genetic Resources Program.

<sup>45</sup> 16 U.S.C. §§ 4701-4751 (1996).

<sup>46</sup> 16 U.S.C. §§ 528-531 (1960) (providing that some public lands in the United States are managed under the “multiple use/sustained yield” concept).

<sup>47</sup> See National Environmental Policy Act, 42 U.S.C. §§ 4321; 40 C.F.R. § 1500. See, e.g., U.S. COUNCIL ON ENVIRONMENTAL QUALITY, INCORPORATING BIODIVERSITY CONSIDERATIONS INTO ENVIRONMENTAL IMPACT ANALYSIS UNDER THE NATIONAL ENVIRONMENTAL POLICY ACT (1993) [hereinafter CEQ]. See also CBD, *supra* note 1, art. 7 (Identification and Monitoring); U.S. NATIONAL RESEARCH COUNCIL, A BIOLOGICAL SURVEY FOR THE NATION (1993).

<sup>48</sup> See American Indian Tribal Rights, Federal-Tribal Trust Responsibilities, and the Endangered Species Act, Endangered Species Program, U.S. Fish and Wildlife Service, <http://www.fws.gov/endangered/tribal> (last visited Apr. 18, 2010) (stating that “[m]any Indian lands have remained untouched by conventional land use practices and therefore are an island of high quality ecosystems, attracting many sensitive species.”). See also Dean B. Suagee, *Cultural Rights, Biodiversity and the Indigenous Heritage of Indian Tribes in the United States*, in CULTURAL RIGHTS, CULTURAL WRONGS 81-102 (Halina Niec, ed., 1998).

<sup>49</sup> These conventions, treaties, agreements and declarations include the North American Agreement on Environmental Cooperation, 32 I.L.M. 1480 (1993); the Convention on Nature Protection and Wildlife Preservation in the Western Hemisphere, 161 U.N.T.S. 193 (1940); International Convention for the Conservation of Atlantic Tunas, 20 U.S.T. 2887 (1966); the U.N. Framework Convention on Climate Change, 31 I.L.M. 849 (1992); U.N. Convention to Combat Desertification, 33 I.L.M. 1328 (1994); Convention on International Trade in Endangered Species, 993 U.N.T.S. 243 (1975); Convention Concerning the Protection of World Cultural and Natural Heritage, 11 I.L.M. 1358 (1975); Inter-American Biodiversity Information Network, International Coral Reef Initiative, Convention on Wetlands of International Importance (Ramsar), 11 I.L.M. 963 (1975); Agreement Relating to Conservation and Management of Straddling Stocks and Highly Migratory Species, 34 I.L.M. 1542 (1995); Convention on Antarctic Marine Living Resources, 19 I.L.M. 841 (1982); Polar Bear Treaty, 13 I.L.M. 13 (1976); Rio Declaration on Environment and Development, 31 I.L.M. 874 (1992); Montreal Protocol on Substances that Deplete the Ozone Layer, 26 I.L.M. 1550 (1987); Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region, 22 I.L.M. (1983); International Convention for the Prevention of Pollution from Ships (MARPOL), 12 I.L.M. 1319 (1973); Convention for Regulation of Whaling, 161 U.N.T.S. 72 (1946); and others.

<sup>50</sup> While more work is needed, the United States Congress has been at the forefront of international efforts to reform biodiversity-related aid programs under both multilateral development banks such as the World Bank and U.S. federal agencies such as the Agency for International Development. So-called “debt for nature” swaps have also proven effective in advancing all three of the CBD’s objectives.

<sup>51</sup> CBD, *supra* note 1, art. 14.1-2 (Article 14.2 contains an unused provision that the U.S. would want to oversee pertaining to “studies” on “the issue of liability and redress, including restoration and compensation, for damage to biological diversity, except where such liability is a purely internal matter.”); Anti-Deficiency Act, 31 U.S.C. § 1341 (1982). (prohibiting the making or authorizing of any expenditure or obligation of any appropriations or funds in excess of the amount available in the appropriation unless authorized by law).

<sup>52</sup> See, e.g., WILLIAM J. SNAPE, III, BIODIVERSITY AND THE LAW 178-201 (1996) (addressing how the National Environmental Policy Act has long been applied in many biodiversity-related contexts).

<sup>53</sup> 40 C.F.R. § 1508.14 (2010) (providing that the term “human environment” under the U.S. NEPA “shall be interpreted comprehensively to include the natural and physical environment and the relationship of people with that environment”).

<sup>54</sup> See generally 42 U.S.C. § 4332(2) (2010).

<sup>55</sup> 42 U.S.C. § 4321 (2010).

<sup>56</sup> 42 U.S.C. § 4332(2)(F)-(H) (2010).

<sup>57</sup> 40 C.F.R. §§ 1500.3-6 (2010).

<sup>58</sup> See CEQ, *supra* note 47.

<sup>59</sup> 40 C.F.R. § 1508.27 (2010).

<sup>60</sup> See, e.g., *Chr. for Biological Diversity v. Nat’l Highway Transp. Safety Admin.*, 508 F.3d 508, 523, 550 (9th Cir. 2007) (holding that environmental assessment under NEPA inadequate for failing to discuss and analyze the cumulative impact of motor vehicle efficiency standards on global warming

because, *inter alia*, “recent evidence shows that there have already been severe impacts in the Arctic due to warming, including sea ice decline.”).

<sup>61</sup> See 5 U.S.C. § 552 (2010) (establishing a foundation of open government in the United States that acts, with strict exceptions, as a world model and would advance U.S. and democratic interests if implemented at the CBD for biological resources).

<sup>62</sup> U.S. Council on Environmental Quality Regulations, 40 C.F.R. § 1500.1 (2010) (“NEPA procedures must insure that environmental information is available to public officials and citizens before decisions are made and before actions are taken. The information must be of high quality. Accurate scientific analysis, expert agency comments, and public scrutiny are essential to implementing” NEPA or any other sustainable development project. And, ultimately, the goal “is not to generate paperwork – even excellent paperwork – but to foster excellent action.”).

<sup>63</sup> CBD, *supra*, note 1, art. 2 (providing that all legal, scientific, economic, and technical information feeds into a pattern of inevitable “use of components of biological diversity,” ideally “in a way and at a rate that does not lead to the long-term decline of biological diversity”).

<sup>64</sup> *Id.* art. 14.1 (c), (d) (focusing on impacts and information to other countries).

<sup>65</sup> See *id.* arts. 15.4, 15.7, 16.2, 16.3, 19.2.

<sup>66</sup> *Id.* arts. 15.5, 19.3.

<sup>67</sup> Richard Blaustein, *Genetic Resources and the Convention on Biological Diversity*, 56 BIOSCIENCE 560, 560 (2006).

<sup>68</sup> See Catherine J. Tinker, *Introduction to Biological Diversity: Law, Institutions, and Science*, 1 Buff. J. Int’l Law 1, 16 (1994).

<sup>69</sup> CBD, *supra* note 1, art. 15.2.

<sup>70</sup> See *id.* arts. 16.2, 16.3, 16.5.

<sup>71</sup> *Id.* art. 19.1.

<sup>72</sup> See generally Raffaello Gervigni, *Incremental Cost in the CBD*, Environmental and Resource Economics 11: 217-241 (1998).

<sup>73</sup> CBD, *supra* note 1, art. 20.2.

<sup>74</sup> See SECRETARIAT OF THE CONVENTION ON BIOLOGICAL DIVERSITY, BONN GUIDELINES ON ACCESS TO GENETIC RESOURCES AND FAIR AND EQUITABLE SHARING OF THE BENEFITS ARISING OUT OF THEIR UTILIZATION iv (2002), <http://www.cbd.int/doc/publications/cbd-bonn-gdls-en.pdf> (last visited Apr. 19, 2010) (“The Guidelines identify the steps in the access and benefit-sharing process, with an emphasis on the obligation for users to seek the prior informed consent of providers. They also identify the basic requirements for mutually agreed terms and define the main roles and responsibilities of users and providers and stress the importance of the involvement of all stakeholders. They also cover other elements such as incentives, accountability, means for verification and dispute settlement. Finally, they enumerate suggested elements for inclusion in material transfer agreements and provide an indicative list of both monetary and non-monetary benefits.”).

<sup>75</sup> International Treaty on Plant Genetic Resources, art. 1.1, *opened for signature* Nov. 3, 2001, [hereinafter ITPGR]. See also ITPGR, arts. 10-13.

<sup>76</sup> See generally David Cooper, *International Treaty on Plant Genetic Resources for Food and Agriculture*, RECEIL, Vol. 11(1), at 1-16 (2002).

<sup>77</sup> See also ACCESS AND BENEFIT SHARING ALLIANCE (ABSA), OBJECTIVES, SCOPE, COMPLIANCE, FAIR AND EQUITABLE SHARING OF BENEFITS, AND ACCESS IN THE ABS INTERNATIONAL REGIME (2008); Richard Blaustein, *The United States and the CBD after the WSSD*, SCIENCE, TECHNOLOGY AND INNOVATION VIEWPOINTS, July 28, 2003.

<sup>78</sup> See generally S. REP. NO. 103-30, at 4.

<sup>79</sup> See generally BRUCE STEIN ET AL., PRECIOUS HERITAGE: THE STATUS OF BIODIVERSITY IN THE UNITED STATES (2000) (assessing U.S. biological diversity; updated data at [www.natureserve.org](http://www.natureserve.org) (last visited Apr. 18, 2010)); U.N. ENVIRONMENT PROGRAMME, GLOBAL BIODIVERSITY ASSESSMENT (1995) (assessing biodiversity at the global level; for updated assessments, see <http://earthwatch.unep.net/biodiversity/index.php> (last visited Apr. 18, 2010)); JARED DIAMOND, COLLAPSE (2005); DAVID QUAMMEN, THE SONG OF THE DODO (1996); DAVID QUAMMEN, MONSTER OF GOD (2003); and CHARLES BERGMAN, RED DELTA (2002) (highlighting both global and U.S. biodiversity treasures and loss).

<sup>80</sup> G.A. Res. 61/203, U.N. GAOR, 61st Sess., U.N. Doc. A/RES/61/203 (Jan. 19, 2007). See also 2010 Biodiversity Target, CBD, <http://www.cbd.int/2010-target/> (last visited Apr. 19, 2010) (“To achieve, by 2010, a significant reduction of the current rate of biodiversity loss at the global, regional, and national level, as a contribution to poverty alleviation and to the benefit of all life on Earth.”); “Carta di Siracusa” on Biodiversity, G8, Environment Ministers Meeting, Apr. 22, 2009; Blake M. Mensing, *Countdown 2010, All Eyes on Oryza: The Current Access and Benefits-Sharing Provisions of International Instruments Will Keep the 2010 Biodiversity Target Out of Reach*, 7:1 SCRIPTED



166, 168 (2010), available at <http://www.law.ed.ac.uk/ahrc/script-ed/vol17-1/mensing.asp>.

<sup>81</sup> See, e.g., MICHAEL SCOTT, DALE GOBLE & FRANK DAVIS, *THE ENDANGERED SPECIES ACT AT THIRTY: RENEWING THE CONSERVATION PROMISE* (2006); MICHAEL SCOTT, DALE GOBLE & FRANK DAVIS, *CONSERVING BIODIVERSITY IN HUMAN-DOMINATED LANDSCAPES* (2006) (examining the core conservation challenges in the United States).

<sup>82</sup> See, e.g., International Centre for Trade and Sustainable Development, *Where Does TRIPS Go From Here?*, INTELLECTUAL PROPERTY PROGRAMME, Aug. 7, 2008, <http://ictsd.org/i/news/bridgesweekly/18031/> (last visited Apr. 18, 2010) (“Specific questions that would need to be worked out include how to avoid erroneous patents using genetic resources; how to bring national regimes into compliance on prior informed consent and access and benefit sharing on mutually agreed terms; how patent offices would be equipped with the necessary information to deal with the patentability issues in these areas; and whether the patent system should maintain its role as a provider of innovation incentives.”)

<sup>83</sup> See President’s Message to the U.S. Senate transmitting the CBD, WEEKLY COMP. PRES. DOC. (Nov. 19, 1993); S. REP. NO. 103-30, at 4, 23.

<sup>84</sup> See Letter from Republican Senators to Senate Majority Leader George Mitchell (Aug. 5, 1994); Response from the State Department to letter from Republican Senators to Senate Majority Leader George Mitchell (Aug. 8, 1994) (on file with author).

<sup>85</sup> Topics addressed in the MOR included: Benefits to Agriculture, Private Sector Involvement, The Convention may not be used in place of U.S. Laws, The Convention does not prevent Amendment of Environmental Legislation, The Convention does not Provide for a Private Right of Action, No Binding Dispute Resolution, Effect of Amendments or Protocols on the United States.

<sup>86</sup> See S. REP. NO. 103-30, at 23.

<sup>87</sup> See *Id.* (Protecting intellectual property rights and technology transfer “These understandings make clear that the Convention cannot be used as a vehicle for compulsory technology transfer and that access to technology and patents must be consistent with the ‘adequate and effective protection of intellectual property rights.’”)

<sup>88</sup> CBD, *supra* note 1, art. 15.5. See, e.g., Adrian Casas, *Prior Informed Consent in the Convention on Biological Diversity – Bonn Guidelines: National Implementation in Colombia*, SUSTAINABLE DEV. L. & POL’Y, Summer 2004, at 27-28.

<sup>89</sup> See CBD, *supra* note 1, art. 19.1; International Treaty on Plant Genetic Resources for Food and Agriculture (2009), available at <ftp://ftp.fao.org/docrep/fao/011/i0510e/i0510e.pdf>.

<sup>90</sup> The central issue for the U.S. biotechnology industry has changed from whether the CBD harms its interests to how best to engage with the CBD.

<sup>91</sup> See, e.g., National Research Council Report Examines Biotechnology’s Benefits for U.S. Farmers, Biotechnology Industry Organization, [http://www.bio.org/news/pressreleases/newsitem.asp?id=2010\\_0414\\_05](http://www.bio.org/news/pressreleases/newsitem.asp?id=2010_0414_05) (last visited Apr. 18, 2010); see generally Biotechnology Industry Organization, <http://www.bio.org> (last visited Apr. 20, 2010).

<sup>92</sup> See e.g., S. REP. NO. 103-30, at 35 (showing that Merck and Co., Inc., told the Senate in a 1994 letter supporting ratification of the Biodiversity Treaty that, “the loss of biodiversity could literally mean lost opportunities for researching the mechanisms of disease and discovering some important new medicines. Plants, insects, microorganisms and marine organisms have yielded some of the greatest pharmaceutical breakthroughs of this century.”); *Id.* at 28-29 (highlighting that the American Seed Trade Association told the Senate of its “fundamental support for ratification of this important intellectual property rights document.”); *Id.* at 36 (demonstrating that the Biotechnology Industry Organization said it “believes that the key element of a fair and balanced Biodiversity Convention is recognition of the value of the products of nature, as well as the contributions made by persons and institutions that modify those products into useful articles of commerce.”).

<sup>93</sup> Convention on Biological Diversity, Conference of the Parties, Ninth Meeting, Decision IX/12 (May 19, 2008), available at <http://www.cbd.int/decision/cop/?id=11655> [hereinafter COP 9].

<sup>94</sup> World Trade Organization, Ministerial Declaration of 14 November 2001, WT/MIN/(01)/DEC/1, 41 I.L.M. 746, at para. 19 (2002).

<sup>95</sup> S. REP. NO. 103-30, at 22 (“The committee notes that a further safeguard is contained in the Convention’s requirement that financial assistance be limited to cover ‘agreed full incremental costs.’ Thus costs are limited to those projects that are agreed between the GEF and the developing country, a process which, as the administration has noted in the response to committee questioning ‘will be driven in part by the availability of resources in GEF to fund such projects.’”)

<sup>96</sup> *Id.* at 21-22 (“The United States will meet its financial obligation under the Convention through voluntary contribution to the Global Environment Facility. The amount of the contribution will be determined through negotiations in which the United States has an effective veto over funding levels that it deems excessive. Moreover, this contribution itself requires a statutory appropriation, in which the Senate must affirmatively concur. Thus, the Senate will have an opportunity to participate fully in deciding the level of the U.S. financial contributions under the Convention.”).

<sup>97</sup> *Id.*, at 23.

<sup>98</sup> *But see id.*, at 26-27 (showing the *only* formal opposition to the Treaty filed before the Congress was the Minority Report of Senators Helms, Pressler, and Coverdell, the three Republican members of the Senate who had voted against the CBD for the “vague and unfinished nature of the treaty” when successfully reported out of the Foreign Relations Committee 16-3).

<sup>99</sup> United Nations Convention on the Law of the Sea, Dec. 10, 1982, 1833 U.N.T.S. 397 (comprising customary international law and consisting of rights and responsibilities to use oceans, defines territorial vs. non-territorial waters, including the term “continental shelf,” and establishing guidelines for the marine environment and associated natural resources). See, e.g., PEW OCEANS COMMISSION, *AMERICA’S LIVING OCEANS: CHARTING A COURSE FOR SEA CHANGE 80-81* (2003) (discussing the importance of both the UNCLOS and CBD for long-term ocean conservation).

<sup>100</sup> Statement of Jeffrey Burnam, Assistant Secretary of State (Apr. 17, 2002).

<sup>101</sup> See, e.g., Remarks to the Corporate Council on Africa’s U.S.-Africa Business Summit, 39 WEEKLY COMP. PRES. DOC. 759, 820 (June 26, 2003) (highlighting opportunities for agricultural biotechnology to alleviate hunger and enhance agriculture in Africa); DR. AHMED DJOGLAF, CBD EXECUTIVE SECRETARY, WORLD FOOD SECURITY: THE CHALLENGES OF CLIMATE CHANGE AND BIOENERGY (2008); Elizabeth Shelburne, *The Next Breadbasket?: How Africa Could Save the World – And Itself*, THE ATLANTIC, at 72-73 (2009).

<sup>102</sup> Letter from Assistant Secretary of State Wendy Sherman to Senate Majority Leader George Mitchell (Aug. 8, 1994).

<sup>103</sup> See Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, <http://ipbes.net> (last visited Apr. 18, 2010); See also The Economics of Ecosystems and Biodiversity, <http://teebweb.org> (last visited Apr. 18, 2010) (drawing attention to the economic benefits of healthy natural services).

<sup>104</sup> Peer review process for ABS studies commissioned in accordance with decision IX/12, paragraph 13(a), (b) and (c), Convention on Biological Diversity, available at <http://www.cbd.int/abs/peerreview/>.

<sup>105</sup> See, e.g., Convention on Biological Diversity [CBD], Ad Hoc Open-Ended Working Group on Access and Benefit-Sharing, CBD Doc. UNEP/CBD/WG-ABS/7/3 (Feb 10, 2009); VALUING LOCAL KNOWLEDGE: INDIGENOUS PEOPLE AND INTELLECTUAL PROPERTY RIGHTS (Stephen Brush & Doreen Stabinsky, eds., 1996).

<sup>106</sup> Convention on Biological Diversity, Conference of the Parties, Sixth Meeting, Decision VI/24 (Apr. 7, 2002), available at <http://www.cbd.int/decision/cop/?id=7198>. See, e.g., Convention on Biological Diversity, Ad Hoc Open-Ended Working Group on Access and Benefit-Sharing, CBD Doc. UNEP/CBD/WG-ABS/5/INF/2 (July 20, 2007); Draft Programme, United Nations Environment Program, First Pan-African Workshop on ABS and Forests (June 22, 2009), available at <http://www.unep.org/environmental/governance/LinkClick.aspx?fileticket=MiHTTrVnLCIc%3D&tabid=385&language=en-US>; Santiago P. Soplín & Manuel Ruiz Muller, *The Development of an International Regime on Access to Genetic Resources and Fair and Equitable Benefit Sharing in the Context of New Technological Developments*, INITIATIVE FOR THE PREVENTION OF BIOPIRACY, April 2009, <http://www.biopirateria.org/documentos/Serie%20Iniciativa%2010>.

<sup>107</sup> *Id.* (last visited Apr. 19, 2010).

<sup>108</sup> Blaustein, *Genetic Resources and the CBD*, *supra* note 67, at 563 (quoting James Miller, Missouri Botanical Garden).

<sup>109</sup> See Fifth Meeting of the Conference of the Parties serving as the Meeting of the Parties to the Cartagena Protocol on Biosafety (COP-MOP 5), <http://www.cbd.int/doc/?meeting=MOP-05> (last visited Apr. 18, 2010) (including topics such as: Access and Benefit Sharing, Strategic issues including 2010 biodiversity targets, Inland waters biodiversity, Marine and coastal biodiversity, Mountain biodiversity, Protected areas, Sustainable use of biodiversity, Biodiversity and climate change, Forest biodiversity, Invasive alien species, Global Taxonomy Initiative, Incentive measures, and others.).

<sup>110</sup> See, e.g., Administrative Procedure Act, 5 U.S.C. § 702 (2010) (requiring waiver of sovereign immunity for federal government to be sued in court).

<sup>111</sup> See, e.g., Marjo Vierros, *The Convention on Biological Diversity: Moving From Policy to Implementation*, SUSTAINABLE DEV. L. & POL’Y, Fall 2006, at 17-20.

<sup>111</sup> See IUCN, REPORT OF THE ELEVENTH GLOBAL BIODIVERSITY FORUM: EXPLORING SYNERGY BETWEEN THE UN FRAMEWORK CONVENTION ON CLIMATE CHANGE AND THE CONVENTION ON BIOLOGICAL DIVERSITY (1999).

<sup>112</sup> See, e.g., SOVEREIGNTY INTERNATIONAL, INC., HOW THE CONVENTION ON BIODIVERSITY WAS DEFEATED (1998) (hyping “land use policies required by the treaty”). See also Letter from Bob Stallman, President, American Farm Bureau Federation to Secretary of State Colin Powell (Nov. 11, 2004) (opposing biosafety protocol that the U.S. never needs to sign under the CBD).

<sup>113</sup> See generally TONY WHITTEN ET AL., THE WORLD BANK AND BIODIVERSITY CONSERVATION (2008); E. CASTRO ET AL., MAPPING CONSERVATION INVESTMENTS (2001).

<sup>114</sup> See Convention on Biological Diversity, Ad Hoc Open-Ended Working Group Review of Implementation of the Convention, CBD Doc. UNEP/CBD/WG-RI/2/5 (May 16, 2007) (funding for biodiversity projects have already been approved by the GEF Council for countries such as Cameroon, Colombia, Ecuador, Honduras, Mexico, Caribbean Islands, and Pacific Islands).

<sup>115</sup> See S. REP. NO. 103-30, at 21-22 (deliberating on question of cost and selection of financial mechanism); see generally Global Environment Facility, <http://www.gefweb.org/biodiversity> (last visited Apr. 20, 2010); Senate Question/Answer No. 3.

<sup>116</sup> See Letter from Assistant Secretary of State Richard Verma to Senate Foreign Relations Committee John Kerry (May 11, 2009).

<sup>117</sup> See ITPGR, Annex I (listing of crops covered under the Multilateral System); ITPGR Standard Material Transfer Agreement, art. 15.

<sup>118</sup> President George W. Bush transmitted the ITPGR for ratification on July 7, 2008. Transfers under this “multilateral system” are to be accompanied by a standard material transfer agreement, the current version of which was concluded in June 2006. Provision of plant genetic resources from U.S. gene banks

is fully consistent with the Department of Agriculture’s long-standing general practice of providing access to such plant genetic resources upon request. Ratification of the treaty will provide U.S. agricultural interests with similar access to other parties’ gene banks, thus helping U.S. farmers and researchers sustain and improve their crops and promote food security. The Treaty may be implemented under existing U.S. authorities.

<sup>119</sup> See CBD, *supra* note 1, art. 32; The United States participated in the negotiation of the text and the subsequent preparations for entry into force under the Protocol, as well as its first COP. Article 32 of the CBD makes it clear not only that non-parties to the treaty cannot be parties to the protocol, but also that parties to the treaty can also choose not to be parties to a CBD protocol. In any event, the Biosafety Protocol is essentially limited to: a) advanced informed agreements for living modified organisms (“lmo”) to be introduced into the environment; b) lmos commodities need documentation of lmo possibility in shipment; and c) a savings clause stating that existing international agreements on intellectual property rights or liability are presumed unchanged.

<sup>120</sup> It should be noted that in October 2000, the U.S. got beyond gridlock and ratified 34 treaties by unanimous consent including the CBD-related Desertification Convention. This demonstrates progress can be made.

<sup>121</sup> Ahmed Djoghlaif, Executive Secretary, Convention of Biological Diversity, Statement at the United Nations Information Centres Seminar on the International Year of Biodiversity (Mar. 2, 2010), available at <http://www.cbd.int/doc/speech/2010/sp-2010-03-02-unic-en.pdf> (quoting Prime Minister Yukio Hatoyama of Japan, “Our modern industrial activities and lifestyles have brought a wealth of benefits to our lives; at the same time, though, we must realize that they are also shortening the time remaining for humans to continue living the civilized lives they do today.”).

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## ENDNOTES: LIVESTOCK ANIMAL CLONING: THIS STEAK IS GIVING ME DÉJÀ VU *continued from page 18*

<sup>10</sup> *Id.* (emphasizing that a clone is like a genetic twin born at a different time and therefore this process should not be equated with genetic engineering).

<sup>11</sup> ScientificAmerican.com, Are We Eating Cloned Meat?, <http://www.scientificamerican.com/article.cfm?id=are-we-eating-cloned-meat> (last visited Apr. 5, 2010) (reporting that critics of the FDA’s findings emphasize that the University of Connecticut study that the FDA relied on, only evaluated the meat and milk of six animals and that more studies were necessary to evaluate the risks posed by cloned animal products).

<sup>12</sup> Center for Food Safety, et al., Citizen Petition Before the United States Food and Drug Administration, Petition Seeking Regulation of Cloned Animals, (Oct. 12, 2006), available at [http://www.centerforfoodsafety.org/pubs/cloned\\_animal\\_petition10-12-06.pdf](http://www.centerforfoodsafety.org/pubs/cloned_animal_petition10-12-06.pdf) (emphasizing the scientific uncertainty about the effect animal cloning will have on disease rates).

<sup>13</sup> See *id.* (making its request under the U.S. Constitution, the Administrative Procedure Act, and the FDA’s own regulations).

<sup>14</sup> See Federal Food, Drug, and Cosmetic Act, 21 U.S.C. § 360 (2007) (laying out the requirements imposed by the act, including a rigorous pre-market review process that would analyze the potential risks posed by animal cloning).

<sup>15</sup> Andrea Thompson, *Cloned Milk and Meat: What’s the Beef?*, LIVE SCI., Jan. 9, 2008, <http://www.livescience.com/health/080109-animal-cloning.html> (quoting Jaydee Hanson, a spokesman for the Center for Food Safety, who pointed out the industry participation and noted that though the studies did not reveal anything harmful in the cloned meat that “[w]e shouldn’t see what the effects are by going ahead and feeding them to humans just in case there aren’t any,” and that the FDA’s risk assessment was poorly done).

<sup>16</sup> Compare U.S. Food and Drug Admin., Animal Cloning: A Risk Assessment, Jan. 15, 2008, <http://www.fda.gov/downloads/AnimalVeterinary/SafetyHealth/AnimalCloning/UCM124756.pdf> (last visited Apr. 12, 2010) with Michael Hansen, Comments of Consumers Union to US Food and Drug Administration on Docket No. 2003N-0573, Draft Animal Cloning Risk Assessment, [http://www.consumersunion.org/pdf/FDA\\_clone\\_comments.pdf](http://www.consumersunion.org/pdf/FDA_clone_comments.pdf) (last visited Apr. 12, 2010) (attacking the FDA because its “conclusions of safety appear to be based on data on milk from 43 cow clones, and data on beef from 16 cow clones, and 5 pigs.”).

<sup>17</sup> Biotechnology Industry Organization, Lobbying Disclosure Report for Q1 of 2008, available at <http://disclosures.house.gov/ld/pdfform.aspx?id=300058671> (listing FDA Risk Assessment on Cloning, H.R. 992, and S. 414 as part of the Biotechnology Industry Organization’s lobbying efforts).

<sup>18</sup> See Heidi Stevenson, Bananas Are Dying, Killed by Corporate Monoculture, (June 2, 2008), [http://www.naturalnews.com/023339\\_banana\\_bananas\\_disease](http://www.naturalnews.com/023339_banana_bananas_disease).

html (outlining how monocropping caused the extinction of an entire species of banana by exposure to Panama disease).

<sup>19</sup> EPA.gov, Regulatory Definitions of Large CAFOs, Medium CAFOs, and Small CAFOs, [http://www.epa.gov/npdes/pubs/sector\\_table.pdf](http://www.epa.gov/npdes/pubs/sector_table.pdf) (noting the categorical minimum numbers of confined animals for an industrial farm, including the staggering number of 125,000 chickens to earn the large CAFO label).

<sup>20</sup> See, e.g., Ephraim Leibtag, AMBER WAVES, *Corn Prices Near Record High, But What About Food Costs?* (Feb. 2008), available at <http://www.ers.usda.gov/AmberWaves/February08/Features/CornPrices.htm> (stating that on average it takes “7 pounds of corn to produce 1 pound of beef, 6.5 pounds of corn to produce 1 pound of pork, and 2.6 pounds of corn to produce 1 pound of chicken.”).

<sup>21</sup> SierraClub.org, Concentrated Animal Feeding Operations, Human Health, Community and Environmental Impacts, [http://iowa.sierraclub.org/CAFO\\_impacts.pdf](http://iowa.sierraclub.org/CAFO_impacts.pdf) (last visited Apr. 7, 2010) (stating that “[b]ecause CAFOs concentrate large numbers of animals close together, they facilitate rapid transmission and mixing of viruses.”).

<sup>22</sup> See *id.* (citing the Union of Concerned Scientist’s estimate that eighty-seven percent of the antibiotics used in the U.S. are fed to livestock).

<sup>23</sup> See MacKenzie, *supra* note 7 (laying out how reductions in biodiversity results in the increase of disease rates); Physicians for Social Responsibility, U.S. Meat Production, <http://www.psr.org/chapters/oregon/safe-food/industrial-meat-system.html> (last visited Apr. 7, 2010) (describing how the host mothers of cloned animals require an increase in antibiotics and discussing how antibiotic-resistant diseases are being incubated in CAFOs); CONVENTION ON BIOLOGICAL DIVERSITY, BIODIVERSITY AND AGRICULTURE 12 (2008) (presenting data gathered by the Food and Agriculture Organization that shows that “less than 14 species—including cattle, goats, sheep, buffalo and chickens—account for 90% of global livestock production.”). The report also noted that in recent years there has been “alarming genetic erosion within these species” and that a breed is being lost each month. *Id.*

<sup>24</sup> See Friends of the Earth, Cloned Food: What it Means to Eat Meat and Dairy from Cloned Animals, [http://www.foe.org/sites/default/files/FOE\\_Cloned\\_Food\\_Factsheet.pdf](http://www.foe.org/sites/default/files/FOE_Cloned_Food_Factsheet.pdf) (reiterating that monogenetic livestock herds are at risk of high losses due to the lack of biodiversity’s protection).

<sup>25</sup> David Gutierrez, *FDA Admits Cloned Meat, Milk May Have Already Entered Food Supply*, NAT. NEWS, Jan. 29, 2009, [http://www.naturalnews.com/025467\\_food\\_meat\\_cloned.html](http://www.naturalnews.com/025467_food_meat_cloned.html) (last visited Apr. 12, 2010) (emphasizing that the voluntary ban on cloned animal products did not include a clone’s offspring and that those products could have made their way onto American dinner plates).