

and subsistence timber harvesting, mineral extraction, and subsistence agriculture. A number of organizations and funds have already joined together to tackle this challenge, including the U.S.-led Congo Basin Forest Partnership (CBFP) and the U.K.- and Norway-led Congo Basin Forest Fund (CBFF). The CBFP has helped central African nations protect more than 115 million acres of tropical forests.<sup>50</sup> The CBFF has received an initial contribution of about U.S. \$200 million, which aims to achieve emission reductions at a cost of about \$6 per ton.<sup>51</sup>

Since the mid 1990's, civil strife in the Congo Basin has placed enormous pressure on forested lands. Hundreds of thousands of refugees have moved through these forests, looting national parks and constructing refugee camps on park borders. As conflict has subsided, logging has increased. In 2004, encouraged by the World Bank, the Republic of the Congo announced its plans to intensify commercial logging. Illegal logging is widespread in many areas as underpaid bureaucrats continue to supplement their incomes by opening restricted areas. Subsistence agriculture is also driving deforestation, as poor farmers and villagers rely on forest lands for farmland and fuel wood.<sup>52</sup>

Above and beyond the challenges involved in managing and conserving the forests of the Congo Basin generally, there are three additional hurdles that must be overcome to include the Congo Basin in climate-related forest conservation programs. The first is undertaking the fundamental governance and policy reforms necessary

to make forest conservation a national and regional priority. The second is building the capacity of the Congo Basin countries to accurately measure, monitor and verify emission reductions. The third is determining the scale and structure of conservation incentives in a context where deforestation rates are relatively low now but could rise substantially in the future. It will no doubt take time, financial resources, and technical assistance to sufficiently address these challenges. Based solely on current deforestation rates, Congo Basin countries could generate hundreds of millions of tons of annual emission reductions by 2020 from current levels if adequate financial incentives were available, on the order of several billion dollars.<sup>53</sup> Without effective policy reforms and capacity building, that mitigation opportunity will be reduced to a small fraction of its potential.<sup>54</sup> Reaching the level of capacity needed to achieve these reductions will be a major challenge, but one that the world must take on in order to halve emissions from tropical deforestation by 2020 and achieve zero net emissions by 2030.

International forest conservation is clearly one of the most cost-effective emissions mitigation strategies. Importantly, however, international forest conservation would produce many other benefits to the United States and the world, including strengthening international peace and security, promoting sustainable development and poverty alleviation, improving local governance, combating illegal logging, conserving global biodiversity and protecting critical ecosystems on which people and wildlife depend.

## Many Other Benefits

### Strengthening International Security

In addition to the impacts of climate change itself, direct effects of environmental degradation and conflict over natural resources, including forests, have emerged as leading global threats to U.S. and international security,

*Finding: A global effort to reduce tropical deforestation would strengthen international security by addressing a key source of political instability and conflict.*

according to the recent National Intelligence Estimate for the year 2025.<sup>55</sup> Deforestation is often associated with corruption and political instability—including in strategically important countries such as Indonesia and the Democratic Republic of Congo.<sup>56</sup> In poor countries, forests or forest resources can provide an immediate opportunity for economic benefits, but in many cases they are poorly governed and not effectively controlled by national authorities. Thus the legal rights to forest resources are unclear. In addition to the societal conflict this can lead to in areas of scarce or degraded natural resources, such as Darfur and Rwanda, it also contributes to significant conflict in areas with abundant resources that can be easily exploited for economic gain. In recent years deforestation and illegal logging have helped finance and sustain armed conflict, for example, in Liberia. Conversely, forest conservation can promote national reconciliation, as the community-based reforestation programs of Nobel Peace Prize-winner Wangari Maathai and her Greenbelt Movement have shown in Kenya. New climate-related forest conservation programs provide an opportunity to undertake governance reforms and address these underlying problems. Without these reforms, new revenues for managing forests for their carbon could perversely increase the potential for conflict in rural areas.<sup>57</sup>

Climate change is a “threat multiplier” — heightening the risks associated with existing security threats. The impacts of climate change on already poor countries increase political instability and the possibility of failed states, potentially drawing the U.S. military into additional interventions abroad. In addition, by increasing the intensity of extreme weather events like Hurricane Katrina and creating large numbers of “climate refugees,” impacts could be directly destabilizing even within the United States. According to one recent study led by a panel of retired military officials, climate change “...has the potential to create sustained natural and humanitarian disasters on a scale far beyond those we see today.”<sup>58</sup> Senator John Warner (R-VA, retired) echoed many of these concerns in recent testimony before the Senate Foreign Relations Committee on the national security risks posed by

climate change. He emphasized that climate change will make existing security challenges worse, and that the U.S. military will increasingly be called on to assist with humanitarian disasters at a substantial cost to U.S. taxpayers and at the expense of military missions in other areas of the world. Congress has already directed the Department of Defense and other U.S. agencies to fully integrate climate change into their strategic planning and security assessments.<sup>59</sup> The recent National Intelligence Estimate for 2025 highlighted the importance and potential interaction between emerging global challenges related to water, agriculture, climate change and energy security.<sup>60</sup> Numerous other scholars and organizations have reaffirmed the threats posed to national security by climate change.

## Alleviating Poverty

Well-designed forest conservation programs could also advance U.S. interests in international development and poverty alleviation.<sup>61</sup> New financial incentives for the rural poor to conserve and better manage forests could improve livelihoods, connect local inhabitants to

### Commissioner Perspective:

#### GENERAL GORDON SULLIVAN

Former Chief of Staff, United States Army

“After a lifetime of service in our nation’s armed forces, my principal concern is preventing conflict. We know unequivocally that climate change, left unaddressed, will become a threat multiplier in dangerously unstable regions of the world — and tropical deforestation is a threat multiplier for climate change. Deforestation not only accelerates that change, but it causes soil degradation, loss of fresh water and reduced access to natural resources — all of which displace populations and intensify security issues. The U.S. has a compelling security interest in the stability of forest-abundant nations. Ignoring that interest will allow unchecked climate change to drive states into failure and people into conflict. That is an outcome we can and must avoid.”

**Commissioner Perspective:**

**SHERRI GOODMAN**

Former Deputy Under Secretary of Defense for Environmental Security

“The debate over whether and how to confront climate change continues, but the reality is this: a rapidly changing climate will drive instability in developing and industrialized nations. Our national security leaders have wisely recognized the threat posed by climate change, and the unavoidable next step is to address its causes – of which tropical deforestation is a major one. Many forest-abundant nations are central to U.S. interests, and are located in regions where fragile states, extremists and political unrest are already a serious concern. Swiftly and effectively stopping deforestation and slowing climate change must therefore be a national security priority. We have already seen regions like Darfur plunged into violence in the midst of a changing climate. We have a fundamental responsibility to address deforestation and climate change in our effort to prevent similar conflicts around the world.”

global markets, and help protect biodiversity and the valuable ecosystem services from forests on which the poor depend. The World Bank estimates that one fourth of the wealth in developing nations comes from tropical forests and other natural ecosystems, and estimates that 90 percent of those living in extreme poverty depend on forests for some part of their food, fuel, water or livelihoods.<sup>62</sup> Those living in extreme poverty are the most vulnerable to economic hardships and social conflicts associated with climate change, and with deforestation and forest degradation. Healthy forests provide a buffer against storms, droughts and flooding, which are expected to intensify with further climate change.

In addition, in many parts of the world, the economic benefits of deforestation bypass forest-dwelling people as a result of corruption, land-tenure systems and limited local control.<sup>63</sup> New financial incentives to conserve

*Finding: A global effort to reduce tropical deforestation quickly would help to address global poverty by channeling substantial new revenues to the billions of rural poor who depend on forests for their livelihood and by reducing the climate vulnerability of poor communities to drought, flooding and severe storms.*



forests have the potential to improve the livelihood of forest dwellers and channel substantial benefits to local actors, if they are designed with appropriate safeguards to reduce corruption, improve local governance and land tenure and involve local communities from the outset.<sup>64</sup>

## **Ecological Benefits (Biodiversity and Ecosystem Services)**

Tropical forests contain many of the world’s last treasured natural places and are home to half of the world’s known terrestrial species.<sup>65</sup> Biodiversity can also be critical for food, medicine and ecosystem health. New incentives for tropical forest conservation would help stem the world’s extinction crisis, particularly if financial incentives were targeted towards high biodiversity landscapes. Forest conservation programs should also strive to maintain the physical connectivity of natural landscapes, particularly where large corridors are necessary to allow for seasonal migration and genetically diverse populations of keystone species. This is especially important for conserving large mammals such as elephants, rhinoceroses and orangutans, many of which require large intact areas to thrive. Importantly, the world’s richest biodiversity areas

overlap substantially with some of the best places to implement forest carbon programs. This includes parts of Brazil, Southeast Asia and the Congo Basin, as shown in Figure 8.

Conserving intact forests would also preserve the “ecosystem services” they provide for local people, including food, water quality and filtration, air quality, soil retention, maintenance of precipitation patterns and fuel wood. This “natural capital” represents approximately one third of the wealth in low-income nations, and even more in the poorest nations, according to the World Bank,<sup>66</sup> yet two-thirds of the ecosystem services upon which humanity depends are threatened or stressed.<sup>67</sup> The Millennium Ecosystem Assessment (MEA) convened by the United Nations argued that while some people benefit from the economic exploitation of natural resources such as tropical forests, the costs borne by society are often much higher.

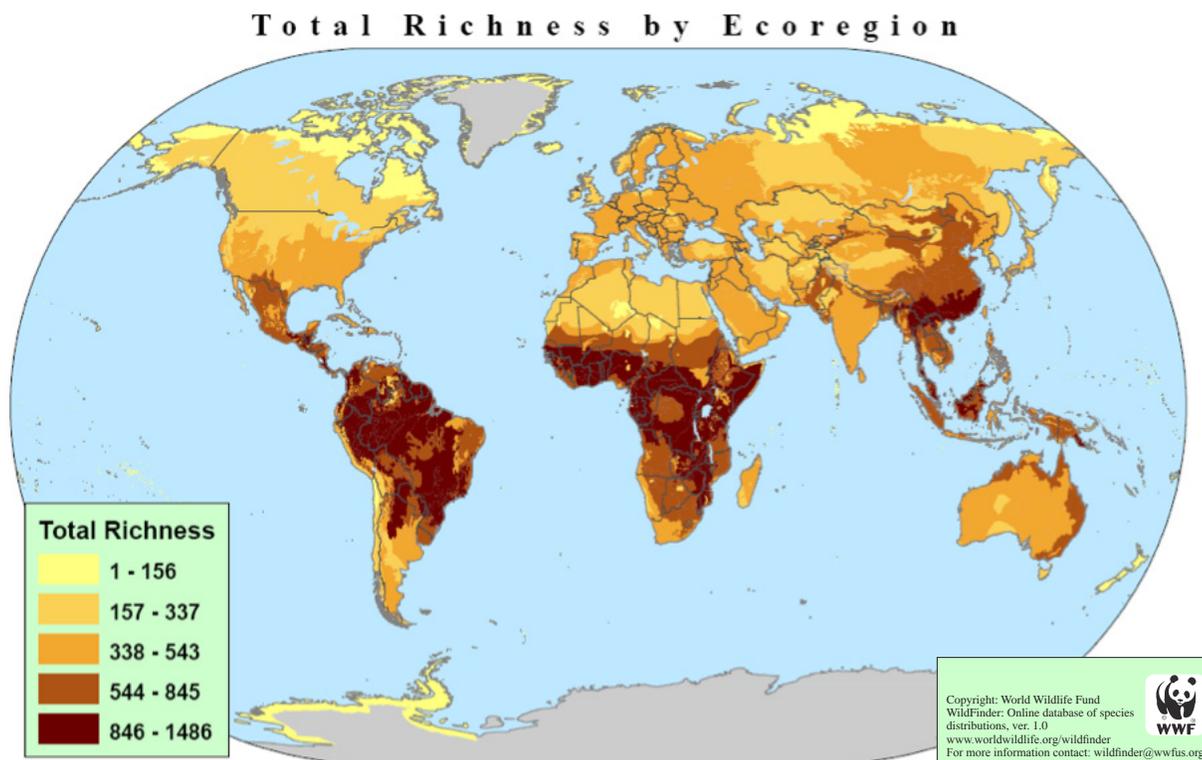
**Commissioner Perspective:**

**CRISTIÁN SAMPER**

Director, National Museum of Natural History

“The scientific case for the dealing with the impacts of climate change immediately and comprehensively could not be more clear, and tropical forests are an essential part of the solution. The destruction of tropical forests is at the crossroads of our two greatest environmental challenges: reducing greenhouse gas emissions and protecting the biological integrity of our planet. The global community, led by the U.S., must recognize the importance of these ecosystems by creating an international system to protect tropical forests, and ensuring that such a system is scientifically designed and verified. International and domestic climate policy cannot ignore this necessity and still succeed.”

**Figure 8: Global Biodiversity Richness**



Source: World Wildlife Fund for Nature (2009) *Wildfinder*.