

timber sanctions on Liberia and advises the Security Council on reforming Liberia's timber sector.

3. I have published over twenty peer-reviewed articles on forestry ecology, management, and timber trade in scientific and environmental journals.

4. Part of my research and scholarship focuses on the international mahogany trade. I have published articles on trade in Peruvian mahogany and its regulation under the Convention on International Trade in Endangered Species ("CITES"), including: A.G. Blundell, *A Review of the Status of Bigleaf Mahogany and CITES*, 38 ORYX 84-90 (2004); R. Kommeter, M. Martinez, & A.G. Blundell, et al., *Status of Bigleaf Mahogany in Bolivia and Peru*, 9 ECOLOGY AND SOCIETY 12 (2004).

5. I have also published an article analyzing mahogany trade data: B.D. Rodan & A.G. Blundell, *Mahogany and CITES: Moving Beyond the Veneer of Legality*, 37 ORYX 85-90 (2003). In that article, I compared U.S. Customs data on mahogany imports from 1997-1999 with CITES import records for the same period of time. My analysis revealed that Customs reported substantially more mahogany imports than CITES had documented, and that these discrepancies resulted in part from changes in shipment volume after permits were issued, data transcription and conversion errors, and improper CITES documentation accompanying imports. This assessment required the collection and analysis of mahogany trade data, as well as a familiarity with how timber moves from its forest source location, to export and, finally, to importation. Specifically, I acquired and analyzed voluminous data sets documenting shipping and trade in mahogany, as well as CITES permit forms. Throughout the course of my professional work, I have analyzed data on timber trade, and have developed a familiarity with, and facility for cross-referencing, linking timber import and export data.

II. Review of Data and NRDC's Methods

6. In conjunction with this matter, I have reviewed the following:

- Instituto Nacional de Recursos Naturales (“INRENA”), “Lista de Permisos CITES de Caoba Emitidos de Enero a Diciembre del 2005.” *See* Declaration of Ani Youatt dated October 19, 2006 (“Youatt Decl.”), Exhibit 1;
- INRENA, “Concesiones y Permisos Forestales con Fines Maderables Evaluadas Por Las Brigadas CITES,” INRENA, http://www.inrena.gob.pe/iffs/biodiv/estad/informes/resultados_verificaciones_caoba.htm. *See* Youatt Decl., Exhibit 2;
- U.S. Fish and Wildlife Service (“FWS”), CITES Permits for Mahogany (*Swietenia macrophylla*) from Peru 2005. *See* Youatt Decl., Exhibit 3;
- NRDC’s methodology and statistical conclusions from its analysis of the export-import data sets. *See* Youatt Decl. ¶¶ 4-23, Exhibits 4, 6.

7. I reviewed the data sets carefully, familiarizing myself with the information they contained and its presentation.

8. I examined the data for quality assurance by searching for irregularities and errors in input, compilation, or translation. For example, I ensured that measures of volume were converted properly and consistently, and that all of the exporting regions identified were, in fact, areas in Peru with mahogany populations.

9. I then assessed the methodology used by NRDC to reach its conclusions on the importation of illegally acquired Peruvian mahogany. First, I reviewed NRDC’s use of INRENA’s data on mahogany exports, or the “Lista de Permisos CITES de Caoba Emitidos de Enero a Diciembre del 2005.” This data set disaggregates Peruvian mahogany export shipments

into smaller, component parts by transport (“GTF”) permit number. Each GTF permit is linked with a concession, or legally designated forest source from which the mahogany identified in the permit should have originated. A group of transport permits – often representing wood from many different concessions – are combined to form a single CITES export permit.

10. I also reviewed NRDC’s analysis of INRENA’s data on investigated timber concessions, or “Concesiones y Permisos Forestales con Fines Maderables Evaluadas Por Las Brigadas CITES.” Using each concession’s tracking identifier, NRDC identified concessions in which investigations by INRENA had uncovered evidence of illegal mahogany logging, including concessions that had been cancelled, sanctioned, or put into administrative review.

11. I then assessed NRDC’s use of these data to identify portions of CITES-permitted export shipments containing mahogany from a concession where illegal activity was found by INRENA. NRDC summed these portions to calculate raw volumes of mahogany exports taken from such concessions.

12. I considered NRDC’s method in linking these export data to corresponding U.S. imports using 2005 CITES permits and permit numbers provided by FWS. I reviewed a representative sample of the CITES permits provided by FWS to NRDC and examined NRDC’s consolidation of permit information into a single data table. *See Youatt Decl., Exhibits 5-6.*

13. In evaluating NRDC’s analysis of the data sets, I searched for flawed inferences or assumptions, and methodology that might undermine the validity of the findings.

14. I also analyzed the raw data independently to verify NRDC’s methods and findings. In this regard, I tracked the volume of wood exported from concessions with evidence of illegal activity using concession tracking identifiers and transport permit information from

INRENA's data sets. Using basic summary statistics, I calculated the volume of mahogany exports from these concessions. I linked my findings to FWS's import data.

III. Analysis and Opinion

15. Based upon the materials I have reviewed, and on my experience and expertise, I have reached the following conclusions about which I will testify if called upon to do so at trial.

16. NRDC's estimations of illegally acquired volumes of mahogany imported into the U.S. in 2005, in my opinion, are fully supported by the data provided by INRENA and FWS.

17. NRDC concluded that 2,033 cubic meters of Peruvian mahogany exported in 2005 came from the 23 concessions identified by INRENA to have high levels of illegal activity, as indicated by the concessions' status as cancelled or sanctioned. The data show that of the 2,033 cubic meters of mahogany from concessions with high levels of illegal activity, 1,840 cubic meters were imported by the United States in 2005.

18. Of these 1,840 cubic meters imported by the U.S. in 2005, NRDC's analysis concluded that 1,134 cubic meters were imported by the private defendants in this case.

19. The 1,840 cubic meters of mahogany from the 23 concessions with high levels of illegal activity were imported to the U.S. under 81 different CITES export permits, one for each shipment. *See* Youatt Decl., Exhibit 6. The data provided by INRENA and FWS support the conclusion that this illegally obtained mahogany was commingled with other mahogany in shipments to the U.S. The volume of mahogany in these shipments totaled 8,086 cubic meters and represented 39% of the 20,844 cubic meters of all mahogany imported under CITES permits to the United States from Peru in 2005, according to INRENA's website. *See* INRENA, "Destino de los volumenes de *Swietenia macrophylla* exportado según los permisos de

exportacion,” http://www.inrena.gob.pe/iffs/biodiv/estad/caoba/caoba_2000-2006.htm” (last visited October 18, 2006).

20. NRDC’s analysis also properly concluded that of the 8,086 cubic meters of tainted wood exported by Peru in 2005, 5,173 cubic meters were imported into the U.S. by the private defendants named in this suit.

21. An additional 2,860 cubic meters of mahogany were exported from 33 concessions that the INRENA data identified as having some evidence of illegal logging activity. Of these 2,860 cubic meters of mahogany, the data demonstrate that the U.S. again imported nearly all of it – 2,508 cubic meters.

22. The data used by NRDC was, in my estimation, sound. None of the data sets used by NRDC had irregularities that would affect the validity of NRDC’s conclusions. Moreover, these data are of the type from which conclusions on export and import processes could be responsibly and reasonably drawn. Indeed, I myself have used data sets of this kind to analyze illegal timber movement.

23. The two data sets obtained by NRDC directly from INRENA— “Concesiones y Permisos Forestales con Fines Maderables Evaluadas Por Las Brigadas CITES” and “Lista de Permisos CITES de Caoba Emitidos de Enero a Diciembre del 2005”—are coherent and logical. These data reflected what I, based on my experience, would expect from information tracking the movement of mahogany exports from their forest sources to ports for shipment.

24. The CITES permit information obtained from FWS and compiled by NRDC also was representative of CITES import data, based on my past experience working with this kind of data.

25. Small discrepancies in the data sets, such as a series of smaller export volumes that did not perfectly sum to a composite volume shipment, are expected in this type of data and in no way affect the validity of NRDC's findings.

26. Based on my professional experience tracking the export and import of illegal timber, and without prior knowledge of NRDC's methodology, I conducted an independent analysis of the raw data that was analyzed by NRDC. My independent analysis yielded conclusions consistent with those reached by NRDC.

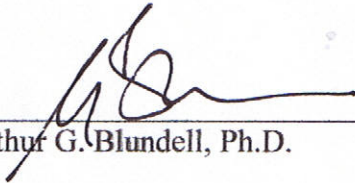
27. NRDC's findings on the volume of Peruvian mahogany exported from areas with evidence of illegal activity are, in my estimation, conservative. Based on my experience, the illegal timber trade includes different kinds of illegal activities. These data sets successfully isolate just one type of illegal activity: illegality and fraud at the legally designated forest source, or concession. However, in my experience in tracking timber trade, and studying the Peruvian mahogany trade in particular, I have encountered many additional opportunities for illegal wood to enter the export-import stream, including falsified transport documents, underreporting of export and transport volumes, mislabeling of timber (e.g. mahogany exported under other names), and others. Even the concessions that INRENA has not found to be operating illegally may, in fact, include laundering or other illicit logging activities.

28. NRDC's findings, in addition to being fully supported by the data sets, are almost certainly underestimations of the amount of illegally acquired mahogany moving from Peru to the U.S.

I declare under penalty of perjury, pursuant to 28 U.S.C. § 1746, that the foregoing statements are true and correct to the best of my knowledge and belief.

I declare under penalty of perjury, pursuant to 28 U.S.C. § 1746, that the foregoing statements are true and correct to the best of my knowledge and belief.

Dated: October 20, 2006
Nanaimo, British Columbia, Canada



Arthur G. Blundell, Ph.D.