

at the University of Florida: forest economics, quantitative forest management, valuation of forest resources, and integrated natural resource management.

3. My research and scholarship focuses on forest resource economics and management, timber markets, and timber supply analysis. I have published four articles specifically addressing the economic and environmental impacts of logging in tropical South America: Frederick Boltz and Douglas R. Carter, *Multinomial Logit Estimation of a Matrix Growth Model for Tropical Dry Forests of Eastern Bolivia*, CAN. J. OF FOREST RES. (forthcoming 2006); Thomas P. Holmes, Frederick Boltz, and Douglas R. Carter, *Financial Indicators of Reduced Impact Logging Performance in Brazil: Case Study Comparisons*, in APPLYING REDUCED IMPACT LOGGING TO ADVANCE SUSTAINABLE FOREST MANAGEMENT, Asia-Pacific Forestry Commission, at 141-50 (2002); Frederick Boltz, Douglas R. Carter, Thomas P. Holmes, and Rodrigo Pereira, Jr., *Financial Returns under Uncertainty for Conventional and Reduced Impact Logging in Permanent Production Forests of the Brazilian Amazon*, 39 ECOL. ECON. 387-98 (2001); Frank D. Merry & Douglas R. Carter, *Factors Affecting Bolivian Mahogany Exports with Policy Implications for the Forest Sector*, 2 FOREST POL'Y & ECON. 281-91 (2001); Frank D. Merry & Douglas R. Carter, *Certified Wood Markets in the U.S.: Implications for Tropical Deforestation*, 92 FOREST ECOL. & MGMT 221-28 (1997). I advised Dr. Frank D. Merry, Visiting Assistant Scientist at the Woods Hole Research Center, on his doctoral dissertation, *Perspectives in Forest Policy and Trade for Eastern Bolivia* (2001) (unpublished Ph.D. dissertation, University of Florida). Since 2004, I have been an Associate Editor of the *Southern Journal of Applied Forestry*.

II. Analysis and Opinions

4. In connection with this matter, I have reviewed the following data and documents:

- *Annual Review and Assessment of the World Timber Situation Trade*, International Tropical Timber Organization (ITTO) (2005), available at <http://219.127.136.74/live/PageDisplayHandler?pageId=199&id=377>;
- “Major Tropical Species Traded,” Appendix 3 to ITTO, *Annual Review and Assessment of the World Timber Situation* (2005), available at <http://219.127.136.74/live/PageDisplayHandler?pageId=199&id=377>;
- Data for 2005 CITES Export Permits to Peru, World Conservation Monitoring Center CITES Trade Database, at <http://www.unep-wcmc.org/citestrade/trade.cfm>;
- INRENA, Export Data for Peruvian Mahogany Exports (2000 - 2006), available at http://www.inrena.gob.pe/iffs/biodiv/estad/caoba/caoba_2000-2006.htm;
- ITTO, Data for U.S. and Central American Prices for Sawn Wood of Peruvian Mahogany (2000 – 2006), available at <http://www.itto.or.jp/live/PageDisplayHandler?pageId=235>;
- ITTO, Data for Domestic Prices in Peru for Sawn Wood of Peruvian Mahogany (2000 – 2006), available at <http://www.itto.or.jp/live/PageDisplayHandler?pageId=235>;
- U.S. International Trade Commission Data for U.S. Imports of Mahogany, available at <http://dataweb.usitc.gov/>;
- Roberto F. Kometter et al., *Impacts of Unsustainable Mahogany Logging in Bolivia and Peru*, 9 *ECOL. & SOC’Y* 12 (2004);
- Natural Resources Defense Council and Defenders of Wildlife, *Preliminary Assessment of Trade in Bigleaf Mahogany (Swietenia macrophylla)* (June 2006), available at http://docs.nrdc.org/international/int_06062601B.pdf;
- Complaint in *Native Federation of the Madre de Dios River and Tributaries, et al., v. Bozovich Timber Products, Inc., et al.*, No. 060081 (CIT filed June 6, 2006).

5. 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.

6. A change in the U.S. market for Peruvian mahogany would have a pronounced, measurable, and immediate effect on the total amount of mahogany exported from Peru. The statistical correlation between total Peruvian mahogany exports and U.S. mahogany imports is .98. This is almost a perfect correlation. In layman’s terms, this correlation demonstrates that

the Peruvian export market is highly dependant upon and inexorably linked with the United States import market.

7. A total ban on U.S. imports would invariably lower the price of mahogany. Approximately 86 percent of Peruvian mahogany exports are imported to the United States annually. The current price of Peruvian mahogany is determined by the supply of and demand for mahogany. Because the United States represents such a large portion of the demand for mahogany, eliminating that demand will have an immediate downward effect on the price for mahogany.

8. A drop in the price of mahogany caused by a ban on U.S. imports would diminish the financial incentives to log mahogany in Peru. Logging operations continue because the current market price for mahogany justifies the high costs of logging, including costs associated with building logging roads to pristine forests, extracting trees, processing the logs, and exporting them abroad. The price of mahogany must be sufficient to justify its continued extraction. As the price of mahogany is lowered, the incentive to log mahogany will be diminished. If the price of mahogany drops below the cost of extracting mahogany, the incentive will be eliminated.

9. While 86 percent of mahogany is currently exported to the United States, eliminating the U.S. market will not correspond to a reduction of 86 percent of the exports from Peru. Instead, other markets can be expected to absorb some of the excess supply of mahogany as the price drops.

10. Determining the effect of a total ban of U.S. imports on the incentive to log mahogany thus requires an analysis of the extent to which the elimination of the U.S. market will bring about increased demand for mahogany in other importing countries. The reduction in

price of Peruvian mahogany caused by a U.S. ban will increase demand for mahogany in other markets, which will absorb a certain percentage of the reduced-price mahogany previously traded to the U.S. market. The degree to which the demand will increase depends on how elastic the demand for mahogany is in those markets. Elasticity in this context refers to how sensitive demand is to changes in price. Elastic demand is more responsive to changes in price; inelastic demand is less responsive to a change in price. Since eliminating the U.S. market for mahogany will reduce the price of mahogany, a determination of how much of the volume of U.S. imports will be absorbed depends on the relative elasticity of demand by other importing countries and the elasticity of supply in exporting countries.

11. Based on my expertise and experience as a forest economist, as well as the data I have reviewed, I have concluded that the demand for Peruvian mahogany in both the U.S. and other markets is relatively inelastic. To the extent that demand for Peruvian mahogany in other markets is insensitive to changes in price, the reduction in price caused by the elimination of the U.S. market will lower the overall demand for Peruvian mahogany worldwide. Although consumption of mahogany in other markets will increase to a certain degree as a result of the reduction in price, because demand is relatively inelastic, other foreign markets will not fully absorb the elimination of 86 percent of the former market for Peruvian mahogany. Eliminating the U.S. market for Peruvian mahogany will thus substantially reduce the overall demand for Peruvian mahogany, thereby dramatically reducing the incentive to log mahogany.

12. I have created a simplified trade model to determine the quantitative outcome of an elimination of U.S. demand. This model incorporates the following conclusions regarding the market for Peruvian mahogany: (1) the demand markets outside the U.S. is relatively inelastic; (2) supply in Peru is relatively elastic; and (3) 86 percent of Peruvian exports currently go to the

U.S. and 14 percent to the rest of the world. From this model, I have determined that eliminating the U.S. demand for Peruvian mahogany will, within a short period of time, cause a 57 percent reduction of total Peruvian mahogany exports. My analysis is premised on a reasonable assumption regarding the inelasticity of demand in importing countries. A grid representing the range of reasonable assumptions regarding elasticities of demand for non-U.S. markets, and the corresponding reduction in Peruvian exports (of between 48 and 65 percent) is attached as Exhibit 2.

13. A U.S. ban on Peruvian mahogany imports will have a greater and more immediate effect on illegal logging. The incentive to extract mahogany exists only where the cost of doing so is justified by the price received for the sale of that wood. Illegal logging involves greater costs than legal logging because risks attendant to illegal logging, including risk of fines, arrest, imprisonment, forfeiture, and the direct costs incurred to falsify documents, for example, or to pay off government officials, drive up the overall cost of extracting mahogany from the forest. Illegal logging requires greater prices to justify its greater costs. Consequently, a U.S. ban on mahogany imports, which would bring about a reduction in the price of mahogany, and would reduce overall exports from Peru by 57 percent, would have a greater and more immediate effect on the incentive to log mahogany illegally.

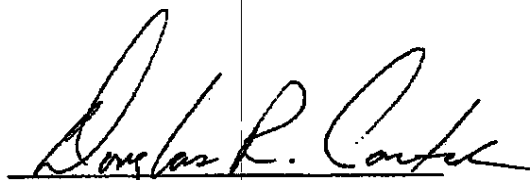
14. Keeping the U.S. market open, on the other hand, perpetuates the economic conditions that create the incentives to log mahogany illegally.

15. In circumstances where logging in Peru is pre-financed by U.S. importers, a U.S. ban on mahogany imports will have an immediate impact on on-the-ground operations in Peru. A ban will eliminate U.S. importers' incentives to pre-finance logging operations, and in so doing will eliminate the resources necessary to finance the operations themselves. Given the

close and interdependent relationship between importers and loggers, significant changes in incentives will occur immediately, and will bring about immediate changes in business practices. As a result, a ban on U.S. imports will bring about an immediate cessation of any logging pre-financed by U.S. importers.

I declare under penalty of perjury that the above statements are true to the best of my knowledge.

Date: August 3, 2006
Gainesville, Florida


Douglas R. Carter, Ph.D.