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Economic Valuation of Environmental Services in *Nothofagus alessandri* (RUIL) Forests in the Region del Maule, 7th Region, Chile: An Application of the Choice Experiment Method

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Abstract

Nothofagus alessandri (Ruil) is considered to be the original species of the family Nothofagus. The Ruil forest, located in the central zone of Chile in the counties of Empedrado and Chanco, is an area that is considered to be a World Hotspot since it is the only place in the world that still maintains 450 hectares of the species, all of which justifies every effort made to value and conserve it. The main objective of this study was to estimate, in nearby communities, the marginal willingness to pay (WTP) for attributes associated with the environmental services generated by this forest resource.

Through the application of the Choice Experiment method an economic valuation of the environmental services generated by the Ruil forest was carried out using a sample of 160 families from both communities. The existing correlation among the socio demographic variables and the choice of levels for each attribute was similarly analyzed. The three attributes valued during the survey were: the surface area of Ruil forest actually protected, the scenic beauty generated by this forest resource, and the implementation of protection and conservation programs for the flora and fauna living in the Ruil forests.

The attributes of greatest importance for the interviewees were the surface area of Ruil actually protected and the implementation of protection and conservation programs for the species living in the Ruil forests. For those attributes the interviewees are willing to pay US\$1.45 and US\$0.70 respectively per month, which represent a satisfactory initial amount for the preservation of the forest. The age, education and income variables showed a significant relationship with the choice of levels proposed for each attribute, which demonstrates the relevance of these variables in the valuation of environmental services. Finally, it is worth pointing out that the method used is adequate for valuing the willingness to pay (WTP) since it was well understood by the interviewees. The results generated by this study are a contribution to the design of Ruil forest resource conservation and protection strategies, especially in terms of the development of the required environmental services.

Keywords: Forest conservation, choice experiment method, willingness to pay