

# Accepted Manuscript

Research papers

Payments for Ecosystem Services for Watershed Water Resource Allocations

Yicheng Fu, Jian Zhang, Chunling Zhang, Wenbin Zang, Wenxian Guo, Zhan Qian, Laisheng Liu, Jinyong Zhao, Jian Feng

PII: S0022-1694(17)30816-8  
DOI: <https://doi.org/10.1016/j.jhydrol.2017.11.051>  
Reference: HYDROL 22409

To appear in: *Journal of Hydrology*

Received Date: 29 September 2017  
Revised Date: 15 November 2017  
Accepted Date: 28 November 2017

Please cite this article as: Fu, Y., Zhang, J., Zhang, C., Zang, W., Guo, W., Qian, Z., Liu, L., Zhao, J., Feng, J., Payments for Ecosystem Services for Watershed Water Resource Allocations, *Journal of Hydrology* (2017), doi: <https://doi.org/10.1016/j.jhydrol.2017.11.051>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.



# Payments for Ecosystem Services for Watershed Water Resource Allocations

Yicheng Fu<sup>1\*</sup>, Jian Zhang<sup>1</sup>, Chunling Zhang<sup>1</sup>, Wenbin Zang<sup>1</sup>, Wenxian Guo<sup>2</sup>, Zhan Qian<sup>3</sup>, Laisheng Liu<sup>1</sup>, Jinyong Zhao<sup>1</sup>, Jian Feng<sup>1</sup>

1.State Key Laboratory of Simulation and Regulation of River Basin Water Cycle, China Institute of Water Resources and Hydropower Research, Beijing 100038, P.R. China

2. The Yellow River Institute of Science, North China University of Water Resources and Electric Power, Zhengzhou Henan 450045, P.R. China

3. Hunan Province Hydro & Power Design Institute, Changsha Hunan 410007, P.R. China

\* Correspondence: swfyc@126.com; Tel.: +86-010-68781880; Fax: +86-10-68572778.

**Abstract** Watershed water resource allocation focuses on concrete aspects of the sustainable management of Ecosystem Services (ES) that are related to water and examines the possibility of implementing Payment for Ecosystem Services (PES) for water ES. PES can be executed to satisfy both economic and environmental objectives and demands. Considering the importance of calculating PES schemes at the social equity and cooperative game (CG) levels, to quantitatively solve multi-objective problems, a water resources allocation model and multi-objective optimization are provided. The model consists of three modules that address the following processes: ① social equity mechanisms used to study water consumer associations, ② an optimal decision-making process based on variable intervals and CG theory, and ③ the use of Shapley

Download English Version:

<https://daneshyari.com/en/article/8895171>

Download Persian Version:

<https://daneshyari.com/article/8895171>

[Daneshyari.com](https://daneshyari.com)