

ISSN 1000-0933

CN 11-2031/Q

# 生态学报

## Acta Ecologica Sinica



第33卷 第3期 Vol.33 No.3 **2013**

中国生态学学会  
中国科学院生态环境研究中心  
科学出版社

主办  
出版

# ACTA ECOLOGICA SINICA Vol. 33, No. 3 February, 2013 (Semimonthly)

## CONTENTS

### Ecosystem Service Simulation and Management

- Securing Natural Capital and Human Well-Being: Innovation and Impact in China ..... Gretchen C. Daily, Ouyang Zhiyun, Zheng Hua, et al (677)
- Establishment of ecological compensation mechanisms in China: perspectives and strategies ..... OUYANG Zhiyun, ZHENG Hua, YUE Ping (686)
- Regional cooperation mechanism and sustainable livelihoods: a case study on paddy land conversion program (PLCP) ..... LIANG Yicheng, LIU Gang, MA Dongchun, et al (693)
- Progress and perspectives of ecosystem services management ..... ZHENG Hua, LI Yifeng, OUYANG Zhiyun, et al (702)
- Ecosystem services valuation and its regulation in Baiyangdian basin: Based on InVEST model ..... BAI Yang, ZHENG Hua, ZHUANG Changwei, et al (711)
- Identification of hotspots for biodiversity conservation in the Wenchuan earthquake-hit area ..... XU Pei, WANG Yukuan, YANG Jinfeng, et al (718)
- Effects of land use change on ecosystem services: a case study in Miyun reservoir watershed ..... LI Yifeng, LUO Yuechu, LIU Gang, et al (726)
- Impacts of forest eco-benefit tax on industry price levels in Shaanxi Province, China ..... LI Jie, LIU Zhengnan, HAN Xiuhua (737)
- Spatial characteristics of soil conservation service and its impact factors in Hainan Island ..... RAO Enming, XIAO Yi, OUYANG Zhiyun, et al (746)
- Perception and attitudes of local people concerning ecosystem services of culturally protected forests ..... GAO Hong, OUYANG Zhiyun, ZHENG Hua, et al (756)
- Standard of payments for ecosystem services in Sanjiangyuan Natural Reserve ..... LI Yifeng, LUO Yuzhu, ZHENG Hua, et al (764)
- Natural landscape valuation of Wulingyuan Scenic Area in Zhangjiajie City ..... CHENG Cheng, XIAO Yi, OUYANG Zhiyun, et al (771)
- Satellite-based monitoring and appraising vegetation growth in national key regions of ecological protection ..... HOU Peng, WANG Qiao, FANG Zhi, et al (780)
- Spatial Pattern of Water Retention in Dujiangyan County ..... FU Bin, XU Pei, WANG Yukuan, et al (789)
- Spatial distribution of carbon storage function and seismic damage in wenchuan earthquake stricken areas ..... PENG Yi, WANG Yukuan, FU Bin, et al (798)

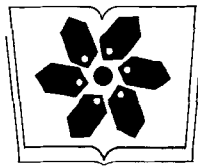
### Frontiers and Comprehensive Review

- The Porter Hypothesis: a literature review on the relationship between eco-innovation and environmental regulation ..... DONG Ying, SHI Lei (809)
- Ecological protection and well-being ..... LI Huimei, ZHANG Anlu (825)
- An overview of the updated classification system and species diversity of arbuscular mycorrhizal fungi ..... WANG Yutao, XIN Guorong, LI Shaoshan (834)

### Autecology & Fundamentals

- Evaporation paradox in the northern and southern regions of the Qinling Mountains ..... JIANG Chong, WANG Fei, LIU Sijie, et al (844)
- The diet composition and trophic niche of main herbivores in the Inner Mongolia Desert steppe ..... LIU Guihe, WANG Guojie, WANG Shiping, et al (856)
- Abstraction and analysis of vegetation information based on object-oriented and spectra features ..... CUI Yijiao, ZHU Lin, ZHAO Lijuan (867)
- Hyperspectral estimation models for photosynthetic pigment contents in leaves of *Eucalyptus* ..... ZHANG Yonghe, CHEN Wenhui, GUO Qiaoying, et al (876)
- Response of photosynthesis and chlorophyll fluorescence characteristics of *Pterocarya stenoptera* seedlings to submergence and drought alternation ..... WANG Zhenxia, WEI Hong, LÜ Qian, et al (888)

- Effect of flooding stress on growth and photosynthesis characteristics of *Salix integra* ..... ZHAO Hongfei, ZHAO Yang, ZHANG Chi, et al ( 898 )
- Water consumption of pear jujube trees (*Ziziphus jujuba* Mill. ) and its correlation with trunk diameter during flowering and fruit development periods ..... ZHANG Linlin, WANG Youke, HAN Lixin, et al ( 907 )
- Estimation of nitrogen nutrient index on SPAD value of top leaves in wheat ..... ZHAO Ben, YAO Xia, TIAN Yongchao, et al ( 916 )
- Population, Community and Ecosystem**
- Carbon and nitrogen storage under different plantations in subtropical south China ..... WANG Weixia, SHI Zuomin, LUO Da, et al ( 925 )
- Impact on water and soil conservation of different bandwidths in low-efficiency cypress forest transformation ..... LI Yanqiong, GONG Gutang, ZHENG Shaowei, et al ( 934 )
- Seasonal changes of phytoplankton community structure in Jinshuitan Reservoir, Zhejiang, China ..... ZHANG Hua, HU Hongjun , CHAO Aimin, et al ( 944 )
- Winter carrying capacity and the optimum population density of wild boar in fenghuang Mountains National Nature Reserve of Heilongjiang Province ..... MENG Gentong, ZHANG Minghai, ZHOU Shaochun ( 957 )
- Diversity of ground-dwelling spider community in different restoring times of post-fire forest, Cangshan Mountain, Yunnan Province ..... MA Yanyan, LI Qiao, FENG Ping, et al ( 964 )
- Landscape, Regional and Global Ecology**
- Drought characteristics in the shiyang river basin during the recent 50 years based on a composite index ..... ZHANG Tiaofeng, ZHANG Bo, WANG Youheng, et al ( 975 )
- Land use spatial distribution modeling based on CLUE-S model in the Huangshui River Basin ..... FENG Shichao, GAO Xiaohong, GU Juan, et al ( 985 )
- Research Notes**
- Patterns of terrestrial anthropogenic impacts on coastal wetlands in three city clusters in China ..... WANG Yijie, YU Shen ( 998 )
- Eutrophication development and its key affected factors in the Yanghe Reservoir ..... WANG Liping, ZHENG Binghui ( 1011 )



中国科学院科学出版基金资助出版

# 生态学报

(SHENGTAI XUEBAO)

第 33 卷 第 3 期      2013 年 2 月      (半月刊)

## 目 次

### 生态系统服务功能模拟与管理

- 保障自然资本与人类福祉:中国的创新与影响 ..... Gretchen C. Daily, 欧阳志云, 郑 华, 等 (669)
- 建立我国生态补偿机制的思路与措施 ..... 欧阳志云, 郑 华, 岳 平 (686)
- 区域生态合作机制下的可持续农户生计研究——以“稻改旱”项目为例 .....  
..... 梁义成, 刘 纲, 马东春, 等 (693)
- 生态系统服务功能管理研究进展 ..... 郑 华, 李屹峰, 欧阳志云, 等 (702)
- 白洋淀流域生态系统服务评估及其调控 ..... 白 杨, 郑 华, 庄长伟, 等 (711)
- 汶川地震灾区生物多样性热点地区分析 ..... 徐 佩, 王玉宽, 杨金凤, 等 (718)
- 土地利用变化对生态系统服务功能的影响——以密云水库流域为例 ..... 李屹峰, 罗跃初, 刘 纲, 等 (726)
- 森林生态效益税对陕西省产业价格水平的影响 ..... 黎 洁, 刘峥男, 韩秀华 (737)
- 海南岛生态系统土壤保持功能空间特征及影响因素 ..... 饶恩明, 肖 燚, 欧阳志云, 等 (746)
- 居民对文化林生态系统服务功能的认知与态度 ..... 高 虹, 欧阳志云, 郑 华, 等 (756)
- 青海省三江源自然保护区生态移民补偿标准 ..... 李屹峰, 罗玉珠, 郑 华, 等 (764)
- 张家界武陵源风景区自然景观价值评估 ..... 成 程, 肖 燚, 欧阳志云, 等 (771)
- 国家生态保护重要区域植被长势遥感监测评估 ..... 侯 鹏, 王 桥, 房 志, 等 (780)
- 都江堰市水源涵养功能空间格局 ..... 傅 斌, 徐 佩, 王玉宽, 等 (789)
- 汶川地震重灾区生态系统碳储存功能空间格局与地震破坏评估 ..... 彭 怡, 王玉宽, 傅 斌, 等 (798)

### 前沿理论与学科综述

- “波特假说”——生态创新与环境管制的关系研究述评 ..... 董 颖, 石 磊 (809)
- 生态环境保护与福祉 ..... 李惠梅, 张安录 (825)
- 丛枝菌根真菌最新分类系统与物种多样性研究概况 ..... 王宇涛, 辛国荣, 李韶山 (834)

### 个体与基础生态

- “蒸发悖论”在秦岭南北地区的探讨 ..... 蒋 冲, 王 飞, 刘思洁, 等 (844)
- 内蒙古荒漠草原主要草食动物食性及其营养生态位 ..... 刘贵河, 王国杰, 汪诗平, 等 (856)
- 基于面向对象及光谱特征的植被信息提取与分析 ..... 崔一娇, 朱 琳, 赵力娟 (867)
- 桉树叶片光合色素含量高光谱估算模型 ..... 张永贺, 陈文惠, 郭乔影, 等 (876)
- 枫杨幼苗对土壤水分“湿-干”交替变化光合及叶绿素荧光的响应 ..... 王振夏, 魏 虹, 吕 茜, 等 (888)
- 模拟淹水对柽柳生长和光合特性的影响 ..... 赵宏绯, 赵 阳, 张 驰, 等 (898)
- 梨枣花果期耗水规律及其与茎直径变化的相关分析 ..... 张琳琳, 汪有科, 韩立新, 等 (907)
- 基于上部叶片 SPAD 值估算小麦氮营养指数 ..... 赵 犇, 姚 霞, 田永超, 等 (916)

### 种群、群落和生态系统

- 我国南亚热带几种人工林生态系统碳氮储量 ..... 王卫霞, 史作民, 罗 达, 等 (925)

- 低效柏木纯林不同改造措施对水土保持功能的影响…………… 黎燕琼, 龚固堂, 郑绍伟, 等 (934)
- 浙江紧水滩水库浮游植物群落结构季节变化特征…………… 张 华, 胡鸿钧, 晁爱敏, 等 (944)
- 黑龙江凤凰山国家级自然保护区野猪冬季容纳量及最适种群密度…………… 孟根同, 张明海, 周绍春 (957)
- 云南苍山火烧迹地不同恢复期地表蜘蛛群落多样性…………… 马艳艳, 李 巧, 冯 萍, 等 (964)

**景观、区域和全球生态**

- 基于综合气象干旱指数的石羊河流域近 50 年气象干旱特征分析…………… 张调风, 张 勃, 王有恒, 等 (975)
- 基于 CLUE-S 模型的湟水流域土地利用空间分布模拟…………… 冯仕超, 高小红, 顾 娟, 等 (985)

**研究简报**

- 三大沿海城市群滨海湿地的陆源人类活动影响模式…………… 王毅杰, 俞 慎 (998)
- 洋河水库富营养化发展趋势及其关键影响因素…………… 王丽平, 郑丙辉 (1011)

期刊基本参数: CN 11-2031/Q \* 1981 \* m \* 16 \* 350 \* zh \* P \* ¥90.00 \* 1510 \* 36 \* 2013-02



**封面图说:** 卧龙自然保护区核桃坪震后——汶川大地震是新中国成立以来破坏性最强、波及范围最大的一次地震,地震的强度、烈度都超过了 1976 年的唐山大地震。在这次地震中,震区的野外大熊猫受到不同程度的影响,卧龙自然保护区繁育中心的赠台大熊猫团团、圆圆居住的屋舍上方巨石垮塌,房舍全部毁坏,只因两只熊猫在屋外玩耍逃过一劫。不过,圆圆一度因惊恐逃走,失踪 5 天后才被找回来。由于繁育基地两面山体滑坡,竹子短缺等原因,繁育基地只能将大熊猫全部转移下山。

彩图提供: 陈建伟教授 北京林业大学 E-mail: cites.chenjw@163.com