

「中国森林资源核算研究」项目组◎编

# 生态文明制度构建中的 中国森林资源核算研究

China's Forest Resources Accounting  
in the Context of  
Ecocivilization Institutional Development

中国林业出版社

『中国森林资源核算研究』项目组◎编

生态文明制度构建中的

中国森林资源核算研究

China's Forest Resources Accounting  
in the Context of  
Ecocivilization Institutional Development

中国林业出版社

## 图书在版编目 (CIP) 数据

生态文明制度构建中的中国森林资源核算研究: 平装本/“中国森林资源核算研究”项目组编. -- 北京: 中国林业出版社, 2015.2

ISBN 978-7-5038-7858-9

I. ①生… II. ①中… III. ①森林资源-经济核算-研究-中国 IV. ①F307.26

中国版本图书馆CIP数据核字(2015)第027357号

---

策 划 金 旻

编 辑 于界芬 于晓文

---

出 版 中国林业出版社 (100009 北京西城区德内大街刘海胡同7号)

网 址 [www.cfph.com.cn](http://www.cfph.com.cn)

E-mail [cfph@public.bta.net.cn](mailto:cfph@public.bta.net.cn)

电 话 (010) 83143542

发 行 中国林业出版社

印 刷 北京雅昌艺术印刷有限公司

版 次 2015年2月第1版

印 次 2015年2月第1次

开 本 1/16

印 张 17.5

字 数 252千字

定 价 138.00元

# “中国森林资源核算研究”

## 项目组成员

### 项目领导小组

组 长 赵树丛 马建堂  
副组长 张建龙 孙扎根 许宪春

### 项目专家指导委员会

主 任 江泽慧  
副主任 许宪春 李文华  
委 员 张新时 蒋有绪 唐守正 尹伟伦  
李家洋 方精云 叶文虎 胡鞍钢  
牛文元 盛炜彤 彭镇华 宋维明  
黄守宏 吴晓松 褚利明 程子林  
彭有冬 封加平 郝燕湘 张守攻

### 项目主要参研人员

(按姓氏笔画排序)

丁访军 王 丹 王 兵 王宏伟  
王益烜 王登举 牛 香 江泽慧  
师贺雄 吕光辉 刘 珉 刘世荣  
刘建杰 刘春江 刘俊昌 刘祖英  
闫宏伟 孙 建 李云霞 李少宁

李晓华	李智勇	杨学云	杨锋伟
何彦然	余新晓	汪金松	宋庆丰
张 鑫	张志涛	张维康	张煜星
周 梅	周宏春	房瑶瑶	赵鹏武
胡章翠	费本华	涂济德	涂雄飞
高敏雪	郭 慧	黄 东	黄国胜
崔 崑	彭有冬	彭道黎	蒋 立
程子林	鲁绍伟	曾伟生	谢春华
谢高地	潘勇军	薛沛沛	戴广翠
魏文俊	魏江生		

### 项目统稿组

彭有冬	胡章翠	戴广翠	刘世荣
王 兵	李智勇	王益烜	王登举
张志涛	蒋 立	汪金松	师贺雄
高敏雪	涂雄飞	谢春华	黄 东

### 项目秘书处

秘 书 长	彭有冬			
副秘书长	胡章翠	王益烜	孙 建	涂济德
	刘世荣	戴广翠	费本华	李智勇
	张煜星			
成 员	涂雄飞	闫宏伟	黄 东	刘建杰
	吕光辉	杨锋伟	谢春华	李晓华
	王 兵	张志涛	黄国胜	夏恩龙

# 序一

森林是人类生存发展的物质基础和生态支撑，也是一个国家一个民族最大的生存资本和绿色财富。党的十八大强调，着力推进绿色发展，把资源消耗、环境损害、生态效益纳入经济社会发展评价体系。十八届三中全会进一步要求，探索编制自然资源资产负债表，对领导干部实行自然资源资产离任审计，实行资源有偿使用制度和生态补偿制度。贯彻落实党中央的这些重大决策部署，必须建立综合环境经济核算体系，及时准确掌握我国森林等自然资源资产总量及其动态变化情况，科学反映森林资源在经济社会发展中的重要作用。

开展自然资源核算研究是联合国等国际组织与经济学界长期关注的前沿领域。其中，森林资源因具有生态、经济、文化等多种功能，以及动态、复杂、多样等鲜明特点，准确量化森林资源与经济活动的相互作用、相互影响是当前的一项世界性难题。早在2004年，国家林业局和国家统计局就联合开展了绿色国民经济框架下的中国森林核算研究，构建了我国基于森林的国民经济



核算框架，并核算了全国林地林木资源和森林生态服务的物质量与价值量。2008年，中国林业科学研究院依据第七次全国森林资源连续清查结果，评估了我国森林资源的主要生态服务价值。

2013年5月，国家林业局和国家统计局联合启动了新一轮中国森林资源核算研究工作。项目研究由江泽慧教授领衔，来自中国科学院、中国人民大学、北京林业大学、中国林业科学研究院、国际竹藤中心、国家林业局经研中心等单位的近百位两院院士和知名专家参加。本次研究借鉴了《环境经济核算体系(2012)》等国际上的最新研究成果，结合了现行国民经济核算体系，开展了中国森林资源核算与绿色经济评价指标体系研究，构建了森林资源核算的理论框架和基本方法，并以全国森林资源清查结果和生态定位站网络长期观测数据为基础，核算了我国林地林木的资产价值和森林生态系统每年提供的生态服务价值。这项研究的基础数据、研究方法、研究过程是科学严谨的，对于完善我国国民经济核算体系、编制自然资源资产负债表、充分发挥市场在森林资源配置中的决定性作用等具有十分重要的意义，同时也有助于全社会科学认识森林资源的功能与价值，更加自觉地保护和发展森林资源，更好地推进生态文明和美丽中国建设。

目前，这项研究已经取得阶段性成果。截至2012年年末，全国林地林木资产总价值21.29万亿元，其中林地资产7.64万亿元、林木资产13.65万亿元。按照当年全国13.54亿人口计算，相当于人均拥有森林财富1.57万元。我国森林生态系统每年提

供的生态服务总价值 12.68 万亿元，相当于 2013 年全国 GDP 的 22.3%，是全国林业产业总产值 4.73 万亿元的 2.68 倍，平均约为每位国民提供价值 0.94 万元的生态服务。这些研究结果准确反映了我国森林资源资产总量及其生态服务价值，既表明我国林业建设已经取得显著成效，又表明我国人均拥有的森林财富和享受的生态服务还处在较低水平，难以满足经济社会可持续发展和人民群众对良好生态的迫切需求。

希望各级林业部门科学看待和积极应用项目研究成果，切实增强责任意识和担当精神，始终把培育和保护森林资源作为林业工作的重中之重，继续深化林业改革，创新林业体制机制，转变林业发展方式，完善生态文明制度，加快推进林业治理体系和治理能力现代化，如期实现我国森林资源发展目标，进一步提升生态林业民生林业发展水平，为全面建成小康社会、实现中华民族伟大复兴的中国梦不断创造更好的生态条件。

A stylized, calligraphic signature in black ink, reading '王树平' (Wang Shuping).

2015 年 1 月 30 日



# Foreword 1

---

Forests are the material foundation and ecological support of human survival and development, as well as the largest survival capital and green wealth for a nation. The 18<sup>th</sup> session of CPC National Congress emphasized the green development and came up with the inclusion of the indicators of resources depletion, environment damages and ecological benefits into the socioeconomic development evaluation system. The 3<sup>rd</sup> Plenary Session of the 18<sup>th</sup> CPC Central Committee posed further requirements to explore the development of nature resource assets balance sheet, carry out the off-office auditing of nature resources assets against cadres and leaders, and implement the paid use of resources and ecological compensation system. To fulfill these significant decisions, we must establish a comprehensive accounting system for environment and economy, to accurately and timely understand the total quantity of nature resources assets and their dynamics and scientifically reflect the important roles of forest resources in the socioeconomic development.

The research on nature resources accounting is the frontline field attracting the attention from international organizations, including

the United Nations, and economics community, while the accurate quantification of the interaction between forest resources and economic activities is a worldwide problem due to the multiple ecological, economic and cultural functions of forests and their salient features like dynamic change, complexity and diversity. As early as in 2004, the State Forestry Administration (SFA) and the National Bureau of Statistics (NBS) jointly implemented the research on China's Forest Accounting within the Green National Economic Framework. In this research, the forest-based China's national economic accounting framework was built and the amount of matter and value of forest and forestland resources and forest ecosystem services was accounted. In 2008, the Chinese Academy of Forestry valued the main ecological services provided by forest resources in China based on the results of the 7<sup>th</sup> national forest resources inventory.

In May 2013, the SFA, together with the NBS, launched a new round of research on China's forest resources accounting. The research has been coordinated by Prof. Jiang Zehui, involved nearly 100 academicians and renowned experts from China Academy of Sciences, Renmin University of China, Beijing Forestry University, Chinese Academy of Forestry, International Center for Bamboo and Rattan, Economics and Development Research Center of the SFA, etc. The research has learnt the latest international research results, e.g., *System of Environmental Economic Accounting 2012*, taken in consideration the currently operating national economic accounting system, carried out the research on the index system for China's forest resources accounting and green economic



evaluation, built the theoretic framework and baseline methodologies for the accounting and accounted the values of forest and forestland assets as well as of the yearly ecological service provided by forest ecosystem in China based on national forest resources inventory results and long-term observation data from ecological fix site observation stations. The research is scientific and rigorous in terms of basic data, research methodology and research process. It is of very important significance in improving China's national economic accounting system, developing the balance sheet of nature resources assets, and fully giving play to decisive role of markets in forest resources allocation. At the same time, the research is also helpful for the whole society to understand the functions and values of forest resources in a scientific way, protect and develop forest resources in a more conscious manner, and better promote the building process towards ecological civilization and beautiful China.

Currently, the research has made a phased result. By the end of 2012, the forestland and forest assets were valued at 21.29 trillion RMB yuan in China, while the value of forestland assets was at 7.64 trillion RMB yuan and the value of forest assets at 13.65 trillion RMB yuan. Calculated based on the population of 1.354 billion the right year, the per capita forest wealth was at 15700 RMB yuan. The yearly ecological services provided by forest ecosystem in China were valued at 12.68 trillion RMB yuan, equivalent to 22.3% of national GDP, 2.68 times of national forestry industry output value at 4.73 trillion RMB yuan and 9 400 RMB yuan worth per capita ecological services. These research results accurately reflect the total quantity of forest resources assets and their

ecological service value, which at once indicate the tangible effects of forestry development in China and show that the per capita forest wealth and ecological service in China are still at a low level and hard to meet the urgent demands for sustainable socioeconomic development and for good ecological environment by people.

It is hoped that forestry authorities at different levels could scientifically view and proactively apply the research results, and strengthen the on-the-ground responsibility sense, to prioritize forest resources cultivation and protection, continue and further the reform in forestry sector, innovate mechanism and system for forest growth, change the mode of forestry development, improve ecological civilization system, quicken the modernization process of forestry governance system and governance capacity, achieve the expected development goals for forest resources increments, and further improve the development level of ecological forestry and livelihood forestry, for creating a better ecological condition for overall building-up of a well-off society and realization of the Chinese Dream for great rejuvenation of Chinese nation.



Zhao Shucong

January 30, 2015

## 序二

党的十八大将生态文明建设列入中国特色社会主义建设总体布局，强调要把生态文明建设融入经济、政治、文化、社会建设各个方面和全过程，着力推进绿色发展、循环经济、低碳发展。国家林业局和国家统计局联合组成项目组开展中国森林资源核算研究，是贯彻落实党的十八大和十八届三中全会精神的重要举措，对于加强和完善森林资源管理，推进经济建设、生态文明建设和可持续发展具有十分重要的意义。

森林资源核算是资源环境核算的重要组成部分。森林作为一种重要的资源资产，为国民经济发展和人民生活提供木材和其他植物资源。同时，森林也是重要的环境资产，是陆地最大的环境载体，在生态建设中具有基础性地位。森林作为陆地生态系统的主体，是生物多样性的栖息地，发挥着涵养水源、保育土壤、防风固沙、调节和改善气候等环境功能。森林也是二氧化碳、二氧化硫、噪声等污染物重要的吸纳场所。林业作为国民经济的重要组成部分，是一项不可或缺的基础产业，也是一项十分重要的公益

事业。林海莽莽、满目青翠、绿树成荫就是美丽中国的绿色解读。开展森林资源核算，已成为统计部门与自然资源管理部门共同建立和完善资源环境核算的重要内容和有机组成部分。

中国森林资源核算研究项目采纳了联合国等六大国际组织制定的第一个资源环境核算国际标准——《环境经济核算体系(2012)》，吸收了联合国粮农组织编写的《森林环境经济核算指南》和欧盟统计局制定的《欧洲森林环境经济核算框架》的内容，同时紧密结合我国森林资源统计调查实际，探索建立中国森林资源核算的理论框架和基本方法，为建立我国资源环境核算体系和编制自然资源资产负债表进行了非常有价值的探索，提供了重要参考。同时我们也充分认识到，森林资源具有生态、经济、社会、文化等多种功能，又具有动态、复杂、多样性等鲜明特点，开展森林资源核算是一项长期而艰巨的任务。森林资源核算的难点主要表现在两个方面：一是森林资源与经济活动相互作用相互影响，要准确地量化这种作用和影响存在较大的难度；二是对森林资源不同功能的估价是世界性难题。

探索编制自然资源资产负债表工作，是党的十八届三中全会作出的重大改革部署。国家统计局作为这项改革任务的牵头单位，高度重视，认真贯彻落实。通过认真研究并与国务院有关部门沟通，制定了改革实施规划。目前，国家统计局正在按照规划明确的目标、路径及时间表，扎实推进相关工作。其中，林木林地资产负债核算是自然资源资产负债核算的重要内容。在项目组全

体成员艰辛努力和社会各界的大力支持下，中国森林资源核算研究取得了重要阶段性成果，为林木林地资产负债核算打下了比较好的理论基础，积累了丰富的实践经验，同时对其他自然资源资产负债核算有很好的示范效应。按照改革实施规划，国家统计局和国家林业局将紧紧围绕探索编制自然资源资产负债表的改革任务，借鉴森林资源核算项目的成功做法，深入研究森林资产负债核算的关键问题，继续发挥各自优势，密切协同合作，携手攻坚克难，努力圆满完成编制森林资源资产负债表的改革任务。



2015年1月30日

## Foreword 2

---

The 18<sup>th</sup> CPC National Congress put the construction of ecological civilization into the overall plan of socialist construction with Chinese Characteristics. It was emphasized that the construction of ecological civilization should be incorporated into the individual aspects as well as the entire process of economic, political, cultural and social development for the purpose of promoting green growth, circular economy and low-carbon development. The State Forestry Administration (SFA) and the National Bureau of Statistics (NBS) have set up a project team to carry out the research on China's forest resources accounting, which is an important step to implement the decisions made in the 18<sup>th</sup> CPC National Congress and the 3<sup>rd</sup> Plenary Session of the 18<sup>th</sup> CPC Central Committee. This research is of great significance to enhance and improve the forest resources management and further to promote economic development, ecological civilization and sustainable development.

Forest resources accounting is an important component of environmental-economic accounting. Forests, as an important type of resource assets,



provide timber and other plant resources for economic development and people's lives. At the same time, forests are also the important environmental assets. They are the largest environmental carrier on land and have fundamental status in ecological construction. As the major part of terrestrial ecosystem, forests are the habitat of biodiversity, and play numerous environmental functions, including water conservation, soil preservation, wind break and sand fixation, climate adjustment and improvement. Forests are also important places to absorb pollutants such as CO<sub>2</sub>, SO<sub>2</sub> and noises. Forestry, as an important part of the national economy, is an indispensable basic industrial sector and also an important public welfare cause. Immense forests, greenness and shades are the green interpretations of the Beautiful China. Forest resources accounting constitutes an important component and an integral part for the joint efforts made by statistical offices and those departments responsible for natural resources management to establish and improve environmental-economic accounting.

China's Forest Resources Accounting Research Project has adopted the first international standard on environmental economic accounting—*System of Environmental Economic Accounting 2012* which was developed by six international organizations including the United Nations. The Project has also referred to the *Manual for Environmental and Economic Accounts for Forestry* by FAO and the *European Framework for Integrated Environmental and Economic Accounting for Forests* by Eurostat. The project is closely associated with the practical statistics and surveys of forest resources in China, seeking to work out a theoretical