Boundless Big Beauty: Boundary Studies on the National Parks in China

Lianyong Wang



Boundless Big Beauty:

Boundary Studies on the National Parks in China

Lianyong Wang

The original Chinese version was published in Commercial Press, Beijing, China in December, 2013. The English version has been made possible in large part by funding from the Council for International Exchange of Fulbright Scholars, and by the work placement at Huxley College of Western Washington University in USA and College of Economics and Management of Southwest University in China.

Science Press

Beijing

Responsible Editor: Feng Bo

Copyright© 2015 by Science Press Published by Science Press 16 Donghuangchenggen North Street Beijing 100717, P.R.China

Printed in Chengdu

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system,or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without the prior written permission of the copyright owner.

ISBN 978-7-03-045164-4

Foreword by Alastair M. Morrison

October 1, 2015. Shanghai, China

With this book and the research upon which it is based, Dr. Lianyong Wang makes an extremely valuable and timely contribution to the literature on national parks in China. John Muir, the founder of the system of national parks in the USA and a fellow Scot, once said the following:

"Thousands of tired, nerve-shaken, over-civilized people are beginning to find out that going to the mountains is going home; that wildness is a necessity".

- John Muir, Our National Parks

Although Muir's words addressed people on the other side of the Pacific Ocean, they are equally meaningful for the over-stressed citizens of an increasingly urbanized China. Muir's crowning achievement of the establishment of Yosemite National Park and the other parks that followed set a marker for all other countries to follow and China is no exception. However China is different in many ways from the USA and requires a national park system with its own distinctive characteristics.

The author points out that China's national park system was created some 30 years ago but surprisingly their boundaries do not appear on any official maps. Although strange in itself, this "boundless" nature of China's national parks causes huge problems for their management and the achievement of their mission and purposes. Can you imagine Yellowstone National Park not having an indelible boundary line? There would be endless and chaotic "border disputes" and disruptive battles between conservation and development. Local residents would be pitted against tourists and environmentalists, and there eventually would be no winners.

Dr. Wang in his book describes the establishment and agreement on national park boundaries as a "work in progress" in China with many agencies and other stakeholders competing to influence the process. There are conflicts between agencies of national, provincial, and local governments, each with claims on parts of the land in question. There are tensions caused by competition between the stakeholders from different aspects of society including agriculture, mining, forestry, tourism, industry, and local residents with respect to land usage.

The research for this book is detailed and provides much useful information on the classification and numbers of parks in the system at present. There are many valuable statistics of the area dimensions of parks along with interesting case studies of specific parks. Undoubtedly the book will become an essential reference source for anyone with an interest in China's national parks in the years to come. Much care and painstaking research has gone into the preparation of this book and the readers should greatly appreciate the value of this work.

The author recommends a VOICE (Visitor Oriented Interpretation for Conservation Enhancement) for China's national park system and this is a very solid suggestion. Given the unique situation of the nation, the author also proposes a unique guiding model in the "3HOLD system", which stands for Health, Harmony, and Happiness Oriented Land Development.

Dr. Wang has done a masterful job in this book of weaving the principles of natural area conservation and national parks with the realities of modern-day China. He clearly articulates the weaknesses of China's existing national park system but sympathetically portrays the underlying reasons based upon his in-depth research. As a foreigner, it seems that China's existing system is a tangled web of government policies and authorities all with some say over how parks are administered.

Henry David Thoreau is attributed with saying "in wilderness is the preservation of the world" and surely the world's national parks are one of the key strategies for ensuring that wilderness survives the ravages of rapid development and urbanization. John Muir founded the Sierra Club in the USA in 1892 and the Club's centerpiece program, Our Wild America, is based on the following principle:

"In order to leave a robust wild legacy for our children, we must significantly increase the amount of public lands and waters that are permanently protected as national monuments and wilderness" (Sierra Club, 2015, http://content.sierraclub.org/ourwildamerica/).

China's rapid economic development is a new economic wonder of the world and it has vastly improved the livelihoods of many Chinese citizens. However its costs are also very evident in the ever-increasing urban sprawl and the pollution that chokes many environments. China's national parks represent a priceless "green oasis" for millions to enjoy, marvel at the

wilderness, and rediscover themselves in natural settings.

As an expert in tourism development and marketing, I highly treasure the value and personal experiences that I have had in the national parks of Australia, Canada, UK, USA, and other countries around the world. These national parks are the guardians of nature and wilderness, and offer unparalleled scenic beauty and wonderful recreational opportunities. They are truly boundless in their beauty and contribution to the sustainability of our world as we know it. The author of this book is to be congratulated for his work which above all serves to raise the awareness of key issues in China with national parks and their demarcation.

The Cairngorms National Park Authority in my own country, Scotland, has a vision that seems to fit well with the main conclusions of this book: "Our vision is that land management continues to actively shape the special landscapes, habitats and wildlife as well as providing jobs and economic benefits to communities. This means balancing sometimes competing objectives, adapting skills to meet new challenges and opportunities and collaborating across land ownership boundaries to deliver bigger and better habitats and stronger more resilient businesses" (Cairngorms National Park Authority, 2015, http://cairngorms.co.uk/caring-future/land-management/).

Congratulations to the author, Dr. Lianyong Wang, on producing such a well-documented and meaningful text.

Alastair M. Morrison, Ph.D.

Distinguished Professor, Purdue University, USA

CEO, Belle Tourism International Consulting, Shanghai, China

Foreword by Steven J. Hollenhorst

October 1, 2015. Bellingham, Washington State, USA

There are now more than 200,000 protected areas on planet earth, located on land and the sea and in every country. These protected areas share two common goals, to conserve our natural and cultural heritage and to provide these benefits for the good of society. Protected areas are also place where people to connect with nature for inspiration, education, wellbeing and recreation. While they are essential to the protection of our planet's biodiversity, they also support essential ecosystem services and human livelihoods. More than 12% of the earth's surface is in protected area status, up from 1% just 50 years ago.

Protected area systems vary greatly from nation to nation, reflecting the unique actors, political processes, values, and purposes of those nations. Yet they share important features, regardless of their origins and purposes. The International Union for Conservation of Nature (IUCN) defines the governance and management regimes at the heart of every protected area as a 'clearly defined geographical space, recognized, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values.'

National parks are the cornerstones of the protected area systems in most countries, including China. Like in most other countries, the national park concept is relatively new in China, with the first national parks being established a mere thirty years ago. We know from worldwide experience that development of a coherent and effective system of national park administration takes time, it takes experimentation, and it takes wisdom that builds over many decades. It is through this experience that national park systems are organized and placed on a firm foundation of policy, principle, and tradition. We must remember that the concept of national parks did not even exist until 1872 with the establishment of Yellowstone National Park in the U.S.A. It took another four decades for a national park system to be created in 1916 to conserve and protect the increasing number of national parks established by the U.S. Congress. Today the U.S. national park system includes 408 national parks, monuments, historic sites, battlefields, trails, seashores, wild and scenic rivers, and other protected areas totaling over

· vi

341,279 km². These areas are managed uniformly and cohesively by a single agency, the National Park Service, as directed by a body of laws and administrative policies. The system is unified by a common mission, along with uniform management systems, infrastructure design standards, interpretation and education resources, media and communications, and personnel practices.

But it took nearly 150 years to get to this point, and the U.S. is much more the exception than the rule because of its early start. In most countries, like China, national park management and policy is still in the early, and exciting, formative years of development. This process will be speeded by the innovation and creativity of park managers, conservationists, policy makers, and academics working collaboratively to build the system's capacity.

This book is one such contribution to developing the capacity among conservation professionals for improved planning, management and governance of China's national park systems. It begins with recognizing the importance of clearly defined and delineated national park boundaries. But the current lack of such boundaries is exemplary of the need in other important areas of national park administrative capacity, such as law enforcement, environmental education and interpretation, concessions management, infrastructure development, and communications and marketing.

A key feature of this book is to promote better governance of China's national park system and thereby to promote more effective management that will achieve both conservation and social goals. Achieving more cohesive, effective, and equitable governance requires the contribution of all institutions and individuals involved. This book provides an accessible and valuable resource to underpin future capacity development efforts. At its heart, this book describes the current state of the quickly evolving national park system in China. From that starting place, policy formation, management capacity, and the establishment of unifying traditions can be developed that eventually lead to governance and management of China's most invaluable ecological and cultural assets.

Steven J. Hollenhorst, Ph.D.

Professor and Dean

Huxley College of the Environment

Western Washington University, USA

Foreword by the author

October 1, 2015. Beibei, Chongqing, China

The book was written observing the fundamental principle of human-land relationship in order to decipher a unique China phenomenon-National Park of China's boundaries can hardly be found in maps in comparison to clear park boundary marks in other nations.

On the basis of collecting and sorting pertinent materials in the master plans of national parks in China systematically, using the inspirational ideas of single large or several small (SLOSS) debate in biogeography, and incorporating the traditional Chinese philosophy of Clustering and Partitioning Concept (CPC), the author conducted a detailed classification over the 197 Chinese national parks, whose planned boundaries were graphically redrawn and represented, individually and specifically. The research shows that 76 national parks are classified as several-small-protected-area parks (SSPA parks), including 40 Several Stars Partitioning Boundary parks (SSPB parks). Undoubtedly, the complicated and separated boundary structure is neither good for presenting and disseminating the map related information, nor beneficial for a uniform administration of landscape resources.

Accordingly, the author continues his research to analyze the boundary interactions between national parks and their situated administrative divisions. The result shows that 68 of the 208 national parks are trans-border parks, including 2 trans-provincial-border parks, 13 trans-prefectural-border parks, and 53 trans-county-border parks. The hard-core administrative divisions set an outside bounding mechanism over the soft boundary growth of national parks. This leads to a difficult boundary growth of trans-border parks which encounter a thorny trouble in the practical management of boundary uncertainty and instability.

The supportive arguments of uncertainty, instability and dynamic evolution of park boundaries are consequently found through the longitudinal studies into the past 12 years of the official statistics on park area data. Within the whole system, 124 of the 208 national parks did not submit a complete data set. Among the remaining 84 parks, 59 parks did not present an insistent value of area data over years. The undulating change of area data proves that the legal

effectiveness of the planned park boundaries is not adequately respected and maintained. Xishuangbanna and Three Parallel Rivers national parks present a surprising value difference over 60 times and 120 times respectively, between the planned park area data and the statistical park area data submitted by the local government agencies.

Unquestionably, the dynamic boundary evolution proved by the undulating area data submission has been necessarily driven by some human-induced, social factors. A comparative research is therefore conducted in the book to analyze the population pressure over the boundaries of the national parks. The research indicates that the urbanized land uses pose a threat to encroach the park boundaries in urban landscaped regions; while the synchronous population and household growth brings about certain pressure upon the park boundaries in rural and pastoral landscaped regions. As for the tourist population, the comparison of annual visitation and environmental pressure index of the most visited national parks are conducted between China and USA; this vividly accounts for the huge population pressure upon park boundaries in China. Within each year from 2007 to 2010, the hosted visitors in Taihu Lake National Park of China actually outnumbered the subtotal visitation of the top ten national parks in USA. In either 2009 or 2010, a visitation in any of the top ten parks in China truly outnumbered the US top one—the Great Smoky Mountains National Park. The sharp difference results in the comparison of tourist population pressure index between these two nations which demonstrates a more forcible and valuable argument for environmental education.

It is the unique national situation of large tourist population with limited recreational lands that drove the Chinese government and its subordinate ministries gradually inaugurated other national level park programs for the purpose of making a reasonable response to mitigate the conflicts. Therefore, the author continues to explore into the collective boundary bounding mechanism over the growth and maintenance of the national park boundaries. The research argues that the national situation of large population with limited land resources in general influences the spatial distribution of the diversified parks; as a result, the overlapped park boundaries in a single locality are pervasively to be found in the country. 44 of the 208 national parks share boundaries with national nature reserves in the same region; 104 national parks share boundaries with national forest parks in the same region; and 66 national parks share boundaries with national geoparks in the same region. The multi-park boundary overlapping impairs the professionalism of national park boundaries, leading to an increase of boundary-induced conflicts in the domain of public administration. Not surprisingly, the normal growth of national park boundaries is suffocated by the multi-park collective boundary bounding mechanism.

The researches throughout the book disclose a fact that the planned boundaries of national

parks in China are developing in the early phase, being controlled by a multitude of natural and social factors, and seeing a pervasive phenomenon of boundary instability around the country. In the end, the author states that the problem of uncertainty and instability can only be resolved eventually by the legal creation of a unified and normalized Chinese National Park System in which professional management agencies and substantial financial supports are placed.

In order to make a difference to change the awkward situation in which National Park of China's boundary marks cannot be seen in the maps, the author finally completed the editing of a map - Current Boundaries and Spatial Distribution of National Parks in China when he consummated his writing of this book.

Due to the limited time, energy and disposable research funding, this book can only be regarded as the result of an exploratory study on the complicated national park boundary issues in China. More detailed information and conclusion of park boundary dynamics can only be gradually disclosed in longer term future based on the continued field work in the real park sites across China.

Lianyong Wang, Ph.D.

Associate Professor and Director

National Parks Lab, College of Economics and Management
Southwest University, China

Acknowledgements

With the publication of the English version of *Boundless Big Beauty: Boundary Studies on the National Parks in China*, I firstly give thanks to professors working at Peking University, including my doctoral supervisor Professor Wu Bihu, and several advising professors from College of Urban and Environmental Sciences: Professors Mo Duowen, Li Shuangcheng, Xu Xuegong, Chen Yaohua, Wu Honglin, and Que Weimin. Thanks also go to Professor Chen Anze at Chinese Academy of Geological Sciences. They guided my graduate studies and provided many invaluable insights for my dissertation, upon which this book is based.

I also am indebted to a group of Chinese government administrators from various administrative sectors. These include Li Rusheng, Li Zhenpeng, and Sun Tie working in the Ministry of Housing and Rural-Urban Development; Xu Jing, Yu Hui and Chen Xinfeng in the State Forestry Administration; Bai Chengshou and Rao Sheng in the Ministry of Environmental Protection in Beijing; Zhang Xiaoping, Yan Lei and Luo Bin at Jiuzhaigou National Park in Sichuan; Huang Dawei at Danxia National Park in Guangdong. Interviews with Peng Fuwei and Yuan Hao in the National Development and Reform Commission, along with Su Yang in the Development Research Center of the State Council encouraged me to publish this English version of the book.

Many thanks also go to my academic colleagues in the College of Economics and Management at Southwest University including Professors Song Naiqing, Chen Shijian, Jin Yule, Liu Guangyuan, Zheng Jiafu, Pan Xun, Zhang Mingfu, Wang Zhao, Zhu Zeshan, Zhu Zhiyong, Xie Jiazhi, Li Xiaoyang, Wen Tao, Huang Qinghua, Huang Jun, Qin Yuanhao, Tian Shizheng and Li Haiming. These wonderful colleagues have provided friendly support for my teaching and research work. Thanks also go to my dear friend at Huxley College of the Environment in Western Washington University, U.S.A., Professor Steven J. Hollenhorst, who supervised me during my Fulbright fellowship when I refined many drafts of the English version of the book.

I am also extremely grateful to my graduate students in the master's program on tourism studies in which the focuses have been put on national park designing, planning, management,

sustainable tourism policy development and on-site park administration. These especially include Wang Aiping and Mu Xiaoxue working in Beijing; Lan Yongqiang in Chengdu; and Dong Xiaoying in Hangzhou. Those working or studying at Southwest University campus include Gao Zhaofeng, Park Suhae, Wan Zhiling, Serikkan Anar and Luo Qiu.

Li Ping, Tian Wenzhu and the responsible editor Yan Tingzhen contributed endless hours toward the publication of the original Chinese version by The Commercial Press in 2013. I am also grateful to the responsible editor Feng Bo for his coordination, checking and English proofing / improving of this book for the eventual publication by Science Press.

The publication of the English version is a gift devoted to the People's Republic of China on the occasion of its 66th birthday. On this special occasion, it is my hope the book will contribute to the "eco-civilization construction" and "Beautiful China Building" endeavors as creative national policies that will lead to essential reforms in the national park management regime during the Xi Jinping and Li Keqiang Administration.

Finally, this book is dedicated to my entire family for their support of my work on national park studies. They are the greatest source of joy in my life.

Wang Lianyong

Contents

Foreword by Alastair M. Morrison Foreword by Steven J. Hollenhorst Foreword by the author Acknowledgements

1	Introduction		
	1.1 From	m the Obscurity of Park Boundaries to a Framework of Theoretical Hypotheses	1
	1.2 Lite	erature Review in Geographies	4
	1.2.1	Boundary studies within the human geography	
	1.2.2	Studies on borderland, outbound or inbound tourism	
	1.2.3	National park boundary studies around the globe	9
	1.2.4	Boundary studies pertinent to China's nature reserves and national parks	
	1.2.5	Studies on dynamic boundaries and boundary dynamics	
	1.2.6	A summary on boundary studies····	
		search Goals, Contents and Methodologies	
	1.4 Inn	novative Findings ····	23
2		y-Bounding Mechanism Based on Natural Conditions and Social	
	2.1 Int	roduction ·····	
	2.1.1	1 11	
	2.1.2	6-6-7	
	2.1.3		
	2.2 Pa	rk Classification Based on Boundary Shapes and Structures	
	2.2.1	Two major classes	
	2.2.2		
	2.2.3		
		terpreting Boundary-Bounding Mechanism Based on the Natural Conditions	
	So	ocial Contexts	
	2.3.1	Boundary-bounding by mountain topologies ·····	
	2.3.2		
	2.3.3	Boundary-bounding by sporadic cultural landscapes	34

		Affected by previous land uses ·····	35
		sidering the Constraints of Administrative Divisions on the Resource	
	Mar	nagement ·····	36
3	Check and	d Balance Functions of Administrative Boundaries over Park	
	Boundaris	se	38
	3.1 Intr	oduction ·····	38
	3.1.1	Park boundaries to demonstrate national sovereignty	.38
	3.1.2	Trans-boundary peace parks around the globe	
	3.1.3	Studies on the trans-boundary tourist areas in China	
	3.2 Clas	sses of Trans-Border Parks and Close-to-Border Parks	.45
	3.2.1	Spatial interaction related to trans-border parks	
	3.2.2	Spatial interaction related to close-to-border parks	47
	3.2.3	Mathematical measurement on spatial interactions	50
	3.3 An	alysis on the Administrative Boundary's Check and Balance	
	3.3.1	Administrative boundary's hard-core regulation	53
	3.3.2	Rationale of the trans-border park boundary growth	
	3.3.3	Place name identity contributes to the park boundary demarcation	
	3.3.4	Spatial re-organization in order to remove the institutional obstacles	
	3.3.5	The contradictions between the hard-core constraining and the soft growth	
	3.4 See	eking a Breakthrough to Understand the Stability and Legal Effectiveness of the	he
	So	ft Boundaries·····	59
4	Boundar	y's Dynamic Evolution Based on the Undulating Areal Statistics	61
	4.1 Int	roduction	61
	4.1.1	Studies on the area-boundary relationship with perspectives of landscape ecology	61
	4.1.2	Studies on area-boundary relationship related to national parks in other nations than	
		China	62
	4.1.3	Studies of area-boundary relationship related to National Park of China	63
	4.2 Cla	assification of the Statistical Data ·····	64
	4.2.1	Longitudinal studies based on the incomplete data set	64
	4.2.2	Longitudinal studies based on the complete data set	68
	4.3 Ho	w Much Does the Areal Statistics Relate to Boundary's Dynamic Evolution?	72
	4.3.1	Interpreting null-data and one-year fresh data groups	73
	4.3.2	Interpreting the data coherency and completeness	74
	4.3.3	Data changes and reflections on boundary effectiveness	76
	4.4 Th	e Necessity of the Transfer from Land Based Analysis to Human Factor Based	
	Ar	nalysis·····	79
5	Populati	on Pressure's Social Driving Towards Boundary's Ebb and Flow	8(
	5.1 In	troduction ·····	8(

	5.1.1	Studies on the wilderness idea and tribal sovereignty8	0
		Public enjoyment and public good	
	5.1.3	New needs for the global citizens in the pan-tourism era8	2
		fulti-Dimensional Comparison on Boundary's Population Pressure8	
		China's human-land relationship within the global network of national parks	
	5.2.2	Residential population pressure on the borders of national parks in China	37
	5.2.3	A Sino-American comparative perspective on tourist population pressure	1
	5.3 Bou	andary's Ebb and Flow Based on the Population Pressure Driving	
	Med	chanism)5
	5.3.1	Residential population pressure's driving force analysis	
	5.3.2	Tourist population pressure's driving force analysis	97
	5.3.3	Translation of population pressure into humanistic drive towards the conservation	
		cause	00
		EImportance to Consider Multi-Dimensionally on Human-Land Relationship	
	for	Recreational Purposes 1	01
6		Boundary-Bounding Mechanism Based on a Multi-Park Regime1	
	6.1 Intr	roduction ······1	02
	6.1.1	Institutional obstacles for the dissemination of the national park nomenclature $\cdots 1$	
	6.1.2	China's multi-parks from theories to practices 1	04
	6.1.3	Overlapped boundaries in a multi-park regime ······ 1	06
	-	atio-Temporal Differences Within the Multi-Park Boundary-Bounding	
	Me	chanism·····1	07
	6.2.1	Spatio-temporal differences pertinent to national nature reserve's cross-designation $\cdots 1$	07
	6.2.2	Spatio-temporal differences pertinent to national forest park's cross-designation	08
	6.2.3	Spatio-temporal differences pertinent to national geopark's cross-designation	
	6.3 Ca	se Studies on the Park Boundary Interactions	11
	6.3.1	Interacted boundaries with national nature reserves	
	6.3.2	Interacted boundaries with national forest parks	
	6.3.3	Interacted boundaries with national geoparks	14
	6.3.4	Interacted boundaries with multi-park areas	16
	6.4 Int	erpreting the Multi-Park Boundary-Bounding Mechanism	19
	6.4.1	Without a proper nomenclature, things would not be perfectly justifiable	20
	6.4.2	Boundary-bounding mechanism by nature reserves	21
	6.4.3	Boundary-bounding mechanism by forest parks	21
	6.4.4	Boundary-bounding mechanism by geoparks	22
	6.4.5	A multi-park collective boundary bounding mechanism in a globe wide open context ·····]	23
		eating a Unified Normalized Chinese National Park System at Its	
	Fa	stest Pace	22

	ns and Future Plans126
	otheses Validation126
	Defensible hypotheses 126
	Modified hypothesis
7.2 Con	clusions ······127
7.2.1	Multi-factor interactions lead to the difficult boundary growth of national parks 127
7.2.2	National park boundary dynamics is critically controlled by human-land relationship
	patterns
7.2.3	National park boundary can be precisely depicted in the language of cartography $\cdots \cdots 131$
7.2.4	Boundless big beauty: the heritage conservation mission of the national park
	boundaries 132
7.3 Fut	ure Plans136
7.3.1	Initiating positivist studies on national park boundary dynamics in the nearest future $\cdots\cdots 136$
7.3.2	Expanding and deepening the international comparative studies on national park boundary
	topics
	139
Original	Chinese References 139
Original	English References155
Appendices ··	167
Appendi	x I Boundary Shapes of National Parks in China167
Group	1 Oval-shaped clustering boundary parks (OCB parks)
Group	2 Oval-belt-shaped clustering boundary parks (OBCB parks)
Group	3 Belt-shaped clustering boundary parks (BCB parks)
Group	4 Moon-moon partitioning boundary parks (MMPB parks)
Group	5 Moon-stars partitioning boundary parks (MSPB parks)
Group	6 Belt-shaped clustering boundary parks (BCB parks)
Appendi	x II Various Computed Tables 180
Table	1 List of national parks in China 180
Table	2 List of IBI complicatedness values for national parks
Table	3 Ranking list of the 162 sovereign states in dimension of national park land use
	indexes191
Table	4 List of the 32 sovereign states without national park land use indexes
Table	5 Population pressure changing trends of 1999-2009 in urban landscaped region of 81
	administrative divisions 197
Table	6 Population pressure changing trends of 1999-2009 in rural landscaped region of 149
	administrative divisions ————————————————————————————————————
Table	Population pressure changing trends of 1999-2009 in pastoral landscaped region of 123
	administrative divisions ————————————————————————————————————