

# Wilderness: an international community knocking on Asia's door

Alan Watson<sup>1,4</sup>, Vance Martin<sup>2</sup> and Chau Chin Lin<sup>3</sup>

<sup>1</sup> Aldo Leopold Wilderness Research Institute, US, <sup>2</sup> The Wild Foundation, US, <sup>3</sup> Taiwan Forest Research Institute, Republic of China, <sup>4</sup> Corresponding author ([awatson@fs.fed.us](mailto:awatson@fs.fed.us))

**ABSTRACT** The concept of wilderness may trace its roots to the U.S., but a worldwide wilderness community has developed and is growing in strength, though with limited representation from Asia. With the primary purpose of protecting nature, wilderness designation can occur through legislation or policy development, but with similar outcomes of providing long-term protection and benefits for relatively intact ecosystems and the relationships people have with these places. In the Far East of Russia, the Kamchatka Peninsula is emerging as a nature-based vacation destination with federal and regional protected areas attracting and hosting a growing number of Russian and international tourists. Similar to recent changes in China and elsewhere in Asia, this part of Russia is experiencing particularly rapid economic, social and political change with anticipated significant international influences on personal income, consumption and leisure travel patterns. Current and anticipated spending patterns of discretionary income among Russians and a growing Asian population could greatly influence transition of this relatively low density frontier in Asian Russia. In Sri Lanka, the only Asian country with legislative protection of wilderness, protection of wilderness character has strong cultural and economic roots. More understanding of the role of protected wilderness to larger ecosystems and society is possible in Asia.

## 原野地：正在向亞洲敲門的國際社群

艾倫華生<sup>1,4</sup>，萬斯馬丁<sup>2</sup>，林朝欽<sup>3</sup>

<sup>1</sup>美國李奧波德原野地研究所；<sup>2</sup>美國野生基金會；<sup>3</sup>農委會林業試驗所；<sup>4</sup>通訊作者  
([awatson@fs.fed.us](mailto:awatson@fs.fed.us))

**[摘要]** 原野地 概念最早雖源自美國，但世界性的原野地研究社群已漸發展壯大，不過來自亞洲具代表性的原野地仍有限。隨著保護大自然理念之推行，原野地的指定可透過立法或自然保護政策的執行來達成，但經由保護完整的生態系及人類與這些生態系過去的連結關係，一樣可以獲得原野地所衍生的產出。在俄羅斯遠東的堪察加半島，由聯邦與區域性所設的保護區，正在形成為一個以自然為本的生態旅遊模式，並

---

\* Wilderness 一詞的中文翻譯在台灣的文獻上常使用「荒野」或「曠野」，但細讀原始法案(Wilderness Act)及各版本的 Wilderness Management 一書，作者之一(林朝欽)認為將 Wilderness 譯為「原野地」在較能表達該字的中文意涵，但亦期待國內學者有更理想的譯名討論與提出。

吸引越來越多的俄羅斯和國際遊客。在中國和亞洲其他地區也出現與俄羅斯類似的變化，此乃因俄羅斯正經歷迅速的經濟和政治變化，預期對消費、個人收入和休閒旅遊模式發生重要影響。在這相對低密度的亞洲俄羅斯邊境，當前和預期的消費模式之間的可支配收入，可能大大影響俄羅斯轉型期。斯里蘭卡是亞洲唯一經由立法設立原野地的國家，原野保護特色具有強烈的文化和經濟根源。原野地保護對更大型生態系與社會所伴演角色的認識可透過更深入了解原野地來達成。

Lewis & Xue (2003) described the transformation evident in some parts of Asia in terms of three interlocking and mutually reinforcing changes: modernization, political reform and globalization, and these changes in turn have had profound influences on people's attitudes, their behaviors and their quality of life. Croucher (2004) suggests that part of the reason behind China's rapid societal change is due to increasing recognition by the Chinese people of their interconnectedness with regional and international economic, social, technological, cultural, and ecological spheres. China's culture is being profoundly affected by globalization influences (Kymlicka 2005) and Tan (2005) projects that growing effects of western cultural orientations will likely have profound effects on defining citizenship but with twists associated with different political systems, traditional and religious practices, and cultural identities (Yang 2008).

Throughout Asia, there is constant transition politically, environmentally, socially and economically that influences relationships with the natural world. As countries often move from developing to developed, attitudes and ethics change in regards to how people value nature, particularly scenic areas, those with high biodiversity, those crucial to maintaining human health or those that contain unusually scarce resources. As public lands managers and private entrepreneurs look for ways to develop and maintain viable operations in relatively intact natural systems, the focus is necessarily on economic contributions as well as environmental stability, or sustainability. Ecotourism is of growing interest as a way to maintain both, and in many places in Asia, the role of protected areas is changing very quickly. Ecotourism, as well as many important ecological services, are dependent upon systematic protection. One increasingly

viable approach to contribution to economic stability, protecting cultural resources and ensuring sustainability of ecosystem services is protection as wilderness.

### **The wilderness concept and its application internationally**

Martin and Watson (2009) introduce the concept of wilderness as "land and water where natural ecological processes operate as free of human influence as possible and a place to learn and exhibit primitive skills with primitive recreation opportunities and solitude..." While acknowledged to have American roots, it has spread to many nations through a growing community of interest. Australia, New Zealand, Canada, Finland, Sri Lanka, Russia, and South Africa have legislatively protected wilderness or comparable, strictly protected reserves. Other countries, such as Italy, Zimbabwe, Namibia, and the Philippines, although not enacting wilderness legislation, have declared wilderness zones in parks, municipal watersheds, game reserves, and forests. Mexico is the latest country currently designing a process within their protected area system to specifically protect wilderness values.

The excitement about wilderness increased rapidly during the 1990s as the value of this land-use designation and its relevance and potential adaptation to other cultures were increasingly recognized. Now, in the twenty-first century, more partnerships are being formed to support wilderness science, to share information on methods and benefits of wilderness protection, and for wilderness stewardship training.

### **World Conservation Union**

The World Conservation Union (IUCN), with over 1000 member organizations, operates for the purpose of influencing, encouraging and helping societies throughout the world to conserve the integrity and diversity of nature and to ensure that any use of natural resources is equitable and ecologically sustainable (Martin and Watson 2009). Wilderness was not always recognized as a conservation category by IUCN, however. Wilderness was added as a Class I protected area category when the IUCN conservation categories were approved in 1992 (IUCN 1994). Category I includes strict nature reserves (Ia) and wilderness areas (Ib). IUCN defines wilderness as a “large area of unmodified or slightly modified land, and/or sea, retaining its natural character and influence, without permanent or significant habitation, which is protected and managed so as to preserve its natural condition.”

### **World Wilderness Congress – forming a world-wide community**

The World Wilderness Congress (WWC) has met on eight occasions prior to 2009 (South Africa, Australia, Scotland, the United States, Norway, India, South Africa and Alaska). The 9<sup>th</sup> World Wilderness Congress (WILD9) is scheduled for November of 2009 in Mexico. Meeting every three to five years, the WWC has provided a continuing international forum for expanding the wilderness concept and sharing information on allocation processes, management techniques and science (c.f. Watson, Sproull and Dean 2007).

The definition of wilderness adopted by IUCN, described above, was a product of the 4<sup>th</sup> WWC. Each WWC has provided an evolving platform to build international discussion and understanding about what wilderness is within varying cultures and even consciously agreeing that there is great variation from the definition of wilderness contained in the U.S. 1964 Wilderness Act. While in the U.S., humans are thought to be visitors who do not remain, and wilderness commonly refers to some of the most pristine areas in the U.S., in developing countries, many wildland areas are occupied by indigenous people or designated because they are under pressure from potentially damaging practices by other interests, therefore often displaying nonconforming

influences on the wilderness character of these places.

On a continuous cycle of planning for convening every three to five years, the WWC is conceived and implemented with a different country each time. For 2009, in Mexico, the theme is “Wilderness, the Climate’s Best Ally.” While international cooperation is emphasized to protect nature for climate’s sake, there is also a great deal of attention to the flow of ecosystem services from wilderness, the role of wilderness protection in connectivity conservation, potential for marine wilderness protection, biodiversity conservation initiatives, and wildland fire use for resource benefits. A very dynamic program evolves for each WWC, depending upon the host country, evolving interests of the community of stakeholders and an extensive set of motivational and expert speakers.

### **International Journal of Wilderness**

Launched in 1995, the International Journal of Wilderness (IJW) is sponsored by several governmental agencies, collaborating universities and international organizations. With a focus on science, stewardship education and examples of wilderness protection around the world, this journal keeps the wilderness community in contact. Strongly supported by the federal agencies of the US which manage wilderness (the National Park Service, the Forest Service, the Bureau of Land Management and the Fish & Wildlife Service), it is the primary source for updates on issues confronted by managers, new science solutions and inspirational commitments to protecting wilderness character around the world.

### **Protecting wilderness values in Asia**

Krüger (2005) suggests that the contributions of ecotourism, or nature-based tourism, to both socioeconomic and environmental improvements is a relatively new focus of research dating from the 1990s. Sustainability of ecotourism, also an increasingly important topic of research in the 1990s, has often been focused on the difficult tradeoffs associated with conserving nature while contributing to the economy of needy populations. For an examination of ecotourism sustainability in Costa Rica, Aylward, Echeverria & Tosi (1996) focused on four aspects believed to

be essential for making informed decisions about sustainability: visitation, finance, ecology and economics. Watson and others (2009) explored these aspects of ecotourism in Kamchatka, in the Far East of Russia, as part of an international effort to build greater community interaction on the threats and benefits related to wilderness protection in the Asia-Pacific Region.

In Asian Russia, **visitation** is likely not independent of the other three essential aspects. Visitation to an area, or to specific protected areas, often exhibits transition over time, sometimes from no visitation to some tourist visitation, sometimes from visits by researchers initially to later visits by tourists (Aylward et al. 1996). In Kamchatka, only in the mid 1990s were some currently popular ecotourism areas opened up for visitation, with previous primary use focused on military training and resource extraction. Approximately 15,000 tourists are believed to have visited Kamchatka in 1995, with about 4,000 of them foreign. Ecotourism visitation to Kamchatka is known to have increased in the early part of the 21<sup>st</sup> century, but very little is known about 1) who the tourists are and 2) what tourists place importance on doing while in Kamchatka.

**Finance** of protected area management in Russia is largely a function of and heavily influenced by central political control over finances. Since 2000, the central government has been strengthening control over sub-national governments in Russia (Hanson 2007). This type of transition, according to Hanson (2007), though it provides some desirable national benefits, is often considered to be at the cost of more efficient management of public finances. While macroeconomic stability and providing a minimum real income for all segments of society are believed to be among the positive benefits of such fiduciary policies, some local public goods might be more efficiently provided by sub-national government. Hanson (2007) included parks and protected areas within these local public goods that can conceivably benefit from at least regional, if not local control over financial management.

Sustainable financing of protected areas is a topic of interest in many nations, with fees paid to visit among the most recently attractive methods of accomplishing conservation and economic objectives (Watson 2001). Increasingly, visitor use fees are being charged and receipts are staying to

benefit local, regional and even nationally protected areas, though compatibility between fees and some values of wild places have been called into question (Trainor & Norgaard 1999). Sustainability of ecotourism may be dependent upon sustainability of protected area administration agencies, whether controlled nationally or more locally, and in order to keep up with demand for facilities, services and transportation in previously low visitation areas, fees and more local control of financial investment are of great interest.

**Ecological** sustainability can be heavily influenced by visitation levels and financial sustainability. Managing agencies carry the burden of planning and initiating travel planning activities such as development of trails, overnight accommodations, camping regulations, and other transportation access facilities. This development should be well based on decisions about resource protection objectives and desirable experiences of visitors. Overuse can cause reductions in experiential and environmental quality of protected areas, therefore close monitoring of impacts on the environment is often seen as crucial. Focus on visitation and the economy without proper attention paid to the physical aspects of protected areas can lead to irreversible negative effects. In some of the wildest places in Kamchatka there is very little knowledge accumulated about resource conditions, though managers and visitors have been known to express concern about uncontrolled development and visitor impacts. Some of the greatest ecological threats to wilderness character are often the lack of protection from development threats.

**Economic** benefits of protected areas are often both of the market and non-market varieties. Protection can provide many non-monetary benefits to local, regional, national and worldwide populations. A variety of non-market values flow from protection, from ecosystem services to subsistence uses. Also, preservation for bequest values have been estimated for specific areas that have been protected from development and degradation. Short-term economic benefits are difficult to compare to perpetual, non-market value gains due to a collective decision to protect. The level and types of expenditures visitors make in Kamchatka likely exert major influences on local economies.

Strict nature reserves were established by imperial decree in south Kamchatka as far back as 1882 to protect sable and sea otter populations. The Kronotsky Strict Nature Reserve is 1,007,134 ha, and was originally established in 1934 to protect the sable population. Over time it has been closed then re-established and in 1982 a 3-mile ocean buffer zone was added. Over time, several additional nature reserves have been established with eventual World Heritage Site designation for 6 sites within Kamchatka. The Volcanoes of Kamchatka site includes 4,378,115 ha (MEPNR 1995). Bystrinsky Nature Park is 1,500,000 ha, South Kamchatka Nature Park is 860,000 ha, Klyuchevskoy Nature Park is 375,981 ha, Nalychevo Nature Park 265,000 ha, South Kamchatka State Nature Park is 247,000 ha and Southwest Tundra Nature Park is 123,000 ha (Newell 2004).

The Kamchatka Peninsula is one of the most active volcanic regions along the Pacific Ring of Fire. Over a hundred volcanoes stretch across this land mass, a dozen or more of which have currently active vents. Klyuchevskoy, one of the most active and renown volcanoes in the world dominates Kamchatka's main cluster of volcanoes: the Kliuchi Group (United Nations Environment Program 2002). Large areas of the region are relatively wild and undeveloped. Poaching, according to Zwirn, Pinsky & Rahr (2005), is widespread in part due to high unemployment rates. Badly needed economic stimulation through oil and gas development is a strong potential and poses threats to the environment. Newell (2004) reported that ecotourism is thought of as the best opportunity for an environmentally sustainable industry employing a broad range of local people. To this date, however, tourism infrastructure is scarce or non-existent (Zwirn et al. 2005).

Kamchatka contains great species diversity, including the world's largest known variety of salmonoid fish and exceptional concentrations of sea otter, brown bear and Stellar's sea eagle. These areas are under mostly Federal control, under the jurisdiction of the Ministry of Natural Resources (MEPNR) since 2000, with some long-term lease concessions to tourist companies. Klyuchevskoy Nature Park is under both regional and federal jurisdictions as the land belongs to the State Forest Fund (Menshikov, Efimenko & Nikiforov 2000).

The rivers of western Kamchatka contain the greatest concentration and diversity of salmonoid fish species on earth and are the only place on the Pacific Rim where all the species of Pacific salmon coexist. Nearly all the rivers are exceptionally unpolluted spawning grounds for this key food source which sustains the very large populations of brown bears, sea otters, Steller's sea-eagles and dozens of other marine and terrestrial animals. Wild salmon are declining rapidly throughout their range along both the Atlantic and Pacific rims. Outside western Alaska, there are very few if any large areas left along the Pacific Rim to preserve not only native runs of salmon and steelhead, but also the intact ecosystems they support and that support them (MEPNR 1995).

Since the end of the Soviet Union, federal funding for protected areas in Kamchatka has decreased by 90% with drastic consequences for the parks. There are, as a result, two opposing concepts for the future development of Kamchatka: expanded extraction of minerals (largely on land traditionally held by the native people) to help finance the regional administration, and activities based on protecting the environment which should sustain native populations and create sustainable tourism. When the National Committee for Environmental Protection was abolished in 2000, environmental issues became the responsibility of the Regional Committees on Natural Resources, and the mining interests hostile to conservation in Kamchatka gained strength (Murashko 2001). The southern boundary of the Bystrinsky Nature Park has already been revised 50km inwards to permit gold mining on its edge and there is pressure for nickel mining within the Park. The frequent fires in this park, a proposed new road which would expose the area to poaching and the granting by local authorities of 12 out of 24 hunting leases to business interests from outside the region could not be monitored since the Park had no staff in 2001 (IUCN 2001). Logging and oil and gas extraction in the Sea of Okhotsk near the coast have also started and a gas pipeline with a road to Petropavlovsk is projected, crossing 20 salmon rivers. Geothermal exploitation is also developing at Nizhnekoshelevsky in the South Kamchatka Nature Park and State Nature Sanctuary, an area earmarked for scientific work and regional monitoring. Any of these industrial activities might

pollute salmon spawning grounds and begin to degrade the pristine wilderness.

Illegal, highly organized campaigns of logging and the poaching of bears for gall-bladders and salmon for caviar; illegal sea fishing, uncontrolled commercial tourism with well-organized hunting from helicopters in the Geyser Valley, and general tourist littering, degradation and petrochemical and sewage pollution have all increased in recent years (Newell & Wilson, 1996). Geothermal and other rare flora are also disappearing. Management is drastically underfunded with too few personnel, too little infrastructure, training or equipment. The public is economically challenged and lacks environmental awareness. There is no community involvement in management, and an inadequate legal and policy framework (Newell et al. 2001). Park staffing and finance levels for all the reserves are under pressure.

Within a context of increased recognition of world heritage significance of the protected areas in Kamchatka, decreased federal government support for protected area management, and a rapidly changing economy and economic policies, social science knowledge is acknowledged as important to guide further transition. Decisions about future development of ecotourism services and facilities should be governed by ethical consideration of various aspects of sustainability. Greater understanding of visitation, particularly who is visiting Kamchatka now and what are they doing during these visits, will be extremely helpful. Furthermore, understanding of how visitors feel about the role of central government, regional government and private use fees to cover some of the costs of both conservation and accommodating guests could be valuable in planning for sustainability of growth and protection, as well as gaining some insight into current expenditure patterns of visitors and their perceptions of management effectiveness.

A large majority of visitors originate within Russia and this links the future of visitation closely to economic conditions of Russia, and mostly of the urban areas of European Russia (Watson and others 2009). Recent market changes in Europe are probably a more influential factor on future development opportunities than Asian markets, particularly since so few Kamchatka visitors come from other Asian countries. This

mix could change in the future in response to changes in many factors, such as services provided, changing leisure patterns of Russian and Non-Russian travelers, increased publicity about features of Kamchatka, and changing economic conditions. The places people visit while in Kamchatka are not likely to change a great deal in the near future, though the Non-Russian dependence on tours and services offered could be used as a tool to either re-distribute use to reduce impacts or to maintain high quality experiences for those seeking more solitary or authentic experiences.

A good understanding of the substantial proportion of tourism expenditures in service-related industries holds great promise for contributions to the economy in Kamchatka. It appears that those planning for sustainability of services and economic contributions will need to develop a multi-prong approach to minimally target Non-Russian visitors and Russian visitors. Among other potential areas that could contribute visitors would be Asia. Some current research emphasis is on understanding the motives for visiting Kamchatka to understand how Russian and Non-Russian visitors differ in this important determinant of trip satisfaction and evaluation of services. While intentions to re-visit are high, there is potential to identify markets outside the current market mix that would have similar motivations to visit as either the Russian or Non-Russian customers currently visiting.

The high support expressed for paying fees by all visitors is significant, though there is a relatively high proportion of neutral responses which comprise an important market segment to identify more closely and target with good explanations of any fees that are charged. It appears that among current visitors, fees are supported not only to pay for the services they can tangibly recognize that facilitate their own visits, but also for more general protection of these areas. Charging fees to allow more access to those less financially able or to advertise the qualities of these protected areas to others are not widely supported and should not be used to justify any fees initiated.

While such strong support for protection of these natural resources among current visitors is important, regional authorities face a dilemma in increasing support of management actions used to

guard this protection. Maybe it is not the low proportion of visitors who seem to think managers are doing a good job that is the issue (Watson and others 2009), but, rather, it is the large proportion of people who don't seem to know how good a job managers are doing that should cause some concern for management authorities. It is possible that with relatively low visitation levels at this time and at least among the Russian visitors a low level of familiarity with this area and ecotourism in general, nature protection at this scale is not easily comprehensible. Some efforts to help people understand the complexities of large-scale protection and some of the importance of techniques used may prove much more important than educating a visiting public about the benefits of protection among those who are already supportive of that protection.

Kamchatka is a unique area within Asia, with a strong tie to Europe and the rest of Russia. The importance of protecting these unspoiled areas seems beyond question among visitors to these places. The opportunities to protect this part of Asia exist and Russia's travel down this path of protection seems to reflect a larger national commitment to science, sustainability of culture and economies and evolving relationships with nature than is evident from some other places in Asia. While only one person's opinion, noted travel author and tourist Paul Theroux (1988) described China's relationship with nature as "...overrun with people and – except for the occasional earthquake or sandstorm – I rarely saw examples of man's insignificance beside the greater forces of nature. The Chinese had moved mountains, diverted rivers, wiped out the animals, eliminated the wilderness; they had subdued nature and had it screaming for mercy" (page 254). With such changes in politics, society, economies and relationships with nature, only the future will reveal how regional ecotourism patterns change, how international recognition of nature protection influences national and local protection decisions, and the role of nature protection in future economics and quality of life.

### **Wilderness protection in Sri Lanka**

Sri Lanka is the only South or East Asian country with legally designated wilderness. Sri Lanka's 1988 Natural Heritage Wilderness Act

provides for the conservation and protection of unique ecosystems and values of designated areas (Martin and Watson 2009). Protecting watersheds for agricultural purposes and for cultural or religious reasons have contributed to long term decisions to protect wilderness character in Sri Lanka. Though few areas are protected under this legislation at this time, recognition of the ecological, financial and cultural values of these places is strong. Alwis (1999) described some fear of the threat of association of wilderness with colonial action and the need for community participation to strengthen local commitment to protection.

### **Future opportunities**

The 10<sup>th</sup> WWC offers opportunities for continued dialogue about how to extend and implement current protection of wilderness dependent values in Asia. In particular, building upon cooperative interests planned for the 9<sup>th</sup> WWC in Mexico seems of high value. The Wild Salmon Center, the United Nations Development Programme Kamchatka Ecotourism Sustainability Project, the Aldo Leopold Wilderness Research Institute, the Bureau of Land Management – Alaska, WWF-Kamchatka, the US Forest Service Northwest Research Station – Juneau, the University of Alaska – Fairbanks and guides and outfitter service companies from the Kamchatka Region will be working together at WILD9 to develop understanding of current conditions and opportunities. They will also be working to prescribe and facilitate ways to gather additional scientific information, conduct training and use knowledge to influence development decisions in this Region of Asia. The implications are broad to the region and only through strengthening this developing wilderness community will joint resources be utilized in an efficient manner to accomplish protection objectives.

The 10<sup>th</sup> WWC, wherever it might meet, offers a critical opportunity to consider the application of the wilderness concept in making decisions to protect local economies, maintain traditional relationships with nature, support the building of communities of interest in the Asia-Pacific Region and bring international and regional interests together to plan efficient, effective strategies. Involvement from government entities,

non-governmental organizations, university faculty or citizen action groups from this Region in setting direction for this international event would be very desirable.

There also exist opportunities to begin to think about and publish articles from this Region of the world in the International Journal of Wilderness. Beyond a small number of presentations from India and a large contingent from Kamchatka, there is very little engagement from the Asian Region in the 9<sup>th</sup> World Wilderness Congress. With a lack of history of international cooperation in understanding and protecting critical stream headwaters, expansive but threatened marine resources, indigenous identity and connection to wilderness resources, and economic stability connected to ecotourism, it is time to initiate collaboration.

Are there immediate opportunities for designation and protection of wilderness in the Asia-Pacific Region? There are certainly needs for such actions. At the 9<sup>th</sup> WWC in Mexico, there is an unusual force of power, within a North American cooperative focus of the Congress, on the Asia-Pacific environment, including political, economic and natural. For the Russian part of Asia, there is certainly broad international interest in working cooperatively to both extend protection of key habitats and improving stewardship to protect human values flowing from these wild places. But Russia has a system in place to facilitate this extended protection. In most Asian countries there are some frameworks for protection of nature, but holistic approaches to identifying opportunities, building communities of interest and working towards implementation of legislative or policy-based protection of these wildest, most natural places is lacking.

## References

- Alwis, L.D. 1999. Origins, evolution, and present status of the protected areas of Sri Lanka. *International Journal of Wilderness* 5(2):37-40.
- Aylward, B., Allen K., Echeverria J. & Tosi J. 1996. Sustainable ecotourism in Costa Rica: the Monteverde Cloud Forest Preserve. *Biodiversity and Conservation* 5: 315-343.
- Croucher, S.L. 2004. *Globalization and Belonging: The Politics of Identity in a Changing World*. Rowman & Littlefield.
- IUCN. 1994. Guidelines for protected area management categories. World Conservation Monitoring Center, IUCN.
- Hanson, P. 2007. Federalism with a Russian face: regional inequality, administrative capacity and regional budgets in Russia. *Economic Change* DOI 10.1007/s10644-007-9017-1.
- IUCN (World Conservation Union). 2001. Report on the State of Conservation of Natural and Mixed Sites Inscribed on the World Heritage List and the List of World Heritage in Danger. Gland, Switzerland
- Krüger, O. 2005. The role of ecotourism in conservation: panacea or Pandora's box? *Biodiversity and Conservation* 14: 579-600.
- Kymlicka, W. 2005. Modes of multicultural citizenship: comparing Aisa and the West. In S.-H. Tan (Ed.), *Challenging Citizenship: Group membership and Cultural identity in a Global Age* (pp. 110-136). Aldershot, Hants, England: Ashgate.
- Lewis, J. and Xue, L. 2003. Social changes and political reform in China: meeting the challenge of success. *The China Quarterly*, 2003, 926-942.
- Martin, V. & Watson, A. 2009. International Wilderness. In: C.P. Dawson and J.C. Hendee (2009) *Wilderness Management: Stewardship and Protection of Resources and Values*, fourth edition. Fulcrum Press, Golden, Co. Pp. 50-88.
- Menshikov, V., Efimenko, A. & Nikiforov, V. 2000. *Nomination. Nature Park Kluchevskoy for Inclusion in UNESCO World Heritage List*. For the UNESCO World Heritage Committee. 22pp.+ Appendices 28pp.
- Ministry of Environmental Protection and Natural Resources of Russia (MEPNR) (1995). *Nomination of the Volcanoes of Kamchatka for Inclusion in the World Heritage List*. 28 pp.
- Murashko, O. 2001. Disturbing news from Kamchatka. *Indigenous Peoples' World. Living Arctic*, 4.
- Newell, J. & Wilson, E. 1996. *The Russian Far East*. Friends of Earth - Japan. Tokyo. 197 pp.
- Newell, J. 2004. *The Russian Far East: A Reference Guide for Conservation and Development*. McKinleyville, CA: Daniel & Daniel.
- Tan, S.-H. 2005. Introduction: globalization and citizenship. In S.-H. Tan (Ed.), *Challenging Citizenship: Group membership and Cultural identity in a Global Age* (pp. 110-136). Aldershot, Hants, England: Ashgate.
- Theroux, P. 1988. *Riding the Iron Rooster*. New York: G.P. Putnam's Sons. 480 p.
- Trainor, S.Fleisher & Norgaard, R.B. 1999. Recreation fees in the context of wilderness values. *Journal of Park and Recreation Administration* 17(3):100-115.



- United Nations Environment Programme (UNEP). 2002. Volcanoes of Kamchatka – Russian Federation. World Conservation Monitoring Centre. <http://www.unep-wcmc.org/sites/wh/kamchat.htm>
- Watson, A.E. 2001. Sustainable financing of wilderness protection: an experiment with fees in the United States. *International Journal of Wilderness* 7(1):12-16.
- Watson, Alan; Sproull, Janet; Dean, Liese, comps. 2007. Science and stewardship to protect and sustain wilderness values: Eighth World Wilderness Congress symposium; September 30-October 6, 2005; Anchorage, AK. Proceedings RMRS-P-49. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 581 p.
- Watson A, Ostergren D, Fix P, Overbaugh B, McCollum D, Kruger L, Madsen M, Yang H. 2009. Protecting ecotourism resources in a time of rapid economic and environmental transformation in Asia. In, (editors) Xiaowen J, Ermng X, Schneider I. Strategic management engineering: enterprise, environment and crisis: Proceedings of 2009 International Conference on Strategic Management, 2009 (June), Sichuan University Press: Chengdu, pp. 185-201.
- Yang, H. 2008. Chinese Emerging Adults in a Quick-Changing World: Discretionary Time Activities, Cultural Orientations, and the Meaning of Leisure. Unpublished Ph.D. dissertation, Pennsylvania State University, July 2008.
- Zwirn, M., Pinsky, M. & Rahr, G. 2005. Angling ecotourism: Issues, guidelines and experience from Kamchatka. *Journal of Ecotourism* 4(1): 16-31.



2009年7月5日 Dr. Alan Watson 應營建署邀請發表與本文相關的演講



2009年7月9日 Dr. Alan Watson 在合歡山考察高山戶外遊憩