

## NATIONAL PARKS : LOVING THEM TO DEATH

### 「愛」——勿置國家公園於「死地」！

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It's hard to imagine loving something so much that you love it to death. But it can happen. It is a distinct possibility for a good many national parks in the United States, for example. And it is an imminent prospect for the national parks on Taiwan as well. How can this be possible? How can the most noble goals of preservation for futures generations lead, instead, to the destruction of that being preserved? And what can be done about it? These are the questions now being faced by the National Park Service in the United States. And they probably should be a matter high on the agenda of the National Parks Department in the Republic of China, too.

The National Park Act of the United States was passed by the U.S. Congress seventy-three years ago in 1916. It provided for the establishment of the U.S. National Park Service, the federal agency charged with administering the national parks. The Act stated that the purpose of national parks is "to conserve the scenery and the natural and historic

objects and the wild life therein, and to provide for the enjoyment of the same in such manner and by such means as will leave them *unimpaired for the enjoyment of future generations*" (author's emphasis).<sup>1</sup>

This legislation, as visionary as it was, nevertheless carried a time bomb in its own eloquent phraseology—a time bomb that would be touched off by the country's growing population and its exploding interest in outdoor recreation. Specifically, the word "unimpaired" means "undamaged." That is, the National Parks Service was charged with protecting park lands and resources from any damage to their original integrity. Why? So that, according to the Act, future generations could enjoy them in the same state and manner as at the time they were first established.

Little did they know that the parks would become so popular in future generations (that is, today!) that the sheer number of visitors could seriously damage (i.e., impair) or destroy the very areas the parks were meant to preserve and protect. When the number of visitors to a given area in a given time exceeds the capacity of that area to sustain the pressure, the area becomes "impaired." This relates to the ecological principle called "carrying capacity." When excessive tourist pressure begins to damage an area, we say that the carrying capacity of that area has been "exceeded." (Carrying capacity can be applied to deer, birds, fish, or other animals as well as humans.)

Today, many natural landscapes and ecosystems in America's national parks are being subjected to heavier visitor pressure than they can sustain. Their carrying capacity for tourists is being exceeded. This leads to serious problems of pollution (air, water, solid, visual, noise), traffic jams and overcrowding, erosion, destruction of fragile habitats, population declines of endangered plant and animal species, etc. In the end, these conditions reduce the value of the park experience for the visitors themselves, for whom the parks were set aside in the first place. If not managed carefully, it can become a descending and vicious spiral—the more visitors, the more damage, the less enjoyable the visit.

Such is the state of many national parks in the U.S. today. Yosemite National Park in California is suffering from traffic jams and overcrowding. Last year, 3.2 million people visited Yosemite, compared with 2.5 million six years ago. Sixty thousand people in 20,000 vehicles entered the park over one recent three-day holiday, a visitation rate that has put Yosemite on the Wilderness Society's list of the country's "ten most endangered parks." Elsewhere, Grand Canyon National Park in Arizona has been turned into a "flying circus" with 50,000 small plane and helicopter flights into the canyon each year for tourists. For the nation as a whole in 1987, 287 million people visited America's 337 national parks, seashores, and other areas managed by the Park Service, and the number is projected to grow to 450 million over the next twenty years. It is often noted that "parks are for the people" but it is equally true that overuse leads to abuse. America's national parks are

being suffocated with love. What will future generations have to enjoy if we trample our parks to death today?

Although the national park system in the ROC is relatively young, Taiwan's national parks are already facing the same problems as those in the U.S. Intense visitor pressure threatens natural landscapes, ecosystems, historic sites, and the flora and fauna with pollution, overcrowding, and degradation of natural processes. The top of Yushan has been likened to Hsimenting, the West Gate district of Taipei, with all the attendant problems of overcrowding and pollution.

Whether in Taiwan or in the United States, the solutions to these problems will be similar and will focus on various techniques of "people management" — not only for visitors but also for park support staff and facilities. Visitor use, for example, can be regulated by issuing entry permits for hiking in certain areas, thereby controlling the volume of visitors within a predetermined carrying capacity suitable for each area. Camping sites and back-country cabins can be made available on an advanced reservation basis only. The number and types of vehicles can also be limited. Private vehicles can be banned in certain areas, providing alternate forms of public transportation such as shuttle buses to move people in and out of designated sites. In some areas, motorized vehicles of any sort can be prohibited entirely and entrance permitted only on foot. The park service can also specify certain types of camping equipment and practices that will cause the least or no damage to the environment.

On the park planning side, serious consideration can be given to locating both tourist facilities and park administrative and maintenance offices *outside* park boundaries. This will reduce pollution and sewage disposal problems as well as physical degradation of the natural environment. Government budgets must provide sufficient funds and staffing for park maintenance, including the removal of garbage and litter, the repair of park facilities, and the effective enforcement of park policies. This goes for high-density use areas as well as for back-country wilderness areas.

The ultimate goal of such management techniques is to keep visitor use within the carrying capacity of park lands. Of course, the carrying capacity will be different for different areas. In Taiwan, for example, the carrying capacity of "General Conservation Areas" in a park would be higher than for an "Ecological Protection Area" because the former can sustain higher pressures than the latter without impairment. In any case, with increasing population and increasing interest in outdoor recreation, visitor use to national parks is going to have to be regulated (limited) in creative ways if the parks are to be preserved "unimpaired" for the enjoyment not only of future generations but of our own generation as well. The future is now. It has already arrived!

這似乎是讓人很難想像的，一個人會愛一樣東西那麼狂熱到置其於死地。而這却是千真萬確的事實，它發生在美國的許多國家公園內，而對於台灣的國家公園，這種情懷將又是可預期發生的事實。在美國，對於國家公園之保育、保存與愛護，呈現出種種情懷，包括：如何能保存這些崇高的理想至我們的後代子孫？如何避免那些意圖破壞保育的種種措施？這些都是目前美國國家公園署所面臨的問題，而相信這也將會是未來中華民國之國家公園所將面對的問題。

在 1916 年，也就是 73 年前，美國國會通過了國家公園法案。並同時成立了美國國家公園署，並由這個聯邦政府的組織負起了經營管理之重任。在這法案中，明確地說明了設置國家公園之目的，為了確保自然景觀，重要史蹟以及野生動物，並在不影響後代子孫永續享用之前題下，同時提供遊憩育樂之功能。

這項法案是極具前瞻性的，也極大膽地就如同隨身攜帶一只定時而隨時會爆發之雷霆萬鈞之炸彈般。而這些引爆因子正是整個國家極速成長之人口數量以及其所代之而起之戶外遊憩的強烈需求。尤其，當我們提到所謂「不損弱」(unimpaired)這詞彙時，它的另一意義就是「不傷害」(undamaged)，亦即，國家公園必須肩負起保育我們今日所享用之種種資源，並避免其遭受破壞，而能使我們的子孫在享用這些資源時，還能維持著在我們當初設置公園時之種種原貌與狀態。

在設立國家公園之初期，似乎很少人會料想到當日所設立之國家公園竟會受到後代之子子孫孫（亦即今日之人們）如此之厚愛，甚至未料到即使是極少數之遊客都會不經意地嚴重傷害到原本設立為保護或保存之資源。當在特定時間內之遊客數超過一定承載量時，這個區域勢將受到斷傷，而這正是生態環境學理論所謂的「容許量」。當過多的遊客壓力造成一特定地區之傷害或破壞時，吾人即謂這已超越了生態容許量了。（容許量同時可以適用於鹿類、鳥類、魚類等其它野生動植物或者是人類。）

在今日之美國，有許多國家公園之自然景觀及生態系均受到超越它們原本可承受之過多遊憩壓力，這亦同時產生了許多問題，包括空氣、水、廢棄物、視覺景觀以及噪音之污染；交通阻塞以及過度擁擠等現象；水土流失、沖刷；敏感棲息地之破壞；瀕臨滅絕野生動植物族羣量之遞減，……等問題。最後，這些狀況更會降低了當初設立國家公園之遊憩體驗價值。而，如果未能審慎經營管理的話，這將會變成一種惡性循環，亦即愈多的遊客，將造成愈多之破壞，且勢必導致愈低之遊憩體驗價值。

這些情形，正在美國境內之許多國家公園發生，以加州之約塞米堤國家公園為例，她嚴重地受到交通阻塞以及過度擁擠之困擾，去年就有 320 萬遊客來到約塞米堤國家公園，而在 6 年前(1983 年)，只有 250 萬遊客，在最近之長週末（三天假期）即有 2 萬輛汽車 6 萬人次遊客擁入該國家公園，這些數字已讓約塞米堤國家公園被美國荒野地協會列為「全美十個瀕臨危險之國家公園」之一。而同時，在亞利桑那州之黃石國家公園，因每年有 5 萬架小型飛機及直昇機進入峽谷區觀光而變成了「空中飛行馬戲團」了。就整個美國而言，在 1987 年，有 2 億 8 千 7 百萬遊客參觀了全美 337 個國家公園、國家海岸以及其他國家公園署所管轄之國家公園系統區域，而這些遞增之遊客數估計在未來 20 年內將會增加到 4 億 5000 萬人次，雖然我們都認為「公園應該為大眾而設」，但如果過度使用勢將會導致對公園資源之誤

用惡果。美國人對國家公園之過度狂愛已威脅到國家公園之正常生存，如果因今日我們的過度厚愛而讓國家公園在這一代即遭受生存威脅，我們未來的子孫又將如何能享用到她的一切呢？

雖然與美國相較，台灣地區之國家公園系統仍極為年輕，但台灣的國家公園却已面臨相同的問題，過多而密集之遊客人潮壓力已威脅到國家公園之自然景觀、生態系、史蹟以及植物與野生物之生存，而這些人潮所帶來之各種污染，過度擁擠已逐步令國家公園之自然演替過程劣化。例如，玉山國家公園的玉山主峯過多頻繁之登山人口及所帶來之污染已造成主峯形同台北西門町鬧區。

無論在美國或台灣解決這些問題將是非常類似的，亦即將必須著眼於「人為管理」，這將包括遊客、公園管理者以及設施管理，我們將可利用限制登山許可證之核發來作為遊客管理之手段。例如，吾人可以藉由特定地區設定之容許量來控制遊客數。此外，更有多種方式可以事先安排而限制過多之遊客並儘量避免造成環境之傷害或者使其傷害程度減到最低，這些措施包括：

- 只容許以預約方式登記山上露營營位或登山小屋。
- 限制特定種類及數量之汽車進出。
- 於特別地區禁止私家汽車進出。
- 提供其它替選公共運輸方式，例如提供遊園車來帶動遊客進出特定地區。
- 嚴格限制任何車輛之進出特定地區，只容許步行。
- 只容許攜帶特定露營器具，不會造成環境破壞或者最少破壞之露營方式。

有關國家公園規劃方面，更應嚴肅而審慎地考量到如何安置遊客服務設施、行政管理及維護辦公室於國家公園區外，這將可顯著地減少環境污染、污水處理問題以及對實質環境所造成之劣化等種種經營難題與問題。而政府更應提供充份之預算與員額編制以使其在廢棄物垃圾之清理、設施之修護，公園警察之巡邏及有效執法……等等經營管理上均能週延，而這將包括遊客密集區以及較原始之荒野區。

這些經營管理之最終目標即是為確保公園內之遊憩利用能維持在其特定之資源容許量內，當然，不同地區之容許量亦將會有不同。以台灣之國家公園為例，在一般管制區內之容許量是高於生態保護區，主要係一般管制區之資源可以承受較高之遊客利用壓力，而所造成之環境破壞會比生態保護區低。總而言之，當人口不斷成長繼而帶來大眾的戶外遊憩之急切需求時，如果我們的國家公園仍為保存那不受傷害之資源為我們的子子孫孫所永續享用時，則我們必須明智地發展出一套較具創意之方式來管制或限制國家公園之遊客量。因為，國家公園之未來，正繫於今日經營管理之一切抉擇，而我們今日已面臨此一抉擇之關鍵時刻了！！

### Citations

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