



Policy Reviews

The Economics and Politics of Wilderness Conservation in Australia

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Wilderness conservation has a checkered history in Australian politics. Initially, wilderness was protected in national parks, and specific areas or legislation did not exist. In the 1960s, wilderness conservation became an important issue in Australian politics. Pressure from environmental groups and the general public created several conflicts. Several successes were scored by the joint efforts of interest groups, the public, charismatic individuals, the media, and support of governments and politicians. A number of areas were declared wilderness areas and several states now have wilderness protected through legislation. The 1990s have not been as good as the previous decades for wilderness. Large forest areas are still being cleared and bias toward consumptive use of forest by governments is emerging. Clearly, wilderness protection in Australia is intensely political. It is important that interest groups maintain pressure to protect future wilderness. Efforts to obtain national legislation for wilderness and to couch wilderness in terms of other aspects such as biodiversity and ecosystems values may prove necessary.

Keywords biodiversity, economics, ecosystems, interest groups, legislation, national parks, politics, public choice, wilderness conservation

Wilderness conservation has a long history in Australian politics. The first national park in Australia was the Royal National Park in Sydney, declared in 1879. More national parks were established in other colonies of Australia. One of the main purposes of these parks was to preserve native forests for future forestry enterprises (Dargarvel 1987). Since 1788, Australia has removed two-thirds of the original tree cover. The taxation benefits and subsidies for land clearing accelerated decline in forested land (Rolfe 2000). By 1920, the land had been widely exploited with existing technology, and wilderness, biodiversity, and other values were under threat.

The National Parks and Primitive Areas Council (NPPAC), formed in 1932, made proposals for the preservation of wilderness areas that were included within national parks (see Table 1). In the 1940s, national parks were used mainly for tourism and these areas lost their naturalness and high wilderness value. Thus it became apparent that national park status was not enough to protect wilderness and

Received 7 March 2000; accepted 20 February 2001.

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TABLE 1 Listed Protected Areas, Australia, 1993

Type category	Area km ²	Percent area	IUCN category
Scientific reserves	38,160	0.50	1
National parks	278,491	3.62	2
Natural landmarks	2,624	0.03	3
Wildlife sanctuaries	133,444	1.74	4
Protected landscapes	482,733	6.28	5
Total listed	935,454	12.17	
Total area	7,686,855	100.00	

Note. Adapted from IUCN (1994).

reservation of primitive areas for wilderness protection was essential (Davis 1989). However, the governments of the day did not see any urgency in the need for wilderness legislation per se (Robertson et al. 1992; Martin 1996; Miller 1995).

In the 1950s, wilderness reached a state of relative scarcity. Numerous environmental groups such as the Victorian National Parks Association (VNPA) and the Australian Conservation Foundation (ACF) began to spearhead conservation issues (McKercher 1998). Wilderness became a major issue from the mid 1960s. Wilderness protection received national attention in the 1970s due to conflicts surrounding Lake Pedder and Franklin Dam in Tasmania, and logging in Tasmania, New South Wales, and Queensland, among others (Kellow 1989).

The environmental movements scored several successes in the 1980s in preserving wilderness (Sewell and Dumbrell 1987) (see Table 2). There was recognition of the history, diversity, and rights of the Australian indigenous peoples (Yapp 1982; Thackway and Brunckhorst 1998). Aboriginal occupation was accommodated in the later definitions of wilderness (Miller 1995).

In Australia, the responsibility for managing natural areas is vested with the state and territory governments. With a few exceptions, wilderness areas are declared and managed by the states under their own legislation, and the quality of national parks has been questioned (Wescott 1995). This system has resulted in conflicts with

TABLE 2 Number of Wilderness Areas Identified and Established (1975–1991)

State/territory	Number of areas identified	Number of designated areas
Victoria	12	2 parks (40,000 and 113,000 ha)
New South Wales	37	12 areas (2400 to 92,400 ha)
Western Australia	33	1 zone (15,900 ha)
Australian Capital Territory	—	1 proposed (30,000 ha)
Northern Territory	23	1, Kakadu Management Plan
South Australia	13	None
Tasmania	7	None

Note. Adapted from Robertson et al. (1992).

the federal government (Davis 1989). Federal intervention is possible only under trade and foreign affairs powers.

The 1990s were ominous for wilderness conservation. New South Wales still clears around 50,000 ha of native forest per year. Between 1995 and 1997, about 94,000 ha/year of vegetation communities was cleared in Queensland. Legislation to control clearing in Queensland has provided only modest improvement in land clearing (Sherwin 2000; Brunet 2000).

The recent rejection of land clearance as a key threatening process by Environment Minister Robert Hill has created further uncertainty (Krockenberger 1999). The environmental movements such as the Australian Conservation Foundation (ACF) and the Australian Wilderness Society (AWS) faced tension due to conflicts related to the new ethics, established politics, and problems of centralization (Warhurst 1994; Christoff 1994). Political bias toward development imperatives has appeared in the 1990s, and wilderness conservation has thus become uncertain.

There is still increased public demand for the protection of what remains of Australia's wilderness. Strong national leadership, national targets, sound policies, and a realistic and strategic framework are needed in Australia to preserve the wilderness heritage. A critical study of the historical and institutional context within which the protection of wilderness is taking place, economic and political forces behind their evolution, progress and legislation, importance of coordinated management, and the role of a national wilderness system would provide valuable insights into Australian wilderness. These insights hopefully would assist in the systematic identification, protection, and management of wilderness with increased equity and efficiency.

The objectives of this article are to:

1. Review the nature and evolution of wilderness areas in Australia.
2. Examine the relevance of market failure and public choice theories in understanding the politics of wilderness conservation.
3. Assess the extent of government failure in wilderness conservation.
4. Draw conclusions for future development of wilderness conservation.

Definitions of Wilderness in Australia

The wilderness concept in Australia has been evolving since the 1920s. There is debate on the definition as reflected in the wilderness conferences in 1977 and 1978. The ACF considered wilderness as a large tract of primitive country with land and waters and native plant and animal communities substantially unmodified by humans and their works (Hall 1992). The AWS proposed that "wilderness area is a large tract of land remote at its core from access and settlement and substantially unmodified by modern technological society and of sufficient size to make practicable the long term protection of natural systems" (Robertson et al. 1992, 26).

Most states of Australia have their own definitions. The New South Wales (NSW) Wilderness Act (1987) defined wilderness as land substantially unmodified by humans and their works or capable of being restored to that state; of sufficient size to enable its maintenance; and capable of providing solitude and self-reliant recreation. The Victorian National Parks act (1975) amended in 1989 defines wilderness in almost identical terms to the NSW act, but uses the phrase "influences of European and settlement" in preference to "humans and their works" (Hall 1992). The South Australian definition is taken from that of the AWS (Hall 1992). The Western Australian definition is that "a

wilderness is a designated tract of land which remains substantially unmodified by modern technological society, is sufficiently large and remote to make the long term protection of its natural systems practical and where its plants, animals and soils can survive and interact with minimal human interference” (Robertson et al. 1992). Queensland’s definition of wilderness is expressed using size, vegetation community, and land-form diversity. The size was defined as the size of the area beyond 1 day’s walk, from any access point. In wilderness conditions, 1 day’s walk is generally between 10 and 15 km. This implies a minimum size (with no core area) of 40,000 ha.

Helman et al. (1976) proposed that a wilderness area should have at least 25,000 ha with a buffer zone of similar size. These areas should be relatively intact and would be free from human developments, although old fire trails and roads falling into disuse can be tolerated. Kirkpatrick and Haney (1980), the Kakadu Board of Management, and the Injinoos Aboriginal Community, Cape York, have also proposed definitions (Robertson et al. 1992).

The definitions indicate several common features, namely, naturalness, remoteness, size, freedom from modern technological society, and restoration potential. All definitions recognize aboriginal occupation as a feature of wilderness. This makes the Australian definition different from that of the United States, where such activities are not included. Opportunities for primitive and unconfined forms of recreation for self-education by scientists are included in some definitions.

Theories and Frameworks

This section presents some theoretical ideas relevant to wilderness issues. Market failure, theory of public choice, role of charismatic individuals, international agreements, and media are all relevant in explaining wilderness policy in Australia. Any one of these models cannot provide a complete explanation on its own. The pathways followed reflect a combination of these. This also reflects the differences in political, economic, social, and environmental forces, conditions, and developments. Governments tend to follow a path of least resistance, a course that is perceived to be politically least problematic, rather than what is deemed ecologically rational or necessary.

Market Failure and Government Intervention

Market failure occurs because many services produced by wilderness areas such as biodiversity and scenic beauty have public good characteristics (Varian 1992). Hence market involvement is reduced and optimal levels of preservation do not occur. The on-site and off-site benefits to society from wilderness areas and existence values are ignored and the resource value is thus underestimated. Because private economic incentives are in general not strong enough to elicit the necessary levels of care from a societal viewpoint, government intervention is required to preserve wilderness. Since management options need to be chosen without the aid of price signals, wilderness is often managed using administrative and political criteria and the problems of allocating forest land to satisfy the varying needs of consumers produce an intense and unavoidable conflict.

Public Choice Theory

Public choice theory is the application of economics to political decision making (Mueller 1989). Wilderness conservation is intensely political. An important issue is how environmental movements motivate political actors and the bureaucrats to

implement wilderness policy. Public choice theory explains decision making by voters, bureaucrats, and politicians. According to public choice theory, government decision making is subject to pressure from interest groups, lobbying, and voting behavior, and self-interest, expressed in the “political market” (Johnson 1994).

Interest Groups

The 1950s and 1960s witnessed the creation of a number of interest groups. Some of them are highly institutionalized with an organizational structure, stable membership, and extensive knowledge of the workings of government (Hutton and Connors 1999). The ACF, AWS, and various state-level national parks associations or conservation councils represent such interest groups in Australia. Single-issue-oriented groups are also formed around one or two issues and are not generally well organized. Early estimates of the direct membership ranged from 120,000 to 300,000 persons, a high figure for a population of less than 16 million (Davis 1989).

The success of interest groups depends on their organization, access to information, knowledge of political machinery, and the degree of consolidation of interest groups to address the particular issue. The groups generally articulate their concerns in two ways. They either use individually motivated channels of political involvement such as voting, or alternatively support collective activities in the form of an organized interest group. The interest group in this way can influence public policy to promote its own interests. Interest groups can spend large amounts of money and time in lobbying the politicians to obtain special legislation. This is called rent seeking, which is inefficient in that it misallocates resources.

Role of Bureaucracy

According to public choice theory, relationships develop between state bureaucratic agencies such as the forest industry, conservation agencies, and interest groups. The forest industry had strong links with the forest department and state departments of industrial development. Since forest industries generate economic development, the financial management agencies at state and federal levels form part of their supportive institutional environment.

The wilderness movement developed its own support base with state and federal agencies such as the Land Conservation Council of Victoria (LCC) and the Commonwealth Heritage Commission (CHC). These agencies became powerful as conservation became an important issue. The conservation agencies support special interest groups on wilderness. Governments respond by developing policies to maximize their political opportunities. In this, governments will support groups that are influential in getting more votes.

Political Efficiency

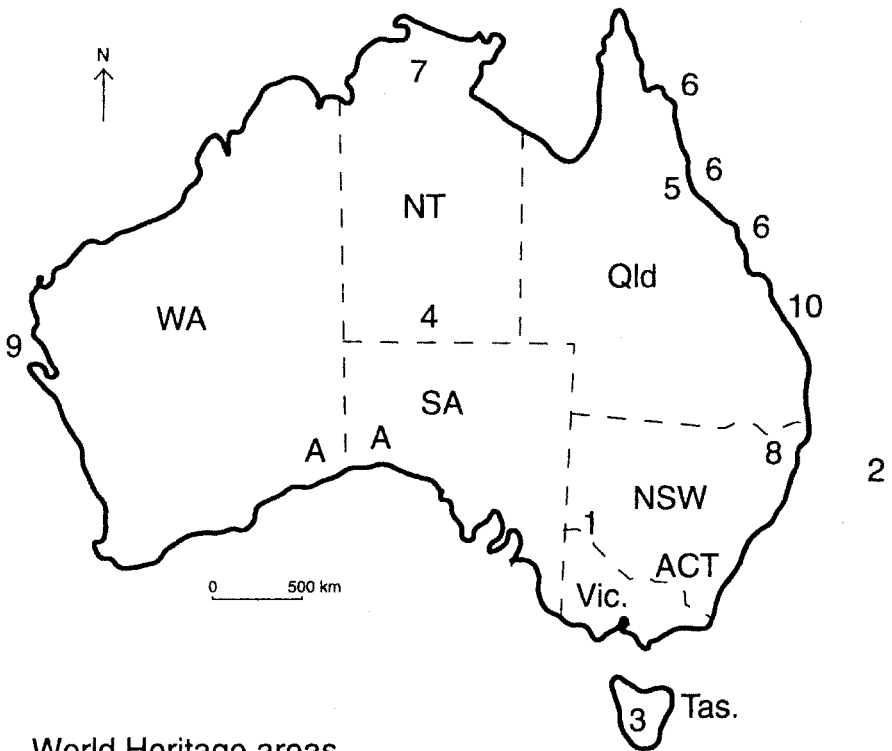
A political market is where the politicians, bureaucrats, and interest groups can negotiate on a preferred position using the least-cost ways of reaching the decision (Johnson 1994). This is a mechanism used by rational economic agents, including individuals and their associates (Pasour 1993). The decisions reached are considered politically efficient in the sense that no better alternatives are available. As the group becomes smaller, the potential for conflict increases. When the conflict is large, decisions are made at the political level and less at the bureaucratic level (Lowi 1972).

Other Factors Influencing Wilderness Politics

Although not theories by themselves, charismatic individuals, international agreements, and the media played an important role in wilderness conservation in Australia. The most important international agreement is the World Heritage Convention (WHC).

Application of the Conceptual Models to Wilderness Conservation in Australia

The relevance of the theories just described is discussed next in relation to several controversies, namely, the Franklin Dam issue, Victorian Alpine National Parks



World Heritage areas

- 1 Mungo-Willandra Lakes
- 2 Lord Howe Island
- 3 Western Tasmania
- 4 Uluru National Park
- 5 Wet tropics
- 6 Great Barrier Reef
- 7 Kakadu National Park
- 8 Australian east coast temperate and sub-tropical rainforest parks
- 9 Shark Bay
- 10 Fraser Island

FIGURE 1 World Heritage Areas in Australia, 1992.

issue, forestry in NSW, the nationwide Regional Forest Agreement (RFA) process in NSW and Victoria, and wilderness legislation.

The Franklin Dam Issue in Tasmania

In the 1970s, the Hydro-Electric Commission (HEC) of Tasmania proposed the flooding of Lake Pedder for electricity generation. The HEC is a semiautonomous body insulated from political interference by an enabling statute. The state government had little control over the HEC. The HEC was perceived by many as a necessary institution to achieve economic development (Kellow 1989).

The Pedder issue was opposed by many environmental groups. The Lake Pedder Action Committee formed in 1971 lobbied the federal government to save the southwest wilderness. The Pedder issue also resulted in the formation of the first Tasmanian Green Party, the United Tasmanian Group, and the South West Tasmanian Action Committee in 1974. The Tasmanian Wilderness Society (TWS) was formed in 1974. In this battle, intense lobbying by interest groups did not stop flooding of Lake Pedder.

The loss of Lake Pedder was a turning point for the whole state and the conservation movement. In 1979, the HEC proposed the development of a power scheme involving the King, Franklin, and Gordon river systems. There were countrywide protests against the HEC proposal. In 1982, all of southwest Tasmania was declared a World Heritage Area by UNESCO.

The TWS and other environmental groups began to lobby against the Liberal federal government in marginal seats. The federal Liberal government did not act beyond expressing its formal disapproval of the project. The federal Labor Party in the opposition agreed to rescind the dam proposal if elected to power. The Labor government that was elected to power stopped the project, and recourse to legal remedies by the Tasmanian government were unsuccessful.

Three factors were pivotal in this success. One was the wilderness conservation movement's ability to direct votes in marginal seats to the Labor government in the 1983 federal election (Warhurst 1994). Another was the decision of the Australian High Court to uphold federal governments' jurisdiction to stop the Tasmanian HEC from inundating Tasmanian wilderness through a dam on the Franklin River. The federal government powers over the state government under the World Heritage Properties Conservation Act was helpful. The other critical factors were the intense involvement of the media and the political power that gathered behind the TWS (Davis 1989).

The Victorian Alpine National Park

The VNPA, since its creation in 1952, advocated a contiguous Alpine National Park in Victoria. In 1965, the efforts were brought to fruition with the passage of the National Parks Act. The Victorian government had an interest in hydroelectric scheme, logging, mining, and cattle grazing in the park. The VNPA was against skiing in the park. In 1980, four new national parks in the alpine area were created. The alpine villages were excluded from the parks but cattle grazing and logging were allowed. The VNPA continued pressure for a contiguous national park. In 1986, the four-governments memorandum of understanding helped in the integration of the alpine national parks in the ACT, NSW, and Victoria (Risstrom 1989). With support of the LCC Victoria, the VNPA and ACF succeeded in 1989. The Alpine National Parks Act was passed, creating and linking Victoria and NSW alpine areas

(McKercher 1998). Again it is apparent here that the pressure from the VNPA and the ACF and bureaucratic support from the LCC were critical factors for success.

Forestry Management in New South Wales

The forest interests received explicit or implicit support from most state governments. The wilderness movement shifted decision making to higher and more powerful political entities. In NSW, when the pro-logging Greiner government was elected, the wilderness conservation movement turned to the federal government to proclaim the southeastern forests under the heritage legislation. Another important political battle was on Terania Creek in northern NSW (1975–1981).

These conflicts convinced the state government that despite jurisdiction over land use issues, it can no longer ignore important conservation issues. The state requested the federal government to nominate principal rainforest reserves for inclusion on the World Heritage List, a status achieved in 1986. Here, the role of charismatic Neville Wran, the then premier of NSW, was critical. The World Heritage Convention played an important role in rainforest reservation. Again, the efforts of many interest groups promoted cooperative approaches between NSW and the federal government.

The Regional Forest Agreement

The objectives of the Regional Forest Agreement (RFA) are to create a comprehensive, adequate, and representative (CAR) system to protect biological diversity, wilderness, old-growth forest, and other forest values while maximizing economic development (Kirkpatrick 1998; Dargavel 1998a). Expert groups developed criteria for conservation, and the federal and state governments supported them but introduced changes. The two most important additions are (1) the proviso that the targets within the document will be varied for socioeconomic reasons and (2) that the policies may not be applicable to private land. According to Kirkpatrick (1998), this means that a substantial proportion of forest land that is privately owned may not come under the RFA. It also implies that any change can be introduced under the guise of “socioeconomic reasons.” In short, the strategic direction of the RFA has been changed from conservation first to socioeconomic development. Protection of biodiversity and indigenous issues have been watered down (Dargavel 1998b). The RFA agreements in East Gippsland, Tasmania, and southwestern forests of Western Australia have not been accepted by conservationists. The major concerns are the security of the reserve system, protection of biological diversity, and protection from other uses (Kirkpatrick 1998). The RFA has surrendered much of the federal powers to the states (Lane 1999). This reduces the power of the federal government to intervene on wilderness conservation issues. Examples include the approval of the Jabiluka uranium mine within Kakadu, the uncertain future of the AHC, and the predominance of forestry and mining interests in RFA (Horstman 1998). The federal government’s renewal of woodchip licenses in nearly 1300 high-conservation-value forest areas was stopped only when pressure was brought against logging (Kirkpatrick 1998).

Wilderness Legislation

Wilderness was subsumed under the National Parks Act in all states. At least three states (NSW, Victoria, and South Australia) have legislation for wilderness and, as argued earlier, these were won after intense political battles (Martin 1996; Hall 1992).

The First Wilderness Act, NSW

The First Wilderness Act in Australia was passed in the NSW parliament in 1987 (Prineas 1988). An unusual chance conjunction of interests among all three major political parties, namely, the Labor, Liberal, and National parties, saw the legislation approved. Support from Bob Carr, then State Minister for Planning, was vital (Whitehouse 1994). It was a remarkable ideological victory for the wilderness movement. This legislation empowered the National Parks and Wildlife Service (NPWS) to recommend interim protection orders to the minister and the public to nominate areas for investigation as wilderness areas (Prineas 1988). The efforts of the wilderness society in NSW were fundamental in this legislation. However, four-wheel drive tracks, old logging or mining tracks, fence lines, minor tanks and bores, seasonal grazing, and selective logging are allowed, mainly to placate the opponents of wilderness (Robertson et al. 1992). There have been a number of problems in the application of the act to some areas that do not meet normal criteria of wilderness.

The Victorian Wilderness Legislation Act

Since its inception, the Land Conservation Council (LCC) in Victoria consistently provided credible alternatives to existing patterns of land use (LCC 1990). The LCC agreed that some of the values can be obtained from a natural area but certain aspects of them can be obtained only in strict wilderness (LCC 1991). The Feller et al. (1978) study showed that wilderness areas are fast dwindling and that less than 3% of the area satisfies basic wilderness quality requirements. In 1989, amendments to the National Parks Act of 1975 were introduced to protect wilderness areas. The LCC established the Big Desert Wilderness Area of 114,000 ha in the semiarid northwest of the state and Avon Wilderness of Gippsland of 40,000 ha.

However, during the 1990s, a conservative government undermined the capacity to advance wilderness. Key avenues for public participation in environmental policy development were closed. In 1997, the LCC was abolished (Christoff 1998) and replaced with a less representative Environmental Advisory Council; the National Parks Service was replaced by a statutory corporation (Parks Victoria), and intensified and commercialized use of public land reserved for conservation was promoted. A newly elected labor government has now made a number of changes, returning to a greater emphasis on both public consultation and conservation.

The South Australian Wilderness Act 1992

The South Australian Wilderness Protection Act came into effect in 1992. It provides for the protection of wilderness and the restoration of land to its condition before European colonization and to make amendments to the National Parks and Wildlife Act 1972 and for other purposes. The wilderness advisory committee assesses all land in the state to identify those that meet the wilderness criteria to a sufficient extent to warrant protection under the act (Whitehouse 1994).

Wilderness Legislation in Other States

Although there is no specific legislation in Western Australia for wilderness, the Conservation and Land Management Act of 1984 provides for land administered under this act to be declared wilderness areas. There are several deficiencies in this arrangement, in particular the definition, management, involvement of aboriginal people, and security of tenure (Robertson et al. 1992). Tasmania has no specific legislation for wilderness. Tasmania is moving toward a zoning areas as wilderness

by means of a management plan under the National Parks and Wildlife Act 1970. The Northern Territory has no specific legislation for wilderness, but such areas can be declared under the Territory Parks and Wildlife Conservation Act 1980, which is under the jurisdiction of the Conservation Commission of the Northern Territory (Robertson et al. 1992).

Aboriginal Issues

Australian aboriginal people have a unique relationship with land. They have sought to assert their connection to land through involvement in national park management. This has been achieved through the Indigenous Protected Areas Program (Krishnapillai 2000). Kakadu, Australia's first jointly managed national park, and later Uluru are both managed by the traditional owners and the Federal Environment Department (Yapp 1982). The legislation on joint management recognizes aboriginal land rights and has institutionalized cooperative management. Joint management is being implemented in other parts of Australia including Gurig and Nitmulik National Park in the Northern Territory, Mootwingee National Park in NSW, and Witjira National Park in South Australia (Krishnapillai 2000). Aboriginal rights were asserted in the Uluru National Park, where the federal government was able to override territory resistance to provide land title to indigenous inhabitants.

Other significant developments are the interests shown by the Northern Territory Parks Service Masterplan to accommodate joint management of a number of parks. The NSW millenium plan has shown similar interests toward aboriginal ownership and responsibility for protected areas management. The Farmlingam Aboriginal Trust purchased the Deen Marr area in Victoria in 1993 and was declared Victoria's first Indigenous Protected Area (Krishnapillai 2000).

The recent efforts to restore aboriginal ownership of land strengthened the conservation movement. Of special interest is that aboriginal men and women are employed as rangers and guides in these areas. Aboriginal involvement and experience had considerable potential for park management. Favorable legal decisions in the recent past, such as for the Mabo, have helped the indigenous people to assert their rights (Chesterman 1997).

Aboriginal and interest-group pressure may still be needed against developments such as mining, despite various statutes recognizing aboriginal rights (Yapp 1982; Rosenbaum 1997). Mining of Jabiluka, at the edge of Kakadu, is a case in point (Sweeney and Cowell 1997). Scientists have found significant risks to natural values due to mining (Pockley 1999). In 1998, UNESCO's World Heritage Committee did not list Kakadu in the endangered list. The conservationists, the Mirrar people, 3 World Heritage technical advisory groups, and 67% of the Australian population were against mining in Jabiluka. More than \$1 million was spent to obtain support from member countries to vote against the "in danger" listing (Schultz 1999). The aboriginal issue is political because any attempt to grant full rights to original owners incurs the wrath of vast numbers of farmers, mineral companies, and loggers. The inevitable political backlash from these groups keeps governments away from any fully recognized amelioration of aboriginal land rights issues.

Concluding Remarks

The preceding analysis shows that public choice theory, charismatic individuals, and international obligations under HCA have helped the Australian wilderness

movement specially during the 1970s and 1980s. The activities of the interest groups were pivotal in all efforts.

Government failure is still apparent in wilderness since decisions were made in the “political market.” However, the political and bureaucratic biases specially in the 1970s and the 1980 were toward wilderness and less for development. The declaration of a number of wilderness parks, recognition of aboriginal rights, introduction of joint management, and legislative protection of wilderness are the most significant achievements. Progress has been made through conservation acts and regulations, in controlling access to logging, grazing, and mineral resource exploration. However, these policies have been only partially successful in their efforts to deliver adequate levels of protection. Many critics believe that government intervention to correct market failure in wilderness protection ensured neither efficiency nor equity (Gerritsen 1990; Knapman and Stoeckl 1995; ANZECC 1977).

However, political bias is influenced by pressure from the constituents, and politicians try to maximize the basis of their political security (Caldwell 1993). The 1990s appear ominous for the wilderness movement. The governments as well as the bureaucrats have shown a bias toward logging and mining industries. The cooptation of government agencies by the interests of the consumptive forestry user groups reflects this bias (Kirkpatrick 1998). There is some evidence of the “regulatory capture” hypothesis. The environmental groups have expressed concern that the implementation of public policies is no longer consistent with the original protection mandate. Thus wilderness protection in Australia is under threat.

There is a need for the wilderness interest groups to be proactive and to continue their efforts by identifying representative areas of wilderness to obtain legislative protection. There is a need for federal legislation rather than the state legislation for wilderness. The recent efforts for federal legislation should be actively supported by all interest groups. A concern for the new millenium is whether wilderness by itself is adequate to generate political support. It is suggested that linking several aspects together such as biodiversity protection and protection of ecosystem values may have a better reception from the political establishment.

Innovative institutional and private management arrangements are relevant for the new millenium. The New Resource Economics offers various models for creating private property rights in public lands. It suggests that government ownership of land can be retained but that private interests be given secure and transferable rights to commodity resources. Here government will retain the rights to resources such as wildlife and water. This provides a broader spectrum of management options for wilderness. Exploring this issue is beyond the scope of this article.

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