Management of old growth forests in accordance with national objectives: Western Australian experience

This paper is a case study of the recent history of the management of Western Australian forests in regard to the development of mechanisms to adequately recognise and protect conservation values that are inherent in old growth forest (OGF). Reference will be made to some of the mechanisms utilised in the United States to manage these precious resources, which in this State, as they have been severely exploited, now exist as remnants. There will also be a discussion of the increasingly important role played by the Commonweatlh as a pacesetter for a set of national environmental standards, often after protracted negotiation, and on occasions resolved only after unsuccessful constitutional challenges to the Commonwealth's legislative comptence.

Old growth forests are unique as they contain highly specialised flora and fauna which is likely to be lost if these forests are converted into even-aged plantations.[1] The wide range of definitions of the terms "old growth forest" reflects a lack of consensus as to whether the term refers to the aesthetic values of forest which has not been disturbed following British settlement, or to the habitat values of such forest, constituted by senescent trees (ie over mature trees) with an associated diversity of growth forms. A small selection of definitions of OGF from a Department of Primary Industries and Energy discussion paper follow.[2]

> "Forests that are both negligibly disturbed and ecologically mature and have conservation and intangible value". *Resource Assessment Commission, 1992*
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> "Forest that is ecologically mature and has been subjected to negligible unnatural disturbance such as logging, roading and clearing. The definition focuses on forest in which the upper stratum or overstorey is in the late mature to over mature growth phases". *National Forest Policy Statement, 1992*
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> "Those communities which are the older developmental stages of forests, and characterised, at least in part, by the following: low growth rates for trees in the tallest stratum, trees in the tallest stratum mature to senescent, very high biomass of individual trees in the highest stratum, trees in the tallest stratum usually more than 100 years old". *Australian Heritage Commission, 1989*
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> "Forest that has not been, or has been minimally, affected by timber harvesting and other exploitative activities by Australia's European colonisers". *Australian Conservation Foundation, 1990*

In Western Australia (WA) forests are managed by the Department for Conservation and Land Management (CALM), which was formed in March 1985 by the amalgamation of three organisations (the Forests Department, the National Parks Authority, and the Wildlife Section of the Department of Fisheries and Wildlife). Under its enabling legislation, the *Conservation and Land Management Act 1984*, CALM oversees the Lands and Forests Commission, in which State forest and timber reserves are vested, and the National Parks and Nature Conservation Authority, in which national parks, nature reserves, marine parks and marine nature reserves are vested.

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[1] Glanznig A. *Native vegetation clearance, habitat loss and biodiversity decline: an overview of recent native vegetation clearance in Australia and its implications for biodiversity (Biodiversity Series Paper No. 6).* Canberra, Biodiversity Unit, Department of Environment, Sport and Territories, 1995; Packard G, Dunnett G. (eds). *Cultural values in forests, Australian Heritage Commission, Technical Publications, Series No. 5. (Proceedings of workshop conducted by the Australian Heritage Commission and National Forest Inventory, 11-12 May 1992).* Canberra, AGPS, 1994.

[2] Dyne GR (ed). *Attributes of old growth forest in Australia. Proceedings of a workshop sponsored by the national Forest Inventory, Canberra, 6-7 May 1991 (Working Paper No. WP/4/92).* Parkes, ACT, Bureau of Rural Resources, Department of Primary Industries and Energy, 1992.

The South West portion of the State contains 2.5 million hectares of public lands, which are managed by CALM for recreation, wood production and nature conservation. Overall there is a total of 512,000 hectares of jarrah and 81,000 hectares of karri within national parks, nature reserves, conservation parks and other types of reserves (excluding timber reserves and State forest). Annually an average of 14,500 hectares of jarrah forest and 1,500 hectares of karri forest are logged, representing one per cent and two per cent of each forest type, respectively.

In conservation reserves there are 135,000 hectares of jarrah OGF, representing 35 per cent of jarrah forest held in reserves, and 40,000 hectares of OGF karri forest, representing 75 per cent of karri forest held in reserves. There is an additional 41,000 hectares of OGF contained in stream and road reserves (consisting of 28,000 hectares of OGF jarrah and 13,000 hectares of OGF karri): Table 1.[3]

Table 1: Old growth forests held in reserves in Western Australia

Held as	hectares
Conservation reserves	
Jarrah forest	135,000
Karri forest	40,000
Excluded from logging (stream & road reserves)	
Jarrah forest	28,000
Karri forest	13,000

Under its enabling Act CALM is required to develop management plans in respect of the public lands under its control, which when approved by the Minister acquire statutory force. The current (1987-1997) plan for the Southern Forest Region, which contains OGF subject to commercial exploitation,was ratified by the Minister on 14 December 1987.

The *Conservation and Land Management Act 1984* stipulates that each management plan must promote or achieve the purpose for which a particular piece of public land is held. CALM's overall approach to the management of public lands rests upon "two fundamental philosophies: sustained yield, and multiple use, and the integration of these philosophies into a systematic approach to land use planning and practical management".[4]

The *Conservation and Land Management Act 1984* stipulates CALM must manage:

1) State forests or timber reserves planted with native species to ensure multiple use and sustained yields, in accordance with long-term social and economic needs;[5]
2) State forests or timber reserves planted with exotic to attain the optimum yield in productivity, in accordance with long-term social and economic needs;[6] and
3) national parks to permit recreation needs to extent this is consistent with the protection of flora and fauna and maintenance of the natural environment.[7]

[3] Adapted from Abbott I, Christensen P. "Looking beyond the obvious." 1995 (Winter) *Landscope* 22, 26; Australian Heritage Commission and Department of Conservation and Land Management. *National estate values in the southern forest region of south-west Western Australia, Volume 1*. Canberra, Australian Government Publishing Service, 1992.

[4] Western Australia, Department of Conservation and Land Management. *Southern forest region regional management plan 1987-1997*. Perth, Department of Conservation and Land Management, 1987, 9.

[5] Conservation and Land Management Act 1984 s 56 (1)(a).

[6] Ibid s 56 (1)(b).

[7] Ibid s 56 (1)(c).

There has been sustained conflict about the woodchipping of karri, marri and jarrah OGF in the Southern Forest Region. Two licenses have been issued for the export of woodchips, Under the *Export Control Act 1982* (Cth):

- license No. 923, granted to Southern Plantations Pty Ltd for woodchips produced from sawmill residues from sawlogging in State forests, and
- license No. 921, granted to WA Chip and Pulp Co Pty Ltd (WACP) (a subsidiary of Bunnings), for woodchips produced from roundwood.

Both licenses contain a number of conditions, including that the exporter shall not produce woodchips from logs removed from areas registered on the National Estate, or on the Interim List of the Register of the National Estate, without written notice from the Commonwealth Minister for Resources, and that operations should "not threaten with extinction or significantly impede the recovery of native species listed in Schedule 1 or on ecological communities in Schedule 2 of the *Endangered Species Protection Act 1992*".[8]

As the preliminary step to the granting of a license to export woodchips is an acceptable environmental assessment, the Environmental Protection Authority (EPA) is responsible for undertaking any State-level assessments, for the proponent for a woodchip export operation to gain an export license from the Commonwealth. The process of environmental assessment will be briefly discussed and reference will be made to the difficulties in monitoring and implementing conditions imposed on environmental grounds.

In the United States there are a number of Federal agencies that administer public lands, and the resources such as OGF, which are on them. The Department of the Interior contains the Bureau of Land Management, the National Park Service and the Fish and Wildlife Service, whereas the Forest Service is located as part of the Department of Agriculture. A similar approach of juxtaposing the production and conservation roles within the Forest Service, as has occurred in Western Australia with the formation of CALM.

In the United States the necessity to determine conflicting value positions over the exploitation of its forests, including OGF, as these resources become increasing scarce, has necessitated a substantial investment of resources in developing comprehensive management plans. A similar process has occurred in Western Australia, with the requirement under the enabling legislation for CALM to produce Regional Management Plans over a ten year period.[9]

The United States Forest Service released in October this year a draft document entitled *The Forest Service Program for Forest and Rangeland Resources: A Long-Term Strategic Plan*,[10] which is required to be produced every five years, under the *Forest and Rangeland Renewable Resources Planning Act 1974*. The draft 1995 RPA Program integrates a Presidential commitment to introducing sustainable forestry management practices by the turn of the century. As an integral part of introducing sustainable utilisation of forestry resources, the program proposes comprehensive sets of principles to achieve appropriate management of the ecosystem as follows.

> "As knowledge and understanding of ecosystems have increased, the Forest Service has shifted its emphasis from sustaining the yield of products to sustaining the ecosystems from which those products are taken. Healthy ecosystems are those that maintain diversity of composition, structure, and function over time and are resilient to stress. Forest Service ethics allow the active use of ecosystems, through both preservation and manipulation, to provide benefits to people-so long as such uses do not unduly risk ecosystem sustainability".[11]

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[8] Conservation Council of WA. *High conservation value forest project, interim report for Western Australia*. Perth, Conservation Council of WA, 1994, 5.

[9] Conservation and Land Management Act 1984 s 55-58.

[10] United States, Department of Agriculture, Forest Service, Resources Program and Assessment Staff. *The Forest Service program for forest and rangeland resources: a long-term strategic plan (draft 1995 RPA program).* Washington DC, United States, Resources Program and Assessment, Forest Service, Department of Agriculture, Forest Service, 1995.

[11] United States, Department of Agriculture, Forest Service, Resources Program and Assessment Staff. *The Forest Service program for forest and rangeland resources: a long-term strategic plan (draft 1995 RPA*

There are some similarities between the imperatives in the United States and Australia at the national level, in that the Keating Government has undertaken to introduce national objectives, such as the *National Forest Policy*, to provide a framework that recognises unique biodiversity and other values that could flow from the maintenance of declining OGF.

An additional impetus for improved management of natural resources by agencies such as the United States Forest Service, arises through the operation of the *Government Performance and Results Act 1993*, which requires that by 30 September 1997 all American Federal agencies shall produce a strategic plan. Similar requirements for greater accountability and for meeting agency responsibilities have been instituted in Western Australia, through Performance Examinations by the Office of the Auditor General, as well as in the Commonwealth sphere.

In a State like Western Australia where resource development is given such an important value, the EPA decision-making process may be closely confined by government policy, where the choices involve aesthetic and recreational values against economic values. It is submitted there may be limited scope for implementation of EPA recommendations in relation to the management of publicly owned forests, as environmental values will be ranked below economic imperatives. There must also be some concern concern as to the dual role of government in relation to the exploitation of the State's forests, for not only is the government a proponent but it is also responsible through CALM for ensuring the forest is not harmed through use.

These positions involve conflicts of interest, for the government is not the beneficial owner as the land is held on trust for the benefit of all the community. The notion that the owner of natural resources holds them on trust for the community's benefit has been developed over a number of years by the courts in the United States. "Under the classic public trust doctrine, the sovereign holds the lands under navigable waters and tidelands in trust for the benefits of its citizens. As trustee, the sovereign has an affirmative duty to protect the trust property and the beneficiaries of the trust, the citizens, have the power to compel the trustee to honour its trust obligations".[12]

Over the past two decades the Western Australian government has sought to develop an environmental framework to manage the public lands for which it is responsible, initially through the *Conservation Through Reserves Committee*, to put into place a process to protect such resources according to their conservation value. The *Conservation Through Reserves Committee* had broken the State into 12 regions, which it referred to as systems, and within each system had identified areas that should be protected by reservation, which could only be exploited if EPA approval was first obtained. In 1987 the former chairman of the EPA, Barry Carbon, noted the shortcomings of protecting flora and fauna through conservation reserves.

"The integrity of the System will not remain intact unless there is some on-going management to protect it from the range of impacts associated with people. ... [However this] will place demands on the managers of conservation reserves to use those reserves to use those reserves as a means to generate funds for their management. Tourism, mining, shooting, fishing, logging, grazing and aquaculture are potential sources of revenue for managers of conservation areas, but all have the potential to detract from values they seek to protect."[13]

The *Environmental Protection Act 1986* has a potentially wide application as it utilises an expansive definition of environment, as being "living things, their physical, biological and social surroundings and interactions between all of these". Assessment under the Act is triggered if the proposed activity has the potential to produce a *significant* environmental impact. A proposal may be subject to one of four broad types of assessment, depending on the significance of the impact of the development on the environment.

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program). Washington DC, United States, Resources Program and Assessment, Forest Service, Department of Agriculture, Forest Service, 1995, 14.

[12] Baer SD. "The public trust doctrine - a tool to make federal administrative agencies increase protection of public land and its resources". (1988) 15 *Boston College Environmental Affairs Bulletin* 385, 387.

[13] Carbon B. "Crown land as a development resource: environmental perspective." In *Proceedings of National Environmental Law Association Conference 4-5 September 1987, Melbourne*. Sydney, National Environmental Law Association, 1987, 94.

1) If considered to have an insignificant impact, the EPA undertakes what it refers to as an Informal Review with Public Advice.[14]
2) In respect of those proposals where the EPA considers there is a need for a formal assessment of the proposed activity, but there are limited environmental consequences stemming from the proposed activity, the EPA conducts a Consultative Environmental Review, with public input typically of a local character.

3) If a more general public interest is identified, the EPA undertakes a Public Environmental Review, which includes formal public participation in the process of deliberation.
4) When a proposal involves complex consequences and is likely to have an impact on a number of processes, the EPA conducts an Environmental Review and Management Program (ERMP).

Once an Environmental Impact Assessment (EIA) is completed and approval is obtained, proponents usually do not need to submit regular reviews. However, as an ERMP will typically involve large scale industrial and resource projects, approval will be subject to the proponent preparing an Environmental Management Program (EMP). An EMP

> "should contain the proponent's management commitments, including those proposed in response to the EPA's assessment report. This document is not usually subject to public review, except in the case of large projects where the proponent's original documentation was seen as inadequate in terms of information content, or where the project is large and may have multiple significant impacts".[15]

In effect the EPA is given the power through the process of EIAs to impose conditions to determine whether OGFs should be exploited and if so, under what conditions. However in reality the role of the EPA is a tenuous one, as CALM is constituted as holding the dual roles of both exploiter and conserver of the State's forest resources.

The *Environmental Protection Act 1986* provides five means of referral of a proposal for EIA by the EPA, depending on whether or not there is a significant impact on the environment. There are two methods provided even if a proposal would not have a significant impact, for a member of the public[16] or for a proponent[17] to refer the proposal to the EPA. The remaining three options provide for referral by the Minister for Environment,[18] for referral by a decision making authority,[19] or for the EPA itself[20] to require a proponent or a decision making authority to submit the proposal for an EIA.

The Act provides for appeals to the Minister for Environment against EPA decisions, the assessment procedure or specific recommendations, with further appeal to an appeal committee, established by the Minister, to resolve appeals against the the Minister's decisions.[21] It would appear the process is intended to limit the opportunities for parties to resort to the courts, in favour of a consultative model that engages interest groups through a public negotiation process, with significant Ministerial influence through appeal.[22]

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[14] Environmental Protection Act 1986 s 40(1)(a).

[15] Bailey J, English V. "Western Australian environmental impact assessment: an evolving approach to environmentally sound development." (1991) 8 *Environmental and Planning Law Journal* 190, 193.

[16] Environmental Protection Act 1986 s 38(1)(b)(ii).

[17] Ibid s 38(1)(b)(i).

[18] Ibid s 38(2).

[19] Ibid s 38(1).

[20] Ibid s 38(3).

[21] A number of procedural changes have recently been instituted by the present Liberal-Country Party State Government, see Gardner A. "Reforming the Environment Protection Authority of WA". (1993) 3 *Australian Environmental Law News* 40.

[22] Environmental Protection Act 1986 s 45.

> "Essentially, the Minister for Environment, informed by the public EPA assessment report and any appeals, becomes a joint decision-maker and consults with all other decision-making authorities as to whether the proposal should be allowed to proceed and if so under what conditions".[23]

Some of the shortcomings with the EPA's consultative model can be illustrated by reference to the renewal to the year 2005 of WA Chip and Pulp Company's (WACP) woodchip license. In its 1989 report[24] the EPA expressed reservations about the adequacy of preservation of remnant strips of OGF between 20 and 400 metres wide along the edges of roads, rivers and streams in the license area.

Disagreements between CALM and the EPA's assessment of the renewal of WACP's license in December 1988[25] resulted in the imposition of Ministerial conditions, including that CALM should take account of National Estate values, and undertake assessments and prepared management plans of additional areas of high value OGF and areas of exceptional aesthetic and faunal value within the license area. Further adverse comment was received from the EPA's assessment of the 1987-1997 Southern Forest Region Management Plan, which CALM had sought to amend in February 1992 in such a fashion to permit a higher yield of timber and woodchips, by redefinition of OGF to include remnant strips left along road and stream reserves.[26] If implemented CALM's proposed management would mean that

> "[o]utside of the conservation reserves and other protected areas, there will be no current old growth forest remaining in about 40 years. In the jarrah forest, clearfelling will be the dominant regeneration treatment and this will result in a trend towards a younger forests over the first cutting cycle. As with karri, old growth will largely disappear in the non-protected majority of the multiple use forests".[27]

In its 1989 report the EPA made a recommendation (Recommendation 4) that in relation to OGF that CALM should (a) determine more appropriate management and harvesting techniques than by clearfelling, and (b) identify areas of high scenic and amenity values that should be preserved and not harvested. Six years after the EPA report, the criteria for determining what constitutes an acceptable portion of OGF is yet to be resolved.[28]

Following the EPA's concern about some of CALM's proposal, the State Government took the unprecedented step of appointing an appeals committee, as provided under the EPA, in an attempt to resolve the struggle between CALM and EPA over acceptable environmental conditions.[29] There were also other inquiries which enabled those concerned about CALM's lack of emphasis on conservation to urge the Commonwealth to review the granting of export licenses, such the Resource Assessment Commission inquiry which had been set up in 1989.[30]

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[23] Bailey J, English V. "Western Australian environmental impact assessment: an evolving approach to environmentally sound development." (1991) 8 *Environmental and Planning Law Journal* 190, 194.

[24] Environmental Protection Authority. *Report and recommendations of the EPA on the Western Australian Woodchip Industry (Bulletin 329).* Perth, Environmental Protection Authority, 1989.

[25] Environmental Protection Authority. *Report and recommendations of the EPA on the Western Australian Woodchip Industry (Bulletin 329).* Perth, Environmental Protection Authority, 1989.

[26] An important outcome of CALM's February 1992 proposed amendments to the Forest Management Plan was that it produced an action for the first time that challenged the adequacy of assessment process relied upon by CALM cf Gardner A. "Case note: Re Minister for the Environment (WA); ex parte South West Forests Defence Foundation (Inc)." (1994 33 *Impact* 16.

[27] Environmental Protection Authority. *Report and recommendations of the EPA on the Department of Conservation and Land Management proposals to amend the 1987 forest management plans and timber strategy and proposals to meet environmental conditions on the regional plans and the WACAP ERMP (Bulletin 652).* Perth, Environmental Protection Authority, 1992, 36.

[28] Nicholson B. "Governments war over old growth." 4 November 1995 *The West Australian*..

[29] Barnett T. *Report examining appeals submitted in relation to the report and recommendations of the EPA on proposals to amend the 1987 forest management plans and timber strategy and proposals to meet environmental conditions on the regional plans and the WACAP ERMP*. Perth, Minister for Environment, 1992.

[30] Resource Assessment Commission. *Forest and Timber Inquiry, draft report, volume 1*. Canberra, Australian Government Publishing Service, 1991.

Since the early ninetines there has also a sustained public campaign concerned with both woodchipping and logging which had followed proposals by the Commonwealth to list significant areas of the Southern Forest on the Register of the National Estate.[31] There was predicably, marked disagreement between the Commonwealth and the Western Australian government over the listing of sites, which resulted in a joint review by the Australian Heritage Commission and CALM.

The essence of the disagreement has been summarised as follows. The Western Australian government argued

> "that only those areas set aside under State legislation as national parks or other nature conservation reserves should be listed in the Register in order to avoid conflict and allow implementation of State government management objectives. The Commission advised CALM that this proposal could not be adopted, as it would be contrary to the Commission's fundamental requirements to list places only on the basis of national estate values".[32]

All States and Territories, with the exception of Tasmania, have signed the National Forest Policy Statement (NFPS), which is an ambitious national strategy to achieve "ecologically sustainable management" of the nation's forests. An objective of the NFPS is for the establishment of a national forest reserve system by developing criteria to ensure the biodiversity, old growth and wilderness values of Australian forests. The Commonwealth has proposed in its July 1995 criteria to achieve these values, for instance, the retention of 15 per cent of forest types benchmarked to the extent of forests at the time of British settlement of Australia.[33]

There is at present, as might have been expected, a marked disagreement over the listing of places on the Register of the National Estate and the criteria contained in the national forest reserve system.[34] In a recent interview the WA Minister for Environment, Peter Foss, reiterated the State's position in regards to the Commonwealth's proposals for inclusion of forests on the Register of the National Estate. "[W]e don't have any

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[31] It should be noted that there has been opposition to woodchipping in Australia since the mid 1970s: Australia, Parliament, Senate Standing Committee on Science and the Environment. *Woodchips and the environment.* Canberra, Australian Government Publishing Service, 1977; Australia, Parliament, Senate Standing Committee on Science and the Environment. *Woodchips and the environment, supplementary report.* Canberra, Australian Government Publishing Service, 1978; Heyligers PC. *The natural history of the Tasmanian, Manjimup and Eden-Bombala woodchip export concession areas*. Canberra, Australian Government Publishing Service, 1977; Jones R (ed). *The vanishing forests? Woodchip production and the public interest in Tasmania*. Environmental Law Reform Group, University of Tasmania, 1975; Rawlinson PA. *Woodchipping in Victoria*. Melbourne, Native Forests Action Council, 1977; Routley R & V. *The fight for the forests: the takeover of Australian forests for pines, woodchips and intensive forestry*. Canberra, Research School of Social Sciences, Australian National University, 1974; South West Forests Defence Foundation. *Non-compliance with the provisions for environmental protection in the Marri woodchip project environmental impact statement*. Perth, South West Forests Defence Foundation, 1979; Walter TS. *Some cost-benefit aspects of woodchipping in Western Australia*. Perth, South West Forests Defence Foundation, 1976; Working Group on the Economic and Environmental Aspects of the Export Woodchip Industry. *Economic and environmental aspects of the export hardwood woodchip industry (2 vols).* Canberra, Forestry and Timber Bureau, Department of Environment and Conservation, 1975.

[32] Australian Heritage Commission and Department of Conservation and Land Management. *National estate values in the southern forest region of south-west Western Australia, Volume 1*. Canberra, Australian Government Publishing Service, 1992, 3.

[33] Australia, Department of Environment Sports and Territories. *National forest conservation reserves, commonwealth proposed criteria: a position paper.* Canberra, Department of Environment Sports and Territories, 1995.

[34] Butler J, Nicholson B. "Greens, industry to fight forest plans." 30 September 1995 *The West Australian*; Greenlees D. "Forest groups get $90,000 grants." 7-8 October, *Weekend Australian*.; McLean L. "Scientists to evaluate forest plan complaints." 23-24 September 1995, *Weekend Australian*; McLean L. "Greens declare war on Labor." 30 September-1 October 1995 *Weekend Australian*; Nicholson B. "Alice in wonderland of a forests debate." 14 August 1995 *The West Australian*.; Nicholson B. "Row erupts over CALM timber role." 5 September 1995 *The West Australian;* Nicholson B. "Governments war over old growth." 4 November 1995 *The West Australian*..

responsibility to the Commonwealth so far as the logging of forests is concerned. We have our own environmental plan and forest management plan which determines what will or will not be logged".[35]

As the Commonwealth has no direct powers in relation to the management of forests in Western Australia or any other State, unless it can establish minimum environmental conditions by agreement, then the Commonwealth must resort to indirect methods to regulate the exploitation of OGF. The restriction on the Commonwealth being able to establish a national approach to environmental conditions to protect OGF arises because

> "where the resource exists within the boundaries of the states, the Commonwealth has no ownership rights over the resource upon which to base its national strategy and in fact must interfere with rights of ownership in order to regulate the development of those resources".[36]

As the Commonwealth was a signatory[37] to the *Convention for the Protection of the World Cultural and Natural Heritage*, which was adopted by the United Nations Educational, Scientific and Cultural Organisation in November 1972, it is able to rely its so-called external affairs power to legislate on the basis of duties imposed on as signatory nation to the Convention. The World Heritage Convention (WHC) has a potentially wide ambit, as it imposes on signatories the duty of undertaking the "identification, protection, conservation, presentation and transmission to future generations of the cultural and natural heritage".

The WHC acquires its effect through the obligation placed on signatories under Article 11 for the registration on the World Heritage List (WHL) of places of high cultural and natural heritage value. In relation to the registration of places of natural heritage value, nominations are considered by the International Union for the Conservation of Nature and Natural Resources with responsibility for final approval resting with the World Heritage Committee.

The Commonwealth's powers to regulate the exploitation of natural resources placed on the WHL was confirmed by the *Tasmanian Dams Case* [38]following the listing in 1982 of the Western Tasmanian Wilderness National Parks and the nomination in 1986 for inclusion on the WHL of the Kakadu National Park in the Northern Territory which culminated in another High Court case, *Peko-Wallsend v the Minister for Arts, Heritage and Environment.*[39]

It is important to distinguish between the power the Commonwealth has in relation to places on the WHL and places which are placed on the Register of the National Estate, as provided for by the *Australian Heritage Commission Act 1975* (AHCA). Whereas many of the places placed on the Register will not qualify for listing on the WHL, it follows that those places of high value which have been registered on the WHL will also be on the Register of the National Estate.

The definition of the National Estate contained in this Act, as "those places, being components of the natural environment of Australia, of the cultural environment of Australia, that have aesthetic, historic, scientific or social significance or other special value for future generations, as well as for the present community",[40] enables the registration of a wide range of places.

Provisions of the WHC have been made part of Australian domestic law with the passage of the *World Heritage Properties Conservation Act 1983*. However in respect of this Act or the AHCA, the Commonwealth Government has few powers to invoke to protect or preserve places listed on the National Estate, as

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[35] Australian Broadcasting Corporation, the Law Report. *Forest fights hit the courts over in WA.* Radio National Transcript:, 29 August 1995.

[36] Rigney SM "Between a rock and a hard place: the imposition of a national strategy of sustainable development with resource security." (1991) 7 *Queensland University of Technology Law Journal* 97, 102.

[37] Ratified by Australia in August 1974.

[38] Commonwealth v Tasmania (1983) 158 CLR 1.

[39] (1986) 70 ALR 523.

[40] Australian Heritage Commission Act 1975 s 4(1).

> "the Commonwealth does not have the constitutional power to make laws with respect to land use and conservation. Thus the [Australian Heritage Commission Act 1975] does not purport to affect the actions of State or local governments nor of individuals in relation to the National Estate".[41]

The key power is contained in Section 30 of the AHCA, which prohibits a Commonwealth Minister or a Commonwealth organisation from undertaking actions that would adversely affect listed places, without first considering alternatives (emphasis added):

30. (1) Each Minister shall give all such directions and do all such things as, consistently with any relevant laws, can be given or done by him for ensuring that the Department administered by him or any authority of the Commonwealth in respect of which he has ministerial responsibilities does not take any action that adversely affects, as part of the national estate, a place that is in the Register unless he is satisfied that there is no feasible and prudent alternative to the taking of that action and that all measures that can reasonably be taken to minimise the adverse effect will be taken and shall not himself take any such action unless he is so satisfied.

…
(3) Before a Minister, a Department or an authority of the Commonwealth takes any action that might affect to a significant extent, as part of the national estate, a place that is in the Register, the Minister, Department or authority, as the case may be, shall inform the Commission of the proposed action and give the Commission a reasonable opportunity to consider and comment on it.

(3A) Where the Commission is informed of a proposed action by a Minister, Department or authority, the Commission shall, as soon as practicable, provide its comments on the proposed action to the Minister, Department or authority (as the case may be).

(4) For the purposes of this section, the making of a decision or recommendation (including a recommendation in relation to direct financial assistance granted, or proposed to be granted to a State) the approval of a program, the issue of a licence or the granting of a permission shall be deemed to be the taking of action and, in the case of a recommendation, if the adoption of the recommendation would adversely affect a place, the making of the recommendation shall be deemed to affect the place adversely.

In relation to woodchipping, as the Commonwealth has full plenary power to regulate the importation or exportation of goods, an export license issued by the Minister for the Environment is required before woodchips may be exported.[42] This means that in respect of OGF which are exploited to extract woodchips for export, the Commonwealth may, if it wished, impose conditions on the company when it is granted a license. Such conditions would affect any extraction of woodchips from both private and publicly-owned lands, though in Western Australia there is little suitable forest outside CALM managed reserves.

The *Export Control (Unprocessed Wood) Regulations* enable the Minister to require applicants for an export license to provide information in relation to seven matters, only one of which is concerned with "the effect on the environment"[43] from the proposed activity. The Minister may by reference to powers contained in the *Environmental Assessment (Impact of Proposals) Act 1974* require a proponent to submit to a Environmental Impact Statement (EIS) or alternatively subject a proposal to a full inquiry. It has been noted that the basis of the Australian approach towards environmental protection drew heavily on principles in the American *National Environmental Policy Act 1969*, which established the concept of an EIS.[44]

There is a specific provision in the Regulations in relation to harm to the environment due to the activities by the license holder viz:

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[41] Tsamenyi BM, Bedding J, Wall L. "Determining the world heritage values of the Lemonthyme and southern forests: lessons from the Helsham inquiry." (1989) 6 *Environmental & Planning Law Journal* 79, 82.

[42] Export Control (Unprocessed Wood) Regulations, Statutory Rules 1986 No. 79.

[43] Ibid, Regulation 7(3)(a).

[44] Preston BJ. "The environmental impact statement threshold test: when is an activity likely to significantly affect the environment?" (1990) 7 *Environmental & Planning Law Journal* 147.

14. (1) Where the Minister has reasonable grounds to believe that -

a) the holder of a licence has not complied with a condition or restriction to which the holder is subject under these Regulations; and
b) by reason of such non-compliance, damage, degradation or disruption of the environment has occurred or there is an imminent threat that such damage, degradation or disruption will occur, the Minister may suspend the licence, vary the conditions or impose additional conditions upon the licence.

The Federal Court handed down a decision in January 1995 in a case[45] which involved an attempt by a Tasmanian conservation organisation to require the Minister to undertake a further EIS before reapproval of a woodchipping company's export license which had been first issued in 1984. Paradoxically while Sackville J found that the Minister's "in principle" approval of the renewal of the license until the end of 1999 was not a decision which invoked the Regulations, nevertheless it was recognised that the project was likely to have a significant impact on the environment. "His Honour noted that this result is not entirely satisfactory. The in principle approval was intended to have significance despite the limitations on its legal effect".[46]

Over the past two decades through a succession of High Court cases the Commonwealth's powers vis-a-vis the States to regulate the exploitation of resources has been substantially expanded. From the *Murphyores* case in 1976,[47] which initially recognised the power of the Commonwealth to indirectly engage in environmental regulation by attaching conditions to export permits, to the *Tasmanian Dams* case, which was reaffirmed by the whole court in *Richardson v Forestry Commission*,[48] under the external affairs power the Commonwealth could if necessary stop activities which resulted in damage to OGF in listed heritage areas.

The shortcomings with what might be referred to as the patchwork quilt approach developed in Australia in relation to OGF, which attempts to mend serious gaps in the Commonwealth's powers to regulate resources which are not owned by the Commonwealth, can be contrasted with the United States, where the Federal government owns a significant amount of land which contains OGF. In the United States important principles for the management of the nation's OGFs has been affirmed by the courts through a number of key Federal statuteus, primarily the *National Forest Management Act 1976* (NFMA), the *National Environment Policy Act 1969* (NEPA), and the *Endangered Species Act 1973* (ESA).[49] Determination of the extent and mode exploitation of resources contained in forests has been determined by reference to the principles of the *Multiple Use Sustained Yield Act 1982* (MUSYA) and the *Federal Land Policy and Management Act 1976* (FLPMA).[50]

The dominance of economic interests over other interests, which has occurred in the Australian context referred to earlier, also occurs in the United States, even though the MUSYA stipulates that forests should be administered by the Forest Service in such a way as to maximise the public benefit.[51] "Although the (MUSYA)

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[45] Tasmanian Conservation Trust Inc v Minister for Resources and Gunns Ltd. Federal Court decision 2/95, 10 January 1995.

[46] Johnson J. "Tasmanian Conservation Trust v the Minister for Resources & Gunns Limited: storing the pulpwood on the stump." (1995) 37 *Impact* 1, 3.

[47] Murphyores Incorporated Pty Ltd v the Commonwealth (1976) 136 CLR 1.

[48] (1988) 164 CLR 261.

[49] Blumm MC. "Ancient forests, spotted owls, and modern public land law". (1991) 18 *Boston College Environmental Affairs Bulletin* 605; Myers GD. "Old-growth forests, the owl, and yew: environmental ethics versus traditional dispute resolution under the Endangered Species Act and other publics lands and resources laws." (1991) 18 *Boston College Environmental Affairs Bulletin* 623.

[50] Coggins GC, Wilkinson CF, Leshy JD. *Federal public land and resources law (3rd ed)*. Westbury, NY, Foundation Press, 1993, ch 7.

[51] An illustration of an emphasis on economic values over other values is contained in O'Toole R. *Run them like businesses: natural resource agencies in an era of federal limits*. Thoreau Institute, 1995.

specifically states that the greatest revenue producing use is not necessarily the most beneficial use, the Forest Service frequently favours high revenue use over other uses due to political pressures".[52]

Similar contradictions are contained in the FLPMA, which contains the provision for the Secretary of the Interior to 'manage the public lands under principles of multiple use and sustained yield'. As has been pointed out this also requires the Forest Service to treat the resources in terms of their revenue-producing potential, which in the case of OGF may result in considerable pressure to exploit the significant amount of timber resources contained in such forest systems.[53]

It has been noted as a result of the Australian approach, which is underpinned by a complex arrangement of constitutional powers involving sharp conflicts between the States and the Commonwealth, a fully fledged national approach has not been established.

> "Despite a plethora of land-use inquiries and reports by parliamentary committees over the years, Australia still lacks any semblance of national land-use policy; there is no systematic evaluation of land-use changes or environmental impacts, apart from a few projects and regional studies; and the mediating institutions supposed to provide some overview, for example, CONCOM (the Council of Nature Conservation Ministers) and AEC (the Australian Environmental Council) are largely talk-shops, easily vetoed by any State".[54]

One commentator has recently suggested the Federal government may in fact possess much greater power than generally appreciated as the Commonwealth Constitution does not, with a few exceptions, establish exclusive powers in relation to the Commonwealth or the States. On this view the "corporations power gives the Commonwealth the power to control the environmental impact of the mining, manufacturing or other activities of trading or financial corporations".[55]

Because of the confirmation of the Commonwealth's considerable potential power, as well as important shifts in thinking about resource exploitation, there is evidence the States and the Commonwealth have started to consider an integrated approach towards regulating the environmental impact of resource projects. It is submitted some of these arrangements may mean it will become even more difficult to protect OGF, as well as other types of resource developments.

An illustration of such arrangement occurred with the signing in May 1992 of the Intergovernmental Agreement on the Environment (IGAE) between the Commonwealth and the States and Territories. Schedule 3 of the IGAE contains the proposition that

> "it is desirable to establish certainty about the application, procedures and function of the environment impact assessment process. to improve the consistency of the approach applied by all levels of government, to avoid duplication of process where more than one Government or level of Government is involved and interested in the subject matter of an assessment and to avoid delays in the process".[56]

While intended to prevent duplication of environmental assessments (EA), under the IGEA Commonwealth decision-making will be virtually delegated, for by accreditation of a State's environmental assessment procedures, the Commonwealth will agree to refrain from conducting its own independent EIS by giving "full faith and credit" to the State's EA. Doubts about the implications of such an arrangement have been raised by Rob Fowler. "It is difficult to see how the acceptance by the Commonwealth decision-makers of the outcomes of

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[52] Baer SD. "The public trust doctrine - a tool to make federal administrative agencies increase protection of public land and its resources". (1988) 15 *Boston College Environmental Affairs Bulletin* 385, 386.

[53] Baer SD. "The public trust doctrine - a tool to make federal administrative agencies increase protection of public land and its resources". (1988) 15 *Boston College Environmental Affairs Bulletin* 385, 417.

[54] Davis B. "Federal-state tensions in Australian environmental management: the world heritage issue." (1989) 6 *Environmental & Planning Law Journal* 66, 76.

[55] Crawford J. "The constitution and the environment." (1991) 13 *Sydney Law Review* 11.

[56] cited in Dawson F. "A major mining project is fast tracked in the Northern Territory, but at what costs?" (1993) 30 *Impact* 6.

State processes could be legally consistent with the independent and unfettered exercise of discretions created by Commonwealth legislation".[57]

Another arrangement between the States and Territories and the Commonwealth with respect to environmental management, which would fetter the Commonwealth's role, would arise through the introduction of resource security legislation. The possibility of such legislation was flagged in March 1991 in an Industry Statement whereby the Commonwealth would guarantee the development and operation of new woodpulp mills in Australia.

The Industry Statement indicated the thrust of legislation and Commonwealth-State agreements would "include undertakings by the Commonwealth to take no action under s 30 of the Australian Heritage Commission Act 1975 to limit wood supply below estimated volumes, and to not use any other power available to it (including its export powers) to prevent an approved project from exporting, or using in Australia, all wood made available to it by the State under the Agreement".[58]

However there are criticisms about proposed forestry resource security legislation as not only would it have a tendency to underpin uneconomic activities and shield such operations from scrutiny, but also provide the States with a greater degree of freedom from Commonwealth control.

> "It is an integrated process involving agreement between Commonwealth/state/entrepreneur on the project after a survey has been carried out, assessing its environmental implications, followed by supporting Commonwealth/state legislation. The key to the scheme is that the Commonwealth is bound by this agreement not to use its available constitutional powers eg trade and commerce, external affairs, corporations power, to affect it".[59]

The Commonwealth has attempted to allay concerns that such an interlocking arrangement would fetter its powers and so result in the continued destruction of OGF by States driven by economic imperatives. In defence of such arrangements the Commonwealth has claimed resource security legislation would be a method of shifting reliance for woodchips from OGF to plantations, as the overall scheme would "include provision for the establishment of plantations under an agreed timetable to provide for long-term timber supply with the object of phasing out woodchip export and to relieve pressure on native forests".[60]

Another influence on the development of national resource policy has been the growing reference to the concept of "sustainable development", as a framework to harmonise competing views about the exploitation of OGF and other natural resources.[61] The term sustainable development has been used extensively by international bodies like the World Commission on Environment and Development, to reflect the need to achieve a balance between the needs of the "present generation without compromising the ability of future generations to meet their own needs".[62]

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[57] Fowler R. "Implications of resource security for environmental law". Paper presented at The Challenge of Resource Security, Law and Policy Conference, Perth, September 1992 cited in Dawson F. "A major mining project is fast tracked in the Northern Territory, but at what costs?" (1993) 30 *Impact* 6.

[58] Fowler R. "Resource security legislation: the Commonwealth proposals." (1991) 16 *Legal Service Bulletin* 116, 117.

[59] Rigney SM "Between a rock and a hard place: the imposition of a national strategy of sustainable development with resource security." (1991) 7 *Queensland University of Technology Law Journal* 97, 98.

[60] Fowler R. "Resource security legislation: the Commonwealth proposals." (1991) 16 *Legal Service Bulletin* 116, 117

[61] Green R, Harris S, Throsby D. *Ecologically sustainable development working groups, final report - forest use.* Canberra, Australian Government Publishing Service, 1991.

[62] Cited in Boer B. "Natural resources and the national estate." (1989) 6 *Environment & Planning Law Journal* 134, 135.

In Australia this term has been adopted to achieve a balance between acute conflict between aesthetic, environmental and economic values, especially in relation to OGF, as well as other our natural resources.[63] It has recently been suggested "there is some acceptance of the concept of 'sustainable development' as being part of the answer to the eternal conflict in values represented by those who wish to conserve the environment and those who wish to exploit it".[64]

At this point in time one would need to be very optimistic to believe that the greater collaboration between the Commonwealth and this State will result in a greater degree of protection of OGF. The tension between economic imperatives and conservation values has meant up to the present the former values have been superordinate, with the Commonwealth a reluctant intervener, by either stricter monitoring of compliance with export licenses or through listing of OGF through listing on the Regiter of the National Estate. The public trust doctrine, which has played a significant role in shaping the options for review of management practices in the United States, if developed in Western Australia, may be a potent tool to cause a fundamental shift to recognise the conservation values of old growth forests.

[63] Bonyhady T. *Places worth keeping - conservationists, politics and law*. Sydney, Allen & Unwin, 1993; Toyne P. *The reluctant nation*. Sydney, Australian Broadcasting Corporation, 1994.

[64] Boer B. "Natural resources and the national estate." (1989) 6 *Environment & Planning Law Journal* 134.

Bibliography

Abbott I, Christensen P. “Looking beyond the obvious.” 1995 (Winter) *Landscope* 22.

Angel J. “Defence through the courts: the south east and north east NSW forestry disputes.” In *Defending the environment: a public interest environmental law conference, Adelaide, 7-8 May 1994*.

Australia, Department of Prime Minister. *National Forest Policy Statement*. Canberra, Department of Rime Minister, 1992.

Australia, Department of Environment Sports and Territories. *National forest conservation reserves, commonwealth proposed criteria: a position paper.* Canberra, Department of Environment Sports and Territories, 1995.

Australia, Department of Environment Sports and Territories. *Commonwealth environmental and heritage obligations and assessments relevant to the regional forest agreement process.* Canberra, Department of Environment Sports and Territories, 1995.

Australia, Parliament, Senate Standing Committee on Science and the Environment. *Woodchips and the environment.* Canberra, Australian Government Publishing Service, 1977.

Australia, Parliament, Senate Standing Committee on Science and the Environment. *Woodchips and the environment, supplementary report.* Canberra, Australian Government Publishing Service, 1978.

Australian Broadcasting Corporation, the Law Report. *Forest fights hit the courts over in WA.* Radio National Transcript:, 29 August 1995.

Australian Heritage Commission and Department of Conservation and Land Management. *National estate values in the southern forest region of south-west Western Australia, Volume 1*. Canberra, Australian Government Publishing Service, 1992.

Baer SD. “The public trust doctrine - a tool to make federal administrative agencies increase protection of public land and its resources”. (1988) 15 *Boston College Environmental Affairs Bulletin* 385.

Bailey J, English V. “Western Australian environmental impact assessment: an evolving approach to environmentally sound development.” (1991) 8 *Environmental and Planning Law Journal* 190.

Barnett T. *Report examining appeals submitted in relation to the report and recommendations of the EPA on proposals to amend the 1987 forest management plans and timber strategy and proposals to meet environmental conditions on the regional plans and the WACAP ERMP*. Perth, Minister for Environment, 1992.

Blumm MC. “Ancient forests, spotted owls, and modern public land law”. (1991) 18 *Boston College Environmental Affairs Bulletin* 605.

Boer B. “Natural resources and the national estate.” (1989) 6 *Environment & Planning Law Journal* 134.

Bonyhady T. *Places worth keeping - conservationists, politics and law*. Sydney, Allen & Unwin, 1993.

Butler J, Nicholson B. “Greens, industry to fight forest plans.” 30 September 1995 *The West Australian.*

Carbon B. “Crown land as a development resource: environmental perspective.” In *Proceedings of National Environmental Law Association Conference 4-5 September 1987, Melbourne*. Sydney, National Environmental Law Association, 1987.

Coggins GC, Wilkinson CF, Leshy JD. *Federal public land and resources law (3rd ed)*. Westbury, NY, Foundation Press, 1993, ch 7.

Conservation Council of WA. *High conservation value forest project, interim report for Western Australia*. Perth, Conservation Council of WA, 1994.

Cornwall A. “Class actions get go ahead.” (1995) 20 *Alternative Law Journal* 138.

Crawford J. “The constitution and the environment.” (1991) 13 *Sydney Law Review* 11.

Davis B. “Federal-state tensions in Australian environmental management: the world heritage issue.” (1989) 6 *Environmental & Planning Law Journal* 66.

Dawson F. “A major mining project is fast tracked in the Northern Territory, but at what costs?” (1993) 30 *Impact* 6.

Dyne GR (ed). *Attributes of old growth forest in Australia. Proceedings of a workshop sponsored by the national Forest Inventory, Canberra, 6-7 May 1991 (Working Paper No. WP/4/92)*. Parkes, ACT, Bureau of Rural Resources, Department of Primary Industries and Energy, 1992.

Environmental Protection Authority. *Report and recommendations of the EPA on the Western Australian Woodchip Industry (Bulletin 329)*. Perth, Environmental Protection Authority, 1989.

Environmental Protection Authority. *Report and recommendations of the EPA on the Department of Conservation and Land Management proposals to amend the 1987 forest management plans and timber strategy and proposals to meet environmental conditions on the regional plans and the WACAP ERMP (Bulletin 652)*. Perth, Environmental Protection Authority, 1992.

Fowler R. “Resource security legislation: the Commonwealth proposals.” (1991) 16 *Legal Service Bulletin* 116.

Fuller A. “The role of the community in the introduction and implementation of wilderness legislation in New South Wales, Victoria and South Australia.” In *Defending the environment: a public interest environmental law conference, Adelaide, 7-8 May 1994.*

Gardner A. “Case note: Re Minister for the Environment (WA); ex parte South West Forests Defence Foundation (Inc).” (1994 33 *Impact* 16.

Glanznig A. *Native vegetation clearance, habitat loss and biodiversity decline: an overview of recent native vegetation clearance in Australia and its implications for biodiversity (Biodiversity Series Paper No. 6)*. Canberra, Biodiversity Unit, Department of Environment, Sport and Territories, 1995.

Green R, Harris S, Throsby D. *Ecologically sustainable development working groups, final report - forest use*. Canberra, Australian Government Publishing Service, 1991.

Greenlees D. “Forest groups get $90,000 grants.” 7-8 October, *Weekend Australian*.

Heyligers PC. *The natural history of the Tasmanian, Manjimup and Eden-Bombala woodchip export concession areas*. Canberra, Australian Government Publishing Service, 1977.

Johnson J. “Tasmanian Conservation Trust v the Minister for Resources & Gunns Limited: storing the pulpwood on the stump.” (1995) 37 *Impact* 1.

Jones R (ed). *The vanishing forests? Woodchip production and the public interest in Tasmania*. Environmental Law Reform Group, University of Tasmania, 1975.

Kaufmann MR, Moir WH, Bassett RL *Old-growth forests in the southwest and Rocky Mountains regions, proceedings of a workshop, March 9-13, 1992, Portal Arizona (General technical report RM-213).* Fort Collins, Colorado, United States Department of Agriculture Forest Service, 1992.

Keim S. “Environmental policy making - insiders, outsiders and other tales.” (1993) 32 *Impact* 1.

Kimmins H. *Balancing act: environmental issues in forestry*. Vancouver, UBC Press, 1992.

Law Society of WA. *A seminar on enforcing environmental protection*. Perth, Law Society of WA, 1991.

Lewis N, Mangos N. “Legal rights for natural things.” (1994) 19 *Alternative Law Journal* 168.

MacDonald CJ (ed). *Environmental ethics: sustainability, competition and forestry*. Centre for Applied Ethics, University of British Columbia, 1993. (http://www.ethics.ubc.ca/papers/susdev.html)

McDonald J. “The framework for criminal prosecutions.” In *Conference papers, eleventh annual conference, National Environmental Law Association, 20-22 September 1992, Perth.* Adelaide, Australian Centre for Environmental Law, University of Adelaide, 1992.

McLean L. “Scientists to evaluate forest plan complaints.” 23-24 September 1995, *Weekend Australian.*.

McLean L. “Greens declare war on Labor.” 30 September-1 October 1995 *Weekend Australian.*

Meeks G, Schwoch S (eds). *State land conservation and growth management policy, a legislators guide*. Washington DC, National Conference of State Legislatures, 1990.

Myers GD. “Old-growth forests, the owl, and yew: environmental ethics versus traditional dispute resolution under the Endangered Species Act and other publics lands and resources laws.” (1991) 18 *Boston College Environmental Affairs Bulletin* 623.

National Environmental Law Association of Australia. *Conference papers, 4-5 September 1987*. Sydney, National Environmental Law Association of Australia, 1988.

National Environmental Law Association of Australia. *Eleventh annual conference, 20-22 September 1992, conference papers*. Adelaide, Australian Centre for Environmental Law, University of Adelaide, 1993.

Native Forest Network. *Who’s who of Australian export woodchipping*. Deloraine, Tasmania, 1995. (E-mail: cadwood@peg.apc.org)

Nicholson B. “Alice in wonderland of a forests debate.” 14 August 1995 *The West Australian*.

Nicholson B. “Row erupts over CALM timber role.” 5 September 1995 *The West Australian.*

Nicholson B. “Governments war over old growth.” 4 November 1995 *The West Australian*.

O’Toole R. *Run them like businesses: natural resource agencies in an era of federal limits*. Thoreau Institute, 1995.

Packard G, Dunnett G. (eds). *Cultural values in forests, Australian Heritage Commission, Technical Publications, Series No. 5. (Proceedings of workshop conducted by the Australian Heritage Commission and National Forest Inventory, 11-12 May 1992).* Canberra, AGPS, 1994.

Preston BJ. *Environmental litigation.* Sydney, Law Book Company, 1989.

Preston BJ. “The environmental impact statement threshold test: when is an activity likely to significantly affect the environment?” (1990) 7 *Environmental & Planning Law Journal* 147.

Preston BJ. “Judicial review in environmental cases.” (1993) 10 *Australian Bar Review* 147.

Raff M. “Enforcing standards of environmental impact assessment.” In *Defending the environment: a public interest environmental law conference, Adelaide, 7-8 May 1994*.

Rawlinson PA. *Woodchipping in Victoria*. Melbourne, Native Forests Action Council, 1977.

Resource Assessment Commission. *Forest and Timber Inquiry, draft report, volume 1*. Canberra, Australian Government Publishing Service, 1991.

Rigney SM “Between a rock and a hard place: the imposition of a national strategy of sustainable development with resource security.” (1991) 7 *Queensland University of Technology Law Journal* 97.

Routley R & V. *The fight for the forests: the takeover of Australian forests for pines, woodchips and intensive forestry*. Canberra, Research School of Social Sciences, Australian National University, 1974.

Schoombee H. “Public interest litigation: facing the twin hurdles of standing and an undertaking for damages.” *Proceedings of a seminar on enforcing environmental protection*. Perth, Law Society of WA & National Environmental Law Association, WA Division, 1991.

South West Forests Defence Foundation. *Non-compliance with the provisions for environmental protection in the Marri woodchip project environmental impact statement*. Perth, South West Forests Defence Foundation, 1979.

Squillace M. “An American perspective on environmental assessment in Australia.” (1995) 20 *Columbia Journal of Environmental Law* 43.

Stevenson C. “The definition and offence of pollution: Palos Verdes and beyond.” *Proceedings of a seminar on enforcing environmental protection.* Perth, Law Society of WA & National Environmental Law Association, WA Division, 1991.

Toyne P. *The reluctant nation*. Sydney, Australian Broadcasting Corporation, 1994.

Tsamenyi BM, Bedding J, Wall L. “Determining the world heritage values of the Lemonthyme and southern forests: lessons from the Helsham inquiry.” (1989) 6 *Environmental & Planning Law Journal* 79.

United States, Department of Agriculture, Forest Service, Resources Program and Assessment Staff. *The Forest Service program for forest and rangeland resources: a long-term strategic plan (draft 1995 RPA program).* Washington DC, United States, Resources Program and Assessment, Forest Service, Department of Agriculture, Forest Service, 1995.

Walter TS. *Some cost-benefit aspects of woodchipping in Western Australia*. Perth, South West Forests Defence Foundation, 1976.

Western Australia, Department of Conservation and Land Management. *Southern forest region regional management plan 1987-1997*. Perth, Department of Conservation and Land Management, 1987.

Working Group on the Economic and Environmental Aspects of the Export Woodchip Industry. *Economic and environmental aspects of the export hardwood woodchip industry (2 vols)*. Canberra, Forestry and Timber Bureau, Department of Environment and Conservation, 1975.