

Flood-prone caravan parks in NSW – is the system failing?

*Stephen Yeo and Paul Grech consider the effectiveness
of planning controls in managing flood risk at caravan parks*

Summary

This paper assesses the effectiveness of the planning system in relation to flood-prone caravan parks in New South Wales. The hazardous location of many caravan parks, allied with the typically high vulnerability to flooding of caravans and their occupants, represents a high risk situation. Reasons for this are explored, including the historical evolution of caravan parks and planning controls, councils' implementation of those controls, and the role of the Land and Environment Court of NSW. It is argued that flood planning controls have failed to recognise the changing nature of caravan parks. Recommendations to improve flood risk management in caravan parks in NSW include using development controls to manage new developments and to require community awareness measures and emergency planning as a condition for granting approvals to operate parks.

Introduction

Floodplain management policy in New South Wales is regarded as close to international best practice. The last 15–20 years have witnessed impressive advances in managing flood risks (Keys, 2006). Despite substantial investment in treating flood risks, however, damaging floods continue to occur.

One sector that appears to be particularly exposed to flood losses is the caravan park. This is a place where tourists may be accommodated in tents, traditional caravans or 'cabins' (prefabricated buildings transportable in modules by trucks and generally referred to as 'manufactured homes'). A caravan park may also function as a low-cost place of permanent residence. Parks developed specifically for permanent residents, predominately consisting of manufactured homes, are known as 'manufactured home estates'.

A disproportional number of families living in caravan parks (21 per cent) were given relief payments after the April/May 1988 NSW floods (Lambley & Cordery, 1992). Vans were carried about 200 metres, a 53-year old woman was drowned, and a disabled man was rescued at the last minute during flash flooding at a caravan park in Coffs Harbour in November 1996. Floodwaters destroyed vans at Nundle in November 2000. Relatively frequent flooding (1 in 15 years) caused direct losses of about \$25,000 for two caravan parks located on Palmers Island in March 2001, as well as substantial indirect losses through cancellations (refer to Figure 1 for these locations).

An investigation of the April 1998 floods in the United Kingdom found significant culpability with the planning system, which it was said had 'failed to safeguard people and caravans from extreme flood hazard and to recognize that caravan parks represent a highly exposed floodplain land use' (McEwen *et al.*, 2002, p.299). The chief purpose of this paper is to examine whether a similar conclusion can be reached for caravan parks in NSW.

First we provide an overview of the current hazardousness and vulnerability of caravan parks and their occupants. We do not adopt a dogmatic definition of vulnerability, but rather view it broadly as 'a measure of the susceptibility to suffer loss or damage' (Buckle *et al.*, 2001, p.8). A review of the evolution of caravan parks and planning controls, the implementation of those controls, and recent Court judgements, provides a context for understanding the current pattern of exposure to floods. We conclude with a number of recommendations for improving the management of flood risk at caravan parks in NSW.

How hazardous are caravan parks?

A comprehensive assessment of the degree of flood-liability of caravan parks in NSW is not available. Anecdotal evidence suggests that a majority of caravan parks are subject to flooding. A survey of caravan parks from four local government areas (Tweed, Hawkesbury, Baulkham Hills and Eurobodalla, located on Figure 1) – representing 10 per cent of the State's nearly 900

registered parks – suggests that about three-quarters of parks are flood-prone, where flood-prone land is taken to include land flooded by the Probable Maximum Flood, along with land potentially inundated by storm surge conditions (Yeo, 2003).

Figure 1. Location of places described in text.



A qualitative assessment found that although caravan parks in NSW are subject to a diverse range of flood hazards, a significant proportion of caravan parks are subject to a high flood hazard, which was rated according to frequency, depth, velocity and extent of flooding (Table 1).

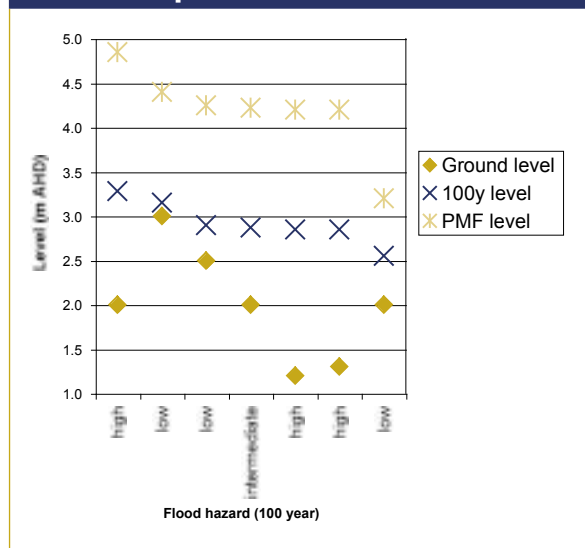
Table 1. Flood risk matrix for caravan parks in NSW.

(Based on interviews and site inspections from 71 parks in coastal NSW – Yeo, 2003)

		Vulnerability			Total
		Low	Medium	High	
Hazard	Low	3%	14%	13%	30%
	Medium	1%	15%	8%	25%
	High	8%	11%	25%	45%
	Total	13%	41%	46%	100%

An assessment of provisional hydraulic hazard along the floodplain of the Camden Haven River (located on Figure 1) indicates that three out of seven caravan parks are subject to high hazard, one of which would experience a depth of 1.7m and flow velocity of 0.5m/s in the 100 year flood (Figure 2). The consequences of such flooding could be disastrous. In addition, low-lying access roads mean that some parks will be regularly cut off (Bewsher Consulting, 2004).

Figure 2. Hydraulic hazard for seven caravan parks along Camden Haven River floodplain.



More work is needed to systematically assess the hazards to caravan parks in NSW. Nevertheless, the available evidence indicates that a high proportion of caravan parks occupy flood-prone locations, and a significant proportion of these occupy highly hazardous sites.

How vulnerable are caravans and their occupants?

Property

Figure 3 demonstrates the susceptibility of caravans to floodwaters. Traditional caravans are constructed using aluminium cladding on a timber frame, with veneer chipboard or veneer ply furniture (Smith *et al.*, 1990, Vol. 2, p.10). Even shallow inundation causes severe damage to caravans, indicated by abrupt stage-damage curves (Hall *et al.*, 2000). Moreover, vans easily become buoyant, which can raise flood levels by blocking culverts, exacerbate losses by collision with other objects, and pose hazards to boat rescue operations.

Damage to contents can also be severe with floor coverings easily destroyed at very shallow depths. There is also limited potential to raise items above water inundation (Smith *et al.*, 1990, Vol 2., p.10).

People

Caravan park occupants' high level of vulnerability is emphasised by a consideration of their composition. Table 2 indicates that the nearly 900 registered caravan parks in NSW cater for both short-term tourists and long-term residents. Each group presents a different profile of vulnerability to flooding.



Figure 3. Caravan after November 1996 flood.
(Source: Coffs Harbour Advocate).

Table 2. Number of caravan parks in NSW according to site type.

(Based on the Department's May 2003 register of caravan parks, which has not been updated for several years. Data do not include 50 primitive camping grounds and 9 manufactured home estates.)

Nature of caravan park	Number of caravan parks
LT = Long-term	
ST = Short-term	
C = Camping	
LT sites only	53
ST/C sites only	263
Both LT and ST/C sites	580
No. of LT sites > No. of ST/C sites	109
No. of ST/C sites > No. of LT sites	437
No. of LT sites = No. of ST/C sites	34
TOTAL	896

Tourists tend to lack awareness of the risk. They can also dramatically swell the logistical task. In the order of 5,000 people would need to be evacuated from caravan parks near Tweed Heads if severe flooding of the Tweed estuary on the far north coast of NSW (Figure 1) was predicted during the peak holiday season (Yeo, 2003).

The Census data in Table 3 indicate that residents of caravan parks include relatively short-stay occupants, who also may lack awareness of the risk. Residents are often elderly and retired. Those in the workforce tend to be employed in low-paying jobs, and a relatively high proportion are unemployed. There is a clear association between living in a caravan park and low income (cf. Hunter *et al.*, 2006). These characteristics point to the

likelihood of difficult emergency evacuation (high level of aged) and reduced capacities to recover after floods by repairing or relocating (low savings and income levels).

Table 3. Socio-economic data for residents of caravan parks in Australia, 2001 Census.

(Source: Wensing *et al.*, 2003, p.21 and App. 2)

	Caravan Parks	Australia
At same address in 1996	38%	52%
Age: 65 and over	23%	13%
Age: 55–64	19%	9%
Household type: lone person household	60%	24%
Household type: couple without children	25%	11%
Labour force status: not in labour force	51%	35%
Labour force status: unemployed	9.9%	4.4%
Occupation: labourers and related workers	25%	9%
Household income: less than \$500/week	62%	25%
Post-school qualifications: university degree	2%	13%

Business

Another aspect of vulnerability is vulnerability of the caravan park business itself. Damage to infrastructure, and lost trade – blamed by a few proprietors on prolonged and unfounded adverse media coverage – represented significant costs to caravan parks flooded in March 2001 (Yeo, 2003). At one park, the owner/manager had borrowed to purchase the park, and could not survive the loss only six months later. The stress of the situation had prompted the manager to resume smoking.

Trends

An assessment of vulnerability needs to acknowledge that vulnerability is not simply a state but a process. Figure 4 shows a four-fold increase in the number of 'cabins, flats etc' in caravan parks in NSW from 1986 to 1997, growth that was set against a decrease in total capacity. Another series reveals the addition of more than 6,000 'cabins, flats etc' from 1997 to 2003, while the number of 'other powered' sites (excluding on-site vans) and unpowered sites decreased proportionally (ABS, 2000, 2003). 'Cabins' in the Australian Bureau of Statistics' surveys seem to include both short-term (tourist) and long-term (resident) housing. The importance of this change for our inquiry is the

replacement of dwellings that can be evacuated from a floodplain by dwellings that are generally much less mobile. In essence, property exposure has increased.

Identifying trends in the number of people living in caravan parks is a rather more complicated task. On a state-wide basis, the number of long-term residents increased from 1986 to 1990 (Figure 5), consequent to the introduction of Ordinance No. 71 under the *Local Government Act 1919* in 1986, which officially validated long-term residency. As well as exposing more people (and more vulnerable people) to flooding, long-term residency tends to generate greater capitalisation, exposing more property to flood hazards (Lambley & Cordery, 1992). Table 2 indicates that 53 caravan parks in NSW today cater exclusively for long-term residents, and another 109 parks have a majority of sites dedicated to long-term residents. Perhaps up to 30,000 permanent residents currently dwell in caravan parks in NSW (Office of Fair Trading, 2004, p.5).

From 1991, the number of long-term residents living in NSW parks declined, influenced strongly by a decrease in the Sydney Statistical Division (Figure 5). This decrease in caravan parks providing long-term resident sites has reportedly continued over recent years, driven by the growth of lucrative retirement tourism and by rising land prices that have boosted owners' incentive to sell to developers (Park and Village Service, 2002). In one respect this has benefits, since fewer residents may be exposed to flood hazards, but in another respect, the loss of affordable housing may force residents into even more economically marginal settings.

Figure 4. Number of 'cabins, flats etc' and total number of sites in NSW caravan parks, 1986-97.

(Source: ABS Survey of tourist accommodation; Yeo, 2001)

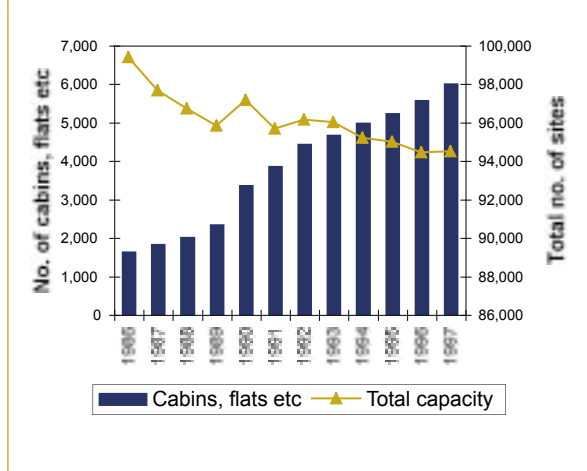
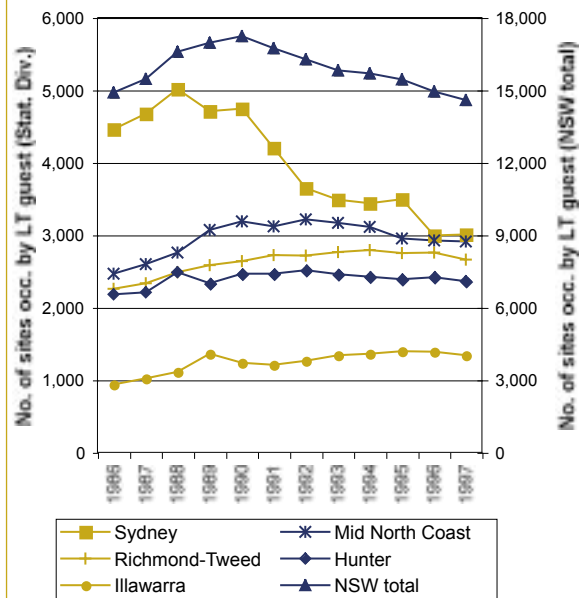


Figure 5. Number of sites occupied by long-term guests in NSW caravan parks, 1986-97.

(Source: ABS Survey of tourist accommodation; Yeo, 2001)



Preparedness

Given the hazardous location of many caravan parks, and the high vulnerability of caravans, their occupants and the business of running the park, mechanisms should be in place to manage the risk. However, an investigation by Yeo (2003) found that this is generally not the case. A high turnover of park managers means that most have no experience of floods, and they often deny or underestimate the risk. Most cabins and 'relocatable' homes, as well as many permanent caravans, could not be shifted in the available warning time, at least for the coastal rivers that were the subject of that study. Most caravan parks have no markers or notices to signify a flood risk. The process of flood response planning by caravan park operators is patchy and of poor quality. An assessment of the overall preparedness of caravan parks, rated according to the perceived level of community awareness, the status of flood response planning, the attitude of the manager and the potential for van removal, found that only 13 per cent of the sample was well prepared (ie had a low 'vulnerability', see Table 1).

Retrospect: how has this situation arisen?

Many caravan parks in NSW are flood-prone; some are dangerously flood-prone. These parks typically contain vulnerable people living in vulnerable structures. Often, very little has been done to prepare for flooding.



Flooded property, Gunnedah, 1998.

Together, these elements signify a high risk situation. In order to address this risk, it is first important to understand how this situation has arisen.

History of caravan parks and planning controls

Caravan parks historically provided low-cost, short-term accommodation. From the early 1900s, caravan parks provided a traditional venue for holidaying in Australia. Often they were located in open space zones and in public reserves proximate to natural assets such as beaches and rivers. Consequently, caravan parks were often developed in floodplains. Up until the 1960s and 1970s, parks were generally unsophisticated, with large areas devoted to campsites, clustered around basic amenities, and were considered by planners to be appropriate uses in open space zones and reserves due to a scarcity of permanent structures and the recreational tourism function of parks.

Gradually, and unofficially, caravan parks accepted extended stays. Pressure for long-term stays increased in the 1980s, with economic recession fuelling rises in housing interest rates and real estate values, generating a shortfall in affordable housing. In Wollongong in 1982/83, the coal and steel industries experienced sharp downturns and laid off thousands of workers, forcing people out of houses and into caravans. Legislation evolved both proactively and reactively in response to the emerging trend to adapt caravan parks to provide low cost housing opportunities. A selection of legislation pertaining to our topic is listed, and key points are summarized, in Table 4.

Permanent residency in caravan parks in NSW was officially validated in 1986 by the introduction of Ordinance No. 71. Since then various pieces of legislation have been introduced to increase the security of tenure for long-term residents of caravan parks. Although in 1986 it was recognised that caravan parks accommodating long-term residents should not be located on flood-prone land, the reality of the situation led to concessions for existing parks. Similarly, although the Ordinance required councils to 'have regard to the principles contained in the Floodplain Development Manual' before approving the installation

of manufactured homes or rigid annexes on flood-prone land in caravan parks, moveable dwellings manufactured before 1987 were exempt. The Regulations that replaced Ordinance No. 71 in 1995 and subsequently in 2005 continued this non-retrospectivity. Thus, a significant proportion of the flood-labile dwellings in caravan parks today pre-date regulatory controls, because about 80% of caravan parks in NSW existed before 1986 (Hassall & Associates, 2005, p.4).

In addition to the legislation recorded in Table 4, Local Environmental Plans (LEPs) often evolved to provide specific regulations in regard to caravan parks and manufactured home estates. LEPs are the principal form of land use zoning plan in NSW, controlling the permissibility of development in various zones, with decisions based upon a range of issues of which flooding is just one. Experience has shown that LEPs often permit caravan parks and manufactured home estates in floodplains because of their pre-existence in such locations. The prohibition of such uses will not necessarily lead to their removal from any location, including a hazardous floodplain, since *existing use rights* would prevail.

A key reason for the high level of exposure of caravan parks to flooding is the failure of the emerging planning controls to address the historical legacy and the particular risks resulting from the transition of caravan parks from providers of tourist accommodation to permanent accommodation. In effect, the need for affordable accommodation was given more weight than the potential for flood disaster.

In this context it is informative to consider a recent correspondence. In 2002, the NSW State Emergency Service (SES) made a submission to the Government Working Party on the future of caravan parks in NSW (Keys, 2002). It argued that flooding threatens the sustainability of caravan parks, and called for a review of the *Local Government (Caravan Parks, Camping Grounds and Moveable Dwellings) Regulation 1995*. The submission was found to be outside the terms of reference for the Working Party, which was set up to address the closure of caravan parks and dislocation of long-term residents.



Short-stay cabins, Gunnedah, 1998.

Table 4. Summary of selected legislation.

Year	Legislation	Significance
1986	<i>Ordinance 71 (Caravan Parks and Moveable Dwellings)</i> , under the <i>Local Government Act 1919</i> , introduced.	Provided legal recognition and official State Government support for permanent residency in caravan parks. Required councils to have regard to the principles contained in the Floodplain Development Manual before approving the installation of an unregistrable moveable dwelling or a rigid annexe on flood liable land (Clause 91).
1986	<i>Department of Environment and Planning Circular No. 108 (Guidelines for the Location of Caravan Parks Accommodating Long Term Residents)</i> issued.	Advised that ' <i>caravan parks accommodating long-term residents should not be located on flood-liaible land</i> ', but conceded that ' <i>councils will have to accept the reality of the situation and grant licenses to [existing] parks with predominantly long-term occupation, which do not fulfil the criteria in these guidelines</i> '.
1989	<i>Community Land Development Act</i> gazetted.	Provided a titling mechanism alternative to leasehold titles, increasing the attractiveness of manufactured homes as a legitimate form of permanent housing.
1992	<i>State Environmental Planning Policy (SEPP) 21—Caravan Parks</i> , under the <i>Environmental Planning and Assessment Act 1979</i> , gazetted.	Required that development consent be obtained from the local Council for development for the purposes of caravan parks. Required councils to consider ' <i>whether, because of its location or character, the land concerned is particularly suitable for use as a caravan park for tourists or for long-term residence</i> ' (Clause 10(a)).
1993	<i>SEPP 36—Manufactured Home Estates</i> gazetted.	Allowed, with development consent, manufactured home estates on certain land on which caravan parks are permitted. Permissible land excluded the Sydney Region (except Gosford and Wyong LGAs) and land identified in the LEP ' <i>which the Council, after taking into account the principles set out in the Floodplain Development Manual, considers is unsuitable because of flooding</i> ' (Clause 6(a) and Item 2, Schedule 2).
1994	<i>Residential Tenancies (Caravan Parks and Manufactured Housing Estates) Amendment Act 1994</i> gazetted.	Further increased security of tenure for persons who owned a principal place of residence, that is, a manufactured home or caravan with a rigid annex, on a rented site.
1995	<i>Local Government (Caravan Parks, Camping Grounds and Moveable Dwellings) Regulation 1995</i> , under the <i>Local Government Act 1993</i> , introduced.	Replaced <i>Ordinance 71</i> , under the <i>Local Government Act 1919</i> . Required councils to have regard to the principles contained in the Floodplain Development Manual before approving the installation of a relocatable home or rigid annexe on flood liable land (Clause 11A). For caravans situated on flood liable land, the wheels, axles and draw bar must not be removed but maintained in working order (Clause 98).
1995	<i>Local Government (Manufactured Home Estates and Manufactured Homes) Regulation 1995</i> , under the <i>Local Government Act 1993</i> , introduced.	Required councils to have regard to the principles contained in the Floodplain Development Manual before approving the installation of a manufactured home on flood liable land (Clause 7(2)).
1998	<i>Residential Parks Act 1998</i> gazetted.	Further increased security of tenancies in residential parks including manufactured home estates.
2005	<i>Local Government (Manufactured Home Estates, Caravan Parks, Camping Grounds and Moveable Dwellings) Regulation 2005</i> , introduced.	Replaced the <i>Local Government (Caravan Parks, Camping Grounds and Moveable Dwellings) Regulation 1995</i> and the <i>Local Government (Manufactured Home Estates and Manufactured Homes) Regulation 1995</i> under the <i>Local Government Act 1993</i> . One new requirement is that caravan park and camping ground operators disclose in writing the location of designated flood liable land to prospective occupants of short-term and camping sites (Clause 123).

Nevertheless, perhaps in response to a growing number of voices calling for the Regulation to be revised to better manage flood risk in caravan parks, the *Local Government (Manufactured Home Estates, Caravan Parks, Camping Grounds and Moveable Dwellings) Regulation 2005* contains a new requirement to raise the awareness of prospective tourists to the threat of flooding (Table 4). This new provision applies to *all* caravan parks in NSW (DOP, 2005). However, the new Regulation does not require prospective *residents* to be provided with this information, because their rights to information are governed by the *Residential Parks Act 1998*. No requirement to advise residents of the location of flood-liable land is currently contained in that Act. Also, while the Department of Planning (2005) 'recommends' that all park operators have an evacuation plan and display it in a prominent location, they are not required to do so under the new Regulation, in contrast to the equivalent Regulation from Victoria (*Residential Tenancies (Caravan Parks and Movable Dwellings Registration and Standards) Regulations 1999* – Regulation 36).

Implementation of planning controls

Another reason for the high level of exposure of caravan parks to flooding is the limited success of local councils in controlling and reducing the vulnerability of caravan parks as they evolved from providing traditional low cost holiday accommodation to more substantial permanent homes. The rapid growth in the number of cabins (Figure 4) suggests that whatever regard councils have given to the principles contained in the Floodplain Development Manual (NSW Government, 1986, 2005) has had little effect in keeping immobile structures away from flood-prone land. A recent survey of caravan parks showed that a requirement in the Regulation that caravans situated on flood-prone land be maintained in a towable condition, is often not enforced (Yeo, 2003).

A number of councils may lack the capacity to establish and implement appropriate standards, or to resist developmental pressures. Several councils appear to turn a blind eye to the issue, perhaps because they do not perceive a problem, or perhaps because they recognise that the affordable housing opportunities provided by such parks could be jeopardised by imposing higher standards. Another factor may be conflicts of interest, since councils form both the consent authority (applying the Regulation) and park operator (subject to the Regulation) for at least 13 per cent of parks in NSW (Yeo, 2003).

The Court

A significant 'player' in controlling development within caravan parks is the Land and Environment Court of NSW. Given the high stakes, it is not surprising that developers appeal to the Court if their proposals are rejected. For our purposes, it is useful to gain an insight into the Court's judgements. Table 5 summarises four

Court rulings that relate to development in a caravan park and a manufactured home estate: Ko-Veda Holiday Park on the banks of the Hawkesbury River (Baulkham Hills Shire Council) and Oaklands Village on the shores of Lake Illawarra (Wollongong City Council).

It is telling to observe the pressures being brought to bear on these parks. The proposals provide another indication of the tendency towards permanent structures. These include:

- a proposal to modify a regulation so that the proprietor does not have to evacuate caravans during flood;
- a proposal to replace 50 caravan sites with 50 cabin sites;
- a proposal to turn car spaces into garages; and
- a proposal to extend a manufactured home estate.

The Court rejected three of the appeals on flood related grounds: caravans represent a potential hazard so ought to be removed before flooding; flood damages would not be reduced were garages permitted; a deficient evacuation plan does not justify new development. The fourth appeal, relating to the 50 cabins, was not rejected on flood related grounds. Although the judge accepted that the 100 year flood would overtop the cabins, that the risk to property would increase since cabins were not mobile, and that there was no flood-free exit from the proposed site, these factors were not deemed sufficient for refusal of consent. Interestingly, the fact that the cabins were not primary residences seemed to hold weight, whereas the fact that only disposable income was at risk was apparently unpersuasive in the matter of the garages. Overall, then, the findings of the Court are somewhat inconsistent regarding the appropriateness of development within flood-liable caravan parks and manufactured home estates.

Prospect: what can be done in the future?

While caravan parks have evolved into developments that provide either more sophisticated forms of tourist accommodation, de facto low cost housing estates, or a combination of both, planning controls have not always evolved to respond, particularly in regard to flooding issues. The approach to managing flood risks associated with these forms of development must continue to evolve. This evolution should consider changes consistent with the following principles:

- A clear distinction must be drawn between parks and sites used by tourists, and parks and sites used by permanent residents. There is a significant difference between the two and consequently the types of risks that need to be managed.
- The flood related development controls that would normally apply to standard residential housing, should at a minimum be applied to sites in caravan parks and manufactured home estates used for

permanent residency (e.g., floor level controls). It could be argued that more stringent controls should be imposed, since residents tend to be less equipped to cope with flooding. This must be balanced against the social cost of discouraging affordable housing.

- Conversely, lower standards could be applied to tourist sites on the basis that the consequences of flooding would be less than those associated with permanent housing. This position is supported by one of the Court judgements discussed previously. It also recognises the economic planning imperative of locating tourist related developments in proximity to natural features such as rivers.
- There should be no distinction between parks and sites used by tourists, and parks and sites used by

permanent residents when considering risk to life. If flood depths and velocities are high, and if the rate of rise of floodwaters is such that people could be trapped in dangerous conditions, then development should not be permitted.

- The specific structural characteristics of caravans, rigid annexes and manufactured homes need to be individually recognised within planning controls. Measures to prevent structures floating away during floods, and to minimise physical damage, need to be employed requiring engineering solutions.
- While the new requirement that caravan park operators notify prospective tourists of the location of flood-prone land is noted, much more needs to be done to improve the capacity for emergency response. Operators should be required to prepare

Table 5. Recent findings of the Land and Environment Court of NSW.

Land and Environment Court of NSW No. 11162 of 2000
Details: Appeal to modify a development consent relating to Ko-Veda Caravan Park, which requires that during floods 42 caravans be evacuated and stored within a specified elevated area of the caravan park.
Outcome: Refused on the ground of flood hazard. The Court found, with Council, that any caravan left standing in floodwaters is a potential hazard, posing a threat to downstream areas.
Land and Environment Court of NSW No. 11164 of 2000
Details: Appeal against Council's refusal to grant a development application for 50 short-term sites for cabins, which were proposed to replace 50 approved short-term sites for caravans.
Outcome: Refused on the ground of unacceptable visual impact, not on the grounds of flood hazard. The Court found that the transfer of caravan sites will increase the risk to property because, in theory at least, caravans can be moved to a flood free platform while cabins are fixed and the floodwaters must pass through them. Fixtures such as stoves and refrigerators are likely to be damaged. The cabins themselves are to be built of water resistant materials and are not primary residences. While the transfer of sites would slightly increase the risk to property, the Court did not think that this risk was unacceptable. The principal negative feature of the proposed lot was found to be the absence of a flood free exit from it. The Court found that while this reduced the lot's suitability for a caravan park, it was not to an extent that flood liability, by itself, constituted sufficient grounds for refusal of consent.
Land and Environment Court of NSW No. 11291 of 2003
Details: Appeal against Council's refusal to amend an existing consent that allows 47 cabins to be erected on Ko-Veda Ski Park, which would allow each cabin to turn its approved car parking space into a garage.
Outcome: Refused on the ground that there would be no reduction of impact on and losses to owners or occupants of proposed garages in times of flood compared to the car spaces the Council approved. The assertion that only disposable/discretionary income would be at risk was apparently unpersuasive. The Court found that approval of garages in the past is no reason for their approval in the present. Damage could occur in the garages in the 1 in 2 year design flood, which would not occur if equipment was stored in the cabins which are located above the 1 in 20 year level.
Land and Environment Court of NSW No. 10387 of 2001
Details: Appeal against Wollongong City Council's refusal of a development application for the extension by 32 sites of an existing manufactured home park at Oaklands, Windang.
Outcome: Refused on the grounds that the proposal relies on augmenting the deficient, existing private Flood Emergency Evacuation Program, which does not comply with provisions of the Floodplain Management Manual, and does not merit consent under SEPP36.

Newsphoto/AFP PHOTO ANDRE DURAND



Flood-prone caravan parks should pay explicit attention to floodplain risk management

site-specific, periodically updated Flood Action Plans, and to display the Plan in dwellings and communal areas. Templates would be of value in controlling the quality of Flood Action Plans, and it is understood that the SES has prepared such a template for one area. Among other points, plans should take into account the unique circumstances of each park: the nature of the flood hazard in terms of depths and velocities; the number and manoeuvrability of dwellings; the number and mobility of tourists and residents; and arrangements for flood warning and evacuation, including the route, resources and time required to achieve a safe evacuation.

Various mechanisms should be used to promote implementation of these principles:

- The *Local Government (Manufactured Home Estates, Caravan Parks, Camping Grounds and Moveable Dwellings) Regulation 2005* should be amended, at the very least to require that each operator prepares an emergency management plan.
- Councils should use the approval system to promote improved flood risk management. While the new Regulation does not list preparation of an emergency management plan as a standard condition for approval to operate a caravan park, councils have the option of imposing additional conditions under section 94 of the *Local Government Act 1993*. A sample of councils showed that while most grant approval to operate caravan parks for 1, 3 or 5-year periods, a smaller number grant approvals for over 30 or up to 99 years (Hassall & Associates, 2005, p.13). The practice of issuing approvals for periods longer than 5 years should be discontinued.
- Flood-prone caravan parks should receive explicit attention in floodplain risk management studies and plans. The Floodplain Development Manual (NSW

Government, 2005) details the process that provides for the production of floodplain risk management plans, allowing for the evaluation of social and economic objectives together in a balancing process with the risks associated with floods. At sites where more permanent forms of housing would not normally be permitted, a flood risk management plan prepared by a local council can specifically recommend the prohibition of manufactured home estates and residential caravan parks. This may not lead to the removal of existing developments, but could prohibit new development in highly hazardous areas of floodplains and act as a clear statement of policy to assist in restricting the expansion of existing developments.

- A Development Control Plan (DCP) is a quasi-statutory planning document in NSW that can provide an appropriate mechanism to impose controls on new developments and the expansion of existing ones. DCPs could be extended in application to provide policies for the continuing granting of approvals to caravan parks under the *Local Government Act* and Regulations, to manage flood related risks through awareness programs and the preparation of Flood Action Plans.
- While the focus of this paper has been on land use planning controls, there is also a place for educating park operators about the value of flood risk management, including benefits to their businesses (Yeo, 2003). This could be achieved through industry newsletters and by outreach from local SES units.

Conclusion

A majority of caravan parks in NSW are flood-prone, and many of these are located in high hazard areas. These parks typically contain vulnerable people, who live in susceptible structures, who may be unaware of

the risk and are often ill-prepared to cope with flooding. Some parks, albeit on rare occasions, will be extremely dangerous, with the very real possibility that deaths and significant property damage will occur. It can be argued that this high level of risk in itself represents a failure. To the extent that flood planning controls have failed to recognise the changing nature of caravan parks – especially, that many caravan parks have effectively evolved into medium density residential development – the planning system has indeed failed.

However, the vulnerable nature of caravan parks and manufactured home estates should not in itself lead to the automatic conclusion that such developments are unacceptable in floodplains and should be prohibited or removed. State Government policy and the Floodplain Development Manual require that the management of floodplains be evaluated with regard to a whole range of issues including social and economic factors. Caravan parks and manufactured home estates undoubtedly provide a valued source of affordable accommodation; their closures have been resisted by the community and government due to the dislocation of residents. Parks that cater for tourists often provide significant economic benefits.

Nevertheless, the evidence presented here suggests that in the often-fraught balance between the benefits of development and the risk of occupying floodplains, for caravan parks in NSW, insufficient weight has been given to the latter. Several key principles for redressing the current imbalance have been proposed, and mechanisms for implementing those principles have been put forward, which would see caravan parks developed in a manner more compatible with the flood risk.

Acknowledgements

An early version of this paper was presented to the 45th NSW Floodplain Management Authorities Conference (Yeo & Grech, 2005). In part this paper builds on work sponsored by the Commonwealth Government through the Emergency Management Australia Projects Program 2000/2001, and published in Yeo (2001, 2003). Drew Bewsher, Steve Oppen and Colin Johnston provided material from court cases. We are grateful to Chas Keys and John Handmer for comments on the draft.

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Authors

Dr Stephen Yeo has been employed as a floodplain management specialist with Bewsher Consulting since 2003. Prior to then he worked at Risk Frontiers, Macquarie University. In 1998 he completed his PhD on flooding in Fiji.
Email: SYeo@bewsher.com.au

Paul Grech has 21 years experience working as a town planner in private consultancy, local councils, state government and a federal commission. He is primarily involved in undertaking environmental studies, floodplain management studies, statutory planning and development assessment, the preparation of environmental impact statements and presenting expert evidence.
Email: pgrech@donfoxplanning.com.au