Submission No 6

MANAGEMENT OF SHARKS IN NEW SOUTH WALES WATERS

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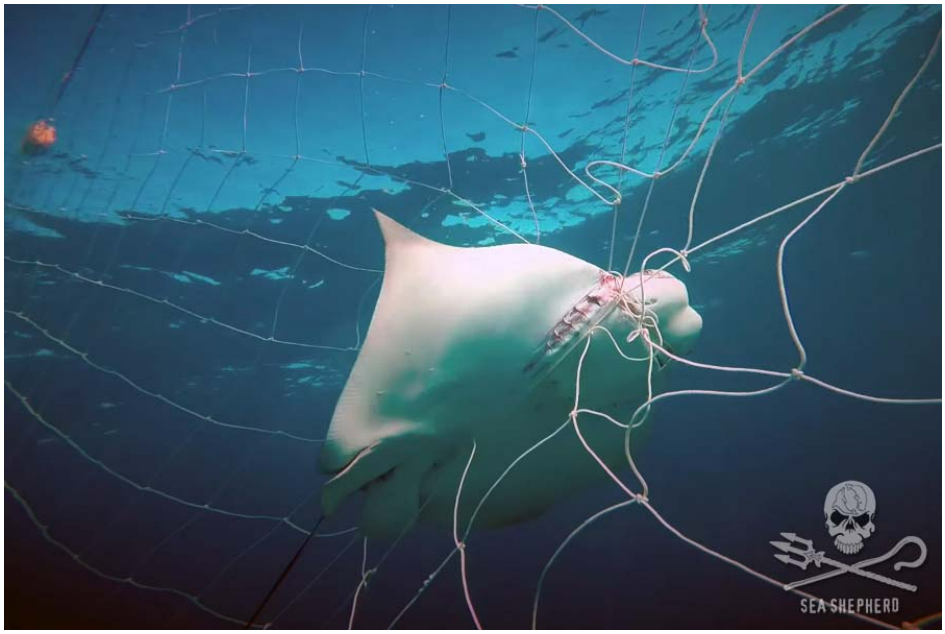

Ray caught in shark net Source: Sea Shepherd

Submissions of Sea Shepherd Australia Ltd

Management of Sharks in New South Wales Waters (Inquiry)

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I. FACTUAL BACKGROUND

OVERVIEW OF THE SHARK MESHING PROGRAM IN NEW SOUTH WALES

In 1935, the Premier at the time, Bertram Stevens, felt it was necessary to do something to curb the amount of shark incidents in New South Wales. Since the mid-1800's over 60 people had died from a shark bite in the state, due mainly to blood loss. So, without any huge advances in medical technology, mesh beach nets were approved as a two-year experiment.

By 1937 however, no Government funding for the nets had been made available, until Australia's imminent 150th Anniversary celebration in Sydney on 26 January 1938, brought fears of a shark attack to state politicians.

So, in October 1937, 305-meter-long shark nets were installed at 18 of Sydney's beaches.

It was only three months later, on 2 January 1938, that the first of 40*[1] unwanted shark encounters at a netted beach in New South Wales took place, when Ernest Barker was thrown in the air, after a shark bumped his surf ski at Cronulla Beach. Shark nets had proven not to work, 24 days prior to the 150th Australian anniversary celebration! Despite this, the nets remained in place, until January 1943, when the nets were removed from Sydney beaches so that the fisheries vessels that were used to service them, could be used by the Americans in the Second World War.

During the three years that the shark nets were removed, there were no human-shark encounters at these beaches. No shark encounters, despite there being no shark nets in the water!

This led to the then Premier of New South Wales, William McKell to make a statement in the Sydney Morning Herald that no Premier has dared to say since, despite scientific findings; that shark nets are "quite valueless." McKell preferred alternative measures to shark nets, signing off on experimental shark repellents to be used in conjunction with shorter shark nets (152-meters long) in 1946, stating, that "if meshing alone were used, I fear it would prove to be of little value. ***Worse, it would possibly lull the public into a sense of false security, leading to diminished watchfulness and possibly to tragedy."***[2] This was 69 years ago, and scientists continue to echo these sentiments today, to very little avail.

But the change of Premier to James McGirr in February 1947, followed by three fatalities in each consecutive year, two in Newcastle, (one at a public lifesaving

[1] *These figures exclude fishing injuries from sharks (See attachment **A** to submission, of the list of 40 encounters undertaken at a meshed beach, compiled with information from Global Shark Attack Files Global Shark Attack Files NSW http://www.sharkattackdata.com/gsaf/place/australia/new_south_wales (Accessed 18 September 2015)

[2] Sydney Morning Herald, Monday 4 February 1946, http://trove.nla.gov.au/ndp/del/article/17969460/997560?zoomLevel=3 (Accessed 8 September 2015)

exhibition), led to shark nets being rolled out to the Newcastle and Illawarra regions in 1949 at 13 beaches.

Two years later, the failings of shark nets would again be proven, when in 1951, New South Wales recorded its worst year of shark encounters at netted beaches, with three separate incidents, including the fatality of local surf ski champion Frank Olkulich (21) who was fatality bitten at a Newcastle Beach called Merewether while treading water.

Despite this, shark nets continued to be touted as the best solution to reducing shark encounters in New South Wales, even as more incidents took place at netted beaches.

New South Wales authorities again extended the meshing program in 1972 to nine additional beaches within the regions, after thirteen year old Raymond Short had his right leg severely bitten while body boarding at Coledale Beach by a 2m white shark in 1966. This is despite the fact that at the time, 14 unwanted shark encounters had occurred in the 19 years of shark meshing at netted beaches.

A period of changes to the shark meshing program 1972-1992

In 1972, a major review of the SMP took place. The review saw changes made to the netting program, that are current today, including the introduction of nets at an additional seven beaches in the regions where nets had already been installed, bottom-set nets instead of surface-set nets and a standardisation of the nets to 150-metres long and six-metres high set in waters 10-12 metres deep. *That is to say, there is generally a four-to-six-metre gap between the surface and the shark net at meshed beaches.*

Then in 1983 shark meshing at the 40 beaches that were then netted, were halted in the months of June and July for "economic reasons."[3] It should be noted that being winter months, there are fewer people in the water in June and July, that there had only been two unwanted shark encounters in these month since 1937, that the number of sharks caught in the nets during these months were very low and whale protection had been a focus for Australia since 1979, so this decision would also reduce the chances of whales being entrapped in the shark nets.

[3] Australian Museum Business Services (1999). Likelihood of Shark Attack in Sydney Harbour During the Sept 2000 Olympic Games Final Report. **Section 4.1**

However, in January 1987 shark nets were installed in nine beaches along the Central Coast, taking the total number of netted beaches in New South Wales to 49. This was also the year that the four-term school year took place, which saw a reduction in beach attendances during May and August during what would have been school holidays. By 1989, again for economic reasons, shark nets were no longer installed between May and August.[4] This remains in place today and logically makes sense due to the colder months, the low risk of an unwanted shark encounters, and the whale migrations along the NSW coast during this time.

After removing the nets from the beaches in June and July in 1983 and then in May and August in 1989, there continued to be no unwanted shark encounters during these months at netted beaches. Despite this, the pressure in parliament to increase the meshing program was intense in 1990 (despite no shark attacks that particular year.) In January 1991, New South Wales held an international shark conference at Taronga Zoo, Sydney where plans for a public discussion paper regarding the SMP were made. Prior to this discussion paper being released however, two additional beaches in the Central Coast were added to the netting programme in September 1992, taking the total number of netted beaches to 51, which is where it remains today.

The harshest of realities…

In 23 years, since September 1992, there has been 21 unwanted shark encounters at netted beaches in NSW; almost one per year*. This includes the shark incident on 12 February 2009 at Bondi Beach when Glen Orgias (33) lost his left hand after being bitten by a 2.5m white shark while surfing and the severe bite that Andrew Lindop (15) received by a suspected 2.6m white shark at Avalon Beach on 1 March 2009.

These two incidents took place just before the New South Wales Department of Industries publicly released its report into the meshing programme and the environmental impacts as part of amendments to the Shark Meshing Bill passed in November 2008.

[4] New South Wales Legislative Council (10 November 1988). *Minutes 3080* Pages 200-201http://www.parliament.nsw.gov.au/prod/parlment/hanstrans.nsf/V3ByKey/LC19881110/$file/492LC023.PDF (Accessed 8 September, 2015).

The report, advises that *the overall number of shark attacks was the same (61) in the 37 years before and after the shark mitigation program* and that *in the last 35 years there has been an increase in that rate of some 28%.*[5]

Additionally, *the period from January 2000 to March 2009 saw 52 unwanted shark encounters, almost twice the rate of attacks between 1930 and 1939,*[6] which was when the fear of unwanted shark encounters saw Premier Bertram Stevens first introduce the SMP. With shark numbers decreasing in commercial catches in New South Wales, and within the SMP, the reasons for these increases in shark encounters are not due to the increase in the number of sharks, but more likely attributed to the increase of people using Sydney's coastal waters through a population rise from 1.4 million residents in New South Wales in 1901 to over 6.9 million residents in 2008, as well as the increase in tourists. It is interesting when looking at these numbers however, that despite the five-fold increase in the state's population, the increase in unwanted encounters is less than 30%.

What is also interesting, is that when a segmentation of the unwanted shark encounters is analysed, *the rate of unwanted shark encounters at the Central Coast's ocean beaches* (the most recent location to receive shark nets) *has increased since the shark nets have been installed, from 1 incident every 22 years, to 1 incident every 4.4 years.*[7]

Further Failings

Authorities continue to debate shark nets, with politicians continuously referring to the decrease in fatalities since the nets were installed. These nets were installed in 1937. Since then there has been amazing advances in medicine and technology. In fact, researcher David Caldicott published a study in 2001, which stated that the survival rate for shark bites is 80%, due to better on-scene treatment and antibiotics.

For years now, the Department of Primary Industries (DPI), New South Wales has stated that "no feasible alternatives to the measures in the SMP are currently considered viable to trial" yet Shark Spotters, a program that has been keeping

[5] M. Green, C. Ganassin and D. D. Reid "*Report into the NSW Shark Meshing (Bather Protection) Program March 2009.* Pp 26-27.
[6] M. Green, C. Ganassin and D. D. Reid "*Report into the NSW Shark Meshing (Bather Protection) Program March 2009.* Pp 27.
[7] M. Green, C. Ganassin and D. D. Reid "*Report into the NSW Shark Meshing (Bather Protection) Program March 2009.* Pp 35.

ocean users safe in Cape Town, South Africa for over a decade, has not been mentioned or considered in previous reports. The same can be said about the Eco Shark Barrier, which has been used in Western Australia since December 2013 to keep swimmers safe and has recorded zero by-catch. Interestingly, both of these alternatives were recommended as immediate options in the "Review into Bather Protection Technologies" prepared by Cardno as requested by New South Wales DPI.

Yet the unwanted shark encounters at meshed beaches and the unfortunate by-catch of protected, vulnerable and endangered marine species continue to rise. In January 2012, surfer Glen Folkard was severely bitten by a bull shark at Redhead Beach, north of Sydney. This incident is still waiting a review by DPI, New South Wales, and, along with another two unwanted shark encounters at meshed beaches, was meant to be part of the programme's 5-year review in September 2014. At the time of writing this submission, this review has still not been finalised.

Over 1,300 kilometres of New South Coast coast (or 93% of the state's 721 beaches) is unmeshed, yet attack rates are miniscule. Knowing this, it is indeed heartbreaking to see the figures of by-catch caught in the SMP from 1950 to April 2015, whereby 17,131 marine animals have been entangled in the shark nets. Shark nets which are only in place 17 days a month and are so badly designed, that sharks can swim around and over them and which have not prevented 40 unwanted shark encounters. New South Wales ocean lovers deserve better than 1930's technology that lull the public into a sense of false security.

II. GENERAL COMMENTS

The NSW Treasury department funds the SMP and in 2013/2014 cost approximately $1,600,000 for the eight-month contract, whereby nets are in place for 17 days a month.[8] This includes the salary for shark meshing observers and shark technician, shark meshing equipment (dolphin pingers and whale alarms etc.), and an allocation for undertaking compliance audit activities.

[8] Western Australia Shark Hazard Mitigation Drum Line Program 2013-14 Review https://www.dpc.wa.gov.au/Publications/Documents/Review%20-%20Western%20Australia%20Shark%20Hazard%20Mitigation%20Drum%20Line%20Program%202013-14.pdf (Accessed 8 September, 2015) pp 38.

The Program's $1.6M price tag does not include any expenditure associated with law enforcement and surveillance, which is certain to be deployed given the increasing level of opposition and hostility of the shark meshing program.

The proposed Program's goal – not its unavoidable consequence – is harm to the environment and the State's marine biodiversity. In other words, environmental harm is both the means and the ends of the Program.

Sea Shepherd submits that, in such a situation where the express and intended purpose of a proposal is harm to some aspect of the environment, without any countervailing and clearly demonstrable social or economic benefit, ***any*** adverse impacts on the environment are unacceptable, even if those impacts are claimed to be "minimal" or "negligible".

It has been claimed that the "benefits" of the Program are two-fold. First, the Program purportedly "protects" members of the public using NSW's coastal waters for recreational purposes. Second, the Program ostensibly protects the State's tourism industry, which, it has been suggested suffers from tourists not visiting or spending money in an area, because of feared shark attacks. However, there is virtually no evidence to support either claim.

It bears further mention that at least one pillar of the asserted justification for the Program – namely that the State has a responsibility to protect the public by aggressively targeting and killing large sharks – is simply untrue. This assertion stems from a misconstruction of the common law duty of care. In order for the State to have such a duty, it would have to be the case that every user of the NSW coastline is, legally speaking, a "neighbour" of the State in relation to the risk of shark-related injuries or fatalities. It is a stretch to apply the neighbourhood principle in this way and it leads to the question: how far does that duty extend? If the assertion were correct, the extension of the New South Wales Government's responsibility for surfers and swimmers would be potentially limitless.

Moreover, even if the assertion of a responsibility to protect is valid, it is difficult to see how the State may assert that the risk of shark-related injuries or fatalities is reasonably foreseeable. This is especially so, considering recent fatal shark attacks in NSW, which have occurred at beaches which offer no shark safety measures.[9]

[9] Australian Geographic (January 17, 2014) available at http://www.australiangeographic.com.au/topics/science-environment/2014/01/shark-attacks-in-australia-a-timeline/ (accessed 24 June 2014).

III. SPECIFIC COMMENTS

A. THE JUSTIFICATION FOR THE PROGRAM IS NOT CREDIBLE

There are three main justifications for the shark meshing program; (1) to protect the "surfers and swimmers" from "large aggressive sharks" (2) "deterring large sharks from establishing territories adjacent to metropolitan swimming beaches"[10] and (3) to "protect a multi-million dollar tourism industry."[11] For the reasons stated below, neither concern justifies the proposed Program.

1. The State is not responsible for the actions of surfers and swimmers

While Sea Shepherd agrees that unprovoked, fatal shark attacks are tragic, traumatic events, the State is no more responsible for the actions of surfers and swimmers than it is in protecting hikers and bee-keepers from fatal attacks by bees.[12] Providing an expectation for the New South Wales Government to be responsible for the actions of swimmers and surfers is placing massive obligations and excessive burdens on Government authorities.

For example, the relevant third parties causing harm, are sharks. Surely the New South Wales Government is not suggesting that it has a responsibility to control the conduct of marine animals?

In contrast, while the State is not responsible for the actions of surfers and swimmers, it ***is*** under a legal duty to:

(a) conserve biological diversity of fish and marine vegetation and promote ecologically sustainable development and activities,

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[10] New South Wales Department of Primary Industries, *Report into the NSW Shark Meshing Program* http://www.dpi.nsw.gov.au/__data/assets/pdf_file/0008/276029/Report-into-the-NSW-Shark-Meshing-Program.pdf pg 4.

[11] Vic Peddemors, Department of Primary Industries quoted in Sydney Morning Herald article, *Targeted shark captures rise over previous years* http://www.smh.com.au/nsw/targeted-shark-captures-rise-over-previous-year-20141025-11agdm.html (accessed 9 September, 2015)

[12] On average, bees kill roughly as many people in Australia annually as sharks – about 2 pa. See, e.g., http://www.bobinoz.com/blog/12250/australias-most-dangerous-animals-a-decade-of-death/ (accessed 10 September 2015); Karen McGhee, "Bees more deadly than spiders in Australia", Australian Geographic (July 6 2009), available at http://www.australiangeographic.com.au/topics/wildlife/2009/07/bees-more-deadly-than-spiders-in-australia/ (accessed 10 September 2015); "Latest Figures – Australian Shark Attack File", Taronga Conservation Society Australia, available at http://taronga.org.au/animals-conservation/conservation-science/australian-shark-attack-file/latest-figures (accessed 1 July 2014).

(b) prevent the extinction and promote the recovery of threatened species, populations and ecological communities of fish and marine vegetation,

(c) protect the critical habitat of those threatened species, populations and ecological communities that are endangered,

(d) eliminate or manage certain processes that threaten the survival or evolutionary development of threatened species, populations and ecological communities of fish and marine vegetation,

(e) ensure that the impact of any action affecting threatened species, populations and ecological communities of fish and marine vegetation is properly assessed,

(f) encourage the conservation of threatened species, populations and ecological communities of fish and marine vegetation by the adoption of measures involving co-operative management.[13]

The State ***is*** also under a legal duty to:

(a) conserve biological diversity and promote ecologically sustainable development, and

(b) prevent the extinction and promote the recovery of threatened species, populations and ecological communities, and

(c) protect the critical habitat of those threatened species, populations and ecological communities that are endangered, and

(d) eliminate or manage certain processes that threaten the survival or evolutionary development of threatened species, populations and ecological communities, and

(e) ensure that the impact of any action affecting threatened species, populations and ecological communities is properly assessed, and

(f) encourage the conservation of threatened species, populations and ecological communities by the adoption of measures involving co-operative management.[14]

[13] New South Wales Fisheries Management Act 1994, Part 7A http://www.legislation.nsw.gov.au/maintop/view/inforce/act+101+1995+cd+0+N (Accessed 9 September 2015).

[14] New South Wales Threatened Species Act 1995 objects: http://www.legislation.nsw.gov.au/maintop/view/inforce/act+101+1995+cd+0+N (Accessed 9 September 2015).

As well as to:

(a) provide for the permanent protection of wilderness areas,

(b) provide for the proper management of wilderness areas, and

(c) promote the education of the public in the appreciation, protection and management of wilderness.[15]

The State ***is*** finally, also under a legal duty to the conservation of nature, including, but not limited to, the conservation of:

(a) habitat, ecosystems and ecosystem processes, and

(b) biological diversity at the community, species and genetic levels, and

(c) landforms of significance, including geological features and processes, and

(d) landscapes and natural features of significance including wilderness and wild rivers[16]

As a signatory to international conventions for the protection of endangered and migratory species, Australia (and New South Wales) ***is*** also under a legal duty not to breach those conventions as well.

Sea Shepherd submits that the duties on the State imposed by these legal instruments trump any perceived responsibility that the New South Wales Government cites as justification for the Shark Meshing Program.

2. There is no evidence that large sharks establish territories adjacent to metropolitan swimming beaches

Of the 182 shark species occurring in Australian waters[17], only three are considered to pose a potential threat to people, while several other species, such as bronze whalers and hammerheads, have been involved in a small number of incidents, but are not generally considered dangerous.

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[15] New South Wales Wilderness Act 1987 objects: http://www.legislation.nsw.gov.au/viewtop/inforce/act+196+1987+FIRST+0+N (Accessed 10 September 2015)

[16] New South Wales National Parks and Wildlife Act 1974 objects: http://www.austlii.edu.au/au/legis/nsw/consol_act/npawa1974247/s2a.html (Accessed 10 September 2015).

[17] Taronga Conservation Society Australia https://taronga.org.au/animals-conservation/conservation-science/australian-shark-attack-file/shark-know-how (Accessed 22 September 2015)

The potentially dangerous sharks are the white shark, bull shark and tiger shark, with only the first two regularly occurring off the Sydney-Newcastle coastline. These species feed on fish and will also consume large prey, such as seals, dolphins and whale carcasses. They are highly mobile species that follow ocean currents and fish movements and *there is no evidence that they establish territories in any specific location.*[18]

Robert Hueter, the director of the Centre for Shark Research at Mote Marine Laboratory, in Sarasota, Florida, has said that there's no evidence of territoriality in any shark species. "Sharks do not exhibit what animal behaviourists call true territorial behaviour, which is occupying a specific area and defending that area," he said. "Sharks take their territory with them as they swim."[19]

Further to this, in a tiger shark tagging study by Meyer et al. (2013), the old theory of sharks defending territories was debunked, as while the sharks may have showed preference for certain locations in the islands for reproduction and feeding, they did not stay there long term.[20]

Tracking studies on white sharks by the CSIRO, have shown "temporary residency at favoured sites intermixed with periods of long-distance travel that may include common corridors," but not the establishment of territories, nor are they permanent residents at any one site. In fact white sharks have been known to "move between eastern Australia and south Pacific waters (including New Zealand) and between South Africa and Western Australia."[21]

3. There is no credible evidence of shark attacks causing any harm to the State's tourism industry

The third justification for the Shark Meshing Program advanced by Shark Scientist, Vic Peddemors from the Department of Primary Industries, is even less convincing than the "establish territories" claim. According to Mr Peddemors,

[18] University of Newcastle Australia, *Shark Alarm* https://www.newcastle.edu.au/research-and-innovation/celebrating-50-years-of-research-at-uon/shark-alarm (Accessed 10 September 2015)

[19] The New Yorker, *Sharing the Sea with Sharks* http://www.newyorker.com/tech/elements/sharing-the-sea-with-sharks (Accessed 10 September 2015)

[20] Papastamatiou Y. P, Meyer C.G, Carvalho F, Dale J.J, Hutchinson M. R and Holland K.N. 2013. *Telemetry and random-walk models reveal complex patterns of partial migration in a large marine predator.* Ecology 94 pp. 2595 - 2606.

[21] Commonwealth Scientific and Industrial Research Organisation *White shark research findings* http://www.csiro.au/en/Research/Environment/Oceans-and-coasts/Sharks/White-shark-research-findings (Accessed 24 September 2015)

"shark nets really do protect a multi-million dollar tourism industry."[22] This is an interesting opinion, but it is just that; an opinion.

Unfortunately for Mr Peddemors, his view on the harm done to New South Wales' tourism industry and the confidence he has in the shark nets (1) can not be relied upon, (2) is unsubstantiated, and (3) is contradicted by empirical data.

It goes without saying that "comments opinions and beliefs" of Mr. Peddemors are not independent and are not evidence based. More to the point, there is no source data that supports Mr. Peddemors' view.

Furthermore, the suggestion that shark attacks cannot but have an adverse – though unquantifiable impact on water-oriented tourism is directly contradicted by evidence released by the Australian Lifeguard Service,[23] Surf Life Saving NSW beach attendance and New South Wales Tourism statistics which show that shark attacks play no role on visitor numbers to beaches or regions of New South Wales.

Attached hereto and marked "**B**" is Surf Life Saving NSW beach attendance statistics from 2009 to 2014. There are several things to note about these beach attendance statistics.

First, despite a reported shark attack, initially thought to be from a White Shark,[24] at Mona Vale Beach (a netted beach), there was an *increase* in beach attendance at Sydney Northern Beaches of 12%[25] from 2009/2010 to 2010/2011. Obviously the shark encounter played as little a role as the shark net did itself, in affecting or protecting beach users visiting the area.

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[22] Sydney Morning Herald, *Targeted shark captures rise over previous year* http://www.smh.com.au/nsw/targeted-shark-captures-rise-over-previous-year-20141025-11agdm.html (Accessed 22 September 2015)

[23] Gold Coast Bulletin, *Shark attacks fail to slow down visitor numbers to Gold Coast and Northern NSW beaches* http://www.goldcoastbulletin.com.au/lifestyle/beaches-and-fishing/shark-attacks-fail-to-slow-down-visitor-numbers-to-gold-coast-and-northern-nsw-beaches/story-fnk744sw-1227399816580 (accessed 10 September 2015) Australian Lifeguard Service, *Successful northern season for lifeguards – 2014/2105* http://lifeguards.com.au/NSW/successful-northern-season-for-lifeguards/ (accessed 10 September 2015)

[24] Daily Telegraph, *Man attacked by shark at Mona Vale 11 February 2010* http://www.dailytelegraph.com.au/man-attacked-by-shark-at-mona-vale/story-e6freuy9-1225829035419 (Accessed 18 September 2015)

[25] Surf Life Saving New South Wales, Annual Report, 2010-2011 pg. 44

Second, beach attendance at netted beaches within the Illawarra region *fell* from 2010/2011 from 384,085 to 268,239 in 2011/2012[26] despite there being shark nets in place at five beaches and there being no shark encounters since February 2009.

Third, beach attendance within the Far North Coast of New South Wales *rose* from 298,850 in 2010/2011 to 340,515 in 2011/2012[27] despite it being a region without any shark nets and having eight reported shark attacks from July 2009 to June 2012.[28]

Fourth, a slight rise in beach attendance also occurred in the Hunter region, which has ten netted beaches and also experienced a cluster of shark encounters throughout 2011 and 2012[29] including two serious white shark attacks in January 2011 and February 2012. The media reports didn't focus on the shark nets in the region and how they protect tourism, nor did the reports deter 686,466 beach users attending the Hunter beaches in 2011/2012, an increase of 2.4% from the previous year.

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[26] Surf Life Saving New South Wales Annual Report 2010-2011 pg. 39 and Surf Life Saving New South Wales, Annual Report 2011 – 2012 pg. 84.

[27] Ibid.

[28] Byron Bay News *Zac back in water after shark attack – 6 August 2009* http://www.byronnews.com.au/news/zac-back-water-after-shark-attack/288828/ ; Northern Star, *Teens near miss with shark – 30 October 2009* http://www.northernstar.com.au/news/teens-near-miss-with-shark/395032/ ; Courier Mail, *Teacher tells of Shark Attack – 14 December 2009* http://www.couriermail.com.au/news/queensland/teacher-tells-of-shark-attack/story-e6freoof-1225810322259 ; Northern Star, *Yamba teen attacked by shark – 10 February 2010* http://www.northernstar.com.au/news/10-minute-struggle-to-survive/464895/ ; news.com.au *Teen 15 fights off shark in dusk surf – 16 September 2010* http://www.news.com.au/national/teen-15-fights-off-shark-in-dusk-surf/story-e6frfkvr-1225924346673 ; Northern Star *Shark suspect in creek attack – 22 January 2011* http://www.northernstar.com.au/news/shark-suspect-in-creek-mullumbimby-mia-merlini/750419/ ; Northern Star *Byron surfer "attacked by shark" – 15 March 2011* http://www.northernstar.com.au/news/byron-surfers-close-call-prem-puri-surfer-shark/795177/#/0 ; Northern Star *Veteran surfers brush with shark – 3 December 2011* http://www.northernstar.com.au/news/veteran-surfers-brush-with-shark-shark-attacks-sur/1196192/ (All accessed 18 September 2015)

[29] Daily Telegraph, *Lisa Mondy tells of her Great White Terror, - 12 April 2011,* http://www.dailytelegraph.com.au/lisa-mondy-tells-of-her-great-white-terror/story-e6frewr9-1226037468347; news.com, *Newcastle tattoo artist Glen 'Lennie' Folkard attacked by a shark at Redhead Beach – 19 January 2012* http://www.news.com.au/national/surfer-bitten-by-shark-near-newcastle/story-e6frfkvr-1226247671070 ; Newcastle Herald, *Grey Nurse shark chomps on fisherman's foot – 26 February 2012* http://www.theherald.com.au/story/437606/grey-nurse-shark-chomps-on-fishermans-foot/ ; Newcastle Herald, *Surf Skier escapes Great White Shark off Redhead – 5 June 2012* http://www.theherald.com.au/story/116786/surf-skiier-escapes-great-white-shark-off-redhead/ (All accessed 18 September 2015)

Fifth, in the 2012/2013 period despite there being a reduction from seven to six shark attacks reported from the previous year[30], beach attendance at patrolled beaches was down across the board, at both un-netted and netted regions, except for one; the Central Coast[31]. This is despite a reported shark encounter during this time and a shark attack the year prior at one of the eleven meshed beaches in the region.[32] Once again, proof that neither shark attacks, or shark nets, impact on visitor numbers to the region.

Sixth, in the 2013/2014 period nearly every New South Wales region experienced a shark encounter as well as an *increase* in beach attendance from the previous year. Included in the exceptions is the Sydney region where there are 10 beaches with shark nets, and where visitation to the region's beaches *dropped* from 1,261,277 to 1,102,756[33] despite there being no shark encounters in the region since December 2011.[34]

There were two fatal shark attacks in 2013/2014 period, one within the North Coast region[35] and one within the Far South Coast[36] with both regions

[30] Global Shark Attack Files NSW http://www.sharkattackdata.com/gsaf/place/australia/new_south_wales (Accessed 18 September 2015)

[31] Surf Life Saving New South Wales, Annual Report 2011-2012 pg. 84 and Surf Life Saving New South Wales Annual Report 2012-2013 pg.86.

[32] Newcastle Herald, *Surfer punches shark to escape – 5 January 2012* http://newsstore.fairfax.com.au/apps/viewDocument.ac;jsessionid=1A86B6F9601FBE2640E8A83DBC499B39?sy=afr&pb=all_ffx&dt=selectRange&dr=1month&so=relevance&sf=text&sf=headline&rc=10&rm=200&sp=brs&cls=18895&clsPage=1&docID=NCH120105QB7JQ6FNO2E ; The Coffs Coast Advocate, *A Shark Bites Back, Fisherman Injured – 4 May 2013* http://www.coffscoastadvocate.com.au/news/a-shark-bites-back/1854410/ (Both accessed 18 September 2015).

[33] Surf Life Saving New South Wales, Annual Report 2012-2013 pg. 86 and Surf Live Saving New South Wales, Annual Report 2013-2014 pg. 88.

[34] Global Shark Attack Files NSW http://www.sharkattackdata.com/gsaf/place/australia/new_south_wales (Accessed 18 September 2015)

[35] Sydney Morning Herald, *Shark attack mates tell of horror as they tried to save Zac – 2 December 2013* http://www.smh.com.au/nsw/shark-attack-mates-tell-of-horror-as-they-tried-to-save-zac-20131201-2yjud.html (Accessed 18 September 2015)

[36] Sydney Morning Herald, *Christine Armstrong 63 dies on regular morning swim after shark strikes – 4 April 2014* http://www.smh.com.au/nsw/christine-armstrong-63-dies-on-regular-morning-swim-after-shark-strikes-20140403-361jp.html (Accessed 18 September 2015)

experiencing significant increases in beach attendance throughout the 2013/2014 period, with an increase of 20% and 24% respectively from 2012/2013.[37]

Seventh, in the 2014/2015 period, the Sydney Northern Beaches region, where there are 15 netted beaches, experienced a slight decline in beach attendance despite there being no shark encounters in the area since October 2013[38], while the South Coast region, where there are no netted beaches had an increase in beach attendance of over 24%[39]

This empirical data does not suggest that shark attacks are scaring residents and tourists away from the ocean, nor does it suggest that shark nets are protecting a tourism industry. On the contrary, beach attendance has ebbed and flowed regardless of the shark meshing program and shark encounters.

Researchers at Flinders University surveyed beachgoers in NSW and SA and concluded that Australian beachgoers . . . don't choose beaches based on whether there are shark attack prevention measures in place.[40] According to Flinders researcher Charlie Huveneers, less than one per cent of people looked at shark mitigation measures when choosing a beach to visit. In both States, the landscape/views, and popularity of the beach were the two principal drivers of beach choice.[41]

Research paper attached hereto and marked Attachment "**C**"

Attached hereto and marked "**D**" are the regions where shark encounters have taken place in NSW from 1 July 2009 to 30 June 2015 which has been compiled using information from the Global Shark Attack Files[42]. By looking at this

[37] Surf Life Saving New South Wales, Annual Report 2012-2013 pg. 86 and Surf Live Saving New South Wales, Annual Report 2013-2014 pg. 88.

[38] Global Shark Attack Files NSW http://www.sharkattackdata.com/gsaf/place/australia/new_south_wales (Accessed 18 September 2015)

[39] Surf Live Saving New South Wales, Annual Report 2013-2014 pg. 88 and Surf Life Saving Email *Contact 2015-09-10 13:03:36*

[40]Roxanne Crossley, C Matilda Collins, Stephen G Sutton and Charlie Huveneers, "Public perception and understanding of shark attack mitigation measures in Australia", Human Dimensions of Wildlife, 19:2, 154-165, DOI: 10.1080/10871209.2014.844289

[41] Ibid.

[42] Global Shark Attack Files NSW http://www.sharkattackdata.com/gsaf/place/australia/new_south_wales (Accessed 18 September 2015)

information and then comparing it to the International and National visitor surveys available through Destination NSW[43] marked Attachment "**E"** one can gauge, what if any impact, shark attacks have on tourism.

For example, in the financial year ending 2009/10 there were four shark encounters within the Northern Rivers sub-region of the Far North Coast (where there are no netted beaches) yet domestic tourism to the region increased the following year from 1.8m visitors to 2m visitors.[44] In fact, increases occurred either in domestic overnight travel or domestic daytrip travel to all regions where there was a shark encounter in 2009/2010, regardless of whether there were shark nets in the region or not.[45]

For regions whereby there are shark nets, purporting to "protect a multi-million dollar tourism industry" there have been *reductions* in expenditure – for example domestic and international visitors spent *less* in the Central Coast region in the year ending December 2014 than in the previous year[46] and international and domestic day trip travellers spent *less* in the year ending September 2014 in the Illawarra sub-region, where there had been no shark encounters since February 2009.[47]

In terms of whether fatal shark attacks have an impact on tourism, the New South Wales Parliamentary Inquiry into Shark Meshing should consider the following information:

(a) On 30 November 2013 there was a fatal shark attack at Campbell's Beach (unnetted) in New South Wales' North Coast, however tourism in the region for the year ending December 2014, *rose* in terms of domestic and international overnight travel by 6% and 5.3% respectively from the previous year. Domestic overnight travellers also spent 5.8% *more* in the

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[43] Destination NSW *Tourism-Facts and Figures, State Tourism Statistics* http://www.destinationnsw.com.au/tourism/facts-and-figures/state-tourism-statistics (Accessed 22 September 2015)

[44] Destination NSW – Northern Rivers Subregion YE June 14

[45] Destination NSW – Central Coast YE June 2014, Destination NSW - Hunter YE June 2014, Destination NSW - Mid North Coast YE June 2014, Destination NSW - Sydney Time Series Year Ending June 2014

[46] Destination NSW Central Coast Region YE December 2014

[47] Destination NSW Illawarra sub-region YE September 2014

region while international overnight travellers *increased* their spend by 8.5% from the previous year.[48]

(b) On April 2014 there was a fatal shark attack at Tathra (unnetted) in New South Wales' South Coast Sub-Region, however international tourism in the region for the year ending December 2014 *rose* by 1.9% on the previous year and *spent more* nights in the sub-region too; up 2.3% on the year ending December 2013. Meanwhile domestic daytrip travellers to the area remained the same in terms of visitor numbers when compared to the year ending December 2013, but spent 14.2% *more*, despite a 1.4% reduction of domestic daytrips overall to regional New South Wales.[49]

(c) In September 2014 – there was a fatal shark attack at Byron Bay (unnetted), yet the domestic and international travel to the Northern Rivers sub-region of the Far North Coast all *increased* for the year ending March 2015. Travel to the area also *significantly exceeded* visits to regional New South Wales as a whole, with domestic overnight travel to the sub-region up by 14.3% on the previous year, compared to a 4.1% increase to regional New South Wales. There was also a significant increase in expenditure in the sub-region for the year ending March 2015 across both domestic and international travellers, with domestic overnight travellers spending 13.5% more than the previous year.[50]

Just recently, after a spate of shark encounters and shark activity in New South Wales' north coast, club captain of the Lennox Head Surf Life Saving Club and president of the local Chamber of Commerce, Neil Kennedy, said despite all the recent hype about sharks, the school holiday season has still been very busy.

"Winter is traditionally a slow period for us and we haven't noticed any particular additional slowness because of the situation," he said.

[48] Destination NSW – North Coast NSW region YE December 2014

[49] Destination NSW – South Coast Sub-Region YE December 2014

[50] Destination NSW – Northern Rivers Subregion YE March 15 http://www.destinationnsw.com.au/wp-content/uploads/2014/04/Northern-Rivers-sub-region-YE-Mar-15.pdf (Accessed 22 September 2015) Northern Star, *Tourist Numbers heading North (Marketers take credit for surging tourism on NSW coast) – 7 September 205* http://www.northernstar.com.au/news/tourist-numbers-heading-north/2765096/ (Accessed 1 October 2015)

"The caravan parks are full…."[51]

These claims correspond to a recent survey held by Ballina Chamber of Commerce, which found that over 85% of local businesses had experienced no impact as a result of shark activity.[52]

It is clear from these examples, that it is misleading for Vic Peddemors or anyone to say that the shark meshing program impacts on tourism numbers and/or tourism expenditure. With domestic and international tourism numbers and expenditure fluctuating regardless of shark encounters or not, there is also no evidence that shark encounters have any impact on tourism or tourism dollars spent. In most cases, there has been a growth in either domestic or international tourism, twelve months after a shark encounter – even if the encounter is a fatality.

The only examples whereby the tourism industry is allegedly hurt as a result from shark encounters, come from anecdotal opinions of business owners, which is neither reliable nor credible. Suffice to say, business operators may have been shunned by customers not because of shark threats, but because the operator is not a particularly good businessman. (*i.e.*, poor service, high prices, etc) We simply don't know.

In any event, the paltry evidence in support of Mr. Peddemors' "shark nets protect a multi-million dollar tourism industry" claim in support of the Shark Meshing Program is contradicted by other, eminently more credible evidence that the Australian Lifeguard Service, Surf Life Saving New South Wales and Tourism Research Australia has previously released, or was developed in a university survey. That material (beach attendance statistics, tourism statistics and Flinders research survey) should be given weight by the New South Wales Parliamentary Inquiry into the Management of Sharks in New South Wales Waters.

[51] Australian Broadcasting Corporation – *Far north NSW communities call for shark nets, immediate action to prevent shark attacks* http://www.abc.net.au/news/2015-10-02/call-for-immediate-action-to-prevent-shark-attacks-of-nsw-coast/6823886 (accessed 5 October 2015)

[52] Northern Star *Business above water on sharks* 29 September 2015 http://m.northernstar.com.au/news/business-above-water-on-sharks/2789357/ (accessed 9 October 2015)

B. THE SHARK MESHING PROGRAM GOES AGAINST THE OBJECTIVES OF THE NEW SOUTH WALES ENVIRONMENT PROTECTION AUTHORITY

The Protection of the Environment Administration Act outlines the objectives of the New South Wales Environment Protection Authority which are stipulated as:

> (a) to protect, restore and enhance the quality of the environment in New South Wales, having regard to the need to maintain ecologically sustainable development, and
>
> (b) to reduce the risks to human health and prevent the degradation of the environment, by means such as the following:
>
> - promoting pollution prevention,
> - adopting the principle of reducing to harmless levels the discharge into the air, water or land of substances likely to cause harm to the environment,
> - minimising the creation of waste by the use of appropriate technology,
> - regulating the transportation, collection, treatment, storage and disposal of waste,
> - encouraging the reduction of the use of materials, encouraging the re-use and recycling of materials and encouraging material recovery,
> - adopting minimum environmental standards prescribed by complementary Commonwealth and State legislation and advising the Government to prescribe more stringent standards where appropriate,
> - setting mandatory targets for environmental improvement,
> - promoting community involvement in decisions about environmental matters,
> - ensuring the community has access to relevant information about hazardous substances arising from, or stored, used or sold by, any industry or public authority,

- conducting public education and awareness programs about environmental matters.[53]

There is no proper basis for abandoning these legislative constraints by relying upon what amounts to unwarranted fear. The Protection of the Environment Administration Act seeks to conserve the State's environment and biodiversity by requiring level-headed decision-making based on evidence and by requiring any doubts to be resolved in favour of protecting the environment.

1. The Precautionary Principle and measures to prevent shark encounters adopted in other jurisdictions

The first and therefore paramount principle (Sea Shepherd submits) articulated in Part 3 of The Protection of the Environment Administration Act is the "Precautionary Principle". The legislation defines this principle as follows:

> "namely, that if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.
>
> In the application of the precautionary principle, public and private decisions should be guided by:
>
> (i) careful evaluation to avoid, wherever practicable, serious or irreversible damage to the environment, and
>
> (ii) an assessment of the risk-weighted consequences of various options,"[54]

As discussed above, a report into the meshing programme and the environmental impacts was publicly released by the New South Wales Department of Industries in 2009. This report outlined the irreversible environmental impacts the shark meshing program had on over 16,000 marine animals caught within the shark nets from 1950 to 2007/08.

These include 4,666 hammerhead sharks, 3,040 stingrays, 2,313 angel sharks, 651 port jacksons, 143 dolphins, 98 turtles, 125 thresher sharks, 377 grey nurse sharks (critically endangered and have been protected in New South Wales since 1984),

[53] New South Wales Government, Protection of the Environment Administration Act 1991 No 60 http://www.legislation.nsw.gov.au/maintop/view/inforce/act+60+1991+cd+0+N Part 3, Pg. 5 (accessed 23 September 2015)

[54] Ibid.

seven whales,[55] four seals (threatened and protected), a penguin (protected) and six dugongs (protected). In addition 577 White Sharks (vulnerable and a protected species since 1999) were caught in these years. [See table below]

Table 11 Summary of major animal groups caught in the SMP from January 1950 to 2007/08

Fish	Likely composition	Number	Marine mammals, reptiles, birds	Likely composition	Number
Elasmobranchs			Dolphins	3 species	143
Hammerheads	3 species	4666	Turtles	3 species	98
Stingrays	Up to 8 families	3040	Whales[2]	4 species	7
Whalers	5 species	2949	Dugong	*Dugong dugon*	6
Angel shark	2 species	2313	Seals	2 species	4
Port Jackson	2 species	651	Penguins	*Eudyptula minor*	1
Great whites	*Carcharodon carcharias*	577	**Sub-total**		**259**
Grey nurse	*Carcharias taurus*	377			
Tigers	*Galeocerdo cuvier*	352			
Sevengills[1]	*Notorhynchus cepedianus*	158			
Shortfin mako	*Isurus oxyrinchus*	144			
Threshers	3 species	125			
Wobbegongs	3 species	42			
Unknown		5			
Osteichthyes					
Finfish	At least 14 species	406			
Sub-total		**15,805**			
Total		**16,064**			

[1] denotes that sevengill is the common name historically used to describe this species, but CSIRO's Codes for Australian Aquatic Biota now uses the common name of broadnose shark. For consistency and data comparisons, the term sevengill will be used in this document.

[2] denotes that 'whales' includes killer and false killer whales which are members of the dolphin family

(Source: DPI unpublished data)

Despite accounting for a quarter of the catch, hammerhead sharks (two species of which are endangered) are not a target species and have not been implicated in a single attack in NSW since 1900.

Although the report does not define the species of the whales captured, a Hansard transcript from the New South Wales Legislative Council, on 17 November 1999, states that "in the past 50 years…… a total of three baleen whales have been caught in the net….. including two humpbacks….. and one minke whale…. and one killer whale," all of which are protected in Australia.

Yet, for all of this serious and irreversible damage being done to marine creatures that have been caught in the shark meshing program, there has been 40 unwanted

[55] This figure includes three false killer whales, which are actually members of the dolphin family, but reported as 'whales' in the Department of Primary Industries database

shark encounters at meshed beaches[56] and *the overall number of shark attacks was the same (61) in the 37 years before and after the shark mitigation program.*[57]

The shark nets are obviously not preventing shark encounters at Sydney beaches, but offering a false sense of security – while entrapping and killing thousands of marine species.

Meanwhile, programs and initiatives that are offering greater protections have not until recently been considered by the New South Wales Government. In fact, every annual report since 2009 has stated "no other shark control measures have emerged recently that can be reasonably considered as a practical alternative to meshing."

Sea Shepherd asserts that this statement is incorrect. The South African "Shark Spotters" program[58] for example, has since 2006 been offering a scientifically supported non-lethal alternative which offers protection 365 days a year as a viable option. This initiative offers a sustainable shark hazard mitigation solution, providing a balance between human needs and those of our natural assets; however was not considered by the New South Wales Government until nine years later. The Shark Spotters program balances the needs of both recreational water users and marine conservation and preservation by undertaking localised research about the marine environment, educating the public and using a system of alarms and flags to notify ocean users of any potential threat. The program could be implemented easily and immediately in New South Wales with the use of towers and reflects best practice measures. Between November 2004 and December 2009, for example, no shark bites were recorded at Shark Spotter beaches even though there were 619 shark sightings.[59]

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[56] *These figures exclude fishing injuries from sharks (See attachment **A** to submission of list compiled with information from Global Shark Attack Files Global Shark Attack Files NSW http://www.sharkattackdata.com/gsaf/place/australia/new_south_wales (Accessed 18 September 2015)

[57] M. Green, C. Ganassin and D. D. Reid "*Report into the NSW Shark Meshing (Bather Protection) Program March 2009.* Pp 26-27.

[58] Kock, A., et al. (2012) Shark Spotters: A Pioneering Shark Safety Program in Cape Town, South Africa. In; Domeier ML (ed.) Global Perspectives on the Biology and Life History of the White Shark.CRC Press. 567 pp. http://www.academia.edu/5547898/Shark_Spotters_-_A_pioneering_shark_safety_program_in_Cape_Town_South_Africa (accessed 25 September 2015).

[59] Kock, A., et all (2012) http://www.academia.edu/5547898/Shark_Spotters_-_A_pioneering_shark_safety_program_in_Cape_Town_South_Africa (accessed 25 September 2015) p. 461.

Additionally, the New South Wales Government failed to consider the use of a barriers or similar systems until recently. The Sharksafe Barrier for example is constructed from rigid pipes that emits a magnetic barrier which, when erected on the seabed, resemble seaweed. The barrier, which can resist waves of up to seven metres[60] and can withstand harsh environmental conditions[61] has been shown to manipulate Great White Shark behaviour,[62] keeping the shark out of the barrier while protecting other marine animals from being entrapped. Finally, marine life has been known to grow on the cement blocks that anchor the barriers to the seabed, forming an artificial reef.[63]

Additionally an Eco-Shark Barrier is currently installed at Coogee Beach in Perth. This system comprises clipped-together uPVC star segments hung between a continuous uPVC float line along the water surface and a continuous anchored line running along the seabed. This is secured to an anchor pylon at each seaward corner and anchor pylons installed at the two ends of the beach. The barrier forms an enclosure approximately 300 metres long, by 75 metres wide parallel to the beach[64]

By all measures contemplated, the barrier trial is considered to have been a success. These success measures are listed below (with comments):[65]

> "*(1) No Personal Injuries*
>
> There have been no injuries of any kind reported to have occurred on account of the barrier being in place.

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[60] Engineering News (2013) *Varsity team develops ecofriendly shark barrier*http://www.engineeringnews.co.za/article/shark-safe-barrier-developed-by-stellenbosch-university-team-2013-06-14 (accessed 25 September 2015)

[61] O'Connell, C. P., Andreotti, S., Rutzen, M., Meyer, M., Matthee, C., He, P. (2014) *Effects of the Sharksafe barrier on white shark (Carcharodoncarcharias) behaviour and its implications for future conservation technologies*http://www.sciencedirect.com/science/article/pii/S0022098114001671(accessed 25 September 2015)

[62] O, Connell, et al. (2014)

[63] Engineering News (2013) *Varsity team develops ecofriendly shark barrier*http://www.engineeringnews.co.za/article/shark-safe-barrier-developed-by-stellenbosch-university-team-2013-06-14 (accessed 25 September 2015)

[64] City of Cockburn *Summary of Minutes of Ordinary Council Meeting held on Thursday 8 May 2014 at 7:00pm* http://www.cockburn.wa.gov.au/Meetings_and_Minutes/Minutes_and_Agendas/3548-05_bocm_agenda_08052014.pdf (accessed 25 September 2015) p. 67-68.

[65] Ibid. p. 68-70.

(2) No Marine Animal Entrapment or Other Marine Creature Harm

No marine animals became entrapped in the barrier or otherwise came to observable harm on account of the barrier being in place. Observations during the course of the trial in fact showed that the barrier presented a welcome marine habitat for various fish and other sea creatures.

(3) Barrier Resilience to Sea Conditions

The barrier has performed well through the trial period however it should be noted that over the trial period the sea conditions have been relatively benign. It is understood that the barrier elements have been designed to withstand strong winds and waves… [this) has not been tested as a result of this trial.

(4) No Beach or Seabed Sand Accretion or Erosion

No observable accretion or erosion occurred over the length of the trial, as also reported by Consultants MP Rogers & Associates contracted to monitor this.

(5) No Seaweed or Flotsam Build-up

There were no issues of floating seaweed or flotsam being caught on the barrier and building up such as to test or threaten the strength and performance of the barrier.

(6) *No Boat or Other Watercraft Issues or Incidents*

There were no reported or observed incidents or issues associated with boats, canoes or other watercraft. The barrier was required to be prominent with yellow coloured floats and navigation markers and beacons which would have assisted in this regard.

(7) Beachgoer Acceptance

Surveys of regular, occasional and new visitors to Coogee Beach appear to have been largely positive, signalling acceptance of the barrier. In total there were 499 survey responses[66] and a summary of the findings follows:

- 94% of respondents felt the barrier provided them a safe swimming area and reduced the risk of a shark encounter;
- 78% of survey respondents indicated the barrier meant they were more likely to visit Coogee Beach as compared to beaches elsewhere;
- 396 respondents (79%) also chose to post a comment which were overwhelmingly positive to the placement and future retention of the beach enclosure.

[66] City of Cockburn *Eco Barrier Survey Results* http://www.cockburn.wa.gov.au/Council_Services/Environment/EcoBarrier_Survey_Results/(accessed 24 June 2014)

> Anecdotally and from visual observation many more people chose to swim within the area of the beach enclosure as compared to outside of it in the vicinity. On the various occasions when City staff visited the site, they noted that the numbers of swimmers and beachgoers using the enclosure area appeared to be steadily increasing. Many schools within Cockburn and from as far away as Kalamunda started using the barrier enclosure for swimming classes. Additionally early morning visits to the site by local government employees revealed that the enclosure was popular with early morning swimmers.
>
> *(8) Cost*
>
> There was minimal expense incurred by the City through the course of the trial. The construction cost of the structure was in the order of $250,000[67] however annual costs are $25,000."[68]

The Eco Shark Barrier was required to receive certification by an approved qualified engineer as well as advice in relation to the impact on coastal process from an appropriately qualified coastal engineer before being installed.

On 8 May 2014, the Cockburn Council unanimously agreed to commence negotiations with Eco Shark Barriers Pty Ltd and the Western Australian State Government to continue the trial for a three-year period from September 2014 to September 2017 throughout both summer and winter months. The Council requested that the State Government match dollar for dollar the Council's contributions, up to a maximum value of $75,000 per annum. Unfortunately, this was something that the Premier advised that the State Government would not do[69] and the local Council eventually ended up paying the costs for instead.[70] In November 2014 the Eco Shark Barrier was again reinstalled at Coogee Beach and for the first time has undergone its first winter trial with no concerns.

Another option not considered by the New South Wales Government were programs to accelerate testing, marketing, subsidisation and use of anti-shark

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[67] Government of Western Australia (2014).*Review – Western Australia Shark Hazard Mitigation Drum Line Program 2013-14,* Department of the Premier and Cabinet.p. 46.

[68] City of Cockburn (8 May 2014) p. 74.

[69] Extract from Hansard [Assembly – Tuesday 20 May, 2014) http://www.parliament.wa.gov.au/Hansard/hansard.nsf/0/a13103300f3bf4e848257cef0007babe/$FILE/A39+S1+20140520+p41b-70a.pdf (accessed 24 June 2014) p. 5.

[70] City of Cockburn, Media Release *Eco-Shark Barrier reinstalled in time for summer,* 25 November 2014 http://cockburn.wa.gov.au/templates/template48/summary.asp?TemplateID=48&EventID=3665 (Accessed 29 September 2015)

wetsuits and equipment such as electronic deterrents for surfers and divers.[71] Such equipment has been researched by the University of Western Australia with great results[72] particularly recently, whereby the Shark Shield Freedom 7 for example has been shown to repel sharks 90% of the time and holds promise to reduce shark attacks on ocean users.[73]

Finally, the capture and relocation of sharks is scientifically proven to be successful in Brazil where sharks have remained away from popular beaches and shark incidents have reduced by 97%.[74] This was also not considered by the New South Wales Department of Primary Industries until recently.

If lack of full scientific certainty should be not used as a reason for postponing measures to prevent environmental degradation, then the shark nets, currently installed at 51 beaches in New South Wales at a great cost to precious, endangered and protected marine life, should be dismantled, and scientifically proven non-lethal measures to reduce shark encounters should be installed instead.

This is particularly the case when you consider research into the trends in unprovoked shark attacks in NSW, 1791 to March 2009 that illustrates that ***"in the last 35 years, there has been a 28% increase in the number of attacks relative to the previous 37 years"***[75] despite having a meshing program in place at 51 beaches. Additionally, though it has been started earlier, it is important to note that between 1900 and 2009 ***the rate of unwanted shark encounters at the Central Coast's ocean beaches*** (the most recent location to receive shark

[71] *See* "A Shark deterrent wet suit (and it's not what you think)" – a TED presentation by Prof Hamish Jolly, *Huffington Post*, available at http://www.huffingtonpost.com/tedtalks/shark-wetsuit-ted-hamish-jolly_b_5537790.html (accessed 30 June 2014).

[72] Shark Attack Mitigation Systems *Testing Success* *http://www.sharkmitigation.com/field-testing.html* (Accessed 29 September 2015)

[73] The Guradian, *Electronic shark deterrent for surfers and divers prevents 90% of encounters* http://www.theguardian.com/environment/2015/jun/18/electronic-shark-deterrent-surfers-divers-prevents-90-of-encounters (Accessed 29 September 2015).

[74] Hazin, F. H. V. and Afonso, A. S. (2013), A *green* strategy for shark attack mitigation off Recife, Brazil. Animal Conservation.doi: 10.1111/acv.12096 http://onlinelibrary.wiley.com/enhanced/doi/10.1111/acv.12096/?isReportingDone=true (accessed 26 June 2014)

[75] M. Green, C. Ganassin and D. D. Reid "*Report into the NSW Shark Meshing (Bather Protection) Program March 2009.* Pp 26.

nets) *has increased since the shark nets have been installed, from 1 incident every 22 years, to 1 incident every 4.4 years.*[76]

While unwanted shark encounters have risen in New South Wales from an average of 0.7 incidents per year in 1980-1990 to 1.4 incidents per year in 1990-2000 and then to 6.4 incidents per year on average in 2000-2010, the risk of a fatality from a shark attack remains low, with most years recording zero fatalities. In fact, with four fatalities being associated with shark attacks in NSW in the past 20 years[77], the low risk of less than one fatality a year, is another reason why non-lethal alternatives should be considered instead of the shark-meshing program which does irrevocable damage to marine life.

2. Intergenerational equity and conservation of biological diversity and ecological integrity

The second and third principles articulated in Part 3 of The Protection of the Environment Administration Act are "intergenerational equity" which is defined as follows:

> "namely, that the present generation should ensure that the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations,"[78]

and

"conservation of biological diversity and ecological integrity" defined as

> "namely, that conservation of biological diversity and ecological integrity should be a fundamental consideration,"[79]

It goes without saying that the destruction of marine species associated with the shark meshing program, cannot be equated with "maintaining or enhancing" the

[76] M. Green, C. Ganassin and D. D. Reid "*Report into the NSW Shark Meshing (Bather Protection) Program March 2009.* Pp 35.

[77] Information gathered from Global Shark Attack File: http://www.sharkattackdata.com/gsaf/place/australia/new_south_wales (Accessed 1 October 2015)

[78] New South Wales Government, Protection of the Environment Administration Act 1991 No 60 http://www.legislation.nsw.gov.au/maintop/view/inforce/act+60+1991+cd+0+N Part 3, Pg. 5 (accessed 23 September 2015)

[79] Ibid.

health, diversity and productivity of the environment or conserving biological diversity and ecological integrity.

Firstly by-catch caught in the nets such as whales, dugongs, turtles, grey nurse sharks and dolphins are fully protected in Australia under Commonwealth and state legislation.

Second, White Sharks (a targeted species of the meshing program) have been fully protected in Australia under Commonwealth and state legislation since the late 1990's and are listed as vulnerable and migratory under the EPBC Act. Given latest figures estimate between 750 and 1,200 adult white sharks in Eastern Australia[80], the shark meshing program, which in the past 20 years has killed over 102 white sharks[81], in addition to an estimated 72 white sharks caught in the South East Shark and Scalefish Fishery[82] cannot be environmentally justified. Serious questions need to be asked about continuously removing of White sharks and the impacts this will have on the genetic viability of the eastern population of this species.

Third, there is a memorandum of understanding on the conservation of migratory sharks, which Australia signed on 4 February 2011. The Sharks MoU has an objective to achieve and maintain favourable conservation status for seven shark species[83] of which the white shark and mako shark species have been caught and killed as a result of being a targeted species and of the shark meshing program.

Fourth, even though the Shark Meshing Program now catches a relatively low number of grey nurse (one or two a year from 1998/99 - 2007/08) 12 of the 14 caught in those 10 years were female. With the population thought to be between 500 - 1500 individuals, every fatality affects the long-term viability of the

[80] The Mercury, *Secrets of the Great White start to surface – 2 August, 2015* http://www.themercury.com.au/news/tasmania/secrets-of-the-great-white-start-to-surface-with-up-to-1200-patrolling-australias-eastern-coast/story-fnj4f7k1-1227466189670 (Accessed 1 October 2015)

[81] Australian Government, Department of the Environment, *Great White Shark* http://www.environment.gov.au/cgi-bin/sprat/public/publicspecies.pl?taxon_id=64470 (accessed 2 October 2014)

[82] New South Wales Department of Primary Industries *Report into the NSW Shark Meshing (Bather Protection) Program* https://www.dpc.wa.gov.au/Consultation/Documents/Appendix%2013%20Report%20into%20the%20NSW%20Shark%20Meshing%20Program.pdf pg. 58 (accessed 5 October 2015)

[83] Australian Government. Memorandum of Understanding on the Conservation of Migratory Sharks. Department of Sustainability, Environment, Water, Population and Communities. https://www.environment.gov.au/system/files/resources/74b28c40-add2-4453-ab44-78faffb15efa/files/fs-sharks-mou.pdf (accessed 1 October 2015).

population. The SMP's impact, whilst relatively low (~9%) is contributing to a significant cumulative impact on grey nurse.[84]

Fifth, the importance of the Tiger Shark (another targeted species of the meshing program) has proven to play a vital role to the broader ecosystem. Tiger sharks are known to influence the distribution of their prey, "indirectly controlling the structure of seagrass beds and, ultimately bottom communities."[85] In Shark Bay for example, a World/National Heritage area and a Commonwealth Marine Reserve), there are a number of studies illustrating how they keep overgrazing of seagrass meadows by dugongs and green sea turtles in check.

When dugongs graze, they remove the entire seagrass plants, altering the composition and structure of the seagrass meadow, the nutrient content of the plant and the detrital structure of the system.[86] Similarly, green sea turtles feed by removing the top portion of seagrass blades from a specific plot.[8788] The continued grazing in these plots produces a high quality diet for the turtles, while stimulating rapid growth of the seagrass blades and an increased rate of nutrient recycling.[8990]

Tiger sharks' influence on green sea turtles was shown to redistribute their grazing patterns, which altered the seagrass community, the chemical composition of the blades and the detrital cycle.[91] In a similar fashion, Tiger sharks force dugongs to change their habitat selection, keeping seagrass at relatively constant levels.

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[84] New South Wales Department of Primary Industries, *Report into NSW Shark Meshing (Bather Protection) Program* pg. 55 https://www.dpc.wa.gov.au/Consultation/Documents/Appendix%2013%20Report%20into%20the%20NSW%20Shark%20Meshing%20Program.pdf (accessed 5 October 2015)

[85]Wirsing, A.J., Heithaus, M.R., and Dill, L.M. (2007, b.) Fear factor; do dugongs (Dugong dugon) trade food for safety from tiger sharks (Galeocerdo curvier)? Oecologia 153: 1031-1040

[86]Aragones, L.V., Lawler, I.R., Foley, W.J., and Marsh, H. (2006) Dugong grazing and turtle cropping: Grazing optimization in tropical seagrass systems? *Oecologis* 149: 635-647; Wirsing, A.J., Heithaus, M.R., and Dill, L.M. (2007, a.) Living on the edge: dugongs prefer to forage in microhabitats that allow escape from rather than avoidance of predators. *Animal Behaviour* 74: 93-101 (2007b).

[87]Bjorndal, K.A. (1980). Nutrition and grazing of the green turtle Cheloniamydas. *Marine Biology* 56: 147-154
[88]Aragones, et al (2006).

[89]Bjorndal, K.A. (1980)

[90]Bjorndal, K.A., Bolten, A.B., and Chaloupka, M.Y. (2000). Green turtle somatic growth model: evidence for density dependence. *Ecological Applications* 10(1): 269-282

[91]Heithaus, M.R., Frid, A., Wirsing, A.J., Dill, L.M., Fourqurean, J.W., Burkholder, D., Thomson, J. and Bejder, L. (2007). State-dependent risk-taking by green seaturtles mediates top-down effects of tiger shark intimidation in a marine ecosystem. *Journal of Animal Ecology* 76: 837-844

Fifth, studies have shown the detrimental and cascading effects of depleting keystone shark species (such as hammerheads, black tip sharks, tigers, bull sharks) on the marine environment. A 20-fold increase in cownose rays in North Atlanta for example, saw a collapse of a century old scallop industry as a result of 11 shark species being overfished.[92] Additionally, in Jamaica, there has been a degradation of coral reefs to the point where microalgae now covers over 90% of the reefs as a direct result of overfishing a range of species, including sharks,[93] which in turn allowed an increase in grouper to graze on the herbivorous fish that would keep the algae at bay.[94] In 1994, a report showed how coral abundance had declined in Jamaica from more than 50% in the 1970's to less than five per cent.[95]

As a result, the far-reaching impacts of the shark meshing program are unknown, unpredictable and therefore could have an irreversible impact on the environment.

C: INADEQUACY OF MANAGEMENT STRATEGIES

The NSW Department of Primary Industries started managing the NSW Shark Meshing (Bather Protection) Program (SMP) in accordance with joint management agreements and associated management plans from 2009 onwards. Joint management agreements are a simplified adaptive management arrangement, and include independent third-party annual review by the NSW Scientific Committee (established under the *Threatened Species Conservation Act 1995*) and the Fisheries Scientific Committee (established under the *Fisheries Management Act 1994*). Prior to 2009, there had been limited reporting, either internally or externally, of the operation or outcomes of the SMP. In the absence of systematic reporting mechanisms and publicly available reports, the SMP has been viewed with considerable uncertainty and scepticism from some sectors, largely attributable to a perceived lack of transparency and availability of information.

Additionally, a five-year review of the SMP was to take place in September 2014 – however this has, at the time of this report (October 2015), still not been completed.

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[92] National Geographic News *Shark declines threaten shellfish stocks, study says* http://news.nationalgeographic.com/news/2007/03/070329-sharks-shellfish.html (accessed 8 October 2015)

[93] Hughes, T.P. (1994). *Catastrophes, phase shifts, and large-scale degradation of a Caribbean coral reef* Science 265 (No. 5178): 1547-1551.

[94] Bascompte, J., Melian, C.J., and Sala, E. (2005) *Interaction strength combinations and the overfishing of a marine food web* PNAS 102(15): 5443-5447.

[95] Hughes. (1994)

In terms of the joint management plans, these have been criticised in annual reports regularly by the New South Wales scientific community and the Fisheries Scientific Committee for:

- The way in which the observer information is presented, making it difficult to determine precisely how observers were used
- Lack of information and transparency regarding entanglements of threatened species and whether entanglement and/or mortality occurred when nets were set for longer than anticipated
- The way in which trigger points have been set, which may ignore the collapse of populations
- The unwillingness to adopt alternative shark control programs, particularly during September, when there is a high rate of mortality in non-target and threatened species near and near known grey nurse shark aggregations
- The infrequency of net inspections after they have been set
- The lack of scientific data or information that would allow anyone to assess the success of lack thereof of the program itself
- The lack of species identification of the catch data
- The lack of additional research projects and suitable budget to the science and research component of the Shark Meshing Program
- The continued diversion of observer funding to aerial surveys
- The continued use of the unsubstantiated statement that "the SMP has been effective at providing a safer environment for swimmers"
- The lack of comparison of shark numbers or attacks between meshed and unmeshed beaches
- The lack of information on what DPI would do if a species-specific trigger point was tripped
- The significant delays regarding report and/or reviews when there have been shark attacks at a netted beach such as at Redhead Beach in 2012
- The lack of investigation into decreasing catch numbers, particularly in the Central Coast
- The use of "released alive" when "fate unknown" would be more adequate
- The need for more sensitive trigger points species listed as Endangered or Critically Endangered, where life history traits (e.g. late maturation, low fecundity, small population size) and low population numbers already predispose species to significant impacts from anthropogenic sources of mortality.
- The lack of improvements to the operation of the Program in relation to mitigating impacts on non-target marine species, in particular the Endangered grey nurse shark *(Carcharias taurus)*

- The superficial nature of the reporting and severe lack of detail in the reports
- The lack of details regarding research outcomes undertaken by or for DPI
- The use of the statement, "This Annual Report has not identified a need for any amendments to the Management Plan or the JMA" when review reports have been delayed
- The lack of evidence-based criteria in the SMP

Sea Shepherd shares these concerns. In 2012 for example, two humpback whales were entangled in nets on separate occasions. These incidents occurred at Dixon Park (Hunter Region) on September 16 and Wanda Beach (Sydney South Region) on October 6. It is reported that during September/October, nets remained set for a period of one week, as inclement weather prevented nets being checked at the usual 72-hour interval. No further information was provided as to whether this occurred at Dixon Park Beach or Wanda Beach, but it would be valuable to know whether entanglement and/or mortality occurred when nets were set for longer than anticipated. The following year, a 5m Humpback Whale calf was entangled in Mona Vale (Sydney North) on 22 October 2013 and its subsequent death **tripped the trigger point for threatened species entanglements.** This required a review report to be prepared, but it is still yet to be forthcoming.

Also in 2012 – a serious shark encounter occurred at Redhead Beach (netted) in Newcastle, yet DPI have still not compiled this review report, a key element of the goal aimed at "reducing the risk to humans from shark attacks at beaches of the SMP."

Surely there must be an expected timeframe, say six months, to have these review reports finalised. It is unacceptable to have such delays in providing these reports.

In the 2013-2014 SMP Annual Performance Report, it is noted that 76% of the catch within the SMP were non-targeted species. Additionally, that within this financial year, the SMP caused the deaths of one humpback whale, nine green turtles and seven dolphins (all protected species). That nine out of 10 green turtles caught in the SMP within 12 months can die, along with seven dolphins, without a trigger point being tripped is of major concern.

It is also concerning that substantial portions of the allocated observer hours to monitor the SMP contractors are not being used and that observers are only on around 30% of net checks. The observer surveys are an essential tool to assist the validation of species identification, which assists in a more rigorous assessment of

the outcomes of the shark meshing program and the scientific research associated with this.

Finally, Annual Reports will often state that the scientific literature on spatial and temporal movements on non-target species is regularly reviewed, but no detail is provided for anyone to ascertain the findings of these reviews.

Sea Shepherd has also discovered that within the 2011-2012 Annual Performance Report into the Shark Meshing (Bather Protection) Program, that the total number of deceased animals caught within the program is incorrectly stated as 102 animals when in fact it total 105, while the number released alive should be 53 instead of 56, and the breakdown of catches in Illawarra is actually 33 species caught, while 36 species were caught at Sydney Central instead of the recorded 35. These are the errors in just one table in one report! In the 2012-213 Annual Performance Report, the total number of dead animals caught in shark meshing program is also incorrectly tallied as 73 when it should be 74.

With mortalities of protected species reported regularly as a result of the SMP, Sea Shepherd is deeply concerned about the impacts it has on protected and threatened marine species in NSW and is urging the Department of Primary Industries to report and record incidents carefully and to action the points raised above or for the Parliamentary Inquiry to ascertain the reasoning behind these issues.

D: CHANGES IN SHARK NUMBERS, BEHAVIOUR OR HABITAT

Shark populations globally have been impacted by a number of human-related activities including the finning industry, commercial fishing operations, overfishing and shark control programs. The Shark Meshing Program is listed as a Key Threatening Process under both the *Fisheries Management Act 1994* and *Threatened Species Conservation Act 1995* in recognition of its impacts on threatened species. The nets also impact on protected species and other non-target animals.

Generally, sharks sexually mature late (4 – 20 years of age), have few young (2 – 25 pups per litter) and have long reproductive cycles (1 – 3 years) – a combination of factors that results in slow replacement potential for shark populations. If overfished over a sustained period, catch rates are likely to collapse and many years (or decades) are likely to be required for the depleted populations to rebuild to levels that might permit limited commercial exploitation. It is estimated that many of the global shark species are threatened or endangered, with some species, such

as the Scalloped Hammerhead Shark in New South Wales suffering up to 90% decline in population numbers.[96]

In New South Wales, we are seeing a situation where the number of most shark species caught within the shark meshing program annually is dropping considerably since the program started. The White Shark for example, has dropped from approximately 15 white sharks a year in the 1950's to around 5 white sharks a year.[97] In fact, White Shark populations in NSW waters, has seen a 70% decline based on the data from the NSW Shark Meshing Program records. Furthermore, declines of 95% have been seen in the South Eastern Australia fishery, due to commercial fishing.[98]

It is important to note, that recent shark incidents and sightings in the State, particularly in Far North Coast NSW are potentially influenced by a suite of factors not limited to:

Baitfish - large schools of baitfish including sardines and Australian Salmon have been observed close to the coastline in various locations particularly on the Far North Coast attracting sharks.

Whale Migration - Approximately from September onwards, humpback whales are on their return migratory leg back to the Southern Ocean. Females may also have calves with them which provide a substantial meal for sharks however many marine scientists believe this is not the main factor as despite the migration occurring on an annual basis, there would be also an annual shark activity event correlating with the migration of which there is no evidence to show this.

Ocean Temperatures/El Nino - Scientists have determined that when sea surface temperatures (1mm to 20m below) are warm this is usually an indication that El Nino is in motion as evident in 2015. Warm water temperatures can make it ideal

[96] Fisheries Scientific Committee *FINAL DETERMINATION* ***The Scalloped Hammerhead – Sphyrna lewini as an Endangered Species*** November 2011 http://www.dpi.nsw.gov.au/__data/assets/pdf_file/0009/432792/Scalloped-hammerhead.pdf (accessed 9 October 2015)

[97] Australian Government, Department of the Environment, *Great White Shark* http://www.environment.gov.au/cgi-bin/sprat/public/publicspecies.pl?taxon_id=64470 (accessed 2 October 2014)

[98] Australian Government, *Recovery Plan for the White Shark,* Page 11 https://www.environment.gov.au/system/files/resources/ce979f1b-dcaf-4f16-9e13-010d1f62a4a3/files/white-shark.pdf (accessed 6 October 2015).

for baitfish to school due to presence of their food sources in turn also attracting their natural predators such as sharks and larger fish. Bureau of Meteorology climate forecasters have determined that sea surface temperatures in the Central and Eastern Pacific are already recording anomalies in temperature of more than 1 degree on a weekly basis. The last time this occurred was in 1991.[99]

River Dredging - Disturbance and nutrient upwelling due to dredging processes may influence a movement of fish species, which can attract sharks to a location. The concern over this activity can be dated as far back as 1936, the year before the establishment of the NSW Shark Meshing Program, with local residents surrounding the Woronora River in Sydney's south opposing the dredging of the river. This was also supported by a NSW Fisheries economist and marine biologist who claimed "that discolouration of water would encourage the whaler shark to penetrate rivers, as It had been shown that this fish had taken advantage of discolouration caused by the fresh in rivers to approach backwaters where smaller fish were schooling. The removal by reclamation of tide-washed sand or mud flats had always been followed by great losses to the fishing industry, as these places were breeding grounds."[100]

In the case of the present dredging of the Evans River, organic rich dredging spoil is also being dumped on the beach nearby the river that is potentially washing back in on the high tide providing a food source for fish attracting larger predators such as sharks. It is also important to note that no risk assessment has been conducted in terms of the potential impact the dredging would have on the surrounding environment and its inhabitants.[101]

In July 2015, Craig Ison was attacked by a Great White while surfing at Main Beach in Evans Head. His best friend and fellow surfer Tom Augustine had also expressed concern over the impact the dredging " The last two days I'd actually been on shark patrol, sitting up on the surf club with my binoculars looking for sharks. "We've been talking about shark attacks because the dredging (in the Evans River) has stirred up all the black sand. "I tell the guys all the time, don't paddle in

[99] Australian Government - Bureau of Meteorology. *ENSO Wrap Up* http://www.bom.gov.au/climate/enso/ (accessed 6th October2015)

[100] National Library of Australia - Trove Digitised Newspaper Archive. *Woronora River Opposition to Dredging Lease Shark Experts Evidence*. http://trove.nla.gov.au/ndp/del/article/17341744 (accessed 6th October 2015)

[101] Echo NetDaily *Is the Evans River dredging attracting sharks?http://www.echo.net.au/2015/08/is-evans-river-dredging-attracting-sharks/* (accessed 6th October 2015)

the gutter, use the rip … we've been really aware, particularly over the last couple of months."[102]

Population increase - Australia's population has increased significantly in the past 20-30 years. As of 30 June 2014 Australia's population sits at approximately 23.5 million people[103] compared to approximately 17 million in 1990[104]. NSW is the most populous state of Australia with 7.54 million people in June 2014. Sydney is pushing closer to the 5 million mark with a current population of 4.8 million people.[105] With a significant increase in population, it is reasonable to suggest that more people will choose to recreate at beach locations, therefore with more people in the water there is an increased chance of sightings and/or an interaction between humans and sharks.

E: OTHER MATTERS

It is a shame that many news media outlets have reported shark incidents and the NSW shark situation as a whole, with a reasonable degree of sensationalism, often with very little fact checking or solid evidence to support their reports. Given many communities rely on the media for news and information, it is this sort of reporting which has fuelled anxiety and stress within coastal communities by creating the illusion that there are more sharks in the water, and more incidents etc. It is important to note however, that the number of incidents that have occurred during 2014/15 in New South Wales is actually lower than in 2009.

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[102] The Northern Star, *Former trainer "not surprised" Craig threw punches at shark– 31 July, 2015* http://www.northernstar.com.au/news/unconfirmed-reports-shark-attack-evans-head/2724585/ (accessed 6th October 2015)

[103] Australian Bureau of Statistics, *Regional Population Growth, Australia 2013-2014* http://www.abs.gov.au/ausstats/abs@.nsf/Latestproducts/3218.0Main%20Features152013-14?opendocument&tabname=Summary&prodno=3218.0&issue=2013-14&num=&view=) (accessed 7 October, 2015).

[104] Australian Bureau of Statistics, *Population Size and Growth, Year Book Australia 2012* http://www.abs.gov.au/ausstats/abs@.nsf/Lookup/by%20Subject/1301.0~2012~Main%20Features~Population%20size%20and%20growth~47 (accessed 7 October 2015)

[105] Australian Bureau of Statistics, *Sydney leads race to five million* http://www.abs.gov.au/ausstats/abs@.nsf/latestProducts/3218.0Media%20Release12013-14 (accessed 7 October 2015).

Additionally, there is a lack of strong legislation at a federal and state level regarding the trade of shark fin, with tonnes of shark fin being exported and imported in Australia with much of it ending up in places such as Hong Kong and China.. Current financial and imprisonment penalties do nothing to deter those who are participating in illegal finning activity due to weak policing and legislation. Currently, commercial fishing operators are allowed to sell fin and given the high price tag of shark fin it makes it a lucrative business activity.

The shark fin trade needs to be regulated at both a state and federal level to ensure the ban of catching, preparing and trade of fin occurs. Currently, NSW Greens MP Mehreen Faruqi has submitted a bill to the NSW Parliament to have the NSW Food Act amended to prohibit the preparation of shark fin for soup and other products by restaurants. [106] Shark fin and other shark cartilage are known to cause a significant health risk to people who consume these products.[107]

The consumption of flake (shark meat) is another issue ,which impacts shark numbers in Australia. Currently, accurate labelling laws only apply to fresh seafood and not to prepared and cooked seafood hence shark species such as gummy, bull, dogfish, angelshark, wobbegong, blacktip and others are usually sold as 'flake'. Populations of sharks used as flake are largely unknown and the Australian Fisheries Management Authority considers some of these species as overfished. In 2012-2013, 5720 tonnes of shark were caught in Australian fisheries.[108]

Given the perilous situation sharks globally are in, Sea Shepherd is calling for the removal of shark nets in favour of non-lethal alternatives. This is the ideal scenario for the health of our oceans. However, with only three main species of shark being declared as dangerous to humans, it does not make sense to see dusky whalers, silky sharks, broadnose, spinner sharks, bronze whalers and black tip sharks included in the list of targeted sharks by the Shark Meshing Program.

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[106] Fin Free NSW, *Let's Take Shark Fin Off the Menu* http://www.mehreenfaruqi.org.au/finfreensw/ (accessed 6th October 2015)

[107] Science Daily, Neurotoxins in shark fins: A human health concern. http://www.sciencedaily.com/releases/2012/02/120223182516.htm (accessed 15th October 2015)

[108] Department of Agriculture and Water Resources, Australian Fisheries and Aquaculture Statistics http://data.daff.gov.au/data/warehouse/9aam/afstad9aamd003/2013/AustFishAquacStats_2013_v1.2.0.pdf (accessed 15th October 2015)

IV. CONCLUSION

For all the foregoing reasons, the New South Wales Government should reject further shark meshing programs and dismantle the current meshing program in favour of non-lethal alternative solutions. The inquiry must ask if 40 unwanted shark encounters at netted beaches is a measure of "success" of the shark meshing program. It must consider, how non-lethal programs that have been proven just as successful, or if not more successful than the shark meshing program are not being given proper considerations by New South Wales authorities, such as the Shark Spotters program and eco-friendly barriers. The inquiry must further answer how a 150m single-sided net at a beach kilometres long, protects ocean users.

Given that the program would undoubtedly be rejected under the current EPBC Act should it be considered today, the inquiry must consider the environmental obligations of the State and how, in 2015, it is justifiable to ignore these, for a program that has proven not to work. Furthermore, the inquiry must look into the list of targeted species and whether the justifications of the shark meshing program are valid. What evidence can be provided to show that the shark meshing program prevents territories from being established by large sharks adjacent to metropolitan beaches in New South Wales? What credible evidence is available to show that the shark meshing program unequivocally plays a role in protecting tourism in New South Wales when beach and tourism data shows that there is no clear impact, regardless of whether it is a fatal attack or a non-serious encounter? Why are sharks that are considered non-dangerous to humans, being targeted by the shark meshing program?

Given that there is scientific data illustrating the importance of sharks in keeping oceans healthy and the frightening figures of a 90% decline in some species of shark, the inquiry must look into the ongoing effects of continuing to target and remove sharks through this program and to be able to clearly advise when too many sharks have been killed, or in other words, when enough is enough and we have reached a tipping point whereby the destruction has been too detrimental.

The enquiry needs to also consider the ongoing issues associated with the joint management agreements, the fact that reviews are being delayed by years, and how trigger points are currently calculated. Are the requirements of the joint management agreements being fulfilled and if not, how will these be overcome?

It is in our view that due to the environmental impacts and the alternative non-lethal options available, the Shark Meshing Program in unjustified. The very fact that the scientific committees are being ignored when they raise serious concerns about the program after annual reports have been filed, shows the Department of Primary Industries is not taking this program seriously and is guided by something other than environmental concerns, science and the long-term sustainability of our resources for future generations.

Finally, by now, we must be better than 1930's technology that kills precious marine life and offers a false security for ocean users. It is NOT the shark meshing program that is protecting ocean users, but the advances in medical response times and medical technology.

ATTACHMENT A

HISTORY OF SHARK NETS AND ENCOUNTERS AT NETTED BEACHES IN NEW SOUTH WALES

First installed in 18 Sydney beaches in September 1937 year-round. From 1937 until 1946 nets were 305m long.

2 Jan 1938 – First incident at netted beach - Cronulla (where Ernest Barker was thrown into the air and surf ski mauled) [1]

1943 – 1946 NO SHARK NETS IN SYDNEY (so that Fisheries vessels that were used to service the nets could instead by used by the Americans in World War II)

In 1946 nets were reinstalled but at 152m long (until 1972) and were used in addition to experiments with shark repellents.

6 April 1947 – Palm Beach – Shark scrapes surfboard of 17 year old Max Watt [2]

25 Jan 1948 – Mona Vale – Surf ski of David Button bitten [3]

1949 – Shark nets installed in December in 13 Wollongong and Illawarra Beaches after Ray Land killed at Bar Beach, Newcastle by a White Shark, during a lifesaving exhibition

14 Jan 1949 – Mona Vale – Surf ski of Don Dixon bumped [4]

1 Feb 1951 – Bondi Beach – Harry Sheen (14) has leg bitten while swimming [5]

26 March 1951 – Avalon – Ken Davidson (23) fell off surf ski (and received minor lacerations to chest)* [6]

6 December 1951 - FATALITY at Newcastle netted beach (Merewether) – Frank Olkulich (21) local surf ski champion bitten fatally while treading water [7]

01 December 1953 – Maroubra – Shark charged Jack Haynes surf ski [8]

05 Jan 1956 – North Bondi – Shark bumped Ken Howell (25) surf ski [9]

11 March 1956 – Cronulla – Ian Nolan (13) right thigh gashed while bathing [10]

23 April 1957 – Merewether – Paul Wilson (15) suffered minor injuries from a shark while surfing [11]

27 April 1959 – Maroubra – Peter Holland (22) received thigh lacerations while spearfishing [12]

27 December 1960 – Bondi – Shark brushed past Despo Snow-Christensen (27) [13]

21 Jan 1962 – Cronulla – Robert Smith (19) suffered from shock after being immersed underwater by speared shark* [14]

26 December 1966 – Coogee – David Jensen (29) had right leg bitten while spearfishing [15]

30 November 1967 – Wollongong – Jeff Short (15) incident with grey nurse while freediving* [16]

07 April 1968 – Stockton – Ray Weaver (47) suffered foot lacerations from a blue shark* [17]

25 March 1969 – Newcastle – William Hill (67) suffered foot lacerations from a mako shark* [18]

1972 – Shark nets reduced to 150-meters that are 6m deep. New contracts stipulate that each beach must be meshed a minimum of 13 times per month. Nine new beaches added to shark meshing program in the regions.

1983 – Shark nets removed in June and July yearly

January 1987 - Shark nets installed in Central Coast beaches at nine locations.

1989 – Shark nets removed in May, June, July and August yearly

January 1991 – International Shark Conference held at Taronga Zoo, Sydney.

September 1992 – Two additional shark nets installed in Central Coast region (North Avoca and McMasters)

15 October 1992 – Avalon Beach – Scuba Diver Dave Gannicott receives minor injury on his foot when he was bitten by a female nurse shark who was caught in a net and delivering a pup. [19]

25 April 1996 – Mona Vale – Aya Hamaea (16) and Luke Baker (11) both received puncture wounds in their leg by a suspected wobbegong while swimming [20] [21]

14 March 2000 – MacMasters Beach first incident at Central Coast beach after nets installed Surfer Craig Roth (40) knocked from board by suspected tiger shark. Shark grabbed leash of board and pulled him seawards. [22]

8 April 2001 – Bronte Beach – Andranik Markossian suffered wrist lacerations from wobbegong shark while snorkelling* [23]

12 April 2002 – Bar Beach, Newcastle – John Schneider (45) had foot bitten by bronze whaler while swimming [24]

11 Feb 2003 – Coogee Beach – Tom Plumridge (24) received puncture wounds on heel, leg and buttocks while swimming [25]

11 Feb 2004 – Caves Beach – Luke Tresoglavic (22) had his leg bitten by a wobbegong shark while snorkelling [26]

21 October 2004 – Stockton – John Gresham (59) has his right foot lacerated while surfing [27]

16 April 2005 – Bronte – Simon Letch (40) had surfboard bitten by bronze whaler [28]

15 March 2006 – Bondi – Blake Mohair (15) had his surfboard nudged by a 2m bronze whaler [29]

11 April 2006 – Newcastle – Luke Cook (15) received minor lacerations on his foot from a juvenile bronze whaler while surfing [30]

22 October 2008 – NSW Government proposed minor amendments to the Fisheries Management Act 1994, the Environmental Planning and

Assessment Act 1979 and the Environmental Planning and Assessment Regulation 2000. Instead of existing costly assessment requirements, joint management agreements have been developed under existing provisions of the Fisheries Management Act 1994 and the Threatened Species Conservation Act 1995.

Independent Threatened Species Scientific Committee and the Fisheries Scientific Committee to review joint management agreements annually and provide Minister for Primary Industries and Director General of the Department of Environment and Climate Change with an annual review. The committees to advise of any deficiencies in the implementation of the joint management agreements. Advice from the committees will be incorporated into each department's annual report to Parliament. In general – proposal of greater transparency to the meshing program.

12 February 2009 – Bondi – Glen Orgias (33) loses left hand after being bitten by 2.5m white shark while surfing [31]

1 March 2009 – Avalon – Andrew Lindop (15) bitten on leg by suspected 2.6m white shark while surfing [32]

26 December 2009 – Avoca - John Sojoski (55) received lacerations to lower leg after accidently stepping on shark [33]

11 Feb 2010 – Mona Vale – Surfer Paul Welsh (46) bitten on left lower leg by a wobbegong shark while teaching son (10) to surf [34]

7 December 2011 – Maroubra – Ronald Mason (14) bitten on leg by a wobbegong while surfing [35]

3 Jan 2012 – North Avoca – Surfer Mike Wells (28) receives about 50 puncture wounds to right arm by a suspected bronze whaler [36]

18 Jan 2012 – Redhead Beach – Glen Fokard (44) bitten by white shark on thigh while surfing [37]

Sept 2014 – Five year review of shark nets was meant to take place (As of 15 October 2015 this still hasn't been completed).

17 Oct 2014 – Avoca – Surfer Kirra-Belle Olsson (13) was bitten on left calf and ankle, and received puncture wounds to left foot while surfing [38]

5 Feb 2015 – Merewether – Body boarder Ben McPhee bitten on ankle by 1.8m shark (believed to be a bull shark) [39]

8 September 2015 – Shelly Beach – Surfer Justin Daniels (42) knocked off surfboard while paddling out – minor lacerations to left hand and surf board bitten [40]

*** Listed as a provoked incident**

**** All references to fishing encounters with sharks have not been included in this list**

ATTACHMENTS B – C SUMBITTED AS SEPARATE PDF ATTACHMENTS

SYDNEY NORTHERN BEACHES

Surf Life Saving

Once again I am proud to report that there were no lives lost under our watch on Sydney's Northern Beaches due to the vigilance and service of our members.

During the 2010/11 season our members:

- Watched over 3.25 million beachgoers – an increase of 12%
- Rescued more than 1800 people – an increase of 100%
- Conducted almost 50,000 preventative actions – an increase of 61%
- Conducted almost 10,000 first aid treatments – an increase of 275%

Our 21 clubs:

- Patrolled more than 11,600 hours – an increase of 3%
- Invested an estimated 350,000 hours in total community service, including patrolling, youth and membership development, training (education and sport) and administration
- Trained for and gained over 8500 awards – an increase of 9%, including over 1000 Bronze Medallions

Our Surf School's community and school-based programs educated over 12,000 people in first aid and surf safety awareness, teaching people about the potential dangers on our beaches. We also continued to support disadvantaged groups in the community, through our Stewart House and Special Needs programs.

More than 1000 members and non-members competed in our Ocean Series ski races and most of our clubs ran community ocean swims, which continue to grow in popularity each year.

Already the largest branch in NSW, our membership has grown to over 18,000 – an increase of 7%. This includes:

- Over 7300 patrolling members
- Around 9000 youth members (18 years and under)
- Around 7000 females

It is very interesting to see our members:

- Were called upon to rescue one person for every 2000 beach goers
- Watched over more than 500 beach goers per patrolling member
- Gained one "patrolling" award for every two patrolling members

Financially we had a strong year delivering a consolidated profit of $57,319 even after moving into our own education and administration building. We would not be able to offer the quality and level of service to the community without the support of our business partners. On behalf of all our members I would I thank our sponsors for their continued support.

Thanks to the directors and staff of Surf Life Saving Australia and to Tony Haven, Phil Vanny and the directors and staff of Surf Life Saving New South Wales for your guidance and direction.

The role of president is made more enjoyable by having a group of high calibre directors and staff who all share a passion for our organisation and are working together for our future.

Many thanks to Deputy President David Murray, Director of Rescue Services Steve Faddy, Director of Education, Michael Wasley, Director of Surf Sports Ross Tester, Director of Youth and Membership Services Glenn Langley, Director of Finance and Administration Phil Cullis and Director of Sponsorship and Marketing Alan Mason. The amount of time and devotion these members put into our organisation is truly amazing – and I believe not fully appreciated.

Finally, once again, I would like to thank all our surf lifesavers for their amazing commitment and passion shown year after year. Thank you also to the partners and families who support them.

Gordon Lang
Branch President

ILLAWARRA

Rescues	402
Emergency Response Call Outs	12
Preventative Actions	6646
First Aid	920
Beach Attendance	384,085
Patrol Hours	47,391.25
Membership	6788

➡ Full Branch report see page 42

HUNTER

Rescues	265
Emergency Response Call Outs	15
Preventative Actions	11,209
First Aid	1996
Beach Attendance	670,236
Patrol Hours	59,158.50
Membership	6869

➡ Full Branch report see page 46

FAR NORTH COAST

Rescues	226
Emergency Response Call Outs	24
Preventative Actions	8984
First Aid	2213
Beach Attendance	298,850
Patrol Hours	42,067.75
Membership	5496

➡ Full Branch report see page 50

SYDNEY

Rescues	2440
Emergency Response Call Outs	49
Preventative Actions	28,657
First Aid	8215
Beach Attendance	1,504,964
Patrol Hours	127,174.7
Membership	15,984

➡ Full Branch report see page 43

LOWER NORTH COAST

Rescues	36
Emergency Response Call Outs	7
Preventative Actions	4004
First Aid	464
Beach Attendance	203,948
Patrol Hours	15,755
Membership	1795

➡ Full Branch report see page 47

LIFESAVING STATISTICS

	FNC	NC	MNC	LNC	HUN	CC	SNB	SYD	ILL	SC	FSC	NSW
Rescues												
No Gear	98	17	107	18	108	315	454	452	131	67	48	1815
Tube	36	23	67	30	85	129	847	618	58	37	61	1991
Board	88	22	63	44	211	250	649	666	159	49	50	2251
IRB	50	12	22	19	57	197	352	447	42	18	73	1289
PWC/RWC	1	0	1	0	54	24	87	50	2	0	30	249
JRB/ORB/RIB	1	0	0	0	0	0	1	13	1	8	0	24
Surf Boat	0	0	0	0	0	0	0	0	0	0	0	0
Helicopter	0	0	0	0	0	0	0	0	0	0	3	4
Surfboard	0	0	0	1	0	0	0	0	3	0	3	7
Other	3	0	3	2	13	112	58	138	37	1	16	383
Total	277	74	263	114	528	1027	2448	2384	433	180	284	8013
Preventative Actions												
Evacuation Alarm	19	1	0	2	26	14	66	20	3	3	2	156
Searches	37	6	4	1	12	277	83	54	11	8	27	520
Lost Children	33	5	14	19	74	59	302	247	6	16	29	804
Preventions	9159	2570	12727	4402	15878	39509	55353	38388	6654	2891	2066	189597
Total	9248	2582	12745	4424	15990	39859	55804	38709	6674	2918	2124	191077
Emergency Care												
Marine Stings	242	32	92	62	302	497	842	972	88	101	52	3283
Minor Cuts/ Abrasions	175	47	134	55	355	485	597	655	70	54	57	2684
Major Wound	11	1	1	2	14	38	51	59	0	5	5	187
Fractures/ Dislocations	12	1	6	4	7	13	22	16	6	3	3	94
Suspected Spinal/ Injuries	7	2	2	1	16	8	30	27	4	7	1	105
Resuscitation	2	3	2	0	1	5	2	5	4	3	4	31
Others	55	27	29	32	103	334	257	420	64	42	40	1403
Total	504	113	266	156	798	1380	1801	2154	236	215	162	7787
Beach Attendance												
Total	340515	143831	184539	206875	686466	1252794	3409301	1701559	268239	129293	105826	8429238
Emergency Response Calls												
Total	65	14	19	8	23	24	41	71	26	24	58	373

LIFESAVING STATISTICS

	FNC	NC	MNC	LNC	HUN	CC	SNB	SYD	ILL	SC	FSC	Other	NSW
Emergency Callouts	**89**	**26**	**31**	**16**	**39**	**47**	**71**	**107**	**30**	**53**	**32**	**2**	**543**
Coastal Drownings	**2**	**4**	**3**	**1**	**1**	**10**	**7**	**15**	**3**	**2**	**0**	**0**	**48**
Rescues													
No Gear	35	24	13	5	29	55	134	135	237	11	18	4	700
Tube	34	19	15	6	42	103	163	311	32	35	32	2	794
Board	31	30	32	16	51	240	278	431	83	29	43	0	1264
IRB	40	17	2	1	21	95	201	250	15	7	31	0	680
PWC/RWC	1	0	7	1	15	20	90	92	3	0	6	0	235
JRB/ORB/RIB	2	0	0	0	0	1	0	18	2	3	0	0	26
Surf Boat	2	0	0	0	0	0	0	0	0	0	0	11	13
Helicopter	0	0	0	0	0	1	0	2	0	0	2	1	6
Surfboard	0	0	0	0	1	0	0	0	0	0	0	0	1
Other	1	0	2	11	21	29	32	164	8	0	9	0	277
Total	**146**	**90**	**71**	**40**	**180**	**544**	**898**	**1403**	**380**	**85**	**141**	**18**	**3996**
Preventative Actions													
Evacuation Alarm	13	8	9	1	21	6	25	21	3	2	4	0	113
Searches	18	2	12	5	10	21	66	73	12	12	12	0	243
Lost Children	19	18	5	32	52	63	137	173	34	8	8	0	549
Preventions	9109	2452	5957	2405	14,711	25,169	35,668	20,408	6327	2064	1227	0	125,497
Total	**9159**	**2480**	**5983**	**2443**	**14,794**	**25,259**	**35,896**	**20,675**	**6376**	**2086**	**1251**	**0**	**126,402**
First Aids													
Marine Stings	547	15	182	192	851	2250	3463	5802	1321	342	204	22	15,191
Minor Cuts/ Abrasions	119	44	86	44	212	378	462	739	65	42	54	0	2245
Major Wound	8	2	3	2	10	18	45	46	3	1	2	0	140
Fractures/ Disclocations	5	3	5	0	4	15	14	11	5	1	5	0	68
Suspected Spinal/Injuries	9	1	2	3	11	14	28	38	7	4	6	0	123
Resuscitation	0	3	3	0	1	4	2	10	2	0	1	1	27
Others	47	15	36	41	86	143	179	297	28	40	18	0	930
Total	**735**	**83**	**317**	**282**	**1175**	**2822**	**4193**	**6943**	**1431**	**430**	**290**	**23**	**18,724**
Beach Attendance													
Attendance	224,216	108,019	165,890	147,541	619,414	1,292,795	2,181,854	1,261,277	265,299	114,328	76,413	0	6,457,046

LIFESAVING

	FNC	NC	MNC	LNC	HUN	CC	SNB	SYD	ILL	SC	FSC	Other	NSW
Emergency Callouts	65	33	14	15	32	45	64	88	39	41	26	7	469
Coastal Drownings	3	1	4	2	2	2	2	17	-	5	2	-	30
Rescues													
No Gear	32	8	13	12	35	360	186	89	21	16	17	-	789
Rescue Tube	29	13	40	13	67	142	251	442	54	45	51	-	1147
Rescue Board	43	24	34	11	95	279	325	413	116	19	30	-	1389
IRB	33	10	34	12	40	136	141	227	38	9	10	-	690
RWC	6	2	4	-	62	15	61	75	7	-	1	-	233
JRB/ORB	1	-	-	-	-	-	-	5	-	4	0	-	10
Helicopter	-	-	-	-	1	-	-	-	-	-	2	-	3
Surfboard	-	-	-	-	-	1	1	1	2	-	0	-	5
Other	5	2	3	2	18	23	32	76	5	-	1	-	167
Total	149	59	128	50	318	956	997	1328	243	93	112	-	4433
Preventative Actions													
Lost Children	13	6	14	5	280	310	145	101	31	6	2	-	913
Preventions	8091	2223	10413	1505	17105	36945	37693	25007	7473	2240	965	-	149660
Searches	13	4	2	4	22	29	69	44	6	2	5	-	200
Shark Alarm	9	4	2	4	33	38	32	14	7	1	4	-	148
Total	8126	2237	10431	1518	17440	37322	37939	25166	7517	2249	976	-	150921
First Aids													
Fractures/ Dislocation	5	1	2	-	14	16	21	21	7	1	2	-	90
Marine Stings	156	31	60	48	249	327	492	663	114	51	41	-	2232
Major Wounds	9	-	5	1	18	32	50	26	7	2	1	-	151
Minor Cuts/ Abrasions	142	26	121	51	262	511	498	768	90	43	38	-	2550
Other	40	28	31	22	89	113	168	224	43	25	28	-	811
Resuscitation	2	2	1	-	1	6	4	4	-	2	1	-	23
Spinal	6	1	5	4	8	25	42	39	4	2	2	-	138
Total	360	89	225	126	641	1030	1275	1745	265	126	113	-	5995
Beach Attendance													
Attendance	275684	129632	194036	167269	741444	183368	2386081	1102756	304703	127759	94800	-	5707532

From: **Natalie Banks** natalie@seashepherd.org.au
Subject: **Fwd: [Contact 2015-09-10 13:03:36]**
Date: **5 October 2015 11:44 am**
To:

From: SLSNSW Webmaster <webmaster@surflifesaving.com.au>
Date: 14 September 2015 at 8:05:26 AM AWST
To: Nat
Subject: RE: [Contact 2015-09-10 13:03:36]

Please see the 2014/15 Branch beach attendance figures below:

	FNC	NC	MNC	LNC	HUN	CC	SNB	SYD	ILL	SC	FSC
NSW Beach Attendance 7116682	230736	104719	171577	150718	690343	1241243	2379733	1517758	392447	159163	78245

Kind regards,

Phillip Brent
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Public Perception and Understanding of Shark Attack Mitigation Measures in Australia

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Human–wildlife conflict (HWC) is a significant and growing problem, with mitigation measures being increasingly dependent on sociopolitical landscapes. We surveyed 766 people from two Australian states to assess their understanding of shark attack mitigation measures. Although beach users were relatively aware of existing mitigation measures, the efficacy of aerial patrol was overestimated, as was the risk of shark attack. The latter, as well as the innate fear of shark attacks, is likely to explain the high level of worry related with shark attack and fits within the affect heuristic that can influence how people respond to risk situations. Beach users did not, however, choose beaches based on existing mitigation measures. Results highlight the need for improved education about the risks of shark attack and for further research into the emotional response from low probability–high consequences incidents.

Keywords human–wildlife conflict, beach meshing, aerial patrols, public awareness, Australia

Introduction

Human–wildlife conflict (HWC) is a significant and growing problem that puts both humans and wildlife at risk (Berchielli, Dente, & Renar, 2003). The potential for injuries to, or death of, humans from wildlife has led to concerns from the general public and a pressing need to minimize HWC (West, 2011). Government agencies and the general public may rely on the development and use of mitigation measures to reduce the likelihood of encounters between humans and wildlife (Conover, 2002). The use of HWC mitigation measures, however, can result in detrimental impacts on wildlife populations, which may be a serious problem for species of conservation concern (Conover, 2002; Woodroffe, Thirgood, & Rabinowitz, 2005). Although the development of HWC mitigation measures has been based on their efficacy taking into account the biology and ecology of the species of concern,

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mitigation strategies are also influenced by the sociopolitical landscape, where political and economic factors may affect decision-making (Treves & Karanth, 2003). Human–wildlife conflict management has become a political challenge as much as a scientific one (e.g., voters have punished governments for spikes in shark attacks (Achen & Bartels, 2004)). As a result, HWC management must include investment in public outreach and study of public understanding of management approaches.

Although interactions potentially impacting human safety occur with different terrestrial (e.g., lions, wolf, bears) and marine organisms (e.g., jellyfish, crocodiles), few species are more feared than sharks. Sharks, like many apex predators, suffer from a negative public image (Driscoll, 1995; Thompson & Mintzes, 2002; Woods, 2000), in part because of their ability to pose threats to human safety (Philpott, 2002). These negative perceptions of sharks and shark attack risk have been identified as a barrier to global shark conservation efforts (Ferguson, 2006). In this context, human–shark conflict poses an urgent challenge worldwide because such conflict pits human communities against sharks and against other humans who seek to conserve or restore wildlife populations (Karanth & Madhusudan, 2002; Torres, Mansfield, Foley, Lupo, & Brinkhaus, 1996). For example, the species responsible for the greatest number of fatal attacks (white shark *Carcharodon carcharias*) is now protected in many countries as well as by international agreements. This protection leads to debates within communities subsequent to a shark attack and may lead to organized culls (Curtis et al., 2012).

Globally, the number of shark attacks has been increasing (Burgess, Buch, Carvalho, Garner, & Walker, 2010; Curtis et al., 2012). In Australia, reported incidents have more than doubled from 6.5 per year in 1990–2000 to 15 incidents per year in 2000–2010 (West, 2011). Spikes in the number of shark attacks have led government agencies to review their beach protection programs (Anonymous, 2006a, 2006b; Green, Ganassin, & Reid, 2009; Nel & Peschak, 2006). In these reviews, the need for more information about mitigation measures is often highlighted, with recommendations for educating the general public and improving understanding of shark attack risk, the role of beach protection programs, and the costs associated with these programs (Curtis et al., 2012; Green et al., 2009; Nel & Peschak, 2006).

Studies of risk perception examine the judgments people make when they are asked to characterise and evaluate hazardous activities (Slovic, 1987). Risk perception is hard to understand and many of the suggested models (e.g., the psychometric model (Fischhoff, Slovic, Lichtenstein, Read, & Combs, 1978) or cultural theory (Douglas & Wildavsky, 1982)) only explain a small fraction of risk perception (Sjöberg, 2000). Studies, however, have recognized that risk perceptions and society's responses to risk can be strongly linked to the degree to which a hazard evokes feelings of dread (Fischhoff et al., 1978; Slovic, 1987). This implies that people base their judgments of an activity or a risk, such as the likelihood of being bitten by a shark, not only on what they think about it but also on how they feel about it (Loewenstein, Weber, Hsee, & Welch, 2001). Assessing risks based on feelings or affect can be easier and more efficient than weighing the pros and cons of various reasons or retrieving relevant examples from memory (Slovic, Finucane, Peters, & MacGregor, 2004). This characterisation of a mental shortcut led to the use of affect as heuristic (Finucane, Alhakami, Slovic, & Johnson, 2000). The affect heuristic and risk as feelings have been shown to predict and explain numerous aspects of perceived risk (Loewenstein et al., 2001; Slovic & Peters, 2006; Slovic et al., 2004). Considering the negative and emotive public perception of sharks and shark attacks (Driscoll, 1995; Neff, 2012; Woods, 2000), the perception of risk associated with shark attacks is a good model

to test the importance of affect heuristic to explain the attitude and behavior of the general public at beaches in relation to shark attack mitigation measures.

Several authors have investigated the public view of sharks from a wildlife tourism perspective (Dobson, 2006; Theberge & Dearden, 2006; Topelko & Dearden, 2005; Ziegler, Dearden, & Rollins, 2011), but none have investigated risk perception of shark attacks or how much the public know about mitigation measures. Those who promote and regulate safety need to understand the ways in which people think about and respond to risk (Slovic, 1987). The present study focused on two Australian States where shark attack mitigation measures are used as case studies to assess risk perception and the level of understanding and perceived efficacy of human–wildlife conflict mitigation measures related to shark attack. This article aims to aid risk analysis and policymaking by determining: (a) risk perception of shark attacks in relation to beach goer behavior and the assumed number of shark attacks and (b) the understanding and perceived efficacy of current shark attack mitigation measures and influencing factors.

Methods

Study Sites

Public understanding and perceived efficacy of shark attack mitigation measures were determined from beaches in New South Wales (NSW) and South Australia (SA). These two Australian States were chosen because of the different shark attack mitigation measures in place and the differing types of shark attacks occurring in those States. South Australia had about 70% more fatalities per capita in 1990–2010 than any other Australian State or Territory (Australian Shark Attack File, unpublished data). Conversely, ~40% of the unprovoked attacks that occurred in Australia from 1990 to 2009 took place in NSW (West, 2011). New South Wales and SA also use different shark attack mitigation measures. New South Wales pioneered the use of anchored, large-mesh gill-nets as a preventive measure (Reid, Robbins, & Peddemors, 2011) in 1937 and these are now in place on 51 beaches from Newcastle to Illawara. Fixed-wing and helicopter aerial patrols off Sydney beaches have also been used. Aerial patrols were, however, intermittent and not always supported by the NSW Government due to concerns of their effectiveness. South Australia does not have a beach meshing or drumline program, but instead uses a few closed enclosures at specific locations (e.g., Streaky Bay) and a combination of aerial-based spotter programs (plane and helicopter).

Survey

A questionnaire was designed to assess the public understanding and perceived efficacy of shark attack mitigation measures. The questionnaire was administered to participants in both States. Slight differences were introduced to take into account the survey location and the mitigation methods used in each state.

The following questions provided information about respondents' awareness of shark attack numbers, their level of concern at the beach and other factors that influence beach selection. In each State, participants indicated their frequency of visiting the beach (daily, twice a week, weekly, fortnightly, monthly, every few months, annually, or hardly ever) for each season (summer, winter), and activities participated in while at the beach (swimming, surfing, fishing, diving, running or walking, beach sports, sunbathing, or other).

Respondents then ranked the three most important factors they look for when choosing a beach: ease of access, landscape and views, size of the beach, activities offered, popularity, facilities available, shark attack control measures, and presence of lifeguards. They also ranked the three types of risks they are most worried about: drowning, slipping off rocks, jellyfish stings, shark attack, injuries on the beach, or sunburns. Participants estimated the average number of fatal and non-fatal shark attacks per year worldwide and in Australia; whether they had heard of a recent attack; and if they had a close experience with shark attacks (i.e., themselves, or friend/relation). Finally, respondents rated how safe they felt from shark attacks when in the water at beaches in their state on a scale of 1 (not at all safe) to 10 (completely safe).

The understanding of shark attack mitigation measures was assessed in two parts. Participants first listed mitigation measures being used in Australia and around the world, and identified the most efficient method to reduce shark attacks. Respondents were then asked a series of questions regarding their knowledge of the two mitigation measures predominantly used in Australia: aerial patrols and beach meshing. For aerial patrols, closed-ended questions assessed the number of observers inside the helicopter or plane, probability of seeing a shark, average time spent over a beach, and regularity of patrols; area covered was asked as an open question. For beach meshing, closed-ended questions assessed the layout and depth of the nets, and how often nets are checked were carried out; an open question gauged the geographic range of the protected beaches. A knowledge score was calculated by summing correct answers by each respondent. Correct answers were allocated 10 points, with other answers allocated fewer points depending on their relative closeness to the correct answer. Respondents also assessed the perceived efficacy of each method to reduce shark attacks, using a scale from 1 (*not at all efficient*) to 10 (*very efficient*).

Questionnaire Administration

Questionnaires were administered during May and June 2011 between 9 a.m. and 5 p.m. In Adelaide, sampling was carried out on beaches from Semaphore to Victor Harbour. In Sydney sampling occurred on ocean and harbor beaches with and without nets from North Curl Curl to Maroubra. Sampling occurred over 17 days in Adelaide and 14 days in Sydney. About 85% of the approached people (330 and 430 in Sydney and Adelaide, respectively) completed the survey.

Questionnaires were also sent by email to 19 diving, sailing, swimming, and surfing sports clubs. Questionnaires were only sent to clubs within the same postcode as participants from face-to-face surveys. The potential biases introduced by targeting individuals with a potential interest in marine conservation were taken into account by including in the analyses participants' main activities and regularity of beach visits.

A total of 766 questionnaires were completed with 359 responses completed in Sydney (285 and 74 through one-on-one and Web-based questionnaire, respectively) and 407 responses completed in Adelaide (368 and 39 through one-on-one and Web-based questionnaire, respectively).

Statistical Analysis

Differences in the demographics between the two areas and perceived efficacy of methods were assessed using Chi-squared or *t*-tests as appropriate. The factors affecting the knowledge score of the two mitigation methods were assessed for each region independently using analyses of covariance. Maximal models containing the ten available explanatory

Table 1
Details of explanatory variables used in the analysis of covariance model to assess factors affecting the understanding of shark attack mitigation measures

Explanatory variable	Nature
Education	Three-level factor (high school, tertiary, graduate)
Sex	Two-level factor (male or female)
Age	Integer
Shark concern	Three-level factor (low, intermediate, high)
Attack experience	Two-level factor (yes or no)
Summer beach use	Four-level factor (none, rare, regular but occasional, regular and frequent)
Winter beach use	Four-level factor (none, rare, regular but occasional, regular and frequent)
Activities	Three-level factor (water, land, water and land)
Security concern (includes lifeguards)	Three-level factor (low, intermediate, high)
Attack awareness	Two-level factor (yes or no)

variables (Table 1) were fit to the data, with identification of significant terms through stepwise model simplification, removing non-significant variables and collapsing levels within factors where these were not significantly different from each other. This resulted in a minimally adequate models containing only the explanatory variables and factors that explained a significant amount of the variation in the knowledge score (Crawley, 2007).

Results

Respondent Demographics and Beach Use Patterns

In both regions, 35% of respondents were between 18 and 25 years old. In South Australia, 22% were between 26 and 35 and in New South Wales 30% were between 26 and 35. Individuals aged over 45 made up 27% and 21% of South Australian and NSW samples, respectively. Both sexes were equally represented and the regions did not differ in this regard ($\chi^2 = 0.37$, $df = 1$, $p = .54$). The demographics of the regions differed in terms of education ($\chi^2 = 11.3$, $df = 2$, $p < .01$); in New South Wales, there were more respondents in the upper educational levels compared to South Australia, with 11% more (SA: 63%, NSW: 72%) at university level and 12% less (23% SA and 13% NSW) at high school level. The middle portion was similar with 14% (SA) and 15% (NSW) having completed a trade or apprenticeship.

Most respondents were regular beach users with 60–75% of respondents visiting the beach at least once a month in winter, whereas ~85% visited the beach at least once a month in summer. The main beach activities identified were swimming, running, walking, having a picnic, and sunbathing.

Concerns of Respondents and Shark Attack Estimations

The main concern of respondents in both regions while visiting the beach was sunburn (51% SA and 43% NSW). In SA, the second and third main worries were the risk of

shark attack and jellyfish stings (19% and 10%, respectively). However, in NSW, the risk of jellyfish stings ranked second (22%), whereas the risk of shark attack was fourth (13%). Although shark attack was the main concern of nearly 20% of South Australian respondents, only 0.5% ranked the presence of shark attack mitigation measures as their main reason to choose a beach. Similarly, in NSW, only 0.9% of respondents ranked the presence of shark attack mitigation measures as their principal driver for beach selection. In both regions, the landscape/views, and popularity of the beach were the two principal drivers of beach choice.

Both SA and NSW respondents over-estimated the number of fatal and non-fatal shark attacks at 7–9 and 20–30, respectively. Both regions were equally inaccurate in their perception of the number of shark attacks (fatal: $t_{739} = 0.80$, $p > .05$, non-fatal: $t_{739} = 1.21$, $p > .05$), but were correct in estimating a higher relative number of fatal attack in SA and non-fatal attack in NSW. Respondents in both regions felt equally well protected from shark attacks at their favorite beach (7.8/10), however, the perceived safety from shark attack at beaches in general was higher in NSW than in SA (7.73/10 and 7.33/10 respectively, ($t_{759} = 2.42$, $p < .01$)). There was no correlation between the perceived level of safety from shark attacks both on SA and NSW beaches and the respondents' knowledge of shark attack mitigation measures (SA: $n = 406$, Slope: $t_{405} = 1.32$, $p > .05$; NSW: $n = 355$, Slope: $t_{354} = 1.63$, $p > .05$).

Understanding and Perceived Efficacy of Shark Attack Mitigation Measures

Most respondents (90%) were aware that nets are used as shark attack mitigation measures, and 92% of NSW respondents correctly identified that nets are being used in their State. In SA, however, 41% of respondents incorrectly believed that nets were used in their State. About 50% of respondents knew that aerial patrols (either fixed-wings or helicopters) were used as shark attack mitigation measures. Sixty percent of SA respondents correctly identified that aerial patrols are being used in their State, with lifeguards, acoustic telemetry, boats, enclosures, and education being some of the other mitigation measures known by SA respondents.

In both regions, respondents knew more about aerial patrols than beach meshing: in South Australia aerial patrol knowledge scored 74/100 versus 57/100 for meshing ($t_{812} = 15.00$, $p < .05$), in NSW aerial patrol knowledge was 76/100 versus 65/100 for meshing ($t_{716} = 7.46$, $p < .05$). Aerial patrol knowledge did not vary with region ($t_{764} = 1.23, p > .05$), but knowledge of beach meshing did, with NSW respondents scoring higher than South Australian respondents ($t_{764} = 6.41, p < .05$).

The perceived efficacy of beach mitigation measures was rated at 5.8/10. Respondents in both regions thought beach meshing (6.18/10) more efficient than aerial patrols (5.4/10) at reducing shark attacks (SA: $t_{763} = 6.11$, $p < .05$; NSW: $t_{700} = 3.73$, $p < .05$). Additionally, South Australians thought that beach meshing was more efficient (6.45/10) than NSW respondents (5.97/10) ($t_{730} = 2.93$, $p < .05$). The gender of the respondents had little effect with only one method varying in perceived efficacy between the sexes: more men (4%) rated acoustic telemetry as the most efficient method than did women (<1%) ($\chi^2 = 8.6$, $df = 1$, $p < .01$), although the efficacy of this method was rated as low for both sexes. Education level had no effect on what methods were perceived as efficient ($\chi^2 = 17.2$, $df = 16$, $p = .37$). The level of worry, or assessment of how concerned people were about shark attacks when going to the beach, affected the perception of the most efficient method ($\chi^2 = 54.9$, $df = 16$, $p < .001$), with boat spotting being perceived as a more efficient method by people who worried the most compared to those who worried least.

Drivers Underpinning Knowledge Score Variations

There was much variation in the level of knowledge of both mitigation measures in both States, but little of this was accounted for by the factors assessed. For beach meshing in NSW, the maximal model only explained 7% of the variation and the minimally adequate model, which contained two factors of interest, explained 5%. These two factors were direct experience of a shark attack (which led to a 12% better score, $F_{1349} = 5.1$, $p < .05$) and winter beach use. Those who used the beach rarely or never during the winter months knew marginally more (7%) about meshing than those who used it on a monthly or more regular basis ($F_{2349} = 5.47$, $p < .01$).

As with meshing, few of the measured factors explained the variation in aerial patrol score and the maximal model only accounted for 11% of the variance in knowledge. Aerial patrols were affected by the age of the respondent, with older people knowing more than younger people (3% rise in score/10 years over the sample range, $F_{1352} = 16.6$, $p < .001$), and by the winter use of the beach. Conversely to the beach meshing score, people who never used the beach in winter knew less of aerial patrols than those who used the beach in winter (9% lower score, $F_{1352} = 5.3$, $p < .05$). The minimally adequate model containing these factors only explained 8% of the variation in the data.

As with NSW, the variation in knowledge about meshing in South Australia was great and the maximal model only accounted for 11% of this. There were five significant factors identifiable in the minimally adequate model, which explained 7% of the variation. The effect of how concerned people were about beach security was subtle, people who either rated it highly or paid it little attention were both 21% less accurately informed than those who had an intermediate level of worry ($F_{1371} = 4.87$, $p < .05$). The opposite pattern was true of people who worried about shark attacks, the extremes were 23% better informed than those in the middle ($F_{1371} = 3.9$, $p < .05$). People who were aware of a specific shark attack were 8% less accurate in their knowledge of meshing than the general level ($F_{1371} = 4.1$, $p < .05$). University educated respondents were 10% better informed than those who had completed school or secondary-level classes ($F_{1371} = 6.9$, $p < .01$). People who used the water were also 10% better informed than those who stay dry ($t_{371} = 2.15$, $p < .05$).

The maximal model for aerial patrols in South Australia also did not explain much of the variation in the knowledge score (9%), and the three factors found to account for significant proportions together only account for 5% of the variation. In this region, men had a 4% more accurate understanding of aerial patrols than women ($F_{1380} = 7.5$, $p < .01$), as did those who had a post school-level education (5%, $F_{1380} = 6.8$, $p < .01$). Those who rated beach security low had a 4% poorer understanding of the method ($F_{1380} = 4.1$, $p < .05$).

Discussion

Managers dealing with HWC report that human dimensions of such conflicts are the most difficult to understand and manage (Decker & Chase, 1997). This article provides the first quantitative assessment of public perception and understanding of shark attack risk and mitigation measures. The results show some discrepancies between belief and facts, and disparities between the respondents' perception of shark attack risk and the use of mitigation measures.

Concerns About Shark Attacks

The risk of shark attack being one of the main worries when going to a beach is not consistent with the low number of shark attack taking place yearly. In risk perception, responses

to low probability events, such as shark attacks, can be quite sensitive to the possibility of strong negative consequences, regardless of its probability (Loewenstein et al., 2001). Shark attacks are considered low probability–high consequence incidents whose vivid nature skews risk perceptions (Sunstein, 2002). Skewed risk perception was evidenced in the finding that respondents were more worried about shark attack than drowning regardless of the respective number of deaths from each (in Australia ~1 death year^{-1} due to shark attack, averaged between 1990 and 2010 (West, 2011) versus ~95 deaths year^{-1} due to drowning at beaches, and in the ocean or harbours, averaged between 2002/03 and 2011/12 (Royal Life Saving Society, 2012)). Public perceptions of outcomes from shark bite incidents have been socially constructed by causal stories in movies, myths, and media driving a primal rejection and fear of sharks. Most media coverage emphasises the risks that sharks pose to people, with shark attacks being the focus of over half the U.S. and Australian newspaper articles related to sharks (Muter, Gore, Gledhill, Lamont, & Huveneers, 2013). Frequent media exposure, as seen following most shark attacks, has also been shown to increase the perceived level of risk (Slovic et al., 2004). The vivid picture of the consequences from a human–shark conflict is embedded and available in the mind of the public (Neff, 2012). The complex role of emotions such as these in determining individuals' beliefs, perceptions, attitudes, and actions regarding wildlife and human–wildlife interactions is only recently coming to light (Manfredo, 2008; Slovic, 2004; Slovic & Peters, 2006). A better understanding of peoples' emotions surrounding sharks and the potential for shark attack at public beaches will be necessary for understanding and predicting public perceptions about and reaction to shark control measures and changes to shark control policy.

Results also indicated that the general public grossly overestimates the number of non-fatal and fatal shark attacks, doubling the number of non-fatal and quadrupling the number of fatal shark attacks. It has also been shown that highly publicized causes of death (e.g., homicides, tornadoes, shark attacks) are overestimated, while under-publicized causes (e.g., diabetes, stroke, asthma, tuberculosis) are underestimated (Lichtenstein, Slovic, Fischhoff, Layman, & Combs, 1978). Highly publicized causes appear to be more sensational and more affectively charged, which may account for both their prominence in the media and their relatively overestimated frequencies. The cumulative impact of the cognitive processes linked with low probability–high consequences incidents and the overestimation of the number of shark attacks can leave the public convinced of an outcome that seems more likely than it actually is and connects negative feelings about these events (Neff, 2012). Other types of stimuli that evolution may have prepared us to fear, such as spiders, snakes, or heights, evoke strong visceral responses even when we recognize them, cognitively, to be harmless (Loewenstein et al., 2001). This may explain why the general public place the risk of shark attacks in the top three of their main worries, higher than the risk of drowning, although the risk of drowning is greater than the risk of shark attacks. However, empirical evidence has shown that when potential outcome evokes strong negative effect, as with shark attacks, its unattractiveness is relatively insensitive to variation in probability as great as from 0.99 to 0.01 (Rottenstreich & Hsee, 2001). If this is the case, improving the knowledge of the actual shark attack risks might not affect the perceived risks and behavior of beach goers.

Understanding and Perceived Efficacy of Mitigation Measures

Beliefs and values are often strongly correlated and psychologically interdependent, leading people to mostly see bad properties in the concepts that they dislike (Sjöberg, 2000).

Conventional attitude theory also assumes attitude to be a function of beliefs and values (Fishbein & Ajzen, 1975). As a result, it was expected that the negative emotional response to shark attack (Neff, 2012) and high level of worry about shark attacks, combined with mitigation measures perceived as moderately efficient, would lead to respondents being likely to select beaches according to mitigation measures available. However, this study found no relationship between respondents' selection of beaches and the type of mitigation measures available. This result suggests that although the risk of shark attacks is on the respondents' mind, the current shark attack mitigation measures do not provide respondents any incentive to choose a beach based on these measures.

Although respondents, in general, had a good understanding of the operation of mitigation measures, there were some discrepancies between the beliefs of the respondents regarding beach mitigation measures and the facts. More than 50% of SA respondents believed that spotter planes have between 50–75% chance of spotting a shark. This probability of sighting is greater than the actual 17% maximum probability of spotting a shark during aerial patrol (Robbins, Peddemors, & Kennelly, 2012). In addition, a third of SA respondents believed aerial patrols spend 30 minutes over each beach per day. This is greater than the average two minutes spent above a beach per day based on a study carried out in Western Australia (Green et al., 2009). These results suggest that beach users may overestimate the efficacy of aerial patrols as a shark attack mitigation measure. Considering that beach users perceived this mitigation measure as moderately efficient (5.4/10), it is possible that the perceived efficacy of aerial patrols would be reduced to below average if they were aware of the actual time spent over a beach and likelihood of sighting sharks.

About 40% of SA respondents also incorrectly believe that nets are used in SA, whereas only 60% knew about aerial patrols. Beach meshing is not currently used in SA; consequently, this result suggests that improved communication about the current type of shark attack mitigation measures and efficacy of aerial patrols might be needed to inform the general public that beach meshing are not currently used in SA and about the actual likelihood of detecting sharks using aerial patrol.

Although it was attempted to determine what factors influence the understanding or perceived efficacy of mitigation measures, the variation explained by the models for both regions and mitigation measures was low. This suggests that the factors affecting the understanding or perception of beach users were not identified or recorded through the questionnaire, or that most of the variation was random. Further research using appropriate exploratory methods (e.g., open-ended qualitative questions) is needed to understand how people construct and share knowledge about shark attack mitigation measure and their effectiveness.

New South Wales residents have been exposed to more education and awareness campaigns about the importance of sharks and their low resilience to fishing pressure than South Australian residents. Following the introduction of the National Plan of Action for the Conservation and Management of Sharks (Shark Advisory Group & Lack, 2004), organizations (including governmental and nongovernmental agencies) were encouraged to educate and increase public awareness of shark conservation and the actual risk of shark attacks (Green et al., 2009). The 2009 report into the NSW Shark Meshing (Bather Protection) Program also highlights the need for a broader shark education and awareness program to be implemented through educational strategies and media disseminated information to draw on new emerging shark attack prevention measures resulting from research (Green et al., 2009). The present study indicates that although respondents are not fully aware of all the methods used worldwide and in their own state, respondents understand the general operations of shark attack mitigation measures and their purpose, shark meshing acting

as a semi-physical barrier to sharks and aerial patrols as a surveillance scheme. Awareness campaigns, especially in NSW where the respondents' knowledge of mitigation measures is higher, have thus been efficient in educating individuals on current shark attack mitigation measures and the conservation status of sharks. Further awareness campaigns, especially in SA, should be carried out to ensure individuals understand which type of shark attack control measures are used, their effectiveness, and about the actual risk of shark attacks.

Conclusion

Developing strategies that integrate informed stakeholder input and involvement into decision-making is one of the greatest challenges facing wildlife management. Human dimensions specialists maintain that although traditional biological considerations are essential, managing people is equally important and an essential part of the management equation (Decker & Chase, 1997; Decker et al., 1992; Riley et al., 2002). Research has also shown that stakeholders are more likely to consider a public issue resolved or problem solved acceptably when they have had a voice in the decision-making process (Lind, Kanfer, & Earley, 1990). This study presents quantitative data to inform wildlife managers and politicians and assist with decision-making about shark attack mitigation measures. The article highlighted that although the general public was relatively aware of the mitigation measures in place and of the deployment of beach meshing, the efficacy of aerial patrols was overestimated as is the risk of shark attack. The latter as well as innate fear of shark attacks is likely to explain the high level of worry of shark attack when going to the beach and fits within the affect heuristic that can influence how people respond to risk situations (Slovic & Peters, 2006). Respondents did not, however, select beaches according to mitigation measures in place. The present study highlights the need for improved public education about the risks of shark attack and for further research into the emotional response toward low probability–high consequences incidents, which will help improving the effectiveness of education strategies.

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References

Achen, C., & Bartels, L. (2004) *Blind retrospection: Electoral responses to drought, flu, and shark attacks*. Madrid, Spain: Instituto Juan March de Estudios e Investigaciones.

Anonymous. (2006a). *A report on the Queensland shark safety program*. Brisbane, Australia: Queensland Department of Primary Industries.

Anonymous. (2006b). *Scientific shark protection summit*. Sydney, Australia: NSW Department of Primary Industries and Sydney aquarium.

Berchielli, L. T., Dente, C., & Renar, E. (2003). *New York status report. 17th eastern black bear workshop*. Mt. Olive, NJ: New Jersey Division of Fish and Wildlife and New York State Department of Environmental Conservation.

Burgess, G. H., Buch, R. H., Carvalho, F., Garner, B. A., & Walker, C. J. (2010). Factors contributing to shark attacks on humans: A Volusia County, Florida, case study. In J. C. Carrier, J. A. Musick, & M. R. Heithaus (Eds.), *Sharks and their relatives: II. Biodiversity, adaptive physiology, and conservation* (pp. 541–565). Boca Raton, FL: CRC Press.

Conover, M. (2002). *Resolving human–wildlife conflicts: The science of wildlife damage management*. Boca Raton, FL: CRC Press.

Crawley, M. J. (2007). *The R book in justification*. West Sussex, UK: John Wiley & Sons.

Curtis, T. H., Bruce, B. D., Cliff, G., Dudley, S. F. J., Klimley, A. P., Kock, A. A., . . . West, J. (2012). Recommendations for governmental organizations responding to incidents of white shark attacks on humans. In M. L. Domeier (Ed.), *Global perspectives on the biology and life history of the great white shark* (pp. 477–510). Boca Raton, FL: CRC Press.

Decker, D. J., Brown, T. L., Connelly, N. A., Enck, J. W., Pomerantz, G. A, Purdy, K. G., & Siemer, W. F. (1992). Toward a comprehensive paradigm of wildlife management: Integrating the human and biological dimensions (pp. 33–54). In W. R. Mangun (Ed.), *American fish and wildlife policy: The human dimension*. Carbondale and Edwardsville, IL: Southern Illinois University Press.

Decker, D. J., & Chase, L. C. (1997). Human dimensions of living with wildlife – a management challenge for the 21st century. *Wildlife Society Bulletin*, *25*, 788–795.

Dobson, J. (2006). Sharks, wildlife tourism, and state regulation. *Tourism in Marine Environments*, *3*, 15–23.

Douglas, M., & Wildavsky, A. B. (1982). *Risk and culture: An essay on the selection of technical and environmental dangers*. Berkeley, CA: University of California Press.

Driscoll, J. W. (1995). Attitudes towards animals: Species ratings. *Society and Animals*, *3*, 39–150.

Ferguson, K. (2006). Submerged realities: Shark documentaries at depth. *Atenea*, *26*, 115–129.

Finucane, M. L., Alhakami, A., Slovic, P., & Johnson, S. M. (2000). The affect heuristic in judgments of risks and benefits. *Journal of Behavioral Decision Making*, *13*, 1–17.

Fischhoff, B., Slovic, P., Lichtenstein, S., Read, S., & Combs, B. (1978). How safe is safe enough? A psychometric study of attitudes towards technological risks and benefits. *Policy Sciences*, *9*, 127–152.

Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intension, and behavior: An introduction to theory and research*. Reading, MA: Addison-Wesley.

Green, M., Ganassin, C., & Reid, D. D. (2009). Report into the NSW shark meshing (bather protection) program. *NSW Department of Primary Industries*. Orange, Australia: NSW DPI Fisheries Conservation and Aquaculture Branch.

Karanth, K. U., & Madhusudan, M. D. (2002). Mitigating human wildlife conflicts in southern Asia. In J. Terborgh, C. P. Van Schaik, M. Rao, & L. C. Davenport (Eds.), *Making parks work: Identifying key factors to implementing parks in the tropics* (pp. 250–264). Covelo, CA: Island Press.

Lichtenstein, S., Slovic, P., Fischhoff, B., Layman, M., & Combs, B. (1978). Judged frequency of lethal events. *Journal of Experimental Psychology: Human Learning and Memory*, *4*, 551–578.

Lind, E. A., Kanfer, R., & Earley, P. C. (1990). Voice, control, and procedural justice: Instrumental and non-instrumental concerns in fairness judgments. *Journal of Personality and Social Psychology*, *59*, 952–959.

Loewenstein, G. F., Weber, E. H., Hsee, C. K, & Welch, E. S. (2001). Risk as feelings. *Psychological Bulletin*, *127*, 267–286.

Manfredo, M. J. (2008). *Who cares about wildlife: Social science concepts for exploring human-wildlife relationships and conservation issues*. New York, NY: Springer Science + Business Media.

Muter, B., Gore, M., Gledhill, K., Lamont, C., & Huveneers, C. (2013). Australian and U.S. news media portrayal of sharks and their conservation. *Conservation Biology*, *27*, 187–196.

Neff, C. (2012) Australian beach safety and the politics of shark attacks. *Coastal Management*, *40*, 88–106.

Nel, D. C., & Peschak, T. P. (2006). *Finding a balance: White shark conservation and recreational safety in the inshore waters of Cape Town*, South Africa. (WWF South Africa *Report Series 2006/Marine/001)*. Cape Town, South Africa: WWF.

Philpott, R. (2002). Why sharks may have nothing more to fear than fear itself: An analysis of the effect of human attitudes on the conservation of the white shark. *Colorado Journal of International Environmental Law & Policy*, *13*, 445–472.

Reid, D. D., Robbins, W. D., & Peddemors, V. M. (2011). Decadal trends in shark catches and effort from the New South Wales, Australia, Shark Meshing Program, 1950–2010. *Marine and Freshwater Research*, *62*, 1–18.

Riley, S. J., Decker, D. J., Carpenter, L. H., Organ, J. F., Siemer, W. F., Mattfield, G. F., & Parsons, G. (2002). The essence of wildlife management. *Wildlife Society Bulletin*, *30*, 585–593.

Robbins, W. D., Peddemors, V. M., & Kennelly S. J. (2012). *Assessment of shark sighting rates by aerial beach patrols*. Cronulla, Australia: NSW Department of Primary Industries.

Rottenstreich, Y., & Hsee, C. K. (2001). Money, kisses, and electric shocks: An effective psychology or risk. *Psychological Science*, *12*, 185–190.

Royal Life Saving Society (2012). *National drowning report 2012*. Retrieved from: http://www.royallifesaving.com.au/__data/assets/pdf_file/0006/4002/2012-Drowning-Report.pdf

Shark Advisory Group, & Lack, M. (2004). *National plan of action for the conservation and management of sharks*. Canberra, Australia: Pirion Pty Ltd.

Sjöberg, L. (2000). Factors in risk perception. *Risk Analysis*, *20*, 1–11.

Slovic, P. (1987). Perception of risk. *Science*, *236*, 280–285.

Slovic, P. (2004). What's fear got to do with it? It's affect we need to worry about. *Missouri Law Review*, *69*, 971–990.

Slovic, P., Finucane, M. L., Peters, E., & MacGregor, D. G. (2004): Risk as analysis and risk as feelings: Some thoughts about affect, reason, risk, and rationality. *Risk Analysis*, *24*, 311–322.

Slovic, P., & Peters, E. (2006). Risk perception and affect. *Current directions in psychological science*, *15*, 322–325.

Sunstein, C. (2002). Probability neglect: Emotions, worst case scenarios, and law. *The Yale Law Journal*, *112*, 61–107.

Theberge, M., & Dearden, P. (2006). Detecting a decline in whale shark sightings in the Andaman Sea, Thailand, using ecotourist operator-collected data. *Oryx*, *40*, 337–342.

Thompson, T. L., & Mintzes, J. J. (2002). Cognitive structure and the affective domain: On knowing and feeling in biology. *International Journal of Science Education*, 24, 645–660.

Topelko, K. N., & Dearden, P. (2005). The shark watching industry and its potential contribution to shark conservation. *Journal of Ecotourism*, *4*, 108–128.

Torres, S. G., Mansfield, T. M., Foley, J. E., Lupo, T., & Brinkhaus, A., (1996) Mountain lion and human activities in California: testing speculations. *Wildlife Society Bulletin*, *24*, 457–460.

Treves, A., & Karanth, K. (2003). Human-carnivore conflict and perspectives on carnivore management worldwide. *Conservation Biology*, *17*, 1491–1499.

West, J. G. (2011). Changing patterns of shark attacks in Australian waters. *Marine and Freshwater Research*, *62*, 744–754.

Woodroffe, R., Thirgood, S., & Rabinowitz, A. (2005) The impact of human-wildlife conflict on natural systems. In R. Woodroffe, S. Thirgood, & A. Rabinowitz (Eds.), *People and wildlife, conflict or co-existence* (pp. 1–12). Cambridge, UK: Cambridge University Press.

Woods, B. (2000). Beauty and the beast: Preferences for animals in Australia. *Journal of Tourism Studies*, *11*, 25–35.

Ziegler, J., Dearden, P., & Rollins, R. (2011). But are tourists satisfied? Importance-performance analysis of the whale shark tourism industry on Isla Holbox, Mexico. *Tourism Management*, *33*, 692–701.

ATTACHMENT D

REGIONS WHERE SHARK ATTACKS HAVE TAKEN PLACE IN NSW (1 JULY 2009 – 30 JUNE 2015)

30 Jul 2009 Broken Head Surfing Non-fatal (FNC)

28 Oct 2009 Lennox Heads Paddle-boarding Non-fatal (FNC)

12 Dec 2009Hawks Nest Beach Rowing Non-fatal (Hunter)

13 Dec 2009 Evans Head Surfing Non-fatal (FNC)

26 Dec 2009 Avoca Beach Swimming Non-fatal (CC)

06 Feb 2010 Turners' Beach Body boarding Non-fatal (FNC)

11 Feb 2010 Mona Vale Beach, Sydney Surfing Non-fatal (SNB)

18 May 2010 Point Plomer Surfing Non-fatal (MNC)

08 Aug 2010 Crescent Head Surfing Non-fatal (MNC)

13 Sept 2010 Fraser's Reef Surfing Non-fatal (FNC)

09 Oct 2010 Mullaway Headland Surfing Non-fatal (NC)

20 Jan 2011 Cudgen Creek Swimming Non-fatal (FNC)

10 Mar 2011Tallow Beach, Byron Bay Surfing Non-fatal (FNC)

16 Mar 2011 Jimmys Beach, Port Stephens Wakeboarding Non-fatal (Hunter)

23 Mar 2011 Crowdy Head Surfing Non-fatal (LNC)

02 Dec 2011 Broken Head Surfing Non-fatal (FNC)

07 Dec 2011 Maroubra Surfing Non-fatal (Sydney)

11 Dec 2011Angourie Surfing Non-fatal (NC)

03 Jan 2012 North Avoca Beach Surfing Non-fatal (CC)

18 Jan 2012 Redhead Beach Surfing Non-fatal (Hunter)

25 Feb 2012 Broughton Island Fishing Non-fatal (Hunter)

03 Jun 2012 Redhead Beach, Newcastle Surf skiing Non-fatal (Hunter)

02 Dec 2012 Green Island Spearfishing Non-fatal (SC)

28 Dec 2012 Kylie's Beach, Diamond Head Paddle boarding Non-fatal (LNC)

30 Dec 2012 Between Dee Why and Long Reef Surfing Non-fatal (SNB)

21 Apr 2013 Crowdy Head Fishing Non-fatal (LNC)

28 Apr 2013 Emerald Beach Fishing Non-fatal (CC)

06 Jun 2013 Target Beach Surfing Non-fatal (SC)

25 Aug 2013 Smiths Wrangling a shark Non-fatal (Hunter)

24 Oct 2013 South Narrabeen Beach Surfing Non-fatal (SNB)

30 Nov 2013 Riecks Point, Campbell's Beach, Body boarding Fatal (NC)

05 Dec 2013Shelly Beach, near Port Macquarie Surfing Non-fatal (CC)

26 Jan 2014 Umina Beach Fishing Non-fatal (CC)

12 Mar 2014 Lighthouse Beach Swimming Non-fatal (MNC)

18 Mar 2014 Lennox Head Non-fatal (FNC)

03 Apr 2014 Tathra Swimming Fatal (FSC)

22 May 2014 The Australian Shark and Ray Centre Teasing a shark Non-fatal (LNC)

01 Jun 2014 Seven Mile Beach,Gerroa Surfing Non-fatal (SC)

09 Sept 2014 Clarkes Beach, Byron Bay Swimming Fatal (FNC)

17 Oct 2014 Avoca Beach Surfing Non-fatal (CC)

29 Oct 2014 Wallabi Point Surfing Non-fatal (LNC)

10 Nov 2014 Moonee Beach Surfing Non-fatal (NC)

29 Dec 2014 Bherwerre Beach Surfing Non-fatal (FSC)

16 Jan 2015 Bannister Head Filming Non-fatal (FSC)

17 Jan 2015 Off Blacksmith Beach Fishing Non-fatal (Hunter)

19 Jan 2015 Wategos Beach, Byron Bay Surfing & filming dolphins Non-fatal (FNC)

24 Jan 2015 Flat Rock Surfing Non-fatal (FNC)

05 Feb 2015 Mereweather Beach Bodysurfing Non-fatal (Hunter)

08 Feb 2015 Seven Mile Beach, Byron Bay Surfing Non-fatal (FNC)

09 Feb 2015 Shelly Beach Surfing Fatal (FNC)

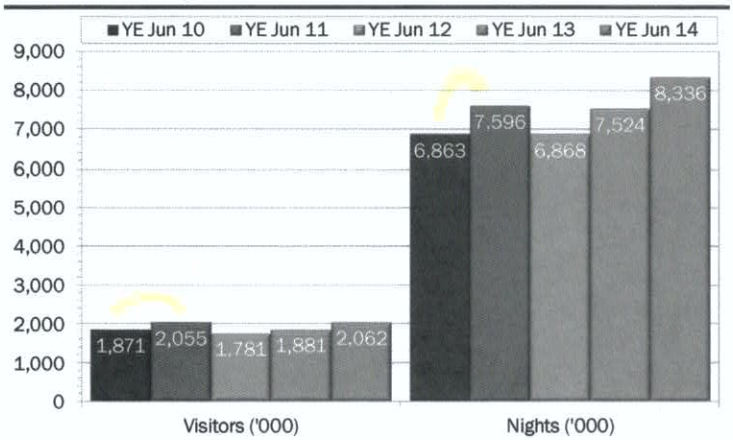
11 Mar 2015 Julian Rocks, Byron Bay Fishing Non-fatal (FNC)

03 May 2015 Saltwater Beach Surfing Non-fatal (LNC)

ATTACHMENT E SUBMITTED AS SEPARATE PDF

Domestic Overnight Travel (1)

Visitors and nights



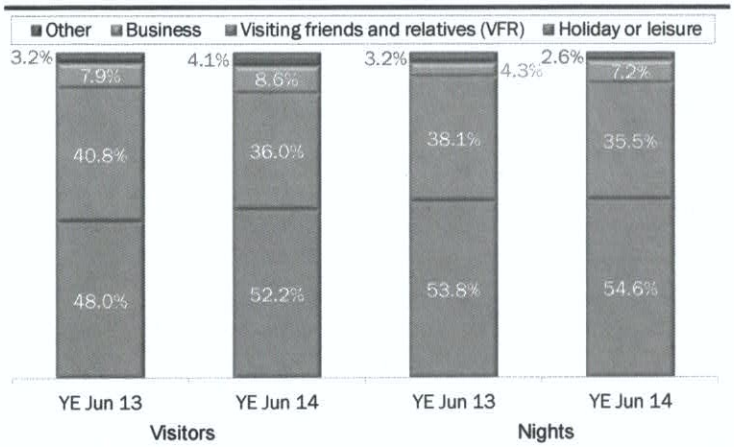
Northern Rivers sub-region received nearly 2.1 million domestic overnight visitors - up by 9.6%* on YE Jun 13. Visitors spent over 8.3 million nights in the sub-region - up by 10.8% on YE Jun 13.

Note: The number of domestic overnight trips to regional New South Wales increased by 3.2 percent* on last year and by 9.6 percent* compared to four years ago.

Market share

The sub-region received 11.2% of visitors and 13.3% of nights in regional NSW. Compared to YE Jun 13, the share of visitors was up by 0.7% pts the share of nights was up by 1.4% pts.

Purpose of visit to the sub-region



'Holiday or leisure' (52.2%) was the largest purpose of visit for visitors to the sub-region, followed by 'visiting friends and relatives (VFR)' (36.0%) and 'business' (8.6%). Compared to YE Jun 13, visitors who travelled for 'holiday or leisure' grew by 19.3%* while 'VFR' declined by 3.3% and 'business' increased by 19.6%.

'Holiday or leisure' (54.6%) was the largest purpose in terms of nights in the sub-region, followed by 'VFR' (35.5%) and 'business' (7.2%). Compared to YE Jun 13, nights spent for 'holiday or leisure' grew by 12.4% and 'VFR' increased by 3.1% while 'business' grew by 85.8%*.

Accommodation

'Friends or relatives property' (38.6%) was the most popular accommodation used for nights in the sub-region, followed by 'caravan park or commercial camping ground' (17.8%) and 'rented house, apartment, flat or unit' (16.2%).

Origin

Origin	Share of visitors YE Jun 13	Share of visitors YE Jun 14	Share of nights YE Jun 13	Share of nights YE Jun 14
Regional NSW	30.7%	28.0%	26.7%	24.9%
Sydney	13.7%	17.0%	16.0%	22.7%
Total intrastate	44.3%	45.0%	42.7%	47.6%
Queensland	46.4%	45.1%	42.7%	34.8%
Victoria	4.6%	5.3%	8.9%	8.8%
ACT	2.6%	1.3%	3.3%	3.7%
Other interstate	2.1%	3.2%	2.3%	5.2%
Total interstate	55.7%	55.0%	57.3%	52.4%

Queensland (45.1%) was the largest source of visitors to the sub-region, followed by regional NSW (28.0%) and Sydney (17.0%). Compared to YE Jun 13, the regional NSW source market grew by 0.2% and Sydney increased by 36.2%*. Over the same period, Queensland grew by 6.7% and Victoria increased by 26.4% while the ACT declined by 43.8%.

Queensland (34.8%) was the largest source market in terms of nights in the sub-region, followed by regional NSW (24.9%) and Sydney (22.7%). Compared to YE Jun 13, nights spent by visitors from regional NSW grew by 3.0% and nights from Sydney increased by 57.1%*. Over the same period, nights by Queenslanders declined by 9.7% while Victorian nights grew by 9.7% and nights by visitors from the ACT increased by 23.3%.

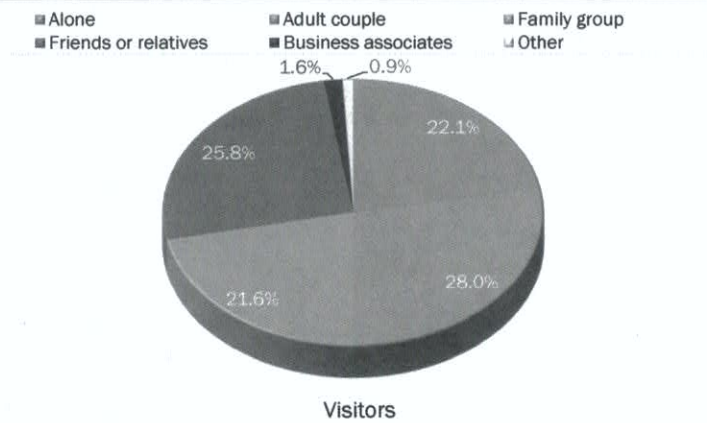
All transport

'Private or company vehicle' (79.8%) was the most popular form of transport used by visitors to the sub-region, followed by 'air transport' (14.9%) and 'railway' (2.0%).

Activities

'Eat out at restaurants' (62.3%) was the most popular activity undertaken by visitors to the sub-region, followed by 'visit friends and relatives' (49.3%) and 'go to the beach' (47.6%).

Travel party



'Adult couple' (28.0%) was the most common travel party amongst visitors to the region, followed by 'friends or relatives' (25.8%) and 'alone' (22.1%).

Expenditure (incl airfares and transport costs) (2)

Domestic overnight visitors spent nearly $1.2 billion in the sub-region - up by 14.4% on YE Jun 13. On average, they spent $139 per night - up by 3.2% on YE Jun 13.

(2) Estimated using data from TRA's modelled domestic overnight visitor expenditure in Australia's regions, YE Jun 14.

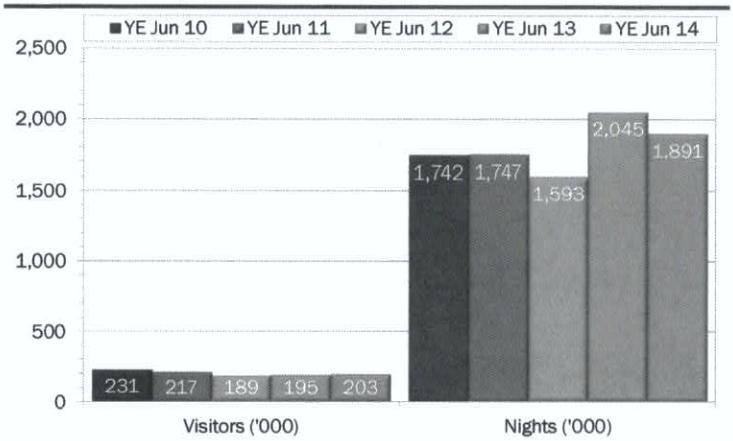
Northern Rivers sub-region covers Grafton to Tweed Heads including Ballina, Lismore, Byron Bay and Murwillumbah.

Year ended June 2014

Total nights (million)	10.2
Total expenditure (billion)	$1.6

International Overnight Travel (3)

Visitors and nights



Northern Rivers sub-region received 202,900 international overnight visitors - up by 4.0% on YE Jun 13. Visitors spent 1.9 million nights in the sub-region - down 7.5% on YE Jun 13.

Note: The number of overnight trips to regional New South Wales by international visitors increased by 3.7 percent on last year and by 1.9 percent compared to four years ago.

Market share

The sub-region received 33.1% of visitors and 15.3% of nights in regional NSW. Compared to YE Jun 13, the share of visitors was up by 0.1% pt and the share of nights was down 4.0% pts.

Purpose of visit to the sub-region

'Holiday / pleasure' (83.5%) was the largest purpose of visit for visitors to the sub-region, followed by 'visiting friends and relatives (VFR)' (14.7%) and 'education' (1.4%). Compared to YE Jun 13, visitors who travelled for 'holiday / pleasure' grew by 4.5% and 'VFR' increased by 4.6% while 'education' declined by 0.9%.

Origin – share of visitors to the sub-region

Share of international visitors to Northern Rivers sub-region							
Rank	Market	YE Jun 13	YE Jun 14	Rank	Market	YE Jun 13	YE Jun 14
1	United Kingdom	23.1%	22.9%	12	Japan	1.1%	1.1%
2	Germany	12.0%	12.9%	13	Ireland	2.0%	1.0%
3	New Zealand	10.6%	9.7%	14	Taiwan	0.4%	0.8%
4	USA	7.0%	7.4%	15	Singapore	1.6%	0.7%
5	Scandinavia	6.6%	6.6%	16	Malaysia	0.5%	0.6%
6	Canada	5.4%	6.2%	17	Middle East & Nth Africa	0.5%	0.4%
7	France	5.0%	6.1%	18	Thailand	0.4%	0.3%
8	Netherlands	3.8%	4.2%	19	Indonesia	0.1%	0.3%
9	Switzerland	4.1%	3.7%	20	Korea	0.7%	0.2%
10	Italy	2.9%	2.9%	21	India	0.3%	0.0%
11	Mainland China & HK	1.8%	1.7%		*Other Asia*	0.5%	0.5%
	Mainland China	1.1%	1.2%		*Other Europe*	5.5%	5.2%
	Hong Kong	0.6%	0.5%		*Other Countries*	4.0%	4.4%

Accommodation

'Backpacker / hostel' (28.5%) was the most popular form of accommodation used for nights in the sub-region, followed by 'home of friend or relative' (25.2%).

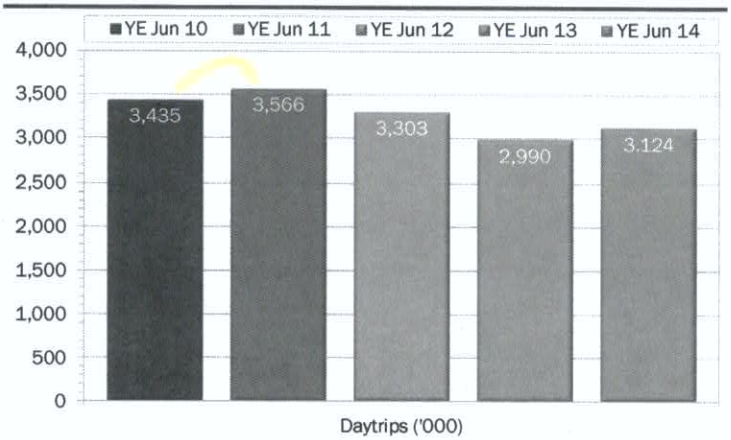
Expenditure (incl pre-paid package expenditure) (4)

International overnight visitors spent $101 million in the sub-region - down by 2.2% on YE Jun 13. On average, they spent $53 per night - up by 5.8% on YE Jun 13.

(4) Estimated using data from TRA's modelled international overnight visitor expenditure in Australia's regions, YE Jun 14.

Domestic Daytrip Travel (5)

Daytrips



Northern Rivers sub-region received over 3.1 million domestic daytrip visitors - up by 4.5% on YE Jun 13.

Note: The number of domestic daytrips to regional New South Wales decreased by 2.9 percent on last year and by 1.8 percent compared to four years ago.

Market share

The sub-region received 9.8% of daytrips to regional NSW. Compared to YE Jun 13, the share was up by 0.7% pts.

Main purpose of trip

'Holiday or leisure' (50.3%) was the largest purpose of trip for visitors to the sub-region, followed by 'visiting friends and relatives (VFR)' (30.3%) and 'business' (7.7%).

Compared to YE Jun 13, visitors who travelled for 'holiday or leisure' declined by 8.2% while 'VFR' grew by 11.7% and 'business' increased by 65.5%*.

Activities

'Eat out at restaurants' (47.2%) was the most popular activity undertaken by visitors to the sub-region, followed by 'visit friends and relatives' (37.4%) and 'shopping for pleasure' (25.2%).

Expenditure (6)

Domestic daytrip visitors spent $343 million in the sub-region - down by 4.7% on YE Jun 13. On average, they spent $110 per trip - down by 8.8% on YE Jun 13.

(6) Estimated using data from TRA's modelled domestic day visitor expenditure in Australia's regions, YE Jun 14.

Notes and further information

Due to changes to the National Visitor Survey (NVS) methodology, care should be taken when comparing year ending June 2014 survey results with those from previous years. These changes represent a break in the time series.

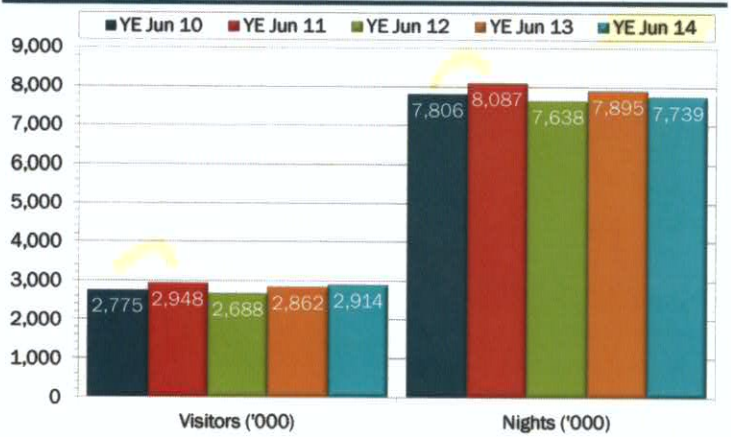
For more information on the NVS methodology changes please see www.tra.gov.au/News&Media/Factsheets-2014_updates_to_the_IVS/NVS.

Please see www.destinationnsw.com.au for profiles on travel to the other regions in NSW and information on international and domestic travel to the State.

Please note: The information in this report is sourced from sample surveys, hence the results are subject to sampling variability.

Domestic Overnight Travel (1)

Visitors and nights



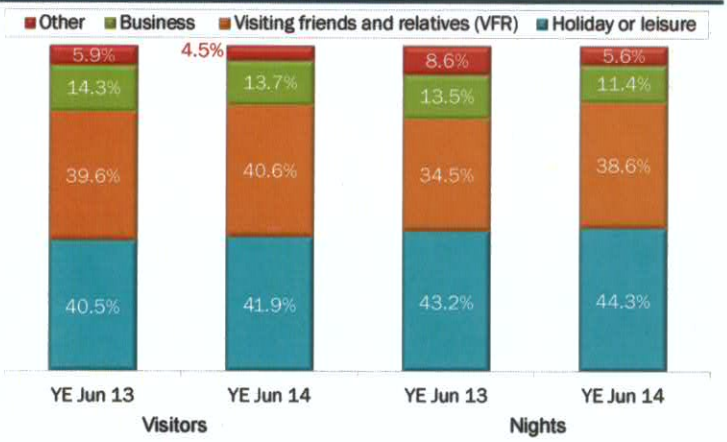
The Hunter received over 2.9 million domestic overnight visitors - up by 1.8% on YE Jun 13. Visitors spent over 7.7 million nights in the region – down by 2.0% on YE Jun 13.

Note: The number of domestic overnight trips to regional New South Wales increased by 3.2 percent* on last year and by 9.6 percent* compared to four years ago.

Market share

The region received 15.8% of visitors and 12.3% of nights in regional NSW. Compared to YE Jun 13, the share of visitors was down by 0.2% pts and the share of nights was down by 0.1% pt.

Purpose of visit to the region



'Holiday or leisure' (41.9%) was the largest purpose of visit for visitors to the region, followed by 'visiting friends and relatives (VFR)' (40.6%) and 'business' (13.7%). Compared to YE Jun 13, visitors who travelled for 'holiday or leisure' grew by 5.4% and 'VFR' increased by 4.5% while 'business' declined by 2.5%.

'Holiday or leisure' (44.3%) was the largest purpose in terms of nights in the region, followed by 'VFR' (38.6%) and 'business' (11.4%). Compared to YE Jun 13, nights spent for 'holiday or leisure' grew by 0.4% and 'VFR' increased by 9.6% while 'business' declined by 16.6%.

Accommodation

'Friends or relatives property' (40.4%) was the most popular accommodation used for nights in the region, followed by 'standard hotel, motor inn, below 4 star' (13.5%) and 'rented hose, apartment, flat or unit' (11.9%).

Origin

Origin	Share of visitors		Share of nights	
	YE Jun 13	YE Jun 14	YE Jun 13	YE Jun 14
Regional NSW	**47.1%**	**46.2%**	**44.5%**	**43.6%**
Sydney	37.8%	39.3%	34.4%	36.8%
Total intrastate	**84.9%**	**85.5%**	**78.9%**	**80.4%**
Queensland	6.4%	6.3%	8.9%	7.7%
Victoria	**5.2%**	**4.1%**	**6.7%**	**5.5%**
ACT	1.3%	1.6%	1.5%	1.7%
Other interstate	**2.2%**	**2.5%**	**4.0%**	**4.7%**
Total interstate	15.1%	14.4%	21.1%	19.6%

Regional NSW (46.2%) was the largest source of visitors to the region, followed by Sydney (39.3%) and Queensland (6.3%). Compared to YE Jun 13, the regional NSW source market declined by 0.1% while Sydney grew by 5.9%. Over the same period, Queensland grew by 0.5% while Victoria declined by 20.7% and the ACT increased by 23.7%.

Regional NSW (43.6%) was the largest source market in terms of nights in the region, followed by Sydney (36.8%) and Queensland (7.7%). Compared to YE Jun 13, nights spent by visitors from regional NSW declined by 4.0% while nights from Sydney grew by 4.9%. Over the same period, nights by Queenslanders declined by 15.6% and Victorian nights fell by 18.4% while nights by visitors from the ACT grew by 9.2%.

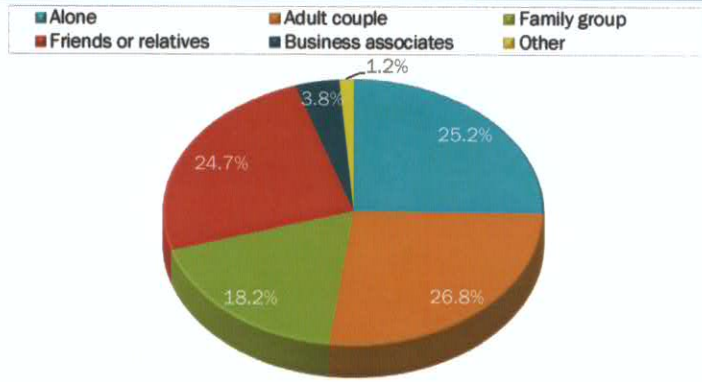
All transport

'Private or company vehicle' (85.1%) was the most popular form of transport used by visitors to the region, followed by 'air transport' (6.0%) and 'railway' (4.4%).

Activities

'Eat out at restaurants' (58.7%) was the most popular activity undertaken by visitors to the region, followed by 'visit friends and relatives' (50.4%) and 'general sightseeing' (25.9%).

Travel party



'Adult couple' (26.8%) was the most common travel party amongst visitors to the region, followed by 'alone' (25.2%) and 'friends or relatives' (24.7%).

Expenditure (incl airfares and transport costs) (2)

Domestic overnight visitors spent nearly $1.3 billion in the region - up by 4.3% on YE Jun 13. On average, they spent $167 per night - up by 6.4% on YE Jun 13.

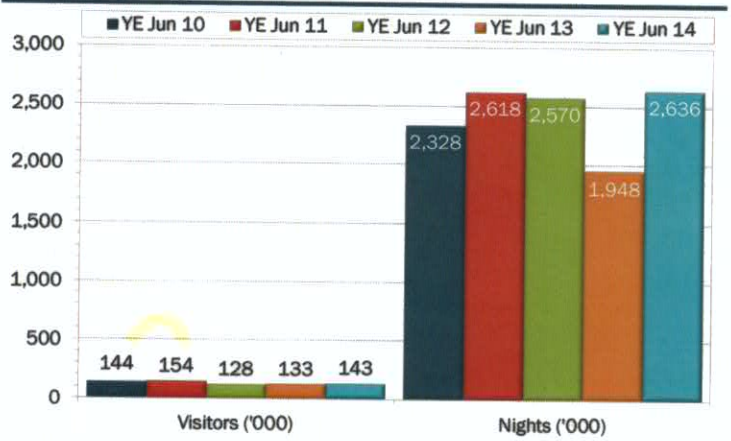
(2) Source: Modelled domestic overnight visitor expenditure in Australia's regions, YE Jun 14, TRA

The Hunter includes Barrington Tops, Cessnock, Gloucester, Hunter Valley, Lake Macquarie, Muswellbrook, Newcastle, Pokolbin, Port Stephens and Singleton.

Total nights (million)	10.4
Total expenditure (billion)	2.1

International Overnight Travel (3)

Visitors and nights



The Hunter received 142,800 international overnight visitors - up by 7.6% on YE Jun 13. Visitors spent over 2.6 million nights in the region - up by 35.3%* on YE Jun 13.

Note: The number of overnight trips to regional New South Wales by international visitors increased by 3.7 percent on last year and by 1.9 percent compared to four years ago.

Market share

The region received 23.3% of visitors and 21.3% of nights in regional NSW. Compared to YE Jun 13, the share of visitors was up by 0.9% pts and the share of nights was up by 3.0% pts.

Purpose of visit to the region

'Holiday / pleasure' (61.5%) was the largest purpose of visit for visitors to the region, followed by 'visiting friends and relatives (VFR)' (26.2%) and 'business' (6.9%). Compared to YE Jun 13, visitors who travelled for 'holiday / pleasure' grew by 14.5%* while 'VFR' declined by 5.9% and 'business' increased by 0.7%.

Origin – share of visitors to the region

		Share of international visitors to The Hunter					
Rank	Market	YE Jun 13	YE Jun 14	Rank	Market	YE Jun 13	YE Jun 14
1	**United Kingdom**	**18.1%**	**15.5%**	12	**Switzerland**	**3.1%**	**2.0%**
2	USA	13.5%	12.4%	13	Netherlands	2.5%	2.0%
3	**New Zealand**	**12.7%**	**11.2%**	14	**Ireland**	**1.4%**	**1.6%**
4	Germany	6.4%	7.7%	15	Italy	1.5%	1.5%
5	**Mainland China & HK**	**4.4%**	**7.5%**	16	**Malaysia**	**1.7%**	**1.3%**
	Mainland China	3.1%	5.4%	17	India	1.3%	1.0%
	Hong Kong	**1.3%**	**2.1%**	18	**Middle East & Nth Africa**	**1.1%**	**1.0%**
6	Canada	4.6%	5.3%	19	Indonesia	0.9%	0.9%
7	**France**	**3.0%**	**3.4%**	20	**Thailand**	**1.1%**	**0.8%**
8	Korea	3.2%	3.4%	21	Taiwan	1.4%	0.6%
9	**Scandinavia**	**4.2%**	**3.3%**		***Other Asia***	**2.1%**	**2.3%**
10	Singapore	1.7%	3.1%		*Other Europe*	3.6%	3.8%
11	**Japan**	**2.2%**	**2.5%**		***Other Countries***	**4.4%**	**5.9%**

The UK (15.5%) was the region's largest source of visitors.

Accommodation

'Rented house / apartment / unit / flat' (41.2%) was the most popular form of accommodation used for nights in the region, followed by 'home of friend or relative' (34.9%).

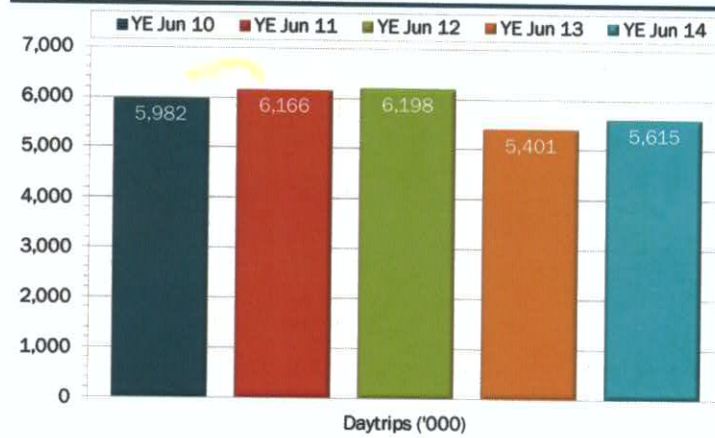
Expenditure (incl pre-paid package expenditure) (4)

International overnight visitors spent $167 million in the region - up by 15.8% on YE Jun 13. On average, they spent $63 per night – down by 14.4% on YE Jun 13.

(4) Source: Modelled international overnight visitor expenditure in Australia's regions, YE Jun 14, TRA.

Domestic Daytrip Travel (5)

Daytrips



The Hunter received over 5.6 million domestic daytrip visitors – up by 4.0% on YE Jun 13.

Note: The number of domestic daytrips to regional New South Wales decreased by 2.9 percent on last year and by 1.8 percent compared to four years ago.

Market share

The region received 17.6% of daytrips to regional NSW. Compared to YE Jun 13, the share was up by 1.2% pts.

Main purpose of trip

'Holiday or leisure' (40.3%) was the largest purpose of trip for visitors to the region, followed by 'visiting friends and relatives (VFR)' (34.7%) and 'business' (11.3%).

Compared to YE Jun 13, visitors who travelled for 'holiday or leisure' declined by 1.1% while 'VFR' grew by 16.0% and 'business' decreased by 6.7%.

Activities

'Eat out at restaurants' (48.4%) was the most popular activity undertaken by visitors to the region, followed by 'visit friends and relatives' (41.9%) and 'shopping for pleasure' (18.1%).

Expenditure (6)

Domestic daytrip visitors spent $627 million in the region - up by 20.6%* on YE Jun 13. On average, they spent $112 per trip - up by 16.0% on YE Jun 13.

(6) Source: Modelled domestic day visitor expenditure in Australia's regions, YE Jun 14, TRA

Notes and further information

Due to changes to the National Visitor Survey (NVS) methodology, care should be taken when comparing year ending June 2014 survey results with those from previous years. These changes represent a break in the time series.

For more information on the NVS methodology changes please see www.tra.gov.au/News&Media/Factsheets-2014_updates_to_the_IVS/NVS.

Please see www.destinationnsw.com.au for profiles on travel to the other regions in NSW and information on international and domestic travel to the State.

Please note: The information in this report is sourced from sample surveys, hence the results are subject to sampling variability.

Travel to Sydney Tourism Region
Year ended June 2014

Source: International and National Visitor Surveys, TRA.

Destination NSW

OVERVIEW

Due to a change in methodology in the National Visitor Survey to include mobile phone interviewing from January 2014, care should be taken when comparing June quarter 2014 and year

Data in highlighted cells are statistically unreliable due to small sample size.

Sydney	YE Jun 2002	YE Jun 2003	YE Jun 2004	YE Jun 2005	YE Jun 2006	YE Jun 2007	YE Jun 2008	YE Jun 2009	YE Jun 2010	YE Jun 2011	YE Jun 2012	YE Jun 2013	YE Jun 2014	% change YE Jun14 vs. YE Jun13
GRAND Total **visitors** - overnight & daytrip ('000)	n/a	n/a	n/a	n/a	25,134.8	26,368.3	26,556.0	25,684.7	27,182.8	28,845.4	29,696.4	29,146.9	32,470.7	11.4%
Total overnight **visitors** - int'l & domestic ('000)	n/a	n/a	n/a	n/a	10,238.8	10,221.3	10,257.0	9,705.7	9,487.8	10,496.4	10,265.4	10,440.9	11,540.7	10.5%
Total domestic **visitors** - overnight & daytrip ('000)	27,084.0	25,837.0	22,928.0	21,098.0	22,575.0	23,712.0	23,959.0	23,169.0	24,620.0	26,259.0	27,128.0	26,413.0	29,559.0	11.9%
Total nights ('000)	**n/a**	**n/a**	**n/a**	**n/a**	**67,390.7**	**71,193.2**	**68,363.2**	**71,381.9**	**70,900.1**	**77,404.4**	**77,856.3**	**80,347.4**	**86,051.5**	**7.1%**
GRAND Total **spend** - overnight & daytrips ($ million)*	n/a	n/a	n/a	n/a	10,733	11,260	11,890	11,731	11,817	12,770	13,117	13,477	14,609	8.4%
Total overnight **spend** - int'l & domestic ($ million)	n/a	n/a	n/a	n/a	9,123	9,649	10,271	10,131	9,928	10,908	10,946	11,403	12,319	8.0%
Total domestic **spend** - overnight & daytrip ($ million)	6,079	6,278	5,954	5,735	6,293	6,513	6,813	6,432	6,791	7,349	7,659	7,612	8,431	10.8%

New South Wales	YE Jun 2002	YE Jun 2003	YE Jun 2004	YE Jun 2005	YE Jun 2006	YE Jun 2007	YE Jun 2008	YE Jun 2009	YE Jun 2010	YE Jun 2011	YE Jun 2012	YE Jun 2013	YE Jun 2014	
GRAND Total **visitors** - overnight & daytrip ('000)	n/a	n/a	n/a	n/a	70,064.3	72,950.7	73,254.6	71,133.3	76,128.6	77,583.7	80,878.2	79,469.8	82,447.7	3.7%
Total overnight **visitors** - int'l & domestic ('000)	n/a	n/a	n/a	n/a	26,981.3	27,473.7	27,203.6	25,536.3	25,999.6	27,436.7	27,023.2	27,938.8	29,660.7	6.2%
Total domestic **visitors** - overnight & daytrip ('000)	75,973.0	77,136.0	70,075.0	66,064.0	67,352.0	70,130.0	70,491.0	68,459.0	73,399.0	74,813.0	78,125.0	76,552.0	79,336.0	3.6%
Total nights ('000)	**n/a**	**n/a**	**n/a**	**n/a**	**136,081.2**	**142,333.4**	**138,278.6**	**139,386.1**	**139,102.5**	**149,151.3**	**149,593.3**	**154,678.4**	**161,573.7**	**4.5%**
GRAND Total **spend** - overnight & daytrips ($ million)*	n/a	n/a	n/a	n/a	21,284	22,490	23,414	23,174	23,977	25,077	25,506	26,625	28,061	5.4%
Total overnight **spend** - int'l & domestic ($ million)	n/a	n/a	n/a	n/a	16,954	17,935	18,663	18,417	18,746	20,102	19,917	20,973	22,206	5.9%
Total domestic **spend** - overnight & daytrip ($ million)	15,773	16,787	15,500	15,459	16,373	17,177	17,731	17,255	18,300	18,959	19,383	20,120	21,160	5.2%

DOMESTIC OVERNIGHT TRAVEL

Visitors and Nights

Visitors (000)

	YE Jun 2002	YE Jun 2003	YE Jun 2004	YE Jun 2005	YE Jun 2006	YE Jun 2007	YE Jun 2008	YE Jun 2009	YE Jun 2010	YE Jun 2011	YE Jun 2012	YE Jun 2013	YE Jun 2014	% change YE Jun14 vs. YE Jun13
Sydney	8,189	8,338	7,996	7,404	7,679	7,565	7,660	7,190	6,925	7,910	7,697	7,707	8,629	12.0%
New South Wales	26,853	27,275	26,411	24,689	24,269	24,653	24,440	22,862	23,270	24,666	24,270	25,021	26,549	6.1%
Sydney share of total NSW visitors (%)	30.5%	30.6%	30.3%	30.0%	31.6%	30.7%	31.3%	31.4%	29.8%	32.1%	31.7%	30.8%	32.5%	

Nights (000)

Sydney	23,682	23,394	22,775	20,816	22,848	22,221	21,913	20,109	19,671	21,908	22,044	20,806	23,609	13.5%
New South Wales	88,089	93,056	88,668	87,139	83,910	85,028	83,499	78,670	78,033	82,933	82,849	84,498	86,747	2.7%
Sydney share of total NSW nights (%)	26.9%	25.1%	25.7%	23.9%	27.2%	26.1%	26.2%	25.6%	25.2%	26.4%	26.6%	24.6%	27.2%	

Average Length of Stay

Sydney	2.9	2.8	2.8	2.8	3.0	2.9	2.9	2.8	2.8	2.8	2.9	2.7	2.7	-
New South Wales	3.3	3.4	3.4	3.5	3.5	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.3	-

Expenditure ($ million)*

	YE Jun 2002	YE Jun 2003	YE Jun 2004	YE Jun 2005	YE Jun 2006	YE Jun 2007	YE Jun 2008	YE Jun 2009	YE Jun 2010	YE Jun 2011	YE Jun 2012	YE Jun 2013	YE Jun 2014	% change YE Jun14 vs. YE Jun13
Sydney	4,521	4,697	4,700	4,423	4,683	4,901	5,194	4,832	4,902	5,487	5,488	5,537	6,141	10.9%
New South Wales	11,581	12,271	11,748	11,593	12,043	12,622	12,980	12,498	13,069	13,984	13,794	14,468	15,305	5.8%
Sydney share of total NSW expenditure (%)	39.0%	38.3%	40.0%	38.2%	38.9%	38.8%	40.0%	38.7%	37.5%	39.2%	39.8%	38.3%	40.1%	

Purpose of Visit

Visitors (%)

	YE Jun 2002	YE Jun 2003	YE Jun 2004	YE Jun 2005	YE Jun 2006	YE Jun 2007	YE Jun 2008	YE Jun 2009	YE Jun 2010	YE Jun 2011	YE Jun 2012	YE Jun 2013	YE Jun 2014	*YE Jun14 vs. YE Jun13 % points difference*
Holiday	23.9%	24.3%	25.3%	26.9%	25.3%	28.2%	29.5%	29.5%	31.8%	29.0%	27.2%	29.4%	29.0%	-0.5
Visiting Friends & Relatives	36.7%	38.5%	38.0%	38.8%	38.9%	38.0%	37.6%	37.5%	33.6%	36.4%	38.9%	37.0%	39.2%	2.2
Business	34.1%	31.5%	31.8%	29.9%	30.1%	28.6%	28.3%	27.4%	28.1%	28.4%	28.2%	28.1%	25.5%	-2.6
Other reason	5.8%	6.0%	5.7%	5.1%	6.8%	6.3%	5.3%	6.1%	7.2%	6.7%	6.5%	6.4%	7.1%	0.7
Total**	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	

Nights (%)

	YE Jun 2002	YE Jun 2003	YE Jun 2004	YE Jun 2005	YE Jun 2006	YE Jun 2007	YE Jun 2008	YE Jun 2009	YE Jun 2010	YE Jun 2011	YE Jun 2012	YE Jun 2013	YE Jun 2014	*YE Jun14 vs. YE Jun13 % points difference*
Holiday	23.7%	23.5%	24.3%	27.3%	24.4%	27.9%	28.9%	30.9%	31.1%	29.1%	24.8%	28.6%	26.9%	-1.7
Visiting Friends & Relatives	42.9%	43.1%	45.7%	43.8%	42.9%	41.9%	41.8%	41.4%	38.5%	40.9%	47.0%	40.7%	43.2%	2.6
Business	26.5%	26.6%	25.1%	23.5%	23.4%	23.7%	22.8%	21.6%	21.9%	23.5%	20.5%	21.3%	21.5%	0.2
Other reason	6.8%	6.7%	5.0%	5.4%	9.3%	6.4%	6.5%	6.1%	8.5%	6.5%	7.7%	9.4%	8.4%	-1.1
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	

Travel to Sydney Tourism Region
Year ended June 2014

Source: International and National Visitor Surveys, TRA.

Destination NSW

Top 3 types of Accommodation used (sorted by the latest year)

Nights (%)

	YE Jun 2002	YE Jun 2003	YE Jun 2004	YE Jun 2005	YE Jun 2006	YE Jun 2007	YE Jun 2008	YE Jun 2009	YE Jun 2010	YE Jun 2011	YE Jun 2012	YE Jun 2013	YE Jun 2014	*YE Jun14 vs. YE Jun13 % points difference*
Friends or relatives property	52.2%	53.9%	55.9%	54.7%	51.3%	51.5%	50.6%	51.5%	45.1%	48.9%	50.4%	50.2%	51.3%	1.2
Hotel, resort, motel or motor lr	33.7%	31.2%	32.6%	34.9%	32.6%	34.8%	36.5%	35.0%	40.3%	39.2%	36.5%	35.2%	34.5%	-0.8
Rented house, apartment, flat or unit	3.5%	3.9%	2.4%	2.2%	4.1%	3.5%	3.6%	4.0%	3.0%	3.7%	4.3%	4.1%	3.1%	-0.9

Origin

Visitors (%)

	YE Jun 2002	YE Jun 2003	YE Jun 2004	YE Jun 2005	YE Jun 2006	YE Jun 2007	YE Jun 2008	YE Jun 2009	YE Jun 2010	YE Jun 2011	YE Jun 2012	YE Jun 2013	YE Jun 2014	*YE Jun14 vs. YE Jun13 % points difference*
Regional NSW	41.8%	45.1%	42.5%	41.8%	42.3%	42.4%	42.1%	40.0%	42.9%	40.7%	42.8%	43.4%	42.7%	-0.7
Sydney	10.0%	11.7%	8.5%	7.5%	9.6%	9.1%	8.4%	9.5%	8.1%	8.9%	8.5%	7.9%	10.0%	2.1
Total Intrastate	**51.7%**	**56.7%**	**51.0%**	**49.3%**	**51.9%**	**51.5%**	**50.5%**	**49.6%**	**51.0%**	**49.6%**	**51.3%**	**51.3%**	**52.7%**	1.4
Victoria	22.0%	18.3%	19.2%	22.0%	18.8%	19.3%	18.3%	19.4%	19.0%	18.9%	20.1%	18.7%	16.7%	-2.0
Queensland	11.0%	11.3%	14.1%	13.6%	14.1%	13.2%	14.4%	15.3%	14.8%	16.0%	12.9%	14.2%	13.5%	-0.7
ACT	8.3%	6.9%	7.4%	6.3%	5.8%	6.6%	7.7%	7.2%	5.5%	6.6%	6.4%	7.0%	6.8%	-0.2
Other Interstate	7.0%	6.8%	8.2%	8.8%	9.4%	9.3%	9.1%	8.5%	9.6%	8.9%	9.4%	8.7%	10.3%	1.6
Total Interstate	**48.3%**	**43.3%**	**49.0%**	**50.7%**	**48.1%**	**48.5%**	**49.6%**	**50.4%**	**49.0%**	**50.4%**	**48.7%**	**48.7%**	**47.3%**	-1.4
Grand Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	

Top 3 Activities (sorted by the latest year)

Visitors (%)

	YE Jun 2002	YE Jun 2003	YE Jun 2004	YE Jun 2005	YE Jun 2006	YE Jun 2007	YE Jun 2008	YE Jun 2009	YE Jun 2010	YE Jun 2011	YE Jun 2012	YE Jun 2013	YE Jun 2014	*YE Jun13 % points difference*
Eat out at restaurants	54.5%	51.7%	50.2%	53.6%	59.1%	54.7%	59.8%	60.0%	63.2%	63.4%	61.9%	64.4%	65.0%	0.5
Visit friends and relatives	40.7%	43.9%	47.0%	45.7%	49.7%	48.5%	49.3%	50.4%	47.8%	51.9%	51.4%	50.3%	53.1%	2.8
Go shopping	26.2%	29.8%	27.9%	29.9%	33.6%	27.2%	27.5%	30.8%	31.1%	28.9%	27.7%	29.7%	27.2%	-2.5

Top 3 types of Transport used (sorted by the latest year)

Visitors (%)

	YE Jun 2002	YE Jun 2003	YE Jun 2004	YE Jun 2005	YE Jun 2006	YE Jun 2007	YE Jun 2008	YE Jun 2009	YE Jun 2010	YE Jun 2011	YE Jun 2012	YE Jun 2013	YE Jun 2014	*YE Jun14 vs. YE Jun13 % points difference*
Private or company vehicle	56.2%	58.3%	55.4%	52.4%	52.0%	53.0%	51.6%	50.7%	51.1%	49.8%	51.2%	51.8%	49.3%	-2.5
Air transport	33.9%	30.9%	35.9%	39.2%	38.1%	37.8%	39.2%	40.1%	40.9%	40.2%	40.2%	39.8%	39.5%	-0.2
Railway	7.7%	7.9%	5.7%	6.1%	6.5%	6.3%	6.3%	6.8%	5.5%	6.3%	6.7%	6.5%	8.4%	1.9

INTERNATIONAL OVERNIGHT TRAVEL

Visitors and Nights

Visitors (000)

	YE Jun 2002	YE Jun 2003	YE Jun 2004	YE Jun 2005	YE Jun 2006	YE Jun 2007	YE Jun 2008	YE Jun 2009	YE Jun 2010	YE Jun 2011	YE Jun 2012	YE Jun 2013	YE Jun 2014	% change YE Jun14 vs. YE Jun13
Sydney	-	-	-	-	2,559.8	2,656.3	2,597.0	2,515.7	2,562.8	2,586.4	2,568.4	2,733.9	2,911.7	6.5%
New South Wales	-	-	-	-	2,712.3	2,820.7	2,763.6	2,674.3	2,729.6	2,770.7	2,753.2	2,917.8	3,111.7	6.6%
Sydney share of total NSW visitors (%)	n/a	n/a	n/a	n/a	94.4%	94.2%	94.0%	94.1%	93.9%	93.4%	93.3%	93.7%	93.6%	

Nights (000)

Sydney	-	-	-	-	44,542.7	48,972.2	46,450.2	51,272.9	51,229.1	55,496.4	55,812.3	59,541.4	62,442.5	4.9%
New South Wales	-	-	-	-	52,171.2	57,305.4	54,779.6	60,716.1	61,069.5	66,218.3	66,744.3	70,180.4	74,826.7	6.6%
Sydney share of total NSW nights (%)	n/a	n/a	n/a	n/a	85.4%	85.5%	84.8%	84.4%	83.9%	83.8%	83.6%	84.8%	83.4%	

Average Length of Stay

Sydney	n/a	n/a	n/a	n/a	17.4	18.4	17.9	20.4	20.0	21.5	21.7	21.8	21.4	-
New South Wales	n/a	n/a	n/a	n/a	19.2	20.3	19.8	22.7	22.4	23.9	24.2	24.1	24.0	-

Expenditure ($ million)*

	YE Jun 2002	YE Jun 2003	YE Jun 2004	YE Jun 2005	YE Jun 2006	YE Jun 2007	YE Jun 2008	YE Jun 2009	YE Jun 2010	YE Jun 2011	YE Jun 2012	YE Jun 2013	YE Jun 2014	% change YE Jun14 vs. YE Jun13
Sydney	-	-	-	-	4,441	4,747	5,077	5,299	5,026	5,421	5,458	5,865	6,178	5.3%
New South Wales	-	-	-	-	4,911	5,313	5,683	5,919	5,677	6,119	6,123	6,506	6,901	6.1%
Sydney share of total NSW expenditure (%)	n/a	n/a	n/a	n/a	90.4%	89.4%	89.3%	89.5%	88.5%	88.6%	89.1%	90.2%	89.5%	

Purpose of Visit

Visitors (%)

	YE Jun 2002	YE Jun 2003	YE Jun 2004	YE Jun 2005	YE Jun 2006	YE Jun 2007	YE Jun 2008	YE Jun 2009	YE Jun 2010	YE Jun 2011	YE Jun 2012	YE Jun 2013	YE Jun 2014	*YE Jun14 vs. YE Jun13 % points difference*
Holiday	n/a	n/a	n/a	n/a	57.5%	59.0%	57.4%	55.8%	55.9%	54.9%	53.9%	54.3%	55.0%	0.7
Visiting Friends & Relatives	n/a	n/a	n/a	n/a	21.6%	20.6%	21.5%	22.5%	23.6%	23.2%	24.5%	24.5%	25.6%	1.1
Business	n/a	n/a	n/a	n/a	14.8%	15.4%	15.2%	14.2%	13.8%	14.2%	13.4%	13.3%	12.8%	-0.5
Employment	n/a	n/a	n/a	n/a	1.9%	2.0%	2.3%	2.2%	1.8%	2.2%	2.5%	2.4%	2.3%	-0.1
Education	n/a	n/a	n/a	n/a	3.5%	3.9%	4.5%	4.9%	4.9%	5.1%	5.2%	5.0%	4.4%	-0.6
Other^	n/a	n/a	n/a	n/a	5.2%	2.7%	3.0%	4.3%	4.0%	4.7%	4.0%	4.4%	3.8%	-0.6
Total**	n/a	n/a	n/a	n/a	100%	100%	100%	100%	100%	100%	100%	100%	100%	

Travel to Sydney Tourism Region
Year ended June 2014

Source: International and National Visitor Surveys, TRA.

Destination NSW

Purpose of Visit

Nights (%)

	YE Jun 2002	YE Jun 2003	YE Jun 2004	YE Jun 2005	YE Jun 2006	YE Jun 2007	YE Jun 2008	YE Jun 2009	YE Jun 2010	YE Jun 2011	YE Jun 2012	YE Jun 2013	YE Jun 2014	*YE Jun14 vs. YE Jun13 % points difference*
Holiday	n/a	n/a	n/a	n/a	30.7%	33.4%	32.8%	33.1%	35.3%	31.5%	29.7%	30.9%	30.6%	-0.3
Visiting Friends & Relatives	n/a	n/a	n/a	n/a	22.0%	22.5%	20.6%	18.8%	21.4%	23.4%	22.4%	22.8%	25.6%	2.8
Business	n/a	n/a	n/a	n/a	7.9%	9.0%	7.6%	5.4%	6.0%	6.3%	5.7%	6.2%	5.2%	-1.0
Employment	n/a	n/a	n/a	n/a	25.9%	24.8%	30.3%	31.2%	29.5%	28.4%	29.3%	27.5%	26.1%	-1.4
Education	n/a	n/a	n/a	n/a	11.2%	9.5%	8.2%	10.7%	7.2%	8.9%	12.4%	11.7%	11.5%	-0.2
Other^	n/a	n/a	n/a	n/a	2.4%	0.8%	0.5%	0.9%	0.7%	1.6%	0.5%	0.9%	1.0%	0.0
Total	n/a	n/a	n/a	n/a	100%	100%	100%	100%	100%	100%	100%	100%	100%	

Top 5 Int'l source markets to Sydney (of all Int'l visitors to NSW)

Visitors (%)

	YE Jun 2002	YE Jun 2003	YE Jun 2004	YE Jun 2005	YE Jun 2006	YE Jun 2007	YE Jun 2008	YE Jun 2009	YE Jun 2010	YE Jun 2011	YE Jun 2012	YE Jun 2013	YE Jun 2014	*YE Jun14 vs. YE Jun13 % points difference*
China (excludes SARs and Taiwan Province)	n/a	n/a	n/a	n/a	7.6%	8.9%	9.5%	8.8%	9.4%	10.7%	12.4%	14.0%	14.3%	0.3
New Zealand	n/a	n/a	n/a	n/a	12.1%	11.7%	11.9%	12.1%	12.1%	13.0%	12.7%	11.9%	11.6%	-0.3
United Kingdom	n/a	n/a	n/a	n/a	15.7%	15.6%	14.3%	14.0%	13.2%	12.6%	11.3%	10.8%	10.6%	-0.2
USA includes Hawaii	n/a	n/a	n/a	n/a	10.4%	10.0%	10.5%	10.5%	11.3%	10.0%	10.0%	10.1%	10.2%	0.1
Korea	n/a	n/a	n/a	n/a	7.4%	8.0%	6.9%	5.7%	5.8%	5.8%	5.7%	5.3%	4.9%	-0.3

Top 3 types of Accommodation (sorted by the latest year)

Nights (%)

	YE Jun 2002	YE Jun 2003	YE Jun 2004	YE Jun 2005	YE Jun 2006	YE Jun 2007	YE Jun 2008	YE Jun 2009	YE Jun 2010	YE Jun 2011	YE Jun 2012	YE Jun 2013	YE Jun 2014	*YE Jun14 vs. YE Jun13 % points difference*
Rented house / apartment / ur	n/a	n/a	n/a	n/a	37.1%	37.1%	38.5%	43.4%	42.4%	43.0%	44.8%	46.2%	42.9%	-3.3
Home of friend or relative	n/a	n/a	n/a	n/a	26.9%	29.0%	26.6%	24.3%	28.8%	30.1%	29.4%	29.1%	30.6%	1.5
Backpacker / hostel	n/a	n/a	n/a	n/a	7.8%	7.4%	7.0%	7.1%	7.3%	5.9%	5.9%	5.9%	6.1%	0.2

Top 3 activities on the trip to Australia (sorted by the latest year)

Visitors (%)

	YE Jun 2002	YE Jun 2003	YE Jun 2004	YE Jun 2005	YE Jun 2006	YE Jun 2007	YE Jun 2008	YE Jun 2009	YE Jun 2010	YE Jun 2011	YE Jun 2012	YE Jun 2013	YE Jun 2014	*YE Jun14 vs. YE Jun13 % points difference*
Eat out at restaurants	n/a	n/a	n/a	n/a	89.4%	86.6%	87.1%	86.8%	87.6%	85.0%	85.2%	87.1%	88.7%	1.6
Go shopping	n/a	n/a	n/a	n/a	82.8%	79.2%	78.1%	77.5%	76.1%	72.4%	74.5%	75.2%	76.0%	0.8
Sightseeing	n/a	n/a	n/a	n/a	n/a	36.0%	74.6%	74.6%	74.9%	73.2%	72.1%	73.0%	71.7%	-1.3

DOMESTIC DAYTRIP TRAVEL

Visitors

Visitors (000)

	YE Jun 2002	YE Jun 2003	YE Jun 2004	YE Jun 2005	YE Jun 2006	YE Jun 2007	YE Jun 2008	YE Jun 2009	YE Jun 2010	YE Jun 2011	YE Jun 2012	YE Jun 2013	YE Jun 2014	% change YE Jun14 vs. YE Jun13
Sydney	18,895	17,499	14,932	13,694	14,896	16,147	16,299	15,979	17,695	18,349	19,431	18,706	20,930	11.9%
New South Wales	49,120	49,861	43,664	41,375	43,083	45,477	46,051	45,597	50,129	50,147	53,855	51,531	52,787	2.4%
Sydneyshare of total NSW day visitors (%)	38.5%	35.1%	34.2%	33.1%	34.6%	35.5%	35.4%	35.0%	35.3%	36.6%	36.1%	36.3%	39.6%	

Expenditure ($ million)*

	YE Jun 2002	YE Jun 2003	YE Jun 2004	YE Jun 2005	YE Jun 2006	YE Jun 2007	YE Jun 2008	YE Jun 2009	YE Jun 2010	YE Jun 2011	YE Jun 2012	YE Jun 2013	YE Jun 2014	% change YE Jun14 vs. YE Jun13
Sydney	1,558	1,582	1,254	1,312	1,610	1,612	1,619	1,601	1,889	1,862	2,172	2,075	2,291	10.4%
New South Wales	4,192	4,516	3,752	3,866	4,330	4,554	4,751	4,757	5,231	4,975	5,589	5,652	5,855	3.6%
Sydneyshare of total NSW expenditure (%)	37.2%	35.0%	33.4%	33.9%	37.2%	35.4%	34.1%	33.6%	36.1%	37.4%	38.9%	36.7%	39.1%	

Main Purpose of Trip

Visitors (%)

	YE Jun 2002	YE Jun 2003	YE Jun 2004	YE Jun 2005	YE Jun 2006	YE Jun 2007	YE Jun 2008	YE Jun 2009	YE Jun 2010	YE Jun 2011	YE Jun 2012	YE Jun 2013	YE Jun 2014	*YE Jun14 vs. YE Jun13 % points difference*
Holiday	48.9%	43.4%	44.7%	50.2%	48.3%	48.2%	44.4%	44.8%	46.2%	43.9%	43.4%	45.2%	45.5%	0.3
Visiting Friends & Relatives	33.5%	36.3%	32.8%	29.0%	30.8%	32.4%	33.0%	33.5%	30.4%	33.2%	32.3%	31.0%	30.8%	-0.1
Business	8.6%	9.4%	8.3%	9.5%	9.6%	8.3%	12.1%	12.0%	10.9%	9.0%	11.7%	11.7%	11.0%	-0.7
Other reason	9.0%	10.9%	14.2%	11.3%	11.3%	11.1%	10.5%	9.6%	12.6%	13.9%	12.6%	12.1%	12.6%	0.5
Total**	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	

Top 3 activities (sorted by the latest year)

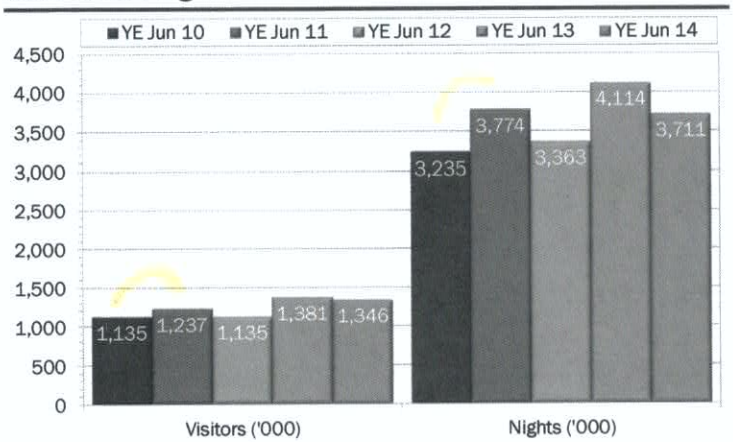
Visitors (%)

	YE Jun 2002	YE Jun 2003	YE Jun 2004	YE Jun 2005	YE Jun 2006	YE Jun 2007	YE Jun 2008	YE Jun 2009	YE Jun 2010	YE Jun 2011	YE Jun 2012	YE Jun 2013	YE Jun 2014	*YE Jun14 vs. YE Jun13 % points difference*
Eat out at restaurants	42.9%	44.4%	37.0%	38.1%	46.3%	39.0%	43.0%	43.0%	45.8%	46.0%	43.1%	42.6%	43.7%	1.1
Visit friends and relatives	30.2%	30.6%	33.0%	31.8%	36.5%	38.8%	37.1%	37.3%	35.0%	37.2%	39.6%	35.4%	38.8%	3.3
Go shopping	20.7%	19.8%	21.8%	21.3%	25.8%	20.3%	20.3%	19.7%	21.3%	18.7%	20.1%	20.7%	19.2%	-1.5

Sydney Tourism Region (bordering towns): Palm Beach, Wisemans Ferry, Richmond, Penrith, Picton, Campbelltown and Waterfall.
Data in highlighted cells are statistically unreliable due to small sample size.
*The expenditure estimates are derived based on information from Tourism Research Australia's modelled visitor expenditure in Australia's tourism regions.
Total LGA expenditure = per night expenditure in the tourism region x number of nights in the LGA (note: daytrip expenditure is based on visitors).
**Share of visitors may amount to over 100 per cent as some visitors have more than one purpose of visit.
^Includes: Medical reasons, to renew visa & to explore possibility of immigration.

Domestic Overnight Travel (1)

Visitors and nights



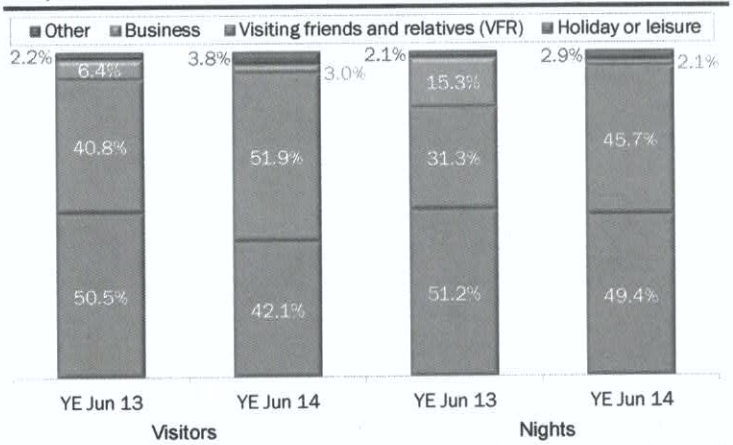
Central Coast received over 1.3 million domestic overnight visitors - down by 2.5% on YE Jun 13. Visitors spent over 3.7 million nights in the region - down by 9.8% on YE Jun 13.

Note: The number of domestic overnight trips to regional New South Wales increased by 3.2 percent* on last year and by 9.6 percent* compared to four years ago.

Market share

The region received 7.3% of visitors and 5.9% of nights in regional NSW. Compared to YE Jun 13, the share of visitors was down by 0.4% pts and the share of nights was down 0.6% pts.

Purpose of visit to the region



'Visiting friends and relatives (VFR)' (51.9%) was the largest purpose of visit for visitors to the region, followed by 'holiday or leisure' (42.1%) and 'business' (3.0%). Compared to YE Jun 13, visitors who travelled for 'VFR' grew by 24.2%* while 'holiday or leisure' declined by 18.8%* and 'business' fell by 55.1%*.

'Holiday or leisure' (49.4%) was the largest purpose in terms of nights in the region, followed by 'VFR' (45.7%) and 'business' (2.1%). Compared to YE Jun 13, nights spent for 'holiday or leisure' declined by 13.0% while 'VFR' grew by 31.5% and 'business' decreased by 87.8%.

Accommodation

'Friends or relatives property' (50.9%) was the most popular accommodation used for nights in the region, followed by 'caravan park or commercial camping ground' (9.5%) and 'own property' (8.9%).

Origin

Origin	Share of visitors		Share of nights	
	YE Jun 13	YE Jun 14	YE Jun 13	YE Jun 14
Regional NSW	24.4%	26.7%	21.5%	24.3%
Sydney	64.1%	59.4%	66.5%	57.7%
Total intrastate	88.5%	86.0%	87.9%	82.0%
Queensland	4.2%	5.9%	3.3%	8.3%
ACT	2.5%	3.2%	1.5%	3.7%
Victoria	2.6%	3.0%	4.6%	3.1%
Other interstate	2.1%	1.9%	2.7%	2.9%
Total interstate	11.4%	14.0%	12.1%	18.0%

Sydney (59.4%) was the largest source of visitors to the region, followed by regional NSW (26.7%) and Queensland (5.9%). Compared to YE Jun 13, the regional NSW source market grew by 6.5% while Sydney declined by 9.7%. Over the same period, Queensland grew by 36.2% and the ACT increased by 22.9% while Victoria grew by 11.1%.

Sydney (57.7%) was the largest source market in terms of nights in the region, followed by regional NSW (24.3%) and Queensland (8.3%). Compared to YE Jun 13, nights spent by visitors from regional NSW grew by 2.0% while nights from Sydney declined by 21.6%. Over the same period, Queensland nights grew by 127%* and nights by visitors from the ACT increased by 126% while Victorian nights declined by 40.0%.

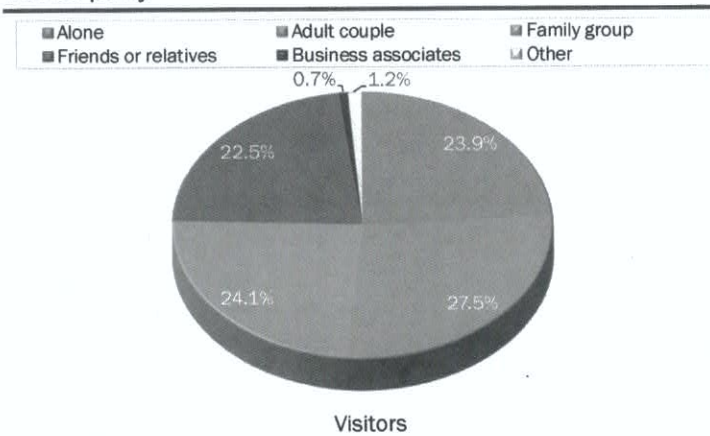
All transport

'Private or company vehicle' (85.2%) was the most popular form of transport used by visitors to the region, followed by 'railway' (5.8%) and 'air transport' (4.8%).

Activities

'Visit friends and relatives' (59.9%) was the most popular activity undertaken by visitors to the region, followed by 'eat out at restaurants' (56.2%) and 'go to the beach' (44.6%).

Travel party



'Adult couple' (27.5%) was the most common travel party amongst visitors to the region, followed by 'family group' (24.1%) and 'alone' (23.9%).

Expenditure (incl airfares and transport costs) (2)

Domestic overnight visitors spent $524 million in the region - down by 6.2% on YE Jun 13. On average, they spent $141 per night - up by 3.9% on YE Jun 13.

(2) Source: Modelled domestic overnight visitor expenditure in Australia's regions, YE Jun 14, TRA

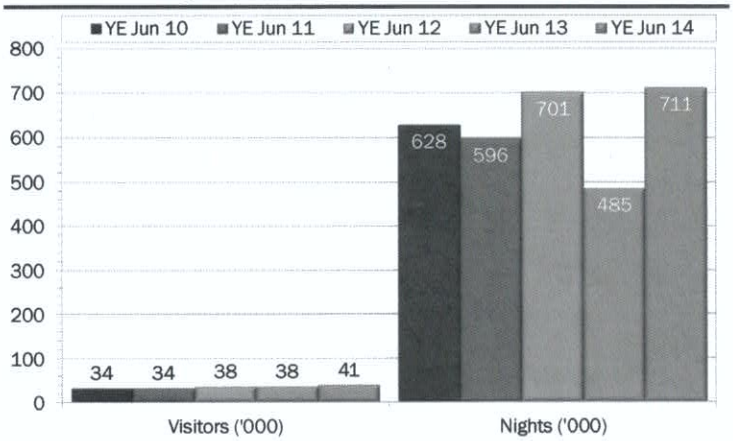
Central Coast includes Gosford, Killcare, Terrigal, The Entrance, Wyong.

Year ended June 2014

Total nights (million)	4.4
Total expenditure (million)	$817

International Overnight Travel (3)

Visitors and nights



Central Coast received 41,100 international overnight visitors - up by 9.2% on YE Jun 13. Visitors spent 711,400 nights in the region - up by 46.7%* on YE Jun 13.

Note: The number of overnight trips to regional New South Wales by international visitors increased by 3.7 percent on last year and by 1.9 percent compared to four years ago.

Market share

The region received 6.7% of visitors and 5.7% of nights in regional NSW. Compared to YE Jun 13, the share of visitors was up by 0.3% pts and the share of nights was up by 1.2% pts.

Purpose of visit to the region

'Visiting friends and relatives (VFR)' (46.6%) was the largest purpose of visit for visitors to the region, followed by 'holiday / pleasure' (43.8%) and 'business' (7.7%). Compared to YE Jun 13, visitors who travelled for 'VFR' fell by 3.9% while 'holiday / pleasure' grew by 18.5% and 'business' increased by 53.5%.

Origin – share of visitors to the region

		Share of international visitors to Central Coast					
Rank	Market	YE Jun 13	YE Jun 14	Rank	Market	YE Jun 13	YE Jun 14
1	United Kingdom	22.5%	21.8%	12	Netherlands	1.9%	2.1%
2	New Zealand	18.4%	19.9%	13	Ireland	1.0%	2.0%
3	USA	12.3%	9.2%	14	Thailand	0.5%	1.0%
4	Germany	4.2%	6.8%	15	Malaysia	0.6%	0.9%
5	Mainland China & HK	5.5%	5.3%	16	France	1.5%	0.7%
	Mainland China	4.9%	2.9%	17	Italy	0.1%	0.5%
	Hong Kong	0.6%	2.4%	18	Japan	2.9%	0.4%
6	Singapore	0.0%	3.7%	19	Taiwan	0.0%	0.3%
7	Korea	3.0%	3.5%	20	India	1.7%	0.2%
8	Canada	3.5%	3.5%	21	Middle East & Nth Africa	1.2%	0.0%
9	Scandinavia	3.1%	2.9%		*Other Asia*	0.6%	3.1%
10	Indonesia	1.7%	2.7%		*Other Europe*	3.5%	3.6%
11	Switzerland	1.9%	2.4%		*Other Countries*	8.3%	3.4%

The UK (21.8%) was the region's largest source of visitors.

Accommodation

'Home of friend or relative' (53.1%) was the most popular form of accommodation used for nights in the region, followed by 'rented house / apartment / unit / flat' (22.2%).

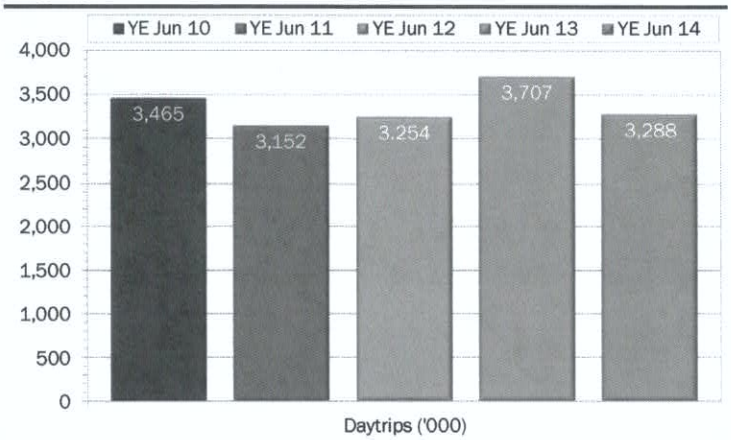
Expenditure (incl pre-paid package expenditure) (4)

International overnight visitors spent $40 million in the region - up by 87.8%* on YE Jun 13. On average, they spent $57 per night - up by 28.0% on YE Jun 13.

(4) Source: Modelled international overnight visitor expenditure in Australia's regions, YE Jun 14, TRA.

Domestic Daytrip Travel (5)

Daytrips



Central Coast received nearly 3.3 million domestic daytrip visitors - down by 11.3% on YE Jun 13.

Note: The number of domestic daytrips to regional New South Wales decreased by 2.9 percent on last year and by 1.8 percent compared to four years ago.

Market share

The region received 10.3% of daytrips to regional NSW. Compared to YE Jun 13, the share was down by 1.0% pt.

Main purpose of trip

'Holiday or leisure' (46.2%) was the largest purpose of trip for visitors to the region, followed by 'visiting friends and relatives (VFR)' (39.5%) and 'business' (8.0%).

Compared to YE Jun 13, visitors who travelled for 'holiday or leisure' grew by 2.2% while 'VFR' declined by 24.3%* and 'business' decreased by 21.4%.

Activities

'Visit friends and relatives' (48.3%) was the most popular activity undertaken by visitors to the region, followed by 'eat out at restaurants' (43.2%) and 'go to the beach' (23.4%).

Expenditure (6)

Domestic daytrip visitors spent $253 million in the region - down by 10.2% on YE Jun 13. On average, they spent $77 per trip – up by 1.3% on YE Jun 13.

(6) Source: Modelled domestic day visitor expenditure in Australia's regions, YE Jun 14, TRA

Notes and further information

Due to changes to the National Visitor Survey (NVS) methodology, care should be taken when comparing year ending June 2014 survey results with those from previous years. These changes represent a break in the time series.

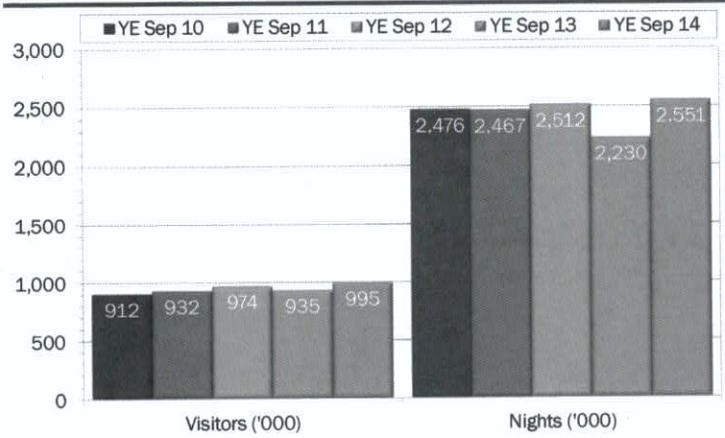
For more information on the NVS methodology changes please see www.tra.gov.au/News&Media/Factsheets-2014_updates_to_the_IVS/NVS.

Please see www.destinationnsw.com.au for profiles on travel to the other regions in NSW and information on international and domestic travel to the State.

Please note: The information in this report is sourced from sample surveys, hence the results are subject to sampling variability.

Domestic Overnight Travel (1)

Visitors and nights



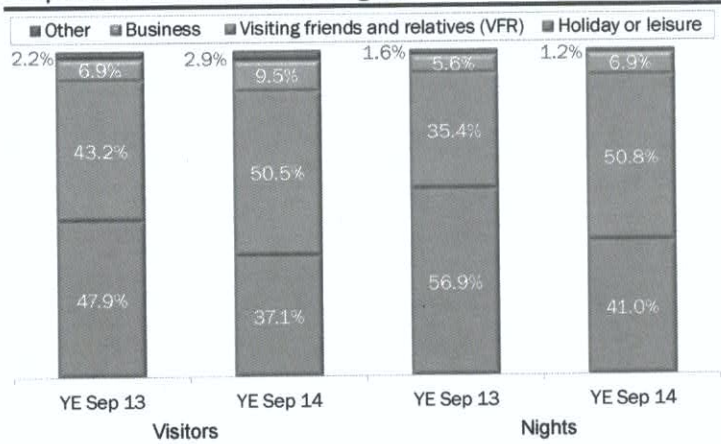
Illawarra sub-region received 995,000 domestic overnight visitors - up by 6.4% on YE Sep 13. Visitors spent nearly 2.6 million nights in the sub-region – up 14.4% on YE Sep 13.

Note: The number of domestic overnight trips to regional New South Wales increased by 1.8 percent on last year and by 7.9 percent* compared to four years ago.

Market share

The sub-region received 5.4% of visitors and 4.0% of nights in regional NSW. Compared to YE Sep 13, the share of visitors was up by 0.2% pts and the share of nights was up by 0.5% pts.

Purpose of visit to the sub-region



'Visiting friends and relatives (VFR)' (50.5%) was the largest purpose of visit for visitors to the sub-region, followed by 'holiday or leisure' (37.1%) and 'business' (9.5%). Compared to YE Sep 13, visitors who travelled for 'VFR' grew by 24.5%* while 'holiday or leisure' declined by 17.6% and 'business' increased by 46.6%*.

'VFR' (50.8%) was the largest purpose in terms of nights in the sub-region, followed by 'holiday or leisure' (41.0%) and 'business' (6.9%). Compared to YE Sep 13, nights spent for 'VFR' grew by 64.1%* while 'holiday or leisure' declined by 17.6% and 'business' increased by 39.8%.

Accommodation

'Friends or relatives property' (49.4%) was the most popular accommodation used for nights in the sub-region, followed by 'caravan park or commercial camping ground' (16.9%) and 'standard hotel, motel, motor inn, below 4 star' (9.6%).

Origin

Origin	Share of visitors		Share of nights	
	YE Sep 13	YE Sep 14	YE Sep 13	YE Sep 14
Regional NSW	32.5%	36.8%	29.9%	34.0%
Sydney	48.6%	45.5%	45.5%	41.1%
Total intrastate	81.2%	82.4%	75.4%	75.0%
Victoria	6.1%	5.0%	7.2%	8.3%
Queensland	4.8%	5.0%	9.5%	7.5%
ACT	6.5%	4.7%	5.6%	4.2%
Other interstate	1.4%	2.9%	2.3%	5.0%
Total interstate	18.8%	17.6%	24.6%	25.0%

Sydney (45.5%) was the largest source of visitors to the sub-region, followed by regional NSW (36.8%) and Victoria (5.0%). Compared to YE Sep 13, the Sydney source market declined by 0.4% while regional NSW grew by 20.5%. Over the same period, Victoria declined by 12.7% while Queensland grew by 10.3% and the ACT decreased by 23.1%.

Sydney (41.1%) was the largest source market in terms of nights in the sub-region, followed by regional NSW (34.0%) and Victoria (8.3%). Compared to YE Sep 13, nights spent by visitors from Sydney grew by 3.1% and nights from regional NSW increased by 30.0%. Over the same period, nights by Victorians grew by 32.1% while Queensland nights decreased by 10.6% and nights by visitors from the ACT declined by 13.3%.

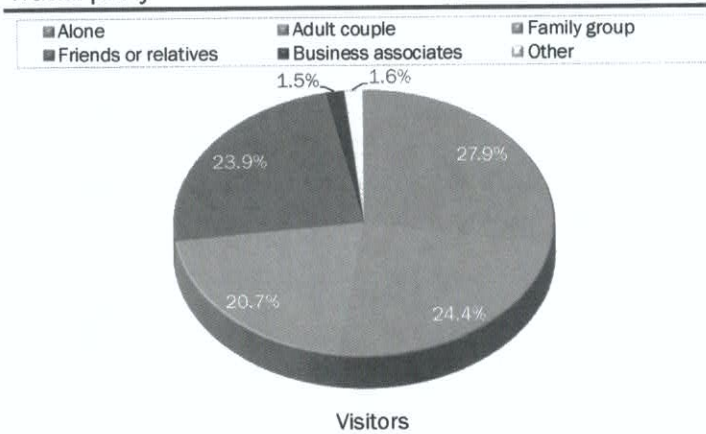
All transport

'Private or company vehicle' (82.0%) was the most popular form of transport used by visitors to the sub-region, followed by 'railway' (7.2%) and 'air transport' (5.2%).

Activities

'Visit friends and relatives' (58.9%) was the most popular activity undertaken by visitors to the sub-region, followed by 'eat out at restaurants' (49.7%) and 'go to the beach' (38.0%).

Travel party



'Alone' (27.9%) was the most common travel party amongst visitors to the region, followed by 'adult couple' (24.4%) and 'friends and relatives' (23.9%).

Expenditure (incl airfares and transport costs) (2)

Domestic overnight visitors spent $329 million in the sub-region - up by 15.2% on YE Sep 13. On average, they spent $129 per night - up by 0.7% on YE Sep 13.

(2) Estimated using data from TRA's modelled domestic overnight visitor expenditure in Australia's regions, YE Sep 14

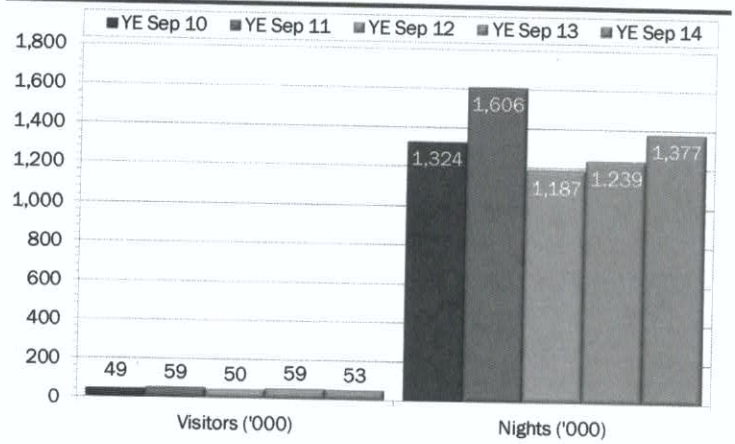
Illawarra sub-region covers Stanwell Park to Gerringong including Wollongong, Shell Harbour and Kiama.

Year ended September 2014

Total nights (million)	3.9
Total expenditure (million)	$702

International Overnight Travel (3)

Visitors and nights



Illawarra sub-region received 52,600 international overnight visitors - down by 10.1% on YE Sep 13. Visitors spent 1.4 million nights in the sub-region - up by 11.1% on YE Sep 13.

Note: The number of overnight trips to regional New South Wales by international visitors increased by 4.7 percent on last year and by 3.0 percent compared to four years ago.

Market share

The sub-region received 8.5% of visitors and 11.3% of nights in regional NSW. Compared to YE Sep 13, the share of visitors was down by 1.4% pts and the share of nights was unchanged.

Purpose of visit to the sub-region

'Holiday / pleasure' (41.1%) was the largest purpose of visit for visitors to the sub-region, followed by 'visiting friends and relatives (VFR)' (37.4%) and 'education' (9.0%). Compared to YE Sep 13, visitors who travelled for 'holiday / pleasure' declined by 29.0%* while 'VFR' grew by 13.4% and 'education' increased by 4.4%.

Origin – share of visitors to the sub-region

		Share of international visitors to Illawarra sub-region					
Rank	Market	YE Sep 13	YE Sep 14	Rank	Market	YE Sep 13	YE Sep 14
1	United Kingdom	14.5%	14.6%	12	India	0.6%	2.5%
2	New Zealand	12.2%	12.3%	13	Thailand	3.8%	2.0%
3	USA	12.1%	10.0%	14	Italy	2.6%	1.9%
4	Mainland China & HK	10.6%	9.2%	15	Netherlands	2.1%	1.1%
	Mainland China	8.5%	8.6%	16	Taiwan	0.0%	1.1%
	Hong Kong	2.0%	0.7%	17	Indonesia	2.2%	1.0%
5	France	3.1%	5.9%	18	Switzerland	2.4%	1.0%
6	Germany	5.1%	5.5%	19	Malaysia	1.8%	0.9%
7	Canada	3.3%	5.3%	20	Middle East & Nth Africa	1.1%	0.4%
8	Korea	2.4%	4.4%	21	Ireland	0.1%	0.0%
9	Scandinavia	3.4%	3.8%		*Other Asia*	4.9%	2.9%
10	Japan	3.3%	3.8%		*Other Europe*	2.6%	4.0%
11	Singapore	2.5%	3.2%		*Other Countries*	3.2%	3.2%

Accommodation

'Rented house / apartment / unit / flat' (39.4%) was the most popular form of accommodation for nights in the sub-region, followed by 'home of friend or relative' (30.5%).

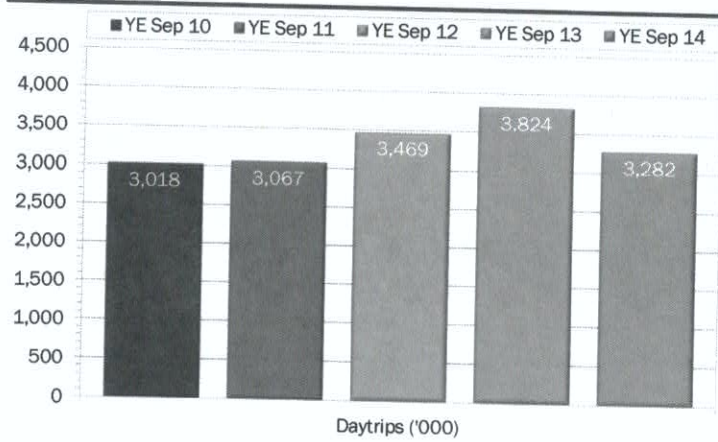
Expenditure (incl pre-paid package expenditure) (4)

International overnight visitors spent $92 million in the sub-region - down by 6.0% on YE Sep 13. On average, they spent $67 per night - down by 15.4% on YE Sep 13.

(4) Estimated using data from TRA's modelled international overnight visitor expenditure in Australia's regions, YE Sep 14.

Domestic Daytrip Travel (5)

Daytrips



Illawarra sub-region received nearly 3.3 million domestic daytrip visitors - down by 14.2%* on YE Sep 13.

Note: The number of domestic daytrips to regional New South Wales decreased by 4.9 percent* on last year and by 2.2 percent compared to four years ago.

Market share

The sub-region received 10.5% of daytrips to regional NSW. Compared to YE Sep 13, the share was down by 1.1% pts.

Main purpose of trip

'Holiday or leisure' (48.9%) was the largest purpose of trip for visitors to the sub-region, followed by 'visiting friends and relatives (VFR)' (36.9%) and 'business' (7.6%).

Compared to YE Sep 13, visitors who travelled for 'holiday or leisure' declined by 16.1% and 'VFR' decreased by 4.5% while 'business' fell by 36.2%.

Activities

'Eat out at restaurants' (47.7%) was the most popular activity undertaken by visitors to the sub-region, followed by 'visit friends and relatives' (41.0%) and 'go to the beach' (25.2%).

Expenditure (6)

Domestic daytrip visitors spent $280 million in the sub-region - down by 18.5% on YE Sep 13. On average, they spent $85 per trip - down by 5.0% on YE Sep 13.

(6) Estimated using data from TRA's modelled domestic day visitor expenditure in Australia's regions, YE Sep 14

Notes and further information

Due to changes to the National Visitor Survey (NVS) methodology, care should be taken when comparing year ending September 2014 survey results with those from previous years. These changes represent a break in the time series.

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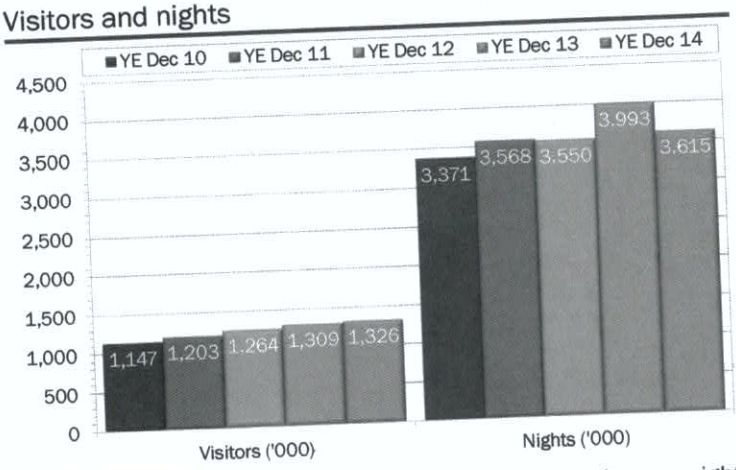
Please note: The information in this report is sourced from sample surveys, hence the results are subject to sampling variability.

Domestic Overnight Travel (1)

Visitors and nights



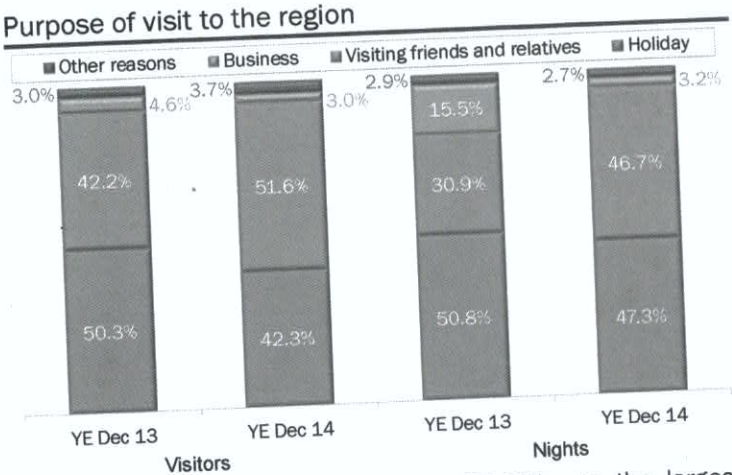
Central Coast received over 1.3 million domestic overnight visitors - up by 1.3% on YE Dec 13. Visitors spent over 3.6 million nights in the region - down by 9.5% on YE Dec 13.

Note: The number of domestic overnight trips to regional New South Wales increased by 5.5 percent* on last year and by 12.4 percent* compared to four years ago.

Market share

The region received 7.0% of visitors and 5.7% of nights in regional NSW. Compared to YE Dec 13, the share of visitors was down by 0.3% pts and the share of nights was down 0.7% pts.

Purpose of visit to the region



'Visiting friends and relatives (VFR)' (51.6%) was the largest purpose of visit for visitors to the region, followed by 'holiday' (42.3%) and 'business' (3.0%). Compared to YE Dec 13, visitors who travelled for 'VFR' grew by 23.8%* while 'holiday' declined by 14.8% and 'business' fell by 34.7%.

'Holiday' (47.3%) was the largest purpose in terms of nights in the region, followed by 'VFR' (46.7%) and 'business' (3.2%). Compared to YE Dec 13, nights spent for 'holiday' declined by 15.6% while 'VFR' grew by 36.8%* and 'business' decreased by 81.2%.

Accommodation

'Friends or relatives property' (52.3%) was the most popular accommodation used for nights in the region, followed by 'caravan park or commercial camping ground' (12.8%) and 'standard hotel or motor inn, below 4 star' (8.4%).

Origin

Origin	Share of visitors		Share of nights	
	YE Dec 13	YE Dec 14	YE Dec 13	YE Dec 14
Regional NSW	28.2%	23.4%	23.6%	22.2%
Sydney	61.3%	61.2%	64.8%	55.4%
Total intrastate	89.5%	84.6%	88.3%	77.6%
Queensland	3.2%	7.7%	4.4%	10.9%
ACT	2.8%	2.8%	1.9%	3.6%
Victoria	3.1%	2.7%	3.6%	3.3%
Other interstate	1.4%	2.3%	1.7%	4.5%
Total interstate	10.5%	15.4%	11.7%	22.4%

Sydney (61.2%) was the largest source of visitors to the region, followed by regional NSW (23.4%) and Queensland (7.7%). Compared to YE Dec 13, the Sydney source market grew by 1.2% while regional NSW decreased by 16.2%. Over the same period, Queensland grew by 145%* and the ACT increased by 0.7% while Victoria declined by 13.6%.

Sydney (55.4%) was the largest source market in terms of nights in the region, followed by regional NSW (22.2%) and Queensland (10.9%). Compared to YE Dec 13, nights spent by visitors from Sydney declined by 22.5% and nights from regional NSW decreased by 14.7%. Over the same period, Queensland nights grew by 122%* and nights by visitors from the ACT increased by 67.7% while Victorian nights declined by 16.2%.

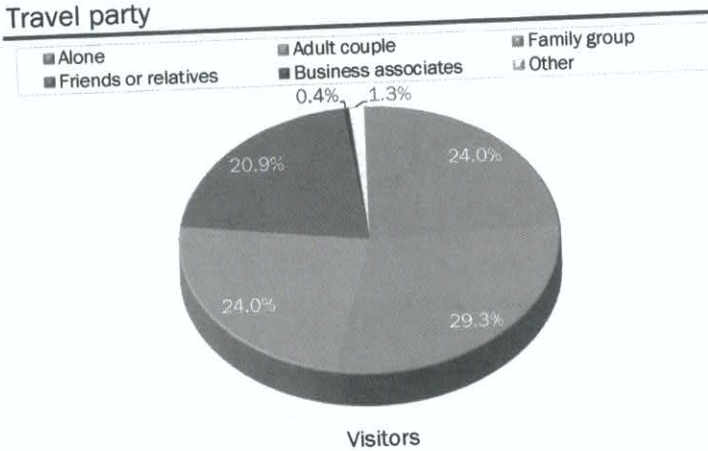
All transport

'Private vehicle or company car' (84.4%) was the most popular form of transport used by visitors to the region, followed by 'railway' (6.7%) and 'aircraft' (4.9%).

Activities

'Visit friends and relatives' (61.2%) was the most popular activity undertaken by visitors to the region, followed by 'eat out, dine at a restaurant or cafe' (54.7%) and 'go to the beach' (44.3%).

Travel party



'Adult couple' (29.3%) was the most common travel party amongst visitors to the region, followed by 'alone' (24.0%).

Expenditure (incl airfares and transport costs) (2)

Domestic overnight visitors spent $443 million in the region down by 16.9% on YE Dec 13. On average, they spent $122 pe night - down by 8.2% on YE Dec 13.

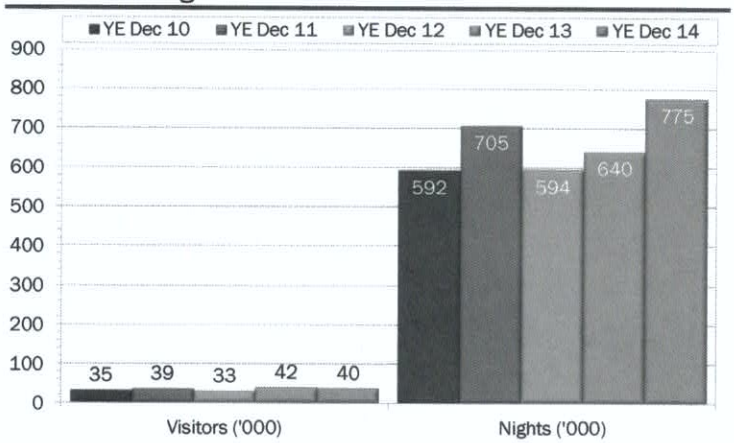
(2) Source: Modelled domestic overnight visitor expenditure in Australia' regions, YE Dec 14, TRA

Central Coast includes Gosford, Killcare, Terrigal, The Entrance, Wyong.

Total nights (million)	4.4
Total expenditure (million)	$729

International Overnight Travel (3)

Visitors and nights



Central Coast received 39,600 international overnight visitors - down by 5.7% on YE Dec 13. Visitors spent 774,900 nights in the region - up by 21.1% on YE Dec 13.

Note: The number of overnight trips to regional New South Wales by international visitors increased by 6.9 percent* on last year and by 2.1 percent compared to four years ago.

Market share

The region received 6.2% of visitors and 6.4% of nights in regional NSW. Compared to YE Dec 13, the share of visitors was down by 0.8% pts and the share of nights was up by 0.8% pts.

Purpose of visit to the region

'Visiting friends and relatives (VFR)' (49.4%) was the largest purpose of visit for visitors to the region, followed by 'holiday' (37.9%) and 'business' (10.0%). Compared to YE Dec 13, visitors who travelled for 'VFR' declined by 0.9% and 'holiday' declined by 23.4% while 'business' grew by 88.9%*.

Origin – share of visitors to the region

		Share of international visitors to Central Coast				
Rank	Individual market	YE Dec 13	YE Dec 14	Origin region	YE Dec 13	YE Dec 14
1	New Zealand	15.3%	25.1%	Europe	43.6%	37.1%
2	United Kingdom	20.3%	23.0%	North America	14.6%	12.7%
3	USA	11.1%	10.4%	Asia	20.7%	21.7%
4	np	np	np	New Zealand & Oceania	19.5%	26.0%
5	np	np	np	Other Countries	np	np

New Zealand (25.1%) was the region's largest individual source market of visitors, followed by the United Kingdom (23.0%).

Accommodation

'Friends or relatives property' (79.9%) was the most popular form of accommodation used for nights in the region, followed by 'rented house, apartment, flat or unit' (8.6%).

Age

'15 to 29 years' (20.4%) was the largest age group of visitors to the region, followed by '40 to 49 years' (19.7%) and '50 to 59 years' (18.6%).

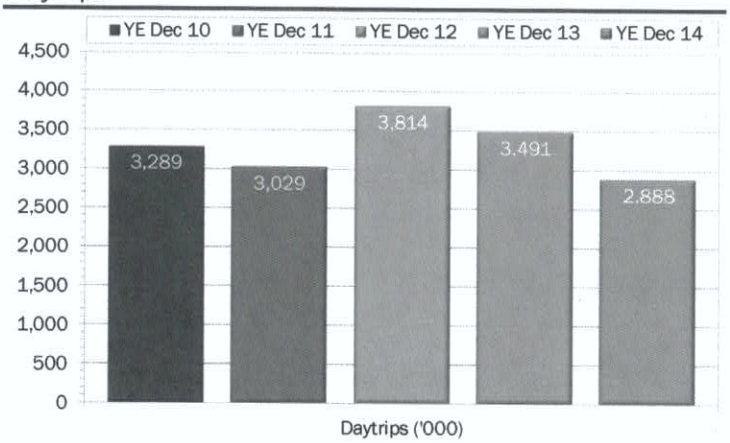
Expenditure (incl pre-paid package expenditure) (4)

International overnight visitors spent $33 million in the region - down by 0.2% on YE Dec 13. On average, they spent $43 per night - down by 17.6% on YE Dec 13.

(4) Source: Modelled international overnight visitor expenditure in Australia's regions, YE Dec 14, TRA.

Domestic Daytrip Travel (5)

Daytrips



Central Coast received nearly 2.9 million domestic daytrip visitors - down by 17.3%* on YE Dec 13.

Note: The number of domestic daytrips to regional New South Wales decreased by 1.4 percent on last year, but was up by 0.3 percent compared to four years ago.

Market share

The region received 9.0% of daytrips to regional NSW. Compared to YE Dec 13, the share was down by 1.7% pts.

Main purpose of trip

'Visiting friends and relatives (VFR)' (45.1%) was the largest purpose of trip for visitors to the region, followed by 'holiday' (42.1%) and 'business' (8.9%).

Compared to YE Dec 13, visitors who travelled for 'VFR' declined by 4.6% and 'holiday' decreased by 24.3%* while 'business' fell by 6.3%.

Activities

'Eat out, dine at a restaurant or cafe' (50.8%) was the most popular activity undertaken by visitors to the region, followed by 'visit friends and relatives' (50.2%) and 'go to the beach' (25.7%).

Expenditure (6)

Domestic daytrip visitors spent $253 million in the region - down by 4.6% on YE Dec 13. On average, they spent $88 per trip – up by 15.3% on YE Dec 13.

(6) Source: Modelled domestic day visitor expenditure in Australia's regions, YE Dec 14, TRA

Notes and further information

Due to changes to the National Visitor Survey (NVS) methodology, care should be taken when comparing year ending December 2014 survey results with those from previous years. These changes represent a break in the time series.

For more information on the NVS methodology changes please see www.tra.gov.au/News&Media/Factsheets-2014_updates_to_the_IVS/NVS.

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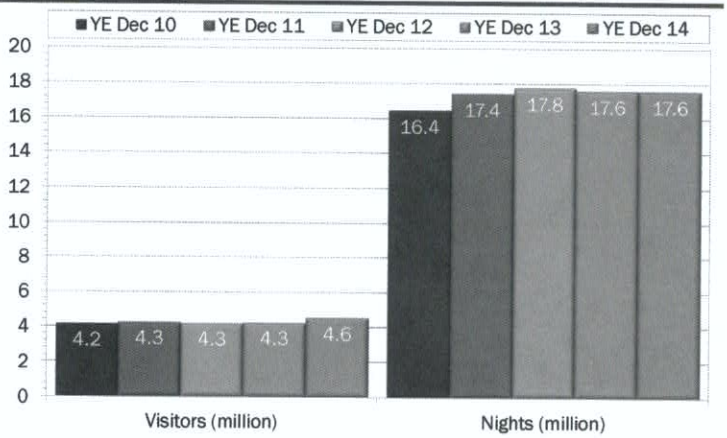
Domestic Overnight Travel (1)

Visitors and nights



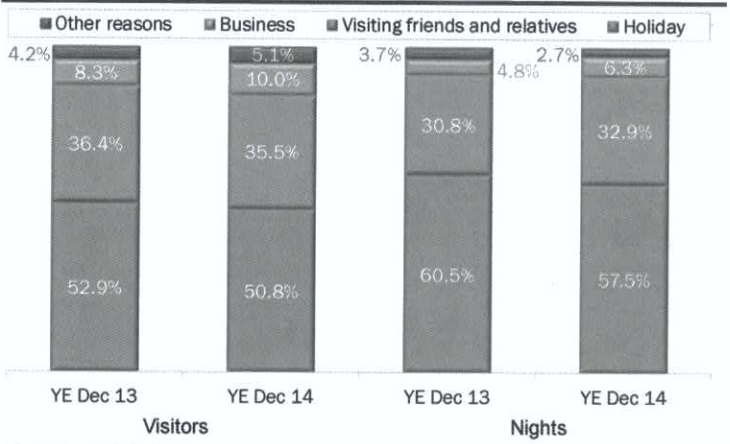
North Coast NSW received nearly 4.6 million domestic overnight visitors - up by 6.0% on YE Dec 13. Visitors spent almost 17.6 million nights in the region – down marginally on YE Dec 13.

Note: The number of domestic overnight trips to regional New South Wales increased by 5.5 percent* on last year and by 12.4 percent* compared to four years ago.

Market share

The region received 24.1% of visitors and 27.6% of nights in regional NSW. Compared to YE Dec 13, the share of visitors was up by 0.1% pt and the share of nights was down by 0.3% pts.

Purpose of visit to the region



'Holiday' (50.8%) was the largest purpose of visit for visitors to the region, followed by 'visiting friends and relatives (VFR)' (35.5%) and 'business' (10.0%). Compared to YE Dec 13, visitors who travelled for 'holiday' grew by 1.8% and 'VFR' increased by 3.4% while 'business' grew by 28.5%*.

'Holiday' (57.5%) was the largest purpose in terms of nights in the region, followed by 'VFR' (32.9%) and 'business' (6.3%). Compared to YE Dec 13, nights spent for 'holiday' declined by 5.0% while 'VFR' grew by 6.9% and 'business' increased by 31.0%.

Accommodation

'Friends or relatives property' (32.5%) was the most popular accommodation used for nights in the region, followed by 'caravan park or commercial camping ground' (20.2%) and 'rented house, apartment, flat or unit' (13.1%).

Origin

Origin	Share of visitors		Share of nights	
	YE Dec 13	YE Dec 14	YE Dec 13	YE Dec 14
Regional NSW	41.9%	37.8%	38.2%	35.1%
Sydney	25.5%	26.1%	28.1%	30.4%
Total intrastate	67.4%	63.9%	66.2%	65.5%
Queensland	24.6%	28.0%	22.8%	21.1%
Victoria	4.4%	4.8%	6.2%	8.3%
ACT	1.5%	1.3%	2.1%	2.0%
Other interstate	1.9%	2.1%	2.7%	3.1%
Total interstate	32.6%	36.1%	33.8%	34.5%

Regional NSW (37.8%) was the largest source of visitors to the region, followed by Queensland (28.0%) and Sydney (26.1%). Compared to YE Dec 13, the regional NSW source market declined by 4.6% while Sydney grew by 8.6%. Over the same period, Queensland grew by 20.4%* and Victoria increased by 14.1% while the ACT decreased by 13.7%.

Regional NSW (35.1%) was the largest source market in terms of nights in the region, followed by Sydney (30.4%) and Queensland (21.1%). Compared to YE Dec 13, nights spent by visitors from regional NSW declined by 8.1% while nights from Sydney grew by 8.3%. Over the same period, nights by Queenslanders declined by 7.6% while Victorian nights grew by 34.8%* and nights by visitors from the ACT decreased by 1.1%.

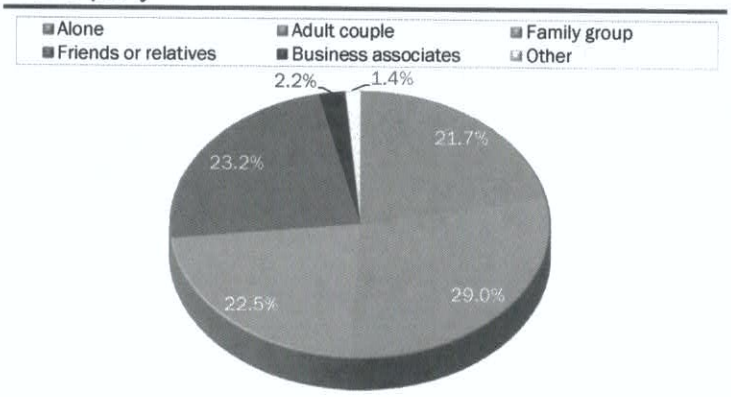
All transport

'Private vehicle or company car' (84.7%) was the most popular form of transport used by visitors to the region, followed by 'aircraft' (9.6%) and 'railway' (1.9%).

Activities

'Eat out, dine at a restaurant or cafe' (60.0%) was the most popular activity undertaken by visitors to the region, followed by 'visit friends and relatives' (48.1%) and 'go to the beach' (48.0%).

Travel party



'Adult couple' (29.0%) was the most common travel party amongst visitors to the region.

Expenditure (incl airfares and transport costs) (2)

Domestic overnight visitors spent almost $2.5 billion in the region - up by 5.8% on YE Dec 13. On average, they spent $142 per night - up by 5.8% on YE Dec 13.

(2) Source: Modelled domestic overnight visitor expenditure in Australia's regions, YE Dec 14, TRA.

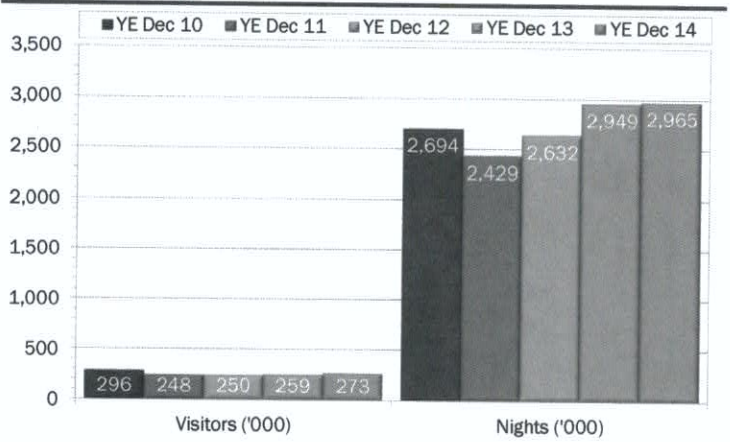
North Coast NSW region covers Great Lakes to Tweed Heads including Forster, Taree, Wingham, Port Macquarie, South West Rocks, Macksville, Bellingen, Coffs

Year ended December 2014

Total nights (million)	20.6
Total expenditure (billion)	$3.2

International Overnight Travel (3)

Visitors and nights



North Coast NSW received 273,100 international overnight visitors - up by 5.3% on YE Dec 13. Visitors spent nearly 3.0 million nights in the region - up by 0.6% on YE Dec 13.

Note: The number of overnight trips to regional New South Wales by international visitors increased by 6.9 percent* on last year and by 2.1 percent compared to four years ago.

Market share

The region received 43.0% of visitors and 24.5% of nights in regional NSW. Compared to YE Dec 13, the share of visitors was down by 0.7% pts and share of nights was down by 1.5% pts.

Purpose of visit to the region

'Holiday' (81.2%) was the largest purpose of visit for visitors to the region, followed by 'visiting friends and relatives (VFR)' (16.1%) and 'business' (2.6%). Compared to YE Dec 13, visitors who travelled for 'holiday' grew by 6.9% while 'VFR' declined by 6.5% and 'business' increased by 51.2%*.

Origin – share of visitors to the region

Share of international visitors to North Coast NSW region						
Rank	Individual market	YE Dec 13	YE Dec 14	Origin region	YE Dec 13	YE Dec 14
1	United Kingdom	23.9%	20.8%	Europe	61.4%	61.4%
2	Germany	10.5%	13.0%	North America	14.0%	14.5%
3	New Zealand	10.7%	10.7%	Asia	8.8%	8.9%
4	USA	8.2%	8.5%	New Zealand & Oceania	11.6%	11.5%
5	Scandinavia	5.5%	6.5%	Other Countries	4.2%	3.6%

The United Kingdom (20.8%) was the region's largest individual source market of visitors, followed by Germany (13.0%) and New Zealand (10.7%).

Accommodation

'Friends or relatives property' (27.6%) was the most popular form of accommodation used for nights in the region, followed by 'backpacker or hostel' (23.9%).

Age

'15 to 29 years' (54.4%) was the largest age group of visitors to the region, followed by '30 to 39 years' (12.6%) and '50 to 59 years' (11.7%).

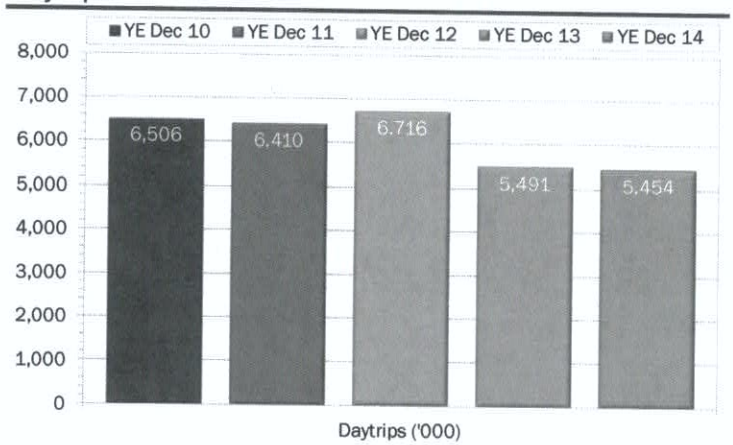
Expenditure (incl pre-paid package expenditure) (4)

International overnight visitors spent $168 million in the region - up by 8.5% on YE Dec 13. On average, they spent $57 per night - up by 7.9% on YE Dec 13.

(4) Source: Modelled international overnight visitor expenditure in Australia's regions, YE Dec 14, TRA.

Domestic Daytrip Travel (5)

Daytrips



North Coast NSW received nearly 5.5 million domestic daytrip visitors - down by 0.7% on YE Dec 13.

Note: The number of domestic daytrips to regional New South Wales decreased by 1.4 percent on last year, but was up by 0.3 percent compared to four years ago.

Market share

The region received 17.0% of daytrips to regional NSW. Compared to YE Dec 13, the share was up by 0.1% pt.

Main purpose of trip

'Holiday' (51.5%) was the largest purpose of trip for visitors to the region, followed by 'visiting friends and relatives (VFR)' (26.2%) and 'medical reasons' (8.2%).

Compared to YE Dec 13, visitors who travelled for 'holiday' declined by 3.3% and 'VFR' decreased by 5.5% while 'medical reasons' grew by 42.1%*.

Activities

'Eat out, dine at a restaurant or cafe' (51.0%) was the most popular activity undertaken by visitors to the region, followed by 'visit friends and relatives' (32.9%) and 'go shopping for pleasure' (26.0%).

Expenditure (6)

Domestic daytrip visitors spent $577 million in the region - down by 4.3% on YE Dec 13. On average, they spent $106 per trip - down by 3.7% on YE Dec 13.

(6) Source: Modelled domestic day visitor expenditure in Australia's regions, YE Dec 14, TRA.

Notes and further information

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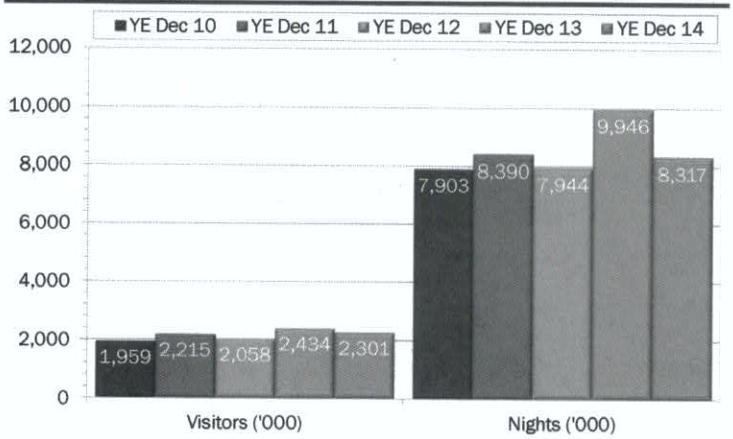
Domestic Overnight Travel (1)

Visitors and nights



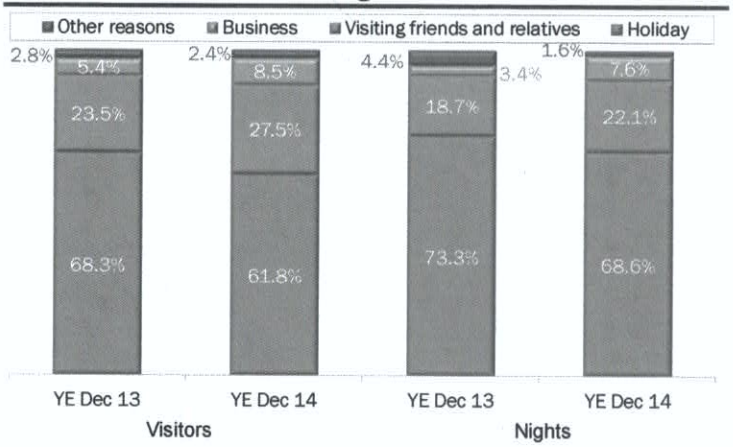
South Coast sub-region received 2.3 million domestic overnight visitors - down by 5.5% on YE Dec 13. Visitors spent 8.3 million nights in the sub-region - down by 16.4%* on YE Dec 13.

Note: The number of domestic overnight trips to regional New South Wales increased by 5.5 percent* on last year and by 12.4 percent* compared to four years ago.

Market share

The sub-region received 12.1% of visitors and 13.0% of nights in regional NSW. Compared to YE Dec 13, the share of visitors was down 1.4% pts and the share of nights was down 2.7% pts.

Purpose of visit to the sub-region



'Holiday' (61.8%) was the largest purpose of visit for visitors to the sub-region, followed by 'visiting friends and relatives (VFR)' (27.5%) and 'business' (8.5%). Compared to YE Dec 13, visitors who travelled for 'holiday' declined by 14.5%* while 'VFR' grew by 10.5% and 'business' increased by 48.2%*.

'Holiday' (68.6%) was the largest purpose in terms of nights in the sub-region, followed by 'VFR' (22.1%) and 'business' (7.6%). Compared to YE Dec 13, nights spent for 'holiday' declined by 21.7%* and 'VFR' decreased by 1.3% while 'business' grew by 84.6%*.

Accommodation

'Friends or relatives property' (28.9%) was the most popular accommodation used for nights in the sub-region, followed by 'caravan park or commercial camping ground' (26.0%) and 'rented house, apartment, flat or unit' (14.0%).

Origin

Origin	Share of visitors		Share of nights	
	YE Dec 13	YE Dec 14	YE Dec 13	YE Dec 14
Regional NSW	28.5%	31.3%	25.2%	28.9%
Sydney	39.3%	38.5%	35.9%	37.7%
Total intrastate	67.8%	69.8%	61.0%	66.6%
ACT	15.9%	16.8%	15.7%	14.7%
Victoria	12.6%	10.2%	17.5%	15.3%
Queensland	2.2%	1.7%	3.4%	1.7%
Other interstate	1.6%	1.6%	2.4%	1.7%
Total interstate	32.2%	30.2%	39.0%	33.4%

Sydney (38.5%) was the largest source of visitors to the sub-region, followed by regional NSW (31.3%) and the ACT (16.8%). Compared to YE Dec 13, the Sydney source market declined by 7.5% while regional NSW grew by 3.9%. Over the same period, the ACT declined by 0.2% and Victoria decreased by 23.4% while Queensland fell by 27.4%.

Sydney (37.7%) was the largest source market in terms of nights in the sub-region, followed by regional NSW (28.9%) and Victoria (15.3%). Compared to YE Dec 13, nights spent by visitors from Sydney declined by 12.2% and nights from regional NSW decreased by 3.9%. Over the same period, Victorian nights declined by 26.9% and nights by visitors from the ACT decreased by 21.8% while Queensland nights fell by 58.0%.

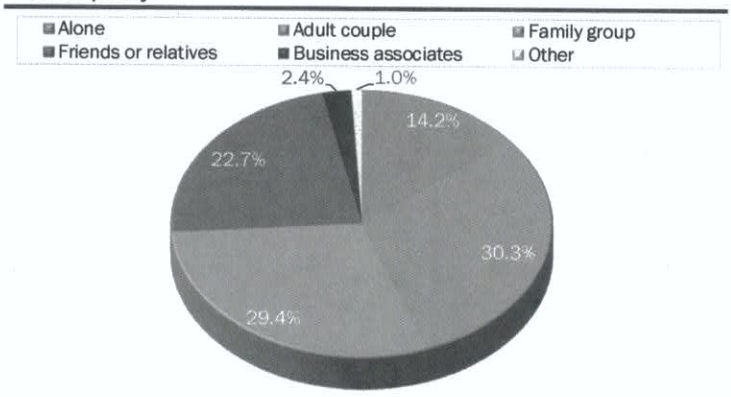
All transport

'Private vehicle or company car' (92.4%) was the most popular form of transport used by visitors to the sub-region, followed by 'railway' (1.9%) and 'aircraft' (1.5%).

Activities

'Eat out, dine at a restaurant or cafe' (56.7%) was the most popular activity undertaken by visitors to the sub-region, followed by 'go to the beach' (56.1%) and 'visit friends and relatives' (40.6%).

Travel party



'Adult couple' (30.3%) was the most common travel party amongst visitors to the sub-region.

Expenditure (incl airfares and transport costs) (2)

Domestic overnight visitors spent over $1.1 billion in the sub-region - down by 9.7% on YE Dec 13. On average, they spent $136 per night - up by 8.0% on YE Dec 13.

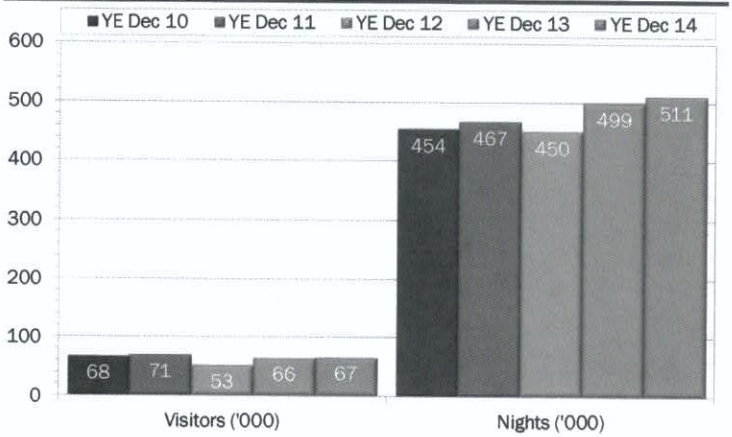
(2) Estimated using data from TRA's modelled domestic overnight visitor expenditure in Australia's regions, YE Dec 14

South Coast sub-region covers Nowra to Eden including Jervis Bay, Ulladulla, Batemans Bay, Moruya, Narooma, Bega and Merimbula.

Total nights (million)	8.8
Total expenditure (billion)	$1.4

International Overnight Travel (3)

Visitors and nights



South Coast sub-region received 67,400 international overnight visitors - up by 1.9% on YE Dec 13. Visitors spent 510,900 nights in the region - up by 2.3% on YE Dec 13.

Note: The number of overnight trips to regional New South Wales by international visitors increased by 6.9 percent* on last year and by 2.1 percent compared to four years ago.

Market share

The region received 10.6% of visitors and 4.2% of nights in regional NSW. Compared to YE Dec 13, the share of visitors was down by 0.5% pts and share of nights was down by 0.2% pts.

Purpose of visit to the sub-region

'Holiday' (78.2%) was the largest purpose of visit for visitors to the sub-region, followed by 'visiting friends and relatives (VFR)' (19.4%). Compared to YE Dec 13, visitors who travelled for 'holiday' declined by 0.1% while 'VFR' grew by 28.2%.

Origin – share of visitors to the sub-region

Share of international visitors to South Coast sub-region						
Rank	Individual market	YE Dec 13	YE Dec 14	Origin region	YE Dec 13	YE Dec 14
1	United Kingdom	20.1%	15.8%	Europe	52.1%	53.5%
2	USA	14.2%	11.4%	North America	18.8%	17.0%
3	Germany	11.7%	10.7%	Asia	16.4%	15.8%
4	New Zealand	8.4%	8.9%	New Zealand & Oceania	9.3%	9.6%
5	Mainland China	2.6%	6.2%	Other Countries	3.3%	4.1%

The United Kingdom (15.8%) was the sub-region's largest individual source market of visitors, followed by the USA (11.4%) and Germany (10.7%).

Accommodation

'Friends or relatives property' (35.0%) was the most popular form of accommodation used for nights in the sub-region, followed by 'rented house, apartment, flat or unit' (13.0%).

Age

'15 to 29 years' (33.8%) was the largest age group of visitors to the sub-region, followed by '60 to 69 years' (18.4%) and '40 to 49 years' (16.0%).

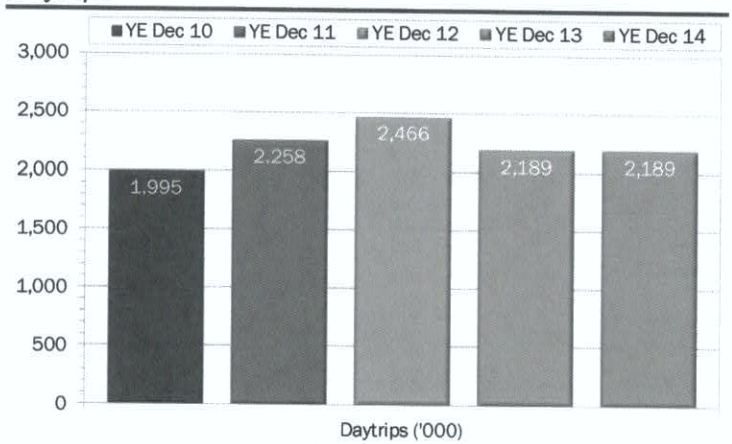
Expenditure (incl pre-paid package expenditure) (4)

International visitors spent $35 million in the sub-region - down by 9.9% on YE Dec 13. On average, they spent $69 per night - down by 12.0% on YE Dec 13.

(4) Estimated using data from TRA's modelled international overnight visitor expenditure in Australia's regions, YE Dec 14.

Domestic Daytrip Travel (5)

Daytrips



South Coast sub-region received nearly 2.2 million domestic daytrip visitors - unchanged on YE Dec 13.

Note: The number of domestic daytrips to regional New South Wales decreased by 1.4 percent on last year, but was up by 0.3 percent compared to four years ago.

Market share

The sub-region received 6.8% of daytrips to regional NSW. Compared to YE Dec 13, the share was up by 0.1% pt.

Main purpose of trip

'Holiday' (55.1%) was the largest purpose of trip for visitors to the sub-region, followed by 'visiting friends and relatives (VFR)' (24.1%) and 'medical reasons' (6.9%).

Compared to YE Dec 13, visitors who travelled for 'holiday' grew by 1.0% and 'VFR' increased by 3.5% while 'medical reasons' decreased by 0.8%.

Activities

'Eat out, dine at a restaurant or cafe' (47.3%) was the most popular activity undertaken by visitors to the sub-region, followed by 'visit friends and relatives' (32.3%) and 'go shopping for pleasure' (25.0%).

Expenditure (6)

Domestic daytrip visitors spent $215 million in the sub-region - up by 14.2% on YE Dec 13. On average, they spent $98 per trip - up by 14.2% on YE Dec 13.

(6) Estimated using data from TRA's modelled domestic day visitor expenditure in Australia's regions, YE Dec 14

Notes and further information

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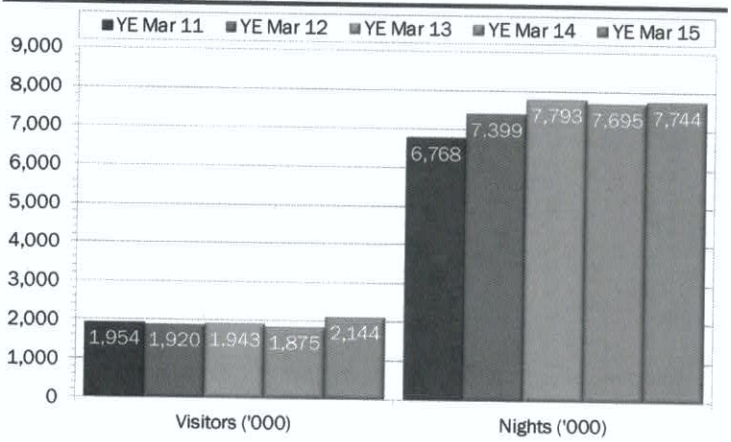
Domestic Overnight Travel (1)

Visitors and nights



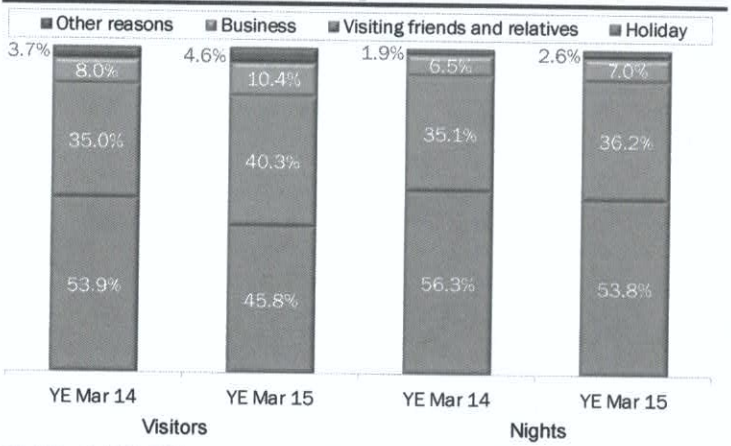
Northern Rivers sub-region received over 2.1 million domestic overnight visitors - up by 14.3%* on YE Mar 14. Visitors spent over 7.7 million nights in the sub-region - up by 0.6% on YE Mar 14.

Note: The number of domestic overnight trips to regional New South Wales increased by 4.1 percent* on last year and by 11.4 percent* compared to four years ago.

Market share

The sub-region received 11.3% of visitors and 12.1% of nights in regional NSW. Compared to YE Mar 14, the share of visitors was up by 1.0% pt and share of nights was down by 0.3% pts.

Purpose of visit to the sub-region



'Holiday' (45.8%) was the largest purpose of visit for visitors to the sub-region, followed by 'visiting friends and relatives (VFR)' (40.3%) and 'business' (10.4%). Compared to YE Mar 14, visitors who travelled for 'holiday' declined by 2.9% while 'VFR' grew by 31.9%* and 'business' increased by 49.1%*.

'Holiday' (53.8%) was the largest purpose in terms of nights in the sub-region, followed by 'VFR' (36.2%) and 'business' (7.0%). Compared to YE Mar 14, nights spent for 'holiday' declined by 3.7% while 'VFR' grew by 3.8% and 'business' increased by 8.2%.

Accommodation

'Friends or relatives property' (36.4%) was the most popular accommodation used for nights in the sub-region, followed by 'caravan park or commercial camping ground' (16.3%) and 'rented house, apartment, flat or unit' (14.4%).

Origin

Origin	Share of visitors		Share of nights	
	YE Mar 14	YE Mar 15	YE Mar 14	YE Mar 15
Regional NSW	28.7%	27.1%	24.6%	25.9%
Sydney	16.1%	15.9%	21.2%	20.9%
Total intrastate	44.8%	43.0%	45.8%	46.8%
Queensland	44.9%	47.3%	37.4%	36.3%
Victoria	5.7%	5.7%	8.9%	10.4%
ACT	1.1%	1.9%	2.7%	3.2%
Other interstate	3.4%	2.1%	5.3%	3.3%
Total interstate	55.2%	57.0%	54.2%	53.2%

Queensland (47.3%) was the largest source of visitors to the sub-region, followed by regional NSW (27.1%) and Sydney (15.9%). Compared to YE Mar 14, the regional NSW source market grew by 8.0% and Sydney increased by 12.6%. Over the same period, Queensland grew by 20.2%* and Victoria increased by 15.7% while the ACT grew by 88.3%*.

Queensland (36.3%) was the largest source market in terms of nights in the sub-region, followed by regional NSW (25.9%) and Sydney (20.9%). Compared to YE Mar 14, nights spent by visitors from regional NSW grew by 6.1% while nights from Sydney declined by 0.6%. Over the same period, nights by Queenslanders declined by 2.3% while Victorian nights grew by 18.7% and nights by visitors from the ACT increased by 17.0%.

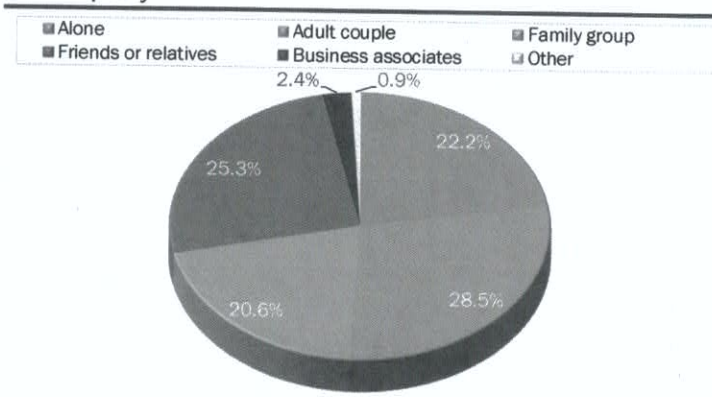
All transport

'Private vehicle or company car' (82.0%) was the most popular form of transport used by visitors to the sub-region, followed by 'aircraft' (13.1%) and 'rental car' (1.6%).

Activities

'Eat out, dine at a restaurant or cafe' (61.4%) was the most popular activity undertaken by visitors to the sub-region, followed by 'visit friends and relatives' (51.7%) and 'go to the beach' (46.2%).

Travel party



'Adult couple' (28.5%) was the most common travel party amongst visitors to the sub-region.

Expenditure (incl airfares and transport costs) (2)

Domestic overnight visitors nearly $1.2 billion in the sub-region - up by 13.5% on YE Mar 14. On average, they spent $150 per night - up by 12.8% on YE Mar 14.

(2) Estimated using data from TRA's modelled domestic overnight visitor expenditure in Australia's regions, YE Mar 15.

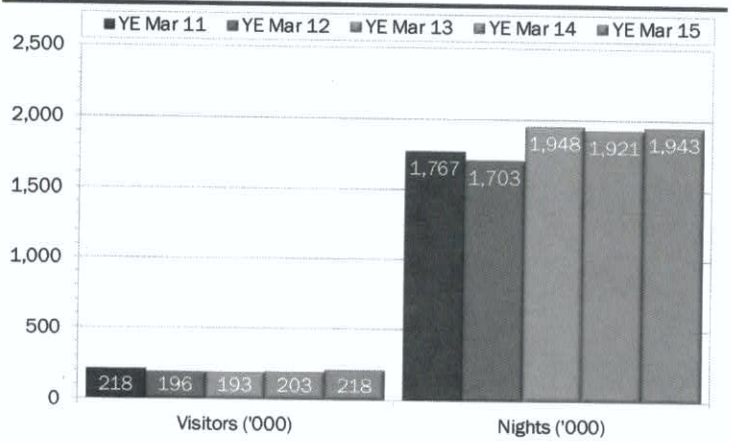
Northern Rivers sub-region covers Grafton to Tweed Heads including Ballina, Lismore, Byron Bay and Murwillumbah.

Year ended March 2015

Total nights (million)	9.7
Total expenditure (billion)	$1.6

International Overnight Travel (3)

Visitors and nights



Northern Rivers sub-region received 218,300 international overnight visitors - up by 7.6% on YE Mar 14. Visitors spent over 1.9 million nights in the sub-region - up 1.1% on YE Mar 14.

Note: The number of overnight trips to regional New South Wales by international visitors increased by 6.7 percent* on last year and by 7.1 percent* compared to four years ago.

Market share

The sub-region received 33.3% of visitors and 15.9% of nights in regional NSW. Compared to YE Mar 14, the share of visitors was up by 0.3% pts and share of nights was by down 0.4% pts.

Purpose of visit to the sub-region

'Holiday' (87.7%) was the largest purpose of visit for visitors to the sub-region, followed by 'visiting friends and relatives (VFR)' (10.0%) and 'business' (1.5%). Compared to YE Mar 14, visitors who travelled for 'holiday' grew by 12.6%* while 'VFR' declined by 26.1%* and 'business' increased by 26.2%.

Origin – share of visitors to the sub-region

Share of international visitors to Northern Rivers sub-region

Rank	Individual market	YE Mar 14	YE Mar 15	Origin region	YE Mar 14	YE Mar 15
1	United Kingdom	24.7%	22.8%	Europe	66.2%	67.2%
2	Germany	11.7%	13.9%	North America	13.2%	12.8%
3	New Zealand	9.2%	8.4%	Asia	6.6%	5.9%
4	Canada	5.9%	6.4%	New Zealand & Oceania	9.8%	9.0%
5	USA	7.3%	6.4%	Other Countries	4.2%	5.2%

The United Kingdom (22.8%) was the sub-region's largest individual source market of visitors, followed by Germany (13.9%) and New Zealand (8.4%).

Accommodation

'Backpacker or hostel' (30.3%) was the most popular form of accommodation used for nights in the sub-region, followed by 'rented house, apartment, flat or unit' (20.5%).

Age

'15 to 29 years' (63.1%) was the largest age group of visitors to the sub-region, followed by '30 to 39 years' (12.3%) and '60 to 69 years' (7.9%).

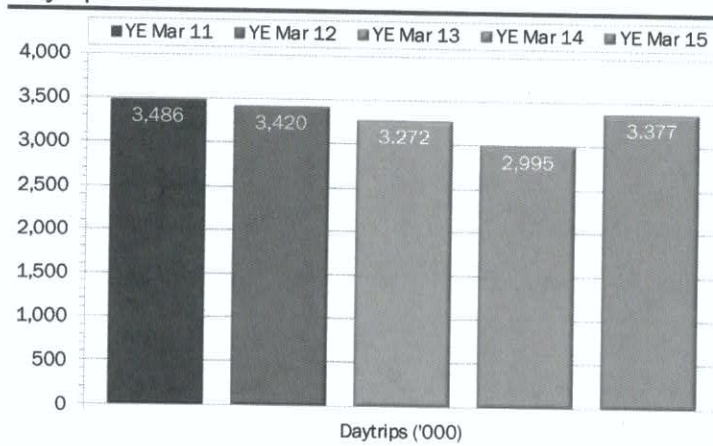
Expenditure (incl pre-paid package expenditure) (4)

International overnight visitors spent $113 million in the sub-region - up by 11.4% on YE Mar 14. On average, they spent $58 per night - up by 10.2% on YE Mar 14.

(4) Estimated using data from TRA's modelled international overnight visitor expenditure in Australia's regions, YE Mar 15.

Domestic Daytrip Travel (5)

Daytrips



Northern Rivers sub-region received nearly 3.4 million domestic daytrip visitors - up by 12.7% on YE Mar 14.

Note: The number of domestic daytrips to regional New South Wales increased by 7.6 percent* on last year and by 6.1 percent* compared to four years ago.

Market share

The sub-region received 10.0% of daytrips to regional NSW. Compared to YE Mar 14, the share was up by 0.5% pts.

Main purpose of trip

'Holiday' (55.5%) was the largest purpose of trip for visitors to the sub-region, followed by 'visiting friends and relatives (VFR)' (26.2%) and 'business' (6.9%).

Compared to YE Mar 14, visitors who travelled for 'holiday' grew by 24.0%* while 'VFR' declined by 4.1% and 'business' increased by 11.1%.

Activities

'Eat out, dine at a restaurant or cafe' (50.2%) was the most popular activity undertaken by visitors to the sub-region, followed by 'visit friends and relatives' (32.5%) and 'go to the beach' (29.8%).

Expenditure (6)

Domestic daytrip visitors spent $363 million in the sub-region - up by 4.5% on YE Mar 14. On average, they spent $108 per trip - down by 7.3% on YE Mar 14.

(6) Estimated using data from TRA's modelled domestic day visitor expenditure in Australia's regions, YE Mar 15.

Notes and further information

Due to changes to the National Visitor Survey (NVS) methodology, care should be taken when comparing year ending March 2015 survey results with those from previous years. These changes represent a break in the time series.

For more information on the NVS methodology changes please see www.tra.gov.au/News&Media/Factsheets-2014_updates_to_the_IVS/NVS.

Please see www.destinationnsw.com.au for profiles on travel to the other regions in NSW and information on international and domestic travel to the State.

Please note: The information in this report is sourced from sample surveys, hence the results are subject to sampling variability.