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Newsletter of the Invasive Species Council

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Invasive Species Council Inc.
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Address:
PO Box 571 Collins St. West, Vic. 8007
isc@invasives.org.au

www.invasives.org.au

Tim Low, editor
newsletter@invasives.org.au

Stephen Page
Assistant editor

See our updated website at its new address:
www.invasives.org.au

Endangered Cockroach

A cockroach has been recommended for listing as endangered.

The Lord Howe cockroach (*Panesthia lata*) is confined to two tiny isles adjoining Lord Howe.

The threatening processes? Black rats, accidentally introduced to the main island in 1918, and an introduced grass.

The Year in Review

Barry Traill

President's Annual Report - 2002-2003

The last year has been our first as a fully functioning organisation. For me and others active in the organisation it's been often rewarding, and sometimes frustrating.

On the campaign side we have contributed to the hopefully soon-to-be-successful campaign to keep the noxious fish Tilapia out of the Gulf Country of northern Queensland, and Tim Low has picked up a major gap in the Weed Risk Assessment procedure which we will continue to pursue. We have contributed expert comment to a range of forums and inquiries on the general issue of invasive and also specific species problems such as Bumblebees.

We obtained a range of media coverage on the invasive species issue after our launch including a very good full page story in 'The Age'.

Very positive for the organisation is that we have successfully gone through the hoops of incorporation have achieved tax deductibility status (you donations are now tax deductible!), and are registered for GST. Big thanks are due to our Secretary, environmental lawyer Lucy Vaughan, and our Treasurer, Paul Baddeley, for organising this tedious but absolutely crucial paper work (and to Paul's wife Joh for designing our new logo!).

Organising membership has been made systematic and thorough by our membership officer Kate Blood.

Tim Low has done a wonderful job in getting our newsletter the Feral Herald off the ground and worked long hours to collating and editing a wide range of stories updating members on what's happening with invasives throughout Australia.

Fire & Weeds

The devastating fires that struck south-eastern Australia in 2003 are sure to worsen weed problems in many national parks and other reserves.

An article on this issue appears in the latest issue of *Victorian Naturalist* (October 2003, vol 120[5]).

The authors, Frances & Stuart Johnston, note that in Kosciuszko National Park, the weedy verges of roads and trails often survived the infernos, providing a ready source of seed for weed incursions. They highlight yarrow as a particular concern.

One hundred and sixty five exotic plant species occur within Kosciuszko National Park, 136 of them along roadsides, and 79 around resorts.

Carp & Blooms

An article on carp and their diet appears the same issue *of Victorian Naturalist* mentioned above.
By Tariq Khan and colleagues, it provides suggestive evidence that carp contribute to algal blooms.
They speculate about carp-induced 'top-down' trophic cascades.

On the frustrating side is that we don't yet have funding for professional staff and an office. This is absolutely crucial if we are to move forward and achieve the capacity for advocacy and education needed on the issue.

With an initial generous donation Paola Parigi has done an excellent job in preparing the way for fund-raising with our strategy. We are approaching philanthropic trusts for funds to kick start but the speed has been slower than we had hoped. This is due in large part to my own inability to make enough time in the last year to focus on ISC fund-raising while struggling with my expanding day job. However, we now have a detailed plan for pursuing funding which should be successful in the coming year.

On the broader front I think it has been overall a good year for the issue. Invasive species are of course still coming in legally, illegally and accidentally, and spreading if already entrenched, but I see signs of increasing awareness on the issue.

There is more publicity on the issue in the general media from ISC and from many other concerned groups and individuals. There are increasing signs that decision makers are coming to grips with the scale of the problem and positive policy changes and funding should follow. The current inquiry into invasive species by the Commonwealth Government is an example of this.

I'd especially like to thank outgoing Councillors Steve Mathews and Amanda Martin for their work in helping set ISC up. Steve was in at the first informal discussions in Brisbane about setting up the organisation and his enthusiasm and advice was vital in getting the organisation going. Amanda has been a font of wisdom on strategy and tactics from her long experience working in conservation groups. A new baby and a return to work means her time is now more constrained. Thanks to you both.

And welcome to Steve Page and Geoff Carr the two new incoming Councillors. Steve has been helping ISC with our web page and runs his own web & publishing business. He has worked on a range of environmental campaigns over many years. Geoff will be well known to most ISC supporters. He is a recognised national expert on weeds, and has been a powerful advocate for many years on the need for stronger action to control invasives.

Lastly, and most importantly, thanks to our now numerous volunteers, supporters, members and donors without whom we would not have able to establish ourselves. I hope you will be able to continue to support us in the coming year.

How Safe are Zoos?

Zoos and wildlife parks are a potential source of feral animals. Steve Csurhes, Policy Officer (potential pests), with the Queensland Department of Natural Resources, has documented the following examples of animals gaining freedom from zoos and parks.

- On 28 April, 2003, two red pandas escaped from the Mogo Zoo (New South Wales) after a branch from a tree fell across their enclosure fence during a storm.
- 2000 – fire destroyed the Australian Reptile Park (New South Wales) – a female alligator snapping turtle was found wandering among the ashes.
- 1998 - Juvenile macaque escaped from a circus near Brisbane – found dead nearby. Local people voiced concern in media at potential for Herpes B virus.
- 1993, 3rd January – 6 scimitar-horned oryx and 1 addax escape from Tipperary sanctuary, Northern Territory (gates left unlocked by keeper and subsequently blown open). Animals recaptured 3km away.
- 1993, 3rd March – 2 Nile hippo escape following flooding at Tipperary sanctuary, Northern Territory. The hippo enclosure was washed away /knocked over in two sections after 120mm of rain fell in 45 minutes.
- June 10, 1992 - St. Mary, Australia: A tiger bit a Robinson Circus worker after escaping from his cage and was shot and killed as he approached a busy shopping centre.
- A chimpanzee escaped from an enclosure at Adelaide Zoo due to a handling error. However, the animal did not make it outside of the zoo perimeter.
- In about 1942, some Indian palm squirrels were sent to Taronga Park Zoo in Sydney, where a few escaped and established a colony in a nearby park.

Theft:

- 4 June, 1998 – theft of three juvenile Burmese pythons from B class zoo in South Australia (attempted theft of yellow anaconda at same time). Entry was over perimeter fence and forced entry to reptile display house.
- 1979 – suspected theft of baby alligator snapping turtles from Australian Reptile Park, Gosford, New South Wales. Specimen subsequently found in a drain near Sydney.
- A number of Blackbuck antelope were stolen from Monarto open range zoo (South Australia) in a well-planned operation - none of the animals were recovered.
- In the mid 1990's a green iguana was stolen from Taronga Zoo (Sydney). It was later recovered in a telephone box at Byron Bay.

Deliberate release

- In 1898, Indian palm squirrels (*Funambulus pennanti*) were released into the grounds of the South Perth Zoological Gardens. They soon spread outside the zoo into nearby areas and are currently naturalised with little hope of eradication.

These examples are extracted from a larger unpublished report by Steve, which documents examples from all over the world: *"How secure are zoos, wildlife parks and circuses ?: documented escapes and theft of non-indigenous animals from zoos, wildlife parks and circuses."*

Coming in Waves

Marine invaders are a neglected danger so it gratifying to see a batch of articles on this topic in a recent issue of *Waves* (Volume 9. Number 3), the newsletter of The Marine & Coastal Community Network. To obtain a copy visit the MCCN website at www.mccn.org.au.

In one article Cath Sliwa from the CSIRO identifies the top six marine pests likely to invade Oz in future: the Asian green mussel (*Perna viridis*), golden mussel (*Limnoperna fortunei*), ivory barnacle (*Balanus eburneus*), a Japanese shore crab (*Hemigrapsus penicillatus*), an Asian copepod crustacean (*Pseudodiaptomus marinus*) and a red seaweed (*Womersleyella setacea*).

In another article Tim O'Hara notes that ballast water invaders get more attention then hull foulers, yet as many as 80 per cent of Australian marine introductions came on hulls.

So what should we do about all this? Here are the recommendations of Ron Thresher of the CSIRO, from his article:

We need to:

1. Recover the cost of stopping invaders and cleaning the mess, from vessels coming to Australia. This should apply to all vessels, including fishing boats and yachts. A levy should be charged, scaled against the risk each vessel poses based on the risk framework we built for ballast water management.

2. Aim to collect about $3 million per year, inflation indexed, for at least ten years and manage the funds through a national expert-based panel. The Ballast Water Management Advisory Committee was an excellent model until it became dominated by AQIS. The panel should also set priorities for research and development.

3. Defend the ports. The best and most cost-effective defence against new invaders is a healthy marine biota in ports - the 'invader unfriendly port' concept. We need to improve port conditions and develop methods for re-seeding disturbed environments with native, invader-resistant species.

4. Develop biological controls against the worst invaders. Since CSIRO cut the funding to CRIMP, this work has stopped. Unless we develop such controls, we had better get used to living with pests like the seastar!

***Invasive Alert*:**

Two Indian mynas found breeding in Tasmania in November were destroyed. Tasmanians should be watchful for more incursions by these exotic birds.

Is the South Safe? Protecting the subantarctic islands from marine pests

Patrick N. Lewis
Institute for Antarctic and Southern Ocean Studies,
University of Tasmania

As humans continue to expand to new regions, new opportunities are created for the delivery of pest species to pristine habitats. While terrestrial introductions to remote places tend to receive widespread attention from the media, public and conservation scientists, marine introductions in remote regions are rarely given equal consideration.

Amongst the most isolated of Australia's sovereign territories are the subantarctic Heard and McDonald Islands (53°06'S, 72°31'E), and Macquarie Island (54°30'S, 158°57'E). These islands boast unique marine communities, and are protected under various conservation measures.

In addition to the protection of terrestrial communities, the Heard Island World Heritage Area incorporates the coastal zone to 12 nautical miles in order to preserve the integrity of the marine community upon which most subantarctic organisms are dependant.

Macquarie Island is also designated as a World Heritage area, and the surrounding waters of this island were further protected through the designation of a Marine Reserve in 2001.

Macquarie Island is biogeographically continuous to the New Zealand subantarctic island (Auckland Island, Campbell Island, Antipodes Island, Bounty Island and Snares Island). These islands represent a continuum of habitats from the cold-temperate South Island of New Zealand to Macquarie Island, which represents the most southerly island in the group.

Heard Island is one of the few remaining locations on Earth that can be legitimately considered as free of introduced species. This pest-free status presents strong pressure to mange activities in the Southern Ocean in a precautionary approach aimed to prevent future introductions and to preserve the integrity of these ecosystems.

Whilst Macquarie Island has played host to a variety of terrestrial introductions, no marine introductions have yet been recorded from these waters.

In contrast to this pest free status, the coastal environment of the New Zealand subantarctic islands are known to be infected by introduced populations of three species of ascidian (*Asterocarpa cerea, Botrylloides leachii, Corella eumyota*) and one species of exotic isopod (*Limnoria rugosissma*).

Management measures aimed at preventing the spread of the introduced kelp *Undaria pinnatifida* from established populations in the South Island of New Zealand are ongoing.

Whilst the absence of known pests in the Australian subantarctic islands is encouraging, this should not be taken as an excuse for complacency.

A recent study examining marine invasion pathways into the subantarctic islands and Antarctica documented heavy fouling

communities associated with Southern Ocean vessels and identified several known invasive species amongst the fouling assemblages (Lewis *et al.* 2003).

The operation of science re-supply vessels is markedly different to standard commercial operations and a number of key observations suggest that these vessels are likely to harbour larger and more diverse assemblages of organisms than typical trade vessels.

These factors include the tendency for long port layover periods during the winter season providing the opportunity for heavy fouling accumulation, and the relatively low velocities of research vessels which travel at standard speeds of only 14 knots compared to an average of 20 –25 knots typical of cargo vessels.

Additionally, the passage of vessels through sea-ice results in a substantial abrasion to hull coatings leading to the tendency to avoid treating hulls with anti-fouling agents which are costly and less durable than simple epoxy coatings.

Whilst the movement of vessels through ice may remove many species from the hull environment, species are likely to persist in recessed locations on the hull and in sheltered niches such as the sea-chest despite travel through the ice. When passage is made directly from a temperate port to a subantarctic island, ice is not a factor that may contribute to the removal of potential pest species.

In the absence of antifouling treatment, diverse fouling assemblages protruding up to 20cm from the hull surface have been observed on vessel hulls destined for subantarctic waters, and few substantial barriers exist to prevent the survival of these communities during the three day journey to the Macquarie Island.

I analysed the tolerances of various species to low thermal conditions and found that few are able to survive and reproduce in Antarctic coastal waters, although species such as *Codium fragile* may be able to survive in shallow bays that become relatively warm during summer.

Species introduced to Australia from cold temperate latitudes of the Northern Hemisphere however, are highly likely to have physiological tolerances broad enough to allow the establishment of viable populations in the subantarctic islands.

Five species considered as target pests by CSIRO's Center for Research on Introduced Marine Pests (CRIMP) were found to possess tolerances that allowed them to complete all life history stages in the waters of Macquarie Island (Lewis, 2001). These species were: Northern Pacific Sea star (*Asterias amurensis*), European shore crab (*Carcinus maenas*), Pacific Oyster (*Crassostrea gigas*), European fan-worm (*Sabella spallanzanii*) and the introduced green algae *Codium fragile* spp. *tomentosoides*.

The presence of these species in Tasmanian waters represents a direct hazard of introduction due to the concentration of Southern Ocean shipping activities in this state.

My study shows that non-indigenous marine organisms pose a real hazard to the pristine coastal environment of the subantarctic islands.

Hull fouling is a viable vector for the transport of aquatic organisms and is considered one of the predominate pathways for alien marine pests.

Many pest species found in ports linked to subantarctic traffic routes possess physiological tolerance limits within the

range of environmental extremes found in subantarctic waters.

Logistic constraints and operation schedules unique to shipping traffic in the subantarctic islands exacerbate the potential for the successful transport of marine organisms.

Furthermore, the increasing utilisation of high-latitude islands for tourism has resulted in accelerating traffic densities which may correlate to a more frequent delivery of invasive marine species, as well as increasing the hazard for the transport of terrestrial aliens.

References:

Lewis, P.N., Hewitt, C. L., Riddle, M., McMinn, A. 2003. Marine introductions in the Southern Ocean: an unrecognised threat to biodiversity. *Marine Pollution Bulletin*. 46: 213-223.

Lewis, P.N. 2001. *In the Wake of the Aurora: An Investigation into the Hazard of Marine Introductions in the Southern Ocean*. Honours Thesis, Institute of Antarctic and Southern Ocean Studies (IASOS), Uni of Tasmania.

ISC on the Global Stage

Tim Low
ISC Councillor

In early September I spoke at the 18th Global Biodiversity Forum, in Cancun, Mexico, representing the ISC. The forum was held just days before the 5th Ministerial Conference of the World Trade Organization (also in Cancun) to raise awareness about trade-related biodiversity issues.

A GBF has been held each year since their conception at the Rio Convention in 1992. This was the first to link biodiversity and trade. There were workshops on three themes: intellectual property rights verses traditional rights over genetic resources; risk, precaution and biosecurity; and trade and sustainable livelihoods.

The second session was divided between concerns about invasive species and fears about genetically modified crops. I spoke twice – firstly about the spread of pests in ballast water, and later about the birth of the ISC.

The ISC is of global interest as the world's first conservation group dedicated entirely to lobbying against invasive species of all kinds. And invasive species are significant as a major cost of trade that has not been acknowledged by free trade advocates.

The International Maritime Organisation estimates that ballast invaders alone cost the world tens of billions of dollars each year. The ISC does not oppose or support free trade, but we are concerned that increasing trade will worsen our pest problems, and note that WTO rulings may hinder good quarantine.

The GBF was disappointing on several levels. Firstly there was the political reality that it was unlikely to have any influence on WTO negotiations. However, the subsequent collapse of the WTO talks at Cancun creates more time, and thus more opportunity, to push the message that trade has the potential to worsen pest problems.

Second, there was a low turnout at the GBF. Ten thousand people were expected at Cancun for all the WTO-associated events but only about two hundred

registered as delegates to the GBF. Cancun is an expensive beach-goer's destination and the Mexican government was so slow to issue visas to Third World speakers that some could not attend.

Thirdly, invasive species did not rate highly within the GBF. The biosecurity session was dominated by concerns about genetically modified foods, especially maize, a food of enormous cultural significance in Mexico, its country of origin. Indigenous farmers fear the loss of traditional breeds to contamination from GM maize.

The GBF covers biodiversity for people, not just biodiversity conservation for its own sake, and most delegates came out of concerns for Third World people. I could not detect any real connection between some of the topics and biodiversity, for example a session on coffee.

I realised that conservation groups need to do more to emphasise the economic and social costs imposed by invaders. I had delegates tell me that invasive species are 'only' a biodiversity issue, when in fact species such as fire ants, giant African snails and Africanised honeybees do immense harm to people.

I began my ballast talk by describing the South American cholera outbreak in the early 1990s when ballast water from Bangladesh killed more than 10,000 people. But because conservation groups are the only organisations highlighting invasive species as a category of threat, the misconception has arisen that invasive species are 'only' a conservation concern.

The GBF was an excellent opportunity for the ISC to present on the world stage. I was the only speaker on invasive species from outside the U.S.

I networked with speakers from The Nature Conservancy (USA), the American Lands Alliance (USA), Defenders of Wildlife (USA), the National Wildlife Federation (USA), The Precautionary Principle Project (UK) and the Centre for International Environmental Law (Switzerland & USA). We formed good relationships and will liase together in future.

I am very grateful for financial support from the World Conservation Union (IUCN), and for additional assistance from The Nature Conservancy.

In Cancun I also met two Australian government observers, one from the Department of Trade and another from Environment Australia. Australia was one of very few countries to send observers to the GBF; the only others I was aware of were the US and Canada. The EA observer said he was there to monitor the WTO talks in case anything inimical to the environment emerged.

After the GBF I travelled around the region and managed to see several of Australia's more serious invaders, as native species in one of their countries of origin - notably toads, lantana, leucaena and siratro.

Cane toads in this part of the world behave just as they do in Australia – breeding in dams and loitering on lawns under street lights to nab insects. And the plants behave as weeds, leucaena and lantana both growing on roadsides near the Cancun airport. Leucaena was an ancient crop of Mayan farmers.

The Global Biodiversity Forum website: http://www.gbf.ch

Tim Low was interviewed about Cancun on Radio National. The transcript appears at: http://www.abc.net.au/rn/science/earth/stories/s939575.htm

How to identify a Camphor Laurel

President's last word

I recently moved from north-east Victoria - a landscape of cleared paddocks and remnant eucalypt woodlands - to the Blackall Range in South-east Queensland – dairy farms, large areas of rural subdivisions with gardens and remnant rainforests and regrowth.

I shouldn't have been too surprised but I had considerable geographical culture shock in adjusting to the new environment.

One of the ways this quickly became apparent was on the first day when inspecting our newly acquired 1 acre garden, which contains a few hundred well-established trees.

For most trees I had absolutely no idea what was indigenous, or even Australian in origin and what wasn't. Two months later there are still several I'm still not sure about. The depth of my ignorance was palpable when I visited the excellent indigenous nursery at Barung Landcare in Maleny. I asked the nurserywoman there what Camphor Laurel looked like – I had enough book knowledge to know this was a major tree weed that occurred locally. She looked slightly startled and waved at the trees on the ridge behind us.

Which one? I said- "Arrgh…just about all of them" she said politely. A day later I realised that the beautiful white-flowering native 'tea-tree' along the creeks that I had been admiring from a distance was actually dense thickets of introduced privet.

Rainforest systems are particularly diverse but all in all it's been a salutary reminder to me of how hard it is for the general public to begin to identify what a weed, or any invasive species is- the absolute first step to actually doing something about it. I'll no longer snigger at visitors who ask about the pretty purple wildflowers in northern Victoria (Paterson's Curse).

It emphasised to me how important local work is in getting specific messages out in districts- such as done by Barung Landcare and hundreds of other local groups.

I hope you have a great Christmas and summer break in beautiful landscapes free of invasives.

- Barry Traill

The Truth from an Expert

The World Conservation Union (IUCN) produces a specialist newsletter, *Aliens*, that focuses on invasive species issues. The most recent issue has an article about pond apple by Rachel McFadyen, the able CEO of Australia's peak weed research group, the Cooperative Research Centre for Australian Weed Management (Weeds CRC). Pond apple is one of Australia's 20 Weeds of National Significance (WONS). Rachel wrote:

"The WONS Pond Apple Strategic Plan… calls for its eradication over a 20 year period, but the resources allocated to its control and management are not nearly adequate even to prevent further spread into the rainforest or along the Queensland coast… At present, therefore, there is no prospect of successful control or even containment of this rapidly increasing invasive in the World Heritage area of northern Australia."

Here is Australia's top weed officer admitting to an international audience that Australia is not spending enough on weeds to protect its World Heritage rainforests.

Invasive Species Council *Membership application form*

(ABN 27101522829)

Name: _____

Address: _____

_____

_____

Phone (H) ( ) **(W) ( )**

Email: **Fax ( )**

Work position (if relevant):

Membership rates:
(all prices are GST inclusive)

Regular	$22
Concession	$11
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I would also like to make a donation:

Total: __**$**_____

Thank you for joining us as a founding member!
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PO Box 571 Collins St West, Vic. 8007.
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