

**BIRDLIFE (W.A.).**

**SUBMISSION TO THE STRATEGIC ASSESSMENT OF DEVELOPMENT PLANS FOR  
THE PEEL REGION ON MATTERS OF NATIONAL ENVIRONMENTAL  
SIGNIFICANCE.**



**'Near Miss' Over Estuary Skies.**

**Photo. David Rennie.**

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## **1.Introduction.**

Years of observation and recording have led members of Birdlife (W.A.) to be both saddened and angered by the cumulative impact on birdlife arising from land use changes on and around the estuary, wetlands and reserves of the Peel-Harvey-Yalgorup system. A large proportion of the system is internationally recognised for its rich bio-diversity through its inclusion in Ramsar Site 482.

The frustration of members is heightened because of the existence of a substantial volume of accessible historical and contemporary documentary evidence, consisting of surveys, reports and scientific papers, which present a compelling case that the area is one of highly significant conservation value. Much of the material also presents the case that the conservation value is being eroded by the many pressures on the system including relentless and cumulative residential, industrial, agricultural and recreational planning decisions.

One of the problems that the West Australian Auditor General identified in his August 2014 report on the declining health of the Swan River was that it is “very difficult for people who are not scientists to get a handle on the state of the river.”<sup>16</sup> The same can be said for the Peel-Harvey-Yalgorup wetland system.

It is therefore essential that planners seek out and acquaint them-selves with the material that is available in order that they can make informed decisions. Birdlife members believe this is not always the case and therefore planners are sometimes failing to acquire a detailed understanding as to what contributes to the richness of the system and to its vulnerability. As a consequence it is believed that they make flawed decisions and fail to understand the far reaching impact of their decisions on the ecology of the system.

The wetland system and reserves is one of the most significant biodiversity hotspots in W.A. and as such it is entitled to be the centrepiece of informed regional planning. Anything less represents a massive lack of foresight and loss of opportunity.

This submission will document the serious threats to the biodiversity of the system and, through examples, demonstrate the central role that informed planning processes can play in reversing the cumulative deterioration.

Current regional planning perspectives that can impact on the system appear to place housing and industrial construction at centre stage, with, at best, what appears to be reluctant token compromises in the form of ‘off-sets’, flimsy buffer zones or unenforceable environmental ‘conditions’.

The thinking should be reversed. Planners need to start from the perspective that we have an absolute treasure in our midst with wildlife and recreational opportunities that you rarely find so close to an urban population and a major city. The challenge for planners is to ensure that it remains something exceptional, and even actively pursue the protection and restoration of those areas that are already experiencing degradation.

Members of Birdlife (WA) believe that we are at the cross-roads of making a choice as to whether we have a world class biodiversity wetland system, one which provides a rich array of wildlife, together with sensitive recreational and tourism opportunities, or we create a Lake Monger look alike, where residents and tourists can throw bread to the silver gulls and black ducks, catch blowfish, or take cruises up the canals looking at houses.

Birdlife (W.A.) would be very concerned if there were major proposed changes to the zoning of land abutting the estuary, wetlands and reserves that could result in creating further domestic

housing estates, areas of more intensive horticulture, small industry, the extraction of materials such as limestone, sand or ground water, poorly located tourism, or recreational infrastructure. When such zoning changes occur in areas adjoining the wetland and bush reserve system, particularly in those areas already identified as 'catchment areas', unless there are huge compensatory buffer zones, and serious regulations that protect the system, there is likely to be a repeat of the biodiversity graveyard that has been created in some sections of the western side of the estuary.

As a consequence if protective and remedial measures have any chance of being effective then they too have to be on a macro-scale. It is both pointless and dishonest to simply tinker around the edges. It is time to make protection of the system absolute.

The recommendations put forward by Birdlife (W.A.) have been carefully and responsibly shaped to achieve this outcome.

Section 2 (below) involving *threats to the system*, is from the perspective of Birdlife (W.A.), and is intentionally detailed. It is acknowledged that the Peel Regional Plan may not be the mechanism for remediation of all of the threats identified.

However, in light of the comments above regarding the responsibilities of planners to fully understand the ecology of the estuary and reserves, a significant number of the major threats have been detailed, as it is against this background of these cumulative problems that it is important to ensure that future planning decisions improve the situation, rather than exacerbate it.

## **2. Planning and Administrative Threats to Ramsar Site 482 and the Associated Wetlands and Reserves of the Peel Region.**

Birdlife (W.A.) is aware of some vastly improved interagency communication and cooperation between government departments and between government and community organisations. Encouraging as this is, it is an essential minimal expectation. As far as we can determine it is based on non-mandated, informal commitments that may not endure with changing policies, personnel, organisational structures, or political will. As a consequence the existing cooperation does not negate the concerns identified in Sections 2.1 to 2.3, below.

The two problem areas identified in Sections 2.1 and 2.2, are interconnected and lead to ineffective management of the wetlands and reserves of the Peel region, and of Ramsar site 482.

### **2.1. Inadequate Understanding of the ecology and biodiversity of the system.**

As raised in the Introduction, the first problem is the limited knowledge and understanding of the ecology of the system by many of the government departments and instrumentalities. This relates particularly to those organisations which have responsibility for both the planning and daily management decisions that impact on the health of the system. **Section 3** identifies some of the most obvious environmental threats to the system that Birdlife (W.A.) believes can be attributed as consequences of flawed planning and overlapping administration. **Section 5 (Recommendations)** also offers some constructive suggestions as to how to minimise future repetition of this problem.

### **2.2. Lack of Co-ordinated Administrative Oversight.**

The second problem, and just as serious, is the lack of effective co-ordination and administrative oversight for the management and protection of the entire system. The implications are enormous.

Many of the problems facing the estuary and the wetland system can be attributed to inefficient and unnecessarily complex management structures. Responsibilities for the health of the system resemble a schizophrenic spider web of un-coordinated jurisdictions and confusing

administrative boundaries. From a planning perspective there is clearly no governing body with comprehensive knowledge and overriding authority. This is precisely the same issue identified by the W.A. Auditor- General in regards to the declining health of the Swan River.<sup>17</sup> He identifies the numerous overlapping authorities from state and local government as creating contradictory policies and priorities as well as contributing to gaps in accountability.

To prevent the Peel-Harvey-Yalgorup system from suffering the same fate as the Swan River it has become imperative to establish a single Management Authority that has both the responsibility and resources to:-

- shape and steer an integrated management blueprint for the system,
- ensure, through co-ordination of information, that relevant state and local government departments and utilities are continually updated with contemporary knowledge and research relating to the ecology of the system, the strain that system is experiencing and its remedial requirements,
- contribute informed analysis as to the potential impact of proposed developments that could impact on the system and to assess those proposals against existing planning blue-prints,
- monitor the impact of existing developments and land use changes, including the growth of population and recreation pressures, on the health of the estuary,
- identify and co-ordinate vital research needs,
- identify and drive protective and remedial priorities,
- recommend and supervise funding priorities,
- supervise the establishment of an environmental disaster plan (such as for toxic inflows and effluent spills), and ensure that the disaster plan is triggered and implemented by the nominated lead agency in a prompt and effective manner,
- establish, drive and monitor a permanent, rolling, community awareness campaign,
- support a lead community agency to encourage and co-ordinate the contribution from volunteers.

It is recommended that such a Management Authority would be highly inclusive of community participation and even encourage community stewardship of local reserves and appropriate environmentally sensitive areas.

### **2.3. The Ripple Effect.**

Further to the above, there is no organisation with the knowledge, resources and authority to identify the potential ripple effect of isolated developments, which when proposed for one location of the system, have the potential to impact on other locations throughout the system.

When informed observers, whether they are scientists or concerned citizens, state that the System is dying the death by a thousand cuts, they are referring to the historical cumulative effect of bad incremental decisions, taken through processes that lack both knowledge and effective co-ordination. Such decisions are almost always made in isolation. At best they only take into consideration the impact on the immediate environment and rarely, if ever, examine the compounding impact on the entire ecology of an integrated system.

An example of this issue is provided in Attachment 1. It concerns the destruction of Fairy Tern nesting sites.

### **2.4. Conditions on Approvals.**

The following section identifies as to why Birdlife (W.A.) has many concerns as to the futility of rafts of unenforceable conditions placed on development projects in order to establish environmental safeguards and to achieve project approval.

There is a huge chasm between setting responsible, manageable safeguards, as compared with establishing a list of totally unrealistic, unachievable conditions. If, for example a project

requires 190 environmental conditions<sup>10</sup> to achieve approval, in an environment where it is blatantly obvious that there are inadequate resources to ensure effective monitoring and compliance, then it can not only lead to dangerous outcomes<sup>10</sup> but also results in expensive remediation, much cynicism, and the ultimate mistrust and disengagement from the process.

There also needs to be recognition and scrutiny of the nexus between town and regional planners and the environmental regulator.

It is regional planning, through its zoning changes, that establish the broad palate and gives both license and encouragement for the future land use options upon which all developments will occur.

Regional planners are unlikely to set land use parameters for open pit mining in urban Nedlands, or permit coal-seam fracking on the Gnangarra Mound. Their responsibility is to look at the impact of a proposed land-use activity not only on the immediate environment but also on the adjoining environments. Just as open pit mining is incompatible with the ambience and land use in Nedlands, so too are urban or industrial estates abutting many areas of high conservation value. In such cases narrow buffer zones and a package of 'conditions' will never protect the conservation area.

Although there are some exceptions, predominantly it makes no sense to permit land use activity that would require large numbers of potentially unachievable conditions in order to be environmentally safe. Yet this is exactly what can occur when some industrial or urban zoning is approved immediately adjoining high value conservation areas.

Birdlife (W.A.) believes that it is incumbent on planning authorities to develop land use models that establish compatible, harmonious neighbours, rather than warring neighbours. A compromised truce, dependent on imposed unachievable conditions, will never be attainable. Some neighbours are never going to be compatible and it is the responsibility of planners to understand, intimately, the personalities and needs of those potential neighbours before corralling them together.

When developments are approved in environmentally sensitive areas they are invariably subject to a set of 'strict conditions' and 'environmental safeguards'. In most cases both the environmental regulator and the approving authority set these conditions with the intent that they address most of the problems identified by concerned residents, the environmental lobby and the scientific literature.

However, the objectives of the intent are doomed if the approving authorities do not take initial responsibility to ensure that those conditions are realistic, in that they are within the capacity of the proponent to be implemented and monitored. Otherwise why should the environmental regulator approve a project if they cannot be reasonably sure that the essential compliance conditions are able to be met, and sustained, by the proponent?

There are a number of essential requirements in regards to these conditions that must be satisfied before a proposal should get the green light.

The approving authority needs to clearly delineate which organisations or instrumentalities will be responsible for adopting and implementing the safeguards, both at the time of construction and into the long-term life of the project. They must also ensure that the initial proponent, in the first instance, and subsequently the future owner (where known), is appropriately resourced and committed to implement and maintain those conditions.

If the conditions are not detailed with sufficient specificity compliance will fail.

Many of the conditions can be expensive, for example, regular dredging of channels, the building and maintaining of groynes, ongoing ranger monitoring of people, vehicle and animal access to reserves, and the sustained monitoring of biodiversity or water quality in identified areas.

Unfortunately the integrity of the proponent's acceptance of the imposed conditions means little without rigorously establishing costings and subsequently ensuring that the proponents have provided a watertight budget commitment to meet those costings. There are two components to this.

The first is that the primary proponent (developer) is both organisationally and financially stable, realistically able to manage and fund the initial environmental infrastructure, its ongoing monitoring, maintenance and, where necessary, remediation. Time frames for the continuation of this responsibility need to be signed off on.

However the effectiveness, sincerity and honesty of the environmental 'conditions' also needs to be assessed against a second component. In many projects, at some stage the developer steps out and transfers responsibility for all, or part of the project, to either State or Local Government. At the time of transfer some funds may be exchanged to meet initial costs.

Invariably state and local governments are left to assume full ongoing responsibility. However it appears to be the case, and not the exception, that for many projects state and local governments do not increase their budgets in order to respond to these new obligations. Consequently the ongoing costs of monitoring, maintaining and, where necessary, repairing, have to be met from "within existing resources". Some projects require intense and long term monitoring. It doesn't happen!

For example, in 2011 an 8km bund, built to retain 46million cubic metres of Gladstone Harbour dredge spoil was breached and began leaking 4,000 tons of spoil a day back into the harbour with very serious environmental and economic consequences<sup>10</sup>. The report of the investigation was released in May 2014.

One of the major findings of the report was that the agency responsible for monitoring compliance (Federal Dept. of Environment.) was dramatically under-resourced. At the time it had 10 compliance 'field' officers across Australia to monitor 800 projects.<sup>18</sup> To add to this the approving agency had not specified a minimum monitoring regime. Had it done so, the adequacy of resources could have been assessed and addressed. Arising from this disaster the Federal Government did increase the number of environmental monitors to 30. Even since the release of this report, the Queensland Government has given approval to many further developments including approving the Indian company Adani to commence coal mining at Carmichael. This approval is *subject to 190 conditions!*<sup>10 & 11</sup>

Adani has a poor environmental history and this approval has occurred at a time when the under-resourced and skill-depleted Federal Department of Environment has just been cut by a further 129 positions arising from the May 2014 Budget<sup>19</sup>.

The issue is that compliance conditions are no more than dishonest diversionary tactics if the resources to ensure effective monitoring and compliance are clearly inadequate.

Closer to home, the zoning changes for land based developments at Point Grey, which juts prominently into the estuary, have permitted a subdivision of at least 3,250 residential lots catering for a future population of over 7000 residents and approximately 2000 cats and dogs.

Birdlife (W.A.) has serious concerns in regards to this development. One of these concerns is the impact on birdlife, particularly the listed migratory shorebirds. To protect these species the environmental regulator required that both a Foreshore Management Plan and a Shorebird Management Plan be developed.

The Proponent (Port Bouvard Ltd.) had already proposed such plans, nominating some infrastructure modifications that it believed would address concerns it had identified through its own research.

In a submission to the W.A. Environmental Protection Authority a representative of Birdlife (W.A.) provided detailed arguments as to why the company's proposed Foreshore and Shorebird Management Plans would never protect the shorebirds. One of those concerns, based on the experience of Birdlife members, was that unless there is sustained adequate enforcement against intrusions by people, boats and animals into conservation exclusion zones then those exclusion zones quickly become totally meaningless. With a proposed population of over 7000 residents recreating in the area, walking their dogs daily, and their cats ignoring the keep out signs, the shorebirds are certain to be driven from their foraging and roosting grounds. The Birdlife (W.A.) submission also identified that protection levels are already inadequate and that they rarely see the presence of local government Rangers in the area.

It is vital that if there is to be this huge influx of people and animals onto Point Grey, then a pre-commitment blueprint, identifying minimum monitoring requirements, needed to be a condition of the approval process. This was even more important given that later stages of the development proposed a Marina, and other recreation infrastructures, catering for large numbers of tourists.

The necessary monitoring needed to be resourced and strong recommendations were made by Birdlife (W.A.) that new Ranger positions needed to be appointed and dedicated to the area. The funding responsibility for these positions needed to be identified, and the funds built into future budgets.

The Environmental Regulator did not respond to Birdlife's detailed concerns. In fact, in its final approval *the regulator did not set any requirements relating to the Foreshore and Shorebird Management Plans*. All they did was to require that, sometime in the future, the Company and the Murray Shire need to establish these Plans and negotiate their details.

Subsequently a member of Birdlife (W.A.) met with representatives of the Murray Shire and was told that the shire and the company had not yet commenced formal discussions in regards these plans. At the time of the meeting the Murray Shire had no plans or budget to increase the level of Ranger surveillance in the area and suspected that the company would not be offering to contribute to any ongoing costs.

Birdlife (W.A.) believe it to be an inexcusable dereliction of responsibility on the part of the environmental regulator to fail to prescribe, and lock in, enforceable conditions in regards to these two vital plans prior to granting project approval.

Once the project has commenced, compromise becomes inevitable. Hong Kong based investors have now become the majority shareholders of Port Bouvard Ltd. Any negotiations between the shire and the company are likely to be more complex. Given the lack of documented environmental undertakings in regards to these two plans, it may also be the case that with transfer of ownership 'verbal understandings' get diluted. Even greater dilution of understanding is likely to occur if the new owners on-sell the project to yet another company.

A project approval dependent on large numbers of conditions, designed by personnel with a less than a thorough understanding of the environmental complexities, and established in an environment of inadequate resources, in reality represents an irresponsible betrayal of the environment.

It all starts with the inappropriate zoning in the first place.

### **3. Major Environmental Threats.**

#### **3.1. Destruction of Habitat.**

A major threat to biodiversity in the Peel Region arises from the destruction or despoiling of crucial habitat. There are many activities that contribute to the destruction or deterioration of habitat, but by far the greatest is the growth of residential, rural and industrial developments on the fringes of wetlands, catchment areas and reserves. There are also examples of existing and proposed recreational infrastructure located, or to be located, in extremely inappropriate areas. It is very important to understand the full, multiplier impact that the alteration of a habitat can have, particularly in a wetland system. Just some of the more obvious examples are:-

##### **3.1.1. Removal of Nesting, Roosting and Protective Vegetation.**

The clearing of bush that fringes the wetlands, or the buffer reserves, can remove the breeding and roosting trees for many aquatic species such as spoonbills, night herons, egrets, osprey, and cormorants. The clearing or thinning of buffer zone vegetation also destroys the habitats of the shy ground dwelling and nesting species such as the rapidly diminishing bitterns, crakes, rails and native hens. By reducing cover it also exposes these and other species to greater predation, both natural and feral. Many of the migratory shorebirds roost amongst the tidal edge vegetation and depend upon it for protection.

##### **3.1.2. Reduction of Bush Corridors.**

The establishment of major residential estates are often accompanied by other adjoining zoning changes. These changes, more often than not, are in the form of the neighbouring private land holdings being permitted smaller sub-divisions. Successive waves of residential developments, and adjoining subdivisions, inevitably results in land use changes, the cumulative impact of which being an increase in the total area of vegetation loss. Similarly the increasing number of fire breaks and access roads (arising from the increase of the smaller lots), together with the utilities cutting their swathe through wooded areas, adds to this cumulative loss of bush. The end result can be the severing of important bush 'corridors' upon which some species depend for their local survival.

To give just one an example of the importance of corridors to a bird species that is now locally vulnerable.

The Southern Emu Wren, *Stipiturus malachurus*, is a low flying bird, which only flies short distances. It hides from predators in thick vegetation and avoids crossing open areas. Clearing of areas of its habitat can deprive the species of its access to a continuous protective corridor, thus reducing its breeding and foraging range and condemning it to only temporary survival in fragmented bush 'islands'.

##### **3.1.3. Reduction of Natural Filtration.**

The removal of buffer zone and catchment area vegetation also eliminates or reduces the natural filtration of pollutants into the wetlands, rivers, lakes and estuary. There is now strong evidence that extensive areas of land surrounding the estuary comprise of acid sulphate soils existing just below a thin membrane of surface soil. Disturbance of this soil through a continuation of residential, industrial and agricultural developments is having a devastating impact on the water and soil quality of sections of the estuary and consequently on the biodiversity it supports<sup>1</sup>. This is further compounded by the run off of phosphate based fertilizers and pesticides from the gardens and lawns of the housing developments following the clearing of the land.

To give 2 examples.

Recently on Australian Story<sup>2</sup>, award winning photographer, David Rennie, provided photographic evidence of hundreds of dead and dying Blue Manna crabs. (Fig.1).

His photographs also provided evidence of dead fish and rotting waterbirds. David describes the particular shoreline from where he took these photographs, as consisting of thick black ooze, where only a few years earlier he had walked on sand.

The photographs were all taken from alongside an area where staged residential developments are drawing to completion. These developments, with their own run-off drains, had unquestionably disturbed the natural filtration of the area.

Fig 1.



Black Ooze, Toxic Soup and Dead Blue Manna Crabs.  
Photo David Rennie.

The second example relates to my own observation. I live on a property linked to the estuary via the Dawesville Channel. Rain water run-off, from the roofs, grounds and service roads of every property in the area flows into large road-gutter grids and then directly into the canals. Informative publicity has not prevented most of my neighbours seasonally apply lawn fertilizers that contain phosphates. I have watched the reticulated run off from their lawns flow directly into the drains. Furthermore I am aware of some neighbours treating their lawns and driveways with potent pesticides to eradicate recurring black beetle, ants and portuguese millipeds. Even though the drains are clearly marked "This Drain Is Only For Rain", on several occasions I have seen house painters cleaning their brushes over these drains and I have witnessed on two occasions left over paint being poured directly down these drains. I have seen a café employee tipping a vat of oil into a drain that flows directly into the estuary not so far from where I live. The point of these examples is that it is not just the canal developments from which this run-off occurs, but with every new development within, or adjoining, the catchment area of the wetlands, the risk of soil disturbance or run-off from the roofs, gardens lawns and roads, carrying toxic chemicals into the system is increased. The number of estates developed over the last 40 years that either border the wetlands and estuary, or cut canals directly into it, include Port Mandurah (Halls Head North, and South), Dudley Park, Mariners Cove, The Landings, Yunderup Canals, Austin Cove, Mandurah Quays, Mandurah Harbour, Erskine, Cox Bay, the 3 canal precincts of Port Bouvard, Dawesville, Point Repose, Lake McLarty, Birchmont, together with new proposed developments at Point Grey and Nairns. (Point Grey alone represents 3400 lots)! The cumulative impact is devastating on the nature and health of the estuary. Unfortunately each proposed development is assessed on its own isolated characteristics, with planners taking no responsibility to consider the cumulative, multiplier effect. The WA Auditor-General identifies the pollutant run off from urban drains as a contributing culprit to the poor health of the Swan River.<sup>16</sup>

Such developments are incompatible with maintaining or improving the health of the wetlands and now no new residential developments should be approved where there is any chance of disturbance of the biodiversity of the estuary, the vegetation or the natural filtration.

### **3.2. Population Pressures.**

Residential developments fronting wetlands or reserves bring to the immediate vicinity population pressures and disturbances that can either damage vital foraging habitats or drive species from those habitats. Population pressures on important bird habitats take many forms, ranging from innocently passive to intentionally destructive. Just some examples are:-

#### **3.2.1. Recreation Access.**

Almost all new estates located near the estuary and rivers seek, and receive, approval to provide recreational access to the waterways. Even if residents in the new estates are not initially promised direct access to the estuary or rivers, once the area is established it is not long before they pressure local authorities for new or expanded, water-edge parks, boat ramps and moorings. Boat ramps require roads and parking areas. The momentum then grows to widen and deepen channel access for larger boats, bigger car parks, wash-down facilities etc.

#### **3.2.2. Residential Noise.**

Residential noise, human activity, traffic, house construction, utility installations and normal child's play all create a noisy, environment that can drive shy species from the immediate area as well as from the established buffer zones and reserve fringes.

#### **3.2.3. Lighting.**

House and street lighting close to the water's edge, particularly overlooking the intertidal mudflats, can interfere with the night roosting or foraging habitat of shorebirds and expose them to greater risk of predation. The end result can be one more area of the estuary that they abandon.

#### **3.2.4. Passive Recreation.**

When new residential developments are located close to well documented shorebird feeding and roosting grounds it is absolutely inevitable that human activity will increase both in volume and frequency in that area. People will walk their dogs on the foreshore closest to their homes, children will canoe and play in the closest shallow waters and the number of crabbers will increase. Unfortunately some forms of passive recreation can result in little understood consequences for shorebirds and waders. Although it is mostly the frequency of disturbance that drives the birds from their traditional feeding grounds the problem is made far worse by inconsiderate and selfish residents who systematically ignore information signs. Birdlife WA members regularly see unleashed dogs chasing birds across the mudflats, cheered on by their owners, driving the birds from areas that are crucial for their nutrient intake. Even in areas that are fenced, double-gated and well signposted, such as the Creery Wetlands, there are local residents who take their unleashed dogs through the reserve's gated system for their daily run. From the volume of dog excreta we observe on walk trails, even in areas where local government has placed signs, poop-bags and bins, we know that there are a considerable percentage of selfish people who have no intention of complying with signage. Unfortunately for disturbed shorebirds the consequences can be far worse than the temporary aesthetic and olfactory repugnance some humans may experience. The disturbed birds can be deprived of sufficient energy to avoid predation, or to survive the migratory journey back to their Arctic breeding grounds.

#### **3.2.5. Active Recreation.**

Unless there are strong and enforced planning controls placed on the types of recreation and the locations for that recreation, it is absolutely certain that the majority of protected avian species in the estuary and its associated wetlands and reserves will disappear from the system.

#### **3.2.6. Watercraft.**

Over the last 15 years the volume of water-based recreational activities has increased dramatically. The increase in canal housing has seen an explosion in the number of boats using the estuary. In addition, the increasing numbers of harbour and marina moorings are quickly

snapped up. There is also constant pressure for new boat ramps. It appears that no agency is taking responsibility to assess the carrying capacity of the estuary. It is not just the volume and size of boats that have increased, but it is the growth in the variety of recreational craft that has become a problem for wildlife. Many of these new craft have shallow draft and enter areas that were previously inaccessible. Noisy, high speed jet skis race across the shallows of the tidal mudflats or close to exposed feeding grounds, scattering the waders and waterbirds (Fig 2.).

Fig. 2.



Jet Ski Scattering Waterbirds.  
Photo Bob Paterson.

Kite-boarders skim or leap over very shallow water, with sails billowing, driving birds from their previously undisturbed sand-spits. In the last three years Birdlife (WA) members have seen two swamp boats appear on the estuary. Nothing could be more inappropriate and yet we are told that under current regulations they are legal. In February 2012 during the national shorebird count, counters at Nairns witnessed one of these boats skim at high speed in centimetres of water over the mudflats driving these birds from one of their preferred feeding grounds. Apart from driving the birds away these craft, with their powerful vibrations, may disturb the surface layer of mud, killing the aquatic invertebrates it supports, and upon which the birds feed.

Even remote controlled 'toy' powerboats are appearing. They can be used in very shallow water and demonstrate great skill at chasing waterbirds.

Birdlife (WA) understands that recently there has been an application to operate a sea-plane service from the estuary.

### **3.2.7. Off-Road Vehicles.**

There are remote areas of the estuary, and in the Yalgorup National Park where off road vehicles are doing massive damage to the habitats of bush birds, migratory shorebirds and native waders. The Nairns mud flats are important feeding grounds for the migratory shorebirds, yet many SUVs pay no heed to signage banning their entry (**Fig.3**).

Fig.3.



Vehicle bogged on Nairns mudflats.  
Photo. Bob Paterson.

Apart from serious disturbance to many shy species that seek remote locations, these vehicles, like the swamp boats, compress the mud, squeezing the water out, causing the mud to bake hard at low tide (or at low-summer water levels in the case of the lakes). The frequency of compression and baking creates an in-penetrable crust that kills off most of the food upon which the birds depend. Boggy Bay, bordering Point Grey, is a typical example where large areas of tidal mudflat are now almost concrete hard.

As residential estates spring up close to the estuary and reserves, there is also an inevitable increase in weekend and after-school use of trail bikes. Unfortunately amongst the drivers there will always be some who intentionally ignore the keep out signs. At Lake Preston where efforts have been made to protect the nesting grounds of the endangered Hooded Plover by providing expensive fencing and information signage, the trail bikes still enter the wetland and drive their bikes over the nesting locations of these birds.

### **3.2.8. Management of Private Land Holdings.**

Apart from the obvious private residences sitting directly on the canals, there are other private land holdings whose titles go to the water's edge of the estuary, or to the lakes of the system. In some of these locations buffer zones don't exist. Amongst the impacts of this are the destruction of the natural filtration, and the reduction of the protective reeds and habitat for the ground nesting bitterns, crakes, rails, ducks etc. There is also the loss of screening vegetation that otherwise might reduce noise and movement disturbance. An example of this is Lake Goegrup where on some of the private holdings horses graze very close to the lake's edge.

### **3.2.9. Erosion.**

The delta systems, where the Murray, Serpentine and Harvey Rivers flow into the estuary, are preferred feeding habitats for thousands of migratory shorebirds and waders. These deltas have been built up and shaped by centuries of sediment flowing down from the river systems. In the past the extent and nature of sediment carried down has been determined by the rainfall levels and the natural filtration.

Members of Birdlife (WA) have observed that these delta systems are undergoing rapid change and that those changes may not be solely attributable to the reduced rainfall in the catchment areas. Areas, that less than 10 years ago had a firm base of thin mud and/or sand, are now covered in thick layers of black ooze, which in some locations is knee deep. It is also suspected that the water quality may be deteriorating as dead marine life is commonly observed by members.

The unchecked growth in the extent of this black ooze in these delta systems will spell disaster for the shorebirds, destroying the healthy benthic zone upon which they are dependent. In addition to channel dredging, members of Birdlife (WA) believe that exposure of the river banks to erosion represents a major contributor to the build-up of the black ooze. The clearing of vegetation has not only interfered with the natural filtration, resulting in an increase in

phosphates, and agricultural chemicals entering the system, but has also made the banks more vulnerable to soil erosion. It is the opinion of local Birdlife members that the river banks cannot sustain an increasing volume of motorised boating traffic, particularly some forms of high speed recreational craft.

Planners need to be rigorous in assessing the flow-on effects of their decisions.

New residential developments on the estuary, or up-river, create an irresistible demand for local access to the water for watercraft.

Additional boat ramps and their car parks are inevitably approved. These facilities, and their access roads, remove even more fauna habitats together with the natural filtration. They ensure increased volume of craft on an already stressed system. Moreover it is naive to believe that speed limits won't be exceeded by many craft. It is simply not in the DNA of some power boat and jet-ski drivers, who launch their craft up river to travel long distances to open water at 5 kph. (Fig4). Speed limits are impossible to police adequately and it is already a regular occurrence to observe speeding boats, creating wakes that undermine the exposed river banks, releasing more silt that enters the delta systems. Some forms of power-boat recreation are simply not appropriate for these fragile areas.

Fig. 4.



Jet Ski Towing Skier on Serpentine River.  
Photo. Bob Paterson.

Planners are now in the position where they have to make a choice. If we allow recreation to grow in an unregulated manner and to spread into previously undisturbed areas, the rich wildlife biodiversity of the estuary will disappear.

### **3.2.10. Aquifer Water Extraction and its Monitoring.**

Members of Birdlife (WA) believe that no more private bores should be approved that tap into the aquifers which feed the wetlands of the Peel-Harvey-Yalgorup system. At Lake McLarty, for example, experienced observers believe that even after good winter and spring rains, the level of the lake is not reaching the levels that were common 10-15yrs ago. As a result the lake dries earlier in the summer causing a reduction in the length of time it can sustain the thousands of shorebirds and waders. Even though it is acknowledged that there are numerous factors that impact on the level of the lake, many observers believe that the water bores established on the hobby farm lots on the immediate western side of the lake could be contributing to the lower water levels. Birdlife members have observed what appear to be commercial size sprinkler systems pumping large volumes of water on some of the properties. It is doubted by members that these bores are systematically monitored by water authorities.

Another area of concern about water extraction relates to license given to 'Peel Water' to extract 301 million litres a year from the upper Leederville Aquifer at Point Grey for the Port Bouvard residential development. The Water Authority, in approving the license, stated that this was the upper extraction limit that the Aquifer could sustain, at that location, and that it would meet the

needs of the first 1000 lots only. The remaining 2400 lots would need to be connected to the Water Corporation's IWSS network via the Stirling Trunk main.

The Water Authority was adamant that Lake McLarty, Lake Meelup and the Roberts Bay wetlands are not dependent on the Leederville Aquifer. There is however an issue of trust. Port Bouvard Ltd has touted that one of the major benefits of establishing its subsidiary, Peel Water, was that it would save about \$45M (2011 figures) in connection costs to the Stirling Trunk Main. (Thus resulting in keeping the price of lots down, and/or improving the attractiveness of the investment for shareholders). Yet this connection cost will have to be met after only 29% of the lots are developed. This has not been energetically publicised by the Company. Furthermore both the construction and maintenance dredging of the channel is to occur after the first stage of residential development and it is not clear from where the company intends to draw the heavy volume of water required for dewatering the dredge spoils. The issue of trust relates to the possibility of the company in the future seeking a review of the capacity of the Leederville Aquifer, or alternatively encouraging neighbouring residential developments on Point Grey, with whom it could share the costs of the future connection.

### **3.2.11. Domestic and Feral Animals.**

At the time of approving residential developments, government instrumentalities and residential developers rarely impose bans on cat ownership and each new development brings with it an influx of cats. Contrary to the denial of residents, Birdlife members often see cats hunting wildlife both day and night. Ground roosting shorebirds are particularly vulnerable. The WA State Government is to be congratulated on its new cat registration and sterilization regulations, but it now needs to go further. Precedents already exist. (See Section 5, Recommendations).

### **3.2.12. Other Miscellaneous Population Pressures.**

Amongst the increasing population pressures, accentuated by the door-step proximity of new residential developments to the wetlands and reserves, there will always be a small proportion of selfish, mindless residents who demonstrate an overt contempt for the environment and for the regulations aimed to protect it. Members of Birdlife (WA) could provide many photos of rubbish dumped throughout the system. Unfortunately the volume of rubbish appears to be greatest, closest to residential estates and recreational sites. The rubbish is not simply an eyesore, but much of it is harmful to wildlife.

It also upsets members to see the extent to which tracks through the bush are cleared by residents creating short cuts from their properties to the water's edge. In some instances, even neighbours will clear their own separate access. Consequently there are locations where the purpose of buffer zones has been greatly destroyed. It is also not uncommon to see, a short time after the establishment of some estates, shrubs and trees of the buffer zones cleared or lopped to improve the views from the houses.

Because Birdlife members spend much time in remote locations, enjoying the natural environment, we are sometimes witness to the worst of environmental vandalism. We have witnessed (and reported) tankers pumping their liquid waste directly into the estuary, we often see boats charging at flocks of water birds, dogs being encouraged to chase foraging shorebirds off the mud flats, we have seen birds dying with arrows shot through their bodies, unwanted kittens being dumped in the bush and off-road vehicles blazing tracks through reserves and buffer zones. Once in a while we come across something that exceeds our most cynical expectations, as depicted in the following photo, taken at Lake Clifton (Fig.5).

Fig.5.



Cartridges at Lake Clifton.  
Photo received from Bob Paterson.

However the impact on members from the above examples of environmental vandalism, are dwarfed by the concerns we experience when we learn of a newly proposed residential development to be built on the fringes of the wetlands and the reserves of Ramsar site 482 and its catchment area.

Our anxiety is heightened not only arising from the fact that more vital habitat is to be cleared but because overwhelming evidence is available that the construction in these areas will contribute to further toxicity entering the system in ways already described in the preceding sections. It will also result in even greater population and recreation pressures, in spite of the evidence warning that the system does not have the capacity to absorb further pressure. Each new development represents a selfish coffin nail in the demise of ecology already on life-support.

The greatest threat of all stems from the lack of political will and the refusal to heed the extensive, recent scientific literature and government reports specific to this location.

#### **4. Locations of Heightened Concern.**

Not with-standing the general principles detailed above and the need to preserve all last remnants of undeveloped bushland on both the western and eastern sides of the estuary, there are some areas of high conservation value elsewhere in the system that are either already clearly under heightened threat or are likely to be so in the near future. These areas include:-

##### **4.1. Private land holdings lying between the Forrest Highway and the Harvey Estuary, south of Pinjarra, and north of Harvey.**

With the building of the Forrest Highway there was an increase in speculative purchasing of the land, currently zoned 'rural living', lying between the Forrest Highway and the Estuary. Alarmed by the increased speculation in rural land in the area, and "highly unrealistic expectations of rezoning", the Minister for Planning and Infrastructure, Alannah MacTiernan, released a formal media statement<sup>15</sup> through which she stipulated that changes in zoning of large tracts of land will only follow careful planning. She empathised that planning in the area identified is currently directed towards minimising the loss of farmland, and preventing urban sprawl. She specifically included the need to avoid the loss of the precious environmental assets in the area.

Further, ornithologist Bill Rutherford had surveyed sections of the area and found that it provided important waterfowl breeding grounds.<sup>12</sup>

Many of the issues documented above, in Sections 2 and 3, are highly applicable to these rural properties, and would represent serious concerns to the health of the estuary if smaller sub divisions or less environmentally sensitive land use activities are permitted.

**4.2. Land bordering the lengths of Lakes Preston and Clifton, on the western side between the lakes and the ocean.**

There have been several recent scientific papers<sup>6&7</sup>, including one produced by the WA Environmental Protection Authority, forcefully demonstrating that the health of the lakes system in the area, including Lake Preston and Lake Clifton, is dependent upon the natural preservation of the land lying between the lakes and the Indian Ocean. They argue strongly for the purchase of the land and inclusion of it in conservation reserves. Threats specifically to Lake Preston have also been well summarised by France and Harwood<sup>8</sup>.

**4.3. Point Grey.**

The residential and marina plans for this area are considered by Birdlife (WA) as one of the worst planning outcomes for the system's biodiversity in the history of the system. We believe the manner and extent to which this development will contribute to changing the nature of the entire estuary has failed to be understood by the planners. Separate submissions and appeals have been prepared in regards to this area.

**4.4. Nambeelup.**

The development of an industrial precinct in this area needs to be cautious of increasing water flow onto the low lying winter wetlands that ultimately drain to the wetland system of the estuary. An adjoining area occupied by Wandalup Piggery and C-Wise Composts has been the location of a longitudinal bird study<sup>13</sup>. 116 species of waterbird and bush birds have been recorded there, including 14 species of listed migratory shorebirds. The area is a reliable site for 3 of the less common species of migratory shorebirds (Long-toed Stint, Pectoral Sandpiper and Wood Sandpiper). The water retention techniques adopted by C-Wise could be applied to the northern boundaries of the future Nambeelup Industrial Zone and combined with the southern boundaries of the proposed state owned Keralup Development. There is a realistic opportunity to establish a very significant wetland and bush conservation area in this location and further demonstrate that industry and conservation can complement each other if the requirements of both are equally and seriously respected.

**4.5. Austin Bay.**

Austin Bay, on the estuary, represents one of the most intensely populated locations for migratory shorebirds within the system. The highest number recorded was 42,254, counted on a single day during the February 2010 National Shorebird Count. The Austin Cove residential development already creates added population and recreational stresses on the bird's inter-tidal feeding grounds and may account for the dwindling numbers since this time (4,244 during 2014 National Shorebird Count). The proposed expansion of the Austin Bay Boat ramp, the deepening and lengthening the channel by further dredging, and the creation of a road connecting the site to the Forrest Highway, is just one more step in disturbing this important site and exposing it to increased boating recreation. The plans should be rejected.

**4.6. Lake Mc Clarty**

Possibly the jewel in the crown for migratory shorebirds in the South Western Australia. (Fig.6). Annually thousands of waterfowl, shorebirds and waders descend on the lake, with over 20,000 having been recorded in a single day.<sup>5</sup> The bush surrounding the lake is also a haven for many resident and migratory dry land species. No further subdivisions should be permitted of the privately owned land surrounding the lake. The conservation importance of the area has been well documented in many studies<sup>3&5</sup>. Because there are perceptions that extraction of water from residential water bores is contributing to lower water levels in the lake (particularly from the visible hobby farm holdings on the western edge of the lake), the state Department of Water should erect signage, alongside the lake's Tourist Information Board, informing the public of their water bore monitoring programme and assuring that water extraction is not from an aquifer that effects the lake's water level.

**Fig 6.**



Shorebirds at Lake McClarty. March 2014.  
Photo. Bill Howard.

## 5.Recommendations.

1. Birdlife (WA) believes it is now timely to establish a large Regional Conservation Park that encompasses and protects all the wetlands, reserves and undeveloped bush areas that impact on the health of the Estuary, and its wetland system. It would include all of Ramsar site 482 and identified catchment areas. It is likely to require the extension of areas currently under conservation zoning and may involve the purchase of private land. The justified boundaries of such a park need to be determined before further subdivisions are proposed.
2. Based on its size and complexity, the proposed Regional Conservation Park would need its own specialised Management Authority. The Authority would have the responsibility for contributing to, and co-ordinating, the planning and activities of numerous government departments, authorities, academic organisations and community groups. It would significantly contribute to delineating recreational zones and activities within the Park as well as monitoring the protection of buffer zones. Whereas consultation and co-operation must be its modus operandi, it must have responsibility to veto decisions that can be demonstrated would harm the system.
3. Buffer Zones. Must no longer be tokenism, puny little strips of bush, many of which appear to be established more for screening and cosmetic reasons, rather than been based on maintaining the biodiversity of the location. Buffer zones need to be based on scientifically determined bio-diversity requirements of the species that the area support. For example, buffer zones around wetlands must provide sufficient area, flora density and seclusion for breeding crakes, rails, native-hens, bitterns etc. Fencing is imperative to protect these ground dwelling species, from cats, dogs, trail bikes. Similarly, in the bush buffers, the retention of large areas of tall trees is vital for the requirements of nesting and roosting of many species of bush and water birds. For example Osprey nest and hunt from tall trees on the water's edge.  
The allocation of an area as a buffer means very little unless it, in turn, is protected and managed. It loses its effect if trail bikes systematically race through it, if dogs and cats have access, if vegetation is denuded etc.
4. Where private land runs down to the estuary or to associated wetlands and where there are either no buffer zones or totally inadequate buffer zones, sufficient land should be purchased in order to ensure that buffer zones are established in line with the principles listed above.

5. Both federal and state environmental regulators should never approve Stage 1 of a development, if Stage 1 automatically triggers some future action that, in turn, is clearly going to create some serious, unacceptable and even perhaps un-resolvable problems. The approval blowtorch should be rigorously applied by the regulator to all future known developments. For example, the building of a marina channel automatically requires future maintenance dredging. The developer's proposal for removal of maintenance dredging spoil, 5-10 years in the future, may be superficial and unrealistic. Once the marina and housing estate are developed, there may be no acceptable or affordable options for local land or water dumping of the spoil, particularly if the spoil is found to contain monosulfidic black ooze. (Health and odour reasons, together with treatment options, would eliminate storing and dewatering the spoil on a marina/tourist car park or on the foreshore). Add to the complication that there may be no agreement on responsibility for spoil disposal from a channel that crosses local authority boundaries and no agreement from a state government to accept any financial responsibility.
- The fact that it is an issue that will have to be resolved sometime in the future does not mean that the regulator should subject the developer's documented options to any lesser level of accountability. To fail to be ruthlessly rigorous with the analysis of perhaps less well defined 'future possibilities' sets up the type of future scenario that occurred at Port Geographe near Busselton. Once development has progressed, the regulator can be cornered to the point where serious compromise is inevitable. It can also represent approval by stealth.

6. Cat Control.

When new estates are established close to wildlife reserves and wetlands, planning authorities must impose either complete bans on cat ownership, or impose clearly prescribed, enforceable restrictions. The growth of new estates close to reserves should not result in the cessation of essential feral animal baiting in those reserves. There exist many Local Government precedents that should be adopted universally. For example, the City of Stirling, W.A., has established cat prohibited areas, selected for their environmental significance. Bordering these areas they also have established 200 metre residential buffer zones in which cats are required to be sterilized, registered, tagged, and micro-chipped. They also make it clear that cats found within prohibited areas may be trapped, impounded and euthanized.

## 6.Summary.

Some of the areas identified as sites of highest conservation value are either already included within Ramsar site 482 or are located within appropriately zoned reserves or parks. Unfortunately, Birdlife (W.A.) has found that in almost all cases the intent underpinning the zoning status of these reserves is being systematically ignored or abused. Protective fences are down, off-road vehicles are carving tracks through the bush or compressing the mudflats, dog entry policies are being ignored, and some locations are even being used as unofficial rubbish dumps. Further, there is substantial evidence that, within parts of the system, feral animal control is either non-existent or inadequate.

The overall picture is one of serious concern with important habitats being degraded and biodiversity routinely disturbed, if not depleted or destroyed.

Of greatest concern however is that the protective safeguards intended through the Ramsar listing of this wetland and reserve system, together with its enabling legislation (EPBC Act, 1999), are either not understood or expediently bi-passed.

It is also the vision as to what this magnificent estuary, with its associated wetlands and bush, could offer Australia, appears sadly lacking.

It is not simply the protective measures of the Ramsar listing that is of concern. To date, current practices are not responding to the opportunity to improve and integrate the entire area of wetlands, reserves, remnant bush and buffer zones into a sustainable, world class eco system. Planning has not delivered a prescribed balance between sensible development and recreation, whilst capitalising on, and strengthening, the outstanding environmental assets of the area. From an avian perspective the system could be a showpiece, an area where our unique beautiful bush birds can thrive, where over 90 species of waterbirds can display and where clouds of shorebirds can wheel in from their Arctic migration.

It is not just oil spills, or reclamation of huge tracts Yellow Sea tidal mudflats that is a threat to the world's migratory shorebirds. It is just as much the alterations and disturbances that is happening to their final destination foraging grounds here in south west Western Australia.

We have to stop further deterioration of these natural wetlands.

It is now hoped that the *Strategic Assessment of the Impact of Development Plans for the Peel Region, on Matters of National Environmental Significance*, will respond seriously to the immense environmental opportunities available to us, as well as to our obligations under international treaties and national legislation.

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## Attachment 1.

### **Example of how development at one location can impact on other locations and on vulnerable species.**

In the development of south side of Mandurah Harbour, apartment blocks were built directly on top of a favourite nesting ground of the locally vulnerable Fairy Terns, *Sterna nereis*. There was no consideration of, or undertaking given to, the future protection of any alternative nesting sites the birds may choose. In subsequent years Birdlife members have observed and monitored the birds nesting on an un-protected sand spit area at Nairns, where the Serpentine River flows into the estuary. Just as the chicks were hatching, dogs destroyed the whole nursery killing every chick. Birdlife members had been trying for years to get dogs banned from the area as it is also a favourite foraging and roosting area for migratory shorebirds. There are now signs banning dogs, but because of inadequate ranger monitoring the signs have not deterred the worst intruders. Four wheel drive vehicles, trail bikes and crabbers also regularly intrude on the nesting and foraging grounds, with apparent impunity as Birdlife (WA) believes there has not been a single prosecution. Similarly the birds have been seen regularly on a sand-spit at Wannanup on the western side of the estuary. Although they have not yet been seen nesting at that location, they have been observed demonstrating courting behaviour. They certainly use the area for fishing and roosting. However the area has now become popular for kite-boarders. On windy days

novices are blown past the spit with billowing sails and they tramp back dragging their equipment across the spit. The City has just built public toilets at the location, confirming that this area as a major recreation site. Dogs have not been barred from the area and they, like the sail-boarders, drive the birds away.

The purpose of this example is to show that what happens in one location of the estuary has implications throughout the estuary, yet planners that impact on one location have no responsibility for the flow on effects to other locations.