

## Upper Estuary Reach – Navigable River at Sandy Point to Liverpool Weir

The Upper Estuary Reach is characterised by the level or gently sloping terrain that comprises the river foreshores and the surrounding topography. Few visual cues relating to the existence of the river (such as signs to the river, framed views, or the character of the built form) exist in this area, largely as a result of its topography and the long cleared vegetation.

### Built environment and scenic quality

The relatively flat landscape and wider plains of this reach mean that impacts of change are more noticeable in a narrower corridor, particularly where the river banks are steeper, such as between Chipping Norton Lakes and Liverpool Weir.

The level topography and the highly modified foreshore environment mean that scenic sensitivity is confined primarily to the immediate foreshore and river bank with absorption capacity being higher at a distance from the foreshore.

Residential development along this part of the river is a significant contributor to its character, particularly on the foreshore. Large lots with houses set back from the foreshore dominate, with gardens and private river walls as prominent visual features.

Threats relate to additional urban development and intensification where development has already occurred, leading to pressures on environmentally significant areas and reductions in water quality.

Discordant visual elements include:

- highly unstable sand banks, constantly eroded by boat wash and stormwater surges
- variable river wall treatments by landowners, often inappropriate to the context
- impacts of flood mitigation construction such as walls and deflector mounds at East Hills
- impacts of buildings not balanced by vegetation



*River corridor typical of upper estuary with vegetation close to riparian areas.*

- road crossings where the bulk, scale and character of the structures entirely dominate the views
- the presence of significant litter caught in reeds on the foreshore.

Vegetation is focused in a narrow band on the immediate foreshore, limiting immediate views over much of this reach.

The presence of large areas of mown grass on land in either public or private ownership down to the river's edge is a feature of this area (there are five golf courses on the foreshore). This is a stark contrast to the bushland that still fringes parts of the river over much of its length.

The Chipping Norton Lakes provide a distinct scenic unit with a more open character of expansive water and a focus on recreational space, centred on the historic homestead.

In the upper region of this reach (between Chipping Norton Lakes and Liverpool Weir) the river is narrow and steep-sided, with views contained solely on its banks. The appreciation of the river's existence in Liverpool is largely confined to those who visit the Liverpool Weir to fish the river being detached by distance and topography from the City Centre.

The principal experience of the river in this reach is from residences, foreshore parks and some low level crossings. The extent of public access to the foreshore and thus potential visibility of the river is extensive but this is not generally reflected in the quality or orientation of the foreshore reserves.



*Relatively flat topography and low-scale residential development well hidden by the riparian canopy.*

## Foreshore access, recreation and leisure

The outstanding feature of the upper estuarine reach is the rehabilitated sand mining area of the Chipping Norton lake system. This area is highly accessible and has many active and passive recreational areas. As there are large areas of floodprone land around Moorebank and Hammondville, this stretch of the river has remained relatively undeveloped. There are relatively few formal boat launching opportunities.



*The Chipping Norton Lakes foreshores in particular convey a strong parkland character.*



*Industrial areas around Warwick Farm and Chipping Norton have been built close to the water with inevitable impacts.*

## Natural environment

This reach supports several important wetlands, including those at Voyager Point which are listed on the National Estate. Significant stands of mangrove and saltmarsh also occur in the reach and are generally in moderate condition.

Several areas of riparian vegetation also remain in this reach, although these are degraded by urban and agricultural influences including disturbance by access tracks and four wheel drivers, as well as introduction of weed species. Remnant bushland can be found in this section of the study area, with significant stands in relatively good condition existing at the Holsworthy Military Training area.

Water quality is considered to be generally poor and is affected by urban and semi-rural activities.

Areas that have been highlighted as being sensitive in the Mid-Georges River Stormwater Management Plan (Kinchill, 1999), are:

- Monash/Lucas – natural creek
- Voyager Point wetlands
- Deepwater Park – remnant bushland
- Kelso Estuary – natural creek
- Kelso – casuarina swamp
- Harris Creek – riparian vegetation
- Hammondville bushland protection
- Riverside Park – bushland protection
- Heron Park – waterway protection.



*Erosion control structures such as sheet piling add little to the aesthetic value of the river and create long-term management problems.*

## Upper Estuary Reach: site analysis

### Built environment and scenic quality

- Natural foreshore areas in military ownership have been cleared for army exercises. This provides a stark contrast with the unmodified bushland of the majority of defence landholding. (1)
- A high level lightweight pedestrian bridge provides opportunities for the public to gain enhanced perspective of the river landscape. (2)
- Golf course landscapes extensive in this reach. (3)
- Future development site. Boral master planning project – opportunity. (4)
- River character changes dramatically to narrow/steep sided. (5)

### Foreshore access

- The level of access to public facilities along the foreshore is generally high.
- There are low levels of access to New Brighton Golf Course, Hind Park, Moorebank, Riverlands Golf Club, Milperra and Warwick Farm Racecourse.
- Greatest opportunity to link existing major recreational facilities (is at Chipping Norton Lakes).

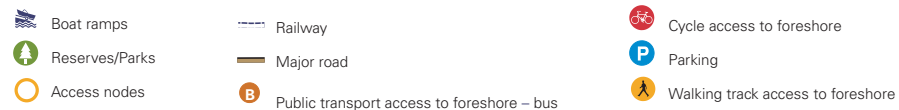
### Recreation and leisure

- Providing links to existing urban centres (e.g. Liverpool).
- An extensive range of diverse recreational and leisure facilities exist including Warwick Farm Racecourse, golf clubs, a sports club and soccer fields, baseball fields, a dog exercise area, walking tracks, cycle paths, playgrounds, picnic and BBQ areas, fishing areas, a restaurant, jetties, boat launches, and a sandy beach area.
- Opportunities to promote existing recreational facilities.

### Natural environment

- The natural environmental condition of this reach has been progressively degraded with the intensification of development.

Figure 6 Upper Estuary Reach – site analysis



## Conclusions

By virtue of its flat topography and highly modified landscape the Upper Reach, perhaps understandably, receives less focus on scenic amenity and environmental quality than the two lower reaches or the Top Reach of the river. This does not however preclude the need for clear controls and management or the opportunity for significant enhancement.

By comparison with the two lower reaches the level of foreshore built form development here is relatively limited. Views of the river are however also mostly limited to occasional roadside views (particularly from Henry Lawson Drive) and these from public reserves. However, substantial tracts of foreshore land fall in major private landholdings on public land (racecourse, golf courses, former military land and extractive industries) where long-term public access or rights of way may perhaps be negotiable.

The presence of the Chipping Norton Lakes recreational area in the centre of this reach acts as something of a catalyst for more extensive long-term foreshore links downstream to Sandy Point and upstream to Liverpool. Given the mostly flat topography and the absence of significant vegetation, the opportunity to combine pedestrian and cycle paths is perhaps greater in this reach than in the steeper and often more sensitive landscapes of the lower reaches. The important habitats in this reach including saltmarsh and wetlands should not be overlooked.

The high level of recreational boat use is on the one hand quite appropriate, given the relatively limited foreshore residential development and on the other hand highly problematic given the unstable nature of the foreshores. While limits on boat speeds may reduce impacts, this does not compensate for the inherently unstable nature of much of this foreshore which is also prone to storm damage. This suggests the need for a wider application of best management practice to foreshore restoration that in large part should involve enhancement of native vegetation in the riparian zone.

Many of the built environment impacts on the foreshore in this reach centre on the need for better controls on water edge construction and stabilisation, existing examples of which suggest the lack of knowledge of best practice rather than any wilful contravention of planning objectives or controls.