Rediscovering the Coquun: Towards an Environmental History of the Hunter River

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Abstract

Environmental history is a relatively new form of historical inquiry. Its major purpose is to examine the historical relationship between humans and the natural environment that sustains them. In Australia, this history is a coming together of natural and human history that has a lineage of 60,000 years. The relationship between the river we now know as "the Hunter" and humans is one that has been told a number of ways, however, the dominant perspective has been that of European economic development in the period 1800 to the present (2000). What I intend to do in this paper is present a first pass at a specific environmental history of the river. I will draw upon a limited number of historical records to give us a glimpse of what the river was like for Koori people and early settlers 200 years ago and compare and contrast that image with what the river and its catchment are like now. This historical reconstruction shall be done as a journey that traces the river upstream from its mouth at Newcastle to the upper reaches of the catchment.

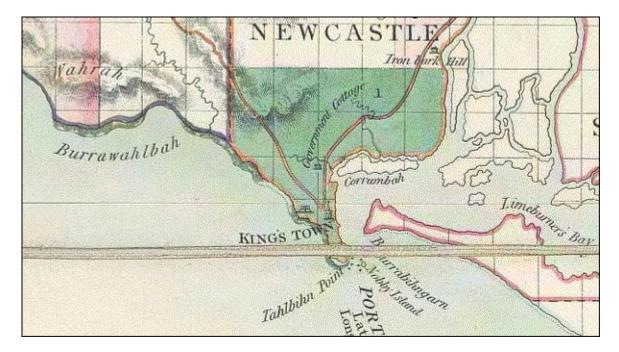
The River Mouth and Estuary

We know from historical records a great deal about the early history of Newcastle, at the mouth of the Hunter River. Names and places are recorded and depicted that tell us of a landscape quite different to the one we know today. The area around the mouth of the river was known as *Mu-lu-bin-ba*[1] (place of an edible type of fern) by the Indigenous *Awabakal* (people of *Awaba*, or Lake Macquarie) who had lived in the area for many thousands of years before the 'discovery' of the area by Shortland in 1797.

The *Coquun*[2] is one of the Koori names given to the river that was later to be renamed the Hunter, after the governor of the British colony in NSW. At the beginning of the nineteenth century, this river was an integral part of the country of the *Awabakal*, *Worimi*, and the inland Hunter River tribe, the *Wanarua*[3]. The landscape and the rivers of the region were all identified by name by the Aboriginal people. In 1834, one astute commentator on the new colony of NSW observed:

Indeed, every remarkable point of land, every hill and valley in the territory, has its native name, given, as far as can be ascertained from particular instances, from some remarkable feature of the particular locality... (Lang 1834:87).

A few clues about the configuration of the lower estuary are provided by examining maps created by early observers and surveyors. A map drawn in 1828 based on Henry Dangar's survey of the Hunter region is most revealing.



A Map by Henry Dangar (1828) By Permission of the National Library of Australia: http://www.nla.gov.au/rmaps/

The first thing we notice about the Newcastle depicted on the Map by Dangar (1828) is that there are a few names and features that are unfamiliar to us today. For a start, the very entrance to the river is called *Tahlbihn* Point. Another unfamiliar name is *Burrabihngarn*, perhaps the name for the entrance itself or what was known as Pirate Point (Stockton). These names remain obscure to us today, however, they were familiar to the Awabakal people for thousands of years before colonisation by Europeans. Nobby Island is a distinct island at the entrance to the river while there are numerous islands within the estuary itself. Nobby Island was covered in native grass (Grant [1803] 1973:151-2) and was a likely breeding site of the *Nirrritti* or Mutton-bird.

An island is clearly marked *Corrumbah*[4] (Chapman, then Bullock Island) where Carrington now exists. A large number of tidal islands sit within the estuary. They are fringed with mangroves and have dense vegetation on the higher ground. The vegetation on the southern side of the river is described as 'lowland scrub' with swampy land covered in ti-tree, ferns and honey-suckle (banksia or *Waropara*) scrub (see Murray, S. C. 1971:17-22). Grant described the area where his party found coal in some detail. He provided a glimpse of what the area where the city of Newcastle now stands once looked like:

The spot where these coals are found is clear of tree or bush for the space of many acres, which are covered with a short tender grass, very proper for grazing sheep, the ground rising with a gradual ascent, intersected with vallies, on which wood grows in plenty, sheltered from the winds, forming the most delightful prospects. (Grant [1803] 1973:153)

On the northern side of the river, especially on the interior of some of the tidal islands, the vegetation was quite different. In June 1801 Grant recorded that several miles up

from the mouth of the river he was able to cut cedar "which was growing in abundance on the banks of that river, of a large size, and excellent quality …" (Grant [1803] 1973:152-3). Grant also gives an account of the vegetation on an island in the harbour and he payed particular attention to a tree "the quality of whose timber resembles that of the ash" (Grant [1803] 1973:154). Ash Island, as the island was named, had examples of "many large timber trees", including reference to a 'Nettle Tree' or Giant Stinging Tree. At six miles from the entrance Grant "found the woods here to abound with trees affording a light timber, and great quantities of the cabbage tree (palm) some of which last I felled to try the eatable quantity of it" (Grant [1803] 1973:160).

Grant was also able to make casual observations of the fauna in the harbour environs. He reported "birds of various kinds", including "many of which were new to us". Observations and specimens included a species of cuckoo, hawks, goat suckers (*Teringing* or nightjar) and snipe. The mammals were harder to observe, due largely to their nocturnal habits, however, the "opossum (*Mooti*), the flying-squirrel (glider), the cat (quoll or *kikoi*) ..." were seen (Grant[1803] 1973:159).

Elizabeth Gould, wife of the famous ornithologist, John Gould, described in 1839 the luxuriant vegetation on Mosquito Island, one of the larger of the tidal islands at the mouth of the River.

Found the tent pitched in a cleard (sic) spot in the midst of the bush where nature appeared in her wild luxuriance. The Immense parasites twining round the trees taking root some of them at the tops of the trees and hanging down to the ground, others surrounding the trees like a crown - heard the bell bird with his incessant ting ting, the coachwhip bird &c – a heavy shower of rain accompanied by lightening – soon cleared up – every green thing looked more beautiful for its sprinkling. (in Albrecht and Albrecht 1992 and Hindwood 1938b 135-6)

The Skottowe Manuscript, 'Selected Specimens from Nature' (c1813) is an important early source for information on the native fauna of the Newcastle area and approximate renditions of their indigenous names in English (from both Awabakal and Worimi clans).

The manuscript gives a more detailed account of the fish of the rivers and coast of the Newcastle area with reference to river-mouth fish such as the *Wallangara* or *Ninag* (Flathead) and the *Warriging, Wattawan* or *Gheerool* (Mullet). Grant described catching large well flavoured mullet and a "species of jew fish which weighed 56 pounds" in the Hunter River (Grant [1803]:159). The presence of such large fish is supported by reports of large sharks in the lower estuary by various observers up until the 1900s.

Even in the 1850s it was possible to say that within the estuary there were "several flats or shallow places" that " abound with mud oysters; and prawns, crabs, crayfish, and lobsters are caught in great number" (Askew 1857:241-242). The Awabakal had different names for oysters in different locations. The mud oyster (*Mokai*), the oyster that grows on mangroves (*Pirrita*) and the rock oyster (*Munbonkan*) are all delineated (Threlkeld (1892:54-55).

Grant saw potential in the abundance of oysters. He comments that "... we found trees incrusted (sic) with oysters, and the shore covered to a great depth with oyster-shells, from which lime might be made on the spot, should it at any time be required for the purposes of building" (Grant [1803]: 155). Indeed the oysters existed in such great numbers that 'lime burning' became a major industry in the colony for the making of lime needed for the construction of buildings in Newcastle and Sydney.

Skottowe refers to the *Golgul* (Superb Lyrebird), the *Gongorong* (Emu), the *Kinbul* (Black Swan) and *Buttang* (Pheasant Coucal) within his Newcastle manuscript. Skottowe also provides descriptions (with the paintings of specimens by the convict artist T.R. Browne) of many other species of birds found within the Newcastle district. Another notable bird recorded by Lycett in the Newcastle area at that time (1815-19) was the Green Pigeon (in Sokoloff 1978b:145-148).

John Gould, on his visit to the Hunter region (1839-40), noted birds such as the Brolga and the Jabiru on the intertidal river flats and sand bars. Avifauna observed by Gould at the mouth of the river included a great variety of birds that were typical of the 'brush' or littoral rainforest on the tidal islands such as the Grey Goshawk, Regent Bowerbird, Figbird, Wonga Wonga Pigeon and White's Thrush (Albrecht and Albrecht, 1992: 7-10).

The mammals of the area of Newcastle were plentiful. Grant's party "saw many kangaroos" (Grant [1803]:153), while Lycett observed "flocks of kangaroos, and some of unusually large size ..." in the 'neighbourhood' of Newcastle (Lycett, in Sokoloff 1978b: 145). Skottowe made reference to several different kinds of Kangaroo that were to be found in the Newcastle area ranging in size from the large forest species to the small brush denizens such as "Kangaroo Rats". The *Kulgonang* or Eastern Grey Kangaroo was common and was hunted for food. Skottowe remarks that:

"the flesh of this Animal when properly dress'd is a Dish for an Epicure, in flavour it resembles Hare but is infinitely more Delicious" (Skottowe [1813] 1988: 59).

Gould also recorded macropods such as the Swamp Wallaby to be found on the tidal islands, Mosquito and Ash Islands, where it "... leaps through the shallow parts with apparent enjoyment, and even crosses the river from one island to another" (Gould, in Albrecht and Albrecht 1992:10).

Other 'Newcastle' mammals depicted in the Skottowe manuscript include the *Wilhi* or Possum, the *Billo* or Greater Glider, the *Kikoi* or (Eastern Quoll) and the *Dingo*. *Brambiyan*, or butterflies are described as "numerous & much varied" and that many are "Beauties" (1988:67). Skottowe also depicts the snakes such as the *Tirombi* (Brown Snake), *Baralban* (Diamond Python) and the *Mooloo* (Black Snake) that would have been very common in the area. Threlkeld's account of the Awabakal language records the names of over fifty species of plants and animals in the region of the mouth of the Hunter River (Threlkeld 1892: 47-56). Insects are mentioned by many commentators but one species that was common in the C19 and that remains common today is the Mosquito[5]. Askew noted that everybody was troubled by the plagues of Mosquitoes that invaded the house, especially "after a hot wind" (Askew 1857:280).

In general, the picture we have of the river and its general environment before major impacts of European development is one of a mangrove-fringed river with dense brush and huge trees lining the banks. In the immediate area "... there are immense quantities of the finest timber, of the different sorts of the Eucalyptus, growing in the vicinity of Newcastle; and the Casuarina grows here to a considerable size" (Lycett (1815-19) in Sokoloff 1978:145). Lycett's image is supported by H.W.H. Huntington in his history of Newcastle (1897-98) where he described the area around Newcastle as having:

... magnificent forests of lofty eucalypts and casuarina, as well as swamp oak, tee tree and mangrove in abundance stretching far and wide along the winding branches of the river. The hills were covered with dense thickets of light underwood and luxuriant grass, while streams of pure crystal flowed through the very hearts of the forest. (Huntington, as quoted by Barney,1984).

Given the richness and variety of the landscape and its vegetation it is not surprising that the landscape is alive with fauna of great variety and numbers. Huntington describes a rich fauna of emus, kangaroos, dingos and "gaily plumed birds" that frequented the metropolis.

In overview, we can do no better than to attend to Lang's encouragement for the reader to:

... figure to himself a noble river, as wide as the Thames in the lower part of its course, winding slowly towards the ocean, among forests that have never felt the stroke of an axe ... on either bank, the lofty gum tree or eucalyptus shoots up its white naked stem to a height of 150 feet from the rich alluvial soil, while underwood of most luxuriant growth completely covers the ground; and numerous wild vines, as the flowering shrubs and parasitical plants of the alluvial land are indiscriminately called by the settlers, dip their long branches covered with white flowers into the very water. (Lang 1834:64-5)

Lang's description of "exceedingly beautiful" scenery is supported by Askew in his description of the vegetation along the bridle trail from Newcastle to Hexham. Close to Newcastle, before Iron Bark Hill (Mayfield) the trail was winding and "overhung by immense gum and iron-bark trees, giant cedars and graceful wattles" (Askew 1857:294). Askew then describes the vegetation along the west bank of the river near the contemporary 'Travellers Rest' at Hexham. He notes that:

... passing through the umbrageous parts of the forest, where lofty trees and low scrub interwoven into a thick veil that shut out the sunlight ... many of the large trees we passed presented splendid specimens of the stag-horn fern, growing upon them, about fifty feet from the ground. (Askew 1857:296-7)

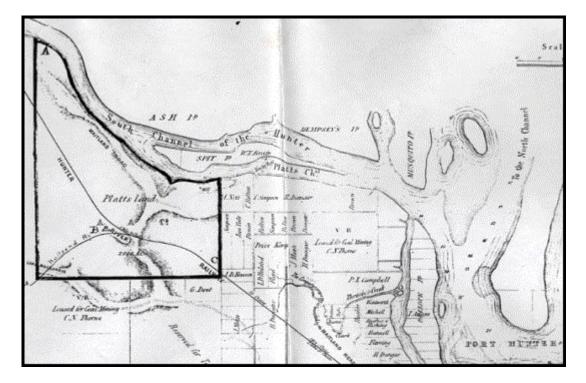
Transformation of the Lower Hunter

The environment of the lower Hunter has suffered major change at the hands of economic and industrial development. Some of the most dramatic and symbolic changes have occurred to key features of the estuary. The fate of Nobby's Island is typical of the scale of change. Even in 1834 it was possible to pass judgement on the idea that Nobby's should be altered to suit commercial imperatives. Lang, after making some rather dry descriptions of the construction of the breakwater from the mainland to the island, remarks:

Some colonial Goth, whose antipathy to interesting natural scenery seems to be a sort of inherent or original sin, has proposed to level Nobby's Island together, on the plea of its having been repeatedly found guilty of taking the wind out of the sails of vessels entering the harbour – a sort of misdemeanour, amounting, I presume, to petty larceny on the part of the island. (Lang 1834:63)

Despite a genuine plan to blow-up Nobby's which was only averted in 1854 by what amounted to Newcastle's first environmental action by local protesters, Nobby's was not to be left unscathed. The fact that in 1856 only 40 feet of the top of Nobby's was removed might be considered a blessing. However, to the *Awabakal*, who had a Dreaming Story that relates to the significance of the island as the home of a Kangaroo who had transgressed the Wallaby clan law, such desecration must have seemed incomprehensible. The fugitive Kangaroo was chased into the island where he entered it as a place to hide. The Kangaroo is still there hiding and at times he trembles and shakes in frustration at his confinement and the perpetual fear of being caught by the Wallaby clan. The Dreaming Story is thought to relate to the earthquakes that regularly affect Newcastle and the lower Hunter (Maynard, pers. comm. 2000). What remains of Nobby's is now covered in the introduced weed, Bitou bush and the history of this former island is not well known even in Newcastle.

The river itself was not to be spared major, engineered change from its original course and shape. Spit Island, which was isolated by the South channel of the river to the north and Platt's Channel to the south, was obliterated in the 1950s when BHP filled the channel with blast furnace slag, coal washery slurry, fly ash and various oil and tar wastes in order to 'reclaim' it and the island for expansion of their industrial site. The location of the channel and the island can be seen from the following map published in 1854.



From Gionni De Gravio Mayfield Web Site : http://www.library.newcastle.edu.au/archives/mayfield.html

Early maps (Land Titles Map N21-1090 (Attachment)) show that the eastern tongue of Spit Island was a designated reserve and that a shell beach, possibly an Awabakal midden, was located on the mainland opposite Spit Island. The disappearance of these features in the river-scape was challenged unsuccessfully at the time of their removal, with one local resident in the 1950s protesting "They're Killing the River" (Gionni Di Gravio Mayfield Website). Like the names such as *Corrumbah* (now Carrington) that once described the features of the landscape of the lower Hunter, sites of significance have simply been removed from the landscape, and then the maps. The loss of the reserve on Spit Island marked the ongoing tendency in the Hunter Region to compromise the landscape, including nature reserves, to commercial imperatives. The frontier for this activity is now the middle and upper Hunter.

The tidal Islands at the mouth of the Hunter suffered a similar fate in that by the 1970s many had been reclaimed to provide industrial land or sites for the dumping of industrial waste. The number of islands has been reduced from 29 to 18 and this loss of shoreline is implicated in the loss of habitat for birds and fish (Williams et al NSW Fisheries 2000:45). The islands that were once covered in luxuriant brush and later, productive gardens and orchards have been converted into one of the most polluted areas of NSW. The oysters of the South Arm of the river are now so polluted with toxins and metals such as arsenic, lead, copper and zinc that NSW Fisheries enforce a ban on their consumption.

The Kooragang Island Nature Reserve is a small concession to the importance of this area to the natural history of the Newcastle region. A project to restore some of the original

vegetation of Ash Island has been undertaken by the Kooragang Wetland Rehabilitation Project (<u>http://www.newcastle.ed.au/kooragang/history.htm</u>).

Many of the formerly "crystal clear" creeks that flowed into the estuary were converted, in the 1940s and 50s, from their natural form into concrete contained drains. Under policies and beliefs such as "... tidying up of an undisciplined stream within neat cement boundaries with no unruly reed beds to spoil the line" (Canterbury Council website), the engineers rendered the streams and creeks of Newcastle virtually lifeless.

With such impacts on the physical environment it comes as no surprise that much of the flora and fauna of the Newcastle area has become locally extinct. The native vegetation has been systematically removed and in its place are only echoes of what it must have been like. The Honeysuckle Project within the Newcastle Port area is a reminder in name only of the former presence of *Waropara* or native honeysuckle plants[6]. The project, like so many other developments in the region suffers from "Mad Palm Disease", a serious disease that requires landscapers to spend huge amounts of money planting mature exotic palms as botanical features. Native plants (including the local native, the Cabbage Tree Palm and *mulubin*, the native ferns) that would restore a 'native sense of place' (see Albrecht 2000) have yet to be seriously considered as elements of the restoration and redevelopment of harbourside Newcastle.

That Kangaroos and animals such as the *Billo* and the *Kagoy* once lived in the vicinity of the city is not widely known. Many of the birds mentioned above have disappeared from the lower Hunter. The bird life is still prolific, especially on the river flats and the fringes of the Kooragang Island Nature Reserve, however, their presence is always under threat from the expansion of heavy industry and new mega-development plans such as smelters and international airports. Only the mosquitoes have survived all the transformations of the environment we have created unscathed. They might even have thrived as a result of them.

The Middle River: Wallis Plains (Boun) and Maitland

Between *Toorrnbing* Creek (Iron-Bark Creek) and Maitland the river runs close to many wetlands and swamps. The largest is *Burraghihnbihng* (Hexham swamp) while many other smaller lagoons cut off from the river during dry times. Peter Cunningham notes that:

The country back from the river consists of rising hills of inferior soil, with fertile flooded vine brushes, watered by lagoons communicating with the river. These lagoons swarm with the most delicious fish; and during the dry summers, when the water is low, the natives wade in and actually drag out *cart-loads* thereof, including immense eels. (Cunningham 1827:150-151).

The *Pambalong* tribe, who lived around Hexham Swamp, are recorded as having eaten a variety of the fauna typical of this type of habitat. Reptiles such as snakes and lizards were particularly favoured while possum, wallaby and kangaroo were considered staples

(in Maynard 2000:31). Tortoises (*Kotumag* or *Yunug*) and eels (*Kanin*) would have been common food sources from the wetlands in this area.

At what we now call Raymond Terrace, the *Coquun* is met by a river called the *Dooribang* (the Williams[7]). Near Hinton, another river, the *Yimmang* (the Patterson) enters the Hunter. Lang was able to find out the names of the tributaries of the lower Hunter River from a Koori man called Wallaby Joe (Lang 1834:89). Both the Williams and Patterson rivers were named after Colonel William Patterson of the NSW Corps.

Lang was outraged that the original Aboriginal names were replaced, then forgotten, for the sake of "whatever insignificant appendage to the colonial government a colonial surveyor may think to immortalize" (Lang 1834:88). He suggested that the native names of *Yimmang* and *Dooribang* be immediately restored, although he was less enthusiastic about changing the name of the Hunter. Perhaps he considered that the status of a governor of the colony was able to trump all previous connections. Lang appeared not to be aware of the alternative names, *Myan*, or *Coonanbarra* used by the Kooris for this river.

The surveyor Grimes noted the vegetation in the area near the junction of the Hunter and the other rivers. He specifically comments on the area above the 'New River' that:

Near the banks of the river a great quantity of large cedar, vines of different kinds, and plenty of curradjong; but the cedar and curradjong are more plentiful up the new river than any other part. On the high land blue-gum and ironbark trees are almost the only timber growing. (Grimes, in Commonwealth of Australia 1915:415).

The area known as Wallis Plains (*Bo-un*, or place of the Bittern) was once covered in forest, however, it was cleared to get access to the fertile alluvial soil. A great number of cedar trees were cleared in this area and an example of the size that these trees attained is indicated by one specimen which was found on a tributary of the Hunter which "measured 27 feet in circumference near the base, and the main trunk was 50 feet in length before it threw out vast branches which overtopped the neighboring trees" (in Wood 1972:2). Cunningham notes that:

Wallis Plains are of no great extent, and being originally densely wooded, required great labour in clearing; a disadvantage, however, amply compensated by the amazing fertility of the soil, which is all alluvial, and still subject to being covered with water during the high floods (Cunningham 1827:150).

Near the town of Maitland, where the vegetation remained uncleared, thick vine scrubs (rainforest) could be found. Breton, in his 'Excursions in New South Wales and Van Dieman's Land, 1830-1833' recorded that behind the town of Maitland:

... there is one of the thickest vine brushes in New South Wales, so that it is difficult to penetrate even a few yards. Here I saw a most enormous tree ... known by the title of the great fig. The form of the trunk is triangular, the side facing the south-east being eighteen

feet in width; that to the north nineteen feet and a half; and that to the west, twenty-two and a half; total, sixty feet ... The trunk does not rise more than perhaps thirty feet before it separates into branches of such magnitude as to equal trees of considerable size. Will it be credited that the former owner of the farm had actually commenced felling this 'giant of the forest'? ... he was only prevented from fulfilling his intention by the remonstrances of the settlers around. (Breton, in Sokoloff 1976c:207)

John and Elizabeth Gould stayed at Maitland in 1839 and described the prolific bird life that was present in the brushes and 'wild scenery'. John Gould described one incident where he came across a forest full of eucalyptus covered in blossom which was being used by many different types of birds. He noted the Lorikeets (*Trichoglossi*) in particular. His journal records:

However graphically it might be described, I scarcely believe it possible to convey the idea of the appearance of a forest of flowering plants tenanted by *Trichoglossi* ... During one of my morning rambles in the brushes of the Hunter I came suddenly upon an immense *Eucalyptus*, which was at least two hundred feet high. The blossoms of this noble tree had attracted hundreds of birds, both Parrots and Honey-suckers... (Gould, in Albrecht and Albrecht 1992:12).

Gould also made reference to the mammals typical of the brushes close to the river. Marsupials such as the Red-necked Pademelon Wallaby, Long-nosed Potoroo and the Brushtailed Possum are noted, however, Gould specifically warns that the Platypus (*Purramaiban*) was endangered by "wholesale destruction" by settlers along rivers such as the Hunter (Albrecht and Albrecht 1992:12). James Backhouse, while close to the junction of the Williams and Hunter rivers (Raymond Terrace) in 1836 observed "noisy" fruit bats and gliders in trees "in contact with the forest" (Backhouse 1843:398).

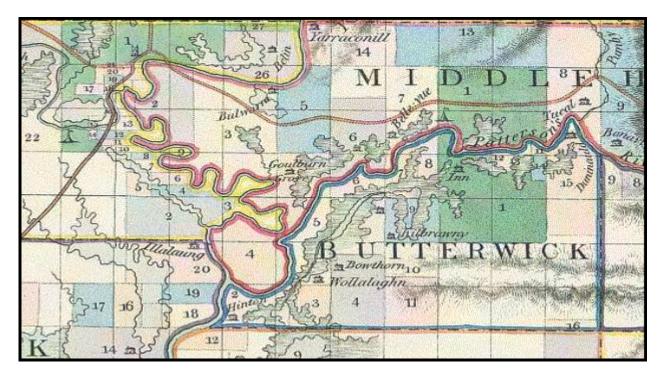
Beyond Maitland and along the "alluvial banks" of the *Coquun*, *Yimmang* and *Dooribang* there was a strip of "heavily timbered" land complete with vine thickets. The vegetation of the valley floor of these rivers is described by many commentators in terms such as 'wild', thick vine brush, thickly timbered, and 'luxuriant'. Backhouse gives the most detail of all the observers and his record of plants in the "Cedar Brushes" near Maitland. He notes:

... we took a walk into one of the luxuriant woods on the side of the Hunter, such as are termed Cedar Brushes, on account of the colonial White Cedar, *Melia Azedarach*, being one of the trees that compose them. *Eugenia mytifolia* and *Ficus Muntia*, are among the variety of trees in these brushes ... These Cedar Brushes are also thick with climbers, such as *Cissus antarctica*, the Kangaroo Vine, *Eupomatia laurinae*, a briary brush, allied to the Custard apple, but with an inferior fruit ... (Backhouse 1843:397)

Beyond the valley floor there are large tracts of open land, formed, as suggested by Lang, by diversions of the rivers from their former channels and creating residual lakes and wetlands that have gradually filled to form "grassy plains, islands, or peninsulas" (Lang

1834:68). A large peninsular known as *Narragan* to the Kooris (now Phoenix Park) is described by Lang in detail:

... Phoenix Park is without exception the finest piece of land, both for quality of soil and for beauty of scenery and situation, I have ever seen, - being entirely of alluvial formation, and bounded on all sides, with the exception of the narrow isthmus that connects it with the main-land, by broad and deep rivers, the banks of which are ornamented with a natural growth of the most beautiful shrubbery; while over its whole extent, patches of rich grassy plain, of thirty or forty acres each, alternate with clumps of trees or narrow beltings of forest, as if the whole had been tastefully laid out for a nobleman's park by a skilful landscape gardener. (Lang 1834:69).



A Map by Henry Dangar (1828) By Permission of the National Library of Australia: http://www.nla.gov.au/rmaps/

From Maitland, up the Hunter to the large open plain known as Patrick's Plains, the country away from the riparian vegetation is described as "open and park like" by many observers. Peter Cunningham describes Patrick's Plains as being "above two thousands acres of the most fertile soil, the greater portion naturally clear of timber" with "luxuriant natural grasses" (Cunningham 1827:152). Cunningham paints a graphic picture of the river flats and the surrounding environs:

On disentangling yourself from among the undulating hills and ridges which bound these beautiful meadows, one of the richest natural prospects that can be witnessed presents itself - the flat alluvial lands spread out before you being matted with luxuriant herbage; branching evergreens scattered singly or in irregular clumps; the river winding through the midst; whilst dark-foliaged swamp-oaks, bordering with a deep green-fringe its steep and grassy banks, and gently rising hills beyond, thinly clothed with wide-spreading

forest-trees, extend in diversified magnificence as far as the eye can see. (Cunningham 1827:155)

Cunningham was keen to point out to his readers that the plains of the mid- to upper Hunter were able to be settled "without the expense of cutting down a tree". He comments that "in all of these luxuriant plains there is scarcely a superfluous tree to be seen, not often above a dozen to the acre" (Cunningham 1827:156).

On these "luxuriant" plains the Bustard or wild turkey was common. This bird stands over a metre tall and weighs up to 10 kilograms. Cunningham notes that:

[t]hese plains are the great resort of our wild turkeys, which you will see here stalking majestically about, and which afford an excellent and most delicate repast (Cunningham 1827:152-3).

John Gould observed many waterfowl on the wetlands of the Hunter from Singleton to Scone. In his field notes he describes both rare and common wetlands species that were attracted to the area in the drought-breaking year of 1839. He spent a good deal of time collecting birds and mammals from his base at *Yarrundi* (place of possums) near Scone. A detailed account of his discoveries in this area is provided by Albrecht and Albrecht (1992).

Perhaps the most vivid recollection of the Maitland area and its flora and fauna is provided by a correspondent to the *Maitland Mercury* in July –August 1877. This unnamed correspondent expressed his regret that he was but a boy during the early days of settlement, however, he proceeds to give, in a number of separate instalments, an account of the native people and the landscape as it was from about 1820 to the 1870s. In the first recollection he says:

I can ... well recollect the imposing and magnificent appearance of the dense brushes which covered the greater portion of the splendid estates now known as Berry Park, Bolwarra, Phoenix Park, Wallalong, Dunmore, Hinton, &c: and passed many joyous hours with merry companions in hunting the wallaby, bandicoot, kangaroo rat, native cat, &c, which abounded within and about them; and enjoyed the sport which shooting wonga wonga and other pigeons, doves, and many other beautiful birds afforded. (Maitland Mercury Sat. July 28 1877)

He goes on to describe the "brushes" in greater detail:

Magnificent indeed was their appearance. Gigantic gum trees towered far and away above all others, and spread their radiating and mighty limbs far and wide like umbrellas over the green ocean of lovely foliage, which crowned the tops of the closely wedged mass of their smaller brethren. And less lofty, but still imposing and inconceivably beautiful, were the fig trees, which in many instances were of enormous size, and covered an immense space. The whole of the large cedar trees had long before the period of which I write disappeared, but the huge stumps remained as evidence of their vast proportions, and their well-known beauty must have originally given additional attraction to the scene. All attempts to describe accurately the character of the underwood would be futile. So thickly did the timber grow that it was often difficult to proceed, and we were glad to avail ourselves of the wallaby tracks, which intersected the brushes in various directions. The strongest winds failed to disturb the calm which ever existed in them, and there the blacks spent the cold period of winter, using the bark of the tea tree for covering their gunyahs... (Maitland Mercury Sat July 28 1877)

The correspondent[8] further describes the hunting parties of the 'blacks' who would hunt for various forms of what we now call 'bush tucker' in the period about 1836. He states:

Some would fish, others climb trees for possum, squirrels, or bears[9]; and others would go "walbunging" or hunting for wallaby, which were very numerous, bandicoot, kangaroo rat, &c. And woe to any colony of flying foxes which they came across. Of the flesh of this latter they were very fond. (Maitland Mercury, Sat 28 1877)

The Fate of the Middle Valley Floor

While the loss of major physical features at the mouth of the Hunter and the loss of native vegetation have been severe on the biodiversity of the lower Hunter, the middle Hunter has suffered perhaps even greater degradation of its flora and fauna. The major reason for the regional extinction of flora and fauna has been the almost complete loss of riparian (riverside) vegetation. The 'luxuriance' of the native vegetation that the early writers all reported has been replaced by willows, suburbia, 'improved' pasture and monoculture such as vineyards. The retraction of other areas of native vegetation to isolated patches means that they incapable of supporting the full diversity of native fauna and they remain under constant threat from further development.

The loss of the vegetation has had direct impacts on the configuration of the river. In general, loss of riparian vegetation has the effect of widening and shallowing the river channel as the banks collapse. In 1877, after a meeting of concerned residents about the siltation of the Hunter River at Morpeth, a correspondent to the Maitland Mercury suggested an 'upstream' approach to the problem of silt in the channel. He suggested that those wanting the dredge to come and deepen the river for the use of steamers need to consider that the steamers themselves might be the cause of the problem. He argues:

Now, it is a well known fact that the steamers themselves fill up the channel; they undermine the high banks, so that the first heavy rain causes them to fall down, and a few days suffices to sweep the debris into the channel. Another thing: the altitude of the banks is thus everywhere lowered, and the back lands rendered more liable to floods. (Maitland Mercury, August 4 1877)

The Hunter River has already suffered major changes to its configuration due to the effects of bank erosion, stream bed lowering and sedimentation and the exacerbation of the effects of flooding. One obvious result of the combined impacts of loss of riparian

vegetation and erosion has been the shortening of the channel between Maitland and Morpeth by some 18 kilometres between 1870 and 1964 (State of the Rivers and Estuaries Report 2000:104)

In order to control flooding, river engineering has transformed the dynamics of the flood plain. However, with the construction of channels and flood levees the floodplains of the rivers have been deprived of new layers of alluvial soil. The alluvial soil that has been historically deposited is now retracting under the impacts of loss of vegetation cover, erosion from agricultural activity and wholesale removal during periods of flooding (eg during the 1955 flood). As was the case with the Mississippi (1993), catastrophic floods could be exacerbated by such 'risk management' engineering when the next flood event that exceeds the '1 in one 100 year' design parameter occurs.

While flooding is a major perturbation that has immediate catastrophic impacts on the environment, the natural river system was capable of rebounding from such shocks. Indeed the rich biodiversity present in the system depended on regular disturbance to maintain its richness, complexity and diversity. The only species that seems incapable of adapting to flooding as a beneficial feature of floodplains are humans who settle and build in places where floods will wipe them out.

Of greater long-term consequence are changes to the integrity of the system that are not so sudden, but have greater potential to cause damage because they decrease complexity and diversity. It is worth noting that, in many respects, the factors that cause the 'slow death' of the vitality of the river system such as soil loss are perhaps more important than sudden events such as occasional flooding. Topsoil loss, for example, is a serious problem in the Pokolbin area of the valley where viticulture is practised. In one recent study, it has been estimated that on some of the steeper slopes where grapes are grown, up to three bottles of soil (3 kg) are lost to erosion in the production of one bottle of wine (Loughran et al 2000). Continuation of such soil losses into the future will see the collapse of the viticulture industry in these localities and the continued siltation of the rivers.

It has been estimated that 99% of the vegetation on the central valley floor of the major rivers has been removed and in local government areas such as Maitland, over 85% of the native vegetation has been lost (Albrecht and Gutberlet 2000:260). Native vegetation restoration has now been undertaken by the HVCMA and Landcare groups to reverse the situation, however, relictual patches of riparian vegetation in the Hunter and William catchments on the valley floor are still not formally protected.

Other types of remnant vegetation within the valley floor are equally at risk. The Ravensworth State Forest stands out on the map of the middle Hunter as an isolated patch of 450 hectares of remnant iron bark and grey gum forest. However, despite its rarity value as an example of a disappearing ecosystem and being the home of five rare and endangered species, half of it will be lost to open cut coal mining. The idea that we can simply engineer a new forest from the totally disturbed remnants of the old site remains, at best, optimistic speculation and at worst, a continuation of the non-sustainable

promotion of economic over ecological considerations on the part of those responsible for such a scheme.

The Hunter region has the dubious distinction of pioneering the practice of ringbarking trees in eastern Australia to further clear land. Thomas Hungerford (1860), for example, "... decided to go in for ringbarking and fencing paddocks on a bigger and more systematic scale than any previous attempt" (in Bolton 1981:42). Other pioneers of the middle valley argued effectively that ringbarking would give more productivity in sheep country that was already lightly timbered. The legacy of such land mis-management would be the rising salt that comes with rising water tables, a problem now seriously affecting much of eastern and S.W. Australia.

Satellite derived imagery of the region taken in 1988 and again in 1999 shows that the area of land severely affected by mining has increased dramatically to now degrade over 500 square kilometers of the middle to upper-Hunter region. This has major environmental impacts in general, but with respect to the river in particular, increases in the salt load from mine water discharged into the Hunter river is an environmental problem. The Hunter River Salinity Trading Scheme, while managing the issue to some extent, is still a State sponsored licence to pollute fresh water. Continued expansion of open cut coal mining in areas where salt water discharges are a likely outcome will continue to have negative impacts on fresh water ecosystems.

Water quality is also compromised by high nutrient loads in the waterways. With nitrogen and phosphorous levels increasing due to development and agricultural activity (fertiliser, human sewage, detergents and animal manure), the frequency of algal and bacterial blooms is increasing from historical background levels. A recent study of water quality in the Allyn and Paterson Rivers found that the water was unfit for drinking and, occasionally, swimming (Maguire Sept 16, 2000:14). The levels of faecal coliforms in the Hunter River at a number of middle river sites now regularly exceed primary contact recreation guidelines (State of Rivers 2000:91). Severe blooms and pollution compromise the quality of drinking water for stock and human consumption and, ultimately, all the fauna dependent on the fresh water of the river.

Poor Bustard

A symbol of the loss of the flora and fauna of the middle valley is one of Australia's largest birds, the Bustard. Some 26 years after his visit to the Hunter region, John Gould wrote that:

It may be possible – and, indeed it is most likely – that ... no longer does the noble Bustard stalk over the flats of the ... Hunter ... and if this be so, surely the Australians should at once bestir themselves to render protection of these and many other native birds: otherwise very many of them ... will soon become extinct. (Gould [1865) in Albrecht and Albrecht 1992:22) John Gould was correct and the Bustard has been regionally extinct for well over one hundred years. Other birds such as the Regent Honeyeater that moved through the "apple tree flats" or Angophera open forest of the Hunter in their thousands in the early nineteenth century are among the most endangered birds in the world with estimates of total population of only a few hundred.

The Upper Hunter and the Top of the Catchment

The Kooris called part of the region of the upper Hunter, *Tina Lunga* (Bettington 1974:6), and it included areas such as *Gummum* (or small plains[10]), where towns such as *Merriwa* (place of grass seeds) became established. John Gould, in 1939, described the area around Scone as "a pretty place far beyond what I anticipated (Albrecht and Albrecht 1992:5). Closer to the precipitous Liverpool ranges, hills of smaller elevation are to be found. Peter Cunningham describes the area where the Goulburn River meets the Hunter as consisting of plains:

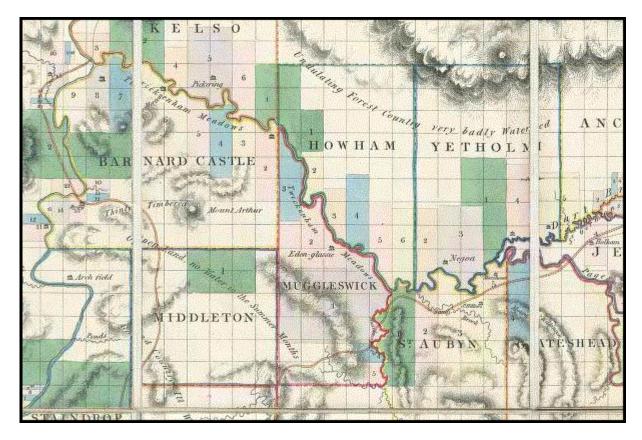
... on each side being hemmed in by woody ridges of moderate elevation, towards which the back land gradually rises. Contrary to what is generally found in other parts of the country, the ridges upon the upper part of Hunter's River are almost uniformly flattened at the top, forming little miniature hills and valleys covered with fine soil of a moderate depth, and abounding in grass, which makes them the great resort of the kangaroos ... (1827:157).

The explorer and botanist Allan Cunningham journeyed from Bathurst to the Liverpool plains in 1825 and when crossing the Goulburn River described the stream as:

... thirty-six feet wide, flowing to the S.S.E. and S.E., within an ample outer reedy channel of fifty yards in breadth, which should seem to be filled in some seasons of heavy rains, wherein its waters are swollen to a perpendicular height of twelve feet above the present ordinary level, as appears by the lodgment of stubble in the branches of the stupendous swamp-oaks on its margin. (in Field 1825:148-149)

Henry Dangar was clearly impressed with the area of the Upper Hunter known as Twickenham Meadows. In his *Index and Directory* to the 1828 map, he describes the area in the following terms:

Some parts are without timber, and others have no more than enhances, rather than detracts from, their value, with an inexhausible soil, and a natural herbiage, but little inferior to the most improved English meadows. Such is the character of the meadows on this part of the river. (Dangar 1828:43)



A Map by Henry Dangar (1828) By Permission of the National Library of Australia: http://www.nla.gov.au/rmaps/

John Gould, while attempting to observe the Lyrebird in this "almost inaccessible and precipitous" country, complained that "… none but those who have traversed the rugged, hot, and suffocating brushes can fully understand the excessive labour attendant on the pursuit of the *Menura* (Lyrebird) (in Albrecht and Albrecht 1992:17).

The State of the Upper Hunter

The water that 'belongs' to the Hunter River enters the catchment on the eastern sides of the Great Dividing Range. Apart from the removal of commercially valuable timber, the landscape and its vegetation have remained largely intact for the last 200 years. The major reason for the preservation of this landscape has not been, until very recently, a sense of conservation, it has been the simple fact that the land is so steep that it could not be cleared for cattle and other forms of agriculture.

It is pleasing to report that the environments for fresh water sources of the Hunter remain in good condition. With the Liverpool, Mount Royal and Barrington Tops ranges still either 'pristine' or largely undeveloped, there remains representative assemblages of the flora and fauna that was present 200 years ago. A notable exception is the Red Cedar where, as Bolton describes, "from 1804 convict gangs were cutting timber on the Hunter and by 1820 they had to go more than 100 kilometers upstream to find workable stands" (Bolton 1981:38). Stephen Coxen, who owned a property called *Yarrundi* near *Peuen Beuen* (place of small stones) in the district of Scone, commented as early as 1839 that the "native animals are fast disappearing" and that the "...Kangaroo, once so numerous, is now seldom seen" (in Wilkes [1845] 1970:268). Reference is also made to the *Woombat* and the Platypus as having become rare.

As was the case with the middle Hunter, the effect of clearing of riparian vegetation has had a profound impact on river channel integrity. Allan Cunningham, in 1825 described the Upper Hunter river, near its junction with the Goulburn, as "too deep for pack horses to cross" and having a channel of about 50 yards (State of Rivers 2000:95). According to recent measurement, both the Hunter River and the Goulburn at this point have channels that are closer to 300 yards in width (State of Rivers 2000: 94-95). The State of Rivers Report argues:

As a result of changes in vegetation and loss of large woody debris many streams in the Hunter catchment are now much wider and shallower. Active management and revegetation is therefore required if a reduction in width and a restatement of stream bed variability is to be achieved. A return of the river system with naturally functioning pools and riffles would take considerable time. (State of Rivers 2000: 95)

In the present day, threats to the integrity of the environment include the search for economically winnable coal measures and the possible construction of new dams. However, the unexpected, such as the recent re-discovery of precious stones in the Barrington Tops area, might just start the threatening processes all over again.

Conclusion

The journey from the mouth of the river to the top of the catchment shows that the Coquun has suffered greatly at the hands of western models of agricultural and industrial development. Only in those areas where there appears to be no immediate capital gain have the original landscape and its flora and fauna remained unaffected by the hand of development. As a case study, the Hunter and its catchment reflect many of the unsustainable impacts of western forms of development better than many other parts of Australia. In 200 years we have rendered the landscape largely unrecognisable to visitors who observed the region in the first half of the nineteenth century.

To rediscover the Coquun we must continue the work of ecological restoration started in this valley and establish a native sense of place by revaluing that which was and still is native to this region. One way to do this, and one that is particularly important in this period of reconciliation of colonial Australia with Indigenous Australia, would be to have dual names for those places where we know the original Koori words. Both sets of names give us a sense of history and place. Reinstating indigenous names, because they are so firmly connected to the landscape, will help us discover our environmental history and link reconciliation with ecological restoration. It is my hope that this paper will stimulate others to continue this task and contribute to a community-based project that will be ongoing and layer more detail and knowledge into the environmental history of this bioregion and the catchment of the Coquun.

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[3] The *Gringai* clan of the *Wanarua* people were most likely the traditional custodians of the land on which Wyndham Estate now stands. The author pays his respects to their descendants and their Dreaming.

^[1] Named 'Mulibinbah' in Hartley 1995). It needs to be noted that there is no definitive 'correct' spelling or pronunciation of Awabakal words.

^[2] *Coquun*, is the name for the river recorded by Dr J.D. Lang (1834:64). The Awabakal name for water was *Ko-ko-in*. The origins/translation of *Co-qu-un* and *Ko-ko-in* are likely to be connected. (see Threlkeld, in Gunson 1974:161). Another Koori name for the Hunter river was *Myan* (Stretch, A7739 iii) while Lt. Close records *Coonanbarra* as the name used at Morpeth (Elkin, 1937:176). Different clans and tribes of the Kooris of the Hunter region clearly had different names for the same river.

[4] *Corrumbah* might refer to *coorum* or a winding creek (Pratt 1978:11). This might make the name refer to Throsby Creek which enters the harbour in this area. *Corrumbene*, meant "a pretty place" (Stretch A7739 vi)

[5] Newcastle could have been named *Coopla – curripa* or "plenty of mosquitos"

[6] The honeysuckle plant was the *Banksia integrifolia* or Coast Banksia. See A. Cunningham, in Field (ed) (1825:144).

[7] Called the *Doorabang* in Ford (1995:10).

[8] The reader who wants more of the perceptive and sympathetic account of the Correspondent's view of the Aboriginal people of the Maitland district is encouraged to read all the instalments. See Maitland Mercury Sat. August 4, August 11, August 18, August 25 1877 and beyond.

[9] The presence of Koalas is an indication of a specific type of ecosystem with specific tree varieties (see Albrecht 2000 and Knott et al 1998).

[10] As opposed to *Uraboon* or *Corborn* which referred to the great plains over the western side of the Liverpool Range (Bettington 1974:25).