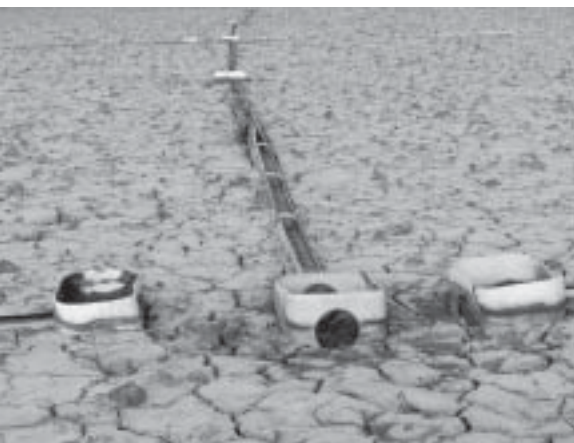


SAEMANGEUM: A CATASTROPHE FOR SHOREBIRDS

The Great Knot in front of us are feeding voraciously. They are clearly finding plenty to eat here on the inner tidal flats of the Dongjin estuary, on the west coast of South Korea. Replenishing the fuel they used to get here from northern Australia is an essential task before resuming their journey north to Siberia. But there is something wrong with this picture. The bivalves they are so busy consuming are actually lying on the surface – whereas a knot should have to be digging for them. These dead and dying shellfish are one indication of what is happening to this place and to the neighbouring Mangyeung estuary – both of which are part of the giant Saemangeum

High and Dry - Crabpots, boats and bivalves all left exposed as the estuary dries out



reclamation project. While it is a feasting bonanza for birds this year, it will be a different picture next year and thereafter, now that the sea wall has been completed.

Saemangeum is the name given to a single reclamation project involving the damming of two rivers, and the draining of about 30,000 ha of tidal flats, and 10,000 ha of estuarine shallows, by the construction of a 33 km long seawall. Originally proposed in the 1970s, construction of the seawall began in 1991 and was completed in late April 2006. The creation of agricultural land, particularly for rice cultivation, is the official aim of the project.

The dying of this estuarine system will be a slow but steady process. Although the seawall was completed on 21 April, 540 m long sluice-gates have remained open, but the restricted water-exchange has already reduced the tidal range within the system at highest spring tides from 7 m to an estimated 1m. Upper tidal-flat areas became progressively drier through the second half of April, and some lower-lying tidal-flats have become permanently covered by water.

Saemangeum has been identified as the most important site for migratory shorebirds in the Yellow Sea region. At least 27 species of waterbirds, 18 of them shorebirds, occur in internationally significant concentrations. At least two globally threatened shorebird species – Spotted Greenshank and Spoon-billed Sandpiper – are regularly supported by the area in internationally important concentrations. Over 300,000 shorebirds, including Bar-tailed Godwits from New Zealand, regularly use Saemangeum during northward migration

That the scale of coastal development in South Korea is enormous is clear to the visitor even before landing in the country. The

giant new airport at Incheon – recently acclaimed as the best airport hub in the world – is itself the product of a colossal reclamation project. From there it is a three hour drive to Gunsan, on the northern edge of the Saemangeum area. An almost unbroken string of developments lie along the way, from power stations to bridges, industrial parks to hectares of high rise apartment blocks. Those rural patches in between – rice and crop fields – are often built on reclaimed areas as well. Overlying all of this is a constant haze – the combination of homegrown industrial and urban smog along with dust from the Gobi Desert in China.

Adrian and I are here to assist with the Saemangeum Shorebird Monitoring Programme a joint project by Birds Korea and the Australasian Wader Studies Group. The objective is to survey shorebirds within Saemangeum and neighbouring sites to collect baseline data on numbers, species composition and movements before the site is completely destroyed.

On the north side of the Mangyeung estuary at Okgu – is a small fishing village. A narrow street winds between small warehouses where harvested shellfish are landed on one side and rows of moored boats on the other. From the waterfront tidal flats extend away into a layer of steam lifting off the mud. Several fishing boats are moored offshore, their hulls shrouded in steam. This is still a working village but its days are numbered – already many boats look abandoned, buildings empty, gutted. On both sides of the channel leading into the village are high banks of drying mud – and while there is still moisture under the dry white surface crust, little life is evident. From the seawall east of the village we climb down onto the mud, and walk 500 metres out towards the edge of the channel. Along both sides there are still areas of wet mud where birds are feeding

We begin counting – but the birds massed along the far edge are too dense

and indistinct. A telescope scan of 170 degrees reveals an almost unbroken line of long thick slabs that are birds. When they suddenly take off they literally blacken the sky. Our best estimates are that at least 80,000 birds, most of them Great Knot, are airborne in front of us. It is the largest and most impressive concentration of birds I have ever seen. With what lies ahead for this place it is at once enthralling and intensely sad – a requiem for Saemangeum.

Not just birds are affected by this project. All around Saemangeum are communities that for generations have depended upon its resources. Declining fishing villages and abandoned salt works are obvious examples. Crab traps – long lines of pipes cut in half lengthways, each ending in a sunken bucket – are laid out over huge areas of the flats. They will no longer catch crabs. On small embankments in the mud, perhaps 2cm high, we find dense beds of bivalves - the shells all empty. The benthic fauna is already in decline but at low tide there are people and vehicles scattered all over the flats. Small tractors towing covered trailers provide transport for some, while others walk. Ahead of the tide we encounter a steady stream of people trudging in with full loads of shellfish in harnesses on their backs.

Maximum counts by the end of April are 92,768 shorebirds on the Mangyeung and 45,100 on the Dongjin. The major species for the two estuaries are Great Knot (72,342) Dunlin (38,329), and Bar-tailed Godwit (5,833). Just to the north of the Mangyeung is the Geum estuary where 51,568 birds are counted; Dunlin (21,829), Great Knot (14,024) and Bar-tailed Godwit (9,416). These counts offer only a

snapshot of the number of birds using the region. By late April and early May many birds will have departed for the Arctic, while more birds begin arriving in Korea, especially from Australia.

An argument put forward to help justify development of this key shorebird site is that birds will be able to disperse to other sites nearby. While true for a few birds, most are unlikely to find the optimum conditions required to sustain them during stopovers. The Saemangeum estuarine system with its extensive salt-marshes, mud-flats, sand-flats and mud-sand mix flats, is a highly diverse and productive system. It regularly supports the largest known feeding (and roosting) concentrations of shorebirds in the Yellow Sea so it is considered that the system offers the best conditions for such species' staging requirements. As the concentrations and diversity of species are also both greater here than in either the Geum to the north, or Gomso Bay to the south (or at any other site in Korea), Saemangeum must be better at meeting these species' actual ecological requirements. In comparison, based on the number of shorebirds presently supported by these sites, both Gomso Bay and the outer Geum estuary offer comparatively poorer conditions. The evidence strongly suggests that for significant numbers of birds, the Saemangeum development will be catastrophic.

But it would appear this disaster is likely to be compounded by what is proposed for the Geum estuary. Work is already under way on a 10,000 ha reclamation for an industrial estate. Given this trend, it is clear that few, if any, significant shorebird sites in Korea can be considered safe.



The area of tidal flats reclaimed will be equivalent to those of the Firth of Thames, Manukau Harbour and Farewell Spit combined.

What has happened at Saemangeum is not just a Korean issue. It has biodiversity ramifications for all countries along the East Asian – Australasian Flyway. In 2008 South Korea will host the Conference of contracting parties to the Ramsar Convention. There are strong fears that work on the Geum project will be well advanced by then. Clearly there is a need for organisations such as Ramsar to be more proactive in addressing this dramatic loss of marine wetlands in Korea. There is also a need for all countries in the East Asian-Australasian Shorebird Site Network to express their concerns to the government of South Korea. Governments focused on short term trade deals need to give more consideration to long term biodiversity outcomes.

Keith Woodley story and photos.

A great Great Knot flock seen for the last time at Saemangeum?

