

SURVIVING THE TSUNAMI

Archaeological sites of northeastern Japan

The deadly wave that engulfed the northeastern coastline of Japan devastated many archaeological sites and museums. Prehistoric settlers along the coast chose higher ground for their sites, perhaps passing on knowledge of the danger from earlier tsunamis from generation to generation. CWA looks at a handful of these ancient sites.

Northeastern Japan is the ‘treasure house’ of Jomon culture, the best example of prehistoric foragers in the temperate zone. Highlights include the world’s earliest dated pottery container (see CWA 1 & 11), to the extraordinarily rich waterlogged sites of the later Jomon. Their significance is now being recognised as World Heritage. The Tohoku region is where the Chinese-influenced Japanese Classical civilisation encountered its northern neighbours – predecessors of the Ainu, now recognised as an indigenous people – that resulted in a heady mix of warfare, trade, repression, and subversion. Archaeologists in Tohoku have pioneered important techniques, from stratigraphy to archaeobotany, and from AMS dating to edge wear analysis. This rich heritage is now on show in a new generation of exceptional museums and historical parks. Far from being an archaeological backwater, northeastern Japan has much to offer those interested in the past. ➔



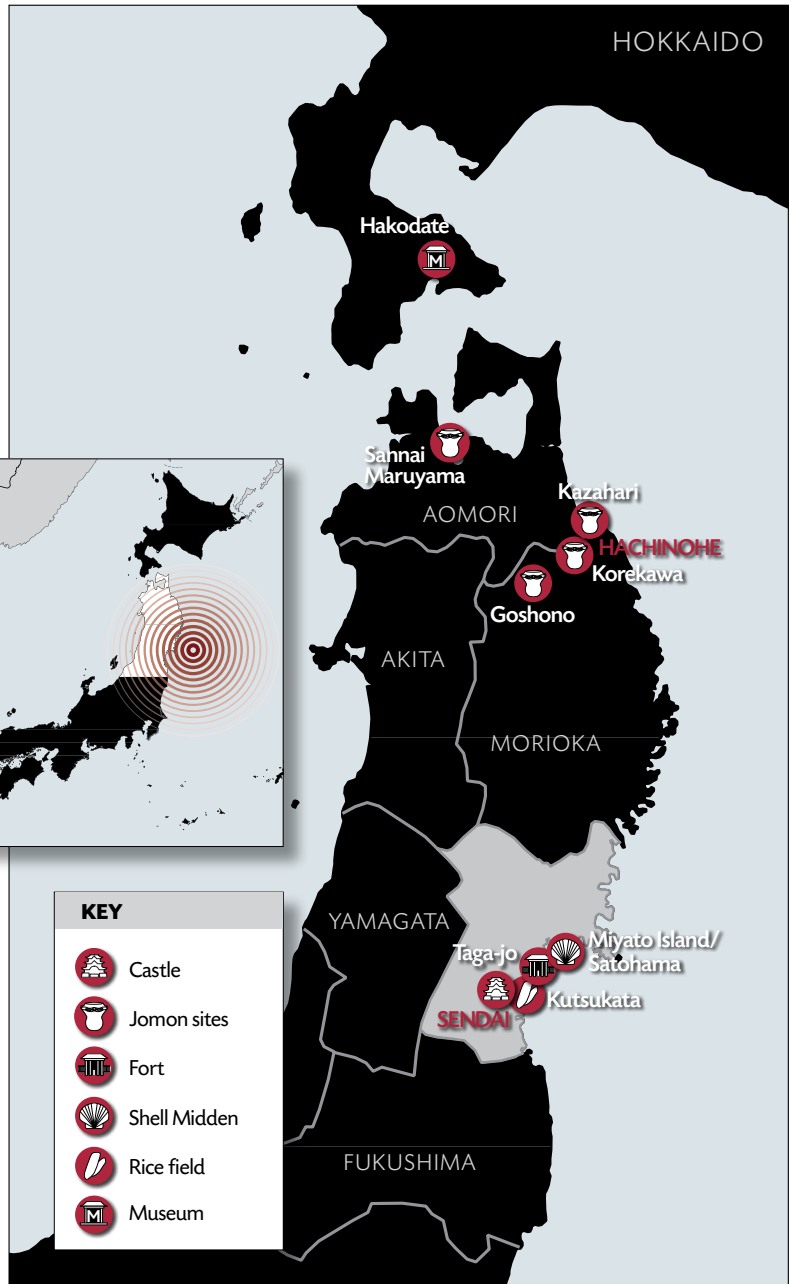
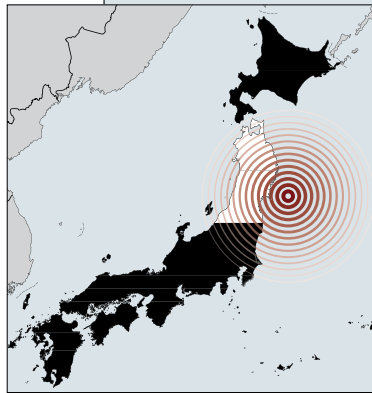


SATOHAMA SHELL MIDDENS

While the overwhelming might of the tsunami unceremoniously dumped cars in the paddy fields below, the ancient shell middens at Satohama, sitting on slightly higher ground just out of reach of the raging waters, escaped unscathed.

First investigated in the late 1890s, Satohama lies at the heart of Matsushima Bay – a world renowned beauty spot – on Miyato Island, the largest of the 50 or so archaeological sites found there, stretching 600m east to west, and 800m north to south. It is a major settlement of the Jomon period and the site is distributed across gentle hills and terraces, at 20m-30m above sea level. The earliest remains, dating to the Early Jomon period (c.6,500 years ago), are mainly along the terraces. Later deposits are found at slightly lower elevations, while artefacts dating from the Nara and Heian periods (8th–12th centuries AD) are found around the present-day high-tide mark. Many of these later sites are salt-making locations. The middens are given a series of location names: Terashita, Sodekubo, Dai, and Nashinoki but the whole cluster is often known as the Miyatojima shell middens.

Satohama was significant in that it was the first site in Japan where the stratigraphic method was used, and pots recovered from the Sodekubo and Tai locations were significant for



PREVIOUS PAGE Cars litter the landscape, while the ancient shell middens at Satohama, on higher ground behind, survived unscathed.

clarifying the later Jomon pottery sequence. More than 21 human burials, with ornaments and shallow bowls placed over their heads, were excavated in the Terashita area dating from the Final Jomon period; and, evidence from the Yayoi period (500 BC-AD 300) included pottery with seed impressions and iron implements, proving that rice agriculture in this region was accompanied by metal tools, as elsewhere in Japan. In the Sodekubo area, a number of headless crouched burials were excavated. Akanishi shells and several wild boar skulls – that were all facing towards a single stone – were discovered on the terrace, suggesting this was a location used for ritual purposes.



LEFT Examples of Jomon ware.



TOP Stone tools, including arrowheads from the Jomon shell middens.

RIGHT A delicately carved bone comb.

The Tohoku Historical Museum undertook a research project on the shell middens of the Sendai Bay area, to understand the fishing lifestyle in the area; the museum also excavated in the Nishihata area, focusing on smaller shell deposits around the coast to analyse the seasonality and patterns of deposition. Using a 1mm mesh, they were also able to pick up even the tiniest of fragments – the first time such micro analysis was possible on shell middens. Over 350 shell layers, containing about 50 species of shells, were identified in just 2.3m depth of deposit. From the recovery of artefacts ranging from pottery, lithics, ornaments, and fishing tools it has been possible to establish the inhabitants' lifestyle throughout the seasons.



BELOW AND RIGHT
An excavated dwelling at Goshono. Note the dark traces indicative of burning.



GOSHONO PARK: Iwate

The Jomon site at Goshono Park, Iwate Prefecture, is one of the most important sites of its kind in the country: more than 600 pit-dwellings dating to the Middle Jomon period, c.2,500 BC, have been excavated so far. Situated in the town of Ichinohe, Goshono sits on a terrace overlooking the Niida River as it flows north to the port of Hachinohe – a city that suffered the devastating affects of the tsunami this year.

There are three distinct settlement areas, to the east, west, and in the centre. As well as pit dwellings, the remains of post-built structures – similar to the 'four-posters' of the British Iron Age – were also discovered, along with the remains of a burial site where clusters of stones mark the graves. The burnt dwellings were in excellent condition, with timbers still in place and traces of the charred turfs used as roofing material clearly visible. Indeed, such was the degree of preservation that archaeologists were able to reconstruct with a high degree of authenticity these houses that characterise Jomon architecture.

The site has now been transformed into an historical park and museum, exhibiting spectacular Jomon pots, ceramic figures or dogu, ornaments made of bone and stone, and a remarkable clay mask from the nearby site of Makumae, renowned for its curved nose and apparent humorous expression. ➔





HACHINOHE: Korekawa

The waterlogged settlement at Korekawa is one of a cluster of sites in the port city of Hachinohe – at the northern end of the Pacific coast of Honshu, on the Niida River downstream from Goshono. It dates to the later stages of the Jomon period, c.1500-300 BC, has produced huge quantities of organic remains, including architectural timbers and beautiful lacquered pottery; and the artefacts found exhibit a high level of technological expertise that continues to spark heated discussions about the identity of these late Jomon foragers and their relationship to the modern-day inhabitants of the archipelago.

Several burials were discovered, some of which were sprinkled with a red pigment, and some skeletons had gaps where teeth had been removed or filed – almost certainly as part of a coming of age ritual. Wooden pedestalled vessels recovered from the site are reminiscent of pedestalled pottery vessels made by the Yayoi rice farmers who were spreading through western Japan at this time. The waterlogged conditions created by the river and springs that rose in the hills behind the site ensured many organic remains were extremely well preserved: lacquered wooden bowls and even baskets were recovered from the excavations looking almost good enough for use today!



TOP RIGHT The site at Kazahari, showing the grave pits delineated in white.

TOP LEFT Photographs taken of Korekawa, a later Jomon period site, during early excavations in the 1920s.

ABOVE This lacquered wooden vessel is an example of the sophisticated techniques developed during the Jomon period.

BELOW This year, the new Korekawa Museum opened near the site, partly to house the figurine with clasped hands which was discovered at the adjacent site of Kazahari.



HACHINOHE: Kazahari

Large quantities of pottery were recovered from the site, including high quality wares and spouted pottery vessels. Other artefacts, including figurines, etched stones, stone bars, attest to the rich ceremonial and material life of these foragers, while some of the objects found, including wooden decorated spatulas, look like precursors to later Ainu material culture.

A short distance away and on slightly higher ground is Kazahari, also dating to the Late Jomon era, c.1500-300 BC. The excavations here also produced some spectacular artefacts. One of the most striking was a ceramic dogu dating to the Late Jomon, found in pieces but when reconstructed represented a masked figure, sitting with its legs drawn up, and its hands clasped (see right and on cover). This figure was designated a National Treasure in 2009, and featured in the British Museum exhibition *The Power of Dogu: ceramic figures from ancient Japan*.

Carbonised rice grains from a household hearth at Kazahari suggested that rice was being utilised around 1000 BC – and throwing into confusion accepted theories for the beginnings of rice farming in northern Japan. Rice cultivation came relatively late to Japan: until this discovery, it was widely accepted that rice agriculture, which involved the construction of rice paddies, had been introduced to the Japanese archipelago during the mid to late 1st millennium BC from the East Asian continent, arriving first in the southern island of Kyushu. So, what was rice doing so early so far north? The method used for dating the grain - Accelerator Mass Spectrometry (AMS) – has been questioned; but nonetheless, archaeologists have been forced to reconsider the whole issue of when rice agriculture was adopted in Japan.

It was the discovery of paddy fields at the site





IMAGE: Matsuyuki

of Itazuke in Kyushu in 1978 that provided incontrovertible evidence for the spread of rice agriculture to the Japanese archipelago. But, how it then spread through the islands remains a controversial topic: recent work on dating suggests it appeared in western Japan c.900 BC, and arrived in northern Honshu around 2,000 years ago.



TAREYANAGI: Aomori

Evidence for early agricultural pioneers has been found at Tareyanagi, where over 650 individual rice paddies were discovered with an associated complex irrigation system that covered an overall area of nearly 4,000m². Remarkably, and rather poignantly, over 1,500 human footprints were also found preserved in the soil.

The large quantity of arrowheads found at Tareyanagi indicate hunting continued to play an important role in the subsistence of these early farmers of northern Japan, and it is also likely that a range of other plant foods were, if not cultivated, then intensively exploited. While rice may or may not have been the only significant staple plant crop, there is no doubt that rice, once established, with its attendant technology of irrigated paddy fields, played an important role in the shaping of the Japanese landscape and the Japanese identity.



KUTSUKATA: Miyagi

The archaeological site at Kutsukata, in Miyagi Prefecture, was saved from the 2011 tsunami by the Sendai East Motorway, built seven years earlier. But 2,000 years ago it had no such defences.

During the Yayoi period (when rice farming and metallurgy were introduced to Japan, c.500 BC–AD 300), a major tsunami washed across the region, destroying crops and putting the land out of action for centuries. Archaeological excavations began here in 2007 and uncovered



ABOVE The praying figure of the Kazahari dogu was found in pieces but has been reconstructed (see cover).

TOP LEFT AND RIGHT A pillared structure and other reconstructed buildings, at Sannai Maruyama, the largest Jomon site yet discovered.

TOP MIDDLE Rice, now a staple of Japanese cuisine, was introduced into the region about 2,000 years ago.

FURTHER INFO

Hakodate Jomon centre opens 1 October 2011 (9am–5pm, closed Mondays). Adults 300 yen, students 150 yen.

SOURCE

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cultivated paddy fields, bordered by *aze* (footpaths), with evidence of rice growing using the flooded field technique – employed throughout the region. A layer of sand across the site marks the point when and where the tsunami struck, destroying the rice fields: nothing was grown here for the next

400 years. Archaeologists have now found that the sand swept in from the coast extends across a vast area, suggesting the tsunami covered a greater distance than previously thought.



SANNAI MARUYAMA: Aomori

In the 1990s, the largest Jomon settlement yet discovered was found at Sannai Maruyama in Aomori Prefecture. Archaeologists uncovered large numbers of graves, and enormous quantities of artefacts. Occupied for nearly 2,000 years, it has more than 1,000 buildings: pit buildings similar to those from Goshono, large communal structures, and monumental timber constructions.



VISITORS WELCOMED

During much of the Jomon period, Honshu and, to the north, Hokkaido formed an interconnected cultural zone, with the Tsugaru Straights, which separate the two islands, acting as a communication corridor rather than a barrier. Crossing the Straights – these days usually through the longest tunnel in the world, the Seikan Tunnel, rather than the more scenic ferries – is the newly opened Hakodate Jomon Centre, home to the Chobonaino dogu, designated as a National Treasure: the dogu (see p.24), was discovered by an elderly farmer digging potatoes.

There is certainly much archaeology to celebrate in Japan. While reconstruction of damaged areas continues, there is still much to see and enjoy of this country's long and exciting heritage. **WA**