What happened to the industry?
By the 1880s, the lime trade was in decline and by 1900 seems to have ceased production. Activity had only been sporadic throughout the final years of the nineteenth century. On the 17th September 1883, the Agnes left the Staithe, the last ship to depart Holy Island laden with lime. This ship, along with others of Nicoll’s fleet, did return in the next few years but, it seems, to collect any materials from the island which were needed back in Dundee. In 1899, the writer Edmund Bogg noted that ‘There was formerly a very important lime industry (but it had) gradually dwindled away and the houses formerly occupied by workpeople have now almost been buried in the sands’ (Jermy p. 58).

The kilns were last fired - by island farmers - in 1900. By the 1880s the lime trade was in decline and by 1900 seems to have ceased production. Activity had only been sporadic throughout the final years of the nineteenth century. On the 17th September 1883, the Agnes left the Staithe, the last ship to depart Holy Island laden with lime. This ship, along with others of Nicoll’s fleet, did return in the next few years but, it seems, to collect any materials from the island which were needed back in Dundee. In 1899, the writer Edmund Bogg noted that ‘There was formerly a very important lime industry (but it had) gradually dwindled away and the houses formerly occupied by workpeople have now almost been buried in the sands’ (Jermy p. 58). The kilns were last fired - by island farmers - in 1900.

Quicklime
To make lime putty and hence lime mortar.**
To destroy infected bodies/carcasses in burials.**
To make lime putty and hence lime mortar.**
To create “limelight” in theatres.**

Slaked lime
To make clay soils more workable and to neutralise acid soil.**
To make whitewash, mortars and plaster.**
To destroy colours in mass burials.
To make bleaching powder, a disinfectant.**
To make caustic soda used to make soap.*
In “self-heating” cans of food.
In effluent gas purification.
In water purification.
In papermaking.*
In making washable rayons in the textile industry.

Piles of discarded lime near the Castle Point kilns.

The lime kilns today
Today the lime kilns stand as a monument to the industrial era in a place not usually associated with such activity. In recent times, work has been carried out by the National Trust which has involved parts of the kilns being reinforced and altered. This is most evident around the south western pot, where the brick walls have been removed from above the draw arches and concrete lintels have been installed. In 2010, the first phase of important improvements to access and interpretation began. The old fences were improved to prevent sheep from gaining access to the kilns, and a floor was laid in the central passageway. A new public access gate was also installed. Funding for this project came from National Trust Property Raffle sales in the Castle, Gift Aid on Entry money from visitors. Further funding, with thanks, was provided by the Daneway Charitable Trust.

The lime kilns
The lime kilns at Beadnell are cared for by The National Trust who also maintain the earlier coastal lime kilns at Beadnell. Other lime kilns in the area can be seen at:
Beadnell.
Seabourne.
Little Mill, near Longhoughton.
Peppermoor, near Longhoughton.
Christon Bank, near Embleton.

An industrial monument
The lime kilns are a Scheduled Ancient Monument - a designation made in recognition of the national significance of the site. They are one of the largest examples of their kind anywhere in the country and certainly the largest actively-conserved kilns in the area.

Further reading:
Roger C. Jermy Lindisfarne Limestone: Post Quaternary, Geomorphology and Limestone Industries 1800-1950 A study of the lime industry on Holy Island, focusing onshore at Castle Point
Edmund Bogg 4 thousand miles of smoking in the border country (1886)
Amanda Gow and Tom Addyman Lindisfarne Lime Works, Holy Island (2009). Duck Based
The National Trust. www.lindisfarne.org.uk. A website by Duck Based.

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Discover
The Castle Point lime kilns

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When were the kilns built?

Permission for the development of the kilns on the site was given to Nicoll on 24th March 1860. It is not clear how long the building work took, but by the time of the 1861 census there were 35 men employed at the kilns, compared with 8 men in the 1851 census. The quarter Session Deposited Plans of Holy Island Reclamation of 1863 shows the kilns associated wagonways and the jetty were all established by then.

Who developed the lime works?
The kilns and associated operations - such as the quarries and wagonways - were developed by William Nicoll and Co. of Dundee, Scotland. Nicoll was born in Scotland in around 1824 and became a Lime Merchant in the town of Dundee. By the time of his death in 1865 shows the kilns, compared with 8 men in the 1851 census. Nicoll was appointed Robert Dewar as his manager for the Holy Island works.

How did the kilns work?

In the kilns, limestone and coal were added in layers at the top of each pot at a ratio of about five to one, to allow for even burning. As quicklime was removed from the burning arches at the base of the kiln, another layer of stone and coal was added at the top. Once loaded (which took several days) the kilns were lit and the fire would spread upward. The hottest part of the kiln was the ‘burning zone’, just above the top of the burning arches. Air entering the kiln was carefully regulated - a highly skilled operation. The kilnman’s eye was critical to the success of the venture, too hot or too cold and the desired reaction would not take place. The Limestone (Calcium Carbonate) was heated at between 800-900 degrees Celsius. This produced quicklime (Calcium Oxide). Adding water to quicklime would result in a violent reaction and produce slaked lime (Calcium Hydroxide). The work was dangerous, and men at the kilns would often receive caustic burns. The dust if inhaled caused lung damage and could in some cases cause blindness.

Who worked at the quarry and the lime works?

By the 1861 census, Nicoll had appointed Robert Dewar as his manager for the Holy Island works, and he in turn was responsible for 33 employees. These included labourers, blacksmiths and an engineer, and while most men came from the island, there were a growing number of Irish and Scots being employed. Eventually so many had arrived that a small colony of cottages grew up around the quarry at Nessend.

How did the burnt lime get to where it was needed?

The burnt lime was known as ‘quicklime’ (quick = living) as it was known to start reacting violently if it came into contact with water. On one occasion in 1847 a vessel from Berwick - the William - settled on her anchor in Holy Island harbour. Water rushed in through the hole and reached the lime in her hold which caused a fire which was only put out by the incoming tide!