

FARM SILOS of NSW

AN ICONIC ELEMENT OF THE SOUTH COAST RURAL LANDSCAPE



The Silos Restaurant south of Berry

CONSERVATION REPORT

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PREPARED FOR:

**LANDSCAPE CONSERVATION COMMITTEE, NATIONAL TRUST OF AUSTRALIA
HERITAGE DIVISION - NSW OFFICE OF ENVIRONMENT & HERITAGE (OEH)**

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PURPOSE:

1. To recognise and secure the unique rural landscape of the South Coast of NSW with its iconic small farm silos and dairies of the early 1900's.
2. To identify an economic way to save and utilise these iconic structures which are a distinguishing feature of the South Coast's rural landscape.

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All photographs in this document are by the author and taken at various dates during the project.

1. INTRODUCTION

The gradual removal of the original small farm silos on the South Coast of NSW is leading to the loss of a distinctive/unique feature of the 1900's rural landscape. The silos were built mainly in the period 1905 to 1935 on dairy and mixed farms. The dairy industry combined with butter and cheese making was the most significant industry on the coast. The dairy industry and its service industries employed the majority of the workforce. In the towns the milk and butter factories were the tallest and most significant rural buildings. In the rural landscape the farm silos and milking sheds were the most significant buildings. In many areas of the South Coast farms, these silos are still the most significant buildings in the rural landscape.

These silos are located on small farms and are not to be confused with the large commercial grain silos often found on rail sidings in grain growing areas further west in the state.

2. STUDY AREA

The small farm silos subject of this report are located from Wollongong throughout the Shoalhaven region down to Bega and the Victorian border.

Silos were generally located on the east coast of NSW where dairy farming was established from early European settlement to prior to 1930. Many on the north coast have disappeared where small farm silos are no longer an important part of that rural landscape.

Silos are still a major contributor to the rural landscape in Wollongong, Shellharbour, Kiama, Shoalhaven, Eurobodalla and Bega Valley local government areas.

The South Coast landscape particularly between the coast and the escarpment is undulating, productive rural country cut by rivers running to the sea. Because of the undulations long views are provided from the coastal roads. These views over the rural landscape are dotted with the small farm silos. The silos stand out as the tallest built forms in the landscape.

Even so their significance in the landscape is difficult to show photographically, as the silos are often quite distant from main roads. The significance, however, is felt when travelling any distance along the South Coast, much like the sense of a vast canyon, the expanse of a forest or crossing a desert or sea.

See coastal map on page 11.

2a. Location of individual silos on site

The silos being the tallest building in the rural landscape are very easy to identify. The silos are generally located close to the milking sheds/dairies and a little further away from the original homestead. The homestead was usually located far enough away to distance the home from the working farm where cows were milked, young calves penned, and pigs were fed. The whey from milk separation and cheese making was also stored and used as feed.

Locating the house some distance from the dairy, the associated smells and flies, was the norm. However, as the farmer and helpers needed to be able to walk to and from the house at least three times a day for milking, the original house was usually in the same photo frame as the dairy and often closer to the road frontage.

2b. History of use

The silos were initially built to store winter feed for dairy farms. They could be used for the storage of silage, corn, root crops or lucerne hay. They were built in the areas supplying the major town and cities with fresh milk. For the dairy co-operatives to gain supply contracts, it was important to supply the same quantity of milk to the market in Sydney and Melbourne in winter as in summer. This practice was referred to as year-round farming. Particularly on the South Coast the grass grew slower in the winter and additional feed was required to keep up the gallonage of milk.

Farmers in the early 1900's were encouraged to grow grain and put down silage for the coming winters. In later years some farmers relied on the railway to transport lucerne from beyond the Blue Mountains. This was colloquially known as "green-gold lucerne" which was presumably then stored in smaller silos prior to use on the dairy farms.

It should be noted that only the northern dairy farms could use this rail service as the railway from Sydney terminated at Bomaderry. A rail bridge was never built over the Shoalhaven River linking to Nowra, and all the areas south to the Victorian Border.

2c. History of built form

The earliest and smallest silos were often rudimentary farm-built silos on the dairy farms established in the late 1800's. They were simple circular structures of stone or brick or were square timber frames with an internal lining.

Many of the early silos were replaced with concrete silos in the early 1900's.

The majority of the silos still standing can be attributed to Government-sponsored silo building promotion in the 1920-30's. After World War I, Government assistance was available to help finance farm improvements and many silos were built in this period, often built by contractors and often of similar design. These silos remaining in the landscape are often referred to as Interwar Concrete silos.

"To encourage farmers to build silos more cheaply, a standard set of forms and diagrams were provided. These include "cast-in-place: concrete exteriors -- or using horizontal-oriented corrugated-iron sheets with render over the exterior".

Shellharbour Heritage Study Fact Sheet, enclosed under.

In an effort to settle returned servicemen back into work after World War I the Federal Government established a number of Soldier Settlement schemes. A large number of the silos were built on soldier settlements blocks, subdivided and granted to returned servicemen. Some were built and funded by similar government assistance schemes including Unemployment Relief Schemes in the 1930's and Soldier Settlement Grants for farm improvements.

The Federal Government sponsored silo-building in 1920-1930 providing funds for the larger concrete bulk grain silos on rail lines later controlled by the Grain Elevators Board.

These silos are not the subject of this report, however they been photographed by Hal Pratt (Architect) in his report titled "Wheat Silos of NSW" 2006 University of Wollongong. These silos are easily accessible by road and have now become a tourist feature. Recently many of these, silos including those located in Victoria and South Australia, have been painted with larger than life size murals and are now tourist attractions.

3. METHODOLOGY

Regarding the uses of the silos I have spoken to farmers, stock and station agents and real estate agents. Regarding the maintenance and repair of silos I have spoken to farmers, builders, roofers and equipment hire firms. Regarding the prior listings I have used the Heritage Division (OEH) web site and spoken to the local council planners responsible for heritage listings and a number of ICOMOS members interested in rural landscapes. I have studied articles on the silos and their uses, travelled extensively in the area from Newcastle to the Victorian border and taken numerous photographs: close ups of silos and more importantly distant shots of the iconic silos in the landscape.

At the rear of this report I have included a range of photographs showing, close up examples of silos, examples of their reuse and the iconic rural landscape featuring the silos.

4. DESIGN & CONSTRUCTION

The majority of silos are circular in shape with a timber framed, pitched roof. When there are two or more constructed together the roof can be gable ended. All roofs are timber framed and clad with galvanised corrugated iron. Often there is only a top and bottom opening as it was important to keep the feed airtight, dry, compacted and sealed from rodents.

The silos were usually built in an elevated area adjoining a barn and milking shed not too distant from the homestead.

The earliest silos were constructed of brick, stone, concrete block or timber framed possibly fibro clad and a small number were of galvanised iron. The later silos and the most dominant in the landscape were constructed of reinforced concrete. Some were slip formed about 0.8 metres per pour and others show corrugated iron shape externally presumably from the 'off-form' use of the corrugated iron. There appeared to be a small number of contractors in each area who built the majority of the silos still standing.

The smallest of these farm silos were circular and about 3 metres high and 3 to 4 metres in diameter. The later built silos were larger, up to 8 metres high and 5 metres in diameter. These were often built in pairs and had a small door size opening one side of each silo at heights equivalent to floor levels, giving the appearance of 3 to 5 levels. These openings were closed from inside with timbers as the level of feed reached these levels.

The small sizes were ideal for small family farms and would allow the farmer to fork down the silage required for the day. The larger silos had shuts at each level and a conveyor or auger to raise the hay. Most of the surviving silos have lost the shuts and other mechanical attachments that allowed the silos to be used as intended.

Generally, the attached milking sheds and other contributory items have been lost. If saved they should be listed as contributory items.

5. USES OF FARM SILOS

5a Historical use of silos and silage storage.

Small farm silos were generally being phased out from the end of World War II. From this time bulk silage was often stored in shallow pits gouged out of small embankments by a blade on a tractor. The hay and other material were loaded into the pits, covered in plastic and held down with timber or old car tyres. When the lucerne was required it was removed with a blade on the tractor.

With advances in agricultural technology and animal husbandry any new silos are built much wider and shorter. These silos are for the storage of grain for animal feed and are generally built of aluminium or steel.

Long term grain storage is difficult because of vermin, mould, moisture etc and silos must be aerated. Feed grain however can be stored for short periods in newer smaller metal hopper silos or bins that can be transported to the farm by truck. These small bins are now dragged or carried around the paddocks where required for stock feeding.

Today silage is still used for cattle feed but is made and stored in a less labour intensive and more economical way, i.e. baled in the field in round plastic bales that can easily be moved and stacked by tractor.

The railway silos not covered in this report are also constructed of reinforced concrete but are much taller, over 10 metres high. They are often grouped in larger numbers on the edge of a town, located between main roads and rail lines. Often adjoining these large silos are the newest and largest permanent storage structures which are built in a pyramid shaped with light steel cladding. Other temporary grain storages are also pyramid shaped covered in plastic.

(See Hal Pratt report – “Wheat Silos of NSW” 2006 University of Wollongong under.)

5b Demise of Silos

The farmlands used by the dairy industry close to major cities and towns have been reduced by the encroachment of hobby farms and the spread of commuter dormitory suburbs. Additionally changes in the dairy industry has seen the reduction in small dairies and the corporatisation of the dairy industry. This has led to much larger herds of cows and to some of the industry moving west of the Blue Mountains, ironically to Canowindra where the “green gold lucerne” was originally grown, and places further west.

5c Today's Farm Uses

As detailed above the original small farm silos are generally not used for their intended purpose, for storage including lucerne, hay and grains. They have become obsolete due to technological change. They are too large for grain storage, and lucerne can be stored more easily with new farm practices.

Many of the silos are now showing damage to the galvanised iron roofs and require repair. Once the roof is damaged they are soon abandoned, and water penetration will cause more damage to the structure. Because of the height 3 to 8 metres the silos are not easily repaired by farmers.

In recent years a number of silos have been saved and adapted for alternative uses. A double silo and shed close to Berry have been converted to the restaurant of a small winery.

Estate Agents also note there is often interest in silos for their “aesthetic appeal”.

5d Adaptive Reuse

Being a distinctive feature in the rural landscape the silos often have what a Commercial Real Estate Agent would call “good exposure” and are ideal as a feature or draw card to a unique tourist attraction or adaptably reused as part of a winery, restaurant, hotel etc. The name silos attaches well to commercial products such as “The Silos Restaurant”, “The Silos Retreat” and the image is easily represented on a brochure, or advertisement of product labelling.

In the above examples the silos are the draw card and only need to be used as a minor part of the enterprise but they can be developed into tasting rooms, or with internal or external stairs as an observation area over the rural landscape. With the addition of floors, the silos can be used for further accommodation.

Other supplementary on-farm uses could be as a boutique brewery, or a silo, with the provision of floors and stairs, could be adapted as farm stay accommodation. A number also have been incorporated as a feature of contemporary farm homesteads.

6. HERITAGE PROTECTION

As far as I am aware there is no overall listing or record of where the silos are located on the South Coast. Their demolition or conservation is only addressed occasionally when owners wish to add buildings or redevelop. Their significance only arises when some are identified in a Council Heritage Study or when local planners or heritage groups are alerted to their proposed destruction.

There is one State Heritage Register (SHR) listed silo and a small number of silos have been identified by South Coast councils in their local area: see NSW OEH State Heritage Inventory; search Item Category: silos, dairy, farm, other farms.

The heritage inventory listings I have reviewed are very varied. A silo, if mentioned, is often the contributory item to a listing of a homestead or other outbuildings. If the silo is listed specifically it is usually listed as an example of an early rural use, a technological example of lucerne production or a change in building materials. The silos heritage contribution is not seen as an iconic element in the South Coast rural landscape.

The listing of Pomona C360 Pacific Highway Meroo Meadow as a dairy complex, states “The site also includes a range of buildings characteristic of dairy farms in the Berry-Bolong Pastoral Landscapes”

This is as close as it goes to landscape contribution.

7. STATUTORY CONTROLS

The NSW Heritage web site shows State Listed and Council Listed items under various categories: silos, farm, other farm and grazing. As silos are often gathered up as part of a complex, or as farm outbuildings, as an individual structure identifying a silo as having heritage significance remains difficult, even if every listing is read.

A brief review of local government controls summarised below, is indicative of the gaps in heritage list updating needed in each council area. Although council planning staff are generally interested in the preservation of silos I believe elected councillors and resident voters may have a different view.

Council Listings:

Wollongong Heritage Study lists a number of farm complexes; three include silos in the listing; other listed complexes may have an un-identified silo in the complex.

Shellharbour Heritage Inventory lists a number of silos on individual heritage sheets. (see example of part of Shellharbour Heritage Inventory, Fact Sheet enclosed under)

Shoalhaven Heritage Study identifies a number of farm complexes however only one very early concrete tub silo has been listed.

Eurobodalla Shire Heritage Study identifies a number of dairies and farms, including four silos.

Bega Valley Shire has not identified or listed any silos. A future review of local heritage is envisaged.

State Heritage Register:

Horsley Homestead at Dapto, listed as a Homestead Complex includes a contributory item, a 1909 silo, recorded as the first round reinforced concrete silo in Australia.

No listings under Category Silo.

8. STATEMENT OF SIGNIFICANCE CONSERVATION STATEMENT

Cultural landscapes: “Places that are likely to be significant are those which help an understanding of the past or enrich the present and which will be of value to future generations” Burra Charter ICOMOS

Small farm silos are a distinctive feature of the rural, cultural landscape of the South Coast of NSW.

The silos are significant as there are very few small farm silos surviving elsewhere in NSW.

They are a significant feature of the rural landscape of the South Coast and they tell the story of:

- the establishment of small farm dairies,
- the evolution of agricultural technology,
- the storage of silage,
- the Government improvement schemes,
- the soldier settlement schemes that were part of our rural cultural heritage.

The silos are an important feature of the South Coast pastoral landscape and an important part of the rural cultural heritage. The silos have a landmark quality being the tallest buildings in the landscape. The first silos were built on dairy farms established after the European settlement of the South Coast.

9. CONSERVATION MANAGEMENT

A casual view across the South Coast landscape will reveal that many of the original silos, that are now over 80 years old, are abandoned or suffering structural damage because of minor roof damage.

As detailed under 5c Today's Farm Uses, the original small farm silos are generally not used for their intended purpose. The small silos until recently were regarded as obsolete or only used for general storage, however now innovative alternative uses have been found.

From a farmer's perspective if the roof is damaged i.e. a loose sheet of iron, the repair is not economically viable for the small storage space provided. Also because of the height 3 to 8 metres the repairs are generally out of the scope of most farmers.

A National Trust listing would encourage local council's statutory listing of individual silos and encourage the State Heritage Division to make funding available for further conservation studies and \$ for \$ grants for the stabilisation of the silos. A Heritage Trust Fund provided with council, heritage and tourism funds could be called on to provide funds and ensure silos roofs are secured and stabilised.

A council project led by the heritage planner and development assessment officers could identify a group of significant silos; prepare a brief condition report and recommend the work required for stabilisation of the fabric.

To assist a property owner, a simple brief with a generic architectural plan could be prepared and submitted to a local roofing contractor. The work could be undertaken at minimal cost and paid for by the Heritage Trust Fund and the owners on a \$ for \$ basis.

With council or government support, farmers would be able to retain these silos for storage or an alternative use, thus retaining these important structures in the rural landscape.

Additionally, with support from the owners, it is suggested that councils and NSW Heritage Division (OEH) implement a cooperative scheme to encourage the preservation and reuse of silos on the South Coast. All DA's lodged on rural properties should identify the existing silos and detail their use.

The collective listing of silos is more likely to be successful if there is monitory support from local councils, NSW Heritage Division (OEH), and NSW Tourism.

10. CONSERVATION STRATEGY

To fully implement this report the State Heritage Division needs to:

- undertake a comprehensive thematic study of rural silos in the South Coast region of NSW.
- encourage Councils to include rural silos as individual items on statutory schedules
- encourage and support silo retention, repair, maintenance and adaptive reuse
- establish a cooperative fund to facilitate the conservation of these silos.

11. CONCLUSION

A National Trust listing of the silos of the South Coast would be the impetus for the protection of this iconic rural landscape and the recognition of the importance of the small farm silos in this landscape. A State Heritage Division study with guidelines to Councils would ensure the retention of these iconic structures.

The repaired and reused silos will continue to be an integral component of the pastoral landscape of the South Coast and can add value to individual farms. Their intended purpose may change as demonstrated by inventive and lateral thinking and adaptive reuses. Interest by architects, business owners and owner occupiers have already appreciated the niche iconic values of silos. The success of "The Silos Restaurant" adjoining a vineyard outside Berry and other accommodation establishments has encouraged adaptive reuse and spurred interest in the tourism industry.

A future State Heritage Division study of all silos in the state, farm silos and rail silos is recommended for a follow up listing.

MAP OF STUDY AREA



Hundreds of small farm silos were built on the South Coast before World War II. There is no record of where they were built or how many remain. This map does not show the position of individual silos.

PHOTOS OF SILOS ON THE SOUTH COAST



Tongarra Road, Albion Park



Rose Valley Road, Gerringong



Comerong Island, Shoalhaven



Comerong Island, Shoalhaven



Bolong Road, Shoalhaven



Bolong Road, Shoalhaven



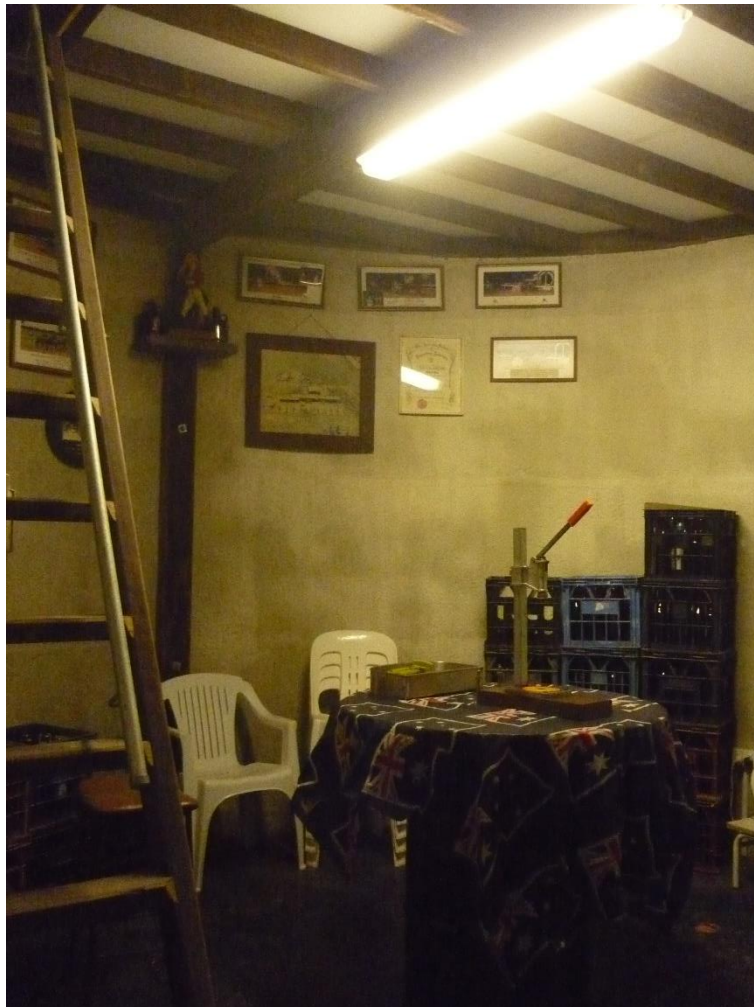
Bolong Road, Shoalhaven



Bolong Road, Shoalhaven



Berry, Shoalhaven



Berry, Shoalhaven, interior



The Silo at Merribee, Numbaa, Shoalhaven



Neil Davis Reserve, Coila, Eurobodalla



Moruya, Eurobodalla



Moruya, Eurobodalla



Tilba, Eurobodalla



Tilba, Eurobodalla, silos in the landscape



The coast behind Tilba, Eurobodalla



Double silo incorporated with modern home Bodalla, Eurobodalla



Cobargo, Bega Valley



Cobargo, Bega Valley



Pambula, Bega Valley



Kameruka Road, Bega Valley



Kameruka Road, Bega Valley



Kameruka Road, Bega Valley



Kameruka Road, Bega Valley, over the Bemboka River



Cover photograph wider view showing original milking shed now restaurant area; also note solar panels on silo roof. The Silos Restaurant south of Berry.

REFERENCES

Shellharbour Heritage Study Fact Sheet - Dairying farms structures – Concrete Silos
Heritage Inventory – Yovelton Farmhouse and Silo pages 3 of 8 enclosed under

Shoalhaven City Heritage Study – Peter Freeman – 2003

Hal Pratt – Architect report titled Wheat silos of NSW 2006 University of Wollongong

The Burra Charter – ICOMOS 1999

Keneley, Monica (1999) “Land of Hope: Soldier Settlements....”

Wikipedia - Soldier settlements (Australia)

NSW Office of Environment & Heritage – www.environment.nsw.gov.au/heritagesearch

Stephen Halicki – Strategy & Heritage Planner, NSW Office of Environment and Heritage

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Allen Grimwood – Town Planner,

Louise Thom – Heritage Consultant

Susan Jackson-Stepowski – Heritage Consultant - Shellharbour Council

Trevor King – Heritage Advisor, Bega Valley Shire Council

Gerry Hayes – Director of Trust Properties, National Trust of Australia (NSW)

Nick Lyell - Auctioneer & Estate Agent Elders Berry

Farmers and land owners - Michael Hunt -Bolong, Ted Walsh, Robert Cockrane,
Proprietor Silos Restaurant Berry, Betty & Peter Hetherington – Bega

Di Garder – historian & editor

South Coast Time Traveller – History at Woodlands, Pambula - June 2012