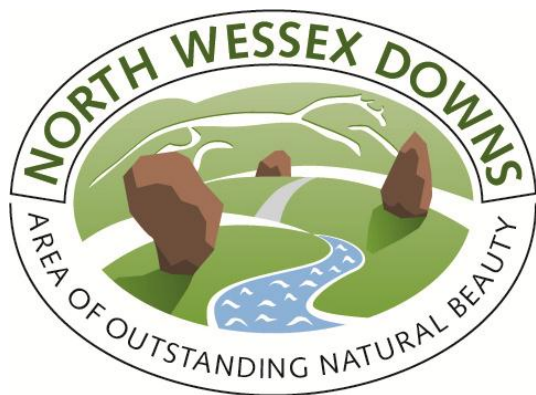


# Managing Hedges for Woodfuel

27<sup>th</sup> March 2014



WOODLAND  
TRUST



# ToWards Eco-energetic COMmunities

**Feasibility of using material harvested locally from hedgerows as a source of sustainable fuel for the local community**

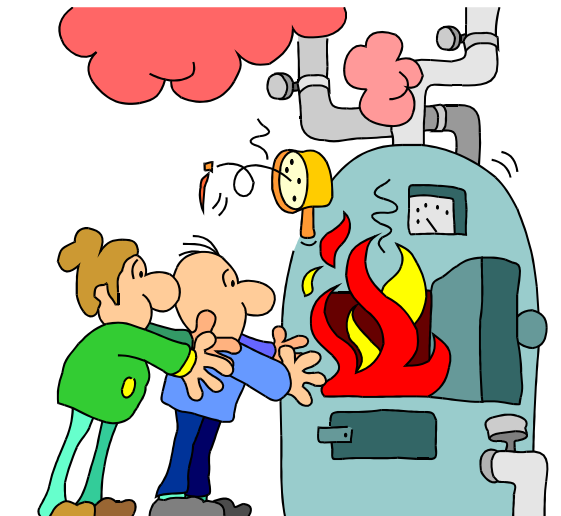
**whilst also providing an economic incentive to ensure the long term sustainable management of our hedgerows.....**



# Hamstead Marshall Community Woodfuel Pilot Project

Based around Elm Farm, Hamstead Marshall

1. Hedgerow management for local biomass
2. Woodfuel hub
3. Boiler installation & district heating system



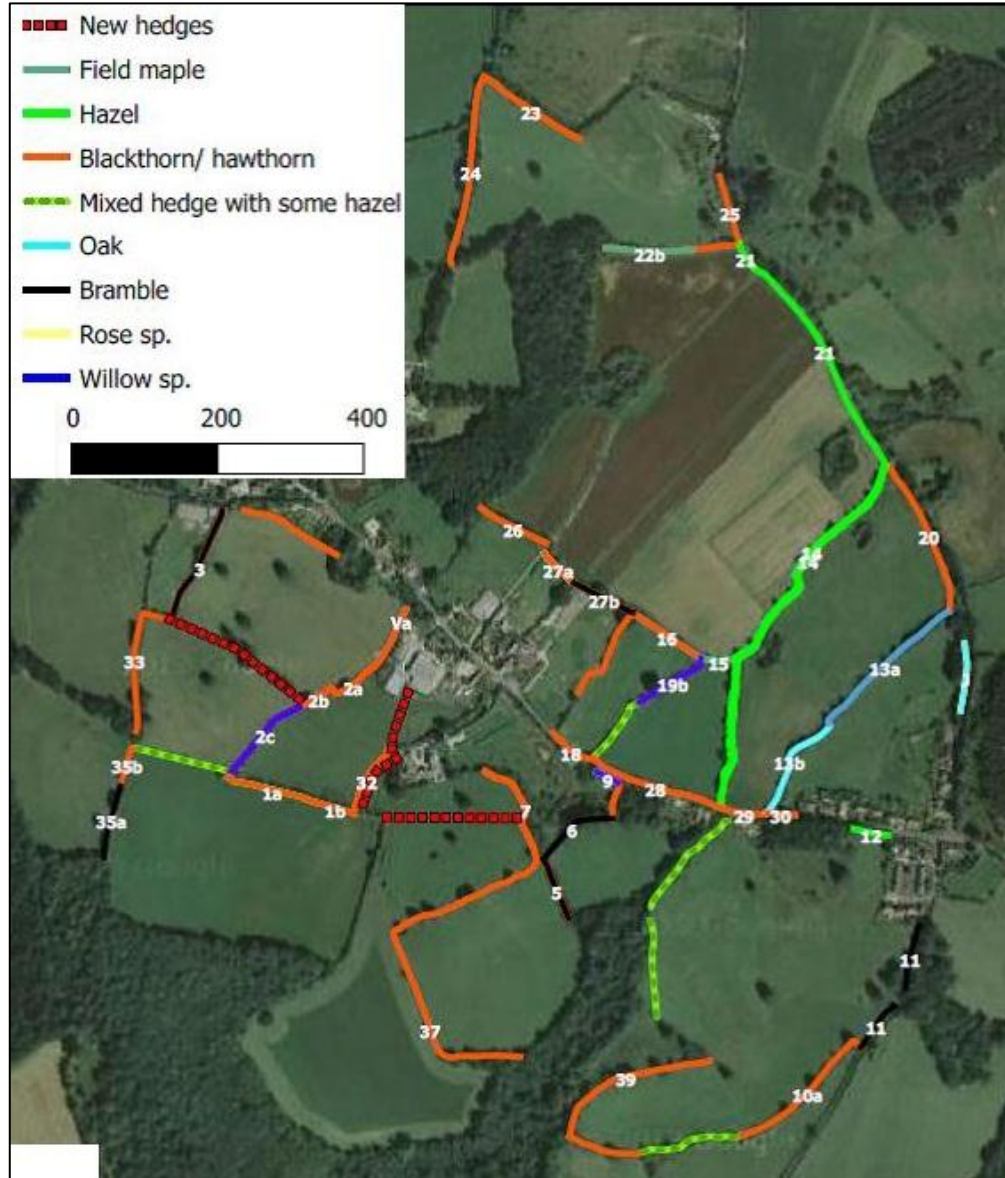
# Summer 2013 Hedge Surveys

- 24 woody species and 60 flowering plant species recorded
- Predominantly under-managed
- 75% in favourable condition (as defined by Hedgerow HAP)
- Those not in favourable condition - too open at the hedge base, as measured by a basal canopy height greater than 50cm.
- Autumn 2013 hazel-rich hedgerows surveyed for evidence of dormice



# Hedgerow Management Plan

- 9.5 km total length
- 5 km not currently suitable for woodfuel management
- 4.5 km suitable for coppice management
- 0.9 km to coppice next year
- Approx. 20 tonnes seasoned chips



# ORC Harvesting Trials

Bracke Accumulating Felling Head

VS



Dymex 14 inch tree shears

VS



Chainsaw



# Bracke C16a Accumulating Felling Head

- Excavator mounted
- The cutting system consists of a standard saw chain on a circular blade which can cut diameters from 1 to 26 centimetres.
- The felling head has an accumulating grapple arms which makes it easy to pile stems for later pickup



# Dymax Excavator Tree Shear

**Two-shear arms with high strength, steel cutting knives.**

**Dual grapple arms that secure the tree prior to shearing.**

**Option to include a bunching arm gatherer that cuts multiple stems**





# Summary

	ADVANTAGES	DISADVANTAGES
<b>Bracke Felling Head</b>	Clean cut, better stool survival rates Can cut multiple stems Fast	Less easy to hire/ obtain Expensive if only short length of hedge Less versatile than chainsaw
<b>Dymax Tree Shears</b>	More widely available, Fast	Can cause damage to stools Need to add accumulator to deal with multiple small stems Expensive if only short length of hedge Less versatile than chainsaw
<b>Chainsaw</b>	Very widely available and cheap to operate More versatile	More time consuming

# Processing options to trial at Elm Farm

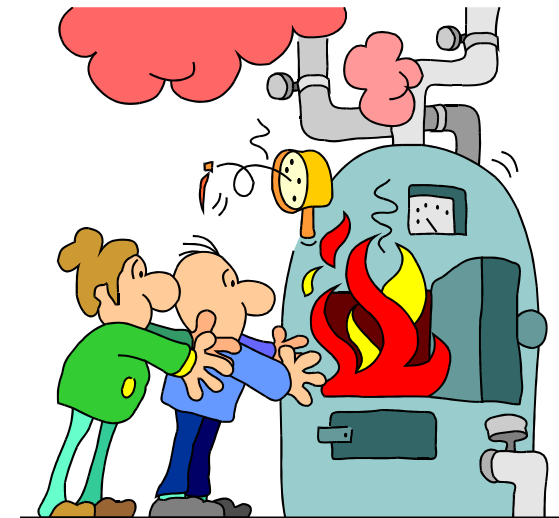
- Standard tree surgery chippers
- Fuel grade chipper
- Chip from whole tree vs chip from cord wood only
- Firewood
- Branch logger



# Fuel quality/ boilers

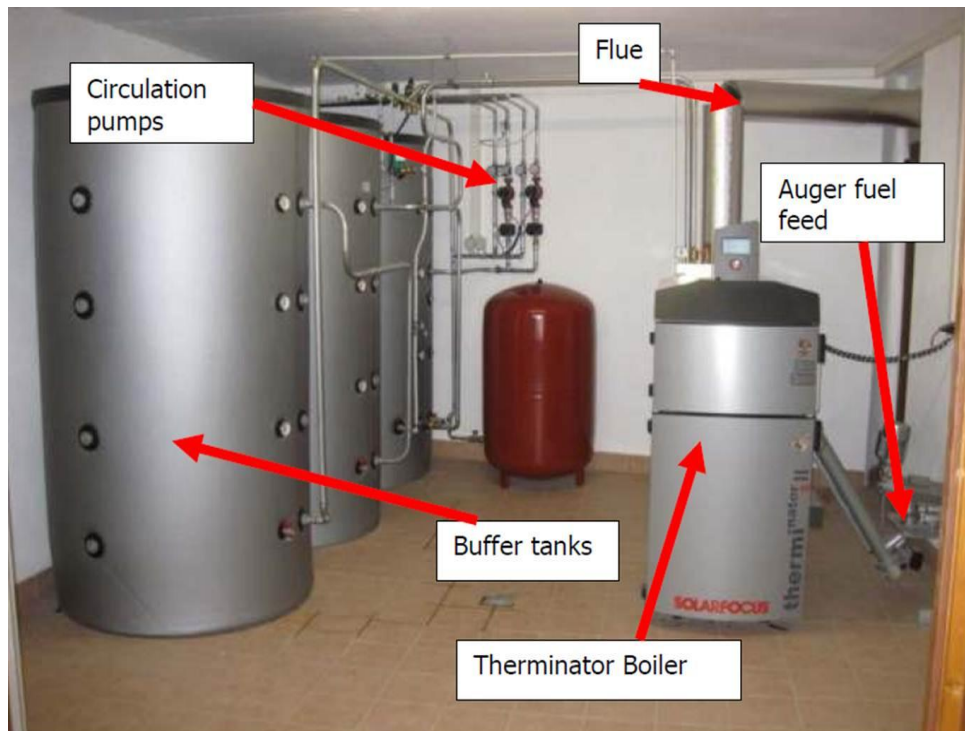
What we plan to do....

- Use all woody material from hedgerows
- Use chip from agroforestry system
- Use other bought in chip
- Provide a source of fire wood for the village



# The Challenge

Fit the boiler to the chip.....



# Curridge Primary School

- Herz woodchip boiler 50 kW
- 2000 litre buffer tank
- Above ground chip store, next to the boiler house
- 10m<sup>3</sup> fuel store capacity (2.5 tonnes woodchip @30% MC)



# Wakelyns Case Study

- Coppice Agroforestry System
- Material cut using a circular saw then stacked and dried in the field for 1 year (willow covered) and and chipped whole.



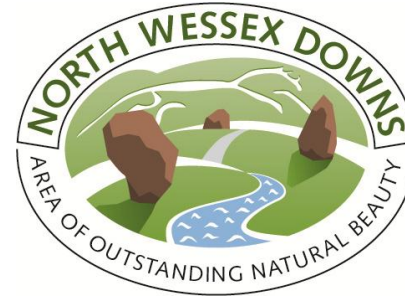
Chipper: 6 inch Timberwolf



Boiler: 20kw GILLES



Thanks to:



Questions?

