



Offshore Wind Power Limited

# West of Orkney Windfarm Onshore EIA Report

## Volume 2, Supporting Study 7: Deer Survey Report

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# WEST OF ORKNEY WINDFARM PROJECT

## DEER SURVEY SUPPORTING STUDY



## Project Sign-off Sheet

Project name	WOW Deer Survey Supporting Study
Project manager	Robbie Rowantree
Start date	3 March 2023
Completion date	31 March 2023
Project Duration	4 weeks
Sponsor	Xodus Group

### Project goal

Assessment of deer species and abundance within and adjacent to the onshore Project area for the terrestrial section of the West of Orkney Windfarm Project.

### Project deliverables

Survey and report on deer presence, abundance and impacts of the onshore Project area works and associated mitigation.

### Team members

Robbie Rowantree  
Dr Cathy Mayne

### Clients

Lesley Sinclair, Xodus Group

By signing this document, I acknowledge that I have delivered the stated deliverables at the agreed quality levels.

Project Manager \_\_\_\_\_ Date: \_\_\_\_\_

By Signing this document, I acknowledge that I have received all the stated deliverables at the agreed quality levels.

Sponsor \_\_\_\_\_ Date: \_\_\_\_\_

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# West of Orkney Windfarm Project – Deer Survey Supporting Study

## Introduction

Practical Land Management Ltd have been appointed to undertake a deer survey and assessment in relation to the development of the proposed West of Orkney Windfarm Project which will have an associated grid connection at or near Spittal in Caithness.

This survey is to cover areas within the onshore Project area, from the landfall locations at Greeney Geo and Crosskirk to the substation search area at Spittal in Caithness, where the terrestrial works may require some woodland removal and eventual replacement.

Works associated with the construction of the onshore Project area will have an impact on habitats and species, including deer and the natural heritage they depend on. This study looks to create an understanding of the presence/absence and relative abundance of deer species within and adjacent to the onshore Project area, given that there is very little evidence on which to create a baseline. Some data is available from the National Biodiversity Network (NBN) Atlas ([www.records.nbnatlas.org](http://www.records.nbnatlas.org)) and the British Deer Society (BDS) Deer Survey (<https://bds.org.uk/science-research/deer-surveys/deer-distribution-survey>) indicating the presence of both roe deer (*Capreolus capreolus*) and red deer (*Cervus elaphus*) within the area. This study seeks to confirm the presence of both species. The study also looks at how these works might impact deer welfare, both directly and indirectly as a result of displacement.

The potential impacts of deer and other herbivores on mitigation, particularly on woodland creation or restock can be catastrophic, so an understanding of the presence/absence and relative abundance of the relevant herbivores is essential to allow successful replanting.

The study also seeks to offer advice on potential mitigation designed to optimise its effectiveness to deliver both Biodiversity Net Gains (BNG) and deer welfare.

## Legislative context

The primary legislation covering wild deer in Scotland is the Deer (Scotland) Act, 1996. This is complimented by the Wildlife and Countryside Act 1981. Later legislation amending the Wildlife and Countryside Act includes The Nature Conservation (Scotland) Act 2004 and the Wildlife and Natural Environment (Scotland) Act 2011. There is no more up-to-date legislation directly covering deer, but a series of Best Practice Guides (<https://bestpracticeguides.org.uk/>) and a voluntary collaboration through Deer Management Groups helps to deliver deer management objectives at a national level. These objectives are captured in the NatureScot publication “Wild Deer a National Approach” (<https://www.nature.scot/professional-advice/land-and-sea-management/managing-wildlife/managing-deer/scotlands-wild-deer-national-approach> and <https://www.nature.scot/doc/scotlands-wild-deer-national-approach-wdna-action-plan-2018-2019>).

## Site context

The bulk of the land use in the vicinity of the onshore Project area is smooth and coarse grassland, primarily used as pasture, with some areas of woodland or commercial plantation. There is a small amount of arable crop (probably barley). Areas less heavily used by livestock are reverting to heath with willow scrub, for example in the vicinity of Bridge of Forss and along the Forss Water, and at wetlands such as Loch Lieurary.

The pattern of land ownership and the general scarcity of red deer, means that there is no effective deer management planning or collaborative deer management within the area. The only formal cull figures available for the area are for the Forest and Land Scotland (FLS) property at Sibster Forest. Cull data from the FLS ranger are given in the results section.

There are two designated sites immediately adjacent to the onshore Project area; Ushat Head Site of Special Scientific Interest (SSSI), designated for its maritime heath, and Loch Lieurary SSSI, designated for its basin fen habitat. Ushat Head SSSI is in Favourable condition, with a seasonal grazing regime with sheep and cattle.



Loch Lieurary SSSI is starting to show signs of willow encroachment, something which NatureScot are keen to avoid (see the Loch Lieurary SSSI Site Management Statement available on [www.sitelink.nature.scot](http://www.sitelink.nature.scot)). Westfield Bridge SSSI lies to the south of the survey corridor but is within the range of deer using the corridor. It has a fen meadow feature that is in Favourable condition, and a calcareous grassland feature threatened by willow and gorse encroachment, which reflects a degree of chronic undergrazing, as set out in the site's Management Statement. There are eight other sites within 5km of the onshore Project area.

## Methodology

Following the Best Practice Guidance published by the Deer Initiative ([https://www.thedeerinitiative.co.uk/best\\_practice/records\\_and\\_survey.php](https://www.thedeerinitiative.co.uk/best_practice/records_and_survey.php)), a day-time vantage point survey (<https://www.thedeerinitiative.co.uk/uploads/guides/107.pdf>) and a night-time survey (<https://www.thedeerinitiative.co.uk/uploads/guides/105.pdf>) using thermal imagers were undertaken on Friday 3 March and Saturday 11 March 2023 respectively. Survey times were dictated by appropriate weather conditions. Areas not visible from the road (for example, the section north of Bridge of Forss along the Forss Water) were walked in daylight, while other areas (most of the onshore Project area) visible from the road were observed from the vehicle. This is appropriate for the objectives of identifying presence/absence and relative abundance. At appropriate locations, mostly within woodland areas, signs of tracking, dung and herbivory were sought and noted.

Deer as well as sign (tracks, dung and herbivory) were observed during the daytime survey, throughout the onshore Project area. Areas of woodland close to the onshore Project area, where deer spend time when not feeding, were checked for signs – for example, the woodland at Bridge of Forss, the plantation at Cairmore Hillock and at Sibster FLS – and sign was seen at every location chosen.

The night-time survey can only identify animals by species, not their age or gender, but several were seen, as well as rabbits, which were not visible in daytime.

A buffer of 500m was applied to the onshore Project area for the purposes of the survey.

## Results

The observations are summarised in Table 1 below, set out in full below the table and shown in Map 1 in Appendix 1.

*Table 1; observations of deer and other herbivores along the onshore Project area.*

Map ID	Location	Grid ref	Daytime observations	Night-time observations
01	Forss Business and Technology Park	ND022692	Signs of tracking and dung from both deer and rabbits in the whins	Rabbits present in the field adjacent to the Technology Park
02	Bridge of Forss	ND035689	Significant tracking in glen; signs of deer in plantation; anecdotal evidence	None seen
03	Stemster Hill	ND034664	3 roe deer seen in heathland	None seen
04	Forss Water near Brimside Tulloch	ND044673	5 roe deer seen in whins and willow scrub near Forss Water	3 roe deer seen in the same area
05	Below Cairmore Hillock	ND050672	Abundant signs of deer present in plantation	None seen
06	Loch Lieuchary	ND074643	7 roe deer out in wetland grazing	5 roe deer in same area
07	Gerston junction	ND123599	None seen	Rabbits in field

Map ID	Location	Grid ref	Daytime observations	Night-time observations
08	Sibster FLS	ND154595	Signs of browsing widespread on young trees	1 red deer seen browsing on trees close to road

Forss Business and Technology Park – plenty of whins for shelter for both roe and rabbits, with rabbits seen in the adjacent fields at night. Roe dung seen.

Bridge of Forss – significant signs of deer traffic in the glen of the Forss Water with black tracks from plantation above to the banks of the river. Signs of dung in the plantations around the hotel, and conversations with the gardener confirms deer presence, both roe and occasionally red. During the SARS-CoV-2 pandemic, there were deer in the gardens at Forss House Hotel. All the young trees have deer protectors and there are some signs of browsing.

Stemster Hill – 3 roe seen in heathland grazing during daylight, close to the Stemster windfarm.

Forss Water, near Brimside Tulloch – an area of willow scrub and whins from the road down to the Forss Water provide excellent habitat for all deer and roe were seen there in both daylight (5) and night (3). Sheep also present but not many animals.

Plantation above the road, below Cairnmore Hillock – plenty of signs of dung and tracking on the edge of the plantation.

Loch Lieurary – in the wetland area east of Loch Lieurary a total of 7 roe were seen in daylight, some among the stone dykes surrounding the wetland and some in the middle of the wetland. At night there were 5 roe in the same area.

At the Gerston junction, just outside Halkirk (west side) rabbits were seen in the field immediately adjacent to whin bushes.

At Sibster FLS, 1 red deer was seen through the thermal spotter, browsing on a tree. No other deer were seen. However, many of the young trees have been browsed multiple times and combined with the cull figures from the Forest and Land Scotland (FLS) ground showing 50 animals culled in 4 years, it is clear there is a significant deer population in this area.

Cull numbers for Sibster FLS (<https://forestryandland.gov.scot/visit/sibster>), supplied by the FLS Ranger Manager, are as follows:

- 2019 – 9 roe deer
- 2020 – 4 roe deer
- 2021 – 21 roe deer
- 2022 – 16 roe deer

Throughout the survey area, fields with a short, cropped sward also contained signs of rabbits as well as showing some rabbits present at night.

Voles are likely to be present in large numbers throughout, with optimal conditions similar to those for rabbits. The presence of buzzards, kestrels and foxes, all seen during the survey effort, also indicate a good background population of voles, that will have adverse impacts on new tree planting through herbivory.

### Discussion and conclusions

Significant numbers of both species of deer (mostly roe, but some red deer in the Sibster/Halkirk vicinity) and rabbits were observed throughout the onshore Project area. The terrain and nature of the ground are conducive to both roe deer and rabbits, with good quality pasture mixed with small woodlands and areas of whins and willow scrub. This matrix provides the necessary feeding and shelter areas that allows deer, in

particular, to thrive. For red deer, the habitat matrix is less inviting as they generally tolerate disturbance less well than roe deer and are a herding animal, rather than a solitary/small group territorial animal like roe.

The impacts of the construction of the onshore transmission infrastructure will likely cause some temporary displacement of deer and thus has welfare implications, given that areas into which they are displaced will already be occupied. This will affect all aspects of welfare but particularly the availability of food and shelter. However, roe deer are much more tolerant of disturbance than many species and the welfare impacts are not thought to be significant except at calving (late April – early June). The most important mitigation for deer welfare, therefore, is to limit habitat removal to the autumn and winter months.

Mitigation for habitat removal and damage, once the cable is installed, will be potentially impacted by the resident deer population. Any BNG activity is likely to include woodland creation, or replacement where woodland has been lost. Where woodland is being replaced, for BNG, it is likely that any commercial species will be replaced with native species. These are far more palatable and thus vulnerable to herbivory than commercial conifers; this is well-evidenced by browsing impacts observed at Sibster FLS.

It is clear that the background herbivory would suppress any woodland planting and it is unlikely that trees planted without protection would be successfully recruited to the sapling stage.

Culling deer is an option to try to limit the adverse impacts on new replacement woodland, but on its own culling is unlikely to deliver the required level of protection, would require a significant amount of resource and would only address deer impacts, not those of other herbivores such as rabbits and voles. The wider roe deer population within this part of Caithness would also mean that any vacuum created by culling would very quickly infill with immigration, probably within days.

### Recommendations

Habitat removal for the onshore Project area should only take place in autumn and winter (September – February) to avoid disturbance to dependent young.

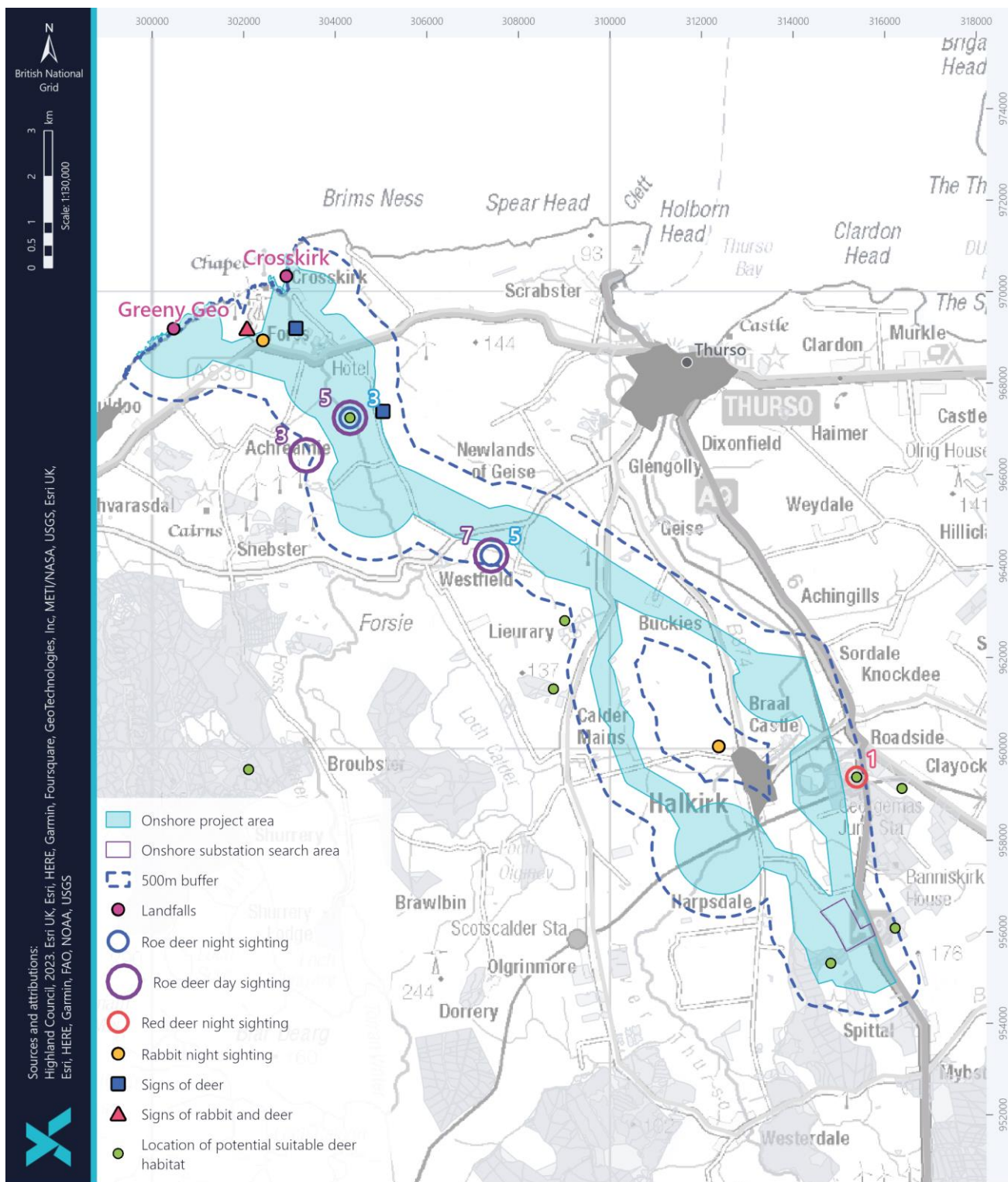
Where woodland removal is unavoidable, it is recommended that any replacement planting is fully protected with deer fencing and rabbit netting. Vole guards are also recommended on native tree species. Adding an additional 25% of trees to any planting can help to mitigate unavoidable impacts.





## Appendix 1

Map 1: deer survey area.



## Appendix 2

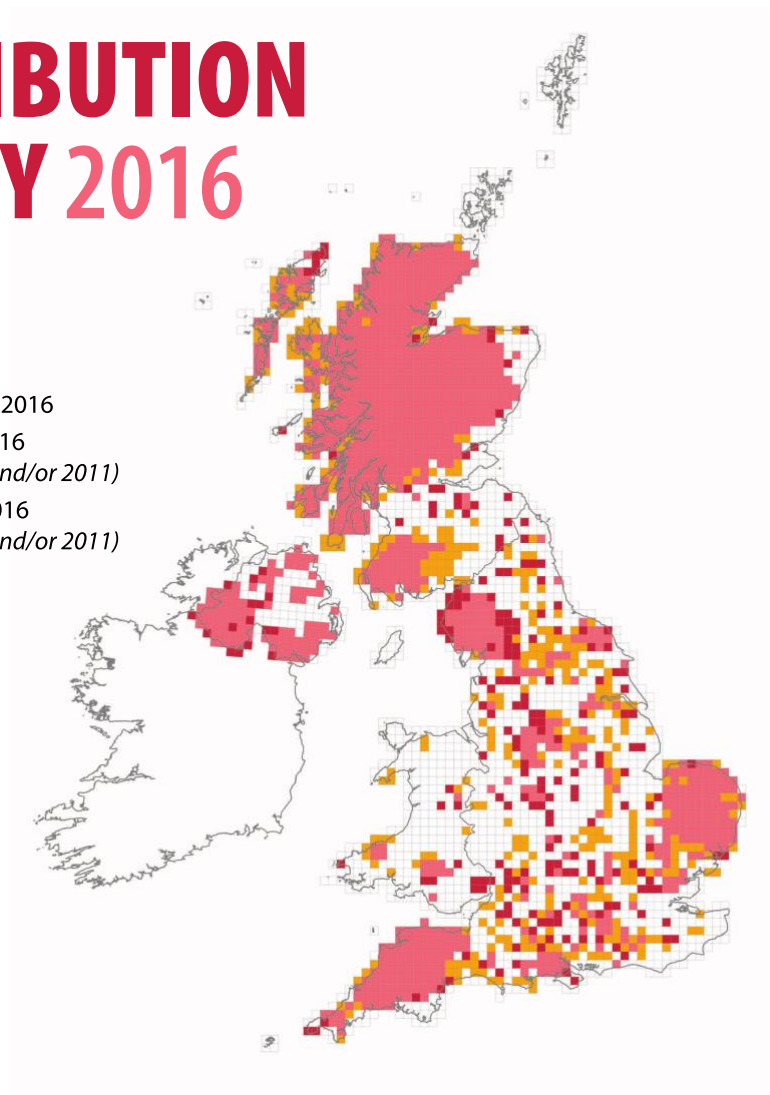
Maps of red and roe deer present during the 2016 British Deer Society Survey, 2016.

# The British Deer Society

## DEER DISTRIBUTION SURVEY 2016

### Red Deer

- Confirmed only in 2016
- Reconfirmed in 2016  
*(recorded in 2007 and/or 2011)*
- Unconfirmed in 2016  
*(recorded in 2007 and/or 2011)*



[www.bds.org.uk](http://www.bds.org.uk)

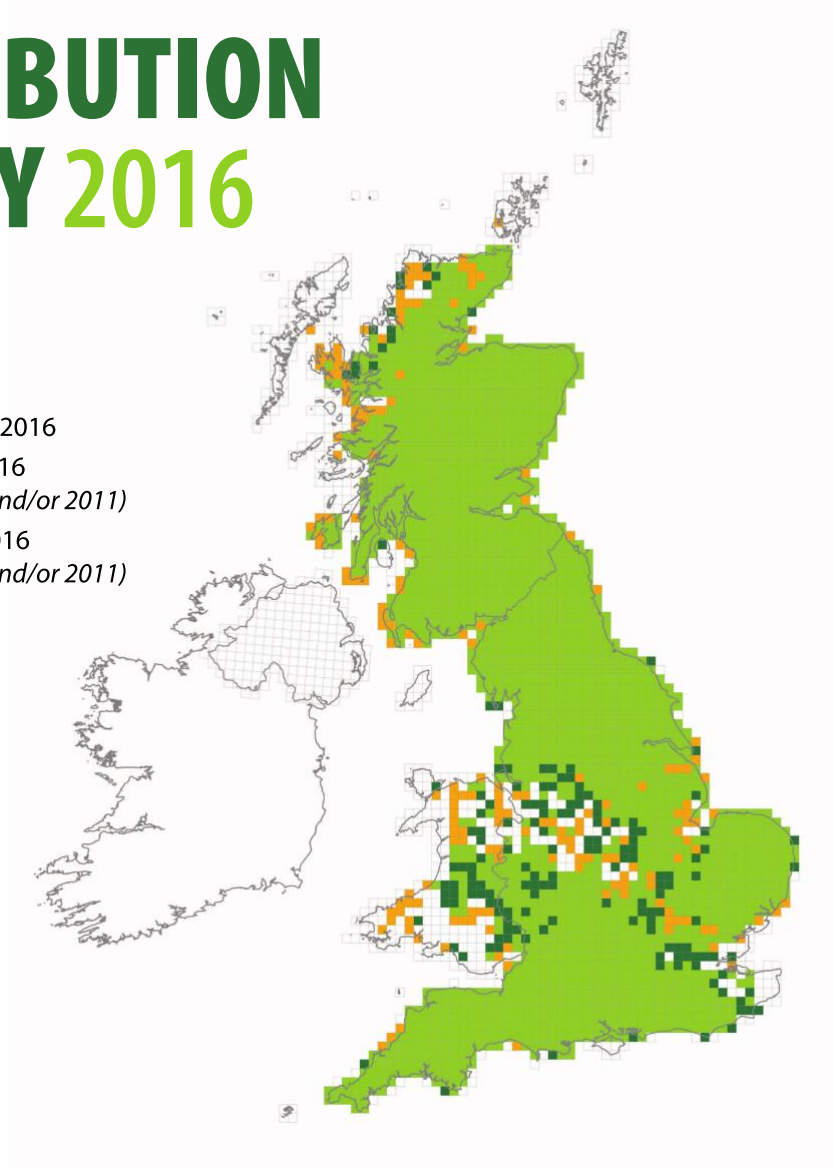


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