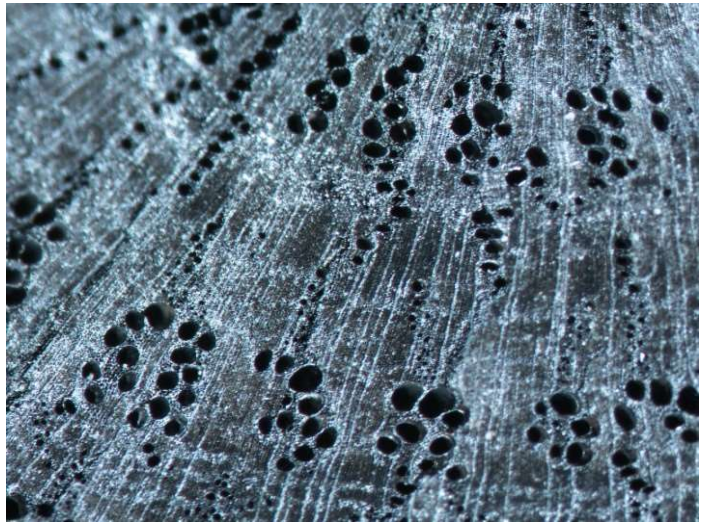
Wood remains – Sampling strategies from site to report



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Overview

1. Introduction

2. Why we should sample and analyse charred wood and waterlogged wood remains? What wood identifications and charcoal analysis can determine - environmental reconstruction, selection of wood, ritual aspects, woodworking

3. What and where we should sample
   Case studies –occupation, *fulachta fiadh*, funerary, industrial site

4. How we should sample/process

5. Assessment

6. Analysis and Reporting

Quick slide on the basic anatomy of wood!

1 Introduction

2 Why we should sample charcoal and waterlogged wood

- Dating – use short lived species from twigs (i.e. hazel)
- What trees were burnt as fuel on a site?
- Were species selected for construction use?
- Did specific tasks such as metal working or cremation need particular species to reach high temperatures or perform specific functions
- Woodworking evidence
- Trade

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2 Environmental reconstruction

- Presumed firewood will be gathered as close to the site as possible
- Modern day ecological comparisons
- Willow, alder- wetland environment
- Hazel, oak- dryland areas
- Ash, cherry- need light to grow, closed canopy woodland not present
- Changes in woodlands over time

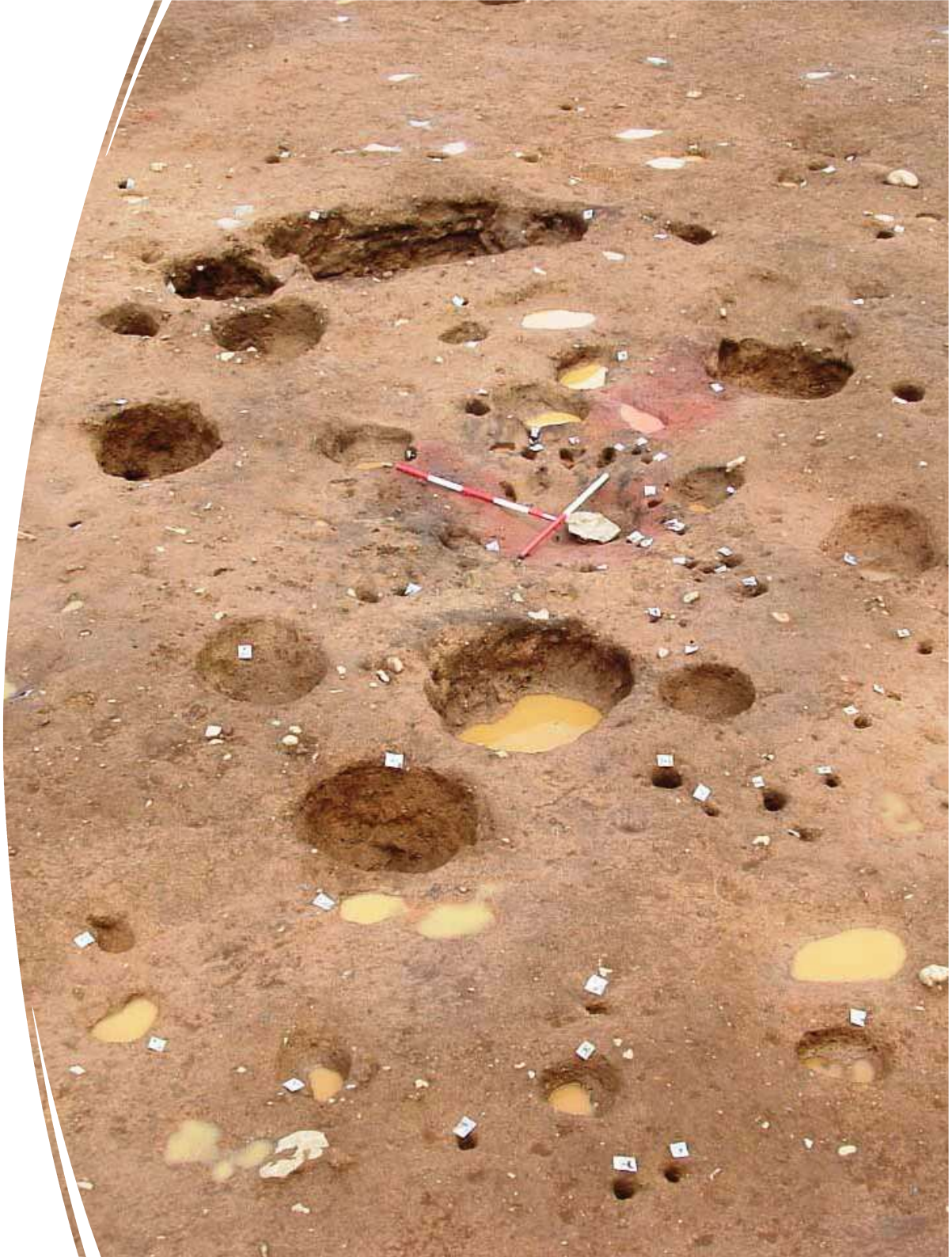
3 What & Where should we sample

●Environmental specialist should be involved at the outset or planning stage

● Devise a specific research strategy relevant to that site or feature type

3 Occupation sites

- Selection of postholes without *in situ* burnt remains (fuel selection)
- Selection of pits (fuel selection)
- Ditch – basal layer and one backfilled layer
- Any occupation deposits (fuel selection)
- All hearths (primary evidence for fuel)
- Selection of burnt spreads (fuel selection)
- All posts burnt *in situ* (wood selection for construction)



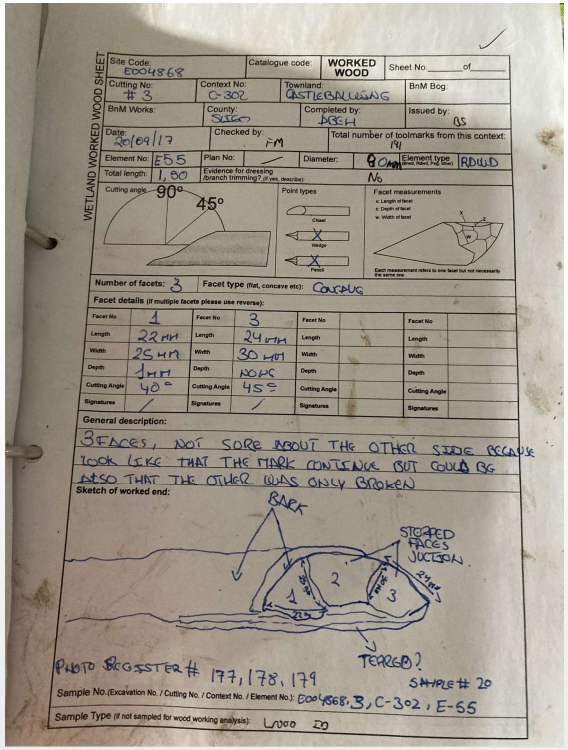
Fulachta Fiadh

- Trough (distribution of layers within the trough, fuel selection)
- Scatter samples from the burnt mound (fuel selection)
- All hearths (fuel selection)
- All posts burnt in situ (wood selection for construction)
- Selection of postholes without *in situ* burnt remains (fuel selection)
- Selection of samples from pits (fuel selection)

Waterlogged wood On Site

- **Visit by Wood Specialist**
- **Maintain Moisture Content**
- **Context Recording**
- **Wood Sheet**
- **Drawing**
- **Photography**
- **Wood Processing Area**
- **Sample**
- **Dismantling of Structures**

Waterlogged wood



WETLAND WORKED WOOD SHEET

Site Code: E004868 | Catalogue code: WORKED WOOD | Sheet No ____ of ____

Cutting No: # 3 | Context No: C-302 | Townland: CASTLEBALLING | BnM Bog

BnM Works: | County: SLIGO | Completed by: DCH | Issued by: GS

Date: 20/09/17 | Checked by: FM | Total number of toolmarks from this context: N

Element No: E55 | Plan No: | Diameter: 8 CMS | Element type: ROUND

Total length: 1,80 | Evidence for dressing /branch trimming? (if yes, describe): No

Cutting angle: 90° 45°

Point types: Chisel, Wedge, Pencil

Facet measurements: x: Length of facet; z: Depth of facet; w: Width of facet. Each measurement refers to one facet but not necessarily the same one.

Number of facets: 3 | Facet type (flat, concave etc): CONCAVE

Facet details (if multiple facets please use reverse):

Facet No	1	3		
Length	22 MM	24 MM		
Width	25 MM	30 MM		
Depth	1 MM	NONE		
Cutting Angle	40°	45°		
Signatures	/	/		

General description:

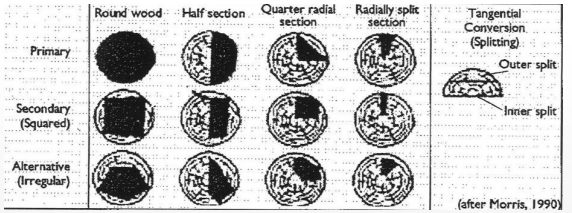
3 FACES, NOT SURE ABOUT THE OTHER SIDE BECAUSE LOOK LIKE THAT THE MARK CONTINUE BUT COULD BE ALSO THAT THE OTHER WAS ONLY BROKEN

Sketch of worked end:

PHOTO REGISTER # 177, 178, 179 SAMPLE # 20

Sample No.(Excavation No. / Cutting No. / Context No. / Element No.): E004868, 3, C-302, E-55

Sample Type (if not sampled for wood working analysis): WOOD ID



Guidelines on the recording, sampling, conservation and curation of waterlogged wood, Historic England, downloadable

Funerary sites

- Cremation and pyre contexts (fuel selection for the cremation process)
- Selection of samples from pits and ditches (on site burning)
- All posts burnt *in situ* (species selected for construction)
- Selection of postholes without *in situ* burnt remains (fuel selection)
- General non funerary burnt activity on the site (fuel selection)

Industrial sites (kilns)

- Different parts of kiln- flue, drying chamber, fire setting, collapsed roofing (fuel and wattle selection)

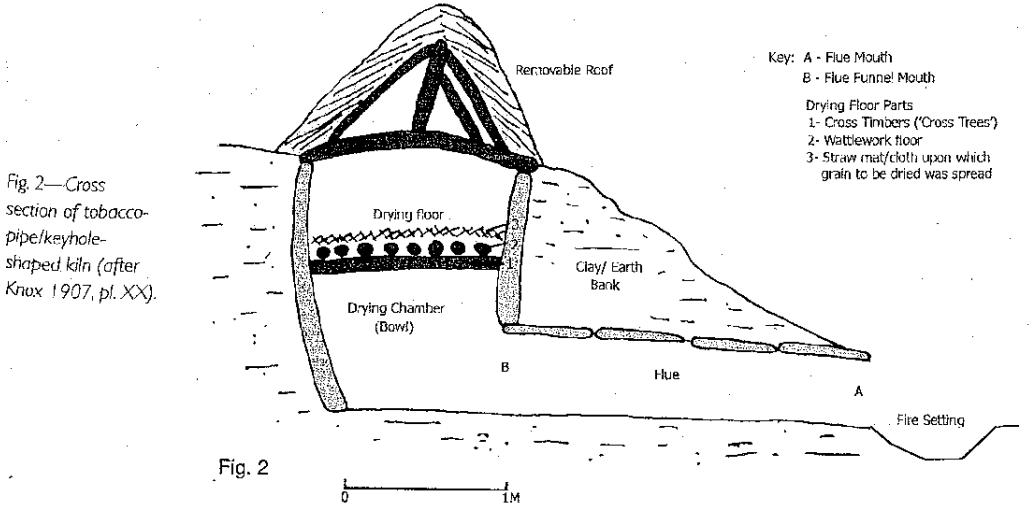


Fig. 2—Cross section of tobacco-pipe/keyhole-shaped kiln (after Knox 1907, pl. XX).

Fig. 2

Industrial sites (metal working)

- Smelting furnaces/charcoal production pits -sample inside furnace and any burnt spreads outside it (fuel selection)

4 How should we sample/retrieve charcoal

- Bulk soil sample on site - 20 litres
- Waterlogged – 10 litres
- All available sediment to be taken for anything less

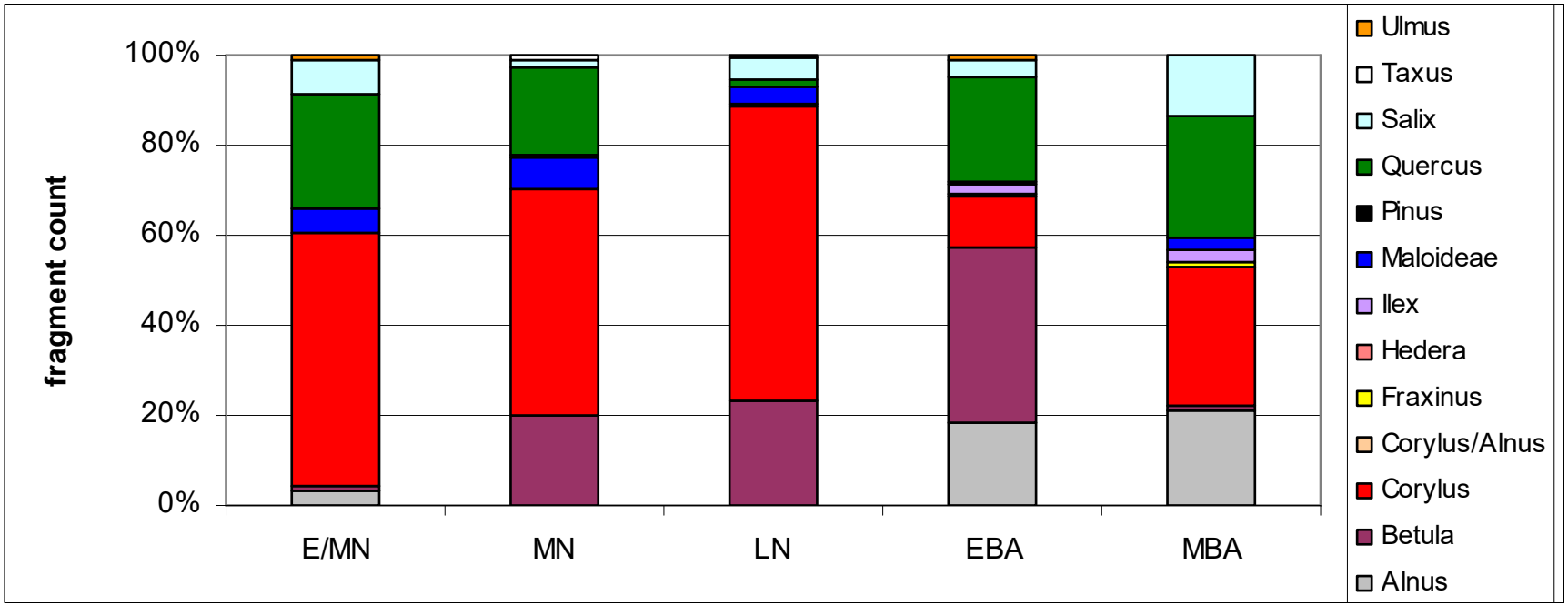
- Soil is floated/wet sieving. More cost-effective to complete on site
- Charcoal can be retrieved from both flots and retent
- Do not hand extract the charcoal from flots/retent as this may create a bias. Give flot to charcoal specialist to examine
- Same flot can be analysed by the non-wood plant specialist

5 Assessment

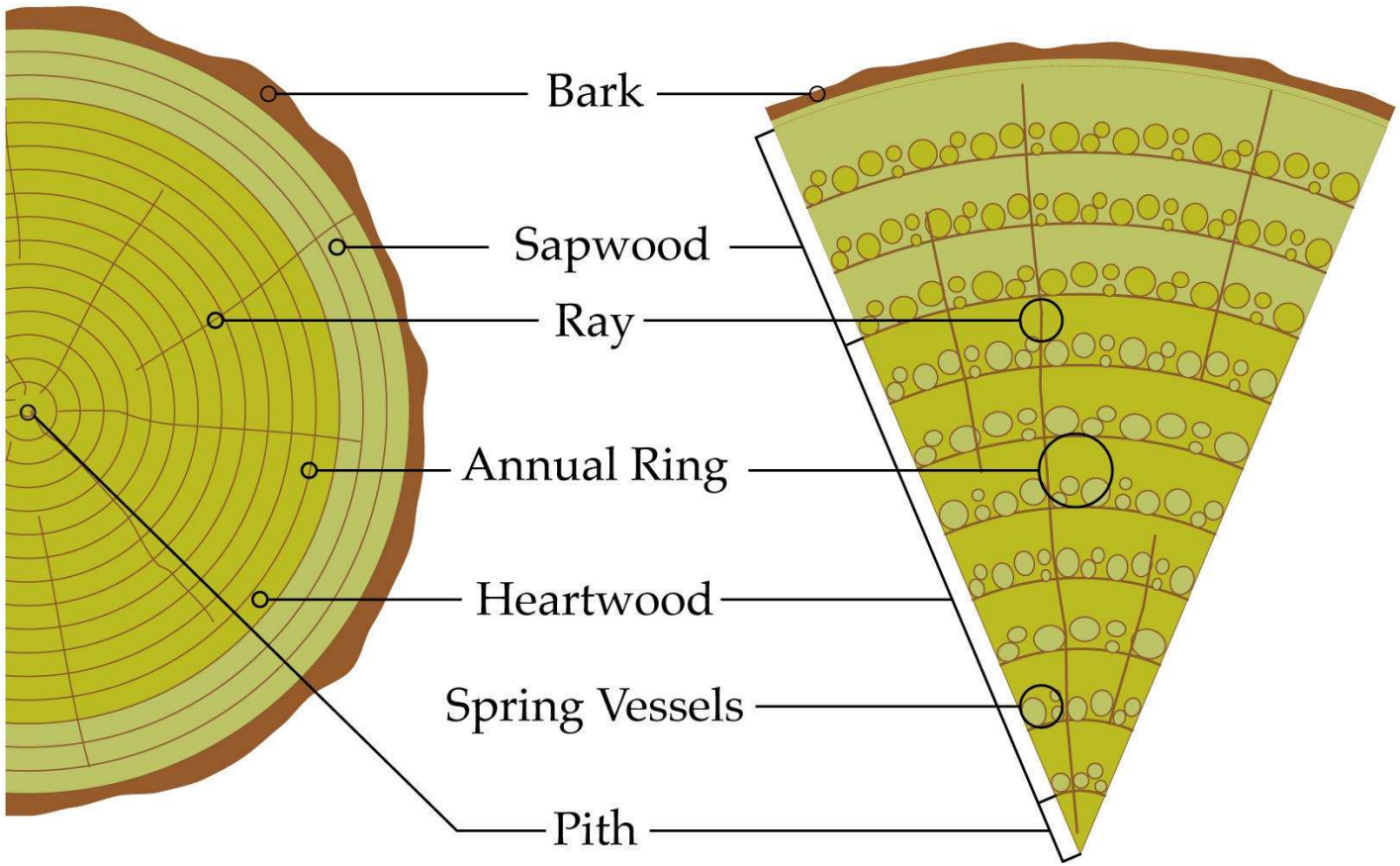
Sample number	Licence no	Number of bags a4	Volume before processing (L)	Feature Number	Feature Description	Flot weight (g)	Retent weight (g)	Flot Results		Bone			Hazelnut Shell	Charcoal	Pottery
								Charcoal	Seeds	Burnt Bone	Animal	Human			
#1	20E0634	1	3	C6	Only fill of pit C05	1	464	+							+
#2	20E0634	1	3	C10	Only fill of post-hole C9	8	252	++							
#3	20E0634	6	15	C4	Only fill of slot trench C03	71	1131	+++							+
#4	20E0634	1	3	C25	Fill of post-hole C24	4	258	+							+
#5	20E0634	1 small	1	C25	Fill of post-hole C24	5	46	++							
#6	20E0634	2	5	C27	Fill of pit C26	16	740	+++					+	++	+
#7	20E0634	1	3	C29	Fill of slot trench C28	2	419	+							

6 Analysis

- Sub-sample of fragments identified (30-50)
- Stereo and metallurgical microscope
- Identified using keys and reference material
- Presented through graphs and tables (species list)
- Comparisons with other sites



Anatomy of a Tree



Key Points

1. Plan Early
2. Get your Specialist on board
3. Site Visits
4. Define your sampling Strategy – ERS - TII
5. Implement your sampling strategy - keep wood wet
6. Sub-Sample and record as much as possible on site to avoid bulky samples
7. Process (on site if possible)
8. Complete an Assessment on your samples
9. Analyse using an integrated specialist approach
10. Report and publish