How much are tax payers willing to pay for Culture & Heritage?

Russell Whyte – Historic Scotland
Dr Laure Kuhfuss – St Andrews University

(based on work completed by Nick Hanley and
Laure Kuhfuss – St Andrews University)

Session overview

- Market failure

- Methods used in environmental economics (and endorsed by the Green Book)

- Case study: Historic Scotland estate

What do these assets have in common?

- People derive benefit (utility) from their existence and from their protection

- The group of people who benefit is wider than those who "use" (visit) the resources

- It is very hard to charge a price for "using" these resources which would represent the value they provide

Market failure

- Assets such as biodiversity, clean air or culture are described by economists as supplying us with "public goods"

- A pure public good is:
    - Non-rival: benefit per head does not decline as more people consume it
    - Non-excludable: providing it for one means providing it for many, whether they pay or not

Market failure

- Many environmental assets provide us with goods and services which have a mix of these characteristics

- Many cultural assets are like this too

- This means that market forces will supply too few public goods (as cannot charge every beneficiary)

- Implication is that the market does not show us the true economic value of such assets

- And that either the voluntary sector or the public sector needs to take responsibility for increasing the supply/ funding of such goods
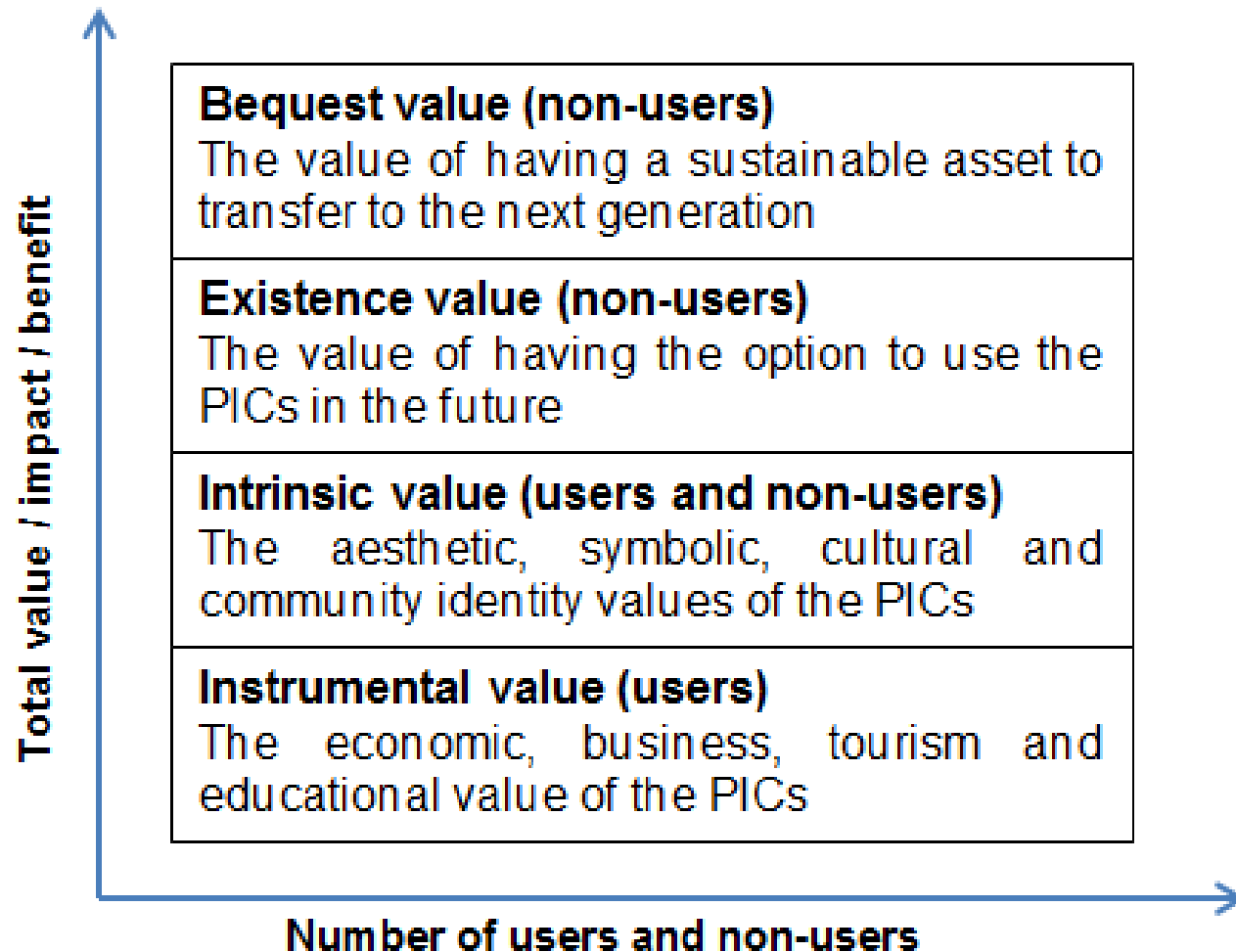
So what?

- We might want to know this "true" economic value of the goods which cultural assets provide for us. Why?

- So that a case can be made for more public funding / more voluntary sector action

- So that we can demonstrate the importance of these assets and their contribution to the sector strategy

- So that we understand what attributes of cultural assets people value most highly

Caution….

- NB: economic value of the public goods supplied by cultural assets is NOT the same as the income or employment they generate, either locally or in Scotland
- This measures, instead, the economic impact of such assets. But there are major worries here about additionality: if 10,000 people visit a new Pictish Centre and spend £20 each, what do they <u>not</u> do instead? Spend the same amount elsewhere in Scotland? If so……?
- More importantly, as we have argued above, the true economic value of public goods does not get reflected in what people spend on "consuming" them

Components of value

Total value / impact / benefit (vertical axis)

Bequest value (non-users)
The value of having a sustainable asset to transfer to the next generation

Existence value (non-users)
The value of having the option to use the PICs in the future

Intrinsic value (users and non-users)
The aesthetic, symbolic, cultural and community identity values of the PICs

Instrumental value (users)
The economic, business, tourism and educational value of the PICs

Number of users and non-users (horizontal axis)

Environmental Techniques

- A set of methods has been developed in environmental economics to measure these "non-market" benefits of environmental goods.

- These have been tested out and improved over about 40 years

- Increasing use of such methods in policy and project appraisal within government and agencies (eg DEFRA, Environment Agency)

Environmental Techniques

- To be more precise, we are thinking about the value of changes in the supply of public goods (eg more forests; loss of a forest; improvement in river water quality)

- Stated Preferences versus Revealed Preference

- Both based on economic notion that value of something to a beneficiary = their maximum willingness to pay for it. (Preferences backed up by budget constraint.)

- Stated preferences: use direct questioning of individuals to measure their Willingness to Pay

- Revealed preferences: use behaviour in markets related to the environmental good

Stated preferences

- Interview data collected from random sample of population

- All methods make use of a "hypothetical market"

- Contingent Valuation and Choice Experiments

Contingent Valuation

- Ask people to state maximum WTP for given, hypothetical change in an environmental good (eg: to improve this river from "poor" to "good" ecological status)

- Calculate mean bids and aggregate to get population's WTP

- Can also try and statistically explain why some people value the good more than others

One of the most famous archaeological sites in Europe is Stonehenge. Stonehenge is a henge monument (circle and surrounding ditch) made of stones, in this case massive Sarcen stones. It dates from 5000 to 3500 years ago.

In 2000, English Heritage, who managed the site jointly with the National Trust, proposed the construction of a covered tunnel for the A303 in the area around the site, which would essentially hide all of the passing traffic and greatly reduce noise levels.

 The cost of this project was estimated at £125 million: but was it worth it?

The general public were asked their WTP in higher taxes for the road tunnel project. The general public were included in order to capture non-use values.

The most conservative estimate of benefits showed them to be worth £150 million, that is more than the cost of the tunnel. Accordingly, the UK government announced that it would fund construction.

Choice modelling

- Define (environmental) goods in terms of their attributes (characteristics)

- Design choice tasks which require respondents to choose between alternative "designs" of the good

- These choices reveal the relative values people place on these attributes

- If cost is included as an attribute, choices also reveal people's WTP for more or less of each attribute

Example: water quality in rivers

Which plan would you prefer for your local river?

Policy Option Impact	Do Nothing	A	B
Number of agricultural jobs lost or gained in the local area	No loss no creation	Loss of 2 jobs	No loss no creation
Visual impact: number of months of low flow condition	5 months	2 months	2 months
Ecological condition	Worsening	Big improvement	Slight improvement
Increase in your water rates per year	£0	£30	£10
Please tick the option you prefer	☐	☐	☐

- Could apply this to cultural assets e.g. museums

- "in the next 5 years, which would you prefer?"

	Option A	Option B
Entry charge	none	£5
Schools programme	Continues as today	Expanded
New wing	Does not go ahead	Goes ahead
Visiting exhibitions	yes	yes

Revealed preference

- Link environmental goods to house price variations (hedonic pricing)

- Travel cost models to value outdoor recreational resources, eg hiking, climbing, kayaking; and how environmental quality changes can effect demand for these activities.
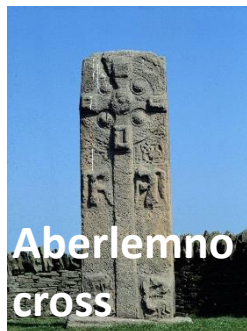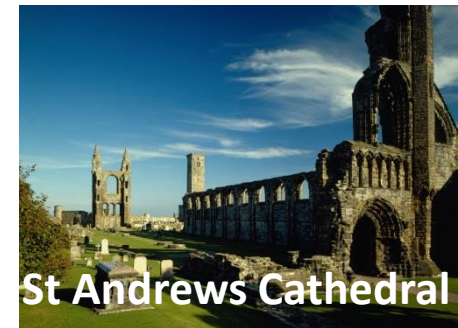
Conclusions

- Methods from environmental economics are relevant to measuring the economic value of cultural assets

- Market values still useful where they exist eg demand for ballet tickets, since these tell us about values to users who do pay

- But in many cases the economic value of cultural assets will be (considerably) greater than that revealed by the market ➔ stated and revealed preference methods can help here

Estimating the Economic Value of Historic Scotland's Estate:
A Case Study

Method and data

- A "pilot" contingent valuation survey:
  - Aims at measuring the use and non-use value associated with the preservation of historic sites
  - 6 representative sites:

Kilchurn castle

Calanais

St Andrews Cathedral

Aberlemno cross

Maclellan's castle

Mousa Broch

Method and data

- A random sample of the Scottish general public was asked face-to-face to state their willingness to pay for the conservation of 2 of these 6 sites
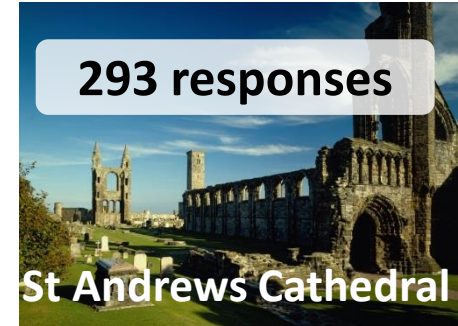 - Step 1: the site is described and a picture is shown
  - Step 2: (case of Kilchurn castle)

  *"If the only way of preventing future damages to **Kilchurn Castle** and allowing people to keep visiting it was to increase the taxes paid to the Scottish government by individuals such as you, what is the MOST that you would be willing to pay in higher taxes each year for the next 10 years to maintain this site and keep it open to the public?"*

  ☐ £0   ☐ £1   ☐ £2   ☐ £3   ☐ £4   ☐ £5   ☐ £6   ☐ £7   ☐ £8

  ☐ £9   ☐ £10   ☐ More than £10: _____

Method and data

273 responses
Kilchurn castle

249 responses
Calanais

293 responses
St Andrews Cathedral

268 responses
Aberlemno cross

252 responses
Maclellan's castle

293 responses
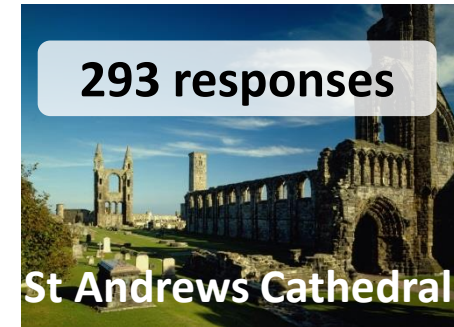Mousa Broch

Questionnaire 1

Questionnaire 2

Questionnaire 3

1628 WTP values stated by **836** respondents

Method and data

Is WTP for the conservation of famous sites higher than WTP for the conservation of less well-known sites?

273 responses

Kilchurn castle

249 responses

Calanais

293 responses

St Andrews Cathedral

3 famous sites: recognized on the picture by 50% of the respondents

268 responses

Aberlemno cross

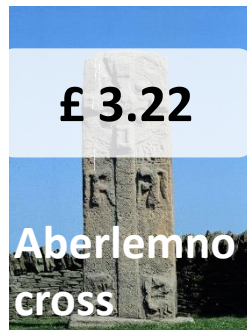**252 responses**

Maclellan's castle

293 responses

Mousa Broch

3 less well-known sites: recognized by an average of 15% of the respondents

Summary results

- Average WTP per person and per year during 10 years: **£ 2.79**
- By site:

£ 3.77 Kilchurn castle	**£ 2.54** Calanais	**£ 2.65** St Andrews Cathedral
£ 3.22 Aberlemno cross	**£ 2.26** Maclellan's castle	**£ 2.32** Mousa Broch

→ No significant difference between the 6 sites
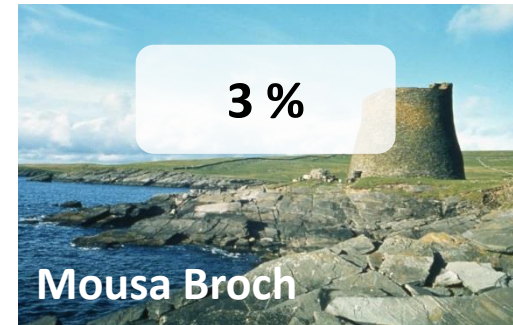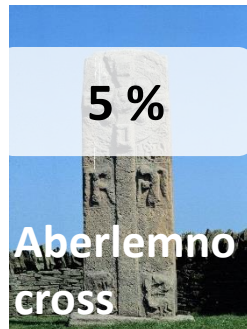→ No effect of "being famous"

Effect of familiarity

- When respondents recognize the site on the picture: WTP increases on average by £1.42
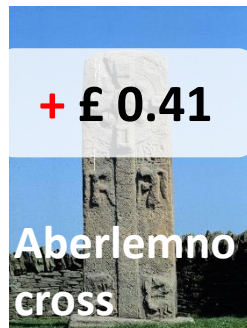- But the effect is different across sites:

Kilchurn castle — + £ 0

Calanais — + £ 1.60

St Andrews Cathedral — + £ 1.04

Aberlemno cross — + £ 3.31

Maclellan's castle — + £ 2.78

Mousa Broch — + £ 1.22
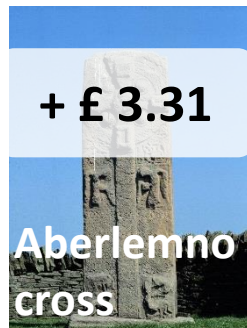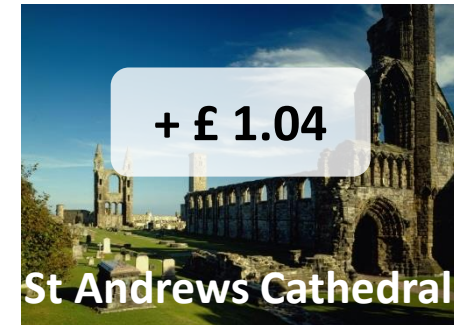
Effect of familiarity

- Very few respondents have visited the sites:

8 % — Kilchurn castle

11% — Calanais

38 % — St Andrews Cathedral

5 % — Aberlemno cross

3 % — Maclellan's castle

3 % — Mousa Broch

- But not having visited the site has no effect on WTP for its conservation: respondents are still willing to protect them.

Effect of distance

- this effect is different across sites: not always significant
- average increase in WTP for living 10 miles further from the site:

Kilchurn castle **+ £ 0**

Calanais **+ £ 0**

St Andrews Cathedral **+ £ 0**

Aberlemno cross **+ £ 0.41**

Maclellan's castle **- £ 0.31**

Mousa Broch **- £ 0.10**

Key findings from pilot

- We show that protecting HS sites from future damage/deterioration has an economic value as measured by Willingness to Pay (WTP)
- Non-visitors value the sites, not just those who have visited them
- Case studies WTP > estimated delivery cost
- Little variance in mean WTP between sites
- Recognition increases WTP
- Distance from the site affects WTP in some cases

Group discussion points

- Do the results seem to make sense, or match what you would intuitively expect?

- Does the group think this is a valid and useful approach for our sector?

- What are the specific uses in your sector? Have you attempted this approach before?