

# GCSE OCR B Case Studies with Exam Prep

## Topic 4: Sustaining Ecosystems

Small-scale Sustainable Management in Polar Environments:  
Whaling in the Arctic

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## Teacher's Introduction

This resource has been developed to provide case studies and exam preparation material to support the GCSE OCR B specification (J384) **Topic 4: Sustaining Ecosystems**.

This detailed case study is on **Whaling in the Arctic**, illustrating a small-scale example of sustainable management.

The case study includes a main content section which can be used as part of a lesson plan or distributed to students for self-guided research; a selection of ICT interactive links to further students' research around each topic and a set of Springboard Images and discussion questions (also available as a PPT file accessible by digital download) which makes a fantastic starter activity.

*A webpage containing all the links listed in this resource is conveniently provided on ZigZag Education's website at **zzed.uk/8858***

*You may find this helpful for accessing the websites rather than typing in each URL.*

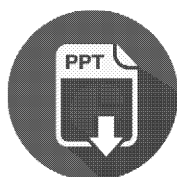


The exam preparation section which follows the case study contains a summary table, bringing together all of the key facts and figures relating to the case study; rapid-fire revision questions (with answers) to help recall and retention of the main points; and an exam-style question and mark scheme, written in the style of the OCR B sample material, so that students can practice answering questions relating to case studies and applying relevant knowledge in their answers.

The resource may be used as a source of reference for the required case studies for individual study, or for group work leading to discussion or debate. Subheadings in the information sections are designed to enable tabulated comparisons of social, economic and environmental impacts.

Other detailed case studies are available for this topic area representing sustainable management in a tropical rainforest, and small and large-scale sustainable management examples from the global polar regions:

- The Sumatran Rainforest
- Sustainable Tourism (Small-scale)
- The Arctic Council (Global-scale)
- The Antarctic Treaty System (Global-scale)



**A PowerPoint presentation containing the Springboard Images starter activity to accompany this resource is available as a free digital download. Just register for free updates using the link below to download all available content for your school or purchasing site.**

November 2018

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Register your email address to receive any future free updates\* made to this resource or other Geography resources your school has purchased, and details of any promotions for your subject.

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# Whaling in the Arctic

## Part 1 – Case Studies



### Content

#### Useful Acronyms

IWC – International Whaling Commission

AEWC – Alaska Eskimo Whaling Commission

#### History

Whaling has been practised in the Arctic for centuries and has been carried out by many countries and communities. It was in 1611 that whaling ships were first sent to the Arctic island of Spitsbergen in order to hunt bowhead whales. By 1613, just around Spitsbergen Island were filled with whaling ships, and the increasing whaling in the following centuries caused whale populations to fall to worryingly low levels.

Commercial whaling in the Arctic Ocean began in the 1840s but the first attempt at regulating the whaling industry occurred in 1931, with the signing of the Geneva Convention for the Regulation of Whaling. This was largely unsuccessful and the International Agreement for the Regulation of Whaling was signed in 1937. In 1949 another convention was signed in Washington DC, under which the International Whaling Commission – which is still in place today – was set up. The IWC currently has 89 members.



Figure 1

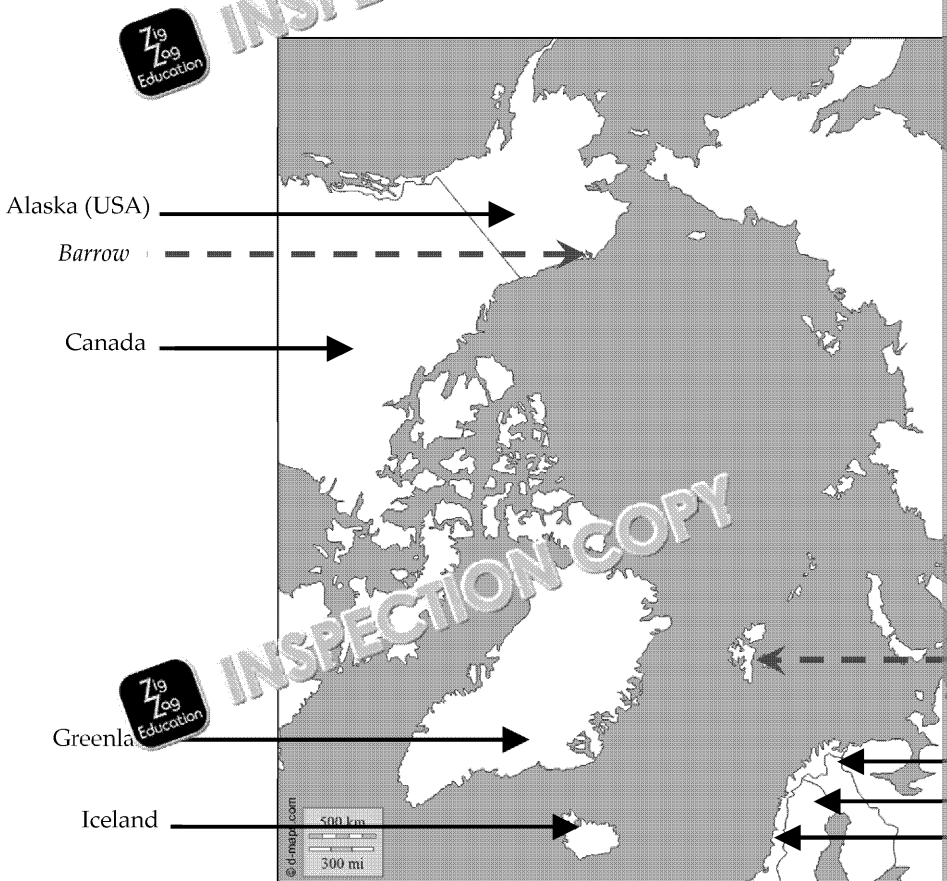


Figure 13: The Arctic Ocean

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The aim of the International Whaling Commission was to properly conserve whale stocks and to assist in the orderly development of the whaling industry. Potentially the most important aspect of the commission is the Schedule, which sets out catch limits by area and species for the hunting of whales. This schedule can be updated and amended in order to adapt to the information submitted by the Scientific Committee as well as the requirements of aboriginal communities.



Fig

### Commercial and subsistence whaling

The International Whaling Commission recognises that there is a distinct difference between commercial whaling and the subsistence whaling carried out by aboriginal communities. The main difference being that subsistence whaling is not carried out in a manner that generates a profit. Furthermore, whaling within many aboriginal communities is carried out in order to maintain the cultural traditions within the community as well as to meet the requirements of the population.

### Whaling in the Arctic

In 1982 the IWC set all whaling catch limits to zero; however, exceptions were made for subsistence whaling and whaling for scientific research.

#### *Exceptions for aboriginal communities*

The IWC recognised its duty to increase and maintain whale populations to enable native communities to hunt whales in a manner that was sufficient to meet their nutritional requirements.

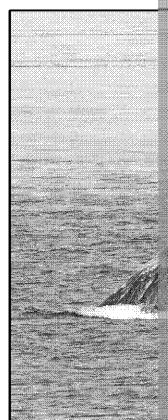
The whaling of aboriginal communities is still controlled through catch limits. There are two main sources of information:

1. The national government must inform the IWC of the needs of the indigenous community through a 'Needs Statement'.
2. The Scientific Committee submits information regarding safe catch limits based on research to the IWC.

The IWC then considers all of this information in balance to determine whether the needs of the aboriginal communities can be supported by the whale population and to put forward a total number of whales that aboriginal communities are able to hunt each year.

#### *The Inupiat people of Barrow, Alaska*

The Inupiat people of Barrow in north-west Alaska are just one example of an Arctic aboriginal group who have been allowed to continue whaling in a sustainable manner.



Fig

Whaling has been carried out by the Inupiat people of Barrow since at least the tenth century. This means that for the past 1,000 years whaling has been a fundamental and economic grounding for the Inupiat society.

In 1977 the IWC banned the hunting of bowhead whales by the aboriginal communities. This was due to fears about the future of the bowhead whale population. In response, Inupiat indigenous groups in Alaska (Yupit) formed the Alaska Eskimo Whaling Commission to fight against the ban imposed by the IWC.

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In response to this lobbying, the IWC lifted the ban in 1978 and allowed the hunt and kill up to 12 bowhead whales a year. In the present day, the Inupiat of Barrow are allowed to kill up to 22 whales a year.

### The Importance of Subsistence Whaling

Whaling is a central part of cultural and economic life for indigenous communities including in Barrow. All parts of the whale are utilised and shared amongst the community. The importance of sharing and eating whale meat as a community is of great importance in Barrow, and its continuance is seen as being one of their greatest concerns. Whales make clothing, and carvings of boats, tools and drums.

As well as its cultural importance, whale meat is vital to ensure the good health of the population. Prices of groceries are much higher in Alaska than in less remote areas due to the difficulties of transporting goods to the communities. This means the people are more dependent on foraged and hunted foods, including whale meat.



Figure 16: Inupiat people with whale harpoons

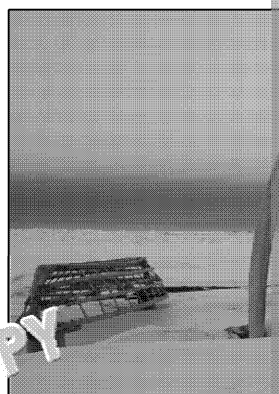


Figure 17: Whale jawbone

### The Impact of Subsistence Whaling in Alaska

Across the state of Alaska the indigenous communities are entitled to hunt whales. In 1978, the IWC allowed the hunt of up to 12 bowhead whales a year out of an estimated population of 10,000 in the Alaskan waters. Even with the regulation of subsistence whaling, the size of the bowhead whale population is still on the decline at an estimated 10% per year.

### Arctic Whaling as an Example of Small-scale Sustainable Management

Sustainable management involves taking steps to enable the development of a community while protecting the environment and wildlife, and protecting the health, culture and traditions of the communities. Polar regions such as the Arctic are particularly fragile, and are under increasing threat. It is, therefore, necessary to practise sustainable management within these regions.

Through allowing small-scale subsistence whaling to be practised by aboriginal communities, the IWC has helped to ensure the socio-economic and environmental development of the Arctic environment. The IWC's monitoring of whale numbers ensures that subsistence whaling is sustainable. The IWC monitors the size of the bowhead whale population, and that the number of whale kills does not increase at a rate that would threaten the population.

The permitting of subsistence whaling also ensures the cultural traditions of the communities are maintained, as they can continue to come together as a community over the hunt and sharing of the whale. Furthermore, the nutrition and good health of the aboriginal communities is ensured as whales provide a hugely important source of food throughout the year, not just in the summer season.

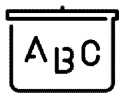
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## Fact Table

Whaling ships first sent to Spitsbergen in the Arctic:	1611
Beginning of commercial whaling in the Arctic Ocean:	1840
First attempt to regulate whaling in the Arctic:	1931
Year the International Whaling Commission was set up:	1949
Aim of the IWC:	To conserve a sustainable whaling industry.
Purpose of IWC's schedule:	To set out catch limits for whales based on sustainable levels.
Number of IWC members:	89
Year Alaskan aboriginal communities were banned from hunting bowhead whales:	1977
Revised catch limits for bowhead whales in Alaska following intervention by the AEWC:	12 bowhead whales per year
Current catch limit for the Inupiat community at Barrow:	22 whales a year
Uses of whale by aboriginal communities:	Food, clothing, tools
Estimated current population of bowhead whales:	10,000
Growth rate of bowhead whale population:	3.2% per year



## Key Terms

Whaling	The hunting and killing of whales
Commercial whaling	The hunting and killing of whales in a manner that is for commercial purposes and profit.
Subsistence whaling	Small-scale whaling with the purpose of supporting the local population.
International Whaling Commission	International body of 89 members who comply with the IWC schedule for protecting and increasing whale populations.
IWC Schedule	The catch limits set by the International Whaling Commission for different species and areas.
Alaska Eskimo Whaling Commission	A group set up by the aboriginal communities of Alaska to lobby against restrictions placed on subsistence whaling.
Aboriginal communities	Groups of people who have lived in a particular area for many years and since before the arrival of colonists.
Catch limits	The number of whales of a specific species and size that can be caught each year.
Needs Statement	A submission by a national government outlining the needs of the people that can be met through subsistence whaling.
Sustainable management	Enabling development of the Arctic environment and local communities.

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### Videos

This documentary outlines the importance of whaling in Alaska, as well as

🖱 [https://www.youtube.com/watch?v=7fjdhJBV\\_FV](https://www.youtube.com/watch?v=7fjdhJBV_FV)

This video helps show how important whaling is for the entire community

🖱 <https://www.youtube.com/watch?v=G0iOo1wuNQw>

### News stories

This article shows how aboriginal communities in Alaska work together and throughout the whaling season.

🖱 <https://www.adn.com/arctic/article/barrow-marks-close-successful-whaling-season>

This article shows how important whaling is to aboriginal communities.

🖱 [http://www.thearcticsounder.com/article/1639barrow\\_lands\\_its\\_first-whaling-season](http://www.thearcticsounder.com/article/1639barrow_lands_its_first-whaling-season)



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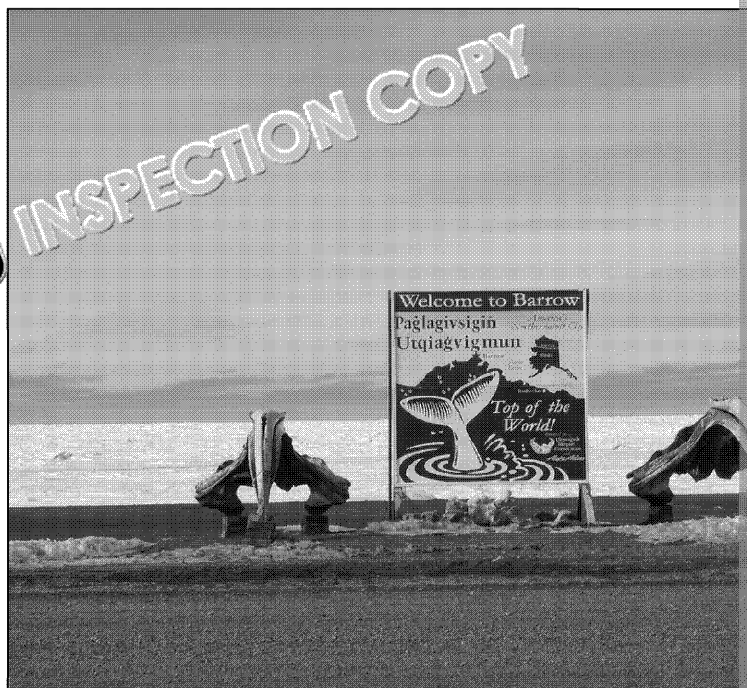
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Springboard 1



1. What does the image above show?
2. What evidence is there that whales play an important part in cultural life?
3. What else do you think the people of Barrow see as a unique quality of their area?



Springboard 2



1. What does the image above show?
2. a) What type of whaling do you think is shown in this photograph?  
b) Provide evidence for your suggestion.

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### Springboard 3



1. What can you see in the image shown?
2. What do you think the drums shown in the photograph could be made of?
3. What does the photograph suggest about this aboriginal community?



### Springboard 4



1. What do you think the image shows?
2. Why do you think casualties and injuries sometimes result from whaling?

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1. Discuss what you see going on in this photograph.
2. What do you think happened after this photograph was taken?
3. How does this photograph show the importance of traditional hunting?



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## Springboard Suggested Answers

### Springboard 1

1	A sign welcoming people to Barrow bordered by two whale jaw bones.
2	There is a whale tail on the welcome sign Whale jaw bones form part of the welcome sign The jaw bones and sign will be the first thing people coming into the city see
3	It is the most northern city in Alaska and is, therefore, close to being at the top of the world

### Springboard 2

1	A commercial whaling station A whale carcass at a whaling station Several men working on the whale carcass, or observing what is going on A purpose-built station close to the sea where whale carcasses can be processed
2 a)	Commercial
2 b)	The men in the picture do not look like aboriginal people The buildings seen are not like the ones that aboriginal people would have Subsistence whaling is a community event and attracts a large crowd of people A few men can be seen in the photograph

### Springboard 3

1	Some kind of celebration/festivities People dancing People playing drums Community gathered together Aboriginal people celebrating Non-native people on the roof of a building seem to be watching
2	Whale skin
3	It may be a close-knit community It could be a community that comes together often – whether for work or celebration It upholds traditional culture and customs

### Springboard 4

1	A traditional whaling crew and boat
2	The boats are small and simple The crew is vulnerable to falling into the freezing water The whales will be much bigger than the boat itself

### Springboard 5

1	People gathered together around pieces of meat scattered on the ground. The people are waiting with bags and boxes. One man in the centre is pointing at the meat, possibly directing. The people look to be aboriginal people, which is suggested by their traditional clothing.
2	The meat will be distributed among the people gathered together. They take the meat home in the bags and boxes they have brought with them. The man in the centre who is pointing at the meat might direct the process.
3	The animals hunted are important for feeding the entire community and for the kill. The meat helps feed more vulnerable members of the community and they can go out and hunt themselves. Traditional hunting methods bring the whole community together and maintain the aboriginal people. The cost of groceries in remote aboriginal communities is often much higher so local people rely on hunted and foraged foods.

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## Part 2 – Exam Preparation



### Summary

#### Whaling in the Arctic

Year whaling first began in the Arctic:	1611
Take-off of commercial whaling in the Arctic:	1840
First attempt at regulating the whaling industry:	Geneva Convention for the Regulation of Whaling
Year the International Whaling Commission was set up:	1949
Number of members in the IWC:	89
Difference between commercial and subsistence whaling:	Commercial whaling is carried out with the aim of maximising catches and generating profit. Subsistence whaling is carried out in order to meet the nutritional and cultural needs of the local communities.
Restrictions placed on aboriginal whaling:	In 1977 IWC banned the hunting of whales by aboriginal communities. AEWG was formed and led to the formation of the Arctic Ecosystem Working Group. Bowhead whaling was lifted in 1978, and local communities were allowed to hunt a limited number of bowhead whales a year. In Barrow, the Inupiat people are allowed to hunt up to 22 bowhead whales a year.
Importance of whaling to the Inupiat people in Barrow:	The continuation of sharing and community is one of the greatest values for the Inupiat people. The whole of the whale is used, from the blubber to the tools, and for creating boat. Whale meat is a key source of nutrition. In remote locations, store-bought groceries can be expensive.
Estimated size of bowhead whale population:	10,000
Number of bowhead whales the Alaska aboriginal communities are able to hunt each year:	75
Growth rate of bowhead whale population:	2.5%

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## Quick-fire Questions

1	What was the name of the island where whaling first took place?	
2	What agreement was signed in 1931 as an attempt to regulate whaling?	
3	What was the reason for the IWC's Schedule?	
4	How many countries are members of the IWC?	
5	What is the aim of commercial whaling?	
6	When did the IWC set all whaling catch limits across the world to zero?	
7	What are the two things that determine the number of whales aboriginal communities are permitted to hunt?	
8	What is the role of the IWC's Scientific Committee?	
9	What is the name of the aboriginal people living in Barrow?	
10	Describe the location of Barrow.	
10	How long have the people of Barrow been whaling?	
11	What did the IWC ban subsistence whaling by Alaskan aboriginals?	
12	What is the AEWC?	
13	Who formed the AEWC?	
14	How many bowhead whales are allowed to be killed each year?	
15	What are whales used for in indigenous communities other than for food?	
16	What is the growth rate of the bowhead whale population?	
17	How many bowhead whales are there thought to be in the wild?	
18	Why is whaling in Barrow culturally important?	
19	Why is whaling in Barrow economically important?	

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## Quick-fire Answers

1	What was the name of the island where whaling first took place?	<i>Spitsbergen</i>
2	What agreement was signed in 1946 as an attempt to regulate whaling?	<i>Geneva Convention</i>
3	What is the reason for the IWC's Schedule?	<i>To set catch limits</i>
4	How many countries are members of the IWC?	<i>89</i>
5	What is the aim of commercial whaling?	<i>To maximise profit</i>
6	When did the IWC set all whaling catch limits across the world to zero?	<i>1982</i>
7	What are the two things that determine the number of whales aboriginal communities are permitted to hunt?	<i>The Needs Schedule</i>
8	What is the role of the IWC's Scientific Committee?	<i>To gather and analyse scientific data to ensure the stability of the whale population</i>
9	What is the name of the aboriginal people living in Barrow?	<i>Inupiat</i>
10	Describe the location of Barrow.	<i>In the very north of Alaska</i>
10	How long have the people of Barrow been whaling?	<i>Since at least 1800</i>
11	What year did the IWC ban subsistence whaling by Alaskan aboriginals?	<i>1977</i>
12	What is the AEWC?	<i>The Alaska Eskimo Whaling Commission</i>
13	Who are the members of the AEWC?	<i>The Inupiat and Gwich'in</i>
14	How many bowhead whales are allowed to be killed each year?	<i>22</i>
15	What are whales used for in indigenous communities other than for food?	<i>Building boats, kayaks, harpoons, sleds, and tools</i>
16	What is the growth rate of the bowhead whale population?	<i>3.2%</i>
17	How many bowhead whales are there currently thought to be in the wild?	<i>10,000</i>
18	Why is whaling in barrow nutritionally important?	<i>Whales are a source of food within and between communities. The cost of getting food to such remote communities is high. Whaling has been a traditional part of Inupiat culture for centuries.</i>
19	Why is whaling in Barrow culturally important?	<i>Whaling has been a traditional part of Inupiat culture for centuries. The whaling community is a vital part of the local economy. All parts of the whale are used.</i>

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## Extension Questions

1. Describe the difference between commercial whaling and subsistence whaling.
2. Explain why the IWC has currently placed zero catch limits on commercial whaling. Why do the people of Barrow are allowed to continue to hunt and kill whales.
3. What role does the IWC play in sustainable management of the Arctic?
4. How do indigenous communities in Alaska react to the ban on subsistence whaling? What role does the IWC play in sustainable management of the Arctic?
5. Explain why whaling is so important to indigenous communities such as Barrow, Alaska.

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## Extension Answers

1. Commercial whaling is carried out on a large scale, with whales being hunted into various products that are then sold in a number of different countries across the world. Commercial whaling is to maximise the number of whales killed in order to make a profit. Commercial whaling is carried out in purpose-built buildings or on ships. This type of whaling is currently banned by the IWC.

Subsistence whaling is not done to maximise catches or profit, but is done in order to sustain the local indigenous community. Traditional hunting methods mean subsistence whaling is done on a small scale and the whale meat is shared out among the community and, therefore, with the community of whaling.

2. The IWC was concerned about the size of whale populations following high levels of hunting throughout the nineteenth and twentieth centuries. In order to allow whale populations to recover, catch limits were placed on commercial whaling.

The IWC recognised the socio-economic and cultural importance of whaling to indigenous communities and, therefore, set different catch limits for aboriginal communities that allowed them to continue whaling without endangering whale populations.

3. The IWC sets out a schedule, which outlines the catch limits for different species of whales in the world's oceans, including the Arctic. The IWC considers the information from the Scientific Committee regarding the stability of whale populations and recommendations from the Needs Statements submitted by national governments on behalf of aboriginal communities to produce a catch limit that will enable the needs of aboriginal communities to be met without harming the size of whale species.

4. The Inupiat and Yupiit communities of Alaska joined together to form the Alaska Community in望 (ACE). The group lobbied the ban enforced by the IWC, resulting in the IWC amending the schedule to allow for aboriginal communities in Alaska to hunt whales for a year. This has gradually increased to allow the Inupiat and Yupiit communities to continue whaling, facilitating socio-economic and cultural development without harming whale populations.

5. In Barrow, Alaska, whaling has formed an important social and economic group for many years. The whale itself provides a vital source of nutrition for the community, and the sale of whale products means the community relies heavily on hunted and foraged food for its survival.

Whale products also have a purpose other than food, with all parts of the whale being used, including for building boats and to make tools, drums, clothes, etc.

The hunting and distribution of whale meat within the community and sometimes to other communities is an important culturally and its continuation is reported as being one of the greatest joys of life for people in Barrow.

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## Exam-style Question

Explain how a conservation project has contributed to the sustainable management of the Arctic.




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## Level Marking

Level	Mark	Description
1	1–2	The student evidences basic knowledge of the topic in c The student evidences limited understanding of the cor places, environments and processes. (AO2) A limited ability to evaluate is evidenced through basic and understanding. (AO3)
2		The student evidences some knowledge of the topic in c The student evidences good understanding of the conn places, environments and processes. (AO2) A reasonable ability to evaluate is evidenced through a knowledge and understanding. (AO3)
3	5–6	The student evidences thorough knowledge of the topic The student evidences a firm understanding of the conn places, environments and processes. (AO2) A strong ability to evaluate is evidenced through logica and understanding. (AO3)

## Indicative content

- Practices of sustainable management allow populations in the present environment, without compromising the ability of future generations to meet their own needs.
- Subsistence whaling is monitored carefully by the IWC, which uses information submitted by the Scientific Committee to assess the number of whales hunted by indigenous communities without impacting on the future population.
- The monitoring of subsistence whaling by the IWC enables the cultural needs of the indigenous communities to be met.
- In Barrow, the indigenous community are able to hunt and kill 22 whales a year from an estimated population of 10,000. This allows the population growth to be maintained.
- Whaling plays an important part in cultural life in Barrow – the killing of a whale is a community event and the whale meat is shared out among the community. The sharing of whale meat is reported to be one of the greatest concerns of the community.

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