Two UNESCO designations for Wells Gray Park and Area: World Heritage Site and Global Geopark

Prepared for:

Tourism Wells Gray

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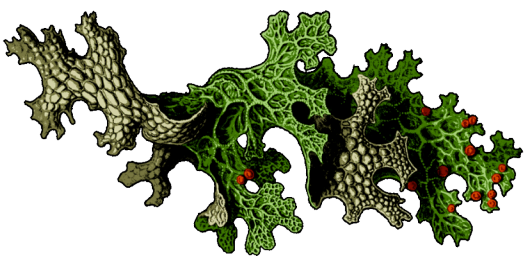

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The UNESCO World Heritage Committee determines what sites should be on the World Heritage List according to its Operational Guidelines, and this list is very exclusive. Nominations for aspiring World Heritage Sites undergo a rigorous evaluation that takes at least 18 months, and many nominations fail. The International Union for the Conservation of Nature (IUCN) is an advisory body that makes recommendations to the World Heritage Committee concerning natural World Heritage Sites.

All nominations for Canadian World Heritage Sites must be approved by Parks Canada. The aspiring site can only be nominated if it is already on Canada's Tentative List, which is developed by Parks Canada and submitted to UNESCO every 10 years.

There are three requirements for a World Heritage Site: it must meet at least one of the ten criteria for Outstanding Universal Value (OUV); its boundaries must satisfy conditions of integrity; and it must have an adequate protection and management system.

Only four of the criteria for OUV are for natural sites. They recognize aesthetics, geology, ecology, and biodiversity. A site can only quality if it is the best example in the world of an important feature, which must be proven with a rigorous global comparative analysis. Most World Heritage Sites have qualified under more than one criterion. Wells Gray Park and Area is most likely to qualify under the geological criterion, but further research may show that it could qualify for any of the other three natural criteria.

The IUCN has recognized that sub-glacial volcanoes, like those found in Wells Gray Park and Area, are lacking on the World Heritage List. However, they are also found in several other locations around the world. A nomination for Wells Gray Park and Area must include a global comparison that proves that its sub-glacial volcanoes are either the best examples of this volcanic feature, or unique in an important way.

To qualify under the aesthetic criterion, Wells Gray Park and Area must be shown to possess "exceptional natural beauty" when compared to sites across the world.

Wells Gray Park and Area is ecologically unique and has generated considerable scientific research. It is also home to exceptional biodiversity, including numerous rare and threatened species. Unfortunately, this is not identified within the IUCN's classifications and priorities, which will make it more difficult to prove that Wells Gray qualifies for World Heritage status under the criteria for ecology or biodiversity.

Parks Canada intends to start developing Canada's next Tentative List in 2013 or 2014, and Wells Gray Park and Area must get onto this list. To do this, Parks Canada must be convinced that Wells Gray is a good candidate for World Heritage Site status.

Preparing a successful nomination requires a strong multidisciplinary team and substantial investment of resources, and usually takes at least several years. It is essential to involve all stakeholders and the local community. It is often useful to have a single project leader, a steering group for operational decisions, an advisory committee for strategic decisions, and a variety of working groups for specific parts of the nomination.

The first stage of developing a nomination is to understand and define the potential World Heritage Site. This includes developing a comparative analysis and a Statement of Outstanding Universal Value; defining the boundaries of the site so that they include all relevant features and protect them from development; and developing a management plan to protect its value. The second stage is to write the nomination

document. Although it is not required, a marketing plan can help the community benefit from the designation.

The experiences of other World Heritage Sites in Canada will be important for developing a nomination for Wells Gray Park and Area. Dinosaur Park and Joggins Fossil Cliffs are two examples of Canadian World Heritage Sites that include private and lease land. Grand Pré (Nova Scotia), Writing-On-Stone (Alberta), and Pimachiowin Aki (Manitoba/Ontario) are current World Heritage nominations that may also be helpful.

Becoming a Global Geopark

The Global Geoparks Network (GGN) was established in 2004, and is dominated by European and Chinese Geoparks. Global Geoparks are similar to World Heritage Sites in requiring a comprehensive management plan to ensure the protection of the site, and emphasizing the importance of the meaningful involvement of all stakeholders and the local community. However, they have different objectives and criteria for inclusion.

The World Heritage List focuses on recognizing and protecting the most important sites in the world, while the GGN focuses on collaboration between geoparks, environmental education, research, and sustainable development. The World Heritage List is an exclusive list reserved for sites of outstanding universal value for all of humanity. A Geopark must contain geological features that are internationally important, but these features do not have to be unique, or of Outstanding Universal Value.

An aspiring Canadian Geopark must develop its application with the help and approval of the Canadian National Committee for Geoparks. The final Geopark application is then submitted to the GGN for evaluation, which takes at least 10 months. An aspiring Geopark must meet six criteria, which are to:

1. be large enough to be useful, and contain internationally important geosites;
2. have an adequate management system with strong local involvement;
3. foster initiatives for sustainable local economic development;
4. promote environmental education and scientific research;
5. ensure the conservation of the geological and other values of the site; and
6. actively participate in the global network through collaboration.

Stonehammer Geopark in New Brunswick is the only Geopark in North America, and will be the most relevant example for Wells Gray Park and Area. The Stonehammer application required two years of work from the geologist before it was brought to the community, and then another $300,000 and two years of community-led work to develop the application. The site included crown land as well as municipal and private land.

A Global Geopark designation may help a future World Heritage Site nomination by demonstrating proper management and protection, as has been the case for several Chinese Geoparks. However, a Geopark designation will not prove that the site meets World Heritage standards for Outstanding Universal Value and integrity.

The preparation of a Geopark application may be helpful for developing a World Heritage nomination. The same team can work on both projects. Documenting the value of the site for the Geopark application will help with the comparative analyses and Statement of OUV required for the World Heritage nomination. Determining the boundaries of the Geopark and developing the management plan will also help with the World Heritage nomination, and these items may be identical for both designations.

Costs of UNESCO designation

The major costs of a nomination bid are hiring a project co-ordinator; conducting supporting studies; developing a management plan; communication and consultation with partners and the community; and production costs for the nomination document.

In the U.K, an average nomination takes 4.8 years to prepare, and costs $900,000 to $1.2 million. Canada's two most recent World Heritage Sites estimated that a nomination bid requires at least two FTEs for two years, and costs at least $200,000. Two current Canadian World Heritage nominations that are community-led and involve a complex group of stakeholders both cost over $1 million. The third current Canadian nomination has a simpler ownership arrangement, being a Provincial Park, and it was completed by the Alberta government for $60,000 plus staff resources. The recent Canadian nominations have taken from 3.5 to 11 years to complete.

World Heritage status could potentially increase management costs. It could also lead to lost opportunity costs due to the redirection of resources or potential development constraints. An increase in tourist numbers could create congestion, conservation issues, and infrastructure costs, as well as negative social impacts like loss of privacy.

Most of the requirements for a Geopark application are less rigorous than for a World Heritage nomination, so it will require less time and resources to prepare.

Benefits of UNESCO designation

It is often assumed that a UNESCO designation increases tourism, but there is little data to support this claim, and many sites do not see an increase in visitor numbers or an economic benefit from the designation. However, at a few sites the designation has increased visitor numbers and attracted tourists who stay longer and spend more money, which has had a positive effect on the local economy. This is more likely to happen for sites that are less famous, or put more resources into marketing the designation.

A variety of other benefits have been documented for World Heritage Site status, including: making it more likely that all stakeholders are consulted over new developments; generating new projects that benefit the community; opening up more funding opportunities; helping market an educational product; inspiring local residents to learn more about the site; and increasing local pride in the area.

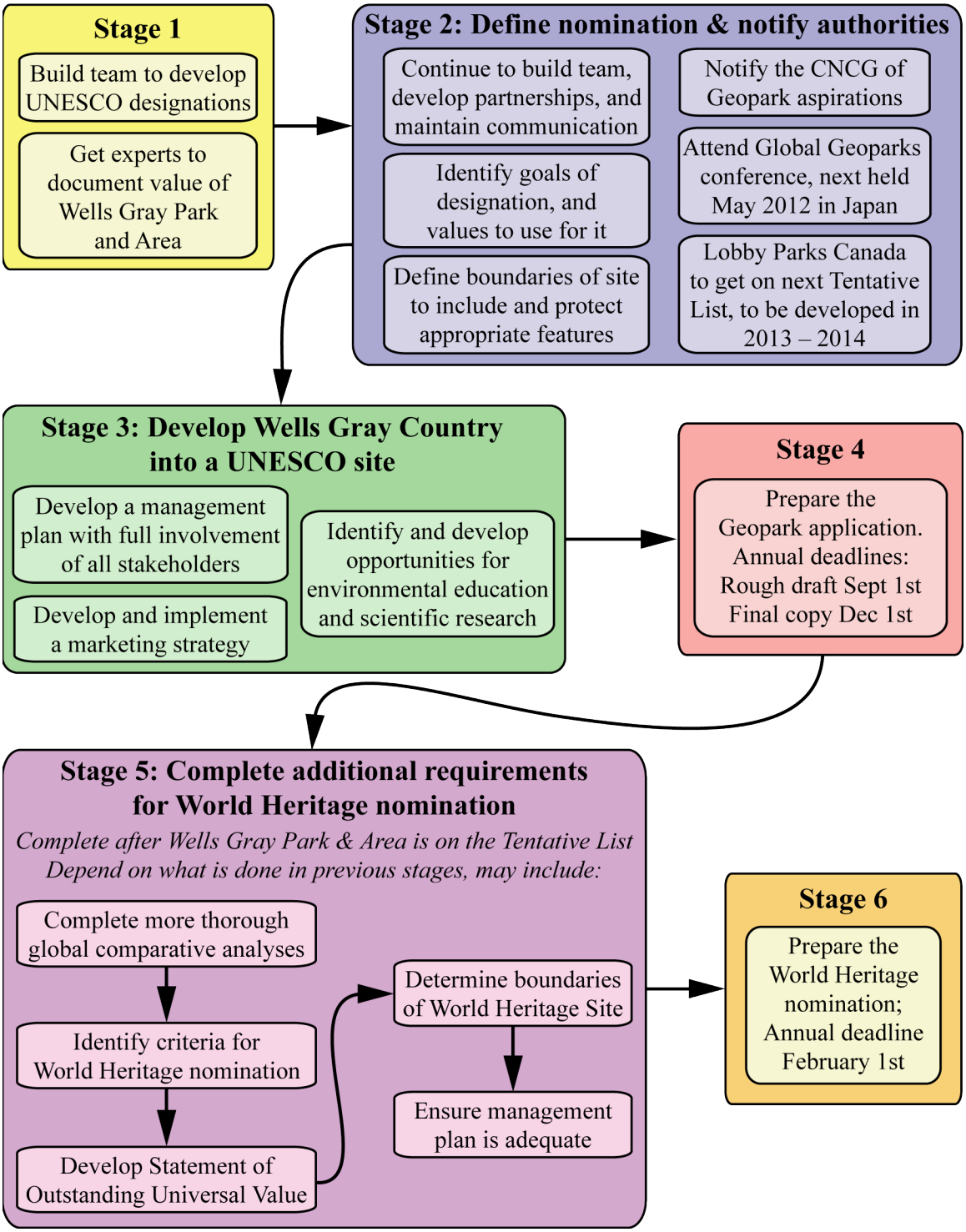
UNESCO designation does not provide additional legal protection for the site, but it brings international attention to the area and requires the development a management plan. This highlights conservation objectives and improves awareness of conservation goals and their importance. Potential developments are often subjected to more scrutiny, and local residents are often more aware of conservation issues.

Global Geoparks focus on local sustainable development, environmental education, and research, and could be expected to see more benefits in these areas. Evidence from Europe and China indicates that some Geoparks are successful in these goals.

Predicted impact of World Heritage Site status on Wells Gray Park and Area

The World Heritage Site most comparable to Wells Gray Park and Area is Waterton Park. The best estimate from the available data is that World Heritage Site status increased visitor numbers at Waterton Park by 4.6%. It is reasonable to predict that Wells Gray Park and Area could experience a similar increase.

Proposed strategy for getting Wells Gray Park and Area designated as a Global Geopark and a World Heritage Site



Preparing a dossier for either a Geopark application or a World Heritage nomination is an involved process that can take anywhere from a couple years to a decade. Once the dossiers have been completed and submitted, the evaluation takes at least 10 months for Geoparks, and 18 months for World Heritage Sites, and in either case it can take much longer if the documentation provided is incomplete or inadequate.

Although both Global Geoparks and World Heritage Sites are internationally recognized UNESCO designations, there are numerous differences (see **Table 2.1** on page 51). These differences make it faster and simpler to become a Global Geopark. However, the preparation of a Geopark application can contribute to completing a World Heritage nomination.

The process of getting designated as both a Global Geopark and a World Heritage Site must be completed in several stages, which are outlined below. It is recommended that the six stages should be done in order, although many things will take significant time to complete and some may be revisited many times, so one stage may overlap with the next. There is no temporal order implied for the individual items within each stage, and many items will probably be done simultaneously.

The following proposed strategy is only tentative. It should be revisited by the team that works on the UNESCO designations, and revised as necessary.

Stage 1: Building the team and documenting the value

Build a team

Start identifying stakeholders and putting together a team to develop both the Geopark application and the World Heritage Site nomination. A project co-ordinator may be useful at during Stage 1.

Get experts to document the value of Wells Gray Park and Area.

A geological expert should document the geological value of Wells Gray Park and Area. This will require building an inventory of all important geosites in the area, and conducting a global comparative analysis to show how their importance compares to other sites across the world. Dr. Catherine Hickson, an expert on the volcanoes of Wells Gray Park and Area, is willing to take on an advisory role for this project. Her contact information is in **Section 6** on page 113.

The ecological and aesthetic values of Wells Gray Park and Area should also be documented with a global comparative analysis. Trevor Goward or Curtis Björk, ecological experts for Wells Gray Park and Area, would be excellent choices for an ecological comparative analysis. Their contact information is in **Section 6**.

In Stage 1 of the nomination process, the value of Wells Gray Park and Area needs to be documented in order to develop a Geopark application, and convince Parks Canada that Wells Gray Park and Area is a legitimate choice for the World Heritage List. Later on, comprehensive and rigorous comparative analyses will be required for the World Heritage nomination. These will be much more time consuming than what is needed for Stage 1.

It might make sense to complete the full comparative analyses in Stage 1 of nomination the process, when there is already an expert team assembled to work on them. However, Wells Gray Park and Area cannot be nominated for the World Heritage List

unless it makes it onto Canada's next Tentative List. Therefore, it may be beneficial to conduct more superficial comparative analyses in Stage 1, and wait until Wells Gray Park and Area is on the Tentative List before completing analyses that are rigorous enough for a World Heritage nomination.

Stage 2: Defining the nomination and notifying relevant authorities

Continue to build the team, develop partnerships, and maintain communication

Public meetings can be held to inform the community of the results of the research from Stage 1 and involve them in the process. It may be useful to hold regular public meetings. All stakeholders should be identified and involved, and the team can be expanded. Stronger partnerships will help to secure funding sources.

It may be appropriate to create a steering group to do the actual work, and an advisory board of representatives to make strategic decisions. A project co-ordinator will definitely be beneficial starting in Stage 2. Working groups will probably be useful for completing the various aspects of the process that are listed below.

Identify the value of Wells Gray Park and Area and why it should be recognized

Wells Gray Park and Area has many important characteristics, but only a few of these will be recognized through a UNESCO designation. It is important to decide which values should be recognized, and why. The inventory of geosites and comparative analyses completed in Stage 1 will inform this decision. It is also important to identify the purpose of the designation for Wells Gray Park and Area. What is the designation supposed to accomplish?

A World Heritage nomination requires a Statement of Outstanding Universal Value. This is both an essential part of the nomination document, and a guide for the entire nomination process. A Geoparks application does not have the same requirement, but it is still necessary to identify the value of the area, and a guiding statement of value will be very useful for the process.

Although this is an important aspect of the application process and should be done in the initial stages, it may be revisited and modified throughout the process.

Define the boundaries of the site

The boundaries of the proposed Geopark and/or World Heritage Site must be clearly identified. These boundaries may or may not be the same as Wells Gray Provincial Park, and they will depend on what features are identified as being important for the identified values of the area.

The requirements for determining the boundaries of World Heritage Sites are more strict than the requirements for Geoparks. A World Heritage Site in Wells Gray Park and Area may have to include some areas that are not necessary for a Geopark. There are three options for defining the boundaries of the site:

- The boundaries for the geopark could be developed to accommodate the more rigorous requirements of a World Heritage Site.
- A separate set of boundaries could be developed simultaneously for both designations

- Only develop the Geopark boundaries at this time, with the intention of revisiting the World Heritage Site boundaries after Wells Gray Park and Area gets on the Tentative List.

Notify the CNCG of intention to become a Global Geopark

A letter of intent must be sent to the Canadian National Committee for Geoparks (CNCG). A representative will conduct a site visit in the following summer, and the CNCG will provide advice on preparing a Geoparks application.

Attend a Geoparks conference

It will be beneficial to attend either a European Geoparks or Global Geoparks conference at some point in the process, as participation in the network strengthens a Geopark application. The European conferences are yearly and the international ones are every two years. The next international conference is in Japan in May 2012.

Lobby Parks Canada

Wells Gray Park and Area must get onto Canada's next Tentative List before it can be nominated for World Heritage Site status. The main resources necessary to lobby Parks Canada for inclusion onto the Tentative List will be a tentative Statement of Universal Value, along with the initial comparative analyses completed in Stage 1. It may also be useful to demonstrate that Wells Gray Park and Area has the capacity to develop a nomination, and manage a World Heritage Site.

Parks Canada will begin developing the next Tentative List in 2013 or 2014. It will be important to have the initial comparative analyses and Statement of Universal Value completed by this time, so that it is possible to effectively lobby them.

Stage 3: Developing Wells Gray Park and Area into a UNESCO site

Develop a management plan

A new management plan must be developed for Wells Gray Park and Area, as the current management plan for the Provincial Park is not adequate for either a Geopark or World Heritage Site. Both designations require the management plan to be developed with full involvement from all stakeholders and the local community, but they have different management objectives. A World Heritage Site focuses on conservation, while a Geopark highlights sustainable economic development, education, and research.

It will probably be beneficial to develop a management plan that is adequate for both designations. Although it may be possible to have slightly lower standards for the conservation of the Geopark, this does not seem to be a desirable goal, particularly given that at least most of the site will be a Provincial Park. As well, although the management of a World Heritage Site would not require promoting sustainable economic development, environmental education, and research, these seem like desirable goals for Wells Gray Park and Area.

Develop marketing strategy

Promoting sustainable economic development is an essential part of a Geopark application. Although this is not required for a World Heritage nomination, it will be necessary if Wells Gray Park and Area intends to see economic benefits from the designation. This process should include identifying opportunities for promoting geotourism and ecotourism and the necessary infrastructure improvements, as well as opportunities to promote local products and businesses.

Identify and develop research and educational opportunities

Promoting education and research is a requirement for Geoparks. This is not a requirement for World Heritage Sites, although it may be beneficial for achieving some of the goals of the designation. A successful Geopark application will require demonstrating a number of research and educational initiatives. This could possibly include networking with research institutions and establishing research initiatives, as well as developing interpretive trails, educational materials, or perhaps an interpretive centre for the area.

Stage 4: Preparing the Geopark application

After completing the stages listed above, the Geopark application dossier can be prepared. The CNCG should be involved in this process, as they must approve of the final document. The CNCG must see a draft of the application by September 1st, and the deadline for submissions to the Global Geoparks Network is December 1st of each year.

Stage 5: Completing additional requirements for World Heritage

A World Heritage nomination can be pursued if Wells Gray Park and Area gets onto Canada's next Tentative List. The process of developing the Geopark application will have touched on many of the requirements for a World Heritage nomination, but some of these items will need to be revisited. This will probably be done by the same team, but with more involvement from Parks Canada. Depending on how much was already completed during the Geoparks application process, some items that may need to be further developed are:

- Complete more thorough comparative analyses
- Identify which criteria Wells Gray Park and Area will be nominated under
- Develop a tentative Statement of Outstanding Universal Value
- Determine the boundaries of a Wells Gray Park and Area World Heritage Site
- Revisit the management plan to ensure it is adequate for a World Heritage Site

Stage 6: Preparing the World Heritage nomination

Once the potential World Heritage Site has been defined and developed, the nomination dossier can be prepared. Parks Canada must approve of the nomination, and may take an active role in developing it. The nomination must be submitted by February 1st of each year, and if it is submitted four months early, the World Heritage Centre will provide some feedback.

Section 1. Becoming a UNESCO World Heritage Site

1.1 An introduction to UNESCO and the World Heritage List

The World Heritage Convention is an international treaty that was developed by UNESCO in 1972 to recognize and protect cultural and natural heritage of Outstanding Universal Value for the benefit of future generations. The Convention established the World Heritage Committee, who developed the Operational Guidelines that are used to implement the Convention. These Operational Guidelines lay out a precise set of criteria that the World Heritage Committee uses to determine if a property has Outstanding Universal Value and should be included on the World Heritage List.

The process of inscribing properties onto the World Heritage List is relatively complex. It involves numerous organizations, and these organizations have their own language. Some of the key organizations and terms are defined in **Box 1** and **Box 2**.

Box 1. Some important terms relating to World Heritage Sites.

UNESCO: The United Nations Educational, Scientific, and Cultural Organization. An international organization responsible for the World Heritage Convention.

World Heritage Convention: The Convention Concerning the Protection of the World's Cultural and Natural Heritage. An international treaty between member states of the United Nations, adopted by UNESCO in 1972. It defines what natural and cultural sites can be inscribed on the World Heritage List, and sets out the duties of State Parties in identifying and protecting these sites.

World Heritage Committee: The Committee is comprised of representatives from 21 of the State Parties. They meet annually, and are responsible for the implementation of the World Heritage Convention. They have the final say on whether or not a property is inscribed onto the World Heritage List.

Operational Guidelines: The Operational Guidelines for the Implementation of the World Heritage Convention. A precise set of criteria for the inscription of properties on the World Heritage List that was developed and is occasionally updated by the World Heritage Committee. The most recent Operational Guidelines were published in January 2008.

World Heritage List: The list of properties that the World Heritage Committee considers have met the requirements of the World Heritage Convention, and have Outstanding Universal Value for their natural and/or cultural heritage.

World Heritage Site: Any property that the World Heritage Committee has inscribed onto the World Heritage List.

State Party: A country that has ratified the World Heritage Convention, and agrees to identify and nominate properties in their national territory to be considered for inscription on the World Heritage List, and to protect those properties. Parks Canada is the lead agency in Canada responsible for implementing the Convention (i.e. identifying, nominating, and protecting properties).

Inscription: When the World Heritage Committee includes a property onto the World Heritage List.

The World Heritage Committee inscribes properties onto the World Heritage List according to the procedure outlined in the Operational Guidelines. This procedure can be briefly summarized in four steps:

1. The State Party submits a Tentative List to the World Heritage Committee of potential properties for the World Heritage List.
2. The State Party can then nominate any property on their Tentative List for inscription onto the World Heritage List.
3. The nomination is reviewed by one of the advisory bodies to the World Heritage Committee (for natural sites this is the IUCN) and it makes recommendations.
4. The World Heritage Committee considers the recommendation and decides whether or not to inscribe the nominated property onto the World Heritage List.

Box 2. Some important terms relating to World Heritage Sites.

Tentative List: An inventory that each State Party submits to the World Heritage Committee, that lists the properties they intend to consider for nomination during the following years. Only properties on the Tentative List can be nominated for the World Heritage List. State Parties are encouraged to reconsider their Tentative List every ten years.

IUCN: The International Union for the Conservation of Nature. An advisory body for the World Heritage Committee that is responsible for providing technical evaluations of natural heritage properties and reports on the state of conservation of listed properties.

Outstanding Universal Value: Possessing cultural and/or natural significance that is so exceptional as to transcend national boundaries and to be of common importance for present and future generations of all humanity. As such, the permanent protection of this heritage is of the highest importance to the international community as a whole. There are three requirements for Outstanding Universal Value: (1) Meet one or more of the ten criteria in the Operational Guidelines; (2) Satisfy the conditions of integrity and/or authenticity; and (3) Have an adequate protection and management system to ensure its safeguarding.

Criteria: World Heritage Sites must have Outstanding Universal Value in at least one of ten selection criteria that are outlined in the Operational Guidelines. The criteria are numbered i–x. Six of these criteria (i–vi) are for cultural heritage, and four (vii–x) are for natural heritage. See **Table 1.1**.

Integrity: A measure of the wholeness and intactness of the natural and/or cultural heritage and its attributes. A property must be of adequate size to ensure the complete representation and protection of the features and processes that convey the Outstanding Universal Value.

Global Strategy: The Global Strategy for a Representative, Balanced, and Credible World Heritage List. An initiative launched by the World Heritage Committee in 1994 in which a series of thematic studies was undertaken to identify which regions and types of heritage are under-represented on the World Heritage List, and nominations are encouraged for properties that will fill these gaps.

1.1.1 The UNESCO review process

The review process for nominations to the World Heritage List takes 18 months (**Figure 1.1)**. The deadline for nominations is February 1, and the World Heritage Committee makes their decision in the summer of the following year. Although it is not required, if a draft nomination is submitted to the World Heritage Centre by September 30 (four months before the deadline), they will review it and give comments so that corrections or additions can be made before February 1. The co-ordinators responsible for the nominations for Joggins Fossil Cliffs (Nova Scotia) and Rideau Canal (Ontario) recommend making use of this opportunity for feedback (Boon and Buell 2006).

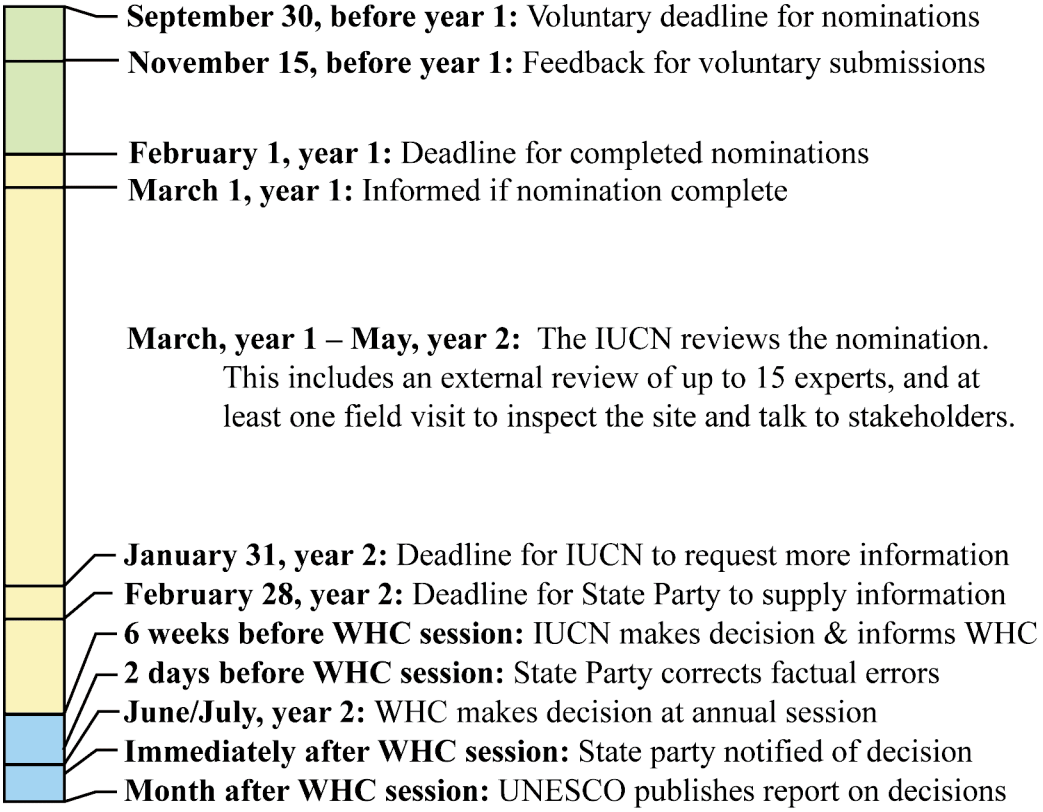


Figure 1.1. The review process for nominations to the World Heritage List.

The IUCN reviews all nominations for natural World Heritage Sites. This process involves an external review of up to 15 experts, and at least one field inspection to clarify details of the area, evaluate site management, and talk with relevant stakeholders. The IUCN then submits their recommendation to the World Heritage Committee, who have the final say on whether or not the property should be inscribed onto the World Heritage List. The Committee may also decide to refer or defer the nomination (see **Box 3**).

The World Heritage Committee followed the IUCN recommendations for 84% of nominations between 1998 and 2007 (IUCN 2008). In all cases where they disagreed, the Committee was more lenient. The Committee decided to inscribe five nominations that the IUCN recommended to defer or refer, and the Committee referred or deferred ten nominations that the IUCN recommended should not be inscribed.

Box 3. The four decisions that the World Heritage Committee can make regarding nominations to the World Heritage List.

Inscribe: The property is added to the World Heritage List. The Committee adopts a Statement of Outstanding Universal Value for the property, and may make recommendations for its protection and management.

Refer: The Committee requires additional information to evaluate the nomination. If this information is submitted within three years, the full 18-month review process does not need to be repeated, and a second field visit is not required.

Defer: The nomination requires a more in-depth assessment, or a substantial revision. If the nomination is resubmitted, it must go through the entire 18-month review process, including another field visit.

Do not inscribe: The property does not meet the conditions of Outstanding Universal Value. The nomination may only be resubmitted in exceptional circumstances.

1.1.2 The basic requirements for becoming a World Heritage Site

A site can only be inscribed onto the World Heritage List if it is determined to have Outstanding Universal Value. This means that its cultural and/or natural significance is "so exceptional as to transcend national boundaries and be of common importance for present and future generations of all humanity". There are three requirements for Outstanding Universal Value. The property must:

1. Meet one or more of the ten selection criteria for Outstanding Universal Value.
2. Have boundaries that satisfy conditions of integrity (defined in **Box 2**).
3. Have an adequate protection and management system to ensure its safeguarding.

The ten selection criteria are outlined in the Operational Guidelines (WHC 2008) and are numbered i–x. Six of these criteria (i–vi) are for cultural World Heritage Sites, and four (vii–x) are for natural World Heritage Sites. One of the natural criteria is aesthetic, one is geological, and two are ecological:

(vii) Exceptional natural beauty or superlative natural phenomena
(viii) Outstanding example of important geology
(ix) Outstanding example of important ecology
(x) Most significant habitat for biological diversity

For more details on these criteria, and for their corresponding requirements for integrity, see **Table 1.1**. Wells Gray Park and Area is most likely to meet the geological criterion. However, further research may show that Wells Gray Park and Area could qualify for any of the other three natural criteria.

Although a World Heritage Site only needs to meet one of the ten criteria, most sites meet more than one. In fact, 79% of natural World Heritage Sites are inscribed on the basis of two or more criteria. If a property meets both cultural and natural criteria, it is called a mixed World Heritage Site.

The first World Heritage Sites were inscribed onto the World Heritage List in 1978. Since then, the list has grown to include 911 sites across the world (as of March 2011). This includes 704 cultural, 180 natural, and 27 mixed (both natural and cultural) World Heritage Sites.

Less than 23% of World Heritage Sites are inscribed on natural criteria, as is shown in **Figure 1.2**. The Global Strategy that the World Heritage Committee adopted in 1994 attempted to rectify this under-representation of natural sites. Despite this, the preponderance of cultural over natural sites has been increasing.

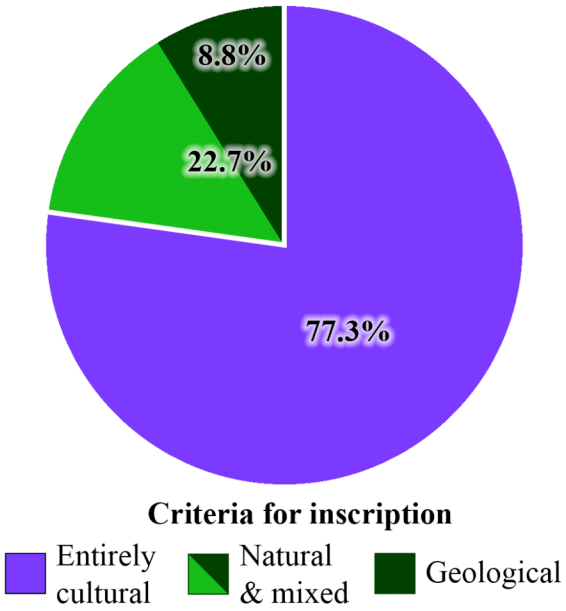


Figure 1.2. Portion of World Heritage Sites inscribed for natural and geological criteria

Table 1.1. The four natural criteria for World Heritage Sites and their corresponding conditions of integrity, taken from the 2008 Operational Guidelines.

Natural World Heritage criterion (Paragraph 77)	**Condition of integrity (Paragraphs 92–95)**
(vii) Contain superlative natural phenomena or areas of exceptional natural beauty and aesthetic importance.	Include areas that are essential for maintaining the beauty of the property.
(viii) Be outstanding examples representing major stages of earth's history, including the record of life, significant on-going geological processes in the development of landforms, or significant geomorphic or physiographic features.	Contain all or most of the key interrelated and interdependent elements in their natural relationships.
(ix) Be outstanding examples representing significant ongoing ecological and biological processes in the evolution and development of terrestrial, fresh water, coastal and marine ecosystems and communities of plants and animals.	Have sufficient size and contain the necessary elements to demonstrate the key aspects of processes that are essential for the long-term conservation of the ecosystems and the biological diversity they contain.
(x) Contain the most important and significant natural habitats for in-situ conservation of biological diversity, including those containing threatened species of Outstanding Universal Value from the point of view of science or conservation.	Contain habitats for maintaining the most diverse fauna and flora characteristic of the biogeographic province and ecosystems under consideration.

1.1.3 The World Heritage List is exclusive

Only sites with Outstanding Universal Value can be inscribed onto the World Heritage List. Paragraph 49 of the Operational Guidelines defines this as:

> Outstanding universal value means cultural and/or natural significance which is so exceptional as to transcend national boundaries and to be of common importance for present and future generations of all humanity. As such, the permanent protection of this heritage is of the highest importance to the international community as a whole. The Committee defines the criteria for the inscription of properties on the World Heritage List.

A site will not be put onto the World Heritage List just because it is of great importance. Other mechanisms, both national and international, should be used to protect important sites. As stated in paragraph 52 of the 2008 Operational Guidelines:

> The *Convention* is not intended to ensure the protection of all properties of great interest, importance or value, but only for a select list of the most outstanding of these from an international viewpoint. It is not to be assumed that a property of national and/or regional importance will automatically be inscribed on the World Heritage List.

The IUCN (2006) has further clarified that the World Heritage List was never intended to be completely representative of all of the earth's natural heritage. Just because an ecological or geological feature is not represented on the list does not mean that a site should be added that contains this feature.

There are only a finite number of properties that are of such outstanding value that they should be inscribed onto the World Heritage List. The IUCN (2004) has stated that a number in the range of 300 natural and mixed World Heritage properties should be sufficient. There are currently 207 such sites on the World Heritage List. It is important to realize that the IUCN considers that there are less than 100 natural sites in the entire world that should be added to the World Heritage List.

Since the World Heritage List began, half of the nominations for natural sites have failed. In the last 20 years the World Heritage Committee has been even more rigorous, and 50-70% of nominations have failed, as shown in **Figure 1.3.** This is partly because the Committee has become more rigorous in applying standards for natural sites (IUCN 2008).

An analysis by van der Aa (2005) shows that natural nominations are much more likely to fail than cultural ones, and they are also less likely to be re-nominated if they do fail. Only 41% of rejected nominations for natural World Heritage Sites are resubmitted, and only half of those resubmissions are successful.

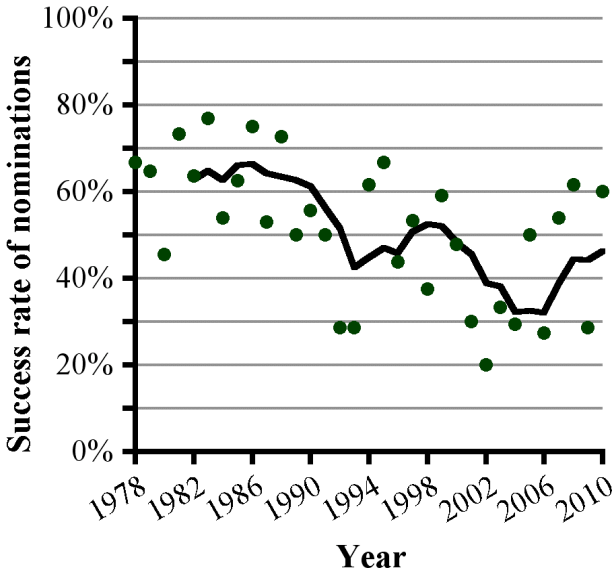


Figure 1.3. Success rate of natural World Heritage nominations. Line is 5-year average

The IUCN (2008) lists five reasons why nominations for natural World Heritage Sites fail:

1. The nomination document requires a better comparative analysis
2. The management plan is inadequate
3. The site does not satisfy the conditions of integrity
4. The site is significant on a regional, not international scale
5. There may be other properties with potential for inscription within the area

The IUCN (2008) noted that the World Heritage Committee is more frequently deferring or referring nominations in order to improve the integrity and management of prospective World Heritage Sites. As a result, an increasing number of nominations are failing because the boundary and/or management plan for the site is inadequate.

The analysis by van der Aa (2005) found that 40% of failed nominations just had procedural problems, such as being incomplete or missing a deadline. An adequate comparative analysis was a common thing to be missing. Only 25% of the failures were because of insufficient protection for the site, and another 25% were because the site lacked Outstanding Universal Value.

When van der Aa (2005) looked at all nominations for both natural and cultural sites, he found that only 7% were rejected because they lacked Outstanding Universal Value. Which is odd, given that this is most essential, and most difficult, requirement of the World Heritage List. Either State Parties are very selective about the properties that they nominate, or the World Heritage Committee is not actually applying the criteria for Outstanding Universal Value very strictly.

1.2 Meeting the criteria for Outstanding Universal Value

There are three fundamental requirements that a site must meet in order to be inscribed on the World Heritage List:

1. It must meet one or more of the ten criteria for Outstanding Universal Value.
2. Its boundaries must satisfy conditions of integrity (see **Box 2** and **Table 1.1**).
3. The protection and management system must adequately ensure its safeguarding.

Although it may require a significant investment of time and resources, with sufficient commitment from stakeholders Wells Gray Park and Area could meet the requirements for integrity, protection, and management. However, if the intrinsic natural values of Wells Gray Park and Area do not meet one of the criteria for Outstanding Universal Value, no amount of effort will ensure success in getting World Heritage Site status for the area. Although a very well constructed argument will probably influence the World Heritage Committee to some extent, they rigorously evaluate each nomination and consult with independent experts in an attempt to objectively determine if the intrinsic values of the site meet their standards for Outstanding Universal Value.

A natural World Heritage Site must meet at least one of the four criteria for Outstanding Universal Value of natural sites, shown in **Table 1.1**. These criteria are very exclusive, and there are only a few sites across the world that qualify for any of them. The most likely criterion that Wells Gray Park and Area could qualify for is the geological one, on the basis of its volcanic features. However, further research may show that Wells Gray Park and Area could qualify for any of the other three natural criteria.

1.2.1 Criterion (viii): Outstanding example of important geology

Natural World Heritage Sites are under-represented on the World Heritage List (see **Figure 1.2**), and the geological criterion is the least represented of the four natural criteria (see **Figure 1.4**). The geological criterion is actually the least used of any of the ten cultural or natural criteria. There are only 80 World Heritage Sites inscribed on the basis of their geology, which is less than 9% of the World Heritage List.

Most geological World Heritage Sites are also inscribed under criterion (vii) for containing superlative natural phenomena or exceptional natural beauty. It is less common for geological sites to also be inscribed under the ecological criteria (ix) or (x), and even rarer for a site to be inscribed based solely on the geological criterion (viii) (see **Figure 1.5**).

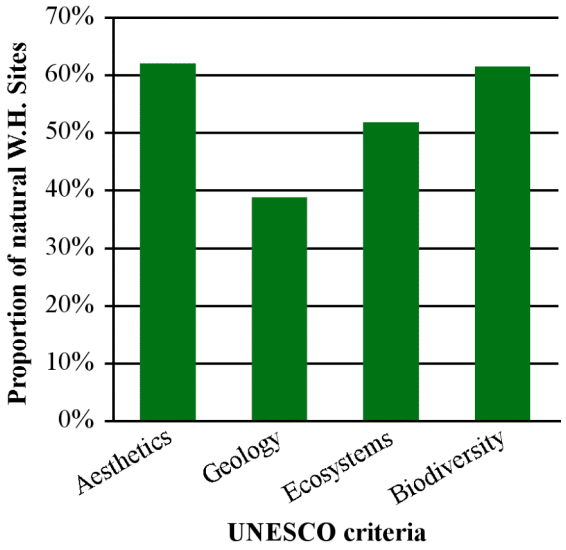


Figure 1.4. Proportion of natural World Heritage Sites that are inscribed under each of the four natural criteria.

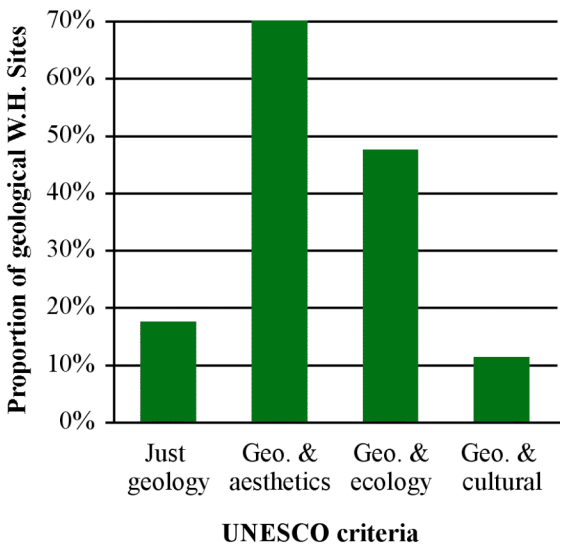


Figure 1.5. Proportion of World Heritage Sites inscribed on geological criteria that are also inscribed under other criteria.

Dingwall *et al.* (2005) reviewed the geological sites on the World Heritage List, and make recommendations for assessing the significance of geological features and identifying gaps in the List. They divide geological heritage into thirteen different categories to use for global comparisons in determining Outstanding Universal Value. One of their categories is volcanoes/volcanic systems, which they note is generally over-represented on the List.

Although geological heritage may be under-represented on the World Heritage List, there are still only a finite number of geological features that will become World Heritage Sites. According to Dingwall *et al.* (2005):

> ... the World Heritage List is never likely to include more than 150 sites of primary geological or geomorphological interest. The necessarily selective nature of World Heritage listing cannot, therefore, be regarded as adequate for recognising the full range of globally significant geological sites.

1.2.2 Volcanic features on the World Heritage List

Despite the paucity of geological sites on the World Heritage List, there are a lot of volcanoes. In fact, there are 59 World Heritage Sites that have significant volcanic geology (Wood 2009; UNESCO 2011a). However, only 18 of these sites are inscribed because of their volcanic features (**Table 1.2**), the rest are on the World Heritage List because of their aesthetic, ecological, or cultural values.

In 2008, the Tentative Lists of various State Parties showed an additional 40 potential nominations that included volcanoes (Wood 2009). We cannot know how many of these sites will have Outstanding Universal Value because of their volcanoes.

The Smithonian Institute's Global Volcanism Program defines an active volcano as any volcano that has been active in the Holocene (the last 10,000 years), and the IUCN uses this definition (Wood 2009). There are 27 World Heritage Sites with volcanoes that have been active in the Holocene, and 13 of these sites were inscribed for their volcanoes.

Table 1.2. Sites inscribed to the World Heritage List because of their volcanic features.

Holocene volcanoes:	
Yellowstone National Park, USA (1978)	Heard & McDonald Is., Australia (1997)
Galapagos Islands, Ecuador (1978)	Morne Trois Pitons Park, Dominica (1997)
Virunga Park, D. R. of Congo (1979)	Aeolian Islands, Italy (2000)
Sangay National Park, Ecuador (1983)	Pitons Mgmt. Area, Saint Lucia (2004)
Hawaii Volcanoes Park, USA (1987)	Teide National Park, Tenerife (2007)
Tongariro Park, New Zealand (1990)	Jeju Volcanic Island, R. of Korea (2007)
Volcanoes of Kamchatka, Russia (1996)	
Pre-holocene volcanoes:	
Ngorongoro Conservation Area, Tanzania (1979)	Gondwana Rainforest, Australia (1986)
Gulf of Porto, France (1983)	Papahānaumokuākea, USA (2010)
Giant's Causeway, N. Ireland (1986)	

It has been noted several times that there is limited room on the World Heritage List for additional volcanic sites. When Jeju Volcanic Island and Lava Tubes (Republic of Korea) became a World Heritage Site in 2007, the IUCN evaluation stated:

> IUCN notes that volcanic systems are relatively well represented on the World Heritage List, including several properties whose inscription was justified on the basis of arguments that are considered by a number of experts to be rather narrow. There are a large number of volcanoes worldwide and at a detailed level every one of these can assert that it is in some way unique.

This IUCN evaluation further recommends that additional volcanic sites should only be nominated where:

- There is a very clear basis for identifying major and distinctive features of outstanding universal value that has been verified by a thorough global comparative analysis;
- The basis for claiming outstanding universal value is a significant and distinctive feature of demonstrable and widespread significance, and not one of many narrow and specialized features that are exhibited within volcanic terrains.

Wood (2009) conducted an overview of the volcanic landscapes on the World Heritage List, to help the IUCN determine what criteria need to be met for new sites to be inscribed. He found that most volcanic phenomena are already represented on the World Heritage List, although he did identify some gaps (**Table 1.3)**. Hyaloctastic mountains (tuyas) and ridges (moberg ridges) are one of the important volcanic features that Wood identified as missing from the World Heritage List, and one of his solutions was that the IUCN could "consider a future nomination tuya from type-area in Canada" (Wood 2009, pg. 32). Hyaloctastic mountains and ridges are volcanic features formed under water or ice, and include the sub-glacial volcanoes seen in Wells Gray Park and Area.

Table 1.3. Important volcanic features identified by Wood (2009) as being under-represented on the World Heritage List (emphasis added).

Poorly represented:	**Missing:**
• Intrusive landforms	• Fissure volcanoes
• Certain popularly-known or iconic volcanoes	• Icelandic type shield volcanoes
	• ***Hyaloctastic mountains (tuyas) and ridges***
• Flood basalts	• Silicic volcanic fields
• Basaltic plains	• Large ash flows and ignimbrite sheets & plateaus
• Back-arc volcanoes	• Resurgent caldera

Wood (2009) also noted that the World Heritage List does not include any monogenetic volcanic fields, although he did not identify this as an important gap in the List. Wells Gray Park and Area is an example of a monogenetic volcanic field.

Wood further commented that the IUCN should perhaps consider more representation from North America on regional grounds. Currently, Yellowstone National Park is the only World Heritage Site in North America inscribed for its volcanic features. Two sites in Mexico also have volcanoes (Monasteries of Popocatepetl and Islands of the Gulf of California), but they were not inscribed for their geology.

It is important to realize that just because an important feature is identified as missing from the World Heritage List does not mean that a site needs to be inscribed onto the List to include this feature. The World Heritage List is not intended to be representative of all types of geological features. The review by Wood (2009) merely suggests that a site with sub-glacial volcanoes could *potentially* have Outstanding Universal Value.

It is also important to note that although Wells Gray Park and Area has some outstanding examples of sub-glacial volcanic features, it is not the only place where they are found. Although sub-glacial volcanoes are relatively uncommon, they also exist at several other sites around the world, including elsewhere in British Columbia, as well as in the Yukon, the USA, and Iceland.

Wells Gray Park and Area can only qualify for Outstanding Universal Value on the basis of the geological criterion if it is shown that the area has outstanding examples of sub-glacial volcanic features when compared to other sites across the world. This comparison must consider any sites that are already on the World Heritage List or on a State Party's Tentative List, as well as any other site with sub-glacial volcanoes that could potentially have Outstanding Universal Value.

The Surtsey World Heritage Site in Iceland, inscribed in 2008, might be considered geologically similar to Wells Gray Park and Area. Surtsey is a tuff cone that formed from a volcanic eruption under water. It has some physical similarities to a tuya, and was therefore classified as one by Wood (2009). However, it is not a sub-glacial volcanic feature, and is quite different from what is found in Wells Gray Park and Area. Surtsey was inscribed onto the World Heritage List because of its unique ecological characteristics, not because of its geological values.

There are two sites with sub-glacial volcanic features on the Tentative List that Iceland submitted in 2011. Both of these sites are quite different from Wells Gray Park and Area, and their features are younger (C. Hickson, pers. comm. 2011). These sites are:

- An extension of Þingvellir National Park World Heritage Site.
- Vatnajökull National Park, including Skaftafell National Park (Iceland's previous Tentative List), as well as Herðubreiðarlindir and Askja (noted in Wood 2009).

Wells Gray Park and Area has several potential competitors for the Outstanding Universal Value of its volcanoes: the Surtsey World Heritage Site; the two sites on Iceland's Tentative List; and any other sub-glacial volcanoes elsewhere in the world that may have Outstanding Universal Value. It will have to be established that Wells Gray Park and Area is either a better representation of sub-glacial volcanoes, or unique in an internationally important way. Fortunately, Wells Gray Park and Area has an exceptional range of volcanic features, including tuyas, cinder cones, tuff cones, and sub-glacial mounds (C. Hickson, pers. comm. 2011), which may distinguish it from its competitors.

1.2.3 Criterion (vii): Superlative natural phenomena or exceptional beauty

This criterion is the most commonly used of the four natural criteria, being used for 62% of natural World Heritage Sites (**Figure 1.4**). However, almost all of these sites are also inscribed under other criteria, only 3.9% are inscribed under this criterion alone.

Criterion (vii) covers two distinct concepts. The first concept, "superlative natural phenomena", can often be objectively measured. These are things like the deepest canyon, the highest mountain, the highest waterfall, etc. The second concept, "exceptional natural beauty and aesthetic importance", is more subjective to evaluate.

Although aesthetic value is difficult to assess, it must be compared to other sites across the world, not just in the region. The IUCN will base its decision on a comparison with sites previously inscribed onto the World Heritage List under this criterion, using measurable indicators of scenic value if possible (Dingwall *et al.* 2005). The IUCN (2006) has noted that more technical guidance should be provided for this criterion, but so far there has not been a thematic study on it.

Canada has nine natural World Heritage Sites, and seven of them were inscribed under criterion (vii) for their aesthetic value. All seven of these sites were also inscribed for other natural criteria. The two sites that did not qualify as having exceptional natural beauty were only inscribed for their palaeontological values. Five of Canada's nine World Heritage Sites are mountain parks, and all five of these qualified for criterion (vii).

Wells Gray Park and Area has exceptional natural beauty. Whether this qualifies as Outstanding Universal Value when "objectively" compared to sites across the world is difficult to assess. However, the success of other Canadian parks in being inscribed under this criterion indicates that it may be a possibility for Wells Gray Park and Area.

1.2.4 Criteria (ix) and (x): Outstanding example of important ecology and most significant habitat for biological diversity

The two ecological criteria are more commonly used for natural World Heritage Sites than the geological criterion (see **Figure 1.4**), and together they represent 72.5% of all natural sites. Criterion (ix) is for ecosystems that are outstanding examples of significant ongoing ecological and biological processes, while criterion (x) is for habitats that have exceptional biodiversity, and contain particularly endangered or unique species. Ecosystems and biodiversity are intrinsically linked, and as a result most ecological World Heritage Sites are inscribed under both criteria (see **Figure 1.6**).

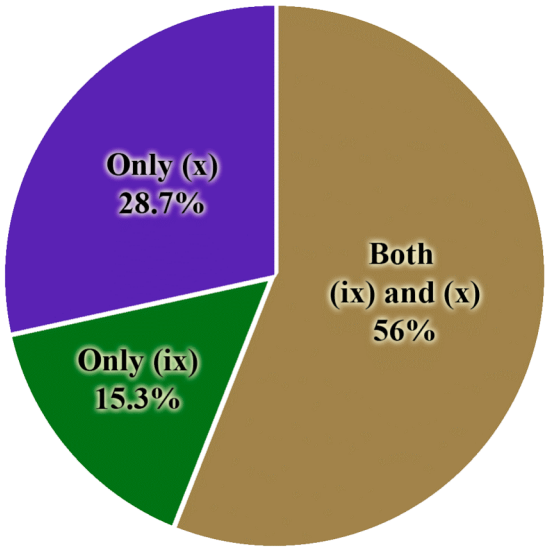


Figure 1.6. Portion of ecological World Heritage Sites inscribed for ecosystems (ix) or biodiversity (x).

There have been several thematic studies done for the IUCN to help with determining Outstanding Universal Value based on the ecological criteria and to identify future priorities for World Heritage Sites. The three thematic studies relevant to the ecological values of Wells Gray Park and Area are the reports on biodiversity (Smith *et al.* 2000), forest biomes (Thorsell and Sigaty 1997), and mountain biomes (Thorsell and Hamilton 2002; Thorsell 2003). These reports recommend two different sites in British Columbia for consideration as World Heritage Sites: the Stikine Provincial Park complex (for its mountains) and South Moresby National Park (for its forests).

The IUCN classifications

The main strategy used by the IUCN to determine if the ecology and/or biodiversity of a site has Outstanding Universal Value is to classify the ecosystems of the world into different categories. A site may have Outstanding Universal Value if it is an outstanding example of an important category of ecosystems, especially if that category is particularly unusual or has exceptional biodiversity.

Udvardy (1975) prepared a report for the IUCN that divided the world's terrestrial ecosystems into 193 biogeographical provinces. These Udvardy Provinces are still used by the IUCN as the starting point for categorizing natural sites in order to identify gaps in the World Heritage List and conduct global comparative analyses (IUCN 2004). Some other important classification systems that the IUCN uses are:

- Habitat Classification Systems developed for some areas by the IUCN-SSC (Species Survival Commission)
- WWF (World Wildlife Fund) Ecoregions (Olson *et al.* 2001)
- Conservation International's 34 "Biodiversity Hotspots" (Mittermeier *et al.* 2005)
- BirdLife International's 218 "Endemic Bird Areas" (Stattersfield *et al.* 1998)
- WWF/IUCN's 234 "Centres of Plant Diversity" (WWF and IUCN 1994–1997)

Wells Gray Park and Area is in the Rocky Mountains Udvardy Biogeographical Province, which is already represented on the World Heritage List by two sites: Canadian Rocky Mountain Parks and Waterton-Glacier International Peace Park.

The WWF Ecoregions developed by Olson *et al.* (2001) divide the world up into 867 ecoregions that are based on the Udvardy Provinces, but provide more resolution. Olson and Dinerstein (2002) have further identified the "Global 200", which is a subset of 238 ecoregions that they consider to be of top priority for conservation, based on the rarity and uniqueness of the ecoregion, as well as its biodiversity and endemicism. The IUCN uses the Global 200 to identify priorities for natural World Heritage Sites.

Wells Gray Park and Area, along with the Canadian Rocky Mountain Parks and Waterton-Glacier International Peace Park World Heritage Sites, is in the North Central Rockies Forests (NA0518) ecoregion (Primm *et al.* 2001). This ecoregion is not one of the Global 200 that is a priority for conservation. The nearby Pacific Temperate Rainforest ecoregion is one of the Global 200, but it does not include Wells Gray.

The IUCN also uses the Conservation International Biodiversity Hotspots and the BirdLife International Endemic Bird Areas to help determine priorities for natural World Heritage Sites. However, none of these locations are in Canada, so this is not particularly relevant to Wells Gray Park and Area.

The areas of southern British Columbia with serpentine (ultramafic) soils are one of the Centres of Plant Diversity identified by the WWF/IUCN. This is an area classified by Alexander *et al.* (2006) as the Northern Cascades – Fraser River Domain of serpentine soils, and it does not extend into Wells Gray Park and Area.

The ecological significance of Wells Gray Park and Area

Wells Gray Park and Area is an ecologically unique area with scientific value, even if this is not yet recognized by the IUCN. There have been dozens of scientific papers published on the lichens, mosses, liverworts, and vascular plants of Wells Gray Park and Area, inspired by the area's exceptional biodiversity and numerous rare species.

Wells Gray Park and Area is an international hotspot for lichen diversity. It is home to 370 species of macrolichens, which is the greatest diversity reported for any location in the world (Goward 2011). There have been at least twelve species of macrolichens new to science discovered in Wells Gray in the last 30 years. There are also 22 newly discovered species of crustose lichens that are known exclusively from Wells Gray (Björk and Goward 2010).

Figure 1.7. *Peltigera conspersa* nom. nud. A rare lichen first identified in Wells Gray Park. Photo by J. Villella.

Wells Gray Park and Area is also important for things other than lichens. There are twelve species of the rare moonwort fern found in Wells Gray, which may be the greatest regional diversity for this genus found anywhere

in the world (Goward 2009). The area is also important habitat for the threatened southern population of mountain caribou (Furk 2008).

Although Wells Gray Park and Area undeniably has great ecological value, this is not necessarily sufficient for the World Heritage List. A more detailed analysis will be required to determine if it qualifies as Outstanding Universal Value. Unfortunately, Wells Gray Park and Area is not a region that the IUCN has identified as having exceptionally unique ecology or biodiversity, and the classification systems used by the IUCN categorize Wells Gray Park and Area as being substantially similar to two existing World Heritage Sites. In order for Wells Gray Park and Area to qualify under either of the two ecological criteria, it will be necessary to establish the uniqueness and scientific value of its ecology and biodiversity, and prove that it is significantly different from Canadian Rocky Mountain Parks and Waterton-Glacier International Peace Park.

1.3 Getting onto Canada's Tentative List

A Tentative List is an inventory of the sites that a national government considers suitable for nomination to the World Heritage List. An official Tentative List is submitted to the World Heritage Committee, and only sites on this list may be nominated for the World Heritage List. The World Heritage Committee has asked that a new Tentative List be prepared every ten years. Canada's last Tentative List was submitted in 2004, and Parks Canada is anticipating that they will start developing the next Tentative List in 2013–2014 (R. Kennedy, pers. comm. 2011).

The World Heritage Committee will allow additions to be made to a Tentative List after it has been submitted, although this does not seem to be encouraged. Canada seems to be following this preference, as there have been no additions to the 2004 Tentative List, and Parks Canada has confirmed that they do not intend to add any more sites until they prepare the next Tentative List (R. Kennedy, pers. comm. 2011).

Wells Gray Park and Area must get onto Canada's next Tentative List before it can become a World Heritage Site. The Tentative List is competitive. It will probably only include 10–12 sites, and perhaps only half of them will be natural sites. If Wells Gray is not included, it will likely be another ten years until the next opportunity arises.

1.3.1 The history of Canada's Tentative List

Canada submitted its first Tentative List in 1980. This remained Canada's official list for 24 years, but it was not strictly followed, and the majority of Canadian sites nominated in this period were not from the original Tentative List.

In 2000, the World Heritage Committee decided that the Tentative Lists should play a more important role in the nomination process (WHC 2000). They made it a requirement for a site to be on a Tentative List before it can be nominated, and asked that State Parties keep their lists up-to-date. This helps identify what sites may be nominated in the future, so that the potential gaps in the World Heritage List can be addressed.

In response to the World Heritage Committee decision, Canada began developing a new Tentative List in 2002. There were originally 131 cultural and natural sites considered. The natural sites were selected according to a framework developed by Dr. Jim Thorsell (2002). He looked at the 21 most likely sites (including the eight from the

old Tentative List), and narrowed them down to 15 sites (including four from the old list). Additional consultations with provincial and regional governments resulted in Pimachiowin Aki being added to this shortlist in 2003.

Six of the sites from Thorsell's shortlist were selected for the final Tentative List. Two of these sites were proposed under only natural criteria, while the other four are mixed sites proposed under both natural and cultural criteria. Mistaken Point is the only site from the old Tentative List that was retained on the new list. Five cultural sites, which were selected using a different framework, were also included in the new Tentative List, and these eleven sites were submitted to the World Heritage Committee in 2004.

Since 2004, only two sites from the new Tentative List have been nominated for the World Heritage List. Out of the nine remaining sites, two have recently completed nomination dossiers, and there has been a substantial amount of work done on a third.

A brief timeline of Canada's Tentative List:

1978: World Heritage List is started with thirteen sites, including two in Canada.
1979: Two more Canadian sites are added to World Heritage List
1980: One more Canadian site is added to the World Heritage List, and Canada submits its first Tentative List of two cultural and ten natural sites.
1980–2000: Only four of the original sites on the Tentative List are nominated. Five new sites (two cultural and three natural) are added to the List and subsequently nominated.
1990: Canada attempts to make a new Tentative List, but the effort fails.
2000: The World Heritage Committee decides that Tentative Lists should play a more prominent role in the nomination process.
2002: Canada starts developing a new Tentative List. A shortlist of 15 natural sites is selected from a total of 131 natural and cultural sites.
2003: Pimachiowin Aki is added to this shortlist after additional consultations.
2004: Six sites from this natural site shortlist, along with five cultural sites, are submitted to the Committee for the official Tentative List.
2004–present: Canada nominates two sites from its new Tentative List. Nomination dossiers for remaining sites are in various states of completion.
2013–2014: Projected date of Canada's next Tentative List.

1.3.2 Selection of natural sites for Canada's 2004 Tentative List

The IUCN (2006) commended Canada's 2004 Tentative List as an example of best practice. Parks Canada has not decided how they will select sites for the next Tentative List (R. Kennedy, pers. comm. 2011), but they will probably use a rigorous process that may be similar to how they developed the 2004 list.

Natural sites were selected for Canada's 2004 Tentative List using a framework developed by Thorsell (2002) that focused on determining what sites had Outstanding Universal Value. Prospective sites were scored (high/medium/low) on one primary indicator (distinctiveness) and four secondary indicators (integrity, naturalness, dependency, and diversity), which are described below:

One primary indicator was considered:

- **Distinctiveness:** Does the site contain species/habitats/physical features not duplicated elsewhere?

Four secondary indicators were also considered:

- **Integrity:** Does the site function as a reasonably self-contained unit, with the boundaries encompassing all key elements of the area's natural values?
- **Naturalness:** To what extent has the site been affected by human activities?
- **Dependency:** How critical is the site for key species and/or the understanding of geological history and/or ecosystems? Are there other alternative habitats or places that can also "tell the story"?
- **Diversity:** What diversity of species, habitat types and natural features (i.e., geodiversity) does a site contain?

All sites were rated for all five indicators:

- **High**: Distinctiveness clearly outstanding at a global level. Satisfactory boundaries, minimal human activity, critical or only site for the species or feature, exceptional level of diversity.
- **Medium:** Distinctiveness significant at a bioregional level. Less than satisfactory boundaries, moderate human activity, one of several sites for the species or feature, moderate diversity of features
- **Low:** Only nationally or provincially significant. Unsatisfactory boundaries, significant human activity, commonly occurring species or features, low diversity.

Any site that scored as high for the primary indicator of distinctiveness was automatically considered to be of international importance. Sites that scored as medium or high for at least three of the four secondary indicators were considered to be significant at the bioregional level. Sites with either international or bioregional significance were put on a shortlist for further consideration.

There were then two phases of public consultation. The first included provincial governments and national stakeholder groups, and the second was with municipal governments and stakeholders in nearby communities (Parks Canada 2004). A panel of renowned Canadians then reviewed the shortlist, considered views raised during the consultations, and advised the federal minister responsible for choosing the sites.

1.3.3 The 2011 Tentative List for the United Kingdom

The UK recently developed a new Tentative List that was submitted in March 2011. The UK government asked interested sites to apply for a position on the List, had them fill out an application form (DCMS 2010a), and then chose the best candidates.

The British have slightly different criteria for their Tentative List. All sites are required to have Outstanding Universal Value, but they also consider if the community has the *capacity* to develop a nomination (DCMS 2010a, 2010b). This may be why the UK succeeds in nominating significantly more sites for the World Heritage List. The UK may also consider if a community will *benefit* from having the World Heritage designation, as was recommended in an analysis by Hambry (2007) for the Scottish Government.

1.3.4 How to get onto Canada's next Tentative List

Wells Gray Park and Area must get onto Canada's Tentative List before it can become a World Heritage Site. This requires convincing Parks Canada that Wells Gray Park and Area:

1. contains features that are not duplicated elsewhere, and are clearly outstanding at an international level;
2. has satisfactory boundaries that encompass all of its key features;
3. shows minimal negative impacts from human activities;
4. is critical for understanding geological history and representing a geological feature (and potentially is critical for key species or ecosystems); and
5. contains exceptional geological diversity (and potentially biodiversity).

Although there was no overt recognition of community capacity and benefit in the development of Canada's 2004 Tentative List, these seem like very pragmatic criteria, and it would probably be beneficial to prove them to Parks Canada when lobbying for inclusion on the Tentative List.

1.4 Preparing a successful nomination

There are three fundamental requirements that all successful natural World Heritage nominations are required to meet (IUCN 2007):

1. A precise and a rigorous explanation of its claim to Outstanding Universal Value, as defined by the World Heritage criteria. This must include a comprehensive comparative analysis of similar sites around the world.
2. A demonstration that it meets a series of conditions of integrity specified in the World Heritage Convention. Integrity includes requirements for the nominated property to be of adequate size and completeness to represent and protect its important features, and to have clear and appropriate boundaries.
3. A demonstration that the property is effectively protected and managed, with a legitimate management plan or other documented management system, and an effective legal, financial and institutional framework to ensure its effective implementation.

These requirements are rigorous, and meeting them requires a substantial investment of time and resources. UNESCO has commented that it is not generally possible to prepare a successful nomination in under two years, and most nominations take significantly longer. The IUCN has published guidelines on how to prepare nominations for natural World Heritage Sites (Badman *et al.* 2008). These guidelines include advice on the comparative analysis, Statement of Outstanding Universal Value, site boundaries, and the format of the nomination document. More recently, UNESCO (2011b) has published a more comprehensive document on how to prepare World Heritage Site nominations. The contents of these documents are summarized below, but anyone intending to prepare a nomination should review both documents in their entirety.

1.4.1 The recommended strategy

Building the team

The first step of the nomination process is to identify the stakeholders and build a team to work on the nomination. All stakeholders should be involved in the nomination, especially the local communities. The World Heritage Committee has repeatedly stressed the need to promote the participation of local people, and this participation should be a priority from the start of the process, through the preparation of a nomination, and continue after inscription as part of the ongoing management of the site. The objective is to bring together all of the views on concerns and opportunities and seek to develop a strong consensus about the future of the property in order to increase commitment to its conservation

It may be useful to form both a steering group and an advisory committee. The steering group is a small core team of key partners that do the majority of the work on the nomination and make day-to-day decisions. The advisory committee is a larger forum of representatives from various stakeholders that support the work and make the strategic decisions with advice from the steering group. This is the approach recommended by UNESCO (2011b), and has been used to develop numerous nominations (e.g. Grand Pré).

A variety of working groups or technical panels will likely be required for specific parts of the nomination, like developing a tentative Statement of Universal Value, the comparative analysis, or the site boundaries. External consultants will often be hired to complete parts of the nomination process, like doing an impact assessment or developing a marketing plan for the site.

UNESCO recommends identifying a single project leader or co-ordinator who can take responsibility for managing the nomination process. Although not all nominations were developed with a co-ordinator (e.g. the Writing-On-Stone nomination process did not have a co-ordinator), it is widely regarded as being an important feature of a successful nomination (e.g. ERM 2004; PricewaterhouseCoopers 2007c; Badman *et al.* 2008). A small support staff may be required for the co-ordinator.

Successful nominations are characterized by having a wide base of community support, a project co-ordinator, and a dedicated multidisciplinary team with strong partnerships and good communication between the partners and with the community. UNESCO (2011b) makes some key recommendations for structuring a successful team:

1. Compile a list of key supporters or stakeholders (e.g. site owner / manager, Parks Canada, national heritage agencies, local authorities, local communities, indigenous populations, tourism operators, universities and experts).
2. Check that the range of knowledge and expertise within the team reflects the range of values within the site. The team should have an understanding of the site in an international context, and have useful networks for obtaining wider advice.
3. Be flexible about team membership to account for the possibility of emerging interests, however it is preferable to retain a continuing editor.
4. Consider creating a small core team to work on the nomination itself, and a larger reference group to support the work.
5. Ensure that the team is clearly led, has the right membership, has a clear task, and has a clear and realistic work plan with milestones.

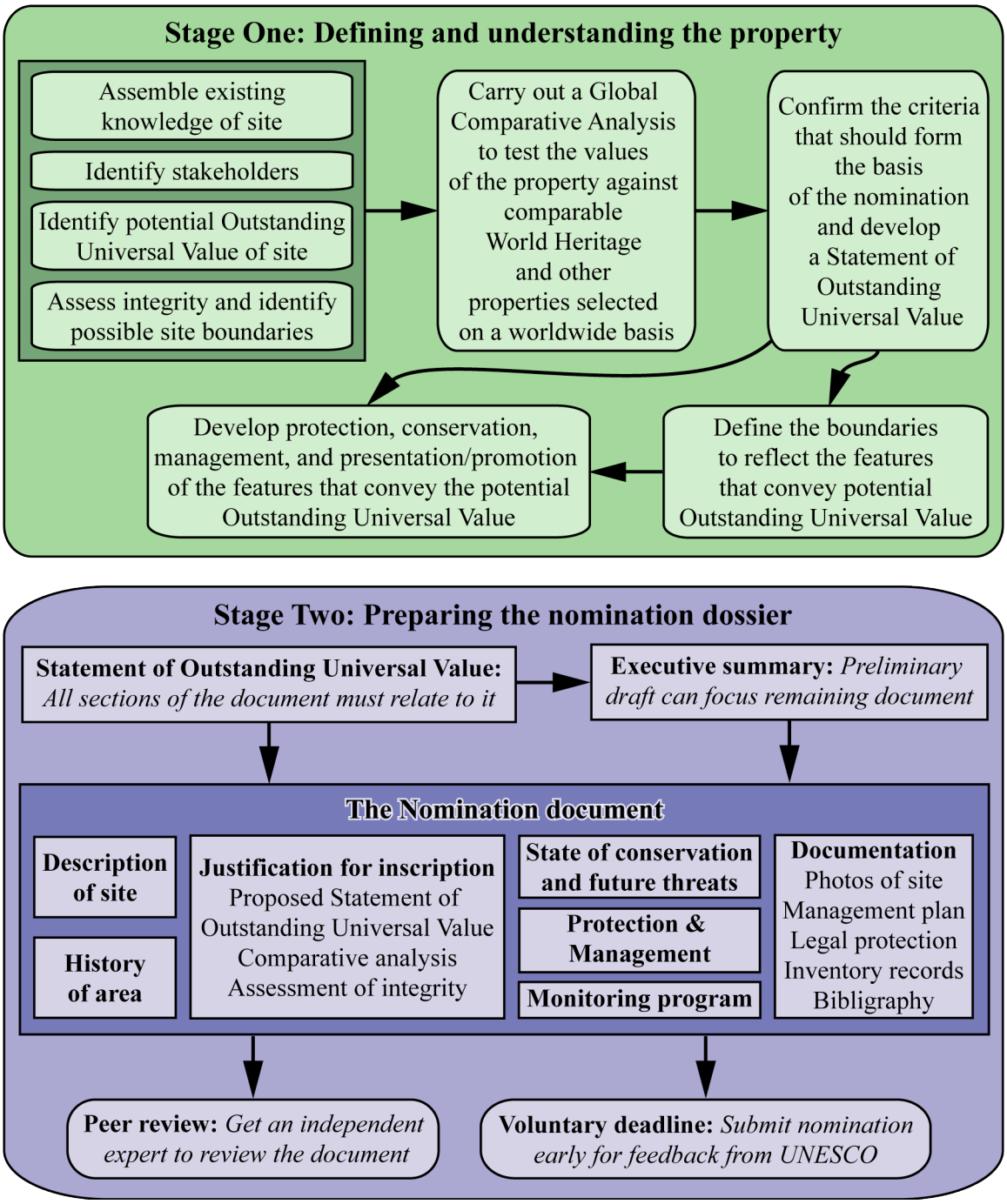


Figure 1.8. Recommendations on how to prepare a World Heritage Site nomination, adapted from UNESCO (2011b).

Preparing the nomination

UNESCO (2011b) recommends developing a World Heritage nomination in two stages, which are shown in **Figure 1.8**. The first stage is to understand and define the potential World Heritage Site. The nomination team assesses the existing knowledge of the site and assembles any research, inventories of features, or other documentation that is available. The team then identifies the features of the site that could potentially convey Outstanding Universal Value under one of the World Heritage criteria. A comparative analysis is conducted to determine if these features are unique and of utmost international importance when compared to other sites across the world.

Once the potential Outstanding Universal Value is identified and justified with a comparative analysis, a tentative Statement of Outstanding Universal Value is carefully developed as the foundation for the rest of the nomination process. The Statement is used to define the boundaries of the site so that they preserve the integrity of the Outstanding Universal Value. Once the boundaries are defined, a management system can be developed to protect this value.

The second stage of the nomination process is to actually write the nomination document, which is based on the Statement of Outstanding Universal Value. UNESCO recommends writing the executive summary first, which can then provide guidance for the rest of the document. It is also recommended to have the document reviewed by independent experts, and to submit it early for the voluntary deadline in September to get feedback from the World Heritage Centre.

1.4.2 Comparative analysis

A comparative analysis is an essential part of a nomination for World Heritage Site status, and must be one of the first steps in the nomination process. UNESCO recommends putting together a group of experts to carry out the analysis. This group should consist of specialists on the themes and bio-geographic provinces represented by the nominated property, and preferably include outside experts who can take an international perspective. UNESCO also recommends having the first draft reviewed by independent national and international experts.

The analysis must be as rigorous and objective as possible, and for natural sites it needs to be global in scope. A full range of comparable sites across the world must be identified using IUCN classifications (see **Section 1.2**) as well as the specific World Heritage criteria. These should include any sites already on the World Heritage List and Tentative Lists, mentioned in IUCN thematic studies, and identified in other sources.

Any relevant IUCN thematic studies must be used as background for the analysis. In the case of Wells Gray Park and Area, this includes the reports on volcanoes (Wood 2009), geology (Dingwall *et al.* 2005), biodiversity (Smith *et al.* 2000), forests (Thorsell and Sigaty 1997), and mountains (Thorsell and Hamilton 2002). Existing global assessments on conservation priorities can also assist in determining the uniqueness of the site.

For a nomination to be successful, the comparative analysis must provide a rigorous explanation of how the site compares with other sites across the world. It must demonstrate that the combination of values and features is not already represented on the World Heritage List, and that there are no comparable sites globally with similar values that might be nominated in the future.

If there are similar sites, it must be demonstrated that the nominated site is the best example of the values and features of interest. The integrity of the different sites must be considered for this comparison.

In some cases, other sites identified as having comparable values might be joined together as a serial nomination. Serial properties are World Heritage Sites that consist of a series of discrete areas that are not contained within a single boundary, but are related by some essential feature. Even if a single area within the serial property does not qualify for Outstanding Universal Value by itself, they may when considered together.

The comparative analysis for the Miguasha World Heritage Site (Cloutier and Lelièvre 1998) is considered to be an example of best practice (IUCN 2008). Miguasha is a geological site in Quebec, and their comparative analysis may be adaptable to Wells Gray Park and Area. The IUCN (2008) outlined Miguasha's threefold method:

1. **Derive assessment criteria:** The IUCN has published two documents on evaluating the value of fossil sites (Dingwall *et al.* 2005; Wells 1996), which were used as the basis for developing seven generic criteria for assessing fossil sites.
2. **Select key sites to be evaluated**: Bibliographic research and expert consultation identified 61 important sites of the world's Devonian vertebrate fossils. This total was reduced to 15 key sites by eliminating all sites that failed to meet at least one of five specific key qualifications in terms of their fossil context.
3. **A score-based assessment:** The 15 sites were assessed using a scoring system. The results placed Miguasha first in 7 of the 10 significance categories assessed, and second or third in the remaining three categories.

1.4.3 Proposed Statement of Outstanding Universal Value

After the global comparative analysis has been completed (at least as a working copy), it can be used to develop a draft Statement of Outstanding Universal Value. UNESCO recommends that this draft Statement should be completed before starting work on the rest of the nomination. It will provide a shared understanding among stakeholders and provide the foundation for all sections of the nomination dossier. This Statement will often be modified as the nomination process progresses. The final draft of the Statement is submitted with the nomination, and the official Statement of Outstanding Universal Value is determined by the World Heritage Committee if they decide to inscribe the site.

The Statement of Outstanding Universal Value is the strongest statement of value that can be made for the site. It describes the features that convey the value, and justifies how they meet the chosen World Heritage criteria. It is used to inform future protection, conservation, management and monitoring. The Statement should be capable of explaining the property's value and attributes to decision-makers, politicians, and the general public.

Although the Statement of Outstanding Universal Value is probably the most essential part of the nomination and often represents a considerable investment of time and resources, it is required to be very short and concise. The Statement consists of:

1. Synthesis statement of the key values of the property (150 words)
2. Justification of how it meets the relevant criteria (200 words/criterion)
3. How the property meets the requirement of integrity (200 words)

4. Brief description of protection and management system (250 words)
5. Key issues for protection and management that require long-term attention (max 5 issues, 100 words/issue)

1.4.4 Conditions of integrity and determining site boundaries

A World Heritage nomination must demonstrate that the site meets conditions of integrity. There are two general aspects to integrity in relation to natural sites:

1. The natural features of the area must be relatively intact and not suffering from the adverse effects of development. Some human activities are acceptable if they are ecologically sustainable.
2. The site must include all the features necessary for a complete representation of its Outstanding Universal Value. The boundaries must reflect the spatial requirements of these habitats, species, processes, or phenomena, and be of sufficient size to protect these features from the direct effect of human encroachments and impacts of resource use.

If a prospective World Heritage Site does not satisfy the first aspect of integrity, it might be a difficult problem to fix. Fortunately, Wells Gray Park and Area is at least as pristine as most other natural World Heritage Sites, so this should not be an issue. Satisfying the second aspect of integrity depends on carefully drawing the site boundaries to include and protect the Outstanding Universal Value of the site.

A clear understanding of the potential Outstanding Universal Value of a site and the features that convey that value is required before it is possible to consider the integrity of a site and determine the where the boundaries should be drawn. The boundaries of a prospective World Heritage Site should therefore be developed after there is a draft Statement of Outstanding Universal Value that can be used to inform the process.

Each of the four natural criteria have slightly different requirements for integrity (see **Table 1.1**). The requirements for geological sites are (Operational Guidelines, paragraph 93):

> Properties proposed under criterion (viii) should contain all or most of the key interrelated and interdependent elements in their natural relationships. For example, an "ice age" area would meet the conditions of integrity if it includes the snow field, the glacier itself and samples of cutting patterns, deposition and colonization (e.g. striations, moraines, pioneer stages of plant succession, etc.); in the case of volcanoes, the magmatic series should be complete and all or most of the varieties of effusive rocks and types of eruptions be represented.

Wood (2009) further expands on the conditions of integrity for volcanic sites. The site must contain all of the essential features that distinguish that particular volcanic system, including evidence of its eruption styles, products, and landforms. For Holocene volcanoes, it is essential to protect the vent(s), as well as the range of lavas, pyroclastic deposits, and subsidiary landforms.

For any site, good-quality mapping of the boundaries is essential, and they must be clearly defined in relation to the legal protection and management of the site. UNESCO (2011b) also recommends that the boundaries should be readily identifiable in the field so they can be useful for management.

The Operational Guidelines state that a buffer zone should be provided whenever it is necessary for the conservation of the site. This buffer zone is not of Outstanding Universal Value, and is not part of the inscribed World Heritage Site. However, it is formally registered at the time of inscription, and should be part of the overall management system of the site. Buffer zones must have complementary restrictions on use and development to give an added layer of protection to the site. If no buffer zone is proposed, the nomination must explain why one is not necessary. Additional information on buffer zones for World Heritage Sites is provided by Martin and Piatti (2008) and UNESCO (2011b).

The boundaries of a Wells Gray Park and Area World Heritage Site will not necessarily be the same as those of the Provincial Park, and will need to be determined with careful consideration of the features that are related to the potential Outstanding Universal Value of the area. Although Wells Gray Provincial Park includes the majority of the relevant volcanic features, it does not include the entirety of the Wells Gray-Clearwater Volcanic Field, which extends to the west and north of the park. It must be ascertained whether or not the features outside the park can be excluded while still satisfying the conditions of integrity, or if they can be included while maintaining the requirements for management and protection. Furthermore, if Wells Gray Park and Area is to also be inscribed under aesthetic or ecological criteria, there will be additional conditions of integrity that may affect the boundaries.

The process used to determine the boundaries for the Lake District World Heritage Site may be applicable to Wells Gray Park and Area, particularly if it is determined that Wells Gray has potential Outstanding Universal Value under more than one World Heritage criteria. This process is outlined by ERM (2004), and involves GIS modeling:

- Identify potential Outstanding Universal Value
- Identify features that related to this Outstanding Universal Value
- Assign nominal values to these features
- Map the features according to their contribution to World Heritage criteria
- Layer maps of different types of features on top of each other
- Map the management and protection of the area and layer it with the features
- Areas are assigned scores based on nominal values of overlapping features
- A threshold score is defined for including an area within the World Heritage Site
- Boundaries are drawn based on the threshold.

There were several different criteria being considered for the potential Outstanding Universal Value of the Lake District, and the GIS model allowed them to construct different maps for each criterion, or to combine criteria into a composite map. The objectivity of this method was also useful. The process could be scrutinized by interested parties, and the resulting boundaries could be justified in the context of a robust and transparent methodology.

1.4.5 Management plan

The World Heritage Committee has very high expectations for the management of World Heritage Sites. Sites inscribed since 1996 have been required to have a management plan, or a thorough documentation of their management system. This management plan must engage all stakeholders and the local communities, and it must be effective in managing and protecting the site.

The management plan should be developed as part of the nomination process, because any new pressures or opportunities that could arise from having World Heritage Site status should be accounted for in the management plan. UNESCO (2011b) recommends developing the management plan after a Statement of Outstanding Universal Value has been written, and after the boundaries of the site have been determined, as these two items will have a significant impact on how the site should be managed.

UNESCO further recommends that the management plan should be finished before writing the nomination document. However, in actual practice it is common for the management plan to be developed throughout the entire nomination process, often only being completed shortly before the nomination is submitted to the World Heritage Centre.

Although it is not recommended, World Heritage nomination will sometimes be submitted before the management plan is completed. In these cases, the nomination must demonstrate that an adequate management plan will be developed. There are examples of the management plan for a site being completed a few years after it was inscribed, or even of the process to develop the management plan not starting until after inscription. Although some nominations are successful without a completed management plan, this is discouraged by the World Heritage Committee and undoubtedly makes it more unlikely that the nomination will be successful.

As part of developing the management plan, it is necessary to review the current state of conservation for the site and identify any current or future threats. The management plan must then be developed to ensure that the site is adequately protected to maintain or enhance its Outstanding Universal Value. A monitoring program to assess the effectiveness of the management is an integral part of the management plan.

The Operational Guidelines (paragraph 111) identify the common elements of an effective management system:

(a) a thorough shared understanding of the property by all stakeholders
(b) a cycle of planning, implementation, monitoring, evaluation and feedback
(c) the involvement of partners and stakeholders
(d) the allocation of necessary resources
(e) capacity building
(f) an accountable transparent description of how the management system functions

Although the principal focus of the management plan is to protect the features of Outstanding Universal Value, UNESCO has repeatedly noted that this protection should be extended to all important features. This will be particularly relevant for Wells Gray Park and Area if it is only inscribed under the geological criteria, because there are also important ecological and aesthetic values in the area that should be protected, even if they are not found to be of Outstanding Universal Value.

Both Dingwall *et al.* (2005) and Wood (2009) have stated that if a geological World Heritage Site contains important features of ecological, aesthetic, or cultural value, all of these features should be protected, even if those features were not the basis for the inscription of the site. This is quite important, because although volcanic features are often quite robust and relatively resilient to human-made threats, any associated ecological or cultural values are usually more vulnerable. As stated by Dingwall *et al.* (2005): "protection of natural heritage of Outstanding Universal Value within a WHS cannot logically be separated from protection of all natural heritage within that site."

Currently, management direction for Wells Gray Provincial Park is provided by three documents:

1. The original master plan for the park (MoLPH 1986)
2. An interim management statement (MoP 1991) for four recreational areas that were added to the park in 1987
3. Management direction statements (KLRP 1999) for 15 protected areas that were added to the park in 1996

These documents will not be adequate as a management plan for a Wells Gray Park and Area World Heritage Site, although they will probably be useful in developing this plan. BC Parks has recognized that a better management plan is required for Wells Gray Provincial Park. The management direction statements (KLRP 1999) state that they are only for providing direction until a full management plan can be developed with involvement from stakeholders, and that they do not negate the need for future, more detailed management plans.

There have been a variety of resource manuals published to aid in the development of management plans for World Heritage Sites. These include reports on:

- Managing natural World Heritage Sites (IUCN-PAP 2008)
- Managing tourism at World Heritage Sites (Pedersen 2002)
- Assessing management of natural World Heritage Sites (Hockings *et al.* 2008)
- Monitoring World Heritage Sites (UNESCO and ICCROM 2004)

Stolton *et al. (*2006) assessed effectiveness of the management at nine World Heritage sites, and found four things that effectively managed sites had in common:

1. They worked in partnership. The conversation with stakeholders was meaningful and not one-sided dialogue. People quickly identified themselves as a team, and ensured that all stakeholders involved in the project were actively engaged.
2. They had effective organization and business management systems.
3. They developed clear management targets.
4. They increased their knowledge of the site.

The management plans of most World Heritage Sites inscribed after 1996 are publicly available, and some may provide useful background for developing a management plan for Wells Gray Park and Area. The IUCN (2008) has highlighted the management plan of the Jungfrau–Aletsch–Bietschhorn World Heritage Site in the Swiss Alps as an example of best practice. This World Heritage Site was inscribed in 2001, and in 2004 they designed and launched an extensive participatory multi-stakeholder process to develop a management plan. It took 7 months, and the process they used is outlined by Wiesmann *et al.* (2005).

1.4.6 Including residents and extractive industry in World Heritage Sites

There are often people living and extracting resources from within World Heritage Sites. This is common and acceptable, but needs to be considered. Thorsell and Sigaty (1998) identified 47 World Heritage Sites with resident human populations, which had an average population of 6,268 residents. However, most natural World Heritage Sites in OECD countries do not have a significant population of residents.

Canadian Rocky Mountain Parks is the only natural site in an OECD country with a large human population. This World Heritage Site includes 13,000 residents in the towns of Banff, Lake Louise, Field, and Jasper. Other natural World Heritage Sites in North America that have small resident populations include Wood Buffalo (350), Waterton (300), Miguasha (120), and Papahānaumokuākea (85).

Thorsell and Sigaty (1998) found that 87% of natural World Heritage Sites have some extractive industry. The extractive industries they report in Canadian sites are:

- Nahanni and Gros Morne both have local hunting
- Wood Buffalo has commercial fishing, and there was logging until 1990
- Wood Buffalo and Rocky Mountain Parks have hydroelectric developments
- Nahanni and Dinosaur Park have mining/gas wells on their borders
- Dinosaur Park also has cattle grazing (not identified by Thorsell and Sigaty 1998)

If it is a possibility that private residences would be included within a Wells Gray Park and Area World Heritage Site, it may be useful to look at how the Canadian Rocky Mountain Parks World Heritage Site dealt with having towns within their site boundary. There are a variety of management areas that have been included within this World Heritage Site:

1980: The Burgess Shale was inscribed onto the World Heritage List.
1984: Canadian Rocky Mountain Parks became a World Heritage Site, including the previously inscribed Burgess Shale site and four contiguous national parks: Kootenay, Yoho, Banff, and Jasper
1990: The World Heritage Site was expanded to include three provincial parks: Mount Robson, Hamber, and Assiniboine.

A recent management plan has been published for Banff National Park (Parks Canada 2010), which may be useful for Wells Gray Park and Area.

1.4.7 The effect of land ownership

There are no stipulations for the ownership arrangement of a World Heritage Site, as long as it is appropriately managed. Land that is privately owned or leased can be included within the boundaries of the World Heritage Site. However, the management of the site must insure that its Outstanding Universal Value is conserved while engaging and respect the stakeholders and community, and this does become more complex if some of the land is privately owned.

If the ownership of the land is complex and involves many stakeholders, it takes more time and resources to develop the nomination and the management plan, and to manage the site after it becomes a World Heritage Site. PricewaterhouseCoopers (2007c) found that for World Heritage Sites in the UK, the complexity of the ownership of the site was the biggest determinant of the ongoing management costs. The Jurassic Coast

World Heritage Site is a good example of a complex ownership situation. A very comprehensive management plan was developed, which is thoroughly revised every five years, and an entirely separate entity was set up to manage the site (DEDCWHS 2009).

Most natural World Heritage Sites in North America are national or provincial parks. This makes management easier, because they are usually publicly owned and already have a functional management arrangement that protects the area. However, there are also a few natural World Heritage Sites that include land that is not part of a park. Two notable examples are Dinosaur Provincial Park and Joggins Fossil Cliffs.

The example of Dinosaur Provincial Park World Heritage Site

The Dinosaur Provincial Park World Heritage Site in Alberta is an example of a natural World Heritage site in Canada that includes private and lease land. Most of this World Heritage Site is a provincial park. However, the boundary of the World Heritage Site extends beyond the boundary of the provincial park in several places, to include geologically significant areas that are adjacent to the park (AB-CD-PPA 2004).

The land within the World Heritage Site includes a variety of different management authorities, both inside and outside the provincial park:

- The northern 40% of the provincial park is crown land administered by the Special Areas Board.[1]
- Approximately 4000 acres north of the park is also crown land administered by the Special Areas Board.
- A few hundred acres of land north of the park is privately owned.
- The land south of the park is owned by the Eastern Irrigation District (EID), which is a farmer-owned co-operative.

Alberta Parks has written agreements with the Special Areas Board and the EID for the management of their land that is included within the World Heritage Site (Landals 2004). There is no management agreement with the private landowners north of the park. All of this area is grazing land, and the crown land has grazing leases.

Alberta Parks and the Special Areas Board have a co-management agreement for the crown land that is within Special Areas No. 2. The Special Areas Board continues to be the manager, but they must get approval from Alberta Parks for any major decision, and notify them of any changes. The main items of their agreement are:

1. Off-road vehicles are only allowed for ranching purposes.
2. Hunting is prohibited, and Alberta Parks will pay for signs to notify hunters.
3. Roads not critical for lessees and land owners are closed.
4. Alberta Parks and the Special Areas Board will work together to protect valuable resources without altering current ranching practices.
5. Joint approval is required for any oil or gas well development, and will not be allowed within 150 m of the break of slope (the area of palaeontological value).

[1] The Special Areas in Alberta are provincially run, rural municipalities that were created during the drought of the 1930's, and are an unusual administrative arrangement. As a result, although all the lands within the provincial park are crown lands (as is required by the Alberta Provincial Parks Act), the land within Special Areas No. 2 is administered by the Special Areas Board.

6. Grazing leases must be accommodated. Any access to land must respect the needs of the ranching operations. The ranching lessees must get approval for any superficial improvements such as stock handling facilities or water developments. Alberta Parks will be notified if a grazing lease is renewed or assigned.
7. Park ranger patrols are allowed, and should keep on good terms with the ranchers.
8. A management group will meet occasionally to discuss concerns. This group will include representatives from Alberta Parks, Special Areas, and one leaseholder.

This agreement has not meant that the lessees had to change any of their ranching practices, because the grazing was already compatible the conservation goals, and the grazing leases were not being over grazed prior to the area becoming a provincial park and then a World Heritage Site (J. Christianson, pers. comm. 2011). However, the agreement has prevented mineral leases from being granted for oil and gas wells.

Most of the land south of Dinosaur Park is owned by the EID. In 1988, a land-use agreement between the EID and Dinosaur Park added 1,478 acres of EID grazing land to the provincial park. This EID land was then added to the World Heritage Site in 1992, to allow for the removal from the World Heritage Site of 1,045 acres of privately owned land that had significant natural gas deposits but less geological value (WHC 1991). The EID land was part of the World Heritage Site on the basis of a five-year land-use agreement with Dinosaur Park that was renewed until 2001, when the provincial government and the EID did a land trade and most of that land became crown property.

The EID has not had any concerns with their relationship with the provincial park and the World Heritage Site, and they are happy with the management arrangement (R. Martin, pers. comm. 2011). The main commitments of the land-use agreement between the EID and Dinosaur Park are:

1. The provincial government can conduct palaeontological and wildlife studies
2. The EID continued to have the right to graze the land and parks would not hinder or disturb livestock grazing
3. The general public would not be invited to enter these lands
4. Parks could post the land as provincial park and could enforce park bylaws
5. Parks would not build any structures on the land without EID authorization
6. Parks would not be entitled to any compensation for easements or surface leases, and would not hinder any operations on said surface leases
7. Parks agree to indemnify and save harmless the EID from any actions or liabilities

There are also a few hundred acres of privately owned land in Special Areas No. 2 that is outside of the Provincial Park boundary, but within the World Heritage Site. There is no management agreement with these owners, and there is no legal protection of this land. This has been identified as a risk that is not yet resolved (P. Hofer, pers. comm. 2011). There have been issues with oil wells being drilled in this land, which Alberta Parks recommended against, but had no authority to prevent.

Dinosaur Park was inscribed as a World Heritage Site in 1979, when the rules were not as strict. World Heritage Sites inscribed after 1996 have been required to have a comprehensive management plan, so it is doubtful that a current World Heritage nomination could be successful without a management plan that included all landowners.

Management of the World Heritage Site is definitely more straightforward within the Provincial Park, because it is governed by the Alberta Provincial Parks Act and has

more legal controls (P. Hofer, pers. comm. 2011). Outside the park, they are required to use other legal protection, like the Alberta Historic Resources Act, which requires an impact assessment for any oil or gas development. However, this legislation has very little impact on privately owned lands.

1.4.8 Stage two: Preparing the nomination dossier

The first stage of developing a nomination for a World Heritage Site was to understand and define the site. This included:

- developing a Statement of Outstanding Universal Value;
- defining a boundary for the site;
- developing protection, conservation, and management for the site; and
- getting support from key stakeholders for preparing the nomination.

UNESCO (2011b) recommends completing this first stage before moving on to the second stage, which is to prepare the actual nomination dossier. Although this may be desirable, there have been many successful nominations that have continued to work on their Statement of Outstanding Universal Value, comparative analysis, boundaries, and management plan while the nomination dossier was being written.

All sections of the nomination dossier must be written to specifically relate to the Outstanding Universal Value of the site. These values should therefore be identified before the nomination is written. If the values are identified or updated after work has begun on some sections of the nomination dossier, those sections may subsequently need to be revised to improve their relevance to the values.

UNESCO recommends writing the executive summary first, and using this as a guide to keep the entire document focused. The executive summary can be revised as work on the nomination dossier progresses.

The nomination dossier is often prepared by local staff, but it is also common to hire an outside consultant to do this job. UNESCO notes that the preparation of the nomination should not be rushed. It is often apparent if a nomination has been hastily prepared, and this frequently results in the nomination being deferred or referred. Deferrals and referrals are time consuming and costly, so it is worthwhile to do a thorough job preparing the nomination.

The Operational Guidelines (annex 5) outline the format of the nomination document, and this must be precisely followed before the nomination will be considered. Both Badman *et al.* (2008) and UNESCO (2011b) give advice on how to follow this format. The sections that must be completed include:

- **Executive summary**
- **Description:** Including detailed maps
- **History:** As related to the Outstanding Universal Value
- **Justification for Inscription:** Including the proposed Statement of Outstanding Universal Value, Comparative Analysis, and an assessment of integrity
- **State of conservation and future threats**
- **Protection and management**
- **Monitoring program**
- **Documentation:** Including photographs of site; the management plan; details of statutory protection; inventories of important features; and a bibliography

Although it is not required, UNESCO recommends getting an international expert to review a draft of the nomination dossier before it is submitted to the World Heritage Centre. A peer review from an outside perspective will help identify what parts of the nomination should be improved upon.

The deadline for submitting the completed nomination dossier to the World Heritage Centre is February 1st of each year. However, UNESCO recommends submitting it early. If the nomination is submitted before September 30th, the World Heritage Centre will review it, determine if it is complete, and notify the State Party by November 15th. This gives the State Party the opportunity to correct any omissions before the February 1st deadline, and prevents the nomination from being referred for trivial reasons.

1.4.9 Marketing plan

The World Heritage Committee does not require that a prospective World Heritage Site develop a marketing plan to take advantage of the UNESCO designation, and this is not a part of the nomination dossier that is submitted. However, an effective management strategy can significantly increase the economic benefit that a community receives from the designation **(**see **Section 4.5** on page 96). In fact, if economic opportunities are part of the motivation behind pursuing World Heritage Site status, a well-designed marketing strategy should be considered to be an essential part of the nomination process.

The Old Town Lunenburg World Heritage Site in Nova Scotia, inscribed in 1995, recommends that tourism marketing and management should be planned in advance and ready for roll-out immediately upon announcement of the UNESCO designation (Kelco 2009). They also note that the designation attracts tourists who are interested in the uniqueness of the attraction, and the marketing efforts need to clearly target that type of tourist.

Hockin Cronin *et al.* (2010) developed a tourism strategy and interpretation framework for the future Grand Pré World Heritage Site. They conducted comprehensive site visits, interviewed key people, reviewed the literature, and looked at both the economic impact assessment and the draft management study that were prepared for the site. Some general concepts that they identified as being important for tourist management were:

- Recognizing your tourism goals and objectives
- Understanding the visitor to the area
- Well developed and themed products and experiences
- Effective communication with stakeholders and visitors
- Relevant marketing and partnerships
- Project evaluation, measurement and adjustment as required

The main tourism goals that Hockin Cronin *et al.* identified were to increase the length of time that each visitor stayed at the site, offer them opportunities to spend their money throughout the region, and extend the traditional tourist season. They made several specific recommendations for developing, marketing, and managing tourism products for the area. Although many of their recommendations are specific to Grand

Pré, an analogous strategy could be developed for Wells Gray Park and Area. Hockin Cronin *et al.*'s strategy included:

- Potential tours, interpretive trails, and information kiosks
- Tourist infrastructure improvements
- Themes for developing tourist packages for the area (e.g. Adventures in Taste, and Touch the Land) and key activities and partners for each theme
- Identifying available resources for tourism development
- Identifying regional tourism marketing issues
- Suggestions for engaging non-conventional tourism partners, like farmers, scientists, and community organizations with hosting capabilities.

Hockin Cronin *et al.* also made a couple recommendations for Grand Pré that may be directly applicable to Wells Gray Park and Area. They suggested:

- Monitoring visitor numbers at the site and conducting annual visitor surveys
- Hosting an initial workshop, and then annual symposiums for tourism operators and organizations to gather ideas and share information

Several other World Heritage sites around the world have committed significant resources into developing marketing strategies. As one example, the marketing strategy for the Jurassic Coast World Heritage Site took seven months to develop. They consulted over 25 local organizations involved with the site and investigated how other World Heritage Sites were marketed (TC 2003). The Cornish Mining World Heritage Site also developed a marketing strategy, and theirs involved spending $1.1 million over three years (Atlantic Consultants 2003). Although these marketing strategies are tailored to a specific site and will not be directly applicable to Wells Gray Park and Area, they may provide useful ideas.

1.5 Lessons from other Canadian World Heritage sites

Canada is one of the leading countries for natural World Heritage Sites. Both Canada and Russia have nine natural sites, behind China (12), the USA (13), and Australia (15). Overall, Canada seems to submit better nominations than most other countries, and the World Heritage Committee often points to Canadian nominations as being examples of best practice. There is a fair amount of experience in Canada on preparing successful nominations for natural sites, and Wells Gray Park and Area should draw on this experience.

The nomination dossiers for all World Heritage Sites inscribed after 1998 are available on the World Heritage Centre website. These nominations, along with the associated IUCN evaluations, are a valuable resource. As well, the project leaders that developed the nominations for several of the Canadian World Heritage Sites are willing to provide advice.

1.5.1 Learning from Canada's mistakes

Although all of Canada's nominations have been successful, two were delayed because the World Heritage Committee felt they needed improvement. The repeated deferral and referral of a nomination is time-consuming and costly, and if possible this situation should be avoided. The two delayed Canadian nominations are reviewed below.

Waterton-Glacier International Peace Park World Heritage Site

The USA nominated Glacier National Park in Montana for the World Heritage List in 1985. The World Heritage Committee deferred their decision, noting that similar features were already represented on the World Heritage List. The Committee felt that a new nomination could be reconsidered if it included the adjacent Waterton National Park in Canada, which would improve the integrity of the property. In response to this, Canada put Waterton Park on its Tentative List in 1985. In 1993, the USA and Canada submitted a joint nomination for the Waterton-Glacier International Peace Park.

The Committee felt that the 1993 nomination was inadequate for them to make a decision, and referred it back to the State Parties. The nomination was revised and resubmitted in 1994, and the Committee referred it once more. Only when the nomination was submitted for a fourth time in 1995, did the World Heritage Committee decide to inscribe Waterton-Glacier International Peace Park on the World Heritage List.

There were three issues that the World Heritage Committee identified with the nomination, which caused it to be repeatedly deferred and referred (WHC 1994a, 1994b):

1. Concerns over the integrity of the site
2. Lack of a good comparative analysis
3. Some of the features of the property seemed to be duplicated in the Canadian Rocky Mountain Parks World Heritage Site.

Miguasha National Park World Heritage Site

The original nomination for Miguasha was deferred in 1994, because of a lack of a good comparative study (WHC 1994a). The Committee recognized the importance of the fossil value of the site, but felt that the context was missing to judge its universal significance. A comprehensive global comparative analysis was done by Cloutier and Lelièvre (1998), and the nomination resubmitted. It was inscribed in 1999, with the World Heritage Committee commending it as an example of best practice, and recommending it as a model for future nominations.

1.5.2 Recent nominations

It was originally Canada's policy that developing World Heritage Site nominations was work for experts, and there was little involvement of the public or local authorities (Parks Canada 2004). Only the six World Heritage Sites inscribed since 1990 have engaged the public to a significant extent: Tatshenshini-Alsek (1994), Waterton Lakes (1995), Old Town Lunenburg (1995), Miguasha (1999), Rideau Canal (2007), and Joggins Fossil Cliffs (2008).

Out of these six sites, only Old Town Lunenberg and Joggins Fossil Cliffs include private land. Waterton Lakes and Rideau Canal are both federally owned, which reduced the role of local authorities and people in developing the nomination.

Joggins Fossil Cliffs is probably the most relevant site for Wells Gray Park and Area, as it is a natural World Heritage Site inscribed under geological criteria, and it is mostly provincially owned, with some private land. The experience of Miguasha may also be useful, as it is a natural World Heritage Site and a provincial park[2]. The more

[2] Miguasha National Park is a provincial park. In Quebec, provincial parks are called national parks.

complex ownership arrangement of Old Town Lunenberg may make this example useful as well.

Joggins Fossil Cliffs World Heritage Site

In 1996, the Cumberland Regional Economic Development Association (CREDA) united local residents, scientists, and all three levels of government to work towards getting World Heritage Site status for Joggins Fossil Cliffs. They formed the Joggins Fossil Institute, which developed the World Heritage nomination and continues to manage the site now that it has been inscribed onto the World Heritage List. In 2004, Joggins Fossil Cliffs made it onto Canada's Tentative List. The nomination was submitted in 2007, and in 2008 it was finally inscribed as a World Heritage Site.

The majority of this World Heritage Site is provincially owned, but it also includes land owned by the municipal government, as well as some private land. The buffer zone contains a lot of private land, as well as two private residences.

Joggins Fossil Cliffs is not a provincial park, but it is protected under three provincial statutes. This includes the Special Places Protection Act, under which the site is designated as a Protected Site. Some parts of the site are also protected by a land use bylaw from the local municipality (Cumberland County).

The decade-long process of developing the nomination for Joggins Fossil Cliffs was community-led, and the public was engaged via presentations, press releases, and newsletters. They also held a number of workshops to involve the community in visioning and discussions. Based on their experiences, Joggins Fossil Cliffs made several recommendations for developing a World Heritage nomination (ICON 2009):

1. When addressing potentially controversial issues, prepare and present a strong recommended stance, leaving room to make concessions to bring people on board. This is more effective than asking everyone for input and getting something watered down.
2. Identify key people who can serve as ambassadors or champions. Certain people will have a better chance of persuading the majority
3. Take the time to ensure due diligence in approaching and engaging the community in the right way.
4. Be strategic about what to say and when. Outline issues and responses in a planned way and then interpret community feedback accurately. It is important to confirm community feedback before proceeding.
5. Do not try to sell everything at once. It is better to go for bite-sized chunks.

The experiences of Joggins Fossil Cliffs will likely be useful for developing a nomination for Wells Gray Park and Area. Their nomination dossier and the IUCN evaluation of the nomination are both available on the UNESCO World Heritage Centre website. The director for the Joggins Fossil Institute, Jenna Boon, has offered to provide some advice if Wells Gray Park and Area pursues World Heritage Site status. Her contact information is in **Section 6**.

1.5.3 Experiences of current nominations

Several of the sites on Canada's current Tentative List are trying to get World Heritage Site status, and the experiences of some of these sites will be useful for Wells

Gray Park and Area. Nominations have been completed for both Writing-On-Stone Provincial Park in Alberta and Grand Pré National Historic Site in Nova Scotia, and Pimachiowin Aki in Manitoba/Ontario is in the middle of developing their nomination. The Klondike in British Columbia/Yukon, as well as Red Bay and Mistaken Point in Newfoundland, have groups looking into the process, but they are still in the initial stages.

Writing-On-Stone, Alberta

Writing-On-Stone Provincial Park was first identified as a potential World Heritage Site in 1997, but the designation was not pursued at that time. Interest in this project was renewed in 2001, when work began to have the park designated as a National Historic Site. However, they did not start working on this project in earnest until a couple of years ago. A brief timeline of the their nomination process is as follows:

- **1997:** The Writing-On-Stone Park Management Plan identifies the park as a legitimate candidate for World Heritage Site status.
- **2001–2002:** Strong local support for a World Heritage nomination expressed during discussions for getting a National Historic Site designation for park.
- **April 2004:** Writing-On-Stone is included on Canada's Tentative List.
- **Spring 2004:** Province initiates preliminary nomination package preparation.
- **March 2005:** Writing-On-Stone is designated a National Historic Site.
- **January 2009:** The strategy to complete the nomination package is approved.
- **January 2009 – present:** Nomination package is developed.
- **August 2010:** The nomination package is submitted to Parks Canada. However, they are still waiting for letters of support from local stakeholders.
- **February 2012:** Planned date for submission to the World Heritage Centre.

This was a government-led process, done by two Alberta Government ministries (Tourism, Parks, and Recreation; and Culture and Community Spirit) with help from Parks Canada, and they have been investing significant resources in the project starting in January 2009. There was not a dedicated co-ordinator for the project, but the site manager for the park was pulled off some duties so she could dedicate more energy to the process. Most of the work was internal, with some consultants. Two permanent Alberta Parks staff dedicated over one full-time equivalent to the project (K. Bocking, pers. comm. 2011), and the project also utilized an archaeologist, government support staff in Edmonton, and three contractors (writer, editor, layout/publisher). The process cost an estimated $60,000, not including staff resources (R. Jones, pers. comm. 2011).

The Alberta Government had two public information sessions to create awareness and gather feedback, but it was not a community-driven process. Although over 85% of respondents were generally supportive, there have been some fears that this will cause a drastic increase in visitors, which might have some negative impacts on the area. These fears have delayed the nomination by one year while they gather more community support, which could possibly have been avoided by putting in more effort to educate the public about World Heritage status.

The boundary for the World Heritage Site is the same as the provincial park boundary. There is no buffer zone, and it does not include any private or lease land. The nomination document was partially modeled after the nomination for Joggins Fossil Cliffs (Nova Scotia), which became a World Heritage Site in 2008 (H. Lazaruk, pers.

comm. 2011). Aaron Domes, who works for Alberta Parks, is currently finishing a graduate thesis on managing World Heritage Sites, which may be useful to Wells Gray Park and Area. His contact information is listed in **Section 6**.

Grande Pré, Nova Scotia

Grand Pré is a National Historic Site that could be Canada's next World Heritage Site. Stakeholders first gathered to discuss World Heritage Site status for Grand Pré in the summer of 2007, and they formed an Advisory Board to make strategic decisions. A Steering Committee was formed in December 2007 to advise the Advisory Board and make operational decisions, and they started soliciting funding partners in 2008.

Public meetings with the community started in March 2008. That summer they added two volunteers from the community to the Advisory Board, hired a co-ordinator for the project, started a working group to develop a Statement of Outstanding Universal Value, and hired a consultant to conduct an economic impact assessment.

The Outstanding Universal Value Working Group was comprised of 17 individuals, both experts in their fields and community members. Several Parks Canada staff assisted the group. After seven months they had produced a tentative Statement of Universal Value (Johnston 2009). The economic impact assessment was completed after ten months (VanBlarcom 2009).

The nomination for Grand Pré involved a large and diverse group of stakeholders, so communication was difficult. In the fall of 2008 they contracted a consultant to research and develop a public engagement strategy for the nomination process, which took five months to complete (ICON 2009). They interviewed stakeholders and found that there was generally a poor understanding of the nomination process and what World Heritage Site status would mean for them. A brand name was created for the nomination process ("Nomination Grande Pré"), as well as a slogan, an overall key message, and targeted messages for specific groups. They recommended that there should not be any more public meetings until after one-on-one consultations had been completed, and the questions gathered from the community had been answered. They developed a targeted public engagement plan for each group of stakeholders, and projected that their recommended action plan for community engagement and communication would cost $54,000.

In February 2009, Nomination Grand Pré hired a consultant to prepare a background report for the management plan, which took two months (Roberts 2009). The Management Plan Working Group, which consisted of 24 people, used this report to develop a first draft of the management plan, which was finished in September 2009 and circulated for comments (Rivet 2009).

In March 2009, consultants were hired to develop a tourism strategy for the site, which took eleven months to complete (Hockin Cronin *et al.* 2010). Work on the Comparative Analysis began in April 2009, and involved local and international experts. The first draft of the Comparative Analysis was finished in February 2010, and given to outside experts for review.

The management plan and comparative analysis both continued to be further developed and improved upon until the nomination was completed in February 2011 and submitted to the UNESCO World Heritage Centre. Both of these aspects of the nomination took close to two years to complete.

In April 2008, Nomination Grand Pré estimated that their nomination bid would cost $1.3 million, including in-kind donations. Their actual budget for 2009–2010 was $553,000, plus in-kind donations estimated as an additional $776,000 by the end of 2009. The projected budget for 2010–2012 is $676,000.

The project manager for Nomination Grand Pré cautions that the experiences of other sites will only be somewhat helpful for determining the needs of Wells Gray Park and Area, as every World Heritage proposal is different and the resource needs will be determined by what needs to be done in terms of research, communication, and analysis (C. Rivet, pers. comm. 2011). He said that their process has been driven by a commitment to transparency, public engagement in decision-making, and partnerships, and that they would not have succeeded otherwise. He has also offered to provide advice if Wells Gray Park and Area pursues World Heritage Site status. His contact information is in **Section 6**.

Pimachiowin Aki

Pimachiowin Aki is a relatively complicated potential World Heritage Site. It is over 43,000 km^2, and includes five First Nations communities and two provincial parks in two different provinces (Manitoba and Ontario). The nomination process for Pimachiowin Aki was started in 2002, when four of the First Nations signed a protected areas accord that declared they would seek World Heritage Site status. They lobbied Parks Canada, and were included on the Tentative List in 2004. The Pimachiowin Aki Corporation was founded in December 2006 to lead the process, and they are planning on having the nomination ready by February 2012.

The Manitoba government provided the project with $260,000 of grant funding in 2008–2009, and $531,000 of financial and staffing support in 2009–2010 (GoM 2009). This included hiring two land-use planners, a dedicated GIS mapping technician, and a consulting firm to support community land-use planning.

A lot of research is going into this nomination. A Masters thesis has been completed on the best practice for preparing a comparative analysis for a cultural landscape like Pimachiowin Aki (Didora 2010), as has a study on the economic value of the ecosystem services of the area. Numerous other studies are currently being conducted, including an assessment of the tourism opportunities, an ecological study, a comparative analysis, and a variety of ethnographic studies to define the cultural landscape.

There is currently a governance study being conducted, which will be used to develop a management system for the site. This management system will combine the land use plans for five different First Nations, three of which are still under preparation, and management plans from two provincial parks.

1.6 Summary on becoming a World Heritage Site

The UNESCO World Heritage List

The World Heritage Convention is an international treaty that was adopted by UNESCO to recognize and protect sites of exceptional cultural or natural significance. This Convention established the World Heritage Committee and the World Heritage List. The World Heritage Committee administers the Convention, and determines what sites should be on the World Heritage List.

Only sites that have Outstanding Universal Value can be inscribed onto the World Heritage List and become World Heritage Sites. The World Heritage Committee maintains the Operational Guidelines, which outline the procedure for nominations to the World Heritage List, and define the criteria that a site has to meet in order to have Outstanding Universal Value.

A site can only be nominated for the World Heritage List by its national government. In the case of Canada, Parks Canada is the federal agency responsible for dealing with World Heritage Site nominations. A site can also only be nominated if it is already on a country's Tentative List, which is the inventory of the sites that a country has officially declared they are considering nominating in the following years.

Once a nomination is submitted by a national government, it goes through an 18-month review process to determine if it is eligible for the World Heritage List. An advisory body to the World Heritage Committee will review the nomination, conduct site visits, and make a recommendation. For natural sites, this advisory body is the IUCN. The World Heritage Committee will consider the IUCN's recommendation and make the final decision.

Qualifying for the World Heritage List

The World Heritage List is exclusive, and the review process is very rigorous. Over the last 20 years, less than half of nominations for natural World Heritage Sites have been successful. In order to qualify for the World Heritage List, a site must have cultural and/or natural significance that is "so exceptional as to transcend national boundaries and be of common importance for present and future generations of all humanity". There are three fundamental requirements that a site must meet:

1. It must meet one or more of the ten criteria for Outstanding Universal Value.
2. Its boundaries must satisfy conditions of integrity.
3. The protection and management system must adequately ensure its safeguarding.

The ten criteria for Outstanding Universal Value are outlined in the Operational Guidelines. Four of these criteria are for natural sites:

(vii) Exceptional natural beauty or superlative natural phenomena
(viii) Outstanding example of important geology
(ix) Outstanding example of important ecology
(x) Most significant habitat for biological diversity

All of these criteria are very exclusive, and only a small number of sites across the world will qualify under any of them. Wells Gray Park and Area is most likely to qualify for the geological criterion. However, most World Heritage Sites are inscribed under

more than one criteria, and further research may show that Wells Gray Park and Area could qualify for any of the other three natural criteria.

A site can only qualify under one of the natural criteria if it is either the only example, or the best example, of an important aesthetic, geological, or ecological feature. This must be proven through a rigorous global comparative analysis. The site will not qualify if another site exists, anywhere in the world, with a better representation of the feature of value. This feature must also be unique in a universally significant way. *I.e.* it is not adequate for the site to have the only example of an obscure category of volcanic feature that is only relevant to experts.

Most natural nominations fail because the comparative analysis was inadequate. Others fail because the boundaries, protection, or management plan were insufficient to conserve the value of the site. It is less common for the World Heritage Committee to reject a nomination because the site was not important enough.

Meeting the criteria for Outstanding Universal Value

Volcanic sites are already over-represented on the World Heritage List, and there are strict requirements for including any additional volcanoes. Fortunately, the IUCN has already recognized that there are no World Heritage Sites with sub-glacial volcanoes, and that a site containing these features could potentially be added to the World Heritage List.

Wells Gray Park and Area has sub-glacial volcanoes, and these features are relatively uncommon across the world. However, other sub-glacial volcanoes do exist, with some notable examples occurring elsewhere in British Columbia, as well as in the Yukon, the USA, and Iceland. There are similar volcanic features in the Surtsey World Heritage Site in Iceland, as well as in two sites on Iceland's Tentative List.

A nomination for Wells Gray Park and Area must compare its volcanic features to those found in Surtsey, the two sites on Iceland's Tentative List, and other sites across the world that have significant sub-glacial volcanoes. It must be proven that the sub-glacial volcanoes in Wells Gray Park and Area are either better examples of this volcanic feature, or that they are significantly different in an important way.

Wells Gray Park and Area may also qualify under any of the other three natural criteria. The aesthetic criterion (vii) is very difficult to objectively assess. However, seven of Canada's nine natural World Heritage Sites qualified under this criterion as containing "exceptional natural beauty". The majority of these sites are also mountain parks, so it is possible that Wells Gray could qualify as well.

Although Wells Gray Park and Area is an ecologically unique area with important scientific value, this is not recognized within any of the ecological classifications used by the IUCN. This will make it more difficult to prove that the ecological value of Wells Gray is of international significance and qualifies under criteria (ix) and/or (x). However, Wells Gray Park and Area might still qualify under these criteria, as it has generated a considerable amount of scientific research, and it is home to an exceptional diversity of species, including numerous rare and threatened species.

Getting on Canada's next Tentative List

Wells Gray Park and Area must get onto Canada's Tentative List before it can be nominated for the World Heritage List. Canada's current Tentative List was submitted to the World Heritage Committee in 2004. It still contains 9 sites, and does not include

Wells Gray Park and Area. Parks Canada is planning on developing a new Tentative List in 2013 or 2014, and Wells Gray Park and Area will have to get on this list.

Parks Canada has not yet decided how they will pick the sites for the Tentative List. However, they will probably select 10–12 sites from across Canada, and half of these might be natural sites. This list will be competitive, and if it is developed using a similar process as was used for the 2004 list, it will be necessary to prove to Parks Canada that Wells Gray Park and Area:

1. contains features that are not duplicated elsewhere, and are clearly outstanding at an international level;
2. has satisfactory boundaries that encompass all of its key features;
3. shows minimal negative impacts from human activities;
4. is critical for understanding geological history and representing a geological feature (and potentially is critical for key species or ecosystems); and
5. contains exceptional geological diversity (and potentially biodiversity).

It would also probably be useful to show that Wells Gray Park and Area has the capacity to develop a future nomination, that it would have widespread community support, and that it would benefit the community.

The strategy for a successful nomination

Preparing a successful nomination requires a substantial investment of resources, and usually takes several years at a minimum. Both UNESCO and the IUCN have published guidelines for preparing a nomination that should be carefully read.

The World Heritage Committee requires that all stakeholders be involved in the nomination, and that the participation of local people must be a priority throughout the process. It is essential to build a strong multidisciplinary team to develop the nomination, and a single project leader is often essential. It is often useful to form a steering group to do the majority of the work and make operational decisions, and an advisory committee to make the strategic decisions with advice from the steering group. A variety of working groups will probably be formed to develop specific parts of the nomination.

UNESCO recommends developing a World Heritage nomination in two stages. The first stage is to understand and define the potential World Heritage Site. The nomination team assembles the existing knowledge of the site and identifies its potential Outstanding Universal Value. A comparative analysis is then conducted to determine if these features are unique and of utmost international importance when compared to other sites across the world. After the value of the site has been identified and justified with a comparative analysis, a tentative Statement of Outstanding Universal Value is carefully developed as the foundation for the rest of the nomination process. This Statement is then used to define the boundaries of the site so that they preserve its integrity and develop a management plan to protect its value.

The second stage of the nomination process is to actually write the nomination document, which is based on the Statement of Outstanding Universal Value. UNESCO recommends writing the executive summary first, which can then provide guidance for the rest of the document. It is also recommended to have the document reviewed by independent experts, and to submit it early for the voluntary deadline in September to get feedback from the World Heritage Centre.

Stage One: Understand and define the potential World Heritage Site

The comparative analysis should be one of the first steps in the nomination process. The analysis should be completed by a group of experts and reviewed by an independent expert. It must be rigorous and objective, and must demonstrate that there are no comparable sites anywhere in the world. If similar sites exist, it must be demonstrated that the nominated site is the best example.

After the comparative analysis has been completed, it can be used to develop a tentative Statement of Outstanding Universal Value. This provides a shared understanding among stakeholders, and is the foundation of the rest of the nomination.

It must be shown that the natural values of the site are intact and not suffering from the adverse effects of development, and that any human activities are sustainable. The boundaries of the site must be drawn to include a complete representation of the values of the site and protect them from the direct negative impacts of human activity.

A management plan must be developed with meaningful participation of the local community and all stakeholders. The current state of conservation of the site and any future threats must be identified. The management plan must adequately protect the site to maintain or enhance values, and a monitoring program must be developed. The current management plan for Wells Gray Provincial Park will not be adequate for a future World Heritage Site.

Although the principal focus of the management plan is to protect the features that are the basis of its inscription on the World Heritage List, it must also protect any other important associated values. Even if Wells Gray Park and Area is only inscribed for its volcanic features, the management plan must also protect the aesthetic and ecological values of the area.

It is possible to include residents and extractive industry within a natural World Heritage Site, and there are several examples of this within Canada. However, these factors must be acknowledged, and the management system must insure that the human impact is ecologically sustainable.

Although most natural World Heritage Sites in North America are national or provincial parks, there are no restrictions on the land ownership of a World Heritage Site. However, the site must be effectively managed to protect its Outstanding Universal Value, and this is more difficult if the land ownership is more complex.

There are a few natural World Heritage Sites that include private or lease land. The Dinosaur Provincial Park World Heritage Site is an example that includes private land and grazing leases, and it is managed on the basis of written agreements between the landowners and the park. Their system appears to be working well.

Stage Two: Prepare the nomination dossier

The first stage was to develop the comparative analysis, Statement of Outstanding Universal Value, site boundaries, and management plan. The next stage is to prepare the nomination dossier. The main sections of this dossier are:

- Executive summary
- Description: Including detailed maps
- History: As related to the Outstanding Universal Value
- Justification for Inscription: Including the proposed Statement of Outstanding Universal Value, Comparative Analysis, and an assessment of integrity

- State of conservation and future threats
- Protection and management
- Monitoring program
- Documentation: Including photographs of site; the management plan; details of statutory protection; inventories of important features; and a bibliography

Although it is not required, UNESCO recommends asking an outside expert to review a draft of the nomination dossier before it is submitted. UNESCO also recommends submitting the nomination four months before actual the deadline, so that they can quickly review it and see if anything is missing.

The marketing plan

Although it is not required for a World Heritage nomination, a marketing plan is recommended if a community intends to take advantage of the UNESCO designation for economic gain. Possible things for a marketing plan to identify include:

- Potential tours, interpretive trails, and information kiosks
- Tourist infrastructure improvements
- Tourist packages for the area
- Available resources for tourism development
- Regional tourism marketing issues
- Potential non-conventional tourism partners (e.g. farmers, scientists, etc)

Lessons from other World Heritage Sites

Two Canadian nominations were deferred or referred before they were inscribed: Waterton and Miguasha. The main criticism of both these nominations was that the comparative analysis was inadequate, which highlights the importance of this part of the nomination.

Joggins Fossil Cliffs is Canada's most recent World Heritage Site. It may be particularly relevant to Wells Gray Park and Area because it was inscribed under the geological criteria and contains some private land. Joggins has made some recommendations on how to develop a nomination, and the director has offered to provide some advice for Wells Gray Park and Area. Some of their recommendations are:

1. Recommend a strong stance on controversial issues, leaving room for concessions
2. Identify key people to be ambassadors, who can persuade the majority
3. Take the time to approach and engage the community in the right way
4. Outline issues and interpret community feedback accurately before proceeding
5. Do not try to sell everything at once. It is better to go for bite-sized chunks

Grand Pré (Nova Scotia) and Writing-On-Stone (Alberta) have just completed their nominations, and Pimachiowin Aki (Manitoba/Ontario) is in the middle of preparing theirs. The experiences of all three sites may be useful to Wells Gray Park and Area. In particular, the Grand Pré nomination was community-led, and the process they used may be applicable to Wells Gray Park and Area.

Section 2. Becoming a Global Geopark

2.1 An introduction to the Global Geoparks Network

In June of 2000, four European Geoparks established the European Geoparks Network (EGN). This initiative was officially endorsed by UNESCO in 2001, and it was the basis for establishing the Global Geoparks Network (GGN) in 2004. Although the Global Geoparks Network was not a UNESCO initiative, it is supported by UNESCO. The GGN works with UNESCO's World Heritage Centre and operates according to UNESCO guidelines.

All of the existing European Geoparks were included in the new Global Geoparks Network. China had started a National Network of Geoparks in 2000, and eight of these Chinese Geoparks were also included in the GGN in 2004. The GGN encouraged other countries to start their own national geopark networks, and invited geoparks from other regions to apply for membership in the new global network. However, it was not until 2006 that the first geopark from another region of the world joined the GGN, and they continue to be a minority (see **Figure 2.1)**.

The European Geoparks Network (EGN) is responsible for administering the Global Geoparks Network (GGN) in Europe. All aspiring European Geoparks must apply for membership in the EGN, and if they are successful they are automatically part of the GGN. Aspiring geoparks in other regions of the world are also required to first become members of any regional network of geoparks that exists for their area, but they must then apply separately for membership in the GGN. In contrast to the EGN, only a fraction of the Chinese National Geoparks have become Global Geoparks.

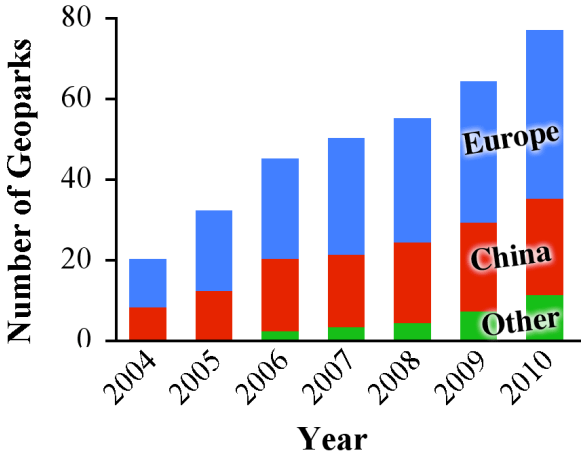


Figure 2.1. Number of Global Geoparks from different regions of the world.

There is only one geopark in Canada, and there is not a national network in Canada to join. However, the Canadian National Committee for Geoparks (CNCG) was recently formed to help establish Global Geoparks in Canada, and they must approve of any application before it can be sent to the GGN.

The Global Geoparks Network is supported by UNESCO, and is similar to the World Heritage List in requiring a comprehensive management plan to ensure the protection of the site, and emphasizing the importance of public participation and inclusion. As well, although the Global Geopark label may not be as widely known as the World Heritage Site label, it is still internationally recognized, and this fame can provide a variety of benefits (reviewed in **Section 4** on page 78).

There are numerous differences between the Global Geoparks Network and the World Heritage List, which are summarized in **Table 2.1**.

Table 2.1. A comparison between the Global Geoparks and World Heritage Sites.

	Global Geopark	**World Heritage Site**
Main focus of designation	Promote sustainable tourism and economic development; Promote education and research	Recognize and protect sites of Outstanding Universal Value
Criteria for importance	Must contain features that are internationally significant	Must be of Outstanding Universal Value
Determining boundary	Must include enough important sites to be useful for education, research, and tourism	Must include all relevant features and protect them from direct impacts of development
Comparison to other sites	More highly valued if not many Geoparks have similar features	Requires a comprehensive global comparative analysis; Site must be unique in the world.
Documentation of value	Must document the geosites in the area	Statement of Outstanding Universal Value, using comparative analysis
Exclusivity	Hoping for 500 Geoparks worldwide	Will never be more than 150 geological World Heritage Sites
Management Plan	Requires a comprehensive management plan that involves all stakeholders	Requires a comprehensive management plan that involves all stakeholders
Conservation	An objective; most of the geosites and associated areas of value should be protected	The primary objective; strict requirements for protection of area
Allowances for human use	Sustainable economic development is promoted, particularly tourism	Human use may be acceptable if sustainable
Marketing strategy	Required	Recommended if intending to see economic benefit
Education and research goals	Educational and research programs are required	Not required, but may help with achieving goals
Contribution to global network	Required to actively participate in the Global Network	No requirement
Who can be evaluated	Any site can prepare and submit application with CNCG approval	A State Party can nominate a site, if it is on its Tentative List
Timeline	Stormhammer application took 3 years; evaluation is 15 months	Average 2.5 to 12 years to prepare nomination; evaluation 22 months
Nomination $$	Stormhammer cost $300K	Average $200k to $1.2 million
Size of nomination	Application dossier is only allowed to be 50 pages long	Many nomination dossiers are thousands of pages long

The GGN is a member-driven, bottom-up organization, as opposed to the more top-down approach used for the World Heritage List. The fundamental difference between the two groups relate to their purpose and criteria for inclusion:

- Whereas the purpose of the World Heritage List is to recognize and protect the most significant sites in the world, the Global Geopark Network focuses on promoting collaboration between geoparks to improve environmental education, research, and sustainable development.
- The World Heritage List is an exclusive list reserved for sites of outstanding universal value for all of humanity. A Global Geopark must contain geological features that are internationally important, but these features do not have to be unique, or of Outstanding Universal Value.

Geoparks are also a different concept than a typical National or Provincial Park in Canada. As identified by Nowlen *et al.* (2010), geoparks have more of an emphasis on:

- promoting sustainable socioeconomic development;
- promoting engagement with the local community; and
- collaborating with other geoparks in the network.

2.2 The application process to join the Global Geoparks Network

Applications to join the Global Geoparks Network are submitted to the Global Geoparks Network Secretariat at UNESCO (contact information in **Section 6** on page 113). Aspiring geoparks must notify the Secretariat of their interest prior to submitting their application. A maximum of two active applications are allowed per country, and each assessment takes a little under a year.

The Canadian National Committee for Geoparks (CNCG) must approve of Canadian Geopark proposals before they are submitted to the Global Geoparks Network. It was established as a committee of the Canadian Federation of Earth Sciences in Fall 2009 (Nowlen 2010). The CNCG determines the application procedure for Canadian Geoparks (CNCG 2010), which is shown in **Figure 2.2**.

A prospective Geopark must submit a letter of intent to the CNCG (contact information in **Section 6**), and two representatives from the CNCG will conduct a site visit the following summer (paid for by the applicant). After the site visit, the CNCG will give the applicant feedback on their Global Geopark application. A draft of the application must be completed and submitted to the CNCG by September 1st. The application is then developed through an iterative process between the CNGC and the applicant, and a final version is approved by mid-November. The CNCG asks that the applicant submit the application to the Global Geoparks Network by November 20th.

The Global Geoparks Network (GGN) accepts applications between October 1st and December 1st of each year. They finish their desktop evaluation of the application by April 30th, and their field evaluation missions start in May (GGN 2009). They make their decision during their next meeting the following fall. Although the geopark will be notified of the decision after the meeting and is permitted to use the Global Geopark logo at that time, it is only formally endorsed at the International UNESCO Conference on Geoparks that occurs every two years. The next conference is in 2012.

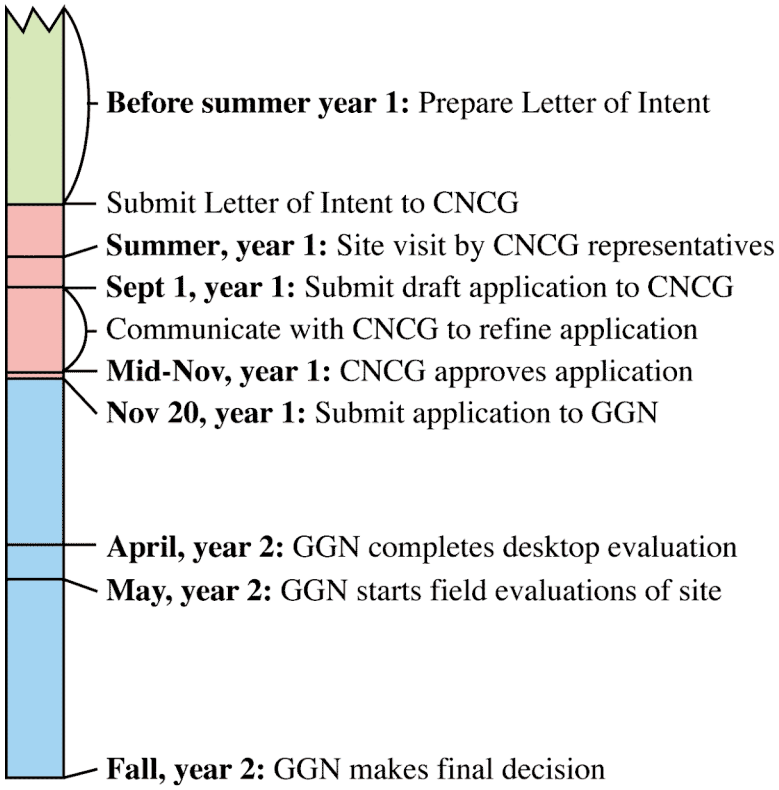


Figure 2.2. The application process to join the Global Geopark Network. CNCG = Canadian National Committee for Geoparks; GGN = Global Geopark Network.

2.3 The criteria for joining the Global Geoparks Network

The GGN publishes a set of criteria and guidelines (GGN 2010) and a self-evaluation checklist (GGN 2009) for all aspiring geoparks. The CNCG has published guidelines tailored to Canadian geoparks (CNCG 2010). These documents are summarized below, but should be read in their entirety by anyone preparing an application for a Canadian Geopark. The GGN outlines six criteria that Global Geoparks are required to meet:

1. **Size and composition:** The Geopark must be large enough for local economic development, and contain internationally important geological sites.
2. **Management and local development:** The management plan must have strong local involvement and meet local economic needs while protecting the landscape.
3. **Economic development:** A primary objective is to foster socio-economic development that is culturally and environmentally sustainable.
4. **Education and research:** A Geopark must help communicate geoscientific knowledge and environmental concepts to the public, and support research.
5. **Protection and conservation:** The Geopark must ensure adequate protection of geological heritage in accordance with local traditions and legislative obligations.
6. **The Global Network:** Geoparks must actively contribute to the life of the network through joint collaborative initiatives and publication of articles.

The entire application dossier must be relatively short and concise, and is limited to a maximum of 50 pages. It is divided into five sections:

A. **Identification of the area**
B. **Geological heritage:** General geological description; list and describe geosites and give details on their scientific, educational, or aesthetic importance.
C. **Geoconservation:** Identify current and potential threats; describe management and protection of geosites and non-geological sites.
D. **Economic activity and business plan:** Existing and planned facilities for education and tourism; analysis of geotourism potential; policies and examples of sustainable development, community empowerment and awareness.
E. **Interest and arguments for joining the GGN**

The GGN also publishes a checklist for self-evaluation (GGN 2009). The applicant must go through the checklist and score itself on a wide variety of items in eight different categories that relate to the first five criteria. This self-evaluation is submitted with the geopark application. The evaluators use this same checklist when they evaluate the geopark application, and the geopark must have a passing score in all eight categories.

The geopark application and self-evaluation must describe actual examples of how the aspiring geopark is already operating according to the principals of a Global Geopark. The application dossier must demonstrate that it is already a *de facto* existing geopark.

2.3.1 Size and composition

The first criteria of a geopark is to be an adequate size and include important features. This is analogous to the requirements of a World Heritage Site to have Outstanding Universal Value and meet conditions of integrity. Although these requirements are the primary intent of the World Heritage List, they are less fundamental for the Global Geoparks Network. The size and composition of a geopark is a primary consideration, but it is only the first of six requirements, and the Global Geopark criteria are less rigorous than the World Heritage criteria for Outstanding Universal Value.

An aspiring geopark must have an inventory of its geosites[3], and it is encouraged to maintain a database and map that identifies them. A greater number of geosites recorded within a geopark will strengthen its Global Geopark application. This is particularly true if the geosites represent a diversity of geological periods, rock types, and geological or geomorphological features, and if a high percentage of the geosites are of international, national, or educational interest.

A geopark does not have to be the only place in the world where a certain geological feature occurs. However, a geopark application is stronger if it includes rare and distinctive geological features. The evaluation focuses on comparing the applicant to existing geoparks, so it is beneficial if there are no (or very few) other geoparks with similar geology.

There are currently no Global Geoparks with sub-glacial volcanic features. However, the Katla Geopark in Iceland applied to the European Geopark Network in November of 2010, and if their application is successful, they will automatically be

[3] A geosite is a geological object or feature that has scientific or cultural value.

included in the Global Geopark Network. Although the most spectacular features in Katla are the recent subaerial lava flows, the site does include some sub-glacial volcanoes (C. Hickson, pers. comm. 2011). It is therefore quite likely that when Wells Gray Park and Area applies to become a Global Geopark, there will already be one Global Geopark with somewhat similar geological features.

A Global Geopark must have clearly defined boundaries that include a range of geosites that are important for science, education, and/or aesthetics. It must also include any associated sites of ecological, archaeological, historical, or cultural value. The geopark must be large enough to serve local economic and cultural development (particularly through tourism). These requirements for the size and boundaries of a geopark are not as strict as those for a World Heritage Site, which must include all of the features relevant to its outstanding universal value.

2.3.2 Management and local development

A geopark is required to have a management plan, and the resources to implement the plan. The management must have strong local involvement, and foster sustainable geotourism and socio-economic development for the local community while protecting the landscape. The management plan should have been prepared within the last ten years. It makes a geopark application stronger if the aspiring geopark has already conducted a Strength and Weakness Analysis, and an audit of their resources.

At least some of the geological features in the geopark must be accessible to the public, and the geopark must be clearly branded and marketed for visitors. The conservation requirements for the management for a geopark may be less strict than for a World Heritage Site, because sustainable human use is a requirement for a geopark.

The management of the Geopark must take into account the entire geographic setting of the region, and not just include the sites of geological significance. Important non-geological features are an integral part of the geopark. The geopark can include private as well as public lands, and different areas can be managed differently, as long as they are adequately protected.

A geopark will be required to do a periodic review every four years and send a report to the Global Geopark Network. An expert mission is then sent to review the status of the geopark.

2.3.3 Economic development

The Global Geopark Network has a strong emphasis on sustainable economic development. An aspiring geopark should have a variety of initiatives and resources to promote geotourism in the geopark, as well as a sustainable economy in the region. Some of the recommended initiatives that will strengthen the geoparks application are:

Planning tools:

- Analysis of local/regional development potential
- Definition of development goals
- Model for sustainable development.
- Marketing Strategy
- Three to five year action plan

Sustainable regional economy:

- Initiatives to promote regional products and support local businesses
- Networking with local businesses

Geotourism:

- A product manager, marketing expert, and/or press office for the geopark
- Professional marketing in multiple languages
- Transportation options available for tourists
- Promotion of available resources to visitors
- Interpretive material for geopark
- Infrastructure for tourists and outdoor activities
- Visitor evaluation and monitoring

2.3.4 Education and research

A geopark must provide and organize support, tools, and activities to communicate geoscientific knowledge and environmental concepts to the public. Some recommended strategies that will strengthen a geoparks application are to:

- Have a museum, or interpretive centres
- Have info kiosks, info panels, and interpretive trails
- Promote and operate environmental education programs and tours for school groups and the general public
- Offer regular educational seminars
- Develop and promote school curricula and education materials
- Publish information and popular literature on area

Promoting scientific research is also an important aspect of geoparks. A geopark application is more likely to succeed if the geopark has:

- Competent geological or scientific experts available, such as an advisory expert or a permanent staff with geoscience or other science background.
- Joint activity with scientific institution
- Regular consulting maintained by experts
- An academic institution working in area
- Student final reports, PhD theses, or scientific or tourism focused papers recently published on the area

A geopark application scores extra points if more than 25% of the geosites in a geopark are used for educational purposes, or are of scientific importance.

2.3.5 Protection and conservation

The management system of a geopark must provide protection for the geosites and infrastructure, and make sure that tourism and other economic activities are sustainable. Associated sites of ecological, aesthetic, or cultural value should also be protected. Legal protection for all of the site is encouraged, but not required. It helps a geopark application if the aspiring geopark has received awards for conservation or sustainable tourism.

Compatible economic uses are allowed within a geopark, as long as its geologic features and other heritage remains protected. These human uses may be an inherent

component of the Global Geopark designation, and may include some uses that would disqualify the site for designation as a World Heritage Site.

2.3.6 The Global Network

The Global Geoparks Network emphasizes cooperation and exchange between its members. Global Geoparks benefit from the exchange of knowledge, skills, experience, and staff, and the Network provides opportunities to engage in research collaboration with sister sites. Geoparks are expected to actively contribute to the life of the Network through various joint initiatives.

For a geopark application to be successful, the aspiring geopark must already have demonstrated that they are contributing members of the Network. They should have already engaged in discussions and exchanges with other geoparks while preparing their application. The geopark application is more likely to be successful if the aspiring geopark has already been participating in international or regional Geopark meetings, conferences, or short courses.

The International UNESCO Conference on Geoparks is held every two years, and the next one in Japan in May of 2012. The European Geoparks Conferences are held annually, and the next one will be in Norway in September of 2011. It would probably be beneficial for a representative from Wells Gray Park and Area to attend a Geoparks conference if it is the intention to apply to join the Global Geoparks Network. Dr. Miller from the Stonehammer Geopark in New Brunswick has also recommended attending a Geoparks conference as part of preparing an application.

2.4 Learning from the experience of Stonehammer

In October of 2010, the Stonehammer Geopark in New Brunswick became the first Global Geopark in North America. As of April 2011, Stonehammer remains the only Geopark in North America. However, other sites in New Brunswick, Newfoundland, Ontario, Yukon, and British Columbia that have expressed an interest in becoming Geoparks (Nowlan 2010), and the Geological Society of America and the U.S. Geological Survey have been looking into the possibility of Geoparks in the USA (Bailey and Hill 2010; Calnan *et al.* 2010).

There is a strong regional element to the Global Geoparks Network, so the experience of Stonehammer Geopark will probably be much more relevant to Wells Gray Park and Area than a European or Chinese Geopark. Gail Bremner, the director of Stonehammer Geopark, and Dr. Randy Miller, the geologist who spearheaded this initiative, have both offered advice on the process of creating a geopark. Their contact information is in **Section 6** on page 112. They have supplied their complete application dossier, which is also available online from the UNESCO website.[4] This will be a useful reference for Wells Gray Park and Area.

Dr. Miller spent two years working on the project before it was brought to the

[4]Stonehammer's nomination files are available for download off the FTP site: ftp://ftp.unesco.org/upload/sc/Geopark_Applications2009/Applications%202009/Stonehammer%20Canada/

community. From that point on, it was a community-led project that took another three years and $300,000 of private and public funding before they became a Geopark. The Canadian National Committee for Geoparks (CNCG) was formed during this process to help aspiring sites become Geoparks. The timeline of this process was as follows:

- **2004:** Dr. Miller starts work on a five-year federal grant project to identify geotourism potential in southern New Brunswick
- **September 2006:** Stonehammer representatives attend the 2nd International Geoparks Conference in Belfast, Northern Ireland
- **December 2007:** Stonehammer Geopark concept proposed at a public meeting
- **January 2008:** Working group meets to start preparing application, including representatives from business/industry, education, tourism, government, science
- **2008:** Along with the New Brunswick Heritage Branch, they proposed 12 fossil sites as Historic Places.
- **June 2008:** Representatives attend the 3rd International Geoparks Conference in Osnabruck, Germany
- **October 2009:** Site visit by the newly formed Canadian National Committee for Geoparks.
- **December 2009:** Application submitted to the Global Geoparks Network
- **April 2010:** Representatives attend the 4th International Geoparks Conference in Langkawi, Malaysia
- **August/September 2010:** Site Evaluation by UNESCO and the GGN
- **October 2010:** Awarded Geopark designation at the European Geopark Network Conference in Greece

Dr. Miller felt that attending the Geoparks Conferences was very beneficial for preparing their nomination, and having it be successful. He also recommends paying close attention to the GGN self evaluation checklist. Gail Bremner added the following advice:

> Our approach has been a community led, grass roots, bottom up approach. I would also say that we have employed the crawl, walk, run method in all that we have implemented to ensure that we deliver quality be it in governance, experiences, funding, brand, etc. Finally we ensured that we had the right stakeholders involved from the beginning.

The Stonehammer Geopark is a relatively complex site that includes provincially owned land as well as land owned by several different municipal governments and private landowners. It operates according to a partnership model that recognizes two types of partners: site owners and site users. Each site owner has their own management and operating plan, but they have a Memorandum of Understanding (MOU) to meet the standards set by Stonehammer Geopark for the maintenance of geosites, geological interpretation, geotourism, and preservation. Site users (eg. tourism operators) also operate under an MOU that outlines their participation in the Geopark.

A Board of Directors was established for policy decisions, but is not involved in the day-to-day operations. The Board includes the major site owners, the tourism promotion organization for the area, a geological expert, and elected members from the tourism operators and the community.

The Stonehammer Geopark is making use of the New Brunswick Museum as a central hub for the geopark. They already have an existing infrastructure of trails relating to geology, and they are planning several new interpretive centres and park improvements. There is currently an active scientific research program in the park. They also developed a marketing plan to promote sustainable geotourism in the region.

2.5 Using a Global Geopark designation to further a World Heritage nomination

2.5.1 The relationship between Global Geoparks and World Heritage Sites

The Global Geopark and World Heritage Site designations are both internationally recognized, and associated with UNESCO. Wells Gray Park and Area would probably use the same geological features to justify either designation. However, they are different in some fundamental ways, which are summarized in **Table 2.1** on page 51.

If a World Heritage Site wants to join the Global Geoparks Network, they must get permission from the World Heritage Centre before submitting a geoparks application (GGN 2010). There is not, however, a similar restriction when nominating a Global Geopark for the World Heritage List.

If an area is already designated as a World Heritage Site, this directly strengthens any future application to the Global Geoparks Network. The checklist used by the GGN to evaluate aspiring Geoparks awards significant points if all or part of the site is on the World Heritage List (GGN 2009). In contrast to this, a Global Geopark designation does not directly strengthen a World Heritage nomination. However, a Geopark designation may help to demonstrate the management and protection of an area, which is an essential part of a World Heritage nomination.

The requirements for joining the Global Geopark Network are not as strict as those for the World Heritage List. Dingwall *et al.* (2005) noted that the Geopark designation should be seen as a viable alternative to the World Heritage List, and should be promoted as a way to recognize and protect important geological sites that do not qualify for the World Heritage List.

The Global Geoparks Network is less exclusive than the World Heritage List. The World Heritage List only aims to recognize a small number of the most outstanding geological sites in the world, and Dingwall *et al.* (2005) estimates that there will never be more than 150 geological World Heritage Sites. The Global Geopark Network, on the other hand, intends to recognize many more sites. According to Eder (1999), they are aiming to recognize 20 new Geoparks a year until they reach 500 around the world.

It will be faster and easier for Wells Gray Park and Area to get designated as a Global Geopark than a World Heritage Site. If Wells Gray became a Global Geopark, it would not necessarily mean that it was eligible to become a World Heritage Site. However, the process required to prepare a Geopark application may be helpful for developing a World Heritage Site nomination.

2.5.2 Examples of Geoparks that are World Heritage Sites

There are nine World Heritage Sites that are also designated as either a National or Global Geopark (see **Table 2.2**). Most of these sites are in China, which is a reflection of how many geoparks are in that country. China started a National Geoparks program in 2000 (Xun and Milly 2002), and by 2009 they had designated 183 National Geoparks. There are currently 24 of these geoparks that are also designated as Global Geoparks.

Table 2.2. World Heritage Sites that are also National or Global Geoparks.

Site	Country	Year designated as World Heritage Site	Year designated as Geopark
Mount Taishan	China	1987[#]	2006
Mount Huangshan	China	1990[#]	2004
Huanglong	China	1992[#]	after 2000*
Jiuzhaigou	China	1992[#]	after 2000*
Lushan	China	1996[#]	after 2000*
Jeju Volcanic Island	Korea	2007	2010
Shilin	China	2007	2004
Danxiashan	China	2010	2004
Sanqingshan	China	2008[#]	2005*
Mount Wutai	China	2009[#]	2005*

[#]These World Heritage Sites are not inscribed under the geological criterion
*Designated as a National Geopark in China, but not part of the Global Geopark Network

World Heritage Sites that became Geoparks

There are five sites in China that became World Heritage Sites before becoming geoparks. Two of these sites were designated Global Geoparks, and the other three are only National Geoparks. Mount Taishan was nominated for the World Heritage List based on a geological criterion, but the IUCN decided that its geology was only regionally significant, so it was only inscribed under cultural criteria and for its natural beauty. The other four sites were not nominated for their geological values.[5] Three of them were nominated and inscribed for their natural beauty, and Lushan was nominated and inscribed for its cultural values.

There is also one example in Korea of a World Heritage Site that became a Global Geopark. Jeju Volcanic Island and Lava Tubes was inscribed onto the World Heritage List on the geological criterion before becoming a Global Geopark three years later.

Geoparks that became World Heritage Sites

There are two National Geoparks in China that were nominated for the World Heritage List under the geological criterion (viii) as well as other criteria. In both cases, the IUCN decided that the geological values of the geopark did not qualify as Outstanding Universal Value, although both still qualified under other criteria.

[5] The geological criterion did not exist in its current form until 1994. Sites inscribed prior to this may have had geological values that were recognized under other criteria.

Sanqingshan National Geopark was nominated for the World Heritage List under both its natural beauty and its geological values. The IUCN determined that the site's geological values were similar to those of the nearby Mount Huangshan World Heritage Site, and that the distinctions were on a relatively specialized basis. The World Heritage Committee decided to not inscribe Sanqingshan for its geological values, although it still qualified for its natural beauty.

Wutaishan National Geopark was nominated to become the Mount Wutai World Heritage Site under both geological and cultural criteria. However, the IUCN noted that the comparative analysis for its geological features was inadequate, and only provided a regional comparison. After more detailed consideration, the IUCN concluded that although the principal geological values of the site were of undoubted importance for the relevant branches of the geosciences, they were relatively specialized and also represented in other locations. They also noted that the World Heritage Site only included a quarter of the geologically relevant area, so the site was not large enough to meet conditions of integrity for its geological values. For these reasons, the site was not inscribed under the geological criterion, although it still qualified under several cultural criteria.

There have also been two Global Geoparks in China that were nominated for the World Heritage List. Both of these sites qualified as World Heritage Sites under the geological criterion (viii).

Shilin National Park in China was designated a National Geopark in 2001. When the master plan of the park was revised, they identified several socio-economic goals. One of these goals was to "improve the general social quality" by nominating Shilin for both World Heritage Site and Global Geopark designations. It was designated as Global Geopark in 2004, under the name Stone Forest Geopark. In 2007, the Stone Forest Geopark was combined with two other sites and inscribed as the South China Karst World Heritage Site for its geological values.

Danxiashan was also designated as a Global Geopark in 2004. In 2010, Danxiashan GeoPark was combined with five other sites and inscribed under the geological criterion as the China Danxia World Heritage Site.

The World Heritage nominations of all four Chinese geoparks (two national and two global) highlighted their Geopark designations as an important benefit for the management and protection of the area. The IUCN evaluations agreed, and noted the geopark designations as important aspects of site management.

Conclusions

It is possible that a Global Geopark designation for Wells Gray Park and Area will bolster a potential World Heritage nomination. At least in China, a Geopark designation has helped to demonstrate that the site is adequately protected and managed, which is an essential part of a World Heritage nomination.

However, it is apparent that a World Heritage nomination will not necessarily be successful just because the site is already designated as a Geopark. The requirements for Outstanding Universal Value and integrity that World Heritage Sites are required to meet are more strict than what is required for Geoparks. There are several examples in China of sites that had geological values that were adequate for a Geopark designation but not sufficient for the World Heritage List.

There are also examples of the integrity of a Geopark not being adequate for World Heritage Site status. The boundaries of a World Heritage Site are required to encompass all of the relevant features. The only two Geoparks that were successfully in becoming geological World Heritage Sites had to include several areas outside of the Geopark before they met these conditions of integrity.

2.5.3 Contributions that could be made to a World Heritage nomination while developing a Geopark application

The process of developing a Geopark application can make numerous contributions to a World Heritage nomination. World Heritage Sites have stricter standards than Geoparks, so the different parts of the Geopark application cannot be directly used for the World Heritage nomination. However, the Geopark application process can be used as a starting point to develop the World Heritage nomination.

The team

Developing either a Geopark application or a World Heritage nomination requires a strong commitment to the meaningful involvement of all stakeholders and the local community. They both also require a dedicated and capable multidisciplinary team and project leader. Creating this team and building community involvement are important parts of both processes.

It is quite likely that the team that is built to develop the Geopark application will also develop the World Heritage nomination. The partnerships that have been strengthened, the communication channels that have been created, and the funding sources that have been secured while developing the Geopark application will all be beneficial for developing a World Heritage nomination.

Documenting the value of the site

Both a Geopark application and a World Heritage nomination require documenting the value of the features in the site, but a World Heritage nomination requires a more rigorous documentation of a broader range of values. A Geopark application requires an inventory of all the geosites in the area, and a demonstration of the value of those geosites. A World Heritage nomination has additional requirements:

- Rigorous global comparative analyses to prove that the site is unique in the world
- Deciding which criteria to nominate it under (see **Table 1.1** on page 13)
- Documenting ecological and aesthetic values (if nominated under these criteria)
- Statement of Outstanding Universal Value, explaining importance to humanity

The team developing the UNESCO designations could invest the additional time and resources necessary to ensure that the documentation of the value of the site for the Geopark application met the standards required for a World Heritage nomination. This would undoubtedly strengthen the Geopark application, and would make a subsequent World Heritage nomination easier.

Alternatively, the documentation of value required for the Geopark application could be prepared with the intent of revisiting and expanding it for the World Heritage nomination. At the very least, the Geopark application will be a first step in completing a comparative analysis for the geological value of Wells Gray Park and Area.

Determining the site boundaries

Clearly defined boundaries are required for either a Geopark or a World Heritage Site. The boundaries for a Wells Gray Park and Area World Heritage Site will not necessarily be the same as the boundaries for a Geopark, or as the current boundaries for the Provincial Park.

Geoparks and World Heritage Sites both have requirements for what areas must be included within their boundaries, and what areas cannot be included. However, these requirements are not the same. A World Heritage Site cannot include areas that have been too heavily impacted by human development, or do not currently have adequate protection. On the other hand, the World Heritage Site must include the full representation of the area's Outstanding Universal Value.

The Geopark requirements are less strict. The area within its boundaries does not need to be as pristine, and its standards for protection are not as high. As well, it does not need to include the entire area of value, only enough geosites to be worthwhile for education, research, and tourism.

The boundaries of a Wells Gray Park and Area Geopark could be drawn to meet the standards for a World Heritage nomination. However, the Geopark could also be made larger or smaller than what would be permissible for a World Heritage Site. Three possible strategies for developing the Geopark boundaries are:

- Develop the boundaries only considering what is required for a Geopark. This would be the fastest and most flexible way to develop the Geopark application, but the issue would need to be revisited for the World Heritage nomination, and so it may not be the most efficient way to achieve both designations.
- Draw the boundaries to meet the requirements for both a Geopark and World Heritage Site. This may take more time, and allow less flexibility for what is included in the Geopark.
- Develop two separate sets of boundaries while preparing the Geopark application: one for the Geopark, and one for a future World Heritage Site. It might take longer to finish the Geopark application, but it may be a more efficient way to achieve both designations.

Management plan

A new management plan will need to be developed for Wells Gray Park and Area as part of the Geopark application process, as the current management planning documents for Wells Gray Provincial Park will not be adequate. A World Heritage nomination will also require a management plan, and both designations have similar requirements for the full involvement from all stakeholders and the local community. However, the two UNESCO designations have different management objectives. A World Heritage Site focuses on conservation, while a Geopark highlights sustainable economic development, education, and research.

It will probably be beneficial to develop a management plan that is adequate for both designations. Although it may be possible to have slightly lower standards of protection for the Geopark, this does not seem to be a desirable goal, particularly given that at least most of the site is a Provincial Park. As well, although the management of a World Heritage Site would not require promoting sustainable economic development, environmental education, and research, these seem like desirable goals for Wells Gray.

The management plan developed for a Wells Gray Park and Area Geopark may be adequate for a World Heritage Site, which would be a significant contribution towards a World Heritage nomination. However, the boundaries of the Geopark may not be the same as for the proposed World Heritage Site. If this is the case, the management plan will need to be revisited to accommodate for the different areas.

Sustainable economic development, environmental education, and research initiatives

The marketing plan and the educational and research initiatives that are required for the Geoparks application are not required for a World Heritage nomination. However, these items will increase the economic benefit experienced by the local community from World Heritage Site status, and may help to achieve the goals of the designation. Although these aspects of the Geopark application will not necessarily help Wells Gray Park and Area become a World Heritage Site, they will help it reap the benefit of the designation.

2.6 Summary on becoming a Global Geopark

The Global Geoparks Network (GGN) was established in 2004 based on the European Geoparks Network, with UNESCO support. It originally only included European and Chinese Geoparks, and is still dominated by Geoparks from these regions.

Global Geoparks are similar to World Heritage Sites in requiring a comprehensive management plan to ensure the protection of the site, and emphasizing the importance of the meaningful involvement of all stakeholders and the local community. However, there are some fundamental differences in their objectives and criteria for inclusion.

The World Heritage List focuses on recognizing and protecting the most important sites in the world, while the Global Geopark Network focuses on promoting collaboration between geoparks, geological conservation, environmental education, research, and sustainable development.

The World Heritage List is an exclusive list reserved for sites of outstanding universal value for all of humanity. A Global Geopark must contain geological features that are internationally important, but these features do not have to be unique, or of Outstanding Universal Value.

The application process

An aspiring Canadian Geopark must send a letter of intent to the Canadian National Committee for Geoparks (CNCG). The CNCG will send representatives for a site visit, then help the applicant develop a Geopark application. The CNCG requires a draft Geopark application to be completed before September 1st, in order to approve of the final application in time for the yearly December 1st deadline for submitting it to the GGN. The GGN will review the application, conduct a site visit, and make a final decision the following Fall.

The Geopark application is limited to 50 pages, and must show that the aspiring Geopark meets the GGN's six criteria. A self-evaluation checklist must also be completed and submitted with the application. This checklist scores the geopark on a wide variety of items, and it must have a passing score in all categories. The GGN evaluators will use the same checklist.

The six criteria for Global Geoparks

1. **Size and composition:** The Geopark must be large enough to be useful for tourism, education, and research, and must contain internationally important geological sites. It must have an inventory of geosites, and it is important to have high geological diversity and numerous geosites important for education or research. The geological features do not have to be unique, but it is helpful if they are rare and not represented in many other Geoparks.

   The only potential Geopark that has similar geology to Wells Gray Park and Area is Katla Geopark in Iceland, which has recently applied for Geopark status. This area also has subglacial volcanoes, although they are not its main attraction.

2. **Management and local development:** The management plan must have strong local involvement and meet local economic needs while protecting the landscape. At least some of the geosites must be accessible to the public, and the geopark must be clearly marketed to tourists. Private lands can be included in the Geopark, as long as they are adequately protected.

3. **Economic development:** The Geopark should be undertaking a variety of initiatives to foster socio-economic development that is culturally and environmentally sustainable. Economic opportunities should be identified and a marketing strategy developed that includes promoting local products and businesses, promoting geotourism, and developing the tourism infrastructure.

4. **Education and research:** A Geopark must help communicate geoscientific knowledge and environmental concepts to the public. Some recommended strategies include interpretive centres, info kiosks, interpretive trails, environmental education programs for school groups and the general public, and regular educational seminars. It could also be beneficial to publish school curricula, education materials, and popular literature on the area.

   The Geopark must also help promote scientific research. It should have competent geological or scientific experts available, and maintain connections with scientific institutions. Recently published research on the area is a bonus.

5. **Protection and conservation:** The management system of a geopark must make sure that tourism and other economic activities are sustainable. The geosites must be protected, along with the ecological, aesthetic, and cultural values of the area. Legal protection for all of the site is encouraged, but not required.

   Compatible economic uses are encouraged within a geopark, as long as its geologic features and other heritage remains protected. This may include some uses that would disqualify the site for designation as a World Heritage Site.

6. **The Global Network:** Geoparks must actively contribute to the life of the network through the exchange of ideas and joint collaborative initiatives. An aspiring Geopark must have already demonstrated that it is a contributing member of the network before its application will be successful, so it will be beneficial to attend Geopark conferences while developing an application. The European conferences are held annually, and the international ones every two years. The next international conference is in Japan in May of 2012.

The example of Stonehammer Geopark

Stonehammer Geopark in New Brunswick is the only Geopark in North America, and will be the best example to help develop a Geopark application for Wells Gray Park and Area. Their complete nomination dossier is available, and the project co-ordinator and lead geologist have both offered to give advice regarding a Wells Gray Park and Area Geopark.

Developing the Stonehammer application required two years of work from the geologist before it was brought to the community, and then another two years of community-led work to develop the application. The site included crown land a well as municipally owned and private land. A management system was created to include all site owners and tourism operators, and they have developed a variety of marketing and educational initiatives.

Using a Geopark designation to help a World Heritage nomination

The Global Geopark designation is less exclusive than the World Heritage Site designation, and will be easier to achieve. If Wells Gray Park and Area first becomes a Global Geopark, this may help a future World Heritage Site nomination by demonstrating proper management and protection. As well, the process required to prepare a Geopark application may be helpful for developing a World Heritage Site nomination.

There are several Geoparks in China that have been nominated for World Heritage Site status. In all cases, the Geopark status was beneficial in helping to demonstrate that the site was properly managed and protected. However, the World Heritage Site requirements for Outstanding Universal Value and integrity were more rigorous than the Geopark requirements. In several cases, the geological values of the nominated sites were found to not be sufficiently unique or important for World Heritage Site status. It was also sometimes found that the Geoparks were not large enough to qualify as World Heritage Sites, because they did not include all of the relevant features.

The process of developing a Geopark application can make numerous contributions to a World Heritage nomination. The same team can work on both UNESCO designations. The documentation of the value of the site for the Geopark application will help with the comparative analyses and Statement of Outstanding Universal Value that are required for the World Heritage nomination. The process of determining the boundaries of the site and developing the management plan will also be useful, and both of these items may be identical for both designations. The marketing plan and educational and research initiatives required for the Geopark application are not required for the World Heritage nomination, but they will be important for realizing the benefits of this designation.

Section 3. Costs of UNESCO designation

There are numerous costs associated with becoming a World Heritage Site. The costs associated with preparing the nomination bid will only be incurred once, while other costs are ongoing expenses that will be incurred (hopefully) forever. Some of the expenses result directly from World Heritage Site status, while other expenses are indirect, and occur as a consequence of some of the impacts of the UNESCO designation.

PricewaterhouseCoopers (2007c) divided up the costs of World Heritage Site status into four categories: The cost of preparing the nomination bid; the ongoing management costs; the lost opportunity costs; and related costs. Although this classification is somewhat arbitrary, it is functional and will be used for the purposes of this report. The four categories of expenses are shown in **Figure 3.1**, and described in more detail below.

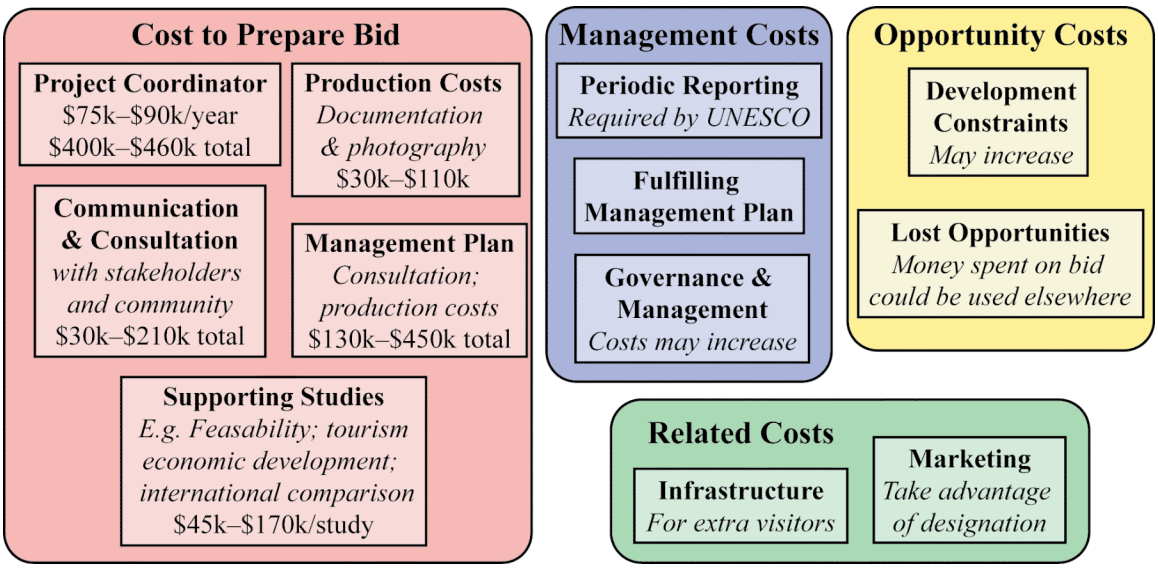


Figure 3.1. A summary of the costs associated with World Heritage Site status that were identified by PricewaterhouseCoopers (2007c). Total cost of a bid was estimated as $900,000 – $1.2 million. Bidding cost estimates based on 17 World Heritage Sites in the United Kingdom. Prices are converted to Canadian currency, but are not directly comparable to Canadian costs, as there are national differences in costs of services and attitudes towards World Heritage Sites.

3.1 Cost to prepare nomination bid

It is a lengthy and costly process to nominate a site for World Heritage Site status. The time and resources required for the nomination will vary considerably depending on what is required for a particular site, and what has been already completed. There has been a review of the costs of preparing nomination bids for World Heritage Sites in the UK (PricewaterhouseCoopers 2007c), and several British sites have reported on the resources that they required for their nomination. I have also examined the time and resources required for the most recent Canadian World Heritage Site nominations, as an indication of what costs could be expected for Wells Gray Park and Area.

3.1.1 A British estimate of the cost of preparing a nomination bid

PricewaterhouseCoopers (2007c) reviewed the nomination process for World Heritage Sites in the UK, and concluded that on average a nomination took 4.8 years to prepare, with a total cost between $900,000 – $1.2 million.[6] Their estimates of the costs of the different aspects of the nomination bids are shown in **Figure 3.1**, and detailed below. These estimates include in-kind donations, and have been criticized by some of the stakeholders, who felt that they would have incurred some of these costs whether or not they had pursued World Heritage Site status (Norman 2008).

World Heritage Site co-ordinator

Although it is not a UNESCO requirement, a co-ordinator is widely considered to be essential to the success of the nomination bid (ERM 2004; PricewaterhouseCoopers 2007c; Norman 2009). Out of the three most recently completed World Heritage Site nominations in Canada, Joggins Fossil Cliffs and Grand Pré both had co-ordinators for the nomination process. The third site, Writing-On-Stone Provincial Park, did not have a dedicated co-ordinator, but the site manager for the park was relieved of many of her duties so she could focus on the nomination process. PricewaterhouseCoopers (2007c) estimated that the co-ordinator would cost $75,000 – $90,000 per year for an average of 4.8 years, for a total cost of $400,000 – $460,000.

Supporting studies

A World Heritage Site nomination must include a detailed comparative analysis that compares all similar sites across the world and shows why the site under consideration has Outstanding Universal Value. The requirements for the comparative analysis are very rigorous, and can require several years and numerous international experts.

As well, numerous supporting studies will probably be required during the preparation of the nomination. These may be related to identifying the Outstanding Universal Value of the site, developing a strategy for tourism and economic development, assessing the economic impact of the designation, identifying conservation concerns, or anything else relevant to a particular site. Consultants will often be contracted to conduct these studies, although some studies may be done by working groups created by the stakeholders.

The development of the nomination for Grand Pré (Nova Scotia) required contracting studies on tourism and interpretation strategy, best practices for public engagement, and the economic impact of World Heritage Site status. There are currently numerous studies being conducted for the future Pimachiowin Aki World Heritage Site in Manitoba and Ontario, including studies on the ethnography, ecology, governance, and tourism potential of the area.

[6] All costs for British World Heritage Sites were reported in British pounds. In this report, I have converted these costs to Canadian dollars, using the exchange rate at the time of the estimate. However, it must be remembered that these costs are not actually directly comparable, as there are national differences in costs of goods and services and in attitudes towards World Heritage Sites.

PricewaterhouseCoopers (2007c) estimated that the supporting studies done for World Heritage Site nominations in the UK cost an average of $45,000 – $170,000 per study.

Management plan

World Heritage Sites are required to have a management plan. PricewaterhouseCoopers (2007c) estimated that it costs between $130,000 – $450,000 to develop a management plan for a World Heritage Site in the UK. The cost varies considerably, depending on the complexity of the ownership of the site, and whether or not there is already a management plan for the site

Currently, management direction for Wells Gray Provincial Park is provided by the original master plan (MoLPH 1986), plus a series of interim management direction statements for the additional areas that have been added to the park (MoP 1991; KLRP and BC Parks 1999). These documents would not meet the requirement for a management plan for a Wells Gray Park and Area World Heritage Site, although they might help with the process of developing a new management plan.

Although developing a new management plan for Wells Gray Park and Area could be an expensive process, it may be a necessary cost regardless of whether or not Wells Gray Park and Area pursues World Heritage Site status. The current management direction statements explicitly state that they do not negate the need for future, more detailed management plans, they just provide strategic direction until a management plan can be developed with full public involvement (KLRP and BC Parks 1999).

Communication and consultation

The World Heritage Sites that were reviewed by PricewaterhouseCoopers (2007c) involved between 5 and 70 partners, with an average of 13 partners. The preparation of the nomination involves an investment of staff time from the partners. PricewaterhouseCoopers estimates that this costs $88,000 in salaries, but it generally represents a hidden cost because these salaries are usually not being paid for by the group that is preparing the nomination.

Public consultation is also essential for the nomination process, and can be expensive. PricewaterhouseCoopers (2007c) estimated that this cost between $32,000 – $215,000 for sites in the UK. Communication can be particularly difficult if the nomination process involves a diverse group of stakeholders. This was particularly difficult for Grand Pré (Nova Scotia), which resulted in them contracting a consultant to research and develop a strategy to guide branding, communications, and public engagement related to their nomination efforts.

Production costs for documentation and photography

The nomination dossier that is submitted to the World Heritage Committee is a large and expensive document. Typical nomination dossiers are between one thousand to several thousand pages long, and contain many photographs. Often several hundred to several thousand copies of the nomination document are printed off to give to partners and other stakeholders. PricewaterhouseCoopers (2007c) estimates that the production of this document, along with the printing and photography costs, usually costs between $30,000 – $110,000.

3.1.2 Some examples from the UK

Various examples are available from the UK for the actual length of time it took sites to prepare their nomination bid, and how much it cost them. These cost estimates do not include in-kind donations.

- The nomination bid for the Jurassic Coast World Heritage Site (England), inscribed in 2001, cost $664,000 (PricewaterhouseCoopers 2007b). It took eight years to prepare, with one full-time co-ordinator for that entire period. The final year of the nomination bid employed an additional two full-time equivalents.
- The Blaenavon Industrial Landscape (Wales) became a World Heritage Site in 2000. It cost a total of $459,330, and employed a full-time co-ordinator for 28 months, as well as some support staff (PricewaterhouseCoopers 2007b).
- The Liverpool Waterfront nomination (inscribed in 2004) cost in excess of $950,000 to prepare (Trotter and Cornish 2006).
- In 2004, it was estimated that it would take the Lake District 3 to 4 years to prepare their nomination, and cost $840,000 (ERM 2004). There was already a management plan for the park, and some initial work for the nomination had already been done. The nomination took longer than anticipated, with the first draft being completed in 2010.
- In 2006, the Chatham World Heritage Site estimated that their nomination bid would take three years and cost $742,000 (PricewaterhouseCoopers 2007a). However, the nomination has yet to be completed.

3.1.3 Some examples from Canada

Joggins Fossil Cliffs and Rideau Canal

The two most recent World Heritage Sites in Canada are Joggins Fossil Cliffs, a natural site in Nova Scotia, and Rideau Canal, a cultural site in Ontario. Parks Canada prepared the nomination for Rideau Canal and submitted it to the World Heritage Centre in 2005, but it was referred because it required more detailed mapping. The nomination was resubmitted in 2006, and then inscribed in 2007.

Stakeholders began working on a Joggins Fossil Cliffs nomination in 1996 (JFI 2009). The nomination was completed in 2007, and the site was inscribed in 2008.

In 2006, the director for the Joggins Fossil Institute and a representative from Rideau Canal presented their experiences in preparing World Heritage nominations. They estimated that the World Heritage nomination process required at least two full-time equivalents for two years, and cost at least $200,000 (Boon and Buell 2006).

Grand Pré, Nova Scotia

Grand Pré is a National Historic Site that could be Canada's next World Heritage Site. The stakeholders first began to work on their nomination in the summer of 2007. A year later, the nomination process was going strong and they had hired a co-ordinator. Their nomination dossier was completed in January 2011. In April 2008, Nomination Grand Pré estimated that their nomination bid would cost $1.3 million, including in-kind donations. Their actual budget for 2009–2010 was $553,000, plus in-kind donations estimated as an additional $776,000 by the end of 2009. The projected budget for 2010–2012 is $676,000.

Writing-On-Stone Provincial Park, Alberta

Alberta Parks began to work on a nomination for Writing-On-Stone in 2004, and their investment in the project increased in January 2009. Since then, two permanent Alberta Parks staff dedicated over one full-time equivalent to the project (K. Bocking, pers. comm. 2011), and the project also utilized an archaeologist, government support staff in Edmonton, and three contractors (writer, editor, layout/publisher). There was not a dedicated co-ordinator for the project, but the site manager for the park was pulled off some duties so she could dedicate more energy to the process. The nomination document was finished in August 2010, but they decided to wait until 2012 to gather more community support. This was a government-led process, done by two Alberta Government ministries (Tourism, Parks, and Recreation; and Culture and Community Spirit) with help from Parks Canada. Developing the nomination cost an estimated $60,000, not including staff resources (R. Jones, pers. comm. 2011).

Pimachiowin Aki, Manitoba and Ontario

Pimachiowin Aki is an area of boreal forest on the Manitoba–Ontario border that includes four First Nations. These First Nations started working on having the area designated as a World Heritage Site in 2002. In 2006, the Pimachiowin Aki Corporation was formed to lead the process, and they are planning on having the nomination completed by 2012. The Manitoba government provided the project with $260,000 of grant funding in 2008–2009, and $531,000 of financial and staffing support in 2009–2010 (GoM 2009). This included hiring two land-use planners, a dedicated GIS mapping technician, and a consulting firm to support community land-use planning.

3.2 Management costs

Although the cost of preparing a nomination bid can be substantial, it is hopefully a one-time cost. There are, however, ongoing management costs that a World Heritage Site will incur after the nomination has been successful.

UNESCO requires that a World Heritage Site must develop and follow a management plan. The site would have to be managed even if it did not become a World Heritage Site, so not all of the management costs are a result of the UNESCO designation. However, depending on the quality of the previous management at the site, following the new management plan may make managing the site more expensive.

PricewaterhouseCoopers (2007c) noted that annual management costs for World Heritage Sites in the UK varied widely, from $28,000 to $1.3 million. Sites that had a single owner and were being well managed before becoming a World Heritage Site were the cheapest to manage, and the management at sites with more complex ownership arrangements was usually much more expensive.

Another ongoing cost of being a World Heritage Site is that UNESCO requires periodic reports on the state of conservation of the site. Every six years Canada is required to submit periodic reports on all of its World Heritage Sites, and Canada's next set of periodic reports is due in 2012–2014. A periodic report is not required for a site until it has been on the World Heritage List for eight years or more. Even if Wells Gray Park and Area becomes a World Heritage Possible as soon as possible, the earliest that it could conceivably be required to submit a periodic report would be 2030.

UNESCO also requires reactive monitoring of World Heritage Sites. This means that Canada is required to submit specific reports and impact studies each time exceptional circumstances occur or work is undertaken which may have an effect on the state of conservation of the site. This could represent an additional cost if potentially damaging developments were planned in Wells Gray Park and Area.

3.3 Opportunity costs

It requires considerable resources to become a World Heritage Site, and these resources could have otherwise been invested in other initiatives. It is possible that the specific benefits desired for the site could have been achieved more effectively through different means. Other avenues for achieving the goals of the site should be explored, to ensure that World Heritage Site status is the most effective means of achieving these goals.

World Heritage Site status may restrict what developments are permitted in the site, and these forgone developments could also represent a lost opportunity cost. Development restrictions have often been brought up as a major concern of stakeholders when new sites have been considering UNESCO designation (e.g. ERS 2006). However, these fears appear to be mostly misplaced, as there have been very few developments that have been stopped because of World Heritage Site status.

PricewaterhouseCoopers (2007c) reported that they had found no examples in the UK of a development that was stopped as a result of World Heritage Site status. Some developers that they interviewed thought that their costs had increased, because there was more scrutiny of development applications, but they thought that these additional costs were marginal. More recently, the UNESCO designation has been used as the rationale for rejecting some potentially damaging developments in the Jurassic Coast World Heritage Site (Cochrane 2008).

In a survey of the opinions of residents at six World Heritage Sites in the UK, PricewaterhouseCoopers (2007b) found that only 11.9% thought that making changes to the outside of their property had become more difficult, and only 14% thought it was more difficult to get planning permission. However, 38.4% of residents did not know how getting planning permission had been affected by the UNESCO designation, which shows that there was generally a poor understanding of process.

3.4 Related costs

There are a variety of indirect costs of becoming a World Heritage Site. These include marketing costs to take advantage of the UNESCO designation, and infrastructure improvements to take advantage of the additional tourists and mitigate the damage that they could cause. There are also other possible impacts of World Heritage Site status that may be undesirable to some stakeholders, such as increasing property values or reducing privacy.

Marketing costs

World Heritage Site status is unlikely to increase tourist numbers and result in an economic benefit to the site unless considerable resources are invested in developing and promoting a tourist product. Although it could also be considered a benefit that becoming a World Heritage Site can provide the impetus to develop a marketing strategy,

this can represent a significant cost. As an example, the marketing strategy that the Cornish Mining World Heritage Site developed to take advantage of their UNESCO designation involved spending $1.1 million over three years (Atlantic Consultants 2003).

The costs of additional tourists

The infrastructure required to deal with additional tourists costs money, and if investments are not made in this infrastructure, the extra tourist traffic can cause congestion and damage to the site. In a survey of 46 World Heritage Site managers in OECD countries, Hall and Piggin (2001) found that congestion and crowding, and site degradation due to visitors were commonly reported problems.

In PricewaterhouseCooper's (2007b) survey of residents at six World Heritage Sites in the UK, 27.7% of respondents thought that the tourists who came to the site created a lot of congestion for them, and 9.7% of respondents thought that the tourists damaged the site. The Jurassic Coast was the only natural World Heritage Site in this survey, and residents there seemed more concerned with these issues, with 46.9% thinking that the extra tourists created more congestion, and 23.4% thinking that they damaged the site.

Other potential impacts

Residents at several prospective World Heritage Sites have expressed concerns that property values (and thus property taxes) could increase. Depending on the perspective of the stakeholder, increasing property values could be seen as either a cost or benefit of World Heritage Site status. In either case, PricewaterhouseCoopers (2007c) found that World Heritage Site status generally has very little impact on property values.

Blaenavon (Wales) may be an exception, because property prices there have increased 300% since it became a World Heritage Site in 2000 (ECOTEC 2010), although some of this increase may be attributable to other causes (Atlantic Consultants 2003). World Heritage Site status may have had a slight effect on raising property prices in Lunenburg (Nova Scotia), but Lunenburg municipal representatives and real estate professionals thought that the effect was slight (Kelco 2009).

World Heritage Site status also has the potential to have negative social impacts on the local community. Jimura (2011) surveyed residents around the Ogimachi World Heritage Site in Japan, and 31.3 % of respondents felt that their privacy had been invaded by tourists. Blacik (2007) reported that increased tourism from World Heritage Site status can have negative cultural impacts on communities in sub-Saharan Africa. Although the effect that foreign tourism can have on African communities probably has little relevance to Wells Gray Park and Area, it is possible that increased tourism could have other cultural impacts on Wells Gray Park and Area that some stakeholders could consider undesirable.

World Heritage Site status may also have impacts on power dynamics at the site, which could be construed to be a positive or negative effect. Hede (2008) looked at World Heritage Sites in Australia and New Zealand, and found that the prospect of World Heritage Site status seemed to be a catalyst for decision-making and developing networks between the various stakeholders, but that these stakeholders seemed to be grappling with each other for power at this time. She thought that when the nomination was being developed for the World Heritage Site, the tourism stakeholders appeared to have the

upper hand, but once the site was successful in receiving the UNESCO designation, the heritage stakeholders seemed to gain the balance of power. She also noted that in Oamaru (New Zealand), they seemed to be rushing decisions for tourist development in order to get ready for the World Heritage Site status, perhaps to the detriment of the site.

3.5 The cost of becoming a Global Geopark

3.5.1 Cost differences from a World Heritage Site nomination

Developing the application

There are strict requirements for a Global Geopark, and this must be demonstrated in a Geopark application. However, several of the Geopark requirements are less rigorous than for a World Heritage Site. As a result, a Geopark application should generally be a little less time-consuming and expensive than a World Heritage nomination.

Both a Geopark application and a World Heritage nomination require full involvement of all stakeholders and the community, and both will benefit from a dedicated project co-ordinator and possibly support staff. However, the Geopark application may take less time, which will reduce staffing costs, as well as the costs of ongoing public consultation.

The requirements for developing a management plan with full involvement of stakeholders are similar for the two different UNESCO designations. However, in some situations a Geopark will have less strict requirements for protection and integrity. If the requirements for protection are easier to meet, this could make the management plan easier to develop. As well, a Geopark's less strict requirements for integrity may allow it to exclude areas that would make the ownership arrangement more complex. Either of these factors could make it cheaper to develop a management plan for a Geopark.

There may be fewer supporting studies required for a Geopark application, although this will depend on the situation. A Geopark application does not have the same requirements to develop a rigorous global comparative analysis or a Statement of Outstanding Universal Value, both of which are time consuming. However, the Geopark application does require a marketing plan and the development of opportunities for education and research. Neither of these things are required for a World Heritage nomination, although they would probably be beneficial, and may be developed anyways.

A Geopark application is generally much shorter than a World Heritage nomination, so the actual production costs for the document should be less. Many World Heritage nominations are several thousand pages long, whereas a Geopark application is limited to 50 pages.

Other costs

The ongoing management costs for a Geopark will probably be similar as a World Heritage Site. However, in some situations a Geopark may be able to have less strict requirements for protection, or have site boundaries that involve fewer landowners. Either situation could reduce management costs. Both designations require an ongoing monitoring program. Geoparks must do a periodic review every four years, and World Heritage Sites every six years.

Global Geoparks promote sustainable economic development, and therefore may be less likely to prevent beneficial developments in the area. This may result in fewer lost opportunity costs. However, this emphasis on economic development may result in more marketing and infrastructure costs.

3.5.2 Learning from examples

Most Global Geoparks are either in Europe and therefore must join the European Geopark Network, or they are in China and therefore must join the national network in China. No such regional network exists in North America, so any prospective Geopark in Canada will apply directly to the Global Geopark Network, after getting approval from the Canadian National Committee for Geoparks (CNCG). Although the criteria and application process for the various national networks are similar, this difference does mean that the cost of the application process may not be directly comparable between different regions.

Bailey and Hill (2010) also caution that the cost of a developing a North American Geopark should not be estimated based on the experiences in Europe. They feel that the requirements for developing an existing North American park into a Geopark will be very different than in Europe, because the existing park system in Europe is quite different than in North America.

The Stonehammer Geopark in New Brunswick is the only Geopark in North America. It was accepted into the Global Geopark Network in October of 2010. This single example is probably the only Geopark that will be comparable to Wells Gray Park and Area.

Dr. Miller, who is the curator of geology and palaeontology at the New Brunswick Museum, spent two years working on the project and gathering information before the idea was brought to the community (R. Miller, pers. comm. 2011). A working group was then formed in January of 2008, and they spent two more years preparing the application. The application was submitted in December of 2009, and it took another 10 months for the Global Geopark Network to review the application and approve it. The application process cost about $300,000 from the time the working group was started until Stonehammer received its Geopark designation (G. Bremner, pers. comm. 2011). This cost does not include the time that Dr. Miller put into researching the project, which was done as part of a five-year federal grant.

The Canadian National Committee for Geoparks (CNCG) was formed in the fall of 2009, with the purpose of encouraging and assisting the formation of Geoparks in Canada (Nowlan 2010). This committee was formed half way through the development of the Stonehammer Geopark application. It is possible that the CNCG, and the experiences of Stonehammer Geopark, will make the application process faster and cheaper for future Canadian Geoparks.

The Stonehammer Geopark also has a relatively complex ownership arrangement. It includes provincially-owned lands, as well as lands owned by several different municipalities and private land owners. A future Wells Gray Park and Area Geopark might have a simpler ownership arrangement, particularly if it only included Wells Gray Provincial Park. This could make the application process cheaper.

3.6 Summary of the costs of UNESCO designations

There are several costs associated with becoming a World Heritage Site. These include the cost of preparing the nomination bid; the ongoing management costs; the lost opportunity costs; and related costs.

Cost of preparing a World Heritage nomination

The cost of preparing the nomination bid can be substantial, but is hopefully a one-time cost. Some of the major costs in preparing the nomination are:

- Hiring a project co-ordinator for several years, and possibly support staff
- Various supporting studies may be needed, like a comparative analysis, marketing studies, economic impact studies, conservation concerns.
- Developing a management plan
- Communication and consultation between partners and the local community
- Production costs for the actual nomination document.

In the U.K, an average nomination takes 4.8 years to prepare, and costs between $900,000 – $1.2 million. This includes in-kind donations, and may also include some costs that would be incurred by the site even if they did not develop a nomination bid.

Jenna Boon and Pam Buell were involved in developing the nominations for the Joggins Fossil Cliffs and Rideau Canal, Canada's two most recent World Heritage Sites. They estimated that a World Heritage nomination bid requires at least two full-time equivalents for two years, and costs at least $200,000.

There are three sites in Canada that have recently completed World Heritage nominations, or are anticipating completing them within the next year. The Grand Pré and Pimachiowin Aki nominations were community-led and involved a complex group of stakeholders, and they both cost well over $1 million. The Writing-On-Stone nomination was completed by the Alberta government and has a much simpler ownership arrangement, being entirely a Provincial Park. This nomination cost an estimated $60,000 to complete, not including staff resources.

The recent Canadian World Heritage nominations have generally taken many years to complete. However, the length of time between starting work on the nomination and submitting it to the World Heritage Centre has varied considerably:

- *Joggins Fossil Cliffs:* 11 years
- *Grand Pré:* 3.5 years, including 2.5 years with significant investment
- *Writing-On-Stone:* 7.5 years if ready for 2012 deadline, as is anticipated. This includes 1.5 years with significant investment.
- *Pimachiowin Aki:* 10 years if ready for 2012 deadline, as is anticipated.

The prior experiences of recent Canadian and British World Heritage Sites gives some indication of what a Wells Gray Park and Area World Heritage nomination might cost. However, the project co-ordinators for both Grand Pré (C. Rivet) and Joggins Fossil Cliffs (J. Boon) have cautioned that the experiences of other sites will only be somewhat helpful for determining the needs of Wells Gray Park and Area, as every World Heritage proposal has different requirements for research, communication, and analysis (pers. comm. 2011).

Other costs of being a World Heritage Site

If a nomination is successful, the World Heritage Site will also incur ongoing management costs. Some management costs will be incurred even if the site did not receive a UNESCO designation, however the UNESCO management requirements may be stricter, and therefore more costly. World Heritage Sites are also required to submit periodic reports every six years on the state of conservation of the site.

Lost opportunity costs should also be considered. The resources invested in developing and maintaining a World Heritage Site could be invested elsewhere, which might have more of a benefit to the local community. As well, a UNESCO designation could potentially restrict development, which could also represent a lost opportunity. However, very few developments have actually been stopped as a result of World Heritage Site status.

There are several related costs that can be incurred as a result of World Heritage status. There can be significant marketing costs that are necessary to take advantage of the designation. The additional tourists can create congestion and conservation issues that require additional infrastructure to accommodate, which is expensive. These extra tourists can also have negative social impacts, like a loss of privacy. It is also possible that property prices, and therefore taxes, could increase.

Costs of becoming a Global Geopark

Most of the requirements for a Geopark application are less rigorous than for a World Heritage nomination, so it may require less time and resources to prepare. The Geopark application will also require a project co-ordinator, supporting staff, and full involvement of al stakeholders and the community. However, the costs of staff and ongoing public consultation will be less if the process takes less time.

The Geopark application does not require a rigorous global comparative analysis or a Statement of Outstanding Universal Value, but most other supporting studies will be desirable for either designation. Both UNESCO designations require a comprehensive management plan, although in some situations a Geopark management plan may be simpler to develop than a World Heritage management plan.

The Geopark application dossier is also much shorter than a World Heritage nomination, so the actual production costs for the document will be less.

Stonehammer Geopark in New Brunswick is the only Geopark in North America, and therefore probably the only example that might be relevant to Wells Gray Park and Area. Their Geopark application took two years to prepare and cost $300,000.

Section 4. The potential benefits of UNESCO designation

4.1 Previous studies on the benefits of becoming a UNESCO World Heritage Site

There have been four relatively comprehensive impact analyses that attempt to reach a general conclusion on the social, economic, and conservation benefits of becoming a World Heritage Site: PricewaterhouseCoopers (2007), Hambrey (2007), Atlantic Consultants (2003, and Rebanks (2009. There have also been a handful of more cursory reports on this topic, like ERM (2004), ERS Ltd. (2006), Trotter and Cornish (2006), and Kelco (2009). More details on these studies are outlined below.

The PricewaterhouseCoopers (2007) report was commissioned by the Scottish, Welsh, and UK governments, to help them decide if they should continue to nominate sites on an annual basis. The study took eight months, and is published in three parts (PricewaterhouseCoopers 2007a, 2007b, 2007c). As a result of this study, and stakeholder consultations, the UK government decided to slow down their rate of nominations (DCMS 2010).

Hambrey Consulting was contracted by Scottish Natural Heritage to examine the potential benefits of both the UNESCO World Heritage Site and Geopark designations, and their report was published in 2007.

The other cost-benefit analyses were commissioned by aspiring World Heritage Sites, most of which are in England. Atlantic Consultants did an in-depth analysis for the Cornish Mining World Heritage Site, which took nine months to complete and was published in 2003. ERM (2004) and ERS Ltd. (2006) both did cursory overviews of the impacts of UNESCO designation for the Lake District World Heritage Project, before that project contracted Rebanks Consulting Ltd to do a more comprehensive, year-long cost-benefit analysis that was published in 2009. There was also a brief impact analysis done for the New Forest World Heritage Site, by Trotter and Cornish (2006). One site outside of England also commissioned a cost-benefit analysis. Kelco Consulting Ltd. (2009) did a brief impact analysis for Grand Pré in Nova Scotia.

These studies all attempted to make general conclusions on the impacts of World Heritage Site status. There has also been an in-depth analysis done on the impacts experienced at one specific site in England. The Jurassic Coast World Heritage Site was designated in 2001, and five years later they contracted Era Ltd. to assess what benefits they had actually experienced. Their study, published in 2008, took two years to complete and cost $79,000. There have also been two smaller reports published on the benefits of the Jurassic Coast World Heritage Site: JCWHT (2007) and Cochrane (2008).

The handful of the studies mentioned above are the only ones that have tried to take a holistic approach and consider a variety of social, economic, and conservation benefits of becoming a World Heritage Site. However, there have been numerous other studies that have just looked at the impact that the UNESCO designation had on visitor numbers, and ignored any other potential benefits. The most extensive of these studies are Hall and Piggin (2001) and van der Aa (2005), both of which surveyed a significant number of World Heritage Sites across the world to determine how visitor numbers had been affected by the UNESCO designation. However, neither study was very statistically

rigorous in determining how visitor numbers had changed, they just asked the opinion of the site manager, who may or may not have had adequate data available.

Two more rigorous were done by Prud'homme (2008) and Buckley (2002, 2004). Prud'homme reviewed three studies — Gravari-Barba and Jacquot (2008), Nicot and Ozdirlik (2008), and Talandier 2008 — that attempted to quantify the effect of World Heritage Site status at various sites in France and Turkey. Buckley (2002, 2004) tried to determine how UNESCO designation had affected visitor numbers at six World Heritage Sites in Australia, by comparing them to control sites. Both studies took a statistical approach, but due to the difficulties of this type of analysis, neither had any conclusive results.

There have been many other publications that have reported increases in the number of visitors at individual World Heritage Sites, but most of these have just been based on someone's general impression of visitor numbers. The most accurate assessment of the impact of UNESCO designation on visitor numbers was done by VanBlarcom *et al.* (2009), who used a linear regression model to show that Old Town Lunenberg in Nova Scotia experienced a 6.2% increase in visitor numbers after it became a World Heritage Site in 1995. My study presented in this report represents a second such example, and I use the same statistical model to suggest that Waterton National Park in Alberta experienced a 4.6% increase in visitor numbers as a result of becoming a World Heritage Site in 1995.

There are a few other general resources on tourism at World Heritage Sites. Shackley (2008) and Leask and Fyall (2006) have both published books on managing tourism at World Heritage Sites, and there was a special issue of the Journal of Heritage Tourism on the topic (Leask and Fyall 2008). There was also a special issue of the International Journal of Heritage Studies on the purposes and outcomes of World Heritage Site status (Bianchi and Boniface 2002).

Another resource that will probably be of great use in the future is the newly formed World Heritage Tourism Research Network. They are planning on putting together an annotated bibliography that critically analyzes the literature on the impact of World Heritage Site status, and designing a research programme to more systematically assess it (Halpenny 2009).

4.2 Categorizing the benefits of World Heritage Site status

4.2.1 Eight potential benefits of becoming a World Heritage Site

There are a variety of potential social, economic, and conservation benefits of becoming a World Heritage Site. Many of these benefits are hard to quantify, and most are strongly interrelated. PricewaterhouseCoopers (2007a) classified the potential benefits of World Heritage Site status into eight categories. These are shown in **Figure 4.1**, and described in more detail below.

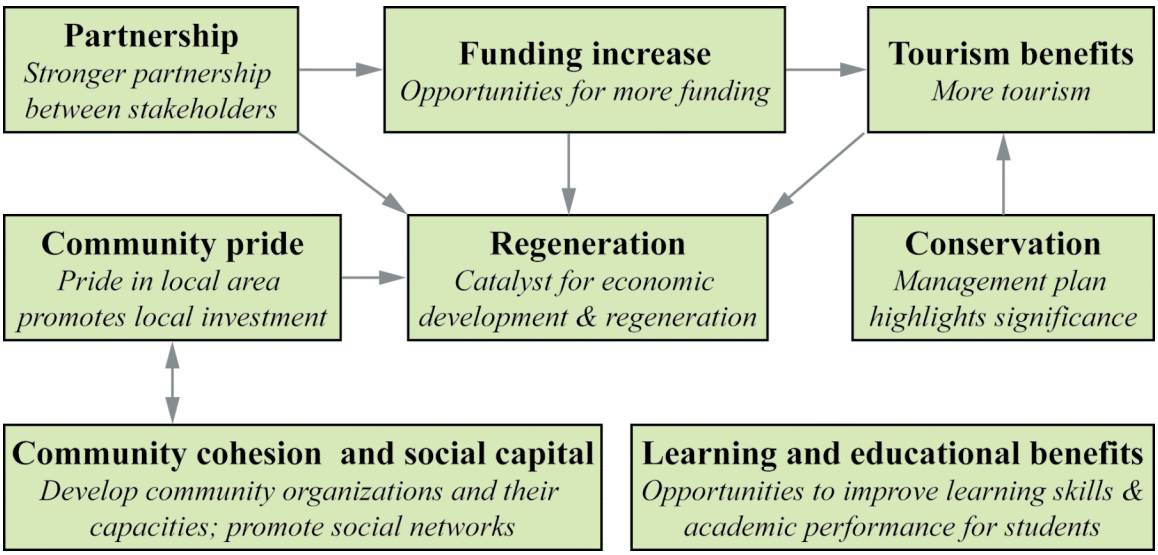


Figure 4.1. The eight potential benefits of World Heritage status identified by PricewaterhouseCoopers (2007a). Some benefits are interrelated and cannot be considered separately, as is indicated by the arrows.

1. **Tourism:** A UNESCO designation may provide a branding opportunity and increased media attention that can be used in tourist promotions. This is generally assumed to increase tourism at the site, and this is usually considered to be the main benefit of the designation. However, studies have shown that tourist numbers may not always increase, and that some of the other impacts of the designation may provide more benefits.
2. **Regeneration:** A World Heritage Site can bring in more money through increasing tourism, attracting residents and businesses, attracting investments, and attracting funding. There is a strong link between regeneration and strength of the partnerships and governance structure.
3. **Partnership:** The consultation required to prepare the proposal and manage the site requires a strong partnership between stakeholders. These improved partnerships can improve management of the site, and are important for supporting economic regeneration as well as securing funding. New partnerships may also inspire partners to initiate additional activities together, which can be beneficial to the community
4. **Funding increase:** The UNESCO designation can open up greater opportunities for applying for funding, and add weight to funding applications. At some British sites, after designation the impetus to supply funding started to come from the funders, instead of the site having to look for it. Corporate support is often greater as well. Good partnerships help bring in more funding, which is then important for tourism and regeneration benefits.
5. **Learning and educational benefits:** If a site has World Heritage status, this can be useful for using the site to market educational products, which can improve the learning skills and improve academic performance of students. The benefits of education are often hard to quantify, but the educational potential of Wells Gray Park and Area is huge.

6. **Community cohesion and social capital:** World Heritage Sites can promote social interaction and networking, and generate community pride. They can aid in the development of community organizations and their capacities, and develop local leaders.
7. **Community pride:** Local residents can feel a greater sense of pride in their community or area because of its significance. This sense of pride could be related to a wide range of benefits, such as increased investment in local economy, more community events, etc.
8. **Conservation:** UNESCO designation generally results in very little, if any, additional statutory protection for the site. World Heritage Sites are usually already protected. However, the designation does require the site to develop a management plan, which highlights conservation objectives, and can increase awareness of conservation goals and their importance. It also increases political awareness and public scrutiny of the site, which can result in conservation measures already in place being more strictly followed.

PricewaterhouseCoopers looked at six World Heritage Sites in the UK, and determined that although many sites had benefited from increased partnerships and more funding opportunities, there was very little evidence for increased tourism and the associated economic benefits. They concluded that although there were probably a variety of unquantifiable social benefits from UNESCO designation, it was not a particularly efficient method of economic regeneration.

The UK government reviewed the PricewaterhouseCoopers report and summarized it in a consultation paper to elicit comments and suggestions from stakeholders (DCMS 2008). The stakeholders' responses are summarized by Norman (2009). Some stakeholders agreed with PricewaterhouseCoopers that the UNESCO designation did not necessarily lead to increased tourism and an economic benefit, but many disagreed, and felt that their site had seen substantial economic benefit. Many felt that the PricewaterhouseCoopers case studies were too narrow in scope, with most of the case studies not seeing much benefit because they were already world famous. Many stakeholders did not like the idea of determining the benefits of UNESCO designation based on quantifiable economic benefits instead of Outstanding Universal Value. They thought that the report had underestimated the "soft" benefits of World Heritage status.

4.2.2 Other classifications of the potential benefits

The PricewaterhouseCoopers (2007) classification of the potential benefits of World Heritage Site status is very subjective. The categories are interrelated, and thus could be divided up in different ways, which would emphasize the various benefits differently. Three slightly different classifications have been presented, by Hambry (2007), Era (2008), and Rebanks (2009). These are summarized below, followed by the corresponding PricewaterhouseCoopers category in parentheses *(#)*.

Hambry (2007) listed four key benefits of becoming a World Heritage Site:

1. Enhanced tourism image and profile *(1)*
2. Enhanced opportunities for niche branding of local products and services *(2)*
3. Enhanced leverage to pull in funding for a wide range of purposes *(4)*
4. Stimulus for awareness raising and educational initiatives *(5)*

Era (2008) also divided up the potential benefits of World Heritage Site status into eight categories, but their classification is a bit more specific and practical:

1. The increasing sustainability of the tourism product *(1)*
2. Increased media recognition at a national and international level *(1)*
3. New infrastructure and services *(2)*
4. New business start-ups with new products *(2)*
5. New employment opportunities *(2)*
6. Improved partnerships *(3)*
7. Increased investment *(4, 2)*
8. Improved education linkages nationally and internationally *(5)*

Rebanks (2009) identified twelve different potential impacts of becoming a World Heritage Site. These benefits are similar to the eight categories used by PricewaterCoopers (2007a), but represent a slightly different, and perhaps more precise, classification. Rebanks claims to have looked at all 878 World Heritage Sites that existed in 2009, and determined that all of the sites experienced two of the potential impacts, and only some of the sites experienced the remaining ten.

Two impacts affected all World Heritage Sites:

1. **Media attention**: Sites did not necessarily take advantage this. *(1)*
2. **Preservation of heritage** *(8)*

The remaining impacts only affected some sites:

3. **New/improved identity and destination image** *(1, 6, 7)*
4. **Regeneration programmes**: Some sites have been the focus of significant economic development programmes *(2*)
5. **Better/new services:** For both visitors and residents. E.g. improved transit *(2)*
6. **Business development**: Stimulated a commercial response from private sector *(2)*
7. **Quality infrastructure**: Some sites focus on raising quality of infrastructure *(2)*
8. **Better coordination of investment through coherent strategy:** This gives funders more confidence, and makes them more likely to invest *(4)*
9. **Education**: An opportunity to sell educational product *(5)*
10. **Culture and Creativity**: Some sites reinvented how visitors and residents see them by embracing culture and creativity *(6)*
11. **Cultural glue**: Provides identity and the core narrative of a place *(6)*
12. **Civic Pride/Quality of life**: Investment and relocation decisions made by individuals and businesses are affected by their perception of quality of life. Some sites are offering experiences that enrich people's lives and leave them inspired to preserve and celebrate the site. *(7)*

4.3 The effect of World Heritage Site status on tourism

4.3.1 Impact of World Heritage Site status on visitor numbers

A study by van der Aa (2005) identified three mechanisms by which World Heritage Site status can increase tourism: (1) it causes the sites to be included in major tourism routes; (2) it leads to intensive promotional campaigns; and (3) it increases media

attention. None of these mechanisms occur automatically, they all require diligent marketing to be successful.

There can be substantial worldwide publicity when a site receives a UNESCO designation. Greenwich (Smith 2002), the West Norwegian Fjords (Hambry 2007), the Jurassic Coast (Cochrane 2008; JCWHT 2007), and Head-Smashed-In Buffalo Jump (Rebanks 2009) all reported that this boost in international media attention provided significant benefits for their site. Bianchi (2001) thought that Garajonay (Canary Islands) benefited from its World Heritage status because international tourists saw it as a marker of authenticity and quality.

World Heritage Sites are extremely popular tourist attractions, receiving 15–20% of the tourist market world-wide (Musitelli 2003). However, this does not mean that the UNESCO designation is generating the tourism. Only the very best sites across the world become World Heritage Sites, and this inherent value undoubtedly plays an important role in their success as tourist attractions.

Most of the literature on World Heritage Sites assumes that the UNESCO designation will increase tourism. However, this assumption is rarely based on evidence, and in fact is often contrary to the available data. Vahtikari (2006) noted that tourism officials usually report an increase in tourism after the UNESCO designation, even if there is no data to support the claim.

PricewaterhouseCoopers (2007c) found that across all the UK World Heritage Sites that they examined, the effect of the designation on visitors appeared to be minimal, and that it was unclear whether World Heritage status on its own would ever be a significant factor in attracting higher numbers of visitors. Rodwell (2002) made a similar claim, noting that for every UK site that experienced an increase in visitors after its UNESCO designation, there was another that experienced a decrease. Rodwell gives the examples of Ironbridge Gorge, where visitor numbers have decreased 19.3% since its designation in 1986, and Canterbury Cathedral, which decreased by 36.8% since inscription in 1988.

Reports on the impacts of World Heritage Site status on visitor numbers

Yeager (1999) reported that from 1990–1995, visitation to World Heritage Sites in the USA increased by 9.4%, compared to an average increase at American national parks of only 4.2%. This coincides with an analysis done by van der Aa (2005), who found that from 1980– 2000, visitor numbers increased at American World Heritage Sites by 40%, compared to an average increase of 20% at national parks. However, van der Aa also found that this relative increase in visitor numbers was solely due to cultural sites. On average, the number of visitors to cultural World Heritage Sites in the USA doubled in the 8 years following inscription, while there was no significant change in the number of visitors to natural World Heritage Sites.

Site managers from a total of 86 World Heritage Sites across the world (including the sites in the USA) were surveyed by van der Aa (2005), and 41% reported an increase in visitor numbers after the UNESCO designation. However, this increase was seen mostly in cultural sites, with increases only reported at 2 of the 13 natural sites he surveyed. This is to be expected, because most of the natural World Heritage Sites in his

study were in the USA, and he found that natural sites in the USA did not experience an increase in visitor numbers.

Hall and Piggin (2001) conducted a similar survey in 1998, but got different results. They surveyed 46 World Heritage Site managers in OECD countries (including 29 natural sites), and found that 70% of these sites reported an increase in visitor numbers after they received the UNESCO designation, with most sites reporting a 1–5% increase. This was not restricted to cultural sites — in fact, the natural sites were 6.6% more likely to report an increase. They even surveyed 10 natural World Heritage Sites in the USA, and 9 of them reported an increase in visitor numbers after the UNESCO designation. It is not obvious why Hall and Piggin (2001) and van der Aa (2005) had such different results. This may be an indication that it is not particularly reliable to determine the change in visitor numbers by asking for the opinion of the site manager, which may or may not be based on reliable data.

Hall and Piggin (2001) also asked the site managers if the increase in visitor numbers at their site was greater than in the surrounding region. Most sites did not have data for this, but 7 natural sites and 5 cultural sites reported that their increase in visitor numbers was greater than in the surrounding region.

Six Canadian World Heritage Sites were included in the Hall and Piggin survey, and four reported an increase in visitor numbers: Gros Morne (26–30%), Nahanni (6–10%), Dinosaur Park (6–10%), and Canadian Rocky Mountain Parks (11–15%). Only Kluane and Waterton did not report an increase in visitor numbers, and at the time of the survey, Waterton had only been a World Heritage Site for two years, so it may have been to early to tell. Gros Morne, Dinosaur Park, and Canadian Rocky Mountain Parks reported that their increase in visitor numbers was greater than in the surrounding region.

PricewaterhouseCoopers (2007c) looked at 10 World Heritage Sites in the UK, and found that only the three less famous sites (Blaenavon, Greenwich, and Kew) showed significant increases in visitor numbers after the UNESCO designation. On average, they estimated that there was a 0–3% increase in visitor numbers. Interestingly, when PricewaterhouseCoopers (2007b) surveyed 1660 of the residents at these World Heritage Sites, 70.6% of them thought that there were more tourists because of the status. A similar trend is seen at the Jurassic Coast World Heritage Site, where 75% of stakeholders felt that tourism increased since inscription (Era 2008), while the actual data shows a decrease in tourism numbers at the site (along with the rest of the region).

Tourism at some sites increased dramatically after becoming a World Heritage Site. Tàrraco (Spain) claims that visitor numbers more than tripled in three years after becoming a World Heritage Site in 2000 (van der Aa 2005), and visitors to Blaenavon (Wales) have doubled since inscription in 2000 (ECOTEC 2010), although this may be attributed to other developments at the site that were not dependent on the UNESCO designation (Atlantic 2003). Mesa Verde National Park in the USA (Ambio 1983) and Shirakawa-mura in Japan (Jimura 2011) also experienced large increases in visitor numbers after becoming World Heritage Sites.

None of the studies listed above were particularly rigorous in their analysis of visitor numbers. Most are simply based on the opinion of the site manager, who may or may not have reliable data available. Most sites did not try to differentiate the impact of the UNESCO designation from other factors that might have influenced visitor numbers.

The few attempts to differentiate the impacts of World Heritage Site status from other factors were very superficial.

Unfortunately, this complete lack of reliable data has not stopped people from coming to very specific conclusions. A good example of this is the report done by Atlantic Consultants (2003), who predicted a 5-10% increase in tourists for the Cornish Mining World Heritage Site. However, this is just based on a guess from someone in the tourism industry, and the fact that the New Lanark World Heritage Site guessed that their visitation increased by 10%. Another example is Blacik (2007), who reports that World Heritage Sites in sub-Saharan Africa usually experience a 30% increase in tourism in the first year after inscription, but bases this entirely on the opinion of a UNESCO official.

A few more statistically rigorous studies on visitor numbers

There have been a handful of more statistically rigorous studies that examined the impact of World Heritage Site status on visitor numbers. Nicot and Ozdirlik (2008) compared visitor numbers at two World Heritage Sites in Turkey to two control sites, and did not find a significant effect of the UNESCO designation. Talandier (2008) looked at visitor numbers at five sites in France, before and after they became World Heritage Sites, and did not find a statistically significant difference. Soares *et al.* (2007) did a comparative analysis of tourist numbers at two palaces in Sintra, Portugal, before and after it became a World Heritage Site. They did not find detect a change in tourist numbers, but had difficulties in obtaining concrete data.

Buckley (2002 and 2004) compared visitor numbers at six World Heritage Sites in Australia to control sites. He found that significantly more visitors went to the World Heritage Sites than to the control sites, but he also found that the World Heritage Sites had attracted more visitors even before they received their UNESCO designation. He did not find any evidence that the higher number of visitors at the World Heritage Sites was due to their UNESCO designations, and not to the inherent qualities of the sites. Buckley noted that there may have been an effect of the UNESCO designation that he could not detect, because some the data necessary for his analysis either did not exist or was unreliable. He recommended that, given the inadequacy of the data, the best way to estimate the effect of the UNESCO designation would be to survey tourists for their stated preferences.

Possibly the most powerful analysis on the effect of UNESCO designation at a World Heritage Site was done by VanBlarcom *et al.* (2009) on Old Town Lunenberg in Nova Scotia. VanBlarcom *et al.* used a linear regression model to control for the effects of general tourism in Nova Scotia, inflation, the Canadian exchange rate, and major tourism events, and found that Lunenberg experienced a 6.2% increase in visitor numbers as a result of becoming a World Heritage Site in 1995. This report represents a second such example, and I use a similar statistical model to suggest that Waterton National Park in Alberta experienced a 4.6% increase in visitor numbers as a result of becoming a World Heritage Site in 1995.

4.3.2 Determining effect of designation by surveying tourists

Another way to determine the impact of World Heritage Site status on visitor numbers is to survey tourists and ask them how influential the UNESCO designation was in their decision to come to the site. Surveys of stated preferences have some inherent

inaccuracies, because people may not have an accurate understanding of their own preferences, and their responses will be affected by the survey itself. However, given the difficulties in using the actual data for visitor numbers to determine the effect that UNESCO designation has on tourism, surveys of stated preferences may be a viable option.

There have been several different surveys of tourists at various World Heritage Sites across the world. Not surprisingly, the influence of the UNESCO designation seems to vary widely between sites.

World Heritage Site status has been found to have a significant influence on visitors at several different sites. Fifty percent of tourists surveyed at two palaces in Sintra, Portugal said the World Heritage Site status affected their decision to come (Soares *et al.* 2007). In a survey of tourists at the Kamchatka World Heritage Site (Russia), 35.3% of tourists said that the UNESCO designation had some influence on their decision to visit the site, and 8.4% said it was most important factor (Ostergren and Madson 2008). Yan and Morrison (2008) interviewed tourists at three World Heritage Sites in China, and 27.9% of them said they had been influenced by the UNESCO designation, with about one third of those being strongly influenced.

World Heritage Site status seems to have been less important for tourists at some other sites. A survey at the Jurassic Coast World Heritage Site found that the designation was the primary reason for visiting the site amongst 0.7% of tourists, and a secondary factor for 15.8% (PricewaterhouseCoopers 2007c). At the Tower of London, a survey found that 3% of domestic and 1% of international tourists were partly motivated by the UNESCO designation (PricewaterhouseCoopers 2007c). Perhaps the smallest impact of World Heritage Site status was found in a survey at Cahokia Mounds (USA) found that only 0.25% of visitors had considered its UNESCO designation (van der Aa 2005).

There have been two other surveys that used a slightly different approach to determine the value of World Heritage Site status. Kim *et al.* (2007) surveyed visitors to find out what they would be willing to pay for admission to the Changdeok Palace World Heritage Site in Korea, in order to measure how much tourists valued the site. They found that ten years after the inscription, people were willing to pay 2.5 times more than what they were actually charging. Wall Reinius and Fredman (2007) surveyed tourists at three protected areas in Sweden, and found that the National Park label was a much more alluring brand to tourists than the World Heritage Site label. It was more strongly associated with desirable and protected natural phenomenon.

4.3.3 Changing types of tourists

World Heritage Site status can have other impacts on tourism besides just affecting the total number of visitors. The UNESCO designation can also affect the type of tourist that visits the site. There have been several studies showing that World Heritage Site status can increase the proportion of international tourists at a site. This has been documented for various World Heritage Sites in the USA, Australia, Russia, and across the world. These international tourists are more likely to stay longer and spend more money than domestic tourists (ERS 2006, van der Aa 2005).

According to Yeager (1999), there is evidence that World Heritage Site status increased the relative proportion of international tourists at parks in the USA. A survey by van der Aa (2005) of 54 sites across the world found that two-thirds of them

experienced a greater increase in international visitors than domestic visitors after they became World Heritage Sites, a trend that was particularly evident for sites in the USA. Buckley (2002, 2004) looked at six World Heritage Sites in Australia, and found that the proportion of international visitors rose steadily after they received their UNESCO designation. Foreign tourists at the Kamchatka World Heritage Site in Russia were more likely than domestic tourists to say that the UNESCO designation influenced their decision to visit the site (Ostergren and Madson 2008). Although there is no hard data for changes in visitors at Joggins Fossil Cliffs (Nova Scotia), it has been reported that the portion of international visitors increased after inscription (ICON 2009).

Two other studies have also indicated that different types of tourists can have different economic impacts on a site. Kerstetter *et al.* (2001) found that heritage tourists in Pennsylvania tended to be more highly educated, have higher average annual incomes ($42,133 vs. $41,455), stay longer (4.7 vs. 3.3 nights), and spend more money per trip ($615 vs. $425). Yan and Morrison (2008) interviewed tourists at three World Heritage Sites in China, and found that the tourists that were aware of the UNESCO designation were much more likely to revisit the site.

World Heritage Site status may often attract higher value tourists, but there is at least one example indicating that this is not always the case. In a survey at the Tower of London, domestic tourists were three times more likely than international tourists to say that the UNESCO designation partly motivated their trip (PricewaterhouseCoopers 2007c). This may be because the Tower of London is already internationally famous, and does not use its UNESCO designation for marketing.

4.3.4 Economic changes from increased tourism

It is apparent that some World Heritage Sites have used their UNESCO designation to increase their number of visitors, and the amount that those visitors spend. Numerous authors have assumed that this increase in visitor numbers at UNESCO World Heritage Sites will inevitably cause damage to the site (e.g. Nadeau 2006; Breen 2007; Blacik 2007). However, other authors have focused on the potential economic benefit of this increase in tourism.

Atlantic Consultants (2003) guessed that visitor numbers at the Cornish Mining World Heritage Site would increase by 5% as a result of the UNESCO designation, and they used input-output models to calculate the economic impact of this increased tourism. In these models, multiplier factors are used to account for the fact that tourist money spent in the area will often be recycled through the local economy several times. They predicted that in the five years after becoming a World Heritage Site, visitor expenditure increase by 4.6% and full-time equivalents employed directly and indirectly by tourism would increase by 4.5%.

The most detailed overview of the economic impacts of World Heritage Site status that were actually experienced at a single site was done for the Jurassic Coast World Heritage Site. Era (2008) conducted a survey five years after the UNESCO designation, and over 90% of respondents from the tourism industry felt that they had seen a positive effect on tourism, particularly in the shoulder seasons, and in changing the type of tourist. As well, 40 businesses and organizations (13% of the sample) reported that they had created employment as a "direct result" of the new Jurassic Coast World Heritage Site identity, which amounted to more than 50 part-time jobs equal to 20 full-

time equivalent positions. In addition to helping existing businesses, several new tourism businesses had started up, focusing specifically on World Heritage status (Cochrane 2008; Rebanks 2009).

There have been numerous other reports of economic benefits arising from increased tourism at World Heritage Sites. Some of these are listed below.

- In a survey of 1660 residents around six World Heritage sites in Britain, 72.3% of respondents thought that the benefits of tourism in the local area outweighed the costs (PricewaterhouseCoopers 2007b).
- A survey of 46 World Heritage Site managers in OECD countries found that 57% thought their World Heritage Site status had been positive for tourism (Hall and Piggin 2001).
- Rebanks (2009) reported that 79% of local businesses around the Hadrian's Wall World Heritage Site (England) thought that the UNESCO designation was very important for their business success.
- A survey of businesses close to the two World Heritage Sites in New Zealand found that half of the businesses thought the status had a positive effect on them, and 70% thought it had a positive effect on the region as a whole (Hall and Piggin 2002).
- The number of bed & breakfasts in New Lanark (Scotland) increased from 2 to 20 after it became a World Heritage Site (Atlantic Consultants 2003).
- The Minister of Culture for Croatia reported that the Plitvice Lakes World Heritage Site has had important economic impacts on the two nearby counties (Bojić 2007).
- Jones and Munday (2001) report World Heritage Site status at Blaenavon (Wales) attracted 20 million pounds of improvements to tourism infrastructure, which they anticipated would support 150 full-time equivalents worth of jobs.
- In a survey of residents around the Ogimachi World Heritage Site in Japan, 47.3% thought that the variety of businesses in the community had increased.
- The UNESCO Biosphere designation has also been reported to have a positive impact. The Wolong Biosphere Reserve in China has provided employment in the conservation and hospitality industries (Lu *et al.* 2006), and Fremuth (2004) reports that the Biosphere designation of the Rhoen Region in Germany is being taken advantage of by locals, and has been a social and economic success.

Not all sites have experienced visible economic changes from becoming a World Heritage Site. Vahtikari (2006) reports that the total number of shops in the Old Rauma World Heritage Site (Finland) has remained unchanged, although the structure of commercial services is becoming more tourist-oriented. Although VanBlarcom *et al*. (2009) reported that tourism increased by 6.2% at Lunenberg (Nova Scotia) after it became a World Heritage Site, Kelco (2009) found no clear indication that this had any major impact on the business environment in the community. Prud'homme (2008) synthesized three different studies on the economic impact of World Heritage Site designation (Gravari-Barba and Jacquot 2008; Nicot and Ozdirlik 2008; and Talandier 2008), and concluded that the impact of World Heritage status on local development is largely exaggerated.

4.3.5 Impact of World Heritage status depends on the fame of the site

Sites that are already internationally famous are less likely to experience an increase in visitor numbers after becoming a World Heritage Site. In a survey of 81 World Heritage Sites across the world, the sites that were already well-established tourist destinations did not report an increase in visitor numbers (van der Aa 2005). PricewaterhouseCoopers (2007c) looked at 10 World Heritage Sites in the UK, and found that only the three less famous sites (Blaenavon, Greenwich, and Kew) showed significant increases in visitor numbers after the UNESCO designation. These less famous sites were also more likely to use World Heritage Site branding in their marketing.

However, there may be a minimum level of fame that is required for a site to benefit from World Heritage Site status. Kelco (2009) noted that sites that had not previously attracted tourists normally do not see an increase in economic activity after becoming a World Heritage Site.

4.4 Other benefits of World Heritage Site status

4.4.1 Increased partnerships

Numerous World Heritage Sites in the UK have mentioned increased partnerships as a benefit of their UNESCO designation (PricewaterhouseCoopers 2007c). This is not necessarily a benefit in itself, but it is important for facilitating other benefits, like increasing access to resources and expertise, and improving accountability. PricewaterhouseCoopers (2007c) found that the improved partnerships often included stakeholders that were not previously considered, and made it more likely that all stakeholders were consulted over new developments. There was a significant tangible link between improved partnerships and increased funding, and a few examples where partnerships generated through the World Heritage status generated new activities in other areas. These partnerships also represented a cost, and were often scaled back after the nomination process was complete, in order to reduce ongoing management costs. PricewaterhouseCoopers also noted that sites which already had good partnerships before becoming World Heritage Sites did not necessarily see any additional benefits.

The Jurassic Coast World Heritage Site is a good case study of the benefits that can come from the increased partnerships that resulted from UNESCO designation. Era (2008) surveyed stakeholders and residents of the Jurassic Coast, and found that 68% thought that the World Heritage Site had prompted some increased partnership working. It is felt that these new partnerships have created opportunities for the community by inspiring public, private, and voluntary sector organizations to develop projects, and by encouraging businesses to support social and economic development (JCWHT 2007; Cochrane 2008). One example of this is that the partnerships have resulted in an annual festival, which brings in 7000 people each year (Era 2008).

4.4.2 Increased funding opportunities and investment

Although becoming a World Heritage Site generally does not guarantee access to public funding, many sites have reported getting more funding as a result of their UNESCO designation. PricewaterhouseCoopers (2007c) found that additional funding was one of the largest benefits seen by World Heritage Sites. This was also one of the

main benefits to UNESCO designation that the UK National Commission for UNESCO identified in their 2010 report. ERS (2006), Hambrey (2007), and Rebanks (2009) all reported many other examples of World Heritage Sites in the UK receiving more funding after their UNESCO designation. However, Marsden (2008) pointed out that most of the additional funding for World Heritage Sites comes from public sources, so the designation is not actually creating more funding, it is just redirecting it away from other sources.

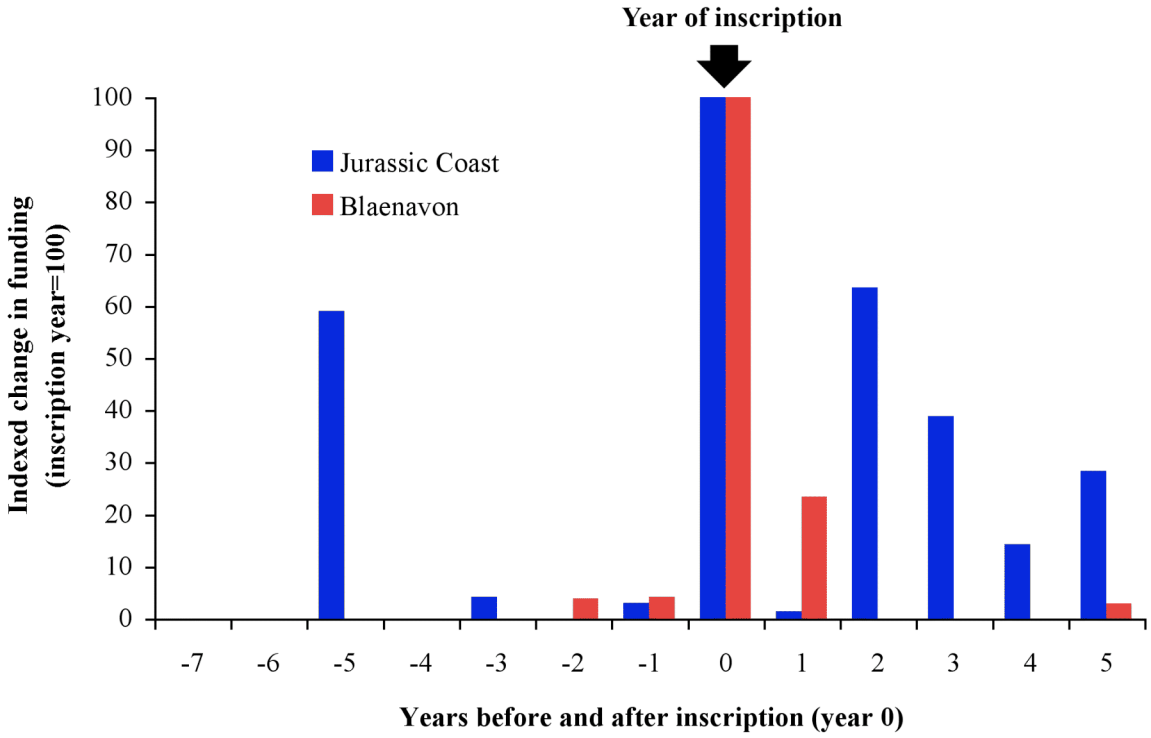


Figure 4.2. Public funding from the Heritage Lottery Fund received by Jurassic Coast and Blaenavon, before and after being inscribed as a World Heritage Site. The Heritage Lottery Fund is major funder for World Heritage Sites in the UK. Data from PricewaterhouseCoopers (2007c).

The Jurassic Coast World Heritage Site is a notable example of increased access to funding. They received large amounts of funding in the five years after becoming a World Heritage Site (JCWHT 2007). Blaenavon (Wales) also received substantial funding when it became a World Heritage Site. Public funding for the Jurassic Coast and Blaenavon is shown in **Figure 4.2**. The Ironbridge Gorge World Heritage Site (England) did not receive many extra tourists from its UNESCO designation, but it did benefit from having a co-ordinator and management plan, which helped to secure additional funding (Atlantic Consultants 2003). Other sites in the UK that have reported substantial increase in funding after becoming a World Heritage Site include Derwent Valley Mills (Atlantic Consultants 2003), Greenwich (CMWHS 2001), and Hadrian's Wall (CMWHS 2001).

World Heritage Site status may increase funding from private sources as well as public. PricewaterhouseCoopers (2007b) surveyed 1660 residents of six World Heritage Sites in Britain, and found that 53.8% of respondents thought that local investment had

increased as a result of the UNESCO designation. This was even higher in the most remote location surveyed, Blaenavon, where 80.3% thought that local investment had increased. Derwent Valley (England) claims that becoming a World Heritage Site in 2001 was a factor in attracting vital inward investment by firms like Toyota (CMWHS 2001). It has also been reported that World Heritage Site status has played a role in attracting private investment for Greenwich (Smith 2002) and the Jurassic Coast (Cochrane 2008).

4.4.3 Opportunities for education and research

World Heritage Site status has the potential to open up many opportunities for education and research. ERS (2006) noted that there are many examples of World Heritage Sites having school programmes and even university-level involvement. However, PricewaterhouseCoopers (2007b) found that although there were usually educational activities at World Heritage Sites in the U.K, these activities usually pre-dated the UNESCO designation. Blaevanon (Wales) was one example where the number of school groups did increase after becoming a World Heritage Site

The Jurassic Coast World Heritage Site is a good example of how the UNESCO designation can improve the educational potential of a site. In the five years after it became a World Heritage Site, the status inspired more than 300 teachers to use the site in their curriculum (JCWHT 2007). In a survey conducted by Era (2008), 80% of respondents from the educational sector thought that the educational market had increased since UNESCO designation. This was particularly prevalent in the off-season.

There can also be educational benefits for local residents from World Heritage Site status. In their survey of 1660 residents of six World Heritage Sites in the U. K., PricewaterhouseCoopers (2007b) found that 42% of residents thought the status made them more interested in learning about the site, and 38% thought that they had learned new things because of it. The newer World Heritage Sites seemed to have more educational benefit. At the two most recent sites, 49% of residents thought that they were more interested in learning about it, and 48% said they had learned new things.

World Heritage Site status can also stimulate scientific research in an area. The Joggins Fossil Institute noted that there had been an increase in scientific publications on Joggins Fossil Cliffs since they began working on their World Heritage Site nomination (McNeish 2007).

4.4.4 Social benefits to the community

Some World Heritage Sites can build community pride and increase social capital. These are intangible benefits, but they could be very important to help develop community organizations and local leaders, create more community events, and increase investment in the local economy.

PricewaterhouseCoopers (2007b) surveyed 1660 residents at six World Heritage Sites in the UK, and found that many residents thought that the World Heritage Site status had brought a variety of social benefits to their community. In addition, four of the communities had events celebrating the World Heritage status, which stakeholders highlighted as a significant activity for building social capital and community cohesion. Some of the survey's interesting results on how the residents thought the World Heritage

Site status had impacted their community are summarized below, and shown in **Figure 4.3** and **Figure 4.4**.

- 45% of respondents thought that World Heritage status had provided an important common bond in the local community.
- 11.6% said they had become more involved in the community as a result of it.
- 23.7% said it had given them more opportunities to meet other local people.
- 79.5% said the World Heritage Site status made them proud of their local area.
- 13.5% said it was an important factor in their decision to live in the area.

The Jurassic Coast World Heritage Site is another site that experienced some social benefits from its UNESCO designation. Cochrane (2008) thought that there had been a significant boost to the morale of the community. Era (2008) found that 94% of the people they surveyed thought that there was some value to the new identity of the area as the Jurassic Coast World Heritage Site, and that 82% thought that this identity had a positive impact on confidence in the area and the local economy.

Numerous sites have developed community events as a result of their World Heritage Site status. Derwent Valley Mills, Greenwich, and Hadrian's Wall have all developed events specifically for local people as well as visitors (ERS 2006). The Jurassic Coast has also started an annual festival (Era 2008). These events can improve social capital in the community.

The Norwegian fjords of Geirangerfjord and Nærøyfjord have also seen some social benefits from becoming a World Heritage Site. Hambry (2007) reports that the nomination for the World Heritage Site was developed over 10 years with full participation of the local authorities and representatives from the villages, and this process generated a high level of local enthusiasm for the World Heritage Site status. According to Hambry, the UNESCO designation "has given these remote communities increased status and a higher profile, and has contributed to their sense of local pride."

Several other researchers have noted that World Heritage Site status can change residents' perception of their own community. Joggins Fossil Cliffs (Nova Scotia) reported that becoming a World Heritage Site has increased community pride, and that residents have gained an understanding and appreciation for World Heritage and their community's place in it (ICON 2009). Smith (2002) reported that World Heritage Site status at Greenwich had symbolic value for the residents, and brought prestige. According to Vahtikari (2006), when Old Rauma in Finland became a World Heritage Site, it did not bring vast international fame, but it did change how the locals perceived their own community. He thought that the increased tourism had increased the locals' appreciation for their community. Jimura (2011) surveyed residents around the Ogimachi World Heritage Site in Japan, and 64.0% of the respondents said that the World Heritage Site status had increased their pride in their community.

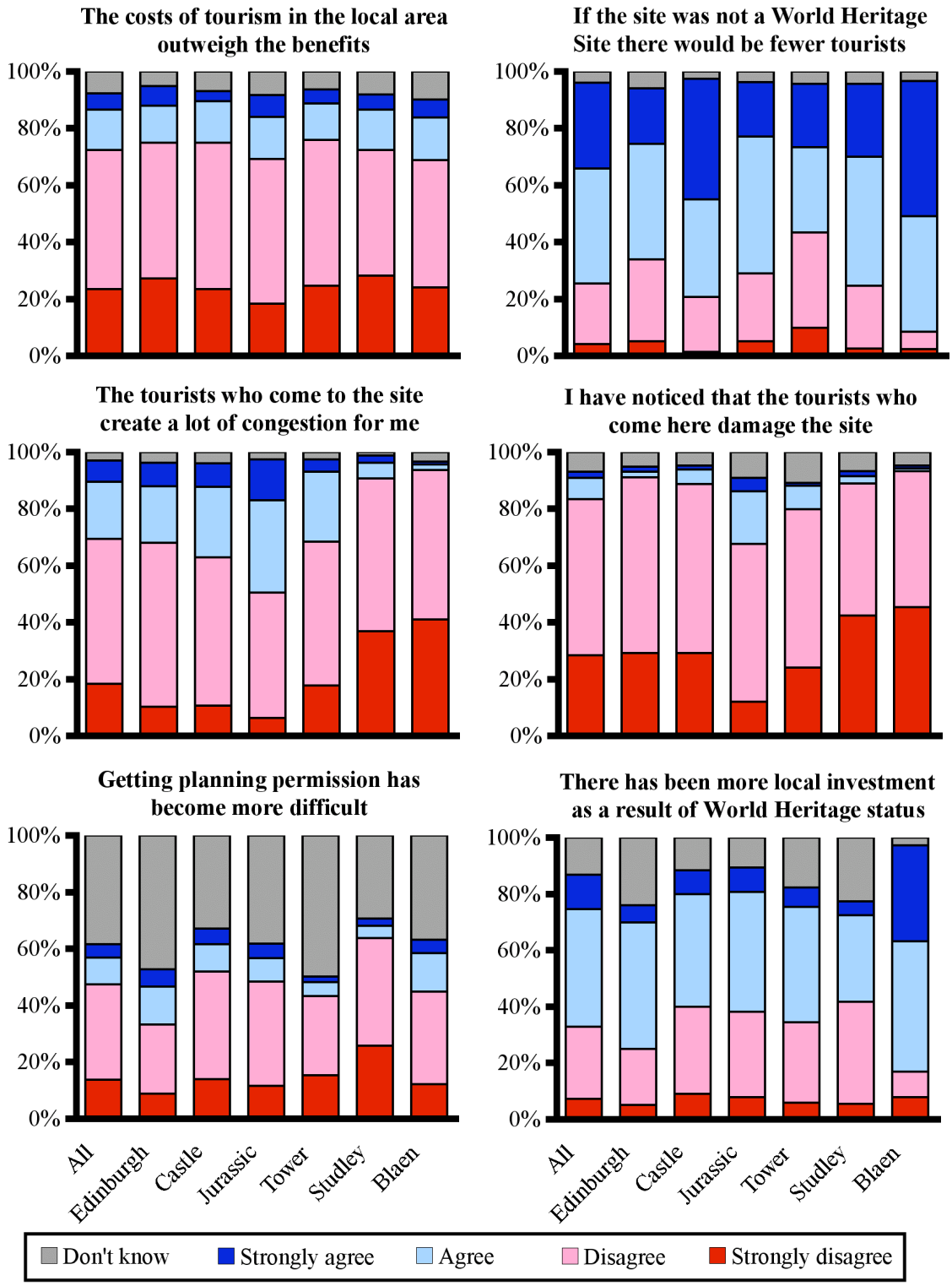


Figure 4.3. Results of the PricewaterhouseCoopers (2007b) survey of 1660 residents at the Edinburgh (n=216), Castles of King Edward (n=363), Jurassic Coast (n=420), Tower of London (n=203), Studley Royal Park (n=163), and Blaenavon (n=295) World Heritage Sites, for their opinions on the effect of World Heritage Site status on their community.

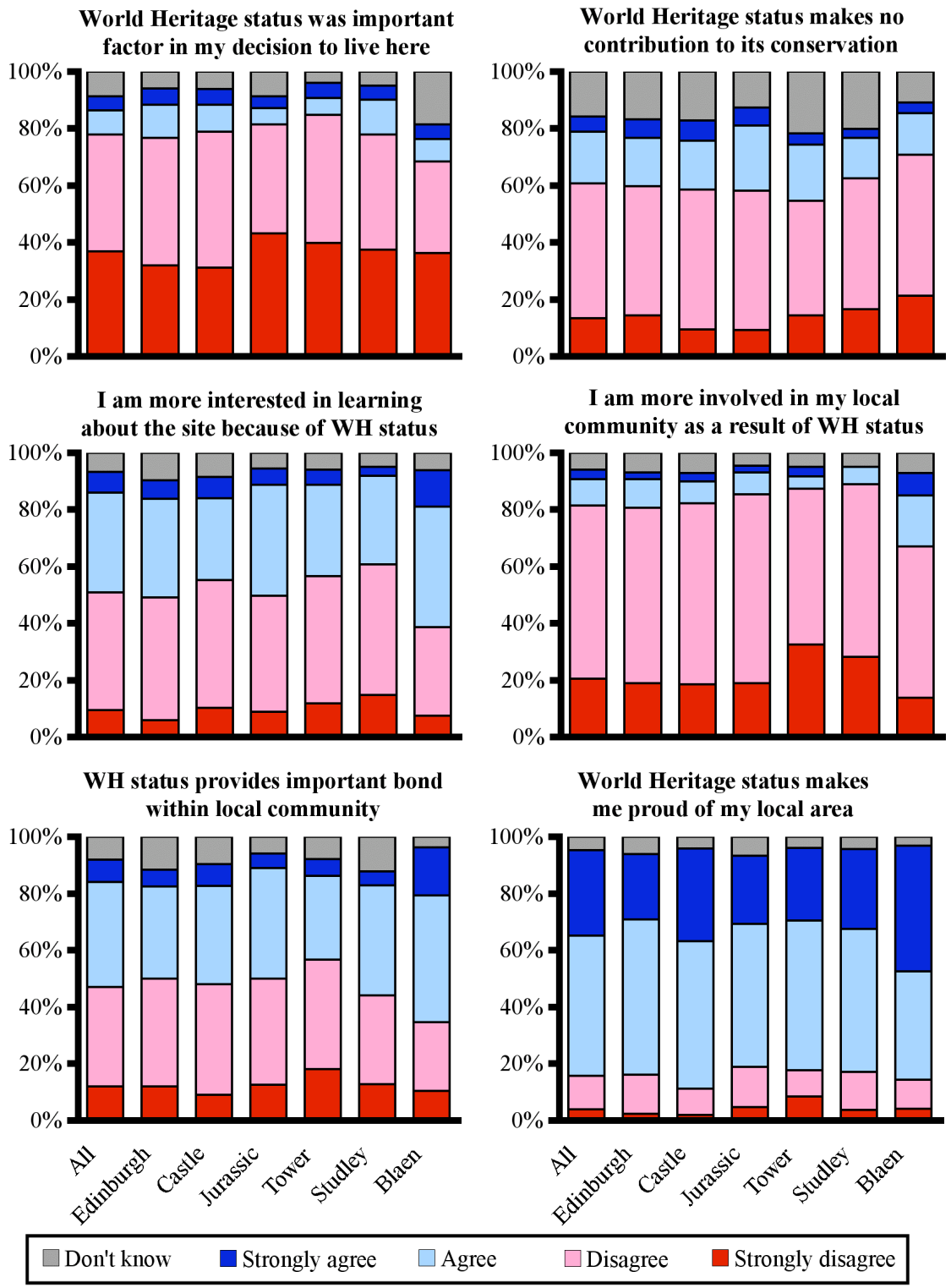


Figure 4.4. Results of the PricewaterhouseCoopers (2007b) survey of 1660 residents at the Edinburgh (n=216), Castles of King Edward (n=363), Jurassic Coast (n=420), Tower of London (n=203), Studley Royal Park (n=163), and Blaenavon (n=295) World Heritage Sites, for their opinions on the effect of World Heritage Site status on their community.

4.4.5 Improvements to the conservation of the site

Statutory protection for the site

World Heritage Site status does not provide any additional legal protection for a site. The site must prove that it is already adequately protected by its governing authority before it will be accepted as a World Heritage Site. In most cases in the developed world, the prospective site is already protected before anyone considers nominating it as a World Heritage Site. Because of this, the World Heritage Site status often does not result in additional legislative protection.

In some instances, the UNESCO requirements for the integrity of the site may mean that additional areas must be added to the protected area, or that buffer zone needs to be created. In these cases, the process of developing the World Heritage Site nomination could result in additional protection for the site.

Benefits from increased awareness and better management

The main conservation benefits of becoming a World Heritage Site may be that it brings international attention to the area. The increased political awareness and public scrutiny can result in conservation being taken more seriously and statutory protection being applied more strictly. Also, as of 1996, UNESCO requires that all new World Heritage Sites have comprehensive management plans. This highlights conservation objectives, and can increase awareness of conservation goals and their importance.

There are numerous examples of potential developments being subjected to more scrutiny as a result of the World Heritage Site status. However, the Jurassic Coast World Heritage Site is the only example that I know of where development applications have actually been rejected because of the UNESCO designation. Cochrane (2008) reports that planning departments have used the UNESCO status of the Jurassic Coast as the rationale for rejecting development applications that would have damaged the site.

Changing perception of residents

World Heritage Site status can also change public perceptions towards conservation. A survey of locals around the Ogimachi World Heritage Site found that 66.0% of respondents thought that the level of interest of local people in conservation had increased as a result of the World Heritage Site status (Jimura 2011). Unfortunately, only 12.6% of these respondents thought that the actual level of conservation had increased, and 44.6% thought it had decreased. Residents of British World Heritage Sites seemed to have a higher opinion of the conservation value of the designation. The PricewaterhouseCoopers (2007b) survey found that 60.7% of World Heritage Site residents thought that the UNESCO designation had made a contribution to the conservation of the area.

Actions of the World Heritage Committee

If the protection that a World Heritage Site is supposed to have fails, and the World Heritage Committee determines that it is not being adequately protected, it can place the site on the List of World Heritage in Danger. This is meant to increase the international awareness to the threat and to encourage counteractive measures. If no

action is taken to correct the conservation issues, the site can be removed from the World Heritage List.

There have been 58 World Heritage Sites (including 28 natural sites) placed on the List of World Heritage in Danger, and the conservation issues have since been addressed at 22 of them (including 10 natural sites). The remaining sites still have outstanding conservation issues. The majority of these remaining sites have remained on the List of World Heritage in Danger, but two of them have actually been removed from the World Heritage List. These are the Arabian Oryx Sanctuary in Omen (removed in 2007) and the Dresden Elbe Valley in Germany (removed in 2009). Most of the natural sites on the List of World Heritage in Danger are there because of poaching and deforestation, although some are there because of urban and agricultural development, mining, or dam projects.

The fact that 37% of sites placed on the List of World Heritage in Danger eventually have their conservation issues addressed indicates that this process has some value. The threat of being removed from the World Heritage List may also carry some weight. Although a 56% of Dresden residents were okay with loosing their UNESCO designation, there were still many residents who would have preferred a different option (Connolly 2009).

4.4.6 Potential benefits even in failure

PricewaterhouseCoopers (2007c) noted that a lot of the benefits of World Heritage Site status arose from the process of developing the nomination, and not from the actual designation. Even if a nomination bid is not successful in gaining World Heritage Site status, the journey itself can be expected to provide some benefits as a result of the improved partnerships, management plan, extra publicity, and potential for additional funding that is generated by developing the nomination.

The nomination of the New Lanark World Heritage Site in Scotland was rejected by the World Heritage Committee in 1986, but the site still experienced an increase in profile and tourism as a result of the nomination bid (Atlantic Consultants 2003). It finally succeeded in becoming a World Heritage Site in 2001.

4.5 Taking advantage of World Heritage Site status

The benefits of becoming a World Heritage Site do not happen automatically, and require considerable investment of resources. PricewaterhouseCoopers (2007c) noted that the economic regeneration benefits of World Heritage Site status were mostly found in areas where regeneration was a motivation behind becoming a World Heritage Site, and the stakeholders have put energy into it. They also found that tourism was more likely to increase if the motivation had been to increase tourism.

The idea that the motivation of a World Heritage Site is an important factor in determining the benefits that it will produce is expanded upon by Rebanks (2009). They reviewed all of the sites on the World Heritage List, and divided them into four categories based on their motivation for becoming World Heritage Sites:

1. A celebration or reward for heritage already preserved
2. To get emergency attention for a unique heritage at risk
3. As a marketing logo to increase tourism
4. As a catalyst for socio-economic development

Rebanks found that the impact of World Heritage Site status varied considerably between the sites in the different categories, with only sites in the last two categories experiencing increased tourism and a socio-economic benefit for the community. They concluded that it was not the World Heritage Site status itself that produced the benefits, rather it was the motivations and actions of the management organization and stakeholders. They thought that it was possible to use the status as a vehicle of economic development, but that there needed to be a community with a population and businesses living in it, and the site needed to be developed to maximize the economic impact.

It is a relatively new motivation to use World Heritage Site status to increase tourism and produce socio-economic benefits for the community. This motivation began in the mid-1990s, and is restricted to Europe, North America, and Australia/New Zealand. Rebanks (2009) found that only a small minority, maybe 5-10%, of World Heritage Sites had these motivations, and even a smaller minority had moved beyond aspirations to actually significantly invest in these goals. They concluded that there were perhaps less than 20 sites across the world that had actually tried to achieve socio-economic benefits from becoming World Heritage Sites.

There is definitely a higher percentage of World Heritage Sites that make some use of their UNESCO designation in their marketing. In a survey of 46 World Heritage Site managers in OECD countries, Hall and Piggin (2001) found that 63% used the designation to help promote the site to tourists. However, Rebanks (2009) felt that most of these efforts were inadequate. This sentiment seems to be echoed by PricewaterhouseCoopers (2007c) who concluded that it was unclear whether the level of marketing undertaken by World Heritage Sites in the UK had any significant effect on its tourism numbers.

Rebanks (2009) did a detailed analysis of 14 sites that they felt were examples of best practice for socio-economic development, and found that most of them were experiencing significant benefits from the UNESCO designation. The Canadian Rocky Mountain Parks, Jurassic Coast (England), and Laponia Area (Sweden) were the only natural World Heritage Sites that they included. Head-Smashed-In Buffalo Jump, a cultural site in Alberta, was also one of the sites identified.

The Canadian Rocky Mountain Parks World Heritage Site was not originally focused on economic development when it received its UNESCO designation in 1984. However, starting in the mid-1990s they started to make use of their World Heritage Site status. Rebanks (2009) reports that the World Heritage Site status encouraged residents to think about how visitors experienced their communities and landscape, and it was a catalyst for the creation of two organizations: The Interpretive Guides Association and The Banff Heritage Tourism Corporation. Acccording to Rebanks (2009), these factors have helped to maintain high standards for visitor experience and resulted in much more prominence with international and Canadian travel writers, with the parks being given greater coverage in popular travel guides. This has helped to attract high-value tourists.

The Laponia Area World Heritage Site in Sweden has well-organized marketing that sells high-value tourist packages that are based on both the cultural and natural aspects of the site. Rebanks (2009) reports that this has been a success in making this remote area a tourist destination for international, high-value tourists.

Many of the significant economic benefits experienced at the Jurassic Coast World Heritage Site could probably be attributed to the amount of effort that has been put

into achieving those benefits. More than 300 businesses have received special training on how to benefit from the World Heritage Site status (JCWHT 2007), and 76% of tourism operators had changed their marketing to take advantage of the status (Era 2008).

Most World Heritage Sites are not as pro-active as the Jurassic Coast. Hall and Piggin (2002) surveyed businesses close to the two World Heritage Sites in New Zealand, and found that less than half of the businesses were using their proximity to a World Heritage Site in their promotions. There are many other examples of World Heritage Sites that have not taken advantage of their UNESCO designation, and therefore have not experienced any benefits. The Ironbridge Gorge in England (Atlantic 2003) and Giant's Causeway in Northern Ireland (Hambry 2007) have both been noted as sites that have not experienced any economic or social benefits from their World Heritage Site status, because they have not invested resources to take advantage it.

It is not just marketing that is required to fully realize the benefits of World Heritage Site status. ERS (2006) noted that social and community benefits from World Heritage Site status are dependent on good communication and positive exploitation. Ying and Zhou (2007) highlight a good example of this in their comparison of two different villages that are World Heritage Sites in China. In one village the tourism is run by an outside corporation, in the other it is run by the community. Not surprisingly, the village with the community-run tourism has produced much more income, jobs, and investment for the community.

4.6 The benefits of becoming a Global Geopark

The Gobal Geopark Network is a recent UNESCO programme, started in 1998, and until very recently it has been almost entirely restricted to Europe and China. As a result, there is very little research on the specific benefits of the Global Geopark designation, and none of this has been in North America. However, both Global Geoparks and World Heritage Sites are UNESCO designations with international recognition. This means that the two designations will provide similar benefits. However, there are a few differences between Global Geoparks and World Heritage Sites, and these will undoubtedly have some effect on the potential benefits of the two different UNESCO designations.

4.6.1 Geoparks may provide more opportunities for education, research, and sustainable development

World Heritage Site status is mainly focused on recognizing Outstanding Universal Value, and ensuring that this value is protected. As a result, this is probably what World Heritage Status does best, and some studies have recommended that it may not the best designation to pursue if the main motivation is economic development (e.g. PricewaterhouseCoopers 2007c; Marsden 2008).

Global Geoparks, on the other hand, have an explicit focus on local sustainable socio-economic development, and promoting a tourism product. A marketing plan is actually a requirement for becoming a Global Geopark (GGN 2009), and Geoparks are also required to use the Geopark label in their marketing (Eder and Patzak 2004).

Geoparks also have a strong focus on promoting scientific research and environmental education. A Geopark is required to have environmental education programmes and strong research potential, and it should have connections with university-level research (GGN 2009).

The purpose of the Global Geoparks Network is for co-operation and exchange of information so that sites can better promote research, environmental education, and sustainable development (Patzak and Eder 1998). The focus of Geoparks on sustainable economic development, research, and environmental education, and the resources that the network provides to help with these goals, may mean that Global Geopark status can provide more benefits in these areas than World Heritage Site status.

4.6.2 Geoparks may provide less conservation benefits

Although Global Geoparks must be protected, they have less emphasis on conservation than World Heritage Sites, and less complex management requirements (Hambry 2007). This may result in a Geopark experiencing less conservation benefits than a UNESCO World Heritage Site. Geoparks are required to protect associated areas of ecological value (GGN 2008), but they are not based on biological resources, so these areas are not the focus of the protection. The Geopark is required to be large enough to protect the geological resource, and be useful for research, education, and tourism (GGN 2008).

The boundaries of a World Heritage Site, however, must protect the integrity of the site. The UNESCO requirements for integrity are quite strict, and require the site to contain all or most of the key elements of value and be of sufficient size to protect them. If a World Heritage Site is inscribed under ecological as well as geological criteria, it will probably be required to include more areas and have greater protection than a Geopark. If the World Heritage Site is only inscribed under geological criteria, its boundaries and protection may not be much different than what would be required for a Geopark, although historically the World Heritage Committee has been very stringent in their interpretation of what is required for the protection and integrity of a natural World Heritage Site (van der Aa 2005).

4.6.3 Some other differences between Geoparks and World Heritage Sites

Hambry (2007) has suggested that the less complex management requirements for Geoparks may result in fewer partnerships being formed as a result of the designation, and less community consultation. This may reduce some of the social benefits that would otherwise be created as a result of the management of World Heritage Sites.

4.6.4 Evidence for the benefits of Geoparks

The Global Geoparks Network is a recent initiative, and it is too early to have much conclusive evidence on the impacts of this designation. However, some Geoparks do appear to be providing significant benefits for economic development, and education and research. Calnan *et al.* (2010) reports that visitor numbers to parks in some countries have increased by as much as 25% after they became members of the Global Geoparks Network. There have been some reports on the impacts of some Geoparks in Europe and China, and these are summarized below.

Geoparks in China

Xun and Ting (2003) have reported on the benefits experienced by Geoparks in China. There are several examples of Geoparks in China that have had dramatic increases in visitors after designation, which has created many more jobs in tourism and

hospitality, and generated a significant amount of income. There have also been several thematic research centres established, and the Geoparks have attracted many young students and leading scholars. Xun and Ting also note that the Geoparks have helped to popularize science, and increased the scientific content in the tourism industry.

Two British Geoparks

Hambry (2007) looked at the benefits experienced by North Pennines Geopark and Abberley and Malvern Hills Geopark in Britain. North Pennines Geopark has used their status to pull in substantial funding from outside sources, in order to implement an ambitious programme of education, interpretation and geotourism work. It has also been a valuable tool for putting on geology festivals. The Geopark has a system where local businesses may, with approval, use the Geopark logo in their promotions.

Abberley and Malvern Hills Geopark has a Geopark Partnership Management Team that meets regularly to ensure that the conservation, tourism, and educational aims of the Geopark are met. They think that visitors will increase, and that there will be an economic benefit, but it was designated too recently for there to be any conclusive evidence.

An Irish Geopark

McKeever *et al.* (2010) have reported that the Marble Arch Caves Global Geopark has been an economic development success. Fermanagh is a community in northwestern Ireland, which was struggling economically until they created this Geopark, which has become the tourist hub of the area and created a lot of employment.

A German Geopark

Härtling and Meier (2010) counted and interviewed tourists at the Geopark TERRA.vita in Germany, and estimated that tourists to the Geopark spent $16.8 million and provided jobs for 300 full-time equivalents. They did not attempt to determine how much of this benefit was due to the Geopark designation, and how much would have occurred regardless. However, they only counted and surveyed tourists engaged in activities that the Geopark promoted, so it seems likely that a good percentage of this benefit was from the Geopark designation.

A Greek Geopark

The Lesvos Petrified Forest Geopark in Greece is one of the initial members of the Global Geopark Network. After its last periodic review in 2007, the Global Geopark Network concluded that it was an example of best practice for a Geopark. Zouros (2010) reports that implementing the management plan for the Geopark has resulted in a significant increase in the number of visitors, many economic benefits to the local area, and an excellent research and education programme.

Some of the initiatives of the Geopark include collaborating with local artisans, promoting and selling local handicrafts and food, and organizing an annual agrotourism festival. As a result, the Geopark has made a substantial contribution to economic development in the area, and created a lot of employment. The hospitality and tourism industries in the area have grown dramatically since it became a Geopark.

The management plan for the Geopark has also initiated research on the geology of the area, and resulted in environmental education programmes for elementary and high school students, both from the local area and abroad. Several universities have begun organizing student visits, and now do fieldwork in the Geopark.

4.7 Summary of the benefits of UNESCO designation

Most studies on the benefits of becoming a World Heritage Site focus on the potential for increasing tourism. However there are a variety of other potential benefits, which can be divided into eight categories:

1. Increased tourism
2. Catalyst for economic development and regeneration
3. Stronger partnerships between stakeholders
4. More opportunities for funding, and greater private investment
5. Learning and education benefits, as well as research opportunities
6. Increased pride in local area, which can promote local investment
7. Community cohesion and social capital, e.g. developing community organizations
8. Better conservation of the site

The effect of World Heritage Site status on tourism

Although it is often assumed that a UNESCO designation increases visitor numbers, and many World Heritage Sites report that visitor numbers have increased, in most cases there is little data to support this claim. It seems as though people will often report an increase in visitors at a site after it becomes a World Heritage Site just because they feel there ought to have been an increase.

Visitor numbers at World Heritage Sites in the USA are increasing about twice as fast as at National Parks, although this trend may only be applicable to cultural sites. Many World Heritage Sites, including some natural sites both in Canada and elsewhere, report a modest increase in visitor numbers, and some sites report quite large increases, but most of the data is unreliable.

There have been very few studies that have attempted to differentiate the effect of the UNESCO designation from other factors that also influence visitor numbers. All of these studies have been hampered by a lack of data, and most have been unable to detect a statistically significant difference. Only two studies have been powerful enough to detect a change in visitor numbers as a result of becoming a World Heritage Site. The first study showed that visitor numbers at Lunenberg (Nova Scotia) increased by 6.2% when it became a World Heritage Site. The second study is in **Section 5** of this report, and indicates that Waterton Park (Alberta) experienced a 4.6% increase in visitor numbers from its UNESCO designation.

There have also been a few studies that attempt to estimate the effect of World Heritage Site status on visitor numbers by surveying the visitors for their stated preferences. The results vary widely between sites, with anywhere from 0.25% to 50% of tourists stating that the UNESCO designation influenced their decision to visit the site.

World Heritage Site status can also attract more economically valuable visitors. A disproportionate increase in international tourists has occurred at numerous sites after they became World Heritage Sites. These international tourists usually stay longer and

spend more money than domestic tourists, so they can have a large economic impact on the site.

Many World Heritage Sites have not experienced any economic benefits from the UNESCO designation. However, there are a few sites where the UNESCO designation has had a positive effect on local businesses, stimulated new businesses to start up, and created a significant amount of employment. Less famous sites are more likely to experience a benefit from the UNESCO designation.

Other potential benefits of becoming a World Heritage Site

The consultation required to prepare a nomination for a World Heritage Site and to manage it afterwards requires strong partnerships between stakeholders. These improved partnerships often create more funding opportunities, make it more likely that all stakeholders are consulted over new developments, and generate new projects that can benefit the community (e.g. annual festivals).

World Heritage Site status can open up more opportunities to apply for funding, and add weight to funding applications. There are many examples of sites receiving more funding after becoming World Heritage Sites, and this is often seen as one of the biggest benefits. The UNESCO designation can also increase private investment from corporations or individuals.

Many World Heritage Sites have school programmes and university involvement, although this often predates the UNESCO designation. However, some World Heritage Sites have successfully used their UNESCO status to market an educational product. The UNESCO designation can also inspire local residents to learn more about the site.

Residents at some World Heritage Sites feel that the UNESCO designation has provided a common bond in the local community, and some have become more involved in their community as a result of it. Some World Heritage Sites have community events to celebrate the UNESCO designation. The creation of a new identity as a World Heritage Site can change how residents perceive the site. There are many examples where World Heritage Site status has increased the pride that local residents feel for the site and their community, which could lead to a wide range of benefits.

World Heritage Site status often results in very little additional statutory protection for the site. World Heritage Sites are usually already protected. However, the designation does bring international attention to the area and requires the site to develop a management plan. This highlights conservation objectives and improves awareness of conservation goals and their importance. Potential developments are often subjected to more scrutiny, and there are examples of UNESCO status being used as the rationale for rejecting development applications that would have damaged the site. The UNESCO designation can also make local residents more aware and concerned about conservation issues. As well, sites can be placed on the List of World Heritage in Danger if they have conservation issues, which can increase international awareness to the threat and encourage counteractive measures. This is sometimes effective in correcting the problem.

It has been noted that many of the benefits of World Heritage Site status actually arise from the process of developing the nomination. Prospective sites can therefore see some of these benefits even if the World Heritage Committee rejects their nomination bid, and they do not become World Heritage Sites.

Taking advantage of World Heritage Site status

The benefits of becoming a World Heritage Site do not happen automatically, and require considerable investment of resources. Increased tourism and economic regeneration benefits are usually only seen at sites where this was motivation behind the nomination and the stakeholders have put energy into it.

Only a small minority of World Heritage Sites have invested the necessary resources to realize socio-economic benefits from their UNESCO designation, and most of these sites have seen a significant benefit. Some examples of best practice that may be relevant to Wells Gray Park and Area are Canadian Rocky Mountain Parks, Jurassic Coast (England), Laponia Area (Sweden), and Head-Smashed-In Buffalo Jump (Alberta). Some of their strategies include the creation of organizations dedicated to maintaining high standards for visitors, developing high-value tourist packages, and training local businesses on how to take advantage of the designation.

The potential benefits of becoming a Global Geopark

There is very little research on the potential benefits of becoming a Global Geopark. It is an internationally recognized UNESCO designation, so many of the benefits of becoming a Global Geopark will be similar to those experienced by World Heritage Sites. However, there are some key differences between the two designations that may result in some of the benefits being experienced to a lesser or greater degree.

The main focus of Global Geoparks is on local sustainable development, environmental education, and research, and the purpose of the Global Geoparks Network is to help individual Geoparks achieve these goals. Therefore, Geopark status may be more effective than World Heritage Site status at developing a sustainable tourism industry, and it may provide more opportunities to increase public education and research programmes.

Global Geoparks have less of a focus on conservation than World Heritage Sites, and they are not designed to protect ecological resources. Because of this, Geopark status may provide less conservation benefits than World Heritage Site status.

The Global Geopark programme is relatively recent, and mostly restricted to Europe and China, so there is little empirical data on the associated benefits. Evidence from China suggests that Geoparks in that country have been effective at meeting their goals of sustainable economic development, environmental education, and research. Economic benefits have also been reported for both an Irish and a German Geopark. A British Geopark has successfully used its status to bring in outside funding for education and geotourism, and to put on geology festivals. A Greek Geopark has increased visitor numbers, been successful in numerous initiatives for local economic development, and created an excellent research and education programme.

Section 5. Predicting the impact of World Heritage status on tourism in Wells Gray Park and Area: The case study of Waterton Park

It is impossible to predict with certainty what effect World Heritage Site status would have on visitor numbers to Wells Gray Park and Area. However, if we can determine the impact that World Heritage Site status had on visitor numbers at a site similar to Wells Gray Park and Area, we can use this to estimate what might occur in Wells Gray Park and Area.

The most recent World Heritage Site in Canada is Joggins Fossil Cliffs in Nova Scotia. This is a geological site, which may make it more comparable to Wells Gray Park and Area. However, Joggins is also in Nova Scotia, which is a different tourist environment than British Columbia.

There was definitely an immediate effect on visitor numbers when Joggins became a World Heritage Site, with the visitor numbers in the first few weeks after designation being increased 160% (Ross 2008), but to determine the economic impact we need to know how much of this increase was sustained. Hockin (2010) reports that Joggins experienced an 18% increase in visitors over the first year, but it is unclear where they got this data. No formal records for visitation to the site were kept before it became a World Heritage Site, so it is impossible to know exactly how visitor numbers have changed, but it is the opinion of the site director that visitation has increased (J. Boon, pers. comm. 2011).

Perhaps a better comparison for Wells Gray Park and Area is Waterton Glacier International Peace Park (including Waterton Park in southwestern Alberta), which was inscribed onto the World Heritage List in December of 1995. It is the most recent natural World Heritage Site in western Canada, the previous site being the Canadian Rocky Mountain Parks World Heritage Site, which was inscribed in 1984. This may make Waterton Park the best example of what could happen to tourism in Wells Gray Park and Area if it were to become a UNESCO World Heritage Site. Unlike Joggins Fossil Cliffs, Waterton Park collected visitor statistics both before and after it became a World Heritage Site. For these reasons, I have estimated the effect that the UNESCO designation had on the number of visitors to Waterton Park in order to predict what effect it might have on Wells Gray Park and Area.

5.1 Determine the effect of UNESCO designation on Waterton Park

The total number of visitors to Waterton Park has been recorded since 1989. In this time, the number of visitors to Waterton Park has been, on average, 9.0% higher since it became a World Heritage Site in 1995. However, tourism in Alberta has also been generally increasing since 1989. Although the number of visitors to Waterton Park has increased since the UNESCO designation, this increase was not necessarily caused by the designation. Visitor numbers to Waterton Park would probably have increased regardless of whether or not it became a World Heritage Site. In order to understand the effect that the World Heritage Site status had on visitor numbers, we need to know how much (if any) of this increase in visitor numbers was due to the UNESCO designation.

There are two different approaches that could be used to differentiate the effect of the UNESCO designation from other factors that could be affecting visitor numbers. I have used both approaches to estimate the effect of UNESCO designation on number of visitors to Waterton Park

One approach is to compare the number of visitors that came to Waterton Park before and after the designation, with the number of visitors at a control site. This control site needs to be as similar as possible to Waterton Park, except for not receiving the UNESCO designation. It is assumed that if Waterton had not been designated as a World Heritage Site, the number of visitors to Waterton Park would have changed over time in the same way as it did at the control site. Any difference between Waterton and the control site in the change in visitor numbers over time is therefore assumed to be due to the UNESCO designation. This approach has been used by Buckley (2002; 2004) to calculate the effect of the UNESCO designation on World Heritage Sites in Australia. Buckley was unable to show any effect of the UNESCO designation, but this was due to the lack of data on visitor numbers, and the lack of comparable control sites.

A second approach for determining the effect of World Heritage Site status is to look at the ratio of (tourism in Waterton) : (tourism in Alberta). There are a variety of factors that might affect the share of the tourists in Alberta that go to Waterton, with the UNESCO designation being one of them. A regression model can be used to try to explain this ratio using some of the more likely variables. This is the approach used by VanBlarcom *et al.* (2009) to estimate the increase in tourists at the Old Town Lunenberg World Heritage Site in Nova Scotia after it was inscribed in 1995.

5.1.1 Data available for analysis

It is unfortunately quite difficult to get reliable historical data, which is necessary to do this type of analysis. This difficulty has been mentioned by almost every researcher who has attempted to determine the impacts of being designated a World Heritage Site, and the current analysis was no different.

Visitor data for Waterton Park and control sites

The two best control sites for comparing with Waterton are Banff and Jasper. All three sites are national parks in the Albertan Rocky Mountains. Parks Canada changed what they defined as a visitor, and how they collected this information, in the 1988–89 fiscal year. The methodology was changed again at Banff and Jasper for the 2003–04 fiscal year, and then historically adjusted to be comparable from 2000–01 until present (S. Murphy, pers. comm. 2011). This methodology change means that although visitor data is available for Waterton from 1988–89 until present, it can only be compared with Banff and Jasper for the period between 1988–89 and 2003–04.

Number of Canadian tourists in Alberta

The Canadian Travel Survey was conducted by Statistics Canada every two years from 1980 to 1996, and then annually until 2004. Starting in 2006, it was replaced with the Travel Survey of Residents of Canada, which they continue to conduct annually. One of the things that these surveys estimate is the total number of person-trips that were made by Canadians to destinations in Alberta. Their definition of a trip is someone traveling outside of their usual environment for purposes other than commuting to work

or school. This includes tourism, visiting friends and relatives, and business trips. If two people went on a trip together, it counts as two person-trips.

The annual number of person-trips made by Canadians to destinations in Alberta is an important statistic for the current analysis. Unfortunately, Statistics Canada has made numerous methodology changes that make this statistic unreliable. The surveys were conducted consistently from 1980 until 1990, but starting in 1992 there were significant methodological changes for each new survey, which meant that none of these surveys were comparable to each other until they did a historical adjustment for the survey data in 2001. This adjustment made it possible to compare data from 1996 and 1998–2001, but not for earlier years (Statistics Canada 2001). They then continued to change their methodology until they did another historical adjustment in 2003, which made it possible to compare data from 1998–2003 (Statistics Canada 2003). No changes were made for the 2004 survey, so it is comparable with the 2003 data. Then in 2006, the Canadian Travel Survey was replaced with the Travel Survey of Residents of Canada, which has numerous conceptual differences and is not comparable to any of the previous data (Statistics Canada 2008).

The Alberta Government also conducted surveys to estimate the number person-trips that were made to destinations in Alberta. However, they also changed their methodology in 1996, and do not have earlier data available (K. Hubscher, pers. comm. 2011). As a result, the Alberta Government data is not useful for the current analysis.

The survey data from Statistics Canada was used for this analysis, even though it consists of several different data series that are not comparable. This greatly reduces the reliability of this data. The data from the 1980–1996 Canadian Travel Survey and the 2006–2009 Travel Survey of Residents of Canada was retrieved from Statistics Canada's CANSIM database. The 2001 and 2003 historically adjusted data series were taken from the Canadian Travel Survey reports (Statistics Canada 2001, 2003, 2004).

Number of foreign visitors to Alberta

Foreign visitors are much easier to measure than domestic ones, because they must go through customs. Statistics Canada has data available for the number of foreigners that entered directly into Alberta, from 1972 until present. This does not include foreigners who may have entered the country in a different province, and subsequently visited Alberta, but it is still a relatively good representation of foreign visitors to Alberta. The data for both American other foreign direct-entry visitors to Alberta was retrieved from Statistics Canada's CANSIM database.

Inflation and exchange rate

Other factors that could affect the number of visitors to Waterton Park include the annual inflation rate, and the value of the American dollar relative to the Canadian dollar. These are both variables that VanBlarcom *et al.* (2009) included in their analysis of visitors to the Lunenberg World Heritage Site. The annual inflation rate was calculated from the Consumer Price Index for Alberta, which was retrieved from Statistics Canada's CANSIM database.

5.1.2 Approach #1: Comparing Waterton Park to tourism in Alberta

Waterton Park received an average of 354,000 visitors annually between 1989 and when it became a World Heritage Site in December of 1995. Since the UNESCO designation, Waterton has averaged 385,000 visitors annually. This is a 9.0% increase in number of visitors. However, some of this increase was caused by factors other than UNESCO designation, and would have happened whether or not Waterton became a World Heritage Site. Tourism has increased in Alberta over the same time period, and this would have a direct effect on the visitor numbers at Waterton Park. In order to determine how much effect the UNESCO designation had on visitor numbers to Waterton, we must account for the effect of a general increase in tourism in Alberta.

It is difficult to get consistent historical data for tourism in Alberta. There is reliable data for foreign tourism, but the data for domestic tourism is not continuous, and consists of several different data series that cannot be compared to each other. This is discussed in more detail above. **Figure 5.1** shows the annual number of visitors to Waterton Park, compared with the annual number of person-trips made by Canadians and foreigners to destinations in Alberta. A continuous data series is estimated for the annual number of person-trips made by Canadians by averaging the available data. Although this is the best option with the available data, it may be inaccurate, and means that any subsequent analysis must be considered to be an estimate.

The graphs in **Figure 5.1** show that the number of visitors to Waterton Park tends to be higher in years with an increased amount of total tourism in Alberta, which is to be expected. It is important to remember that most tourism in Alberta is from Canadians. From 1989–2009, foreign visits only accounted for about 4.4% of the total number of person-trips that were made to destinations in Alberta. Thus, although the number of foreign visits increased dramatically between 1990 and 2000, this had only a small effect on the total number of person-trips in Alberta.

A regression analysis to measure the effect of UNESCO designation

In order to quantify the effect that the UNESCO designation had on the number of visitors to Waterton, we need to account for other factors that could influence visitor numbers, including the increased tourism in Alberta. One way to do this is to use a linear regression model similar to the one used by VanBlarcom *et al.* (2009) to quantify the effect of UNESCO designation at Lunenberg, Nova Scotia.

A linear regression model is a statistical tool used to determine the effect that several independent variables have on a single dependent variable. Following VanBlarcom's model, the dependent variable that is being explained is the share of people going on trips to destinations in Alberta who are visiting Waterton, which is calculated using the following formula:

$$\text{Waterton's share (}\textit{dependent variable}\text{)} = \frac{\text{Total number of visitors to Waterton}}{\text{Total number of person-trips made to destinations in Alberta}}$$

The independent variables that are used to explain this dependent variable include the UNESCO designation, as well as other factors that may influence visitor numbers. Two other dependent variables that were used by VanBlarcom are the annual inflation rate for the province, and the Canadian exchange rate. **Table 5.1** shows the results of this linear regression model for Waterton Park.

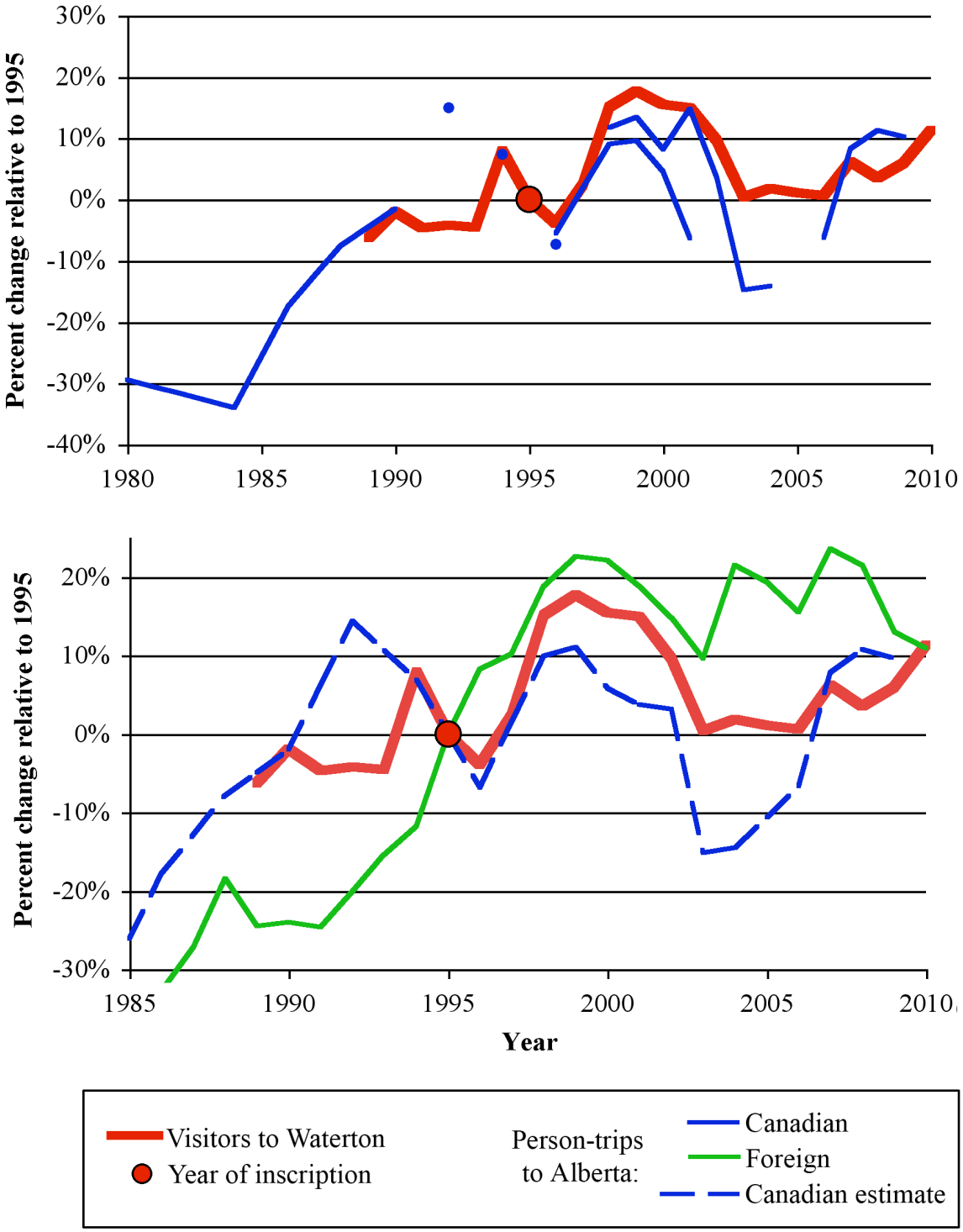


Figure 5.1. Visitors to Waterton before and after inscription as a World Heritage Site, compared to annual number of person-trips with destinations in Alberta. Data for foreign visitors to province is continuous. Data for person-trips by Canadians is not continuous — numerous methodology changes make the various time-series not directly comparable, as shown in top graph. The bottom graph averages discontinuous data series to create continuous estimate for Canadian person-trips, which may be inaccurate.

Table 5.1. Results of the linear regression model, using UNESCO designation, $US exchange rate, and inflation to explain the percentage of people going on trips to destinations in Alberta who are visiting Waterton.

Variable	Coefficient	Std. error	t-statistic	P-value
Intercept	1.274	0.256	4.98	0.0001
UNESCO	0.0867	0.0293	2.96	0.0087
$US/$CAN	0.402	0.183	1.35	0.0424
Inflation	2.406	1.785	2.19	0.1953

R-squared	0.506	F-statistic	5.809
Adjusted R-squared	0.419	Probability	0.0064

The results in **Table 5.1** can be used to derive the following regression equation. The p-values are shown below each term in parentheses:

Percent of person-trips to Alberta that are to Waterton =

1.274	+	0.0867 × *UNESCO*	+	0.402 × *$US:$CAN*	+	2.406 × *Inflation*
(0.0001)		(0.0087)		(0.0424)		(0.1953)

The variable *UNESCO* is whether or not Waterton Park was a UNESCO World Heritage Site that year. The coefficient of 0.0867 means that the UNESCO designation should increase the share of trips to Alberta that are to Waterton by 0.0867%. The p-value of 0.0087 is less than 0.05, so this effect is significant.

The *$US:$CAN* variable is the value of the American dollar relative to the Canadian dollar. This variable also had a significant effect on visitors to Waterton, because its p-value is also below 0.05. This suggests that American tourism had a disproportionate effect on the number of visitors to Waterton compared to the rest of Alberta, which is to be expected given that Waterton is on the USA–Canada border.

The *Inflation* variable has a p-value greater than 0.05, meaning that inflation was not found to have a significant effect.

The average number of trips to Alberta for this time period was 19.8 million annually. This regression model calculates that the UNESCO designation resulted in a 0.086% increase in the number of these trips to Alberta that were to Waterton. This is 17,202 more visitors to Waterton each year, which is a 4.6% increase in the number of visitors to Waterton.

5.1.3 Approach #2: Comparing Waterton Park to control sites

The two best control sites for comparing with Waterton National Park are Banff National Park and Jasper National Park. All three sites are national parks in the Albertan Rocky Mountains, and should therefore experience similar trends in number of visitors. A possible complication is that Banff and Jasper were both inscribed onto the World Heritage List in 1984. This comparison is assuming that any effect of this designation should have stabilized in the 11 years before Waterton is inscribed in 1995, so Banff and Jasper should still have some value for determining the effect of the UNESCO on number of visitors to Waterton.

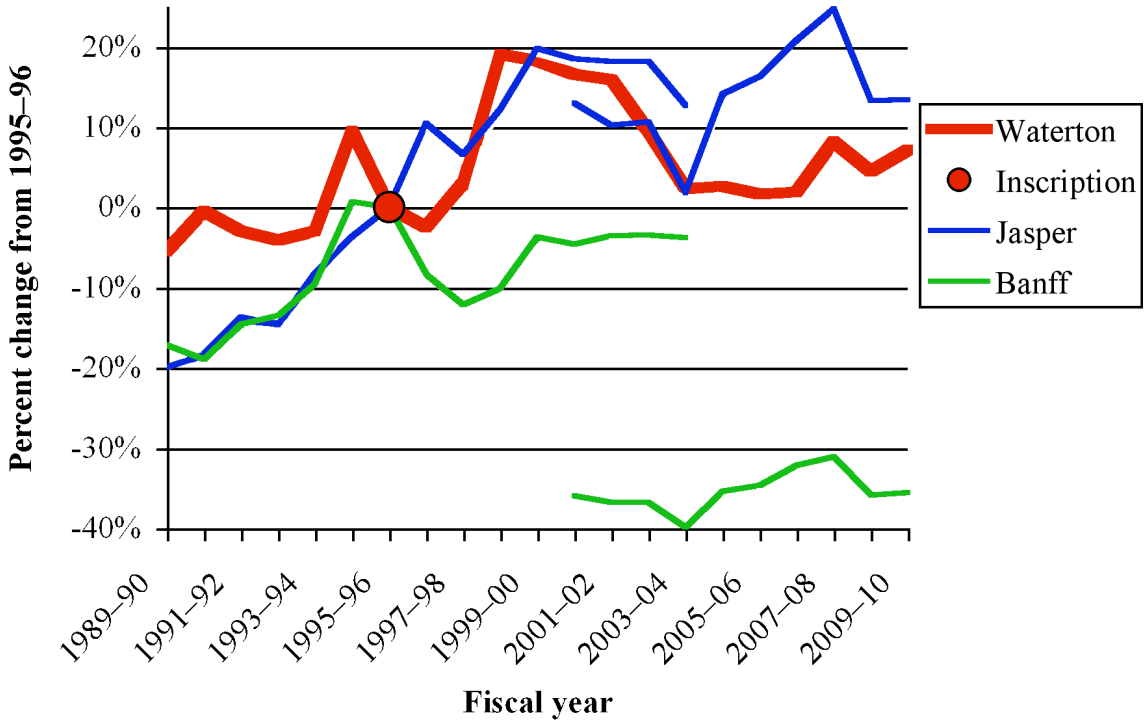


Figure 5.2. Visitors to Waterton after being designated a World Heritage Site, compared to Banff and Jasper National Parks. Data for Banff and Jasper is not continuous.

The number of visitors to Waterton Park is compared to Banff and Jasper in **Figure 5.2**. A linear regression model was used to try to explain the share of visitors to Albertan Rocky Mountain National Parks (Waterton, Banff, and Jasper) who went to Waterton. This model was identical to the model described in **Section 5.1.2**, except that the ratio for the dependent variable was calculated as:

$$\text{Waterton's share (}\textit{dependent variable}\text{)} = \frac{\text{Total number of visitors to Waterton}}{\text{Total number of person-trips made to Waterton, Banff, \& Jasper}}$$

This linear regression model showed that neither UNESCO designation, inflation, nor the Canadian exchange rate had any significant effect on visitor numbers to Waterton Park. It is interesting there was a significant effect of UNESCO designation when visitor numbers at Waterton Park were compared to total tourism in Alberta, but not when they were compared to tourism at Banff and Jasper.

A possible explanation is that even though Banff and Jasper became World Heritage Sites in 1984, their designation did not cause an increase in visitor numbers until Waterton was also designated in 1995. According to Rebanks (2009), the Canadian Rocky Mountain Parks World Heritage Site (which includes Banff and Jasper) did not initially try to take advantage of their UNESCO designation, and therefore did not initially see any benefit. It was not until they reinvented themselves in the mid-1990s that they took advantage of their UNESCO designation and saw an increase in visitor numbers. This could mean that Waterton, Banff, and Jasper all experienced an increase in visitor numbers in the mid-1990s as a result of their respective UNESCO designations.

It would therefore not be valid to use Banff and Jasper as control sites, because any UNESCO-caused change in visitor numbers at Waterton would be matched by an equivalent change in visitor numbers at Banff and Jasper that was also caused by their designation, even though it happened a decade late.

5.2 Predictions for Wells Gray Park and Area

Waterton Park is probably the World Heritage Site that is most comparable to Wells Gray Park and Area. The best estimation that can be made with the available data is that visitor numbers at Waterton Park increased by 4.6% as a result of becoming a World Heritage Site. Therefore, it is reasonable to predict that Wells Gray Park and Area could also experience a 4.6% increase in visitor numbers if it became a World Heritage Site.

It might be useful to predict what economic impact a 4.6% increase in visitors would have on Wells Gray Park and Area. This report does not address that question, but if it is done in the future, an approach could be taken similar to how VanBlarcom *et al.* (2009) predicted the impact of visitors at Grand Pré, or how Atlantic Consultants (2003) predicted the same impact for the Cornish Mining World Heritage Site.

The first step used by both VanBlarcom *et al.* and Atlantic Consultants is to use current tourism statistics for the area to forecast how many tourists would visit the site if it did not become a World Heritage Site, in order to calculate how many more tourists will come as a result of the designation. Surveys can be used to determine the spending habits of the current tourists, which can be used to estimate how much money the additional tourists will spend in the area, and what they will spend it on.

Both VanBlarcom *et al.* and Atlantic Consultants used input-output models specifically designed for their area to determine the indirect effects of the tourist spending. In these models, multiplier factors are used to account for the fact that tourist money spent in different industries will often be recycled through the local economy several times. Stynes and Propst (2001) have published an input-output model online for estimating the economic impact that parks have on the local economy. This may have some limited use Wells Gray Park and Area, although a model designed for the area would be better.

These models do not account for the fact that World Heritage Site status is likely to attract a different type of tourist to Wells Gray Park and Area. Tourists who visit an area for its World Heritage Site status are often more likely to stay longer and spend more money.

It is important to remember that a 4.6% increase in visitor numbers is merely an estimate. The actually increase in visitor numbers that Wells Gray Park and Area might experience if it became a World Heritage Site will be dependent on the marketing and infrastructure that is invested in the site. However, there is a potential for economic gain for Wells Gray Park and Area. Pacific Analytics (2004) reported that in 2001, just under 966,000 tourists spent a total of $908.9 million dollars at nature-based tourism businesses in British Columbia, which is an average of $940 per tourist. Any potential for Wells Gray Park and Area to increase its share of this market could have a significant economic impact.

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