IUCN Conservation Outlook Assessment 2014 **(archived)**
Finalised on 12 November 2014

Please note: this is an archived Conservation Outlook Assessment for Dinosaur Provincial Park. To access the most up-to-date Conservation Outlook Assessment for this site, please visit https://www.worldheritageoutlook.iucn.org.

Dinosaur Provincial Park

SITE INFORMATION

Country:
Canada
Inscribed in: 1979
Criteria:
(vii) (viii)

Site description:
In addition to its particularly beautiful scenery, Dinosaur Provincial Park – located at the heart of the province of Alberta's badlands – contains some of the most important fossil discoveries ever made from the 'Age of Reptiles', in particular about 35 species of dinosaur, dating back some 75 million years. © UNESCO

SUMMARY

2014 Conservation Outlook

Good

The conservation outlook for the Dinosaur Provincial Park World Heritage property is good. Currently, the outstanding scenic landscapes and the geological and palaeontological values and attributes of the site are in good condition and of low concern. Threats are generally at low level, with major threats from resource development being largely confined to areas outside the boundary, and minor threats from visitor use satisfactorily controlled by current management intervention measures. The ongoing threat of some concern is from illegal removal of fossils and this requires constant vigilance and improved field surveillance from staff with assistance from the local community. The property is strongly protected in perpetuity and is professionally managed under an effective administrative regime. There is good support from key stakeholders.

Current state and trend of VALUES

Low Concern
Trend: Stable

Overall, the current state and condition of the Outstanding Universal Value and attributes of the property are of low concern. Environmental disturbance associated with visitor use is of some minor concern, and may increase in future in the absence of appropriate management intervention.

Overall THREATS

Low Threat

Overall the threats to values of the property can be assessed as low. Major threat from drilling for natural gas is confined to lands outside the property. There are some physical impacts from tourist and recreational use of the property, such as vegetation disturbance, and soil erosion and compaction but these are localized and not serious. Increased demand for facilities associated with growing numbers

of visitors could present a future problem. Invasive weeds are a minor problem confined largely to moist areas and not present in the “badlands” areas of greater interest. The threat of most concern to management is the ongoing illegal removal and pilfering of fossils.

Overall PROTECTION and MANAGEMENT

Highly Effective

Generally, the protection and management of the property is highly effective. There is a strong legal, administrative and management framework. Staffing and funding are adequate to meet current needs. Relationships with local communities and key stakeholders are good. Research and environmental monitoring are of the first order. Of some minor concern are the issues to do with invasive species control and surveillance and prosecution of the illegal removal of fossils. Park management is monitoring increasing demand for tourism facilities and planning is underway to develop options on how to best address it.

FULL ASSESSMENT

Description of values

Values

World Heritage values

- **Semi-arid “badlands” landscape of exceptional scenic quality.**
  Criterion:(vii)

  Exceptionally stark “badlands” landscape displaying outstanding examples of landforms produced by fluvial erosion in former glacial conditions and present semi-arid steppes. Riparian areas support attractive and diverse plant cover (IUCN, 1979; Canada, 1979; Canada, 2006; Statement of Significance, 2006; WCMC, 2012).

- **Some of the most important fossil dinosaur discoveries ever made**
  Criterion:(viii)

  A landscape of deeply eroded Cretaceous-age shales and sandstones dating from 75 million years ago, when the climate was sub-tropical and lush forest covered a low, swampy coastal plain. The property is outstanding in the number and variety of high quality specimens representing every known group of Cretaceous dinosaurs. The diversity affords excellent opportunities for paleontology that is both comparative and chronological. Fossil remains of more than 23,000 specimens and 300 skeletons from 35 distinct species of dinosaur have been found in the property. Other fossil remain include fish, turtles, marsupials and amphibians (IUCN, 1979; Canada, 1979; Canada, 2006; Statement of significance, 2006; WCMC, 2012).

Other important biodiversity values

▶ **Threatened plains riparian cottonwood vegetation communities; rich avifauna**

Diverse vegetation of high quality and in various successional stages ranging from pioneer willow stands to cottonwood forest, tall shrubs, ephemeral wetlands and sagebrush flats. These are critical winter habitat for native ungulates such as pronghorn, mule and white-tailed deer. Plains cottonwood riparian communities are among the most threatened habitats in semi-arid regions. More than 150 species of birds occur, some of which are locally threatened or at their biogeographical limits, including golden eagle, prairie falcon and loggerhead shrike (IUCN, 1979; Canada, 1979; Canada, 2006; Statement of significance, 2006; WCMC 2012).

Assessment information

Threats

Current Threats

Low Threat

Current threats are assessed as low. Major threat from drilling for natural gas is confined to lands outside the property and has no significant impacts on values in the property. Within the property the most problematic threat to the site’s paleontological values is from illegal removal of fossils, but there are also lower level threats from tourists and recreational visitors and from invasive weeds which also affect the vegetation.

▶ **Livestock Farming / Grazing**

Very Low Threat

Outside site

Grazing of cattle occurs on ranchland outside the boundary of the property. It has little impact on the values of the property (Canada, 1979; Anon., 2004; WCMC, 2012). All grazing within the property is subject to regulation pursuant to lease agreements and is monitored on an ongoing basis. The current grazing management regime adequately mitigates any risk to the OUV of the property.

► Tourism/ visitors/ recreation

Low Threat
Inside site

Physical impacts are limited to some localized vegetation disturbance, soil compaction and erosion (Canada, 1979; Canada, 2006; IBI Group, 2010; WCMC, 2012).

► Oil/ Gas exploration/development

Low Threat
Outside site

Five gas wells, all now abandoned, were drilled in the Park before it was inscribed on the World Heritage List. Drilling for natural gas still occurs outside the property, but has no significant impact on the geological values of the site (Canada, 1979; Anon., 2004; IBI Group, 2010; WCMC, 2012). There are two active wells within the WHS that pre-date the WHS by as much as 25 years. As these wells are exhausted they will be removed and reclaimed. No wells or any associated infrastructure (ie pipelines) have been approved within the WHS since its creation in 1979. There are a significant number of wells within the parts of the Provincial Park that are outside of the WHS boundary. All these wells and associated infrastructure within the Provincial Park surrounding the WHS are subject to resource impact assessments, guidelines to minimize visual impact, and ongoing monitoring.

► Other Activities

Low Threat
Inside site

Illegal removal and pilfering of fossils remains a threat. (Canada 2006; IBI Group, 2004; WCMC, 2012). However, Conservation Officer staffing increased

from 1 permanent to 3 permanent positions in last 6 years and that staff is working closely with the local community to monitor and address this issue. Access to the restricted Natural Reserve Zone is only permitted with a guide.

► Invasive Non-Native/ Alien Species

Low Threat
Inside site

Weed infestation occurs but mainly in moist areas and not in the “badlands” terrain (Canada, 2006; Anon. 2004). A monitoring and control program for invasive species is in place.

Potential Threats

Low Threat

The only potential threat of concern is from increased demand for facilities from larger numbers of tourists.

► Tourism/ visitors/ recreation

Low Threat
Inside site

The only potential threat of concern is from increased demand for facilities from larger numbers of tourists.

Protection and management

Assessing Protection and Management

► Tourism and interpretation

Mostly Effective

Tourist numbers are low and visitors are readily contained under current management. However, visitor numbers and demands for facilities are growing steadily. Accordingly, Visitor Services staffing has increased from 1 to 4 permanent positions. Investment in staff training is well funded and fully supported by management. Visitor Services programming such as guided excavations, guided hikes, photography tours, etc is diverse, focused on

providing visitors with a high quality experience, and of top quality.

▶ Management effectiveness

Highly Effective

In general the management is highly effective, and conducted by a range of well-qualified permanent full-time and part-time staff along with seasonal staff and other workers. (Canada, 2006, WCMC, 2012).

▶ Relationships with local people

Highly Effective

Excellent relationships have been established with ranchers and other landowners in areas surrounding the property, and many are engaged in assisting site managers with surveillance and monitoring (Canada, 2006).

▶ Legal framework and enforcement

Highly Effective

There is a strong national and provincial legal basis for management of the property (Canada, 1979; Canada, 2006; WCMC, 2012).

▶ Integration into regional and national planning systems

Data Deficient

.

▶ Management system

Highly Effective

The administrative and management framework for the property is well developed. There is a property management plan and subsidiary plans for activities such as tourism. Plans are prepared with public involvement (Canada, 2006; WCMC, 2012).

▶ Implementation of Committee decisions and recommendations

Highly Effective

Issues to do with boundary changes and the extent of the property have been the subject of Committee recommendations, all of which have been

attended to SOC,1991; 1992).

▶ Boundaries

Mostly Effective

The boundaries of the property have changed on a couple of occasions, particularly in respect of development activities outside the property. There has been a net extension of the property by some 1,700 ha. The current boundaries are sufficient to maintain the integrity of the property (Canada, 2006).

▶ Sustainable finance

Mostly Effective

Funding levels are adequate. It has been recommended that the authorities seek to establish more business partnerships and identify additional sources of revenue (Canada, 2006; Eagles et al., 2004). Significant progress has been made in the last 10 years relative to partnerships and additional sources of revenue.

▶ Staff training and development

Highly Effective

Staff are generally well qualified and training opportunities are readily available (Canada, 2006). The permanent staff in 2004 was 5 and in 2014 it was 12.

▶ Sustainable use

Data Deficient

Data deficient

▶ Education and interpretation programs

Mostly Effective

Interpretation programs are strong (Canada, 2006). Alberta curriculum aligned school programming is being delivered.

► Monitoring

Highly Effective

Tourist numbers are low and visitors are readily contained under current management. Visitor numbers and demands for facilities are growing steadily and may require additional management intervention in future. A recent survey of best practice for tourism identifies the need for more campsites, better booking/reservation systems, more visitor use monitoring and reporting, capacity building for staff in visitor services and business management, further development of business partnerships in tourism and additional revenue generation (Canada, 2006; Eagles et al., 2004).

► Research

Highly Effective

Both domestic and international scientific effort is strong in all relevant fields of research and there are excellent professional relationships with research institutes. Research results are used very effectively in guiding management. Researchers are active in the field and play useful roles in assisting site managers. Fossils from the property are held in collections of some 30 international institutions (Canada, 2006; WCMC, 2012).

Overall assessment of protection and management

Highly Effective

Generally, the protection and management of the property is highly effective. There is a strong legal, administrative and management framework. Staffing and funding are adequate to meet current needs. Relationships with local communities and key stakeholders are good. Research and environmental monitoring are of the first order. Of some minor concern are the issues to do with invasive species control and surveillance and prosecution of the illegal removal of fossils. Park management is monitoring increasing demand for tourism facilities and planning is underway to develop options on how to best address it.

► Assessment of the effectiveness of protection and management in

addressing threats outside the site
Data Deficient

.

State and trend of values

Assessing the current state and trend of values

World Heritage values

▶ **Semi-arid “badlands” landscape of exceptional scenic quality.**
Low Concern
Trend:Stable

The condition of scenic and aesthetic qualities of the property is of low concern. There are some issues to do with environmental disturbance caused by visitors and facilities developments, but these are largely mitigated by management intervention, such as hardening of trails (Canada, 2006; Eagles et al., 2004; IBI Group, 2010; WCMC, 2012) .

▶ **Some of the most important fossil dinosaur discoveries ever made**
Low Concern
Trend:Stable

The geological values of the property are largely intact. Dinosaur fossils are widely recognized and well protected. However, there is a major problem regarding the illegal removal and pilfering of fossils and a need for management to respond with improved monitoring, surveillance and more vigorous prosecution of offences (IUCN, 1979; Canada, 1979; Canada, 2006; WCMC, 2012).

Other important biodiversity values

▶ **Threatened plains riparian cottonwood vegetation communities; rich avifauna**

Diverse vegetation of high quality and in various successional stages ranging from pioneer willow stands to cottonwood forest, tall shrubs, ephemeral

wetlands and sagebrush flats. These are critical winter habitat for native ungulates such as pronghorn, mule and white-tailed deer. Plains cottonwood riparian communities are among the most threatened habitats in semi-arid regions. More than 150 species of birds occur, some of which are locally threatened or at their biogeographical limits, including golden eagle, prairie falcon and loggerhead shrike (IUCN, 1979; Canada, 1979; Canada, 2006; Statement of significance, 2006; WCMC 2012).

Summary of the Values

▶ **Assessment of the current state and trend of World Heritage values**

Low Concern

Trend: Stable

Overall, the current state and condition of the Outstanding Universal Value and attributes of the property are of low concern. Environmental disturbance associated with visitor use is of some minor concern, and may increase in future in the absence of appropriate management intervention.

▶ **Assessment of the current state and trend of other important biodiversity values**

Low Concern

Trend: Stable

Biodiversity values of the property are of little concern except for some disturbance to vegetation from visitor use and the introduction of weed species from surrounding lands (Anon., 2004; Canada, 2006).

Additional information

Key conservation issues

▶ **.**

Local

.

Benefits

Understanding Benefits

▶ **Is the protected area valued for its nature conservation?**

The property protects one of the world's most important fossil dinosaur sites, including remains of virtually every known species of dinosaur from the Cretaceous age.

▶ **Importance for research**

The property is an internationally significant source of knowledge about the former age of dinosaurs on the planet. Large numbers of scientists from national and international institutions have conducted research in the site and new fossil discoveries are ongoing as more material is exposed by erosion. Fossil specimens are held in the collections of some 30 international institutions.

▶ **Soil stabilisation, Water provision (importance for water quantity and quality)**

The property is important for conservation of soil and freshwater resources especially through the protection of unmodified semi-arid steppe vegetation cover.

Summary of benefits

The property is vital for protection, scientific research and curation of dinosaur fossil material dating from the Cretaceous times, and contributes significantly to our understanding of the Age of the Dinosaurs on the planet. As such it ranks among the world's most important palaeontological sites. It also plays an important role in conservation of soil and water resources and biodiversity in a continental semi-arid steppe biome.

Projects

Compilation of active conservation projects

№	Organization/ individuals	Project duration	Brief description of Active Projects
1	.		.

REFERENCES

№	References
1	Anon. 2004. Pilot inventory of invasive plant species in Dinosaur Provincial Park. Alberta Sustainable Resource Development Publication.
2	Canada, 1979. Nomination for the World Heritage List of Canadian Natural Site Dinosaur Provincial Park.
3	Canada, 2006. Periodic report on the state of conservation of Dinosaur Provincial Park.
4	Eagles, P. et al. 2004. Best practice study for sustainable tourism at Dinosaur Provincial Park. Miscell. Pub., Ontario, Canada.
5	IBI Group, 2010. Dinosaur Provincial Park and area tourism development study. Miscell. Pub. , Government of Alberta.
6	IUCN 1979. Review of the World Heritage nomination of Dinosaur Provincial Park, Canada.
7	SOC 1991. World Heritage Committee 15COM. VIII.
8	SOC, 1992. World Heritage Committee 16COM.VIII.12.
9	WCMC, 2012. Dinosaur Provincial Park Fact Sheet.