

Contaminated runoff from an improperly maintained forest road drains toward sinkhole.
The sinkhole is connected to a major cave system.



RATIONALE FOR SPECIFIC CAVE PROTECTION LEGISLATION IN BRITISH COLUMBIA

– Paul Griffiths

British Columbia (BC) is one of the most ecologically diverse regions of Canada. An important contributor to this diversity is its well over 1000 documented caves. The caves of BC have been recognized worldwide for their often pristine character, and their wealth of natural and cultural resource values. There are probably more caves documented in BC than in any other Canadian province or territory and many more will likely be documented in the coming years. The greater majority of BC's caves occur on Crown lands in karst landscapes; they are hosted in carbonate bedrock and underlying roughly 10% of the province.

Caves can have significant biological, hydrological, mineralogical, scientific, cultural, recreational and economical values. A few caves have played an important role in the lives of BC's earliest inhabitants – e.g., they have served occasionally as shelter, or as sacred burial or ceremonial places. Only in recent decades have British Columbians-at-large come to know more about the uniqueness of

this province's caves and their associated resources and values.

Caves are universally recognized as being among the most vulnerable of ecosystems. They can be subject to human-caused disturbances occurring directly above them or sometimes taking place at a considerable distance away from them. Numerous caves in BC have already been damaged through ill-planned land and resource development. In some cases, they have been intentionally, willfully or recklessly damaged from within by vandals and careless visitors. Because they often lack the types of natural restorative processes that occur on the surface, cave environments can easily be overwhelmed by human-caused disturbances. A first principle of cave protection, developed by the International Union for Conservation of Nature, with input from Canada, holds that caves are for all practical purposes non-renewable natural resources.

Given this rich and vulnerable cave heritage, one might expect that BC would protect caves at all

levels of government. The truth is that, except for caves in parks and ecological reserves, and in a few other specially designated land areas, BC has no real means to protect caves on Crown lands or private property. BC currently offers far less comprehensive protection than is available for caves in many other jurisdictions. For example, more than 22 states, Puerto Rico, the Cherokee Nation and the federal government in the US have enacted cave protection laws.

The few legal provisions that exist in BC are usually applicable to particular types of caves, or to aspects of caves, or to specific activities conducted in and around caves under certain circumstances. Even in parks, there is not always a guarantee that caves receive the necessary level of protection that the legal framework for protected areas might offer.

Under the Canadian Constitution, the BC government is responsible for most aspects of natural resource protection and management, which by default includes caves. However, caves are rarely, if ever, addressed explicitly in any provincial legislation. Even now, BC still does not have a specific or unified law or regulation governing the protection of cave resources. Specific and overarching legislation for the protection of caves and the full spectrum of natural and cultural resource values associated with caves is still lacking in BC. The deleterious consequences of this neglect are starting to show.



Contaminated runoff from a forest road.

The lack of specific legal protection for caves in BC is arguably a form of environmental subsidy not available to a number of BC's trading partners who have cave protection laws. BC's lack of specific cave protection legislation runs counter to regulatory harmonization or parity with trading partners. It also runs counter to this government's avowed goal of achieving global environmental leadership – 'bar none'.

The most effective cave protection strategy is prevention – 'n ounce of prevention is worth a pound of cure'. Cave restoration can be very expensive, complicated, time-consuming, and often only partially successful. Prevention of damage also

alleviates the burden of costs currently associated with the downloading of essential cave protection and monitoring activities onto private citizens and NGOs.

Specific cave protection legislation in BC could save staff resources and time by providing regulatory consistency, jurisdictional clarity and greater certainty, for public agencies and the private sector alike. Provisions for setting up a comprehensive central registry for caves would make it possible to appreciate the full scope and distribution of these resources and help resource managers to set priorities and apply appropriate approaches consistently around the province. A specific law would also help to bring about much needed accountability. The effort required to enforce a specific cave law would likely be no greater than for many existing enactments. Other jurisdictions, including the US, have not let the difficulty of enforcing such legislation deter them from enacting cave protection laws.



Broken pieces of a stalactite.

Substantial costs associated with *not* enacting a specific cave protection law continue to accrue in BC, including:

- Degradation of natural and cultural cave resources with heritage value to all British Columbians
- Diminished reputation for environmental stewardship
- Diminished recreation, tourism, and educational opportunities
- Clean-up and remediation costs
- Planning inefficiencies resulting from administrative delays and uncertainty
- Recurring costs of revisiting the issues and 'reinventing the wheel' – in terms of evaluation and management when cave resource conflicts arise

When cave protection strategies are formulated in response to a statutory (legal) obligation they are more likely to make their way into the environmental management systems and certification audits used by many BC organizations.

A large log, with saw cut, well within the dark zone of a stream cave.



To date, the experimentation with professional reliance and voluntary best practices has generally failed to provide effective cave protection in BC. Professional reliance principles and voluntary cave management practices are routinely flouted, overlooked and/or ignored. Many professionals do not inform themselves of recommended best practices for caves, and the BC government has generally not done enough to communicate or expound on them where they are available.

It has been claimed the public do not view caves as worthy of, or in need of, any serious protection when caves do not receive the necessary protection through laws. Indeed, assorted cave management

specialists contend that in many cases damage to cave resources is caused by land or resource developers, or visitors to caves, who are unaware of the potential sensitivity of this resource. The mere existence of specific legislation can therefore act as an educational tool and an important deterrent to damaging caves - it sends a strong message that caves are recognized as environmentally sensitive features and valued. Significantly enhanced public and corporate awareness, and understanding, were reported in the US, for instance, as a consequence of passing federal and state cave protection laws.

The purpose of a specific cave protection law would be to achieve a higher level of protection for BC's natural and cultural cave resources. A law modeled on those prevailing in other jurisdictions such as the US would provide definitions, authority and responsibilities, and identify any proscribed activities, including sale, offer for sale, importation or trade of speleothems - i.e., stalactites, stalagmites, and other secondary mineral deposits in caves. It would also include a provision for establishing an advisory board.

Enactment of a specific cave law in BC will, in addition to raising the level of awareness, lead to greater public benefits from these resources. Sustainable and appropriate recreation, tourism and educational opportunities, for example, are bound to become more prevalent as more people discover the many natural and cultural values of BC's caves.



Graffiti adorns a cave entrance in a provincial park.