

**Australian Speleological Federation Inc. Environmental Gift Fund**

**PROPOSAL FOR GRANT- PROTECTION OF DOGLEG CAVE, WEE JASPER**

The objective of the Fund is to support the Federation's environmental purposes, which are:

- to safeguard and protect the natural environment, specifically the cave and karst environment of Australia
- to gather and disseminate information, develop and promote policies, foster and publish research, and provide education and advice to the Australian community on conserving Australia's karst resources

1. Name of proponent(s) with postal and e-mail addresses, and telephone contact details:

New South Wales Speleological Council – Chair Denis Marsh [denis.marsh@hotmail.com](mailto:denis.marsh@hotmail.com) Ph 02 63658330  
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The project will be co-ordinated by the Canberra Speleological Society Inc.

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2. Project title:

**PROTECTING DOGLEG CAVE - WEE JASPER**

Attachment A provides details on the values of Dogleg Cave, how these values might be protected and on ways forward. The proposal falls well within the first of the ASF's Environment Fund objectives as shown above.

3. Project Summary:

- Location

**Dogleg Cave, Wee Jasper NSW**

- Problems/ issues being addressed and how you intend to address these.

- Uncontrolled access to Dogleg Cave is resulting in damage to the cave environment specifically to Dogleg's unique biota and to its aesthetic qualities. There are also significant safety issues.
- Urgent action is required as natural physical barriers (ie sumps) are not as effective as they once were.
- The cave owner (NSW Lands Department) accepts there is a need to better protect the cave, but does not have the resources to achieve this. It is to be receptive to the installation of a gate as an interim measure, pending development of a comprehensive management plan for the area.
- To enhance protection of parts of the cave, it is proposed to install a gate in the Sand Trap area of the cave.

- What are the short and long-term objectives?

- The first objective of the project is to control the access to Dogleg Cave beyond the Sand Trap;
- To communicate the reasons for doing so to cave users (many of whom have little contact with ASF); and
- To remove rubbish that has accumulated from earlier sump-passing efforts;

A locked gate will be installed in the area of the Sand Trap passage and access will be controlled by the NSW Lands Department in consultation with the Australian Speleological Federation Inc. In the longer term the Department will develop a comprehensive Plan of Management for the Wee Jasper Caves Reserves that may propose additional access control measures.

- Strategic values, eg will your project complement and/or overlap with any regional strategies.

The proposal to gate Dogleg in the Sand Trap area has been developed in consultation with the NSW Lands Department. The Department intends developing and implementing a Management Plan for the Wee Jasper Reserves (that are set aside for the Preservation of Caves). However, the Plan is unlikely to be completed before the end of 2009.

- Expected start and finish time.

**Start - Investigations into a suitable site for the gate, detailed site survey, gate design and budget is underway and will be completed by the end of June 2008.**

**Finish - Start + 6 months (but note the caveats in point 5 below).**

- Any other overlapping environmental values.

**The NSW Lands Department, in conjunction with the various stakeholders, is proposing to develop and implement a Management Plan for the Wee Jasper Caves Reserves including Dogleg Cave. Funding for this overall Management Plan is a NSW Lands Department responsibility.**

4. Permissions that may be required from land owners.

**As the managers of Dogleg Cave, the NSW Lands Department will need to approve any implementation of any access control system. Discussions between the NSW Lands Department and CSS Inc have led to a statement that the Department supports the view that protection of Dogleg Cave is required and it should be implemented ASAP. The Department awaits a formal proposal from the NSWSC and ASF Inc.**

5. How long will the project run?

**It is intended that the implementation of a gate at the Sand Trap, and associated rubbish removal, will be completed within six months of Lands Department approval and funds allocation to a project bank account. There will be a need to check the physical state of the gate on at least a monthly basis for 12 months after installation and beyond.**

**The primary risks that may affect the project duration are:**

- **NSW Land Department - delayed approval of a go ahead to implement the proposal.**
- **Environmental - in Dogleg Cave, the Sand Trap and the passages beyond are subject to flooding. Flooding of the cave may require all work to be delayed until the conditions are suitable for safe working conditions. These delays may extend the duration of the project beyond the proposed six months.**
- **Workforce – an underlying premise for the six-month project duration is that the ASF caving community will provide cavers to assist in the implementation of the project at Dogleg Cave on various weekends.**

**Bi-monthly reports detailing expenditure, project progress and ASF member involvement, and a final project report, will be submitted to the ASF Environment Fund and to the NSWSC.**

6. Will the project complement and/or overlap with any other similar projects or sources of funding?

**The project to gate Dogleg Cave in the Sand Trap area will be a stand-alone project fully funded by the ASF Environment Fund – supported by in-kind labour from ASF member societies.**

**The, yet to developed, NSW Lands Department Management Plan for the Wee Jasper Caves Reserves including Dogleg Cave, may implement gates at one or more of the entrances to the cave. The Sand Trap gate will complement any other gates by providing a more restricted access regime to the cave beyond the Sand Trap.**

7. Please attach a budget for the project, including amount applied for, value of in-kind contributions, other sources of funds received or applied for, and the total cost of the project.

**The requested Environment Fund grant to support this project is up to a total of \$4,000. No other sources of funds have been received or been applied for this project. At this time we are unable to provide a more detailed budget given the uncertainties of the approval process and detailed design and construction details are completed. For the project to succeed a commitment for in-kind commitment of labour must be made by ASF member societies as CSS Inc has a very limited membership (and also has a number of other projects underway this year).**

8. Who will be responsible for project management and for overseeing completion of the project? If this is different from the proponent, please provide contact details.

**The project will be managed by CSS Inc on behalf of the NSW Speleological Council in conjunction with the NSW Lands Department. Motions passed at the meeting of the NSW Speleological Council held on 10 May 2008 relating to Dogleg Cave are attached as Attachment B.**

**In making this application we acknowledge that we have read the Rules of the Gift Fund (Attachment C) and understand that gifts made to the Fund may only be used for its principal purpose i.e. to support the environmental objectives of the Federation.**

.....Denis Marsh (Chair - New South Wales Speleological Council) ..... May 2008

## ATTACHMENT A

### PROTECTING DOGLEG CAVE – WEE JASPER SUBMISSION TO THE NSW SPELEOLOGICAL COUNCIL 10 MAY 2008

Dogleg is one of the most spectacular and biologically important caves at Wee Jasper. Cavers first entered it in 1957 at a time when the Canberra Speleological Society was investigating the Dip and Punchbowl Caves. It is undoubtedly the lowest humanly accessible level of the Punchbowl-Signature cave system and breaches the topographic divide that forms Punchbowl Hill with water from the creek to the west of the Punchbowl dolines sinking and emerging at the upper end of the Fitzpatrick Reserve on the Hume and Hovell Walking Trail. For details see Jennings (1964).

The Punchbowl-Signature-Dogleg cave system is largely “protected” under the Crown Lands Act in two “Reserves for the Preservation of Caves”. The Reserves probably do not cover the far end of the cave ... They certainly do not cover the contributing catchment to Dogleg Cave that includes both private and NSW State Forests’ lands. It is worth noting that one of the Reserves for the Preservation of Caves – surrounding the main Dogleg entrance was the second most recent such Reserve gazetted. This gazettal was as a result of agitation by a CSS member. We all know that reserving entrances does not protect caves or their environments – but it is at least some recognition ...

The current main entrance was at least partially dug out – as have all of the others except the spring entrance. There are at least six entrances to various parts of the cave although only three are thought to be connected to the main passage – to the Sand Trap, the Opera House and beyond. CSS and others have spent a great deal of effort in investigating various vertical holes in Punchbowl Hill looking for ways into the cave beyond the Third Sump without success.

Until the recent droughts, Dogleg was only open beyond the Second and (even of less duration) the Third Sump very infrequently. The hydrologic arrangements of the cave appear simple at first sight. The stream on the far side of Punchbowl Hill probably sinks into the gravels – thence into dogleg and emerges at the spring. A dye trace conducted by CSS many years ago did not confirm this hypothesis (Jennings 1964) but it is extremely difficult to reject given the orientation and morphology of Punchbowl, Signature and Dogleg Caves.

In the early years CSS spent a good deal of effort in attempting to siphon the water out of the Second and Third Sumps. To our shame some of the equipment the club used is still in the cave – as is the gear that others bought in. We propose to remove this junk.

The siphon that CSS used in attempting to drain the Third Sump passed the water down through a slot known as Andy’s Hole (Andy Andersen – not Andy Spate). That water vanished – it did not appear at the Dogleg spring that is very close to the contact with the impermeable Hatchery Creek Conglomerate (Jennings 1964). The water down Andy’s Hole presumably had another route into the Quaternary alluvium – and then into Wee Jasper Creek or the Goodradigbee River.

Jennings (1976, page 87) states that:

When the 7 metre inverted siphon at the Opera House in Dogleg comes into action, much of the forward, low meandering part of the cave can fill to the roof ...

Iain McCulloch (personal communication) states that the Sand Trap siphon can fill in a relatively short period (hours) following heavy rainfall. These two statements indicate that there are risks in entering the far portion of the cave in times when heavy rainfall might occur.

There have been at least five surveys of the cave beyond the Opera House. None appear to have been published and the relationship of Dogleg Cave to Signature and Punchbowl Caves does not appear to have been accurately determined – especially in an altitudinal sense. The best survey currently available to CSS was prepared by Hills Speleological Club (labelled “preliminary” and undated – around 1997?). It does not include the IDN Chamber (seen by Andy Spate on a map in the possession of Alan Pryke). Both these maps need the surface expression of the limestone shown for appropriate interpretation. The far ends of the cave are very, very close to the limestone boundary – but at what altitude? The far ends of the cave need to be confirmed by radio-direction finding or similar process, as there is some suspicion that there may be some errors in the mapping of the first part of the cave. CSS stands to be corrected if this statement is in error.

Parts of Dogleg Cave beyond the Opera House are extremely well decorated with calcite speleothems. The cave has more values above its undoubted geomorphological and hydrological values in the fact that it has a least seven aquatic troglobites – stygobionts. This is more than any other single cave hydrological system in NSW although Wombeyan has more taxa but distributed across a number of karst hydrological systems. Wombeyan, Wee Jasper and Wellington are the three most

important sites in eastern Australia for stygobionts. Eberhard and Spate (1995a, 1995b) and Thurgate et al (2001a, 2001b) provide more details on Wee Jasper's subterranean fauna.

These animals – some “living fossils” dating back to the Cretaceous or perhaps Permian geologic periods – have survived in a few pools between the entrance and the Sand Trap – probably because recruitment from further upstream in the more protected part of the cave happens between droughts. These animals are hopefully surviving in the inaccessible groundwater below the cave today.

Over the years the cave has suffered from high levels of visitor usage but the Sand Trap/Second and Third Sumps have provided an effective entry barrier that has done much to protect the inner parts of the cave from visitor impacts such as mud tracking and accidental or wilful damage to decoration. And maybe provide a source for the aquatic invertebrates to continue living further downstream in the cave.

However, the Sand Trap and subsequent sumps, are not as effective a barrier as they once were because:

- Lower effective rainfall means the sumps are now open more often than not.
- More people are aware that there is cave beyond the Sand Trap.

Concerns about the reduced effectiveness of the Sand Trap barrier (and perhaps coupled with increased levels of visitation) have resulted in calls by clubs such as NUCC and HSC to propose gating the cave at various places between the Sand Trap and Sump Three.

Over the last two years these proposals have been raised informally with Andy Spate and with the NSWSC. However, the proposals have not progressed because the proponents have been unable (or unwilling?) to address a number of critical issues such as:

- Discussing the proposal with, and obtaining approval from, the management authority (NSW Lands Department);
- Addressing management and safety issues associated with the proposed gate sites;
- Addressing ongoing management and maintenance issues (for example, who would check and maintain a gate located well into the cave – likely to have OH&S and resourcing issues for the local ranger – and overly onerous on any single club); and
- Who should be granted access and under what conditions.

CSS fully supports measures that would enhance protection of Dogleg Cave, but as a small organisation, it does not have the ability to either take on sole responsibility for progressing the gating proposal that has been championed through NSWSC or to become the only club involved in any ongoing maintenance work requirements (should any gating plan be implemented).

If protection of Dogleg Cave is to be enhanced (and CSS firmly believes it should be), the speleo community needs to consider all options and discuss them with the area managers.

Options include:

- Do nothing – results in ongoing deterioration and damage to the cave, its speleothems and fauna;
- Introduce non-physical methods of protecting the cave – permits, codes etc. Prohibition of access to non-authorised groups beyond the Sand Trap. How would these be effectively policed?
- Installation of CCTV or similar surveillance and/or alarm systems;
- Track marking and similar methods beyond the Sand Trap. Is this feasible and policeable?
- Gating the main entrance and thus restricting access to the cave to only those who know of the two vertical entrances. Is this only a stopgap arrangement?
- Gating all entrances and introducing a permit system thus introducing all the complexities of administration and access conditions – who, how often, what for etc?

Options that have been discussed within CSS are:

- Do nothing;

- Installation of CCTV or similar surveillance and/or alarm systems;
- Gates at the various entrances to the cave; and
- A 'semi-permanent' barrier at the Sand Trap to bar all access for, say, 100 years.

A number of sites have been suggested for gates with the cave including:

- At the entrance to Lake Chamber before the Sand Trap;
- At or in the Sand Trap itself; and
- At various locations between the top of the Opera House wall and the Third sump..

CSS believes that these sites are impracticable because they cannot be easily and routinely checked for vandalism or natural damage.

In terms of a semi-permanent barrier, CSS believes a structure of a concrete and stainless steel pipe might allow sand and water movement, but preclude all human access until such time as the barrier was removed. It would require careful design and implementation.

The advantages of installing gates at each of the Dogleg entrances would:

- Permit approved groups to enter the cave;
- Enhance protection for the isopods that live along the outer parts of the streamway (none of the other proposals address this issue; and
- Be much easier for the sole local ranger to check and maintain.

On the downside:

- Multiple gates and possibly locks to maintain;
- Increased likelihood of vandalism for gates at entrances; and
- The issues of who would determine entry criteria and do the on-site checking?

Advantages of a semi-permanent barrier include:

- Halting further damage (either wilful or accidental) to the inner parts of the cave;
- Providing time for damaged areas to recover / regrow;
- Addressing the management, maintenance and OH&S concerns with lockable gates;
- Solving the problem of who gets in but who does not; and
- Enhancing ASF/NSWSC cave protection credentials.

On the downside:

- No access for any reason for a defined period, including for valid speleo or scientific projects (i.e. more restrictive than for other "closed" caves);
- Design and installation work could be complex, time consuming and expensive; and
- Might have deleterious environmental effects.

On Tuesday, 28 April 2008, CSS members met with Mr Ray Mooney and Mr Steve Howarth (NSW Lands Department – the Administrator and Ranger, respectively, of the Wee Jasper Reserves) to discuss better protection of Dogleg Cave. The outcomes of that meeting were:

- Mr Mooney agreed that Dogleg Cave needs better protection;
- He pointed out that the Department (and thus the Reserves Trust) has very little money available for capital works – and only one staff member;
- He felt that a Plan of Management for the Dip, Punchbowl-Signature-Dogleg caves (and the caves reserves) was required and that he would seek funding for the preparation of such a plan - in consultation with the caving community;
- He pointed out that the cave using community at Wee Jasper was a much larger parish than ASF-affiliated societies and that any future management proposals would need wider consultation. He did, however, concede

that the expertise (and the Codes of Conduct, etc) of the ASF was the best available to the Lands Department in managing the Reserves and their caves;

- He agreed that he and the Lands Department would “smile” upon a formal proposal from ASF to implement protection works for Dogleg Cave;
- It was agreed that ASF through the Speleological Council should prepare and submit a proposal for “temporary” works to protect Dogleg Cave whilst still allowing access to Lake Chamber;
- That these works would be put in place whilst discussion and planning on how to protect and manage Dogleg Cave over a longer time frame;
- That signage and consultation with the wider caving community would be required;
- That better assessment of visitor numbers and their behaviour was needed.
- That efforts should be put into place to better licence and regulate commercial operators, school and community groups who use the caves reserves; and
- The Trust could assist with labour and limited monitoring of any protection works.

For discussion ...

Canberra Speleological Society Inc.  
29 April 2008

## References

- Eberhard, S. and Spate, A. (1995a) *Cave Communities -- Submission to the Australian Nature Conservation Agency* (1995)  
13 pp + two maps
- Eberhard, S. and Spate, A. (1995b) *Cave Invertebrate Survey: Towards an Atlas Of NSW Cave Fauna*. Report to the Department of Urban Affairs and Planning and the Australian Heritage Commission
- Jennings, J.N. (1964) Geomorphology of Punchbowl and Signature Caves, Wee Jasper, New South Wales, *Helictite*, 2(2)57-80
- Jennings, J.N. (1976) Caves around Canberra, pp. 79-95, *Proceedings of the Eleventh Biennial Conference of the Australian Speleological Federation*, the Federation, Broadway,
- Thurgate, M.E., Gough, J.S., Clarke, A.K., Serov, P. and Spate, A., (2001a) Stygofauna diversity and distribution in Eastern Australian cave and karst areas, Subterranean Biology in Australia 2000, *Records of the Western Australian Museum Supplement No. 64*:37-48
- Thurgate, M.E., Gough, J.S., Spate, A. and Eberhard, S.M., (2001b) Subterranean biodiversity in NSW: from rags to riches, Subterranean Biology in Australia 2000, *Records of the Western Australian Museum Supplement No. 64*:49-62

## **ATTACHMENT B**

### **Extracts from the minutes of the NSW Speleological Council meeting held at Bungonia State Conservation Area on 10 May 2008**

#### **Motions from CSS regarding Dog leg Gating Proposals**

1. That the New South Wales Speleological Council supports moves to protect Dogleg Cave at Wee Jasper by way of barriers or gates be instituted as soon as is feasible; Dependent on the success or otherwise of this motion, the following motions will be put to the meeting.  
Moved Dirk Stoffels 2<sup>nd</sup> Peter Dykes Carried unanimously.

The next three motions were moved as one motion. Moved Dirk Stoffels 2<sup>nd</sup> Peter Dykes Carried unanimously.

2. That the Canberra Speleological Society Inc be empowered by the New South Wales Speleological Council to conduct negotiations with the NSW Lands Department to facilitate such cave protection. The Canberra Speleological Society Inc will report back to the New South Wales Speleological Council on these negotiations;
3. That the initial purpose of these negotiations will be to install a temporary gate at or near the Sand Trap. Following such an installation, discussions will take place with the NSW Lands Department on the development of:
  - a) A Plan of Management for the protection and use of the caves at Wee Jasper under the care, control and management of the NSW Lands Department;
  - b) Consultations with all cave users.
  - c) Ongoing protection measures for` Dogleg Cave; in accordance with the outcomes of a) and b)
4. That the New South Wales Speleological Council formally submit an application to the Australian Speleological Federation Inc Environment Fund for up to \$4,000 to fund the installation of the gate. Further funds might be sought from this source in the future.

## **ATTACHMENT C**

### **Extracts from Constitution of ASF relating to Rules of the ASF Gift Fund**

2. The aims of the Federation are:

- a) to safeguard and protect the natural environment, specifically the cave and karst environment of Australia;
- b) to gather and disseminate information, develop and promote policies, foster and publish research, and provide education and advice to the Australian community on conserving Australia's karst resources
- c) to bring together and represent persons interested in caves and karst in Australia and the attainment of the Federation's aims; and
- d) to foster speleology in all of its aspects.

2.1 To establish and maintain a public fund to be called "The Australian Speleological Federation Gift Fund" for the specific purpose of supporting the environmental objects/purposes of the Federation. The Fund is established to receive all gifts of money or property for this purpose and any money received because of such gifts must be credited to its bank account. The Fund must not receive any other money or property into its account and it must comply with subdivision 30-E of the Income Tax Assessment Act 1997.

#### Rules for Administration of the Australian Speleological Federation Gift Fund ("The Fund")

The objective of the fund is to support the Federation's environmental purposes

#### Ministerial Rules

The Federation agrees to comply with any rules that the Treasurer and the Minister with responsibility for the environment may make to ensure that gifts made to the Fund are only used for its principal purpose

#### Statistical information

Statistical information requested by the Department on donations to the Public Fund will be provided within four months of the end of the financial year.

An audited financial statement for the Federation and its public fund will be supplied with the annual statistical return. The statement will provide information on the expenditure of public fund monies and the management of public fund assets

#### Conduit Policy

Any allocation of funds or property to other persons or organisations will be made in accordance with the established purposes of the organisation and not be influenced by the preference of the donor.

#### Winding-up of the Fund

In case of the winding-up of the Fund, any surplus assets are to be transferred to another fund with similar objectives that is on the Register of Environmental Organisations.