

ASPECT

Definition: ˈas – pekt / 1. a position facing a particular direction
2. appearance to the eye & mind.

THE DEGIFS NEWSLETTER

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The "Editorial" - *THE DESIGN FLOOD...A MOVING TARGET?*

In an attempt to clear my head of baby-induced cobwebs I submit the following editorial. The subject is one that entertains the mind in the wee hours of morn' and may be of interest to many members. That is the question of whether the design flood, the event upon which hydraulic engineering designs are based on, is a moving target? How much confidence do we have in estimates that may not be static over the long term? In light of recent tragic events in the Whistler-Pemberton area, this is a serious matter. Sources of uncertainty should be identified and recognized.

First of all, in estimating design floods of a longer duration, say the 1 in 200 year event, there is, of course, statistical uncertainty. The degree of uncertainty varies but is generally of some significance due to a lack of local hydrologic data and/or a short period of record.

There is also uncertainty associated with estimates and designs that are dependant upon a fixed hydraulic geometry. Changing channel configurations resulting from channel infilling or erosion will affect flow conditions of the design flood event.

Long-term changes in climate will affect snow accumulation, snowmelt, precipitation rates and volumes. Climate change will affect the magnitude and/or frequency of the design flood. Effects of climate change form a part of the new hydrologic record but may underestimate the design flood event, should a trend of increasing flood flows continue.

Finally, there is uncertainty associated with the potential coincidence of other geomorphic flood-inducing mechanisms in a basin. The possibility of debris flow, debris flood, or landslide makes it much more difficult to predict the magnitude of the design flood.

So, the question is, should there be a time limit on hydraulic designs that are based on a design flood? I think it may be prudent to periodically revisit estimates of the design flood as the climate and hydrologic record is extended, as we learn more about rates of channel change, and as we recognize potential geomorphic effects.

As this is the last issue of ASPECT for the calendar year we, the editors, would like to thank all who submitted articles to the newsletter, as well as the DEGIFS Executive, the Editorial Board, DEGIFS members, and APEGBC for their support in the publication of the newsletter. Happy and safe holidays!

DIVISION OF ENGINEERS AND GEOSCIENTISTS IN THE FOREST SECTOR

Volume 8, No. 4

DECEMBER 2003



FAREWELL TO BOB WILLINGTON

Tim Smith and DEGIFS colleagues

On November 12, 2003 the BC Forest Industry received the sad news that it had lost a trusted friend and valuable colleague with the sudden passing of Bob Willington Ph.D., P.Geo., R.P.F. Many affectionately referred to him as "Dr. Bob" and knew he could always be relied upon to provide valuable insights on managing environmental resources.

Bob had a long and distinguished career in the BC forest industry. He was trained as a forest hydrologist and his education included a BSF, MSc (Forestry) and PhD (Forest Hydrology). In 1971, following the completion of his Ph.D. he began teaching in the Faculty of Forestry at U.B.C. Towards the end of his tenure, he accepted the position of Assistant Dean of Forestry. He also used his time at UBC to establish long-term research installations in the Jamieson Creek (Greater Vancouver) and Carnation Creek (Vancouver Island) Watersheds. These stations are still in place today and the data collected at them are actively sought out and studied by students and professionals alike.

During the summer of 1977, he joined British Columbia Forest Products Ltd. and by the end of that summer, it was apparent to him that the academic and the existing forest hydrology worlds did not adequately address operational forest hydrology and engineering issues and practices. As a result, Bob left the hallowed halls of academia to pursue his interests in these areas. Over the ensuing 25 years, Bob proved to be an innovator and leader and today because of his work, the forest industry builds better roads, has a better understanding of the cumulative effects of forest harvesting on water resources and is able to effectively rehabilitate historically damaged watersheds (as a result of forest harvesting).

Despite this, he never strayed far from his roots as a teacher. "Dr Bob" inspired all of those who came in contact with him and encouraged them to think outside of the box and understand both site and bigger picture issues with regards to problem solving. He continued to be in demand as a lecturer at universities, colleges and symposiums and was frequently called upon to provide technical advice to professional groups and government agencies. Bob was a senior member of

the provincial watershed-planning group, and his watershed management strategies were not only comprehensive and effective, but also operationally manageable. After over 25 years as an industrial forest hydrologist, Bob was confident that his knowledge and planning strategies were based on what really happens in the "woods".

His passion for forest engineering and hydrology combined with his excellence as a teacher and innovator were recognized by the Association of Professional Engineers and Geoscientists of BC and the Association of BC Professional Foresters in 2001, when he was awarded with the Forest Engineering Award of Excellence.

All who had the privilege to meet or work with Bob witnessed the respect with which he treated everyone he came into contact with, and benefited from his brilliant mind. He possessed the rare combination of academic intelligence, bush knowledge and a straightforward style that meant he could communicate in a manner that transformed complicated technical issues into simple, workable solutions. He was a great listener and always gave credit where it was due and recognised the knowledge that all members of "his" forestry team could provide. Bob was the ultimate team player and those of us who had the opportunity to spend time with Bob were fortunate to experience a truly remarkable gentleman whose character will always be remembered.

"Dr Bob" your smile, calming voice, wonderful sense of humour, and practical knowledge will be missed by all of those who had the privilege to call you both a friend and a colleague. As professionals and friends we are more aware because of you and our world is a better place because you were here. Your legacy will be that the results of your work will be carried on.

Bob's wife, Sherry, passed away shortly after Bob's memorial service. She had battled a long illness with Bob by her side. They are survived by their son, David.



EXECUTIVE UPDATE

Eric McQuarrie, P.Eng., DEGIFS Past Chair

Annual General Meeting

The recent highlight for DEGIFS was the technical sessions presented at the AGM. The presentations were excellent and made the trip worthwhile. Once again, DEGIFS recorded the highest attendance of all the divisions, demonstrating how active we are. Special thanks to Doug Dewar, our outgoing AGM Coordinator, and to Janet Guscott and her staff at APEGBC for all their efforts over the past 9 months. Also thanks to all of the presenters for sharing their experience and knowledge with other members.

Terrain Stability Assessment Guidelines

The *Guidelines for Terrain Stability Assessments in the Forest Sector* passed APEGBC Council unanimously in October. The document is out for printing and should be available on the APEGBC website (hopefully with a DEGIFS link) by mid December. Every DEGIFS member should receive a printed copy in the mail.

Bridge Design Guidelines

The Joint Practices Board's Draft Bridge Design Guidelines are currently being reviewed by the Guidelines Subcommittee, headed by Doug Nicol and Brian Chow. The subcommittee consists of engineers and geoscientists from a variety of backgrounds, not just bridge designers. Thanks to everyone who provided comments.

Forest Engineering

A group of engineers, mostly from the Prince George area, raised the issue of the role of forest engineers in BC. The lack of a forest engineering program at UBC affects how APEGBC evaluates applicants under this discipline. Currently, APEGBC registers graduates in UBC's forestry program as EITs and P.Engs. based on a syllabus developed by APEGBC. Applicants generally need a B.Sc. in Forestry (Forest Operations) plus certain additional courses. These courses are primarily math and physics with a few higher-level engineering courses. The main concerns are the adequacy of this syllabus and the fact that UBC's forestry program is not accredited by the Canadian

Engineering Accreditation Board (CEAB). DEGIFS and APEGBC are currently reviewing the syllabus and will be discussing the matter with CEAB. The issues surrounding forest engineering will likely be one of the new executive's focal points for the next year. If you have opinions on this matter, please share them with the current executive.

Volunteers Needed

Much of the DEGIFS work is still being done by too few of members. It is far too easy to sit on the sidelines and criticize while a small, dedicated group work on your behalf. The best way to become informed is to become involved.

DEGIFS is seeking volunteers for several positions. We need new members for the editorial board to help shape Aspect. With the election of Heather Blyth, we also need a new Webmaster. The workshop and AGM committees need volunteers and several ad hoc committees are formed each year to address specific issues. Volunteering with these committees has proven to be the best way of being elected to the next DEGIFS Executive, so if you are interested in helping, please notify the new executive.

Membership Drive

Despite popular belief, DEGIFS is not just a group of terrain specialists. We represent all branches of engineering and geoscience working in the forest sector and we represent the entire province. DEGIFS presented several talks on forest hydrology at the last two AGMs. Bridge designs and general forest engineering are topics that will dominate this next year. Our recent efforts will (hopefully) result in several new members from the Prince George area. Are there other areas of the province where members working in the forest sector have never heard of DEGIFS? Several engineers and geoscientists in government have still not joined.

DEGIFS is constantly being asked by government, industry and the media to provide opinions on behalf of engineers and geoscientists. If you want your voice to be heard, you must join DEGIFS. We represent only our members. If you know of APEGBC members working in the forest sector that are not DEGIFS members, please let us know or let the individual know about DEGIFS.



Final Remarks

This being my last report as DEGIFS Chair, I want to thank all of those who volunteered their time on the DEGIFS Executive, Aspect, the website, and various committees. Thanks also to past executive members who continue to donate their time to assist wherever possible, particularly Tim Smith who, regrettably, decided not to continue on as an APEGBC Councillor. Tim was very active on Council and a great advocate for DEGIFS over the past two years. I tried to convince him to run for APEGBC President, but unfortunately he has a business to run.

By the time this issue of Aspect is published, your new executive will have completed its first meeting and determined the new executive positions (please refer to p. 9). I know I leave the chairmanship in good hands. As past-chair, I look forward to the input from the newly elected members. It's been an exciting year. Thank-you.

2003-2004 ELECTION RESULTS

Eric McQuarrie, P.Eng., DEGIFS Past Chair

There was considerable interest from within the Membership to seek election to the DEGIFS Executive for the 2004 / 2005 term. A total of ten candidates agreed to let their name stand in this year's election for the 4 available spots on the Executive this year. Of the 227 ballots mailed, 108 ballots were returned for a return rate of 47.5%. The candidates elected are:

- o Brian Chow, P.Eng. (re-elected)
- o Heather Blyth, P.Geo.
- o Tim Dunne, P.Eng., RPF
- o Deepa Filatow, P.Geo.

The DEGIFS Membership is extremely fortunate to have such a high number of people interested in serving on the Executive. Such interest bodes well for the Executive and ensures the excellent work accomplished by past Executives will continue. Members not elected this year are encouraged to stay involved with the Executive through committee work, Aspect or the web site, and to stand for election again next year.

FEE STRUCTURE REFERENDUM

Eric McQuarrie, P.Eng., DEGIFS Past Chair

The DEGIFS Executive recommended a change to the membership fee structure to reduce the fee for Affiliate Members to \$10.00. The reduced fee recognizes that affiliate members include many students and members of other associations who receive less benefit with their membership than full members. With this option, the revised wording for Section 5 in our Terms of Reference would read as follows:

5. Fee Structure

The fee shall be set at \$25.00 per year, plus all appropriate taxes, for Division Members and \$10.00 per year, plus all appropriate taxes, for Affiliate Members. Any changes in the fee structure shall be recommended by the Division Executive and shall be subject to approval by a two-thirds majority expressed in a letter ballot by Division Members. If the recommendation of the Division Executive is rejected, the most recent fees shall remain in effect.

As noted in the Terms of Reference, any alteration in the fee structure shall be subject to approval by a two-thirds majority expressed in a letter ballot by Division Members.

The results of the referendum were 88 votes in favour of the motion and 7 votes against. **The referendum passes.**

JOINT PRACTICE BOARD APPOINTMENTS

Eric McQuarrie, P.Eng., DEGIFS Past Chair

Based on recommendations by the DEGIFS Executive, the APEGBC Council appointed two new members to serve two-year terms on the JPB. They are Robert Patrick, P.Eng., and Gino Fournier, P.Eng., RPF. They join Don Dobson, P.Eng. and Steve Chatwin, P.Geo. as APEGBC's members on the JPB. Don Dobson will assume the role of JPB Chair for 2004.



**APEGBC 2003 CONFERENCE
DEGIFS TECHNICAL SESSION SUMMARY**
*Doug Dewar, P.Eng., DEGIFS 2003 AGM
Coordinator*

Another year, and another top notch technical session provided by the membership of DEGIFS. The technical sessions included risk analysis, snow avalanches, large debris flows and fan geomorphology. Additional talks discussed due diligence of professionals and the new TSFA guidelines.

On Wednesday October 22, approximately 30 participants enjoyed a tour of the Penticton area detailing the Post-Glacial Geomorphic Development of the Okanagan Lake Valley, which included a lovely lunch at the Hillside Winery. Thanks to Murray Roed, P.Eng., for hosting such an informative and scenic tour (at least once the fog burned off!).

Some Statistics:

I would like to thank all the speakers for the excellent work they put into their presentations during the 2003 AGM. I think the quality of the technical presentations is best reflected by the following statistics:

BEST ATTENDED SESSIONS DURING THE 2003 APEGBC AGM:

- # 1 DEGIFS: Session A1: (74) Landslide Hazard and Risk Case Histories
- # 2 DEGIFS: Session B1A and B1B (73): Landslide Hazard and Risk Case Histories
- # 3 Structural Engineering: Session G2 (72): Structural and Fire Considerations in the World Trade Center Collapse
- # 4 DEGIFS: Session CIA and C1B (64): Landslide Hazard and Risk Case Histories

and so on....

TOTAL NUMBER OF PEOPLE ATTENDING ALL TECHNICAL TALKS: 1,344

TOTAL NUMBER OF PEOPLE ATTENDING DEGIFS TECHNICAL TALKS: 482

PERCENTAGE OF ATTENDEES AT TECHNICAL TALKS FROM DEGIFS: 35%

PERCENTAGE OF TOTAL APEGBC MEMBERSHIP FROM DEGIFS: 1.5%

I will let the membership draw their own conclusions regarding these statistics.

Thanks to:

I would like to thank the following speakers:

Murray A. Roed, P.Eng., Mike Wise, P.Eng., Doug VanDine, P.Eng., P.Geo., Glenn Moore, P.Eng., Tim Smith, P.Geo., Doug Nicol, P.Eng., Tom Millard, P.Geo., Calvin VanBuskirk, P.Eng., Neil Singh, P.Eng., Pierre Friele, P.Geo., Alan Jones, P.Eng., Frank Baumann, P.Eng., Chris Stethem, Roberta Reader, LLB, Cliff Proudfoot, MLB, Dave Wilford, P.Geo., R.P.F., Matt Sakals, GIT, P.Ag., and last but not least our past chair, Eric McQuarrie, P.Eng. Please note Eric McQuarrie presented for Don Dobson as Don was responding to an urgent work situation.

Additionally the event would not have happened without the hard work of Janet Guscott and Tracy Frazer of APEGBC. Yet again they kept everything running smoothly and professionally.

Finally thanks to everyone who attended this years sessions, hope to see everyone at next years sessions.





DEGIFS MEMBERS AND THE BC FOREST PRACTICES BOARD

Tim Smith, P.Geo.

Recently Eric McQuarrie P.Eng (Past Chair of DEGIFS), Tim Smith P.Geo (member at large) and Peter Mitchell P.Eng (Deputy Director of Professional Practice) on behalf of DEGIFS, met with Liz Osborne (Acting Chair), John Pennington and Fred Parker of the Forest Practices Board (the Board) to discuss the current and future relationship between the Board and APEGBC members who practice in the BC Forest Industry. This memorandum summarizes the discussions from this meeting.

(1) The Board.

The mission of the Board is to serve as the independent watchdog for forest practices in BC. In fulfilling this mission, the Board encourages: -

- (i) sound forest practices that warrant public confidence;
- (ii) fair and equitable application of forest practices legislation; and
- (iii) continuing improvements in forest practices.

The Board is not a stakeholder board and its members collectively represent a range of knowledge and views.

The Board's mandate is as follows: -

- (i) It must undertake independent audits to review compliance with the code and the appropriateness of the Ministry of Forests enforcement;
- (ii) It must deal with public complaints and may conduct special investigations;
- (iii) It may request administrative reviews of determinations and appeal review decisions to the Forest Appeals Commission;
- (iv) It must report findings to the public and the ministers.

(2) APEGBC's Relationship with the Board.

The Board may interact with APEGBC Members in audits, investigations, limited reviews, internal reviews, or in policy reviews. APEGBC Members can provide services to the Board as either a specialist consultant on any of these functions, or when review of another Member's work is being undertaken as part of an audit or an investigation.

(a) The Board's Use of APEGBC Members as Specialists.

The Board will use specialists whenever they need assistance to understand professional and technical issues that are central to a Board audit, investigation or activity. Auditors and complaint analysts tend to be generalists and if they feel they need assistance to properly assess technical or professional issues, specialists will be utilized to help understand the reasoning behind technical and professional reports.

In addition, Board staff apply principles of professional skepticism and use specialists to confirm internal or limited-review opinions and to help resolve professional conflicts or contradictions. The degree of professional skepticism is affected by the relationship between the specialist and the licensee or auditee. If the report is by a person employed or retained by the subject of an audit or investigation, the evidence is presumed to be less reliable. This is because the employer or contract relationship might appear to impair objectivity.

DEGIFS contended that when the Board uses specialist professionals for reviewing the work of other APEGBC Members, that specialist must be at least as qualified as the person's work they are reviewing. In the past, the Board has allowed the potential "specialist" to self evaluate their skill set. DEGIFS suggested that when selecting professionals for this type of work, it should be based on an evaluation of the qualifications of the specialist and select the most qualified people available. Otherwise, the use of third party qualified lists such as that developed by the "Southern Interior" Forest Region was recommended to the Board.



Additionally, DEGIFS indicated that the APEGBC members who are used by the Board as specialists have an obligation under the Engineers and Geoscientists Act to notify the fellow professional whose work is being reviewed. The Board indicated that they would ensure that the specialists are not prevented from being able to do this.

Finally, a concern was raised that the fees paid to APEGBC members who work as specialists for the Board was considerably below market rates. The Board indicated that the government has substantially reduced their budget and that they had to be fiscally prudent with regards to their costs. The Board did commit to reviewing the rates paid to APEGBC members so that they could continue to attract the appropriate quality of specialist required.

(b) APEGBC Members who's Work is being Reviewed by the Board.

Under the new Forest Range and Practices Act (FRPA), the Board's mandate will remain unchanged. FRPA will require the language in the Licensees plans to be clear and measurable, and auditable objectives and strategies must be stated. The Board will examine Licensees operations to determine if the stated results are achieved. Importantly, under the new FRPA, "due diligence" is a defense for a licensee if there is a contravention of the Act. When using such a defense the Licensee may be required to prove they used "due diligence" in the hiring of an appropriately qualified professional(s). The board will have the authority to obtain all the licensee's records to investigate if an adequate level of diligence was undertaken, including any work conducted by professionals. The Board may make recommendations to the governing associations to investigate the practice of a registered member under their respective Acts.

The Board has shown recently that it will investigate the work of APEGBC members and make recommendations to the Association to further review the outcomes of their work. This is described in the Board's report "Complaint Investigation 010358: Bridge Design and Construction at Reisetter Creek near Smithers, B.C". The following is a summary of their outcome:

"Although the Code was complied with, it is the Board's opinion that the risk of the crossing project was not fully identified and understood

before construction began. The licensee, bridge designer and terrain assessor should also have better communicated with each other about the risks before construction began. The bridge designer, terrain assessor, licensee and MOF all shared responsibility for failing to fully identify and address the risks associated with the crossing.

As BC moves toward a results-based code, responsibility will likely shift from government to licensees for managing risk and deciding whether professional assessments are necessary before carrying out a forest practice. Under such a model, a licensee should clearly outline the parameters for any professional assessments to ensure that all risks are identified, and professional associations should clearly define the responsibilities for assessments conducted by their members.

In support of sound forest practices, the Board specifically recommends that professional assessments should aim to inform a licensee about the risks associated with a project."

It was re-emphasized to the Board that APEGBC has an investigation and discipline process that holds registered members accountable under a "code of ethics" and that APEGBC would continue to work with the Board to ensure that DEGIFS members practice at a high standard.

DEGIFS also conveyed to the Board that it had been proactive in working to develop guidelines that could be used to measure a member's practice. The Board was informed that the "Guidelines for Terrain Stability Assessments in the Forest Sector" had just been ratified by Council and that the Joint Practice Board was working to develop guidelines relating to "Bridge Design" for both APEBC and ABCPF members, of which DEGIFS is currently reviewing.

A commitment was made by DEGIFS and the Board to continue to meet and strengthen their relationship so that the public of BC can be comfortable that APEGBC members work continue to be providing a high level of professional service to help manage the forestry resource in BC.



GEO-HOUNDS

Kay Nine, P.Woof

It's no surprise that most rugged DEGIFS types are consistently guided throughout BC's wild forests and unforgiving terrain by these agile burly Geo-hounds. For more information on how to obtain and train a bush savvy canine like the tried and true beasts pictured below, contact the Bush Bowwow Poodle/Frise Society of Geo-Types (1.800. DOG. SPOT). Remember – *Bark is our friend.*



Photo 1: Geo-hound 'Buttons Dogson' displaying a blue rinse and permanent high atop the Inter-Montane Plateau.



Photo 2: Geo-hound 'Sir Barney FSR Toyner' exhibiting serious 'tude in the Enchanted Disney Forest.

HEAR YE HEAR YE

We would like to hear ye's please!

- LETTERS TO THE EDITOR -

- Effective 2004 - ASPECT is reserving space for you!
- An official *Letters to the Editor* section will be allotted in ASPECT.
- We are encouraging all our readers to participate in this mode of professional communication.
- Here's your chance to try out ideas, challenge the views of your peers (in a healthy way of course), expand the readership's knowledge base and to share your professional thoughts.
- You've been subjected to what's on our mind – now it's time for us to hear from you!
- All you have to do is meet the submission deadlines and follow the guidelines noted on p. 9. *The Editors reserve the right to publish.*
- Two short letters per newsletter – the early bird catches the worm – only professionally relevant letters for DEGIFS members will be selected.





Who We Are

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Do Not Forget!!!

ASPECT SUBMISSIONS:

LAST DATE FOR SUBMISSIONS TO ASPECT	NEWSLETTER RELEASE DATE
MAR. 5, 2004	MAR. 26, 2004
JUNE 18, 2004	JULY 9, 2004
SEPT. 3, 2004	SEPT. 24, 2004
NOV. 19, 2004	DEC. 10, 2004

Electronic submissions in **Word format (only)** should be made to Bruce Thomson by the date listed above (no exceptions) (bruce.thomson@gems3.gov.bc.ca).

Refer to *Guidelines for Submission* on the website <http://www.degifs.com/guidelines.doc> for submission requirements.

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