The Statistical Society of Australia
News

SSAI

In this issue

Peter Hall

PETER HALL – 1951 – 2016

It is with great sadness that we report the passing away of Peter Gavin Hall on January 9, 2016, in Melbourne, Australia. He was 64.

During the past four decades Peter was a monumental figure in the statistics community, both internationally and within his home country of Australia.

He was born in Sydney in 1951 and earned degrees from the University of Sydney, the Australian National University and Oxford University. He spent many years at the Australian National University, and moved to the University of Melbourne in 2006. He also held a one-quarter appointment at the University of California, Davis that commenced in 2005.

Peter was one of the most influential and prolific theoretical statisticians in the history of the field. The breadth of problems he tackled, and the depth and creativity with which he solved them, are unique. He made seminal contributions concerning the bootstrap, rates of convergence, functional data analysis, martingale theory, measurement error models, nonparametric function estimation and smoothing parameter selection and published 4 books and approximately 600 journal articles.

His contributions were recognized with fellowships from the Australian Academy of Science, the Academy of Social Sciences in Australia, the Royal Statistical Society of London, election as a foreign associate of the US National Academy of Sciences, as well as honorary doctorates and awards that include the Committee of Presidents of Statistical Societies Award in 1989 and the Guy Medal in Silver from the Royal Statistical Society in 2011.

Despite his stature, Peter had a gentle and unassuming nature. He offered especially strong support to young scientists, trained more than sixty young statisticians at the doctoral or post-doctoral level, and had hundreds of collaborators. He will be remembered for his kindness, generosity and sheer brilliance. Few could rip apart a theoretical problem as well as Peter could.

Peter was also strongly committed to his profession more generally, and the amount of service and support he provided to mathematics and science throughout his life, both in Australia and internationally, was also extraordinary. He served as IMS President in 2011 and as an editor of Statistica Sinica during 2008-2011 and The Annals of Statistics during 2013-2015.

Outside of statistics Peter was a keen photographer with a particular interest in train photography. He enjoyed travel and was a regular visitor to many institutions around the world. He is survived by his wife, Jeannie and his sister, Fiona.

Aurore Delaigle and Matt Wand

The Statistical Society of Australia was proud to have had Peter as a member. He was awarded the Society's Pitman Medal in 1990.

March 2016
Issue 154

SSA

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Advertising will be carried in the Newsletter on any matters which the Editors feel are of interest to the members of the Society.
For details ofadvertising rates, etc. contact the SSA Executive Officer at eo@statsoc.org.au

DEADLINE FOR NEXT NEWSLETTER
10 May 2016

FROM THE ACTING EDITOR

Late last year SSA, with assistance from DAA, conducted a survey of members to obtain their opinions about the Society's Newsletter. A brief report by Sonia Langford on the results of that survey is published in this issue of the Newsletter.

The survey results were consistent with the SSA Executive's view that the Newsletter in its current form is not best suited to meeting the communication needs of the members. We are investigating alternative formats for the Newsletter, focussing particularly on a briefer, more frequent, e-newsletter. Members will be kept informed of progress.

Sonia Langford has found that increasing commitments to family and work preclude her from continuing as Editor of the Newsletter, and she has asked to step down from that role. SSA is very grateful to Sonia for her considerable efforts, under difficult circumstances, in editing the recent issues of the Newsletter.

I will be serving as Acting Editor while the format of the Newsletter is being finalised. If any member would like to have a role on the editorial team of the SSA Newsletter, would they please contact me at doug.shaw@internode.on.net

Doug Shaw
Acting Newsletter Editor

EVENTS

INTRODUCTION TO BAYESIAN MODELLING AND ANALYSIS

29-30 March 2016, Melbourne

5TH BIENNIAL ACSPRI SOCIAL SCIENCE METHODOLOGY CONFERENCE

19-22 July 2016, Sydney

AUSTRALIAN STATISTICAL CONFERENCE 2016

5-9 December 2016, Canberra

To have your event added to this list, please forward the event details in the above format to eo@statsoc.org.au

A list of international events can be accessed here:
http://www.statsoc.org.au/events/other-events-international/

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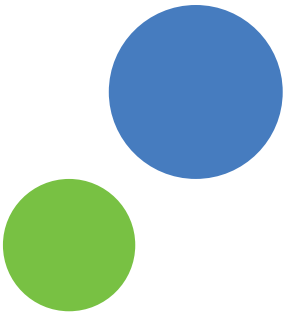
Further contact details for Society Secretaries and Section Chairs can be obtained by contacting the Society on (02) 6251 3647. If you are interested in applying for any of the vacant positions, please contact the Executive Officer (eo@statsoc.org.au).



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PRESIDENT'S COLUMN

Being a Statistician

Statisticians form a diverse community. We come from many different backgrounds and I am sure that each of us can tell a different story about what made us a statistician or that set us on our career path. I can clearly recall a course in linear models when I was an undergraduate at Flinders University that combined mathematics, geometrical intuition and practical data to show me what statistics really could be. Others will relate work experience or inspirational mentors.

What binds us together is our interest in statistics and what it can do. And it is what it can do that creates the public image of statistics and ultimately provides many of us with jobs. It is the collective work of statisticians that defines the profession. It is why my passport lists my occupation as statistician and not consultant or business executive.

In this context that we should all think of how we can support our fellow members of the profession. In the same way that we have come into statistics in different ways, each one of us has different things we can offer. For some it will be teaching or mentoring younger statisticians. For some it is in outreach. Or maintaining high statistical standards in publications. For some leadership.

In this I believe that the Statistical Society plays a critical role. It is the focus of many activities that benefit all statisticians. Hence I strongly believe that all statisticians have a responsibility to support the Society in ways that are appropriate to them. This includes contributing to activities and making sure that the Society does what you think is important. But first of all, by being a member.

For that reason the Society is embarking on a membership drive. I think we should be ambitious in this and aim to double our membership! The Society is open to all those with a real interest in statistics and we should encourage colleagues who have this interest in statistics to join.

Dr John Henstridge

Dr John Henstridge
SSA Vice President

SSA NEWSLETTER 2015 SURVEY

Why survey?

The SSA Editor and Executive were concerned that the current, long, quarterly, web based, .pdf newsletter did not meet member needs and could be improved. Thus, the Editor with the assistance of Data Analysis Australia and the Executive Officer conducted a member survey to obtain feedback on the newsletter.

Why change?

The newsletter survey was sent to all 756 current SSA members with an email address and had a low 14.0% response rate. This result in combination with the moderate SSA newsletter email open rate (≈ 51%), suggested that many members are disengaged from the current newsletter format and that change is warranted.

What sort of change?

A possibility for the type of change required was suggested by the 22% of survey respondents who did not want the SSA newsletter but they did want some SSA news. This cohort wanted news that was timely, brief and in a format that allowed member choice in topic/article selection. This was consistent with 2014 member feedback from other Australian professional societies.[1]

Media for reading any SSA news

About 70% of survey respondents and those who open the SSA newsletter emails prefer to use a computer (desktop) screen for viewing. There was no stand-out second preference from the survey, but about 20% of people opened the newsletter email on mobile phones. This suggests that any future SSA news would reach more members if readable on both a computer screen and a mobile phone.

SSA news content and contributions

About 78% of survey respondents wanted a newsletter. They were asked to nominate what they wanted in it and what contribution they would make to it. The majority wanted to know about events, new members, professional development news, useful internet links, branch news, and have member articles as well as an editorial. Of the 42% (34 people) who agreed they would make a contribution, 71% indicated they were prepared to make >1 type of contribution. The most popular possible contributions were "an article and/or branch news" and "an interview about you". These results suggest there are opportunities for greater member contributions, especially where preferred news items intersect with what members are willing to provide.

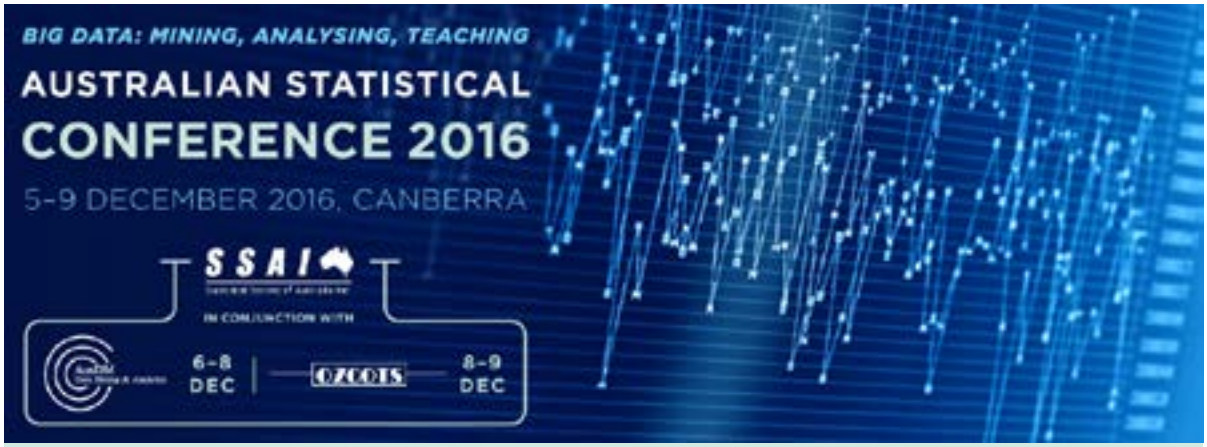
Where to from here?

As requested by the Executive, the Executive Officer is investigating the option of a monthly, brief, emailed newsletter, with selectable links to internal articles. The current quarterly newsletter is continuing whilst consultation with stakeholders progresses. The Executive will provide you with further information.

A full copy of the 2015 Survey Report is available on request from the SSA Executive Officer.

Sonia Langford

Acknowledgement:
Thank you to Data Analysis Australia for donating their assistance with the 2015 SSA newsletter survey.
1. Mainland, B. & Sullivan, R. (2014). Associations Matter Professional Associations 2014. Elsternwick, VIC. Available from: http://www.surveymatters.com.au/associations-matter-projects/ or the SSA Executive Officer on request.



REGISTRATIONS ARE NOW OPEN FOR THE

AUSTRALIAN STATISTICAL CONFERENCE 2016

in conjunction with the Australasian Data Mining Conference (AusDM) and the 19th Australian Conference on Teaching Statistics (OZCOTS)

5th – 9th December 2016
Hotel Realm, Canberra

Big Data: Mining, Analyzing and Teaching

Join delegates from all areas of statistics, data mining and teaching to discuss, network and learn. Develop and share knowledge and expertise with world class Australian and International colleagues. The Conference will provide an excellent opportunity to be involved with presentations on a wide range of topics recognising the role that statistics and data mining play in all aspects of the modern life.

Watch this space for more information:

http://asc2016.com.au/

STEMS: PUTTING STATISTICS INTO STEM IN THE AGE OF DATA

The Statistical Society of Australia, via its Statistical Education Section, is seeking to develop a platform for the transformation of Statistics Education in Australia at high school and at university, in response to an increasingly massive demand for statisticians and an equally massive shortfall in supply. With the rapidly developing importance of Big Data in many aspects of day-to-day activities, the emphasis will be on Statistics Education in the more general context of Data Science education.

As a starting point, a two-day workshop is being planned for 2 – 3 June, 2016, hosted by the University of Technology, Sydney, with the twin aims of developing an appropriately strategic view of needs, and then an overall plan to respond appropriately. The workshop will initiate a conversation between leaders in secondary education, tertiary education, government and industry about how to re-imagine Statistics curricula for Years 11/12 and undergraduate degrees in data-dependent disciplines to create the next generation of Statistics and Data Science graduates.

We expect this will be a very constructive and high-profile event with speakers and representatives from CBA, ACARA, ACEMS, ABS and UTS with other invitations of note awaiting confirmation. A highlight will be the participation of a renowned statistical educator, Professor Xiao-Li Meng, Dean of the Graduate School of Arts and Sciences at Harvard University, who will explain how Statistics programs in the US are meeting these challenges and how he envisages the future for Statistical Education in the data age.

The workshop will commence with keynote talks on the morning of 2 June. The afternoon session will commence with a panel discussion aimed at raising the specific issues that need to be tackled at the workshop. Workshop participants will then work primarily in small groups, to brainstorm strategies for designing and implementing Statistics curricula for schools and universities. Core options include the creation of a dedicated 2-unit course in Statistics in Years 11 and 12 (to supplement existing offerings in Mathematics and Computer Science), and the design of first-year undergraduate Statistics courses and what later-year courses need to be created to facilitate the graduate attributes industry and governments need. On the second day, focused discussions will turn to implementation – how to convert the ideas of the first day into a workable reality – what, how, who, and resourcing – with input again from schools, universities, professional societies, industry and government.

Further information will be circulated via anzstat and the SSA's Statistical Education mailing lists.

Peter Howley and Michael Martin
Chairs of Statistics Education

SSA GOLDEN JUBILEE TRAVEL GRANT

It provides overseas travel funds to the Society's student members, who can prove consecutive SSA membership for a minimum of two years and who wish to attend overseas conferences at which they present a paper or poster.

A maximum of $1000 is available per application, limited to a single trip during the course of the student's studies. Students will not be supported in their first year of study and will have had to be members of the Society for at least 2 years prior to the application deadline. Applications are required to be lodged in advance of travelling. In exceptional circumstances an application can be for post-conference support, but the application will then have to be made within 1 month of returning and the 2 year mandatory membership period prior to departure must still be met. Exceptional circumstances are limited to unforeseeable student out of pocket expenses arising from other funding sources not fulfilling their obligation or changes to the trip that could not have been avoided.

A complete application will consist of

- Information on the conference and its importance to student's work (2-3 lines)
- Details of the paper/s/poster student wants to present at the conference
- A list of other funds sought or promised, including student's home institution
- Student's out of pocket expenses expected
- Any other supporting material student feels is necessary
- A letter of support SIGNED by one of student's supervisors AND student's Departmental Head
- Student's CV

The application deadline is 31 March 2016.

If successful the student member is required to produce original receipts for amounts of equal or greater value than the grant. These receipts will be returned to the student marked with how much has been reimbursed. The student will therefore still be able to use the receipts for proof of attendance or to claim any funding shortfall from other organisations. The student member will also need to supply a report of his or her involvement in the conference to be published in the SSA newsletter. This report should confirm the actual travel details and papers presented.

Recipients of the grant are asked to acknowledge the SSA's support in the presentations and in any published version of the paper.

One travel grant is available per year. Assuming that more than one application will be received per year, either the Executive Committee or a special committee would help with the selection process.

For more information or to apply, contact the SSA Office (eo@statsoc.org.au).

With this travel grant program the SSA seeks to underline its objective to further the study, application and good practice of statistical theory and methods in all branches of learning and enterprise. It has been implemented to confirm to members that the SSA is willing to support student statisticians and their budding careers.

NATIONAL COMPETITION TURNS 3 IN 2016… AND IS EXPANDING TO PRIMARY SCHOOLS: BUT FIRST THE WINNERS FOR 2015 !

National Secondary Schools Statistical Literacy Poster Competition

In previous SSA Newsletters we wrote about the successful 2014 pilot of the National Secondary Schools Poster competition and how the Junior Division Winners from the Competition (Year 10 students from Lisarow High School, Central Coast, NSW) were announced at the International Statistical Institute's 60th World Statistics Congress in Brazil as the Winners of the International Statistical Literacy Project – Junior Division.

We are pleased to report that the national competition continued to grow in 2015 and will expand to include Primary Schools in 2016.

After the success of the 2014 pilot, the number of participants tripled in 2015. We had 235 participating students across 19 schools (from all states and territories excluding South Australia and Northern Territory) contributing 76 poster submissions which communicated their data-based investigations. There were as many more again who registered in 2015 but didn't complete in time for the November deadline.

We are pleased to announce the 2015 winners and honourable mentions for each of the three divisions.

Winners

Division	School (Teacher)	Students	Project Title
Years 7-8	Mansfield State High, QLD (Kylie Agnew)	Hiruni Dharmasena Deana Benko	The Hours of Sleep Mystery
Years 9-10*	The Hutchins School, TAS (Peter Crofts)*	Jack Gartlan Samuel King Harrison Wink	Lambert Park Ecosystem Investigation
	Mentone Girls' Grammar, VIC (Elham Heidari Beni)*	Natasha Fisher Michelle Fisher	Cost effective wind turbines

* JOINT WINNERS in Years 9-10 Division

> Continued on next page

Honourable Mentions

Division	School (Teacher)	Students	Project Title
Years 7/8	All Saints Boys College, NSW (Katrina Brubacher)	Ruby John Adrian Arena Brandon Alves Emily Hoang	*Which Substance Best Preserves an Apple?*
Years 9-10	Mentone Girls' Grammar, VIC (Elham Heidari Beni)	Sarah Avery Elizabeth Earney	Producing energy with the least expense
	Lisarow High, NSW (Ben Surwald)	Samantha Coutts-Bain Olivia Young Rhiannon Mobbs-Keegan	The Longevity of Plums
	Lisarow High, NSW (Ben Surwald)	Charlotte Salter Alison Portelli Jasmine Johstone	Gluten Content of Flour
	The Hutchins School, TAS (Peter Crofts)	Fergus Charles Kenneth King Sebastian Robinson Liam Usoalii	Lambert Park (Under the Surface)
Years 11-12	Hunter School of the Performing Arts, NSW (Cassandra Portelli)	Kristen Bintley Charles Lowe Shannon Groves Jayden Castle	The Enthusiasm of students toward this poster project
	Hunter School of the Performing Arts, NSW (Cassandra Portelli)	Emogen Mahony Chelsea Rothery	Aldi versus Woolworths

Examples of the many and varied entries are available at www.ssaipostercomp.info. The joint 2015 winners of the Years 9-10 division are provided on the following page.

The poster competition encourages teams of 2 to 5 secondary school students to develop, implement & creatively report upon an investigation towards addressing a practical research question, on a topic of interest to them, based on the collection and interpretation of data; the project's aims and support available are described on the website (www.ssaipostercomp.info).

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STATISTICAL JOB BOARD NOW AVAILABLE!

Looking for a change? Create a Job Seeker account, upload your resume or simply create a job alert and let the job find you.

Not looking for a job but offering one? Simply create an Employer account and see where it will lead you!

Best of luck finding top talent…or that dream job!

http://careers.statsoc.org.au/home/index.cfm?site_id=18859 (Job Board)

LAMBERT PARK ECOSYSTEM INVESTIGATION

Introduction

An ecosystem is according to the oxford dictionary; "a biological community of interacting organisms and their physical environment". These organisms are thought to be linked together through nutrient cycles and energy flows. Energy, water, nitrogen and soil minerals are other essential components of an ecosystem. The energy that flows though ecosystems is obtained primarily through the sun's rays, it enters the ecosystem though a process called photosynthesis.

We describe ecosystems using four different categories;

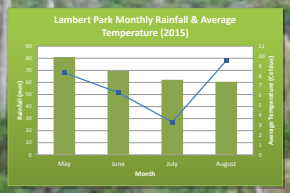
Primary Producers are green plants. These plants, including trees and flowers, manufacture the bulk of their food through a process known as photosynthesis.

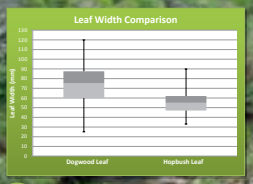
Consumer Species are animals that live within an ecosystem, from insects to wild cats to humans. You can describe the different consumer species of an ecosystem by placing them into three main categories: carnivores, herbivores, and omnivores.

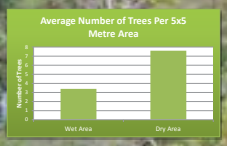
Detritivore Species are organisms that feed of dead decomposing consumer species. Many detritivores are microorganisms, such as bacteria, but fungi and larger creatures like earthworms and crustaceans also act as decomposers.

Abiotic Components are the non-living components of an ecosystem and they are often overlooked. Rocks, minerals, soil, water and the atmosphere itself are examples of abiotic parts of ecosystems.

It is important that we know how ecosystems work and exist because if we don't know how to sustain ecosystems in the near future we could ruin the way ecosystems work and survive.







Discussion

During our time conducting our investigation on Lambert Park, one of the biggest changes was the amount of water in the creek, and moisture on the plants and in the air, with the place seemingly coming alive the further into the investigation we got. This observation is echoed in our data, with the average monthly rainfall increasing dramatically in August compared to July, with the rainfall reaching 78 mm, from 27.2 mm in July.
The temperature in Lambert Park has been gradually falling as Tasmania experiences Winter and its effects, from just above 10 degrees Celsius average in May, to 8.5 degrees Celsius in August.

In our research we compared two different sections of Lambert Park, with one experiencing wet conditions and relatively little light due to its position in a gully, whilst the other area was on the main hill of the park. This comparison stood out in regards to the number of trees in a 5 square metre space, with the wetter, darker area averaging 3.2 trees per 5 square metres, whilst the dryer area that experienced more sun averaged 7.6 trees per square. This is because trees require sun to grow, and the trees in the gully weren't getting much sun. However, a major difference between the two areas was that the gully seemed to have substantially larger trees than the dry area, which is most likely because they have less competition for nutrients and don't have other trees blocking their sun as they rise out of the gully.

On the Pit Fall Trap experiment, we collected a total of 36 separate specimens from 30 traps, meaning that we averaged around one insect per trap. Although small, this shows that the insects are spread relatively evenly around Lambert Park, with only one exception to this rule, where four traps placed in close proximity collected an estimated 1,100 Springtails, however this was left out of the graph as it was not precise and it would distort the data in the graph.

Aim

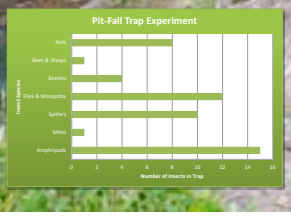
To perform a series of experiments on the Biotic and Abiotic factors of Lambert Park to discover more about its ecosystem

Method

Tree Height
- Pick a tree to measure, and stand somewhere that the top is visible from
- Measure distance from that point to the tree
- Using a Clinometer, measure the angle to the top of the tree, then measure the height the clinometer was from the ground at the point of measuring
- On a calculator, type in the angle, then press 'sine'. Then multiply the result by the distance from the tree in metres, and add the height the clinometer was from the ground in metres

Tree Density Sampling
- Measure a 5 x 5 metre square using a tape measure, and mark the boundaries with string and tent pegs
- Record the number of trees within the 5 x 5 metre square, and measure the diameter of all of the trees 1.4 metres off of the ground

Pit Fall Trap
- Using a trowel, dig 5 holes and place a plastic cup in each, ensuring that the top of the cup is level with the ground
- Pour 1cm of methylated spirits into each cup
- Return to the cups after 24 hours, and record what was inside of each



References

Trigonometry 2014, Maths is Fun, accessed 17 September 2015, <https://www.mathsisfun.com/algebra/trigonometry.html>.

Parts of an Ecosystem 2015, Synonym, accessed 16 September 2015, <http://classroom.synonym.com/describe-parts-ecosystem-6870.html>.

Ecosystems 2014, Encyclopedia of the Earth, accessed 16 September 2015, <http://www.eoearth.org/view/article/152248/>.

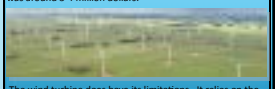
Box and Whisker Plot: Quartiles, Boxes & Whiskers 2014, Purple Math, accessed 19 September 2015, <http://www.purplemath.com/modules/boxwhisk.htm>.

Above: Joint Winner of Years 9-10 Division 'Lambert Park Ecosystem Investigation'
Below: Joint Winner of Years 9-10 Division 'Cost Effective Wind Turbines'

COST EFFECTIVE WIND TURBINES

INTRODUCTION

Wind turbines are used to produce power at various locations in Victoria. The Macarthur Wind Farm is a wind farm located in the south west, approximately 16km East of Macarthur and covers around 5,500 hectares and produces enough green energy to power around 220,000 Victorian houses every year . The cost per wind turbine to be built was around 3-4 million dollars.



The wind turbine does have its limitations. It relies on the strength , constancy and direction of the wind to produce power consistently.

DESIGN PRINCIPLE

The principle adopted for working out the optimum design was the cost effectiveness of the device. Initially this was quantified simply as the ratio power measured to the cost to build or how much energy you get relative to the cost to build the wind turbine.

The main theory used to investigate the renewable energy devices is the Power Law with watts. The unit of power is named after James Watt. Based on this law the energy produced by the wind turbines can be calculated from the voltages measured across the buzzer and the current measured flowing through the circuit connecting the buzzer and device.

AIM

The aim of this study was to identified the most power and cost effective design option for wind turbines. A series of experiments was used to determine the optimum number of blades and angle of blades for the model wind turbine.

PREVIOUS EXPERIMENTS AND KEY DISCUSSION

The year 9 carried out an initial set of experiments on model wind turbines. The following variables were considered :
- Wind (fan) speed
- Height of the wind turbine relative to the fan
- Distance from the wind turbine to the fan
- Size of the wind turbine blades
- Angle of the wind turbine blades
- Number of wind turbine blades

The two classes found a different blade angle to be the optimum:
- 10° for 9A
- 40° for 9D

Power output varied inconsistently between 7mW to 82 mW.

As these test results were used as the basis for the individual experiments, the inconclusive tests should have been repeated and the variations in the variables increased. This information was important when conducting this current experiment.

DESIGN OF EXPERIMENT

Two sets of experiments were undertaken by students, one from 9A and one from 9D.
Some factors that were taken into consideration while designing the experiments were:
- the cost to build
- construction limitations in the arrangement of the in the centre of the wind turbine.

The variables used for the two experiments were:

Dependent Variable: Power produced by the windmill compared to the cost.

Control Variable: Wind turbine blade size, distance from wind source (fan), strength of wind (fan setting) height of turbine, angle of blades .

The control variables chosen for both experiments were:

Wind (fan) speed – **high**
Height wind turbine - **40 cm**
Distance from wind turbine to fan - **30 cm**
Size of wind turbine blades – **small**

The one control variable that differed was the angle of wind turbine blades:
- Student 1 Class A choose **10°**
- Student 2 Class D choose **40°**

The two students results were combined and analysed two ways:
- Angle of the blade as the independent variable with the number of blades (4) as a control variable
- Number of blades as the independent variable with the angle of the blades (10°) as the control variable

SAFETY PRECAUTIONS
- Tie up hair to avoid getting hair caught in the fan
- Carry equipment with two hands
- Don't use burnt out wires
- Do not put hand in between blades while the wind turbine is spinning

EQUIPMENT

Shown in **Figure 1**
- Retort stand
- Boss head
- Wind generator
- Blades
- Fan
- Load station
- Wires
- Multimeter
- Power supply

FIGURE 1 WIND TURBINE EQUIPMENT

WIND TURBINE CONSTRUCTION

Step 1: The boss head was attached to the retort stand.

Step 2: The blades were attached to the wind generator and then attached to the boss head.

Step 3: Wires were used to connect the turbine to the load station.

Step 4: The multimeter was attached in series or parallel to measure the current or voltage of the circuit.

TEST METHOD

Step 1: The structure was built according to one of the designs.

Step 2: A picture was taken of the structure.

Step 3: The current was measured on a multimeter which was attached in series and then recorded.

Step 4: The voltage was measured on a multimeter which was attached in parallel and then recorded.

Step 5: The amount of power and the cost of the wind turbine structure was calculated.

Step 6: The power was divided by the total cost of the structure to calculate who cost/energy efficient it was.

Step 7: Steps 1-6 were repeated with the other designs.

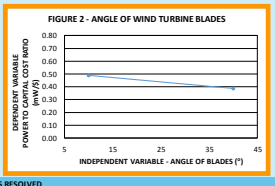
ANGLE OF BLADES RESULTS AND ANALYSIS

The experimental results with the angle of blade as the independent variable are shown in **Tables 1.** The number of blades (control variable) used is four. An estimate of the cost of each wind turbine was also made. The cost effectiveness was estimated by the ratio of the power output to the capital cost. The results of the analysis are presented in **Table 1** and **Figure 2 .**

TABLE 1 - RESULTS AND ANALYSIS FOR ANGLE OF BLADE

INDEPENDENT VARIABLE BLADE ANGLE	DEPENDENT VARIABLES				
	I1 (mA)	V1 (V)	P1 (mW)	WIND TURBINE CAPITAL COST ($)	P1/COST (mW/$)
10^0	22.90	3.10	70.99	145	0.49
40^0	18.72	3.00	56.16	145	0.39

FIGURE 2 - ANGLE OF WIND TURBINE BLADES



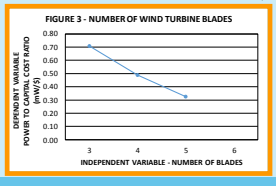
NUMBER OF BLADES RESULTS AND ANALYSIS

The results of the number of blades (independent variable) are shown in **Tables 2.** The angle of blades used is 10^0. The results of the analysis are presented in **Table 2** and **Figure 3.**

TABLE 2 –RESULTS AND ANALYSIS FOR NUMBER OF BLADES

INDEPENDENT VARIABLE NO. BLADES	DEPENDENT VARIABLES				
	I1 (mA)	V1 (V)	P1 (mW)	WIND TURBINE CAPITAL COST ($)	P1/COST (mW/$)
3 BLADES	23.90	3.70	88.43	125	0.71
4 BLADES	22.90	3.10	70.99	145	0.49
5 BLADES	22.40	2.40	53.76	165	0.33

FIGURE 3 - NUMBER OF WIND TURBINE BLADES



SYSTEMATIC ERRORS RESOLVED

A systematic errors made in the experiment were related to faulty buzzer, wires and multimeter. The faults were found and the equipment replaced.

RANDOM ERRORS RESOLVED

A random error was that sometimes the blades didn't start spinning so the current or voltage couldn't be recorded. This error was then resolved by one person in the group gently pushing the blades to get it going. The numbers on the multimedia were not recorded until around 10 seconds after the blades were spun . Another random error that was encountered was that occasionally the angle of the blades would change as they spun. This was solved by changing the circular part of the wind turbine that the blades were connected to. The new one held the blades tighter so that they could not move out of place.

RANDOM ERRORS UNRESOLVED

Some of the measurements of current and voltage were very low and it is expected that some errors such as incorrectly reading the meter or not waiting until the current was at its peak have occurred.

CONCLUSION

The most cost effective wind turbine design had three blades which were set at 10^0 because it was the cheapest and produced the most energy with 0.63 mW/$.

DISCUSSION

The 3 blade wind turbine design was most cost effective for the several reasons.

There were less blades making it :
- Cheaper
- Lighter (less weight allows the wind to spin the blades around faster and produce more power)

The three blades were evenly distributed around the centre of the motor because they were not directly opposite each other.

It is expected that 10° was more cost effective than 40° because there was a greater surface area facing the wind so more power was produced.

FURTHER INVESTIGATION

Further testing is required to improve the design with regards to the other variables. Particular attention should be given to the angle of the wind turbine blades. Greater care should be taken both carrying out the experiments and in choosing the range of tested within each variable.

FURTHER ANALYSIS

Both the maintenance and the life of the wind turbine should be included in the costs.

If further investigation was carried out then the energy cost to build the wind turbine could be calculated so that they energy ratio (the energy returned as a ratio to the energy used to construct the structure) could be discovered and the design improved.

BIBLIOGRAPHY

Energy in Action. 2014. Macarthur Wind Farm. [ONLINE] Available at: http://www.aal.com.au/about-aal/how-we-source-energy/renewable-energy/macarthur-wind-farm. [Accessed 19 July 15].

STELER.WindEnergy.[ONLINE] Available at: http://www.steler.org.au/wind-energy/. [Accessed 17 June 15].

> Continued on next page

Would you like to be involved in the 2016 competition and developing the next generation of statisticians?

We wish to establish multiple 'coordinator sites' around Australia, each replicating the initial Hunter Region experience, including a Poster Display and Awards Night. We have established processes and materials that we would like to see utilised at multiple locations across Australia as we expand the competition.

How much you are involved is up to you; we will discuss options and endeavour to keep your workload relatively light – having points of contact around Australia would be invaluable!

Do you have some interest in helping create the next generation of Statisticians, working with Schools and Teachers, developing interest in the types of activities you enjoy, and helping to arrest the concerns of declining interest in mathematics, statistics and the sciences?

Would you like to know more about what is involved in coordinating locally as part of the national competition?

Please contact peter.howley@newcastle.edu.au or phone 02 49 215518 to discuss.

It would be nice to hear that there are others who think this is a good idea and/or would like to see how they may get involved.

Having a local friendly and interested person as a point of contact for schools will be invaluable to the expansion of the competition.

I am pleased to advise that the CSIRO's Scientists- and Mathematicians-In-Schools Coordinator has offered that program's involvement in the competition and will provide personnel to act as project facilitators within schools where possible. We also are being promoted through state Mathematical Associations and have been supported by SAS, Teachers' Mutual Bank and the Inspiring Mathematics and Science in Teacher Education Project.

In 2016, we will be expanding the competition to Primary schools.

So please advertise widely and contact peter.howley@newcastle.edu.au or phone 02 49 215518 to discuss.

Peter Howley and Michael Martin
Chairs of Statistics Education

WORLD STATISTICS DAY AT USQ FOCUSES ON SEARCH FOR MISSING MH370 FLIGHT USING BAYESIAN STATISTICS

L ro R:
Dr Neil Gordon of Australian Defence Forces, Dr Ross Darnell of CSIRO and Professor Shahjahan Khan of USQ.

The University of Southern Queensland (USQ), Toowoomba, Australia celebrated the World Statistics Day on Tuesday 20 October 2015 at its Toowoomba campus. The USQ was proud to host Dr Neil Gordon of Defence Science & Technology Group, Adelaide, Australia who was part of the Australian team to search for the missing Malaysian Airline flight MH37; and Dr Ross Darnell, Principal Research Scientist at CSIRO, Brisbane, Australia to speak on the Day. Dr Gordon spoke on 'Bayesian Statistics and the Search for Flight MH370'.

It is very well known that on 7 March 2014 Malaysian Airlines flight MH370 carrying 239 passengers and crew from Kuala Lumpur to Beijing lost contact with Air Traffic Control and was subsequently reported missing. Dr Gordon is a member of the Australian Transport Safety Bureau search advisory team and in this talk he explained how Bayesian statistical estimation methods have been used to process the Inmarsat data and produce a probability distribution of MH370 flight paths that defines the current search zone in the southern Indian Ocean.

The planned celebration at USQ achieved its aim of focusing the applications of statistics beyond the traditional area including in a world-wide highly publicised disaster and mystery to send a strong message in the wider community about how valuable statistics has become to help solve very complicated real life problems.

Dr Darnell presented a talk on `Data Literacy in a World of Big Data'. He explained that there is an increasingly large amount of data, often very complex, becoming available either to the public or to scientists across the globe. Making honest analyses and valid predictions from these data are not necessarily determined by quantity. Even large datasets can be generated with limitations which define their quality. In this talk he argued that data scientists need to be trained to understand the inherent limitations of empirical evidence.

Undoubtedly this presentation was on another hot topic of the day with lots of potential for statisticians to get involved, and aimed at alerting/educating the researchers and users of Big Data about the issues that are integral to the nature of the problem and requires careful consideration.

In the opening session, the organiser of the event, Professor Shahjahan Khan, provided a brief introduction on `Why World Statistics Day?' expanding on the diverse use of statistics in almost all sphere of modern life.

USQ was highlighted in the UN managed WSD 2015 website https://worldstatisticsday.org/blog.html?c=AUS and the World of Statistics Newsletter at http://www.worldofstatistics.org/files/2015/10/World-Statistics-Day-October-20-2015.pdf

The School of Agricultural, Computational, and Environmental Sciences of USQ financially supported the celebration. The erstwhile Department of Mathematics and Computing, USQ also celebrated International Year of Statistics on 20 June 2013 with Prof Kerrie Mengersen of Queensland University of Technology and Prof Louise Ryan of University Technology Sydney as guests.

Professor Shahjahan Khan
School of Agricultural, Computational and Environmental Sciences
University of Southern Queensland

META-ANALYSIS WORKSHOP HOSTED BY UNIVERSITY OF MALAYA, MALAYSIA

University of Malaya (UM), Kuala Lumpur, Malaysia organised a workshop on "Evidence Based Decision and Statistical Meta-Analysis with Applications". The workshop was held on Wednesday, 13 January 2016 at the Institute of Mathematical Sciences of UM.

Professor Ibrahim Mohamed, Deputy Dean, Faculty of Sciences of UM, opened the workshop and introduced the presenter, Professor Shahjahan Khan of University of Southern Queensland, Toowoomba, Australia.

Around 15 academics and researchers from University of Malaya and other universities in Kuala Lumpur with diverse backgrounds participated in the event. The event was coordinated by Dr Rossita M Yunus and Dr Adriana Ibrahim.

The presentation introduced meta-analysis as part of evidence based decision making using statistics from independent randomised controlled trails in medical studies. Applications of meta-analysis from other areas such as education, social science, psychology, agriculture etc were also a focus.

Emphasising the necessity of systematic review in selecting relevant studies and data collection method from selected studies, the presenter explained how meta-analysis may be viewed as an application of statistical methods on published statistics.

The workshop defined various effect size measures and discussed various methods of effect size estimation for the individual studies as well as for the common effect size of all studies. It also covered the effect size estimation using fixed effect, random effects, and inverse variance heterogeneity models.

Examples from various meta-analyses of diverse disciplines were used to demonstrate the methods to estimate different effect size measures for both binary and continuous outcome variables.

A free statistical package, MetaXL, an add-on to MS Excel, was used to illustrate the creation and display of forest plots, funnel plots and sensitivity analysis of various studies. The package has been created by Suhail Doi of Australian National University, and Jan Barendregt of University of Queensland, and is free to download from http://www.epigear.com

Professor Shahjahan Khan
University of Southern Queensland
Founding Chief Editor, Journal of Applied Probability and Statistics (JAPS), USA

QLD BRANCH

An evening with Kerrie Mengersen

The Queensland branch Xmas meeting involved exciting tales of statisticians stalking jaguars in the jungle (or the other way around). Fresh from her return from leading an expedition to the Amazon, Professor Mengersen shared her experiences in helping create a corridor for jaguars to move through the jungle of Peru. Using brand new mixed reality 360 degree film and photos to elicit expert opinions about jaguar habitats from locals, she incorporated this data into spatial statistical models.

Professor Mengersen currently holds a Chair in Statistics at Queensland University of Technology, Australia. She is a Deputy Director of the ARC Centre of Excellence in Mathematical and Statistical Frontiers, which aims for research excellence and its translation to collaborative domains in Healthy People, Sustainable Environments and Prosperous Societies.

For the past decade Kerrie has led the Bayesian Research and Applications Group (BRAG) which aims to engage in world-class, relevant fundamental and collaborative statistical research, training and application through Bayesian and other modern methods. Professor Mengersen was announced as one of 15 new ARC Laureate Fellows for 2015 for her project, B*ayesian Learning for Decision Making in the Big Data Era*.

An entertaining talk to end the year, Kerri regaled us with tales from her adventures. Outlining the challenges of collecting data in the jungle, including technology failures, changing methodology to be more translatable to locals, and killer mosquitoes. After Kerri's talk we all enjoyed the festive season where much food and wine was consumed.

Lee Jones

SA BRANCH

E.A. Cornish Lecture. Statistics and statisticians in real-world research: science or snake-oil?

John Carlin

The SA Branch was honoured to have John Carlin, Director of the Clinical Epidemiology and Biostatistics Unit, Murdoch Children's Research Institute, and Professorial Fellow, University of Melbourne, to give the eighth E.A. Cornish Memorial Lecture.

John's talk discussed the role of statistics and statisticians in the so-called 'reproducibility crisis'. This 'crisis', which is receiving increasing attention in the academic community, refers to the fact that many scientific claims published in journals cannot be replicated. All areas of scientific research are affected. A major contributing factor to the problem is that the outcome of statistical significance tests strongly influences which research results are approved for publication, as well as the course of the research itself. There is obvious reason for concern among statisticians. Through promoting the idealised technical tools for performing statistical inference, John suggested there could be grounds to characterise statisticians as snake-oil salespeople of our era (as Don Berry, a prominent American statistician, had done in email correspondence).

John discussed how p-values serve as a type of currency within scientific research. A 'significant' p-value increases the likelihood of getting research published and seemingly permits statements that read as factual claims. This publication bias often arises from honest confusion about the interpretation of a p-value and the logically convoluted framework of hypothesis testing. In a lot of research studies there is much flexibility with data collection and analysis, enabling the study to follow a particular path not foreseen originally. The non-pre-specified application of hypothesis testing typically ignores the process which led to the path, meaning the likelihood of a false positive is much larger than might be suggested by the p-value.

John argued for a move away from the view that research needs to make definitive claims or findings. Research is better thought of as an accumulation of knowledge. This shift from dichotomous thinking would naturally avoid focus on null hypotheses and tests of statistical significance, as well as better reflect the reality that nature is generally not dichotomous.

As a practical step to achieve this reform in thinking, John proposed eliminating the term 'statistical significance' from scientific discourse. Statements about significance would be replaced by commentary describing the evidence provided by the study, with these statements about evidence accompanied by quantitative results. For example, published results would present the mean difference between two study groups and the confidence interval for the difference. Such changes represent more than word-play, for they present the study's quantitative evidence and make clear that the research has not established the presence or otherwise of a true difference.

John concluded the talk by encouraging statisticians to take more responsibility for how statistical concepts are used in practice. He suggested statisticians give greater emphasis to the principles of variability and uncertainty without binary interpretation, embrace more Bayesian inference and support transparency and openness in the conduct of research. He acknowledged reform will not be easy. People prefer simple answers, and definitive claims sound more compelling.

Julian Whiting

CAPITAL NUMBER THEORY
8 - 9 APRIL
THE AUSTRALIAN NATIONAL UNIVERSITY

PROBABILISTIC & EXTREMAL COMBINATORICS DOWN UNDER
13 - 17 JUNE
MONASH UNIVERSITY

AMSI WINTER SCHOOL 16
4 - 15 JULY
THE UNIVERSITY OF QUEENSLAND

ERGODIC THEORY & ITS APPLICATIONS
18 - 22 JULY
THE UNIVERSITY OF SYDNEY

MODU2016
18 - 22 JULY
RMIT UNIVERSITY

AMSI RESEARCH

AMSI SCIENTIFIC EVENTS 16

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WINTER OF DISCONN-ECTEDNESS
1 - 12 AUGUST
THE UNIVERSITY OF NEWCASTLE

GEOMETRY → ANU
15 - 26 AUGUST
THE AUSTRALIAN NATIONAL UNIVERSITY

TOPOLOGICAL MATTER, STRINGS & K-THEORY
5 - 9 SEPTEMBER
THE UNIVERSITY OF ADELAIDE

ANIMAL VEGETAL MINERAL?
18 - 23 SEPTEMBER
WESTERN AUSTRALIA

MATHEMATICAL METHODS FOR APPLICATIONS
ANZIAM - ZAMA JOINT MEETING
11 - 14 NOVEMBER
HANGZHOU, ZHEJIANG PROVINCE, CHINA

INTERNATIONAL CONFERENCE ON NONLINEAR PARTIAL DIFFERENTIAL EQUATIONS
28 NOV - 2 DEC
THE UNIVERSITY OF SYDNEY

AMSI BIOINFO SUMMER 16
28 NOV - 2 DEC
THE UNIVERSITY OF ADELAIDE

mathsfest AUSTRALIA 2016

3 EVENTS IN 1
CANBERRA 2016, 28 NOV – 16 DEC

WORKSHOP
Advances in Ergodic Theory, Hyperbolic Dynamics & Statistical Laws

CONFERENCE
60th Annual Meeting of the Australian Mathematical Society

WORKSHOP
Nonlinear & Geometric Partial Differential Equations

REGISTER: AMSI.ORG.AU/MATHSFEST

Aust MS Australian Mathematical Society

AMSI Australian Mathematical Sciences Institute

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AMSI RESEARCH

VIC BRANCH

2015 ended on a high for the SSA Vic Branch concluding with two successful events. The first of these was an Industry Discussion Panel on the topic of "What does industry need from statisticians?". The Panel was comprised of Professor Geoff Prince (Director of AMSI), Antony Ugoni (Head of Market Place Analytics at SEEK and Chairman of IAPA Specialist Advisory Committee), Kathryn Buttler (Senior Manager, Advanced Analytics at ANZ), Jon Buttery (an experienced public servant in the health sector) and Dr Roger Hilton (Managing Partner at Lean Sigma Institute and Member of SSA Vic Council) with the discussion moderated by Dr Damjan Vukcevic. The panel members spoke openly about what industry is looking for in a statistician and what the "new breed" of statisticians will need to look like to be successful. While proficiency in computing was identified as a priority as well as the ability to adapt to new problems, statisticians equipped with excellent communication skills seem to be high on the wish list. This was the second year in a row for which a discussion panel has been well received by attendees and we will be giving further thought to more topics for successful discussion in the future.

To end the year, SSA Vic was also involved in the 2nd Melbourne Analytics Charity Christmas Gala which was a joint event with Data Science Melbourne (DSM). Special guests included Anthony Goldbloom (Founder and CEO of Kaggle) and Antony Ugoni (see above). $7,400 was raised for the Cambodian Children's Trust which is a fantastic effort.

This year stands to be an exciting year for SSA Vic. We have an excellent list of potential speakers who have expressed interest in giving a talk at our monthly meetings. Our first event for 2016, following the due date for this article, is a joint event with DSM and the Melbourne Users of R Network where none other than Hadley Wickham will be speaking on the 22nd of February. Needless to say there is already much buzz surrounding this event.

In recent years we have focused on having more diversity within the Council and amongst attendees to our events. It was great to see so many young statisticians attending our monthly meetings. This year we are hoping to again see such turnouts, or better, while also focusing on better engagement with industry. Last year we were fortunate enough to receive financial support from Minitab and the Lean Sigma Institute to run the Belz Lecture and Dinner. This year we will be seeking further support to conduct our events to provide value to our members and to provide exposure for industry partners that are supportive of the statistics community. With the increased engagement of younger members, we feel that there is clear mutual benefit. If you know of anyone who would be interested in sponsoring the Branch then please let us know.

Continuing on the topic of upcoming events, the SSA Vic Branch Annual General Meeting will be held at the end of March. More details will follow, although I would like to take the opportunity to encourage a good turnout of members and ask for anyone out there wanting to be part of Council, or to help in running any events, to please contact us. Being involved is a great way to network with others with an interest in statistics.

Finally, on a very sad note, the passing of Peter Hall on the 9th of January was very upsetting. Peter's service to, and advancement of, statistics both nationally and internationally was unsurpassed. Our thoughts are with his family, his colleagues and those that called him a friend. There will be more fitting acknowledgements of Peter's contributions, including in this newsletter.

Luke Prendergast

FROM THE OFFICE

Marie-Louise Rankin

Working for an association such as the Statistical Society of Australia would not be everybody's cup of tea. You sit in an office, mostly on your own, with the rare telephone call to interrupt whatever you are doing. It can be lonely, but it suits me and my personality. I would honestly struggle in an environment where colleagues constantly stop to chat with me, or I have to listen to conversations and giggles coming from other desks, or be exposed to the sound of someone chewing an apple or enjoying a bag of potato chips across the room.

Working on your own it's always amusing when you receive a call and someone asks to be put through to the "Finance Department", the "Events Coordinator" or "your IT Department". I am all of those and so much more. While I'd love to be an expert in all these areas, I am not, and for some tasks I do have to rely on the expertise of others. A consultant for MYOB moved our accounting system to the Cloud a couple of years ago. Lisa Tilse designs our newsletters, because I have neither the skills nor the talent for graphic design. Peter Irving of RAW Accountants not only does our BAS, but he is always happy to give advice when I have an accounting question. And since I started to work for the Statistical Society, Colin Pettit has been "my computer guy" – the person I call when our electronic devices play up, when the internet is down and the internet company can't find the fault, when we decide to make changes to or upgrade our computer network and on so many other occasions. And Colin has always been fantastic – dropping everything to come and sort things out for us. Usually we celebrate afterwards over a cup of coffee or - Colin's choice- a hot chocolate.

Last week, on the same day that Telstra had the nationwide blackout, our internet at the office at ABS House stopped working. I tried to contact Colin but he did not answer his phone or return my emails or text messages. This was very unusual for Colin, so I contacted his bookkeeper, Liz Jermyn, who used to work for the Society as well. I was shocked to find out that "my computer guy" sadly passed away last year. This wonderful person, always helpful, knowledgeable, full of humour, and way too young to leave this world, is no longer with us. This is the man who ensured that all lines of communication remained open with our members, and while none of you know him, I thought he deserved a tribute in this edition of the newsletter. I don't know if I showed my appreciation for him enough during his lifetime, but I certainly want to do so now.

It is professionals like Colin, Lisa, Peter and many others who allow me to do my work as professionally as I can, and I am so grateful for everything that these people have done and continue to do for the Society. Colin, I will miss you – as "my computer guy", but more so I will miss the beautiful and kind person that you were.

Marie-Louise Rankin
Executive Officer

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