

Education for forestry: Opportunities and Challenges



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TOI-OHOMAI
Institute of Technology

**Linton Winder,
Primary Industries, Science and
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Toi Ohomai Institute of Technology**

TOI-OHOMAI

Institute of Technology | Rotorua

Linton Winder



Programmes offered:

Forest Operations
Crew Management
Forest Management



Challenges:

- We get just enough students;
- We need to respond to changes in forest operations – mechanisation and data systems.



FOREST HARVESTING

High demand for forestry workers skilled in mechanised harvesting means there is plenty of opportunity to enter this profession after gaining the right training.

Toi Ohomai Institute of Technology's new programme, the New Zealand Certificate in Forest Harvesting Operations (Level 3) with a strand in Basic Machine Operations, provides a 12-week intensive training programme. You will learn how to safely operate the machinery used in forest harvesting through training on state-of-the-art forest simulators and valuable time in a real machine in a simulated work environment.

The training is provided on demand, so call us today!

**New Zealand Certificate in Forest Harvesting Operations
(Level 3), strand in Basic Machine Operations**

LIMITED SPACE! APPLY NOW

**0800 86 46 46 ext 8975
toiohoma.ac.nz**

Toi Ohomai Institute of Technology promotes drug-free campuses. Students enrolling on this programme will be required to pass a drug test following enrolment.



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Gamification



- Completely safe learning environment;
- Promotes good practice;
- No damage to machinery whilst training;
- Promotes profitability.





FOREST MANAGEMENT

Become a guardian of one of New Zealand's most valuable assets

Rotorua is the forestry capital of New Zealand. It makes sense that Toi Ohomai is the best place to study the nationally recognised **New Zealand Diploma in Forest Management (Level 6)**.

After completing this programme, you will be professionally qualified to use your management skills and forest knowledge to work within the forestry industry across the country. You will be able to plan and manage forest operations for a wide range of employers, including forest management companies.

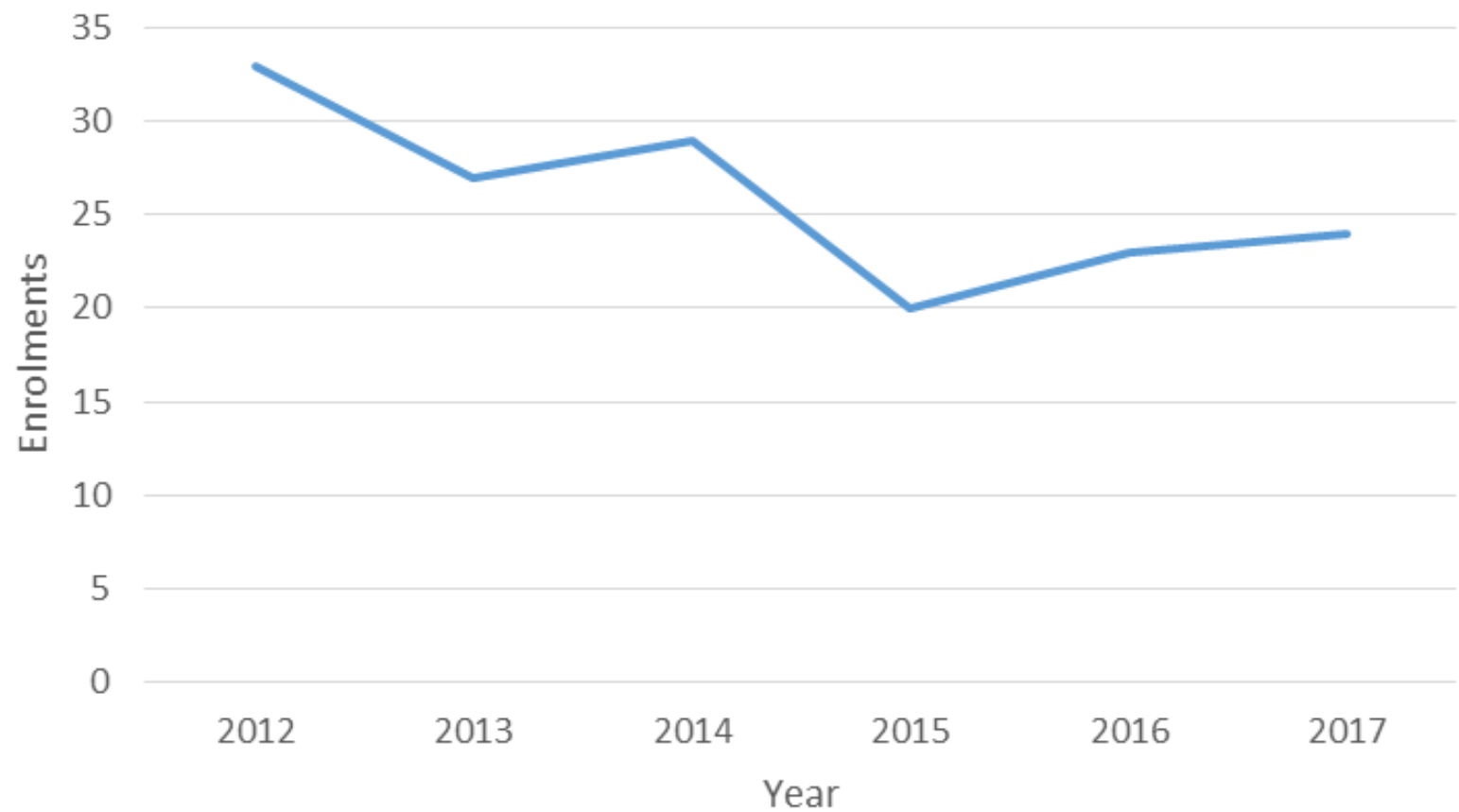
APPLY NOW FOR 2017

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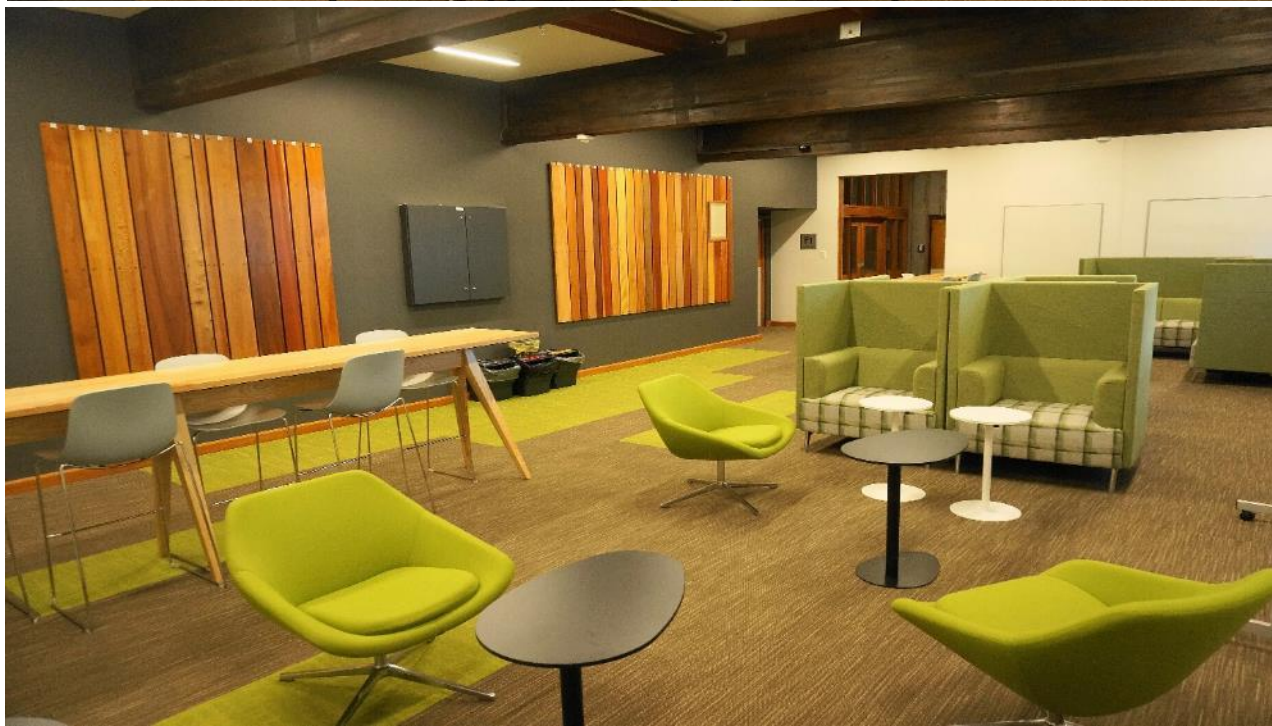


Dr David Evison



Content

- Links with sector
- Links with NZIF
- Graduate profile
- Survey feedback
- Enrolments and graduates
- Marketing the school



Links to NZIF

- Student attendance (both post graduate and undergraduate) at the NZIF Annual Conference is jointly sponsored by the school and NZIF
- Student membership is free (and consequently very popular)
- NZIF local section meetings and the “Meet your future employer evening” targeted specifically at students, are well attended by students
- The NZ Journal of Forestry is a key teaching and learning resource for students

Links to the sector

The NZ School of Forestry has strong links to the sector through

- ❑ SOFAC – School of Forestry advisory committee
- ❑ Research and professional links
- ❑ Regular (five yearly) surveys of recent graduates and their employers

A survey of employers and graduates has just been completed – some of the findings are shared below

University of Canterbury Graduate Profile

- Critically competent in a core academic discipline of their degree
- Employable, innovative and enterprising
- Bi-culturally competent and confident
- Engaged with the community
- Globally aware

School of Forestry Graduate Profile

- An understanding and knowledge of forest management and economics, silviculture, ecology, soil sciences, biometry, geospatial technologies, wood and wood products, markets and forest engineering/operations
- The skills and technical expertise to manage forests for a full range of uses
- Problem solving
- Effective oral and written communication
- Effective teamwork and leadership
- An understanding of the role of professional foresters in the forestry sector
- Professional ethics

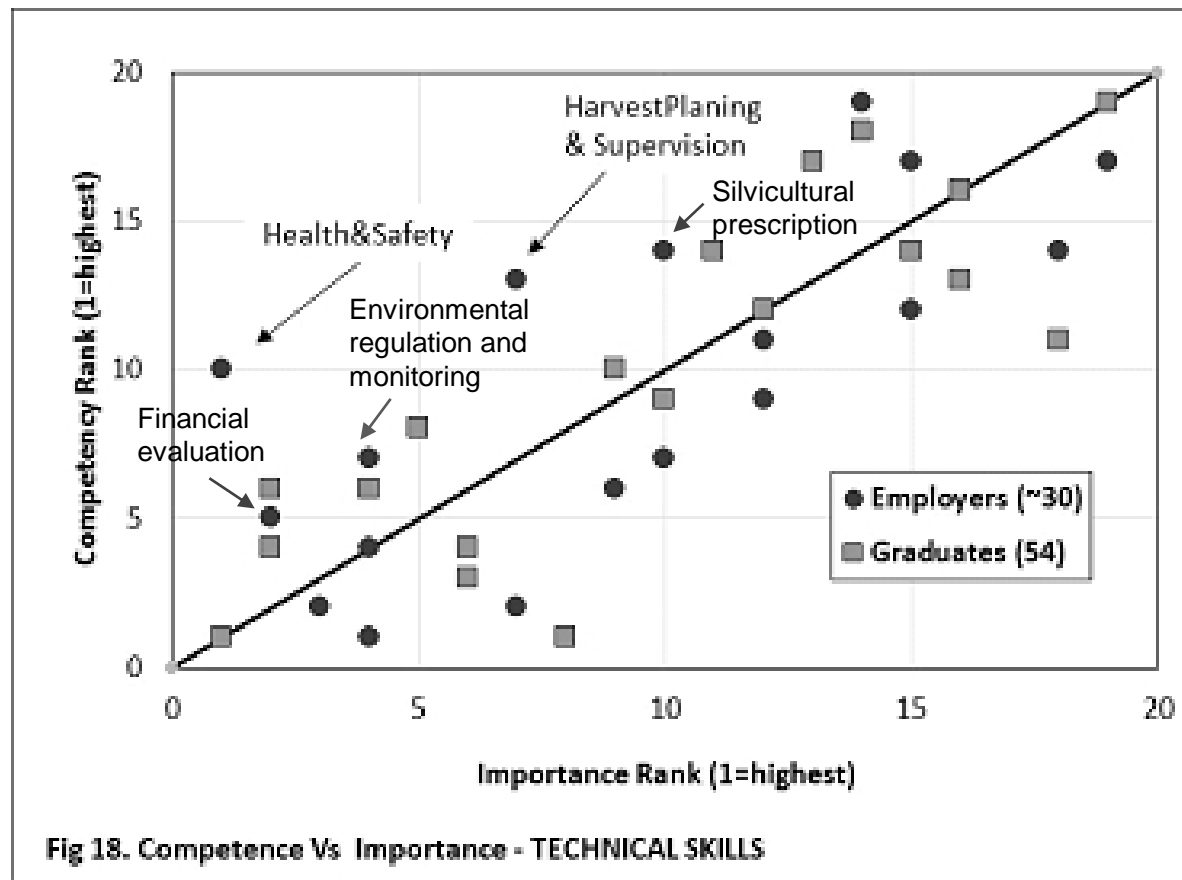
Graduate profile and educational environment

- All employers and graduates deemed the SoF graduate profile to be appropriate for the contemporary forestry employment environment. Of the profile's seven elements, team work, problem-solving, and communication were deemed of greatest importance.
- Over 90% of graduates agreed that SoF staff were enthusiastic and effective in advancing their learning, and camaraderie was strong.

Knowledge base and technical skills

- Health and safety and forest management were rated highest among 16 subject areas with over 75% of employers and graduates deeming them critically or highly important.
- Graduates' and employers' ratings were similar for the 19 elements defining the technical skill set. Implementing health and safety protocols, conducting financial analysis, and using GIS technology were rated highest with over 75% of each group considering them to be critically or highly important. **From the employer perspective, the largest gap between importance and competence exists in health and safety protocols, harvest planning and supervision, environmental monitoring, and silvicultural prescription design and costing.**

Areas for improvement



What is the role of:

- School of Forestry?
 - Employer?
 - NZIF or other providers
- Principles and theory
 - Practice and policy, training & coaching
 - Updates to legislation, & mentoring
 - Workshops and short courses

Solutions – (example)

Professional development course in Forest Engineering

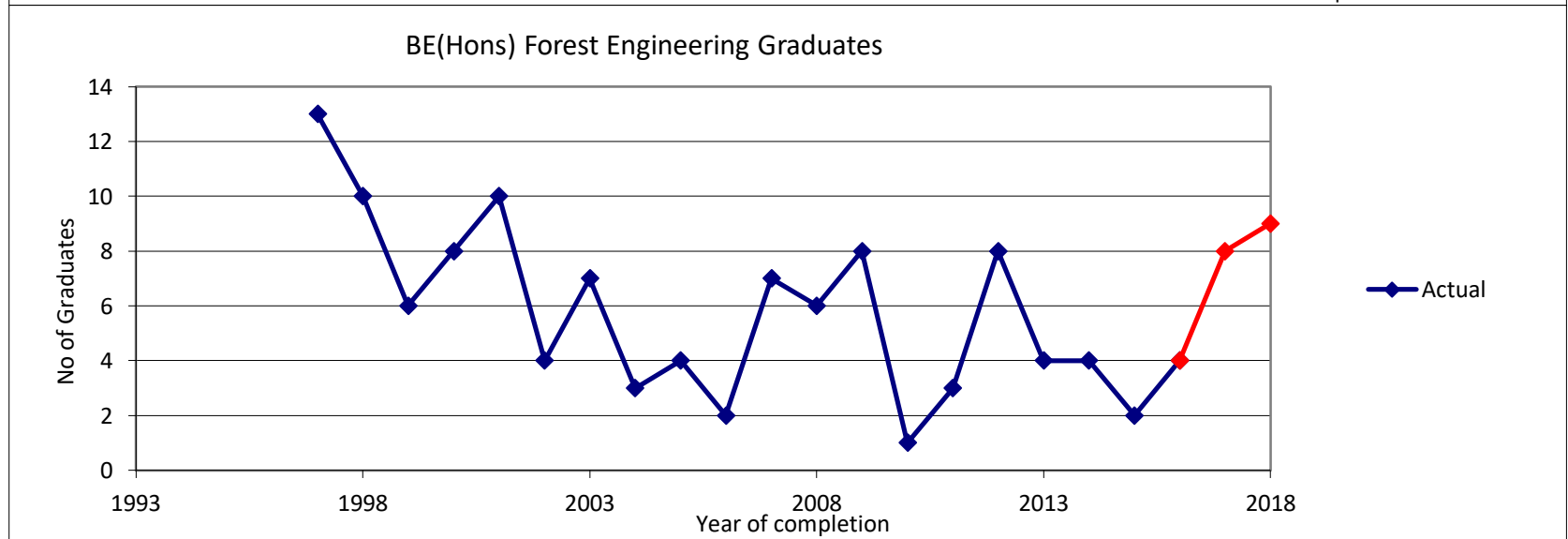
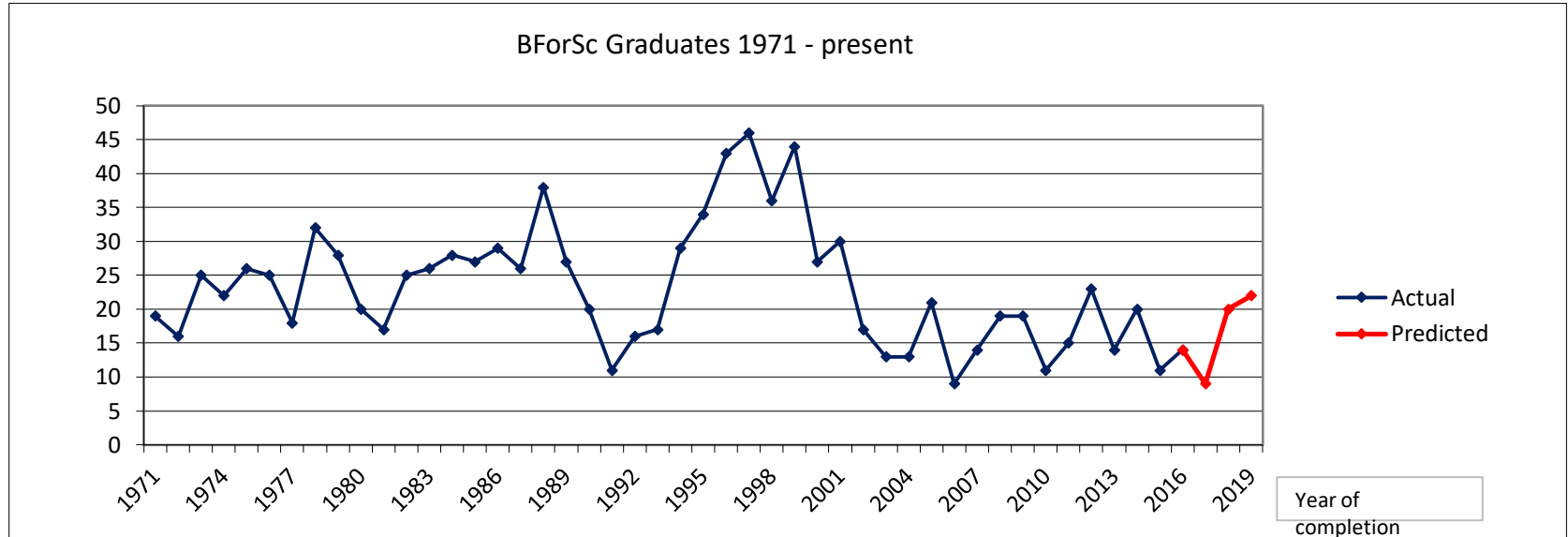
Cable-Assist Operations

- Need for workshop identified by industry
- Rayonier and Hancock agree to fund and guarantee participation
- Workshops are improved upon and updated through participant feedback.
- Workshops offered to all companies / regions
- To date: 19 in-classroom + 11 in-field taught to date. 500+ people attending in NZ.

Forest Operations Professional Development Series (includes cable assist)

- Taught at UC SoF in August 2017
- 4 subject: LiDAR/GIS, Road design, Cable Planning and Winch Assist

Graduates from the NZ School of Forestry



Increasing enrolment

- A number of marketing initiatives underway
- One is getting recent graduates to visit schools and tell their story to Year 12 and 13 students. Why?
- Most of our students tell us that forestry isn't "on the list" for most school leavers
- They don't know about tertiary qualifications in forestry, or the types of jobs that are available
- The perception of forestry is largely negative (workplace injuries and deaths, logging trucks, log exports, plantations, logging slash and debris after storms)
- If key influencers (teachers, careers advisors, parents) hold these negative perceptions, forestry is unlikely to be seen as a career option by school leavers

How it goes

If we contact schools and propose a visit by a local recent graduate there is generally only one of two responses:

1. “We would like a recent graduate to present to our senior students, and would appreciate some forestry-related course material for our senior science and biology classes
2. “We don’t have any students who would be interested in doing forestry”

Implications

- Our marketing programme can be implemented if we receive a positive response from the Head of Science or careers advisor. School visits are viewed positively by the target school, the pupils, the company whose graduate presents, and the School of Forestry.
- If the school is unwilling to host a graduate speaker, some alternative engagement is required by the Wood Council in the local area or the local section of the NZIF, or other group such as NZFOA.
- Changing the public perception of forestry, and the perception of key influencers of school leavers should be a priority for sector-wide promotional activities

