

## NES NEEDED TO SORT COUNCIL MISHMASH

**COUNCIL RULES FOR FORESTRY ARE A MISHMASH WHICH VARY FROM DISTRICT TO DISTRICT WITHOUT GOOD CAUSE. THE PROPOSED NATIONAL ENVIRONMENTAL STANDARD (NES) IS NEEDED TO STRAIGHTEN OUT THE MESS.**

For seven years, working groups have helped officials draft the proposed NES for plantation forestry, which was released for public comment earlier this year.

Forest Owners Association environmental committee chair Peter Weir was one of four NZFOA representatives on the most recent group, along with those from environmental groups, senior planners from both a regional and a unitary council and the chief soil conservator of a third council.

“It was a collaborative process, with big commitments made by all, including the council staff, so it was extremely disappointing to have Local Government New Zealand and many district councils putting in submissions opposing the standard,” Weir says.

“Forestry is environmentally more benign than livestock farming, yet many local body councillors and council staff want to keep the current mishmash of rules.”

He says the NES will create one core set of rules nationwide, with councils able to set consent conditions for harvest and earthworks in areas of high erosion risk, outstanding natural features and landscapes (ONFLs) and areas where biodiversity values are mapped as significant.

“It’s all about creating certainty, reducing the churn of plan reviews and improving overall standards of freshwater stewardship,” Weir says.

“Most forest owners use roading and harvesting contractors who usually work across several different regional and district councils, all with different rules. Having one core standard that is defensible and appropriately stringent means foresters and contractors will know what is expected of them.

At present there are 61 district councils, 11

regional councils and 6 unitary councils individually trying to regulate forestry their own way.

“Some have strict rules for good reason. Some have no rules, where there should be rules. Some have rules that are the outcome of petty parish politics, rather than best environmental practice,” Weir says.

The Hawkes Bay Regional Council and Gisborne District Council are examples of what’s wrong with the current system.

“The two councils control some of the most erodible land in the country. Hawkes Bay doesn’t require land users to apply for resource consents for harvesting and roading. On the other side of the Wairoa River, on the same geology, the Gisborne District Council has strict rules and consent processes. Their policies are polar opposites, yet both of them are opposed to the NES because they like doing things their own way.”

Under the NES, foresters will have to prepare harvest plans in all districts, regardless of the erosion risk of the land, and an erosion and sediment control plan if undertaking earthworks. Waterways will



**Clear-fell harvesting in the Marlborough Sounds**

By having one stringent set of rules nationwide, everyone involved will know what is expected of them

### IN THIS ISSUE

#### PAGE 2

Let’s keep an open mind on GE



#### PAGE 5

Safety is a matter of pride



#### PAGE 7

Key herbicides cleared by FSC



be no-go areas when native and introduced fish species are spawning.

“The risk of wilding spread will need to be taken into account when planting new land, and local councils for the first time will be able to ban the planting of forests for clear-fell harvesting on very high erosion-risk land. There is also a significant tightening of rules across the country in relation to stream crossings and the use of river beds,” he says.

“Yet some councillors – pointing to logs on beaches or silt in streams – are saying they can do a better job of managing the environment than the proposed NES rules.

“They fail to see the irony that the logs and silt come from land that is already being managed under council rules. Even more ironic is the criticism of NES rules from representatives of councils that have no equivalent rules.”



## LET'S KEEP AN OPEN MIND ON GE

**THERE'S A DEBATE GOING ON AROUND THE COUNTRY ABOUT WHETHER THERE IS, OR IS NOT, A PLACE FOR GENETIC ENGINEERING (GE) IN OUR FARMING AND FORESTRY.**

It's a complicated topic, made even more so by murkiness around what someone means when they say genetic engineering. For centuries growers have bred plants to more quickly deliver a hardier plant, a better taste, a bigger fruit etc. Genetic engineering? No, but certainly genetic manipulation. Delivering combinations that could be arrived at through nature, but on a more rapid timeframe.

So what about techniques that introduce proteins and recombine DNA in a plant cell, but which do not introduce any foreign DNA? Examples include techniques that have intriguing names like zinc finger and talen.

Well, the US and Germany have had a look at this and said no, that's not GE. The same issue was tested last year in the NZ High Court and the opposite conclusion was reached.

I have read the court proceedings and my conclusion is that this decision, which puts us at odds with other international judgements, means the Hazardous Substances and Noxious Organisms (HSNO) Regulations have not kept up with changes in science. Crudely, I conclude that if a technology is not on the list of techniques identified as not being GE, then it must be. Guilty until proven innocent.

This creates a few problems. Some technology already in use in New Zealand has now been made illegal. Also, there is no test that can show whether this technology has been used, because the resulting organisms are indistinguishable from those that could occur naturally. Imported seed, for example, could make a mockery of this ruling. It is time to have a look at the HSNO Act.

So what about where foreign genetic

material is introduced? Here we should have common agreement that this is genetic engineering. There is not the scope here to adequately argue the pros and cons of this, only to say that there are pros and cons and that a debate is needed. This needs to be a fully informed conversation about any circumstances where it is proposed that GE be allowed or disallowed; and one that challenges claims made both for and against its use.



**Chestnut blight (*Cryphonectria parasitica*) attacking a shoot of an American chestnut tree**  
GE may be needed to produce trees that are resistant to this disease

Some local authorities want to control the release of GE in their districts or regions. They want to ensure locals are compensated if there are any adverse impacts, and to retain the market benefits of a GE-free brand. These are compelling arguments.

However, GE may also offer opportunities in forestry – such as being able to control

wilding spread, reduce the need for agrichemicals and counter biodiversity threats like kauri die-back. In the United States, GE may save the American chestnut from extinction by making it resistant to a deadly blight. GE trees that produce better quality timber, quicker, may also be important in maintaining international competitiveness.

These are compelling counter arguments.

In the democratic decision process, of course, someone is likely to be unhappy about the outcome and this emphasises the importance of weighing carefully all the facts, and recognising that some facts will be hard to quantify.

The Forest Owners Association position is that this debate is best held at a national level via the Environmental Protection Agency (EPA). This is proposed in the recently released draft National Environmental Standard for Plantation Forestry.

The standard does not say that GE should be deployed, but that any decision to release GE trees should be made by the EPA. And that process should be robust and – to satisfy the public's wish to be consulted – open and inclusive. Thus far the agency has not approved the commercial release of any GE material, so it could be expected to take a cautious approach to any application for the release of GE trees.

Of course, this is not say we don't already have GE products in New Zealand. Worldwide 182 million hectares of GE crops – including rice, maize, cotton and soy – were grown last year. Some processed foods and garments sold here are therefore likely to contain ingredients sourced from GE crops overseas. The same applies to some of our medicines.

We should not conclude that we automatically need GE crops, but nor should we automatically rule them out. GE-free New Zealand may have value. Whether Tasmania has secured net tangible benefits by branding itself differently to the rest of Australia is still being debated.

I do not know what the best outcome for New Zealand will be but I do think we need to keep an open mind to either conclusion.



### 2015 Board Election

Notice to representatives of owners of less than 1000 ha of forest

NB: There will be no election for representatives of owners of larger forests as the number of candidates matched the number of vacancies on the board

Voting for board vacancy: 5 – 16 October 2015

For voting and entitlement information, plus the voting form, visit

[www.forestvoice.org.nz](http://www.forestvoice.org.nz)

## SAFETY

# POSITIVE HANDOVER TO FISC

**SINCE THE FOREST OWNERS AND FARM FORESTRY ASSOCIATIONS TOOK THE FOREST SAFETY BULL BY THE HORNS BACK IN 2013, A HUGE AMOUNT HAS BEEN ACHIEVED.**

There has been a dramatic fall in serious harm injuries and fatalities in our forests due to an increased focus on safety at all levels and the implementation of SafeTree and other initiatives. The Independent Forest Safety Review panel has done its work and made its recommendations.

With the Forest Industry Safety Council (FISC) now a reality, work begins to cement in these improvements, expand and improve them.

FOA president Paul Nicholls says it sometimes seemed like the journey was taking forever. “But, now, looking back, we have every reason to feel proud. Sure, this is just the end of the beginning, rather than the beginning of the end, but let’s have a big shout out for everyone in our industry who has accepted their responsibilities and got in behind the drive for safety reform.”

Late July was particularly poignant, he says. With the FISC trust board in place, it was time for the establishment board to step aside and for the FOA to hand over leadership to FISC chair Dame Alison Paterson.

The FOA/FFA joint health and safety committee, which has driven many safety initiatives over its many decades of existence, also held its final meeting.

“Its work is now the responsibility of the new operational advisory group (OAG), chaired by the national safety director, Fiona Ewing.



**Fiona Ewing, National Safety Director, Forest Industry Safety Council**

Members of the group – who have yet to be selected – will largely be safety specialists working for forest owners, farm foresters and contractors.”

The members of the FISC trust board are Peter Clark & Warwick Foran, FOA; Ian Jackson, FFA; Kevin Ihaka & Paul Olsen, Forest Industry Contractors Association; Robert Reid, First Union; Gordon MacDonald, WorkSafe NZ; Sid Miller, ACC; Wiremu Edmonds & Neil Thomas, worker representatives and a Maori representative (yet to be named).

“While the FISC board will make its own decisions, it is expected to pick up initiatives that FOA has been involved in such as Safetree and IRIS (Incident Reporting Information System),” Nicholls says.

Funding for the FISC work programme will be provided by forest growers through the levy, ACC and Worksafe.

As part of her orientation, Ewing met forest safety players from all parts of the industry before starting full-time work in late September. Meanwhile, offices have been organised for FISC on the ground floor of the building in Wellington that already houses many forest industry organisations.

## FIRE

# FOA AIMS FOR ‘OPTION GOOD’

**THE FOREST OWNERS ASSOCIATION WANTS TO SEE A NEW-LOOK RURAL FIRE SERVICE THAT’S COORDINATED NATIONALLY, BUT WITH LOCAL STAKEHOLDERS INVOLVED IN THE GOVERNANCE OF RURAL FIRE DISTRICTS.**

The Department of Internal Affairs’ (DIA) Fire Service review is underway. It aims to streamline rural and urban fire services so they are fit for purpose, flexible, modern and efficient. The FOA is one of 230 individuals and organisations to have made submissions.

The 68 page review document gave the reasons for the review and offered three options: enhanced status quo; coordinated service delivery; and one national service.

“From our perspective, option one was sub-optimal,” says FOA fire committee chair Grant Dodson. “There is no direct link between rural fire services and the Fire Services Commission. This means there is no solid and consistent legislative base from which rural fire districts can operate and be improved to meet community expectations.”

Option three, one national service, was not preferred either. A single organisation based in Wellington would probably not give the rural fire service the priority it

needs. Critical stakeholder participation would also likely reduce.

The FOA felt option two could be modified to ‘Option Good’ to deliver best practice, explains Dodson. This would include national governance, coordination and standard setting, with regional governance of Enhanced Rural Fire Districts (ERFDs) with representation from key local stakeholders.

Dodson has been “pretty happy” with the consultation process so far. DIA representatives have worked well with the FOA and other stakeholders.

“FOA has put forward its view, but we need to work with other key stakeholders, many of whom have a more optimistic view of option three, one national service. That said, many of them share our interest in ensuring rural fire management is adequately protected,” he says.

“It’s a case of finding a balance between national coordination and rural autonomy

and flexibility.”

DIA staff are currently pulling together all the submissions and will propose two revised options. Dodson expects these to be discussed with key stakeholders, including FOA. The next step will be a paper for decision by cabinet by the end of the year and if all goes well, legislation will be introduced into the House next year.

More: For copies of submissions and more information: <http://tiny.cc/FSR>



**Regional stakeholders need to be involved in rural fire management**  
Governance, coordination and standard setting needs to come from central government

supported by  
**forestgrowers**  
commodity levy

# A LOUDER REGIONAL VOICE

## A NEW WOOD COUNCIL IN THE SOUTHERN NORTH ISLAND ADDS TO A GROWING NETWORK OF REGIONAL GROUPS SUPPORTING AND ADVOCATING FOR FORESTRY.

“From an FOA point of view, these councils give us stronger links into the regions and enable better coordination of national initiatives. We help them where we can, while respecting their independence. These groups have high levels of local credibility because they are embedded in their communities,” says FOA technical manager Glen Mackie.

In addition to the Southern North Island Wood Council, there are associations or councils in Northland, Eastland, Hawkes Bay, Marlborough and Southland.

Mackie says it’s interesting to compare one of the oldest – Otago/Southland’s Southern Wood Council (SWC) – with the newest. He points out that they basically have the same intent, but there are important differences, particularly in terms of priorities and membership.

SWC was set up in 2001 in Otago/Southland and now has 16 members including the region’s major forest owners, wood processors, ports, local councils and government departments.

SWC chair Grant Dodson says having an independent, trusted secretary/manager, Brent Apthorp, has been essential to the council’s success.

What’s worked well for them, is keeping the number of members manageable – no more than 20 – and running regular meetings. These typically feature two or three speakers covering topics of common interest and are well attended by CEOs and senior managers.

“For issues such as the National Environment Standard, the council can come together quickly to focus on the issue and develop a plan. We’ve all got day jobs and we aim to achieve what we need to do and not overdo it,” he says.

Membership fees pay for the SWC’s operations and activities. While its primary focus is on its members, all from the larger companies, Apthorp says other industry players are welcome to come along to SWC meetings and events.

This year’s SWC Forestry Awards, run with Competenz, were held at the Forsyth Barr Stadium in Dunedin for the first time, having been held in Balclutha for a number of years. More than 400 showed up for the upgraded event with VIP guests including the minister of forestry.

SWC also sponsors a number of people, including three students each year through

forestry courses at the University of Canterbury and the Modern Apprentice of the Year.

### Southern North Island

The Southern North Island Wood Council (SNIC) was set up in April and officially launched in Palmerston North on 28 August. The council represents 165,800 hectares of forest from Taranaki to Wellington on the west coast and from Southern Hawke’s Bay to Cape Palliser in the east.

A chief executive, Geoff Cameron, has been appointed to service a broadbased membership, including many smaller forest growers, iwi, wood marketers, forest contractors, processors and ports.

SNIC chair Dave Hilliard says the council has modelled its activities on the Eastland Wood Council as several of its members are also members of that council. The board of eight is supported administratively by Grow Wellington.

“It’s all been going very well,” he says.



Geoff Cameron

“Until recently there was no local unifying body in the area to provide a vehicle for collective action on regional issues, especially on regulations that impact on all forest owners/managers.”

The council has already developed a health and safety/drug and alcohol policy that will become mandatory for members. It submitted to the Greater Wellington Regional Council on its Natural Resources Plan and will repeat the process with Taranaki Regional Council when its plan is reviewed. It is now working on improving safety performance in all forests.

## GAS FOR PARIS

Much hot air will be generated at the international climate change talks in Paris starting 30 November. With so much political capital invested by world leaders in the need to address the issue, FOA chief executive David Rhodes picks the talks will end with agreement on a binding framework to replace the Kyoto Protocol.

He expects much of the media coverage will focus on the carbon reduction pledges (INDCs) individual countries make to ensure the world warms by no more than 2 deg C.

“When the pledges are toted up and likely fall short of what is needed, the countries that are perceived as not playing their part will inevitably find themselves in the firing line. New Zealand may well experience some scrutiny around its offering,” he says.

“It is also very likely that there will not be agreement on a uniform international carbon market. The best that can be expected are arrangements between countries, which is sub-optimal from a New Zealand perspective, but reflects reality.

The FOA and the NZ Government have a common interest in seeing the carry-over of many of the LULUCF (land use, land use change and forestry) rules that were so painstakingly negotiated under Kyoto. While New Zealand and the EU are using these rules now, compromise is likely to be needed in order to forge a new agreement that includes many developing countries.

“It will be important to consider the potential domestic implications of any LULUCF rule changes and the FOA is working closely with government forestry negotiators on this area of common interest,” Rhodes says.

Although the INDCs and international rules are important, he says the real game will be the action we take domestically.

“Our ETS needs to be allowed to do the job that New Zealand needs it to do. Without a meaningful price for carbon, there is no incentive for businesses or consumers to invest in low-carbon solutions,” Rhodes says.

“The review of the ETS scheduled for this year will be important in sending the right signals for the future.”

## SAFETY

# LES BAK: IT'S A MATTER OF PRIDE

**LES BAK FIRST LEARNED ABOUT SAFETY THE HARD WAY, ON THE JOB, WITH NO TRAINING. NOW HE IS SEEN THROUGHOUT THE INDUSTRY AS THE GO-TO PERSON ON FOREST SAFETY.**



**Les Bak at the traffic lights:** Only if the worker feels comfortable with the job, the plan is good and there are no unmanageable risks or hazards does a job get a green light

His track record as safety manager at Nelson Forests Limited (NFL) speaks volumes, not only in terms of lives saved and accidents prevented, but as a window into the way he thinks. In his 11 years with the company the serious harm injury rate has reduced by 80 per cent and productivity has increased by 20 per cent.

Twelve years ago the company was losing 300 to 400 lost work days a year to accidents from a workforce of 700. That's now down to 40 to 50 hours, Bak says.

“My philosophy is heavily influenced by a former boss and now international safety consultant, Reynold Hert. He believes safety has to be integrated into an operation and given equal weight with

other outcomes like productivity and quality. If you do this, you deliver productivity as well as safety, and make more money.”

A decade ago Bak was a health and safety manager for Weyerhaeuser in Canada when given the opportunity to head to New Zealand to help improve safety performance across its 78,000 hectare Nelson/Marlborough estate. At this time seven of every 100 of its workers were being seriously injured each year.

Five years later, in 2009, Global Forest Partners bought those forests and Bak continued as NFL's health and safety manager, a role he fits like a glove. He knows loggers, the industry, the pressures

and, in the last 10 years, has helped transform forestry skids into work places where safety is not just a manual in the corner of the smoko shed – it's part of every action.

An important part of this has been a decision by NFL to involve contractors and engage them in developing safe processes and plans for day-to-day decision-making in the block.

“We are now working more in partnership with contractors, rather than spelling out in detail how they harvest a block,” says Bak. “By putting the crews in the position where they make the decisions about the work they are doing, we are getting better results in terms of output, quality and safety.

“People get excited about what they can do in the bush when you treat them as professionals. It all comes down to getting what you ask for.”

Helping men stay safe in an environment where hazards are ever-present and constantly changing is NFL's contractor-developed ‘traffic light’ sign displayed at entry points, on logging skids and in smoko sheds. Only if the worker feels comfortable with the job, the plan is good and there are no unmanageable risks or hazards does a job get a green light.

“Some of these guys are doing highly technical work by themselves in circumstances that can't be controlled. I can't put them in a bubble ... every move they make affects them as well as those around them,” Bak says.

“So they are empowered to speak up about problems, hazards and safer ways of tackling jobs and to acknowledge when they might not be in a good state of mind to do a safety-critical job.”

He says there are three stages in getting crew buy-in to safety culture.

“When I first started in Nelson, the response I got when I challenged crew members about unsafe practices was ‘that's just the way ... you can't do anything about it’. So we developed a programme, ‘the courage to intervene’.

“The second stage was getting crews to report incidents and near-misses without blaming, as part of a learning process. To convince them that knowledge shared is knowledge learned by all.

“The third stage, which is where we are now, is getting crews to anticipate safety issues before they occur. Now they are talking to each other, taking care of each other, taking ownership of their jobs and making safety, production and quality their business. No-one does that if they are given impractical rules and procedures to follow.”

Constant learning is crucial not only for crew members, but for Bak himself. Though he initially learned his trade in the

school of hard knocks, he's constantly looking for new ideas. NFL regularly brings in outside experts like human factors expert Hillary Bennett to challenge the systems that Bak has developed and to share ideas.

"My motivation is to create something that is better than what was. I look at the crews now, see what they're doing, see them behaving professionally because we've allowed them to behave that way and I'm proud of that.

"I am proud that Worksafe can come into our operation and sign everything off, saying that we are leaders, innovators and at the top of our game."

Many of Bak's initiatives, including the contractor certification programme he developed for NFL, are being rolled out by several other major forestry companies. Certification was also embraced by the Independent Forest Safety Review panel.

The relationship between NFL and its contractors is also evolving. As part of the company's new partnership philosophy, each contractor meets with the company every quarter and has plans developing up to three years ahead.

"We talk about performance, safety and finance so our contractors can plan with a high degree of stability. We monitor their cash flow and help them with any potential



### Hazards are ever-present and constantly changing in the forest workplace

Les Bak says crews need to anticipate safety issues before they occur, talk to each other, take care of each other, take ownership of their jobs and make safety, production and quality their business

hiccups, so that cash flow doesn't over-ride safety," says managing director Lees Seymour.

Mike Green of Fraser Logging says NFL and Les Bak encourage talking and giving feedback at all levels. "Everyone has something to contribute and something to learn, but traditionally it hasn't been a strong thing in the forest industry. The older guys find it difficult, so it's still a work in progress. The younger guys tend to be

more open – they come in with a more professional attitude."

Bak agrees: "The transition in culture happens slowly. You don't go in with a big sign saying 'culture change'. It's incremental ... you get your best results when leadership role models and reinforces the right culture and change is happening every day. Then one day they look back and say, 'Wow, things are so much better than they used to be.'"

## INTERNATIONAL

# WORLD CONGRESS HIGHLIGHTS

The World Forestry Congress (WFC) has just concluded in South Africa. Held once every six years since 1926, the WFC is a unique opportunity for those involved in using and conserving forestry to share insights and experiences.

Associate primary industries minister Jo Goodhew attended the congress, launching New Zealand's third country report on the Montreal Process.

The Montreal Process covers temperate and boreal forests and includes around half of the total world forest area. It is one of nine regional processes that produce progress reports based on mutually agreed measures of sustainable forest management. All told, around 150 countries participate in one or other of these initiatives.

The NZ report is very comprehensive, covering environmental, commercial, social and cultural aspects and can be accessed here: [http://tiny.cc/Montreal\\_NZ](http://tiny.cc/Montreal_NZ)

While in Durban, minister Goodhew also met with a number of international forestry representatives to discuss some common issues. The FOA helped to facilitate this through its involvement in the

International Council of Forest and Paper Associations (ICFPA).

The ICFPA was also involved in sponsoring prizes to the student winners in the affordable housing and tall building categories of the TREEHOUSING International Wood Design Competition, who were recognised at the congress.

World renowned architect Michael Green, who judged the competition entries, commented, "Wood in building design is seeing a resurgence around the world as architects and designers learn to work with it in more innovative and sustainable ways. New wood technologies are linking our rural forest economies with our growing urban environments with increasingly larger and now taller wood buildings."

The winning designs can be viewed at [www.treehousing-competition.com](http://www.treehousing-competition.com)

The ICFPA will continue its support of students and young professionals through its soon-to-be launched Blue Sky Young Researchers Innovation Award, which aims to demonstrate the global forest products sector as a vibrant and dynamic workplace for the future.

## FOREST POLICY FOR THE NATION

A draft forest policy for New Zealand was well received at the NZ Institute of Forestry (NZIF) conference in August. One hundred and twenty forest professionals reviewed the work done so far on the Forest Policy Project (FPP), facilitated by the institute.

Four working parties (WP) have been working on forestry data to produce initial drafts of preliminary policy recommendations (*Forestry Bulletin*, Autumn 2015). Project facilitator Garth Cumberland says the policy, if implemented, will optimise the economic, social and environmental benefits of forestry for New Zealand.

FPP plans to discuss its work with the government over the coming months and hopes MPI will come to support the work, says Cumberland.

Later this year, or early 2016, an FPP policy workshop will be convened to consider the revised drafts and to pull them together into the final forestry sector policy. "The final version will be handed to the governance group, consisting of forest sector leaders and luminaries, for 'gifting' – in some appropriate way – to the nation," says Cumberland.

## RESEARCH

# KEY HERBICIDES CLEARED

## RESTRICTIONS ON TWO IMPORTANT HERBICIDES HAVE BEEN LIFTED BY THE FOREST STEWARDSHIP COUNCIL (FSC).

The herbicides terbuthylazine and hexazinone were placed on the FSC's highly hazardous chemicals list in 2007. This meant forest managers had to get special permission ('derogation') to use them in certified forests on the understanding that their use would be reduced and eventually phased out.

Faced with no obvious alternatives, the NZ FSC Cluster Group commissioned research with substantial funding from the MPI Sustainable Farming Fund. The six year Scion study, which has now been completed, looked at alternative methods of weed control and assessed the environmental impact of terbuthylazine and hexazinone.

Project manager Kit Richards says the research has confirmed that herbicides are needed for weed control, that the most effective herbicides are being used and that there are practical ways to reduce the amount of herbicide applied.

"Importantly, we also now know that these herbicides have a low environmental impact when they are used as recommended in planted forests."

New Zealand has some highly competitive exotic weeds that can have a big effect on the growth and survival of trees, particularly in the first five years after planting. So much so that planted forests are not economically viable without weed control.

Usually this means spraying with terbuthylazine and hexazinone in the spring after planting. Both herbicides are non-toxic to *Pinus radiata* and provide weed control for up to a season after application.

Scion weed programme project leader Dr Carol Rolando says the study found that

non-chemical weed control methods were generally more expensive and less effective than chemical methods and the work concentrated on alternative chemical options.

"Using terbuthylazine and hexazinone as benchmarks, we tested a number of different herbicide mixes in forests from Dunedin to Rotorua. Six years and 18 field trials later we have quantified the efficacy of alternative active ingredients.

"Terbuthylazine and hexazinone are still the best at controlling vegetation in radiata pine forests. We like to think our work helped to get them removed from the list of highly hazardous herbicides," she says.

"While mesotrione or clopyralid mixed with terbuthylazine showed promise, tree growth was reduced compared with the current industry standard. None of the other herbicide combinations tested came close to the efficacy of the benchmark."

While forest companies are increasingly using spot weed control to reduce the amount of herbicide used this is not always practical. So the studies into the environmental fate of the herbicides were based on aerial spraying.

"We monitored herbicide levels in soil, stream water, sediment and aquatic algae in a section of Kaingaroa Forest after aerial spraying. The levels in water were highest on the day they were applied, and spiked again when it rained soon after application. Apart from those times, the herbicide levels were below drinking water standards and often below detection limits," Rolando says.

"Work is continuing to see if some forest soils are more vulnerable to herbicide leaching than others."

The research was jointly funded by the MPI

Sustainable Farming Fund, the Farm Forestry Association, the FSC Cluster Group, regional councils, agrichemical companies and also Scion via the Undermining Weeds programme (originally funded through MBIE and led by AgResearch and subsequently transferred to AgResearch core funding).

More? [carol.rolando@scionresearch.com](mailto:carol.rolando@scionresearch.com)

## HOW MUCH MORE COULD YOU EARN?

Many forest owners are missing out on more than \$10,000 a hectare in gross earnings over the life cycle of their forests. This comes from data from permanent sample plots used to estimate the current level of productivity in radiata pine forests.



FOA research manager Russell Dale (pictured) says the industry's biggest research programme aims to significantly improve the productivity of our forests and deliver more value per ha for forest owners.

"We want forest profitability to improve, so forest growing remains competitive with other land uses and forest owners get a good return on their investment. So as a first step we have been tracking current productivity levels and comparing this with the attainable potential. The next step is to work out how to close the gap between the two," he says.

Scion research shows the current average productivity of radiata forests is about 24 m<sup>3</sup>/ha/yr. And while the most productive plot in New Zealand is 61 m<sup>3</sup>/ha/yr, the attainable potential is thought to be around 50 m<sup>3</sup>/ha/yr on average.

"We are getting a wide range of productivity on sites of a given class," says Dale. "For example, on sites with an index of 30 we are seeing productivity ranging from 10-40 m<sup>3</sup>/ha/yr."

Attainable productivity is defined as the maximum observed yield for a given combination of soils and climate. After allowing for known variables, like the site index estimate, researchers believe there is typically a gap of about 5-6 m<sup>3</sup>/ha/yr between current and attainable productivity.

For a 30 year rotation and using current average log prices, closing this gap would yield another \$13,000 in gross revenue per hectare for forest growers.



**Gorse and other weeds are formidable competitors for young tree seedlings**  
But with the right herbicides they can be effectively controlled with very little effect on the environment

## IN THE NEWS

### NEEDLES GOING BROWN?



**Dothi in a plant nursery**  
Photo: Stefan Gous, Scion

If you have pines with browning needles, especially on the lower branches of younger trees, there may well be dothi in your forest.

Dothistroma is a needle blight that affects the health and growth of pine trees. Each spring and summer, affected NZ forests are aerially sprayed with a copper fungicide to control the disease. This spray programme is co-ordinated on behalf of all forest owners by the Dothistroma Control Committee (DCC), a sub-committee of the FOA. You don't have to be a member of

the FOA to take part. The committee's services are available to all forest owners, large or small, to ensure the best control of the disease for the least cost. To get the most competitive flying rates, the committee requires requests for spraying to be made by late-August of each year. However, if you think dothi is an issue in your forest, it may not be too late to take part. Contact Don Hammond, Tel 07 332 3454 or 027 488 5940

### NEW FFA PRESIDENT

Dean Satchell has been elected president of the Farm Forestry Association following the retirement of Ian Jackson from the role.



**Dean Satchell**  
into the future.

He says he's been actively involved in planting, silviculture and forestry research for more than 20 years, and wants to play his part in ensuring forestry is a profitable and rewarding land use

"My focus is on efficient small-scale harvesting, sensible plantation forest species choices for highest value products and profitable management options for erodible hill country that have positive environmental outcomes." Satchell recently completed a masters degree at the School of Forestry (Canterbury University) on solid wood processing of *Eucalyptus nitens*.

### RESEARCH CONFERENCE IN NELSON

The second Forest Growers Research Conference will be held at the Rutherford Hotel, Nelson, on 14 October, with a field trip the following day.

Forest owners and industry professionals are urged to attend. You will hear progress reports on research projects being funded by the forest growers levy and how the

### IRIS SPREADS

The FOA-developed Incident Recording Information System (IRIS) database will be made available to all industry players, thanks to funding from the Forest Growers Levy Trust.

IRIS has been used for more than 20 years by FOA members to help them manage safety in their forests. Incidents, including near-misses, are recorded on IRIS, along with relevant circumstances, to identify areas of risk and to benchmark company performance.

FOA technical manager Glen Mackie says IRIS allows users to upload data in csv format, which makes it compatible with almost all in-house systems.

"The more industry players we have using IRIS, the better the data and the better IRIS will be as a tool for improving forest safety."

findings might be applied in forests and the wider industry in the future.

For more information or to register, please go to [www.research.nzfoa.org.nz](http://www.research.nzfoa.org.nz) and click on *Event calendar*. Note that you need to register for the conference and the field day separately.



### GIA NEARING SIGNATURE?

The forest growing industry is close to signing a biosecurity partnership agreement with the government.

Final consultation on the particulars of joining the Government Industry Agreement (GIA) concluded in early August and the final proposal was submitted to the Ministry for Primary Industries (MPI) for consideration.

GIAs are a new partnership-based response to managing pests and diseases, to which various primary industry sectors, such as Kiwifruit Vine Health and Pipfruit NZ, are signing up. They were established in 2012 after the Biosecurity Act 1993 was amended to include a framework enabling government and industry to work together in a partnership.

According to the MPI website, this aims to achieve the best possible outcomes from readiness or response activities through joint decision making and joint funding, in shares that take into account the public and industry benefits delivered by the activities.

For more information about GIAs, see [www.gia.org.nz](http://www.gia.org.nz)

### HOTSHOTS AT FORESTWOOD 2016

An impressive line-up of international speakers have already been confirmed for ForestWood 2016, the forest and wood sector's joint conference. The two-yearly event is being held on 16 March 2016 at Sky City Convention Centre, Auckland, hosted by the Forest Owners Association, Wood Processors and Manufacturers Association, Forest Industry Contractors Association and supported by Woodco and NZ Farm Forestry Association. Speakers lined-up so far include:

- Forest Stewardship Council director general Kim Carstensen
- PEFC International chief executive Ben Gunneberg
- Scion Bioproducts general manager Dr Elspeth MacRae
- US secretary of agriculture senior advisor Doug McKalip
- International Wood Markets Group president Russell Taylor

Early-bird registration opens in October. To find out more and to register: [www.forestwood.org.nz](http://www.forestwood.org.nz)