

SA Forestry

From seedling to sawmill

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SA Forestry goes digital from 2021

Dear SA Forestry Readers

COVID-19 came to our shores early in 2020. It changed many aspects of our lives and disrupted the business landscape on its way through. As I write this, the fallout from the pandemic is still with us and continues to challenge us on so many levels.

SA Forestry magazine – like most other businesses – has had to adapt to the new reality, and so 2021 sees the start of a whole new chapter in the way we publish.

The magazine you are holding in your hands now will be the last regular printed edition of SA Forestry. From January 2021 we will be primarily publishing our trademark forestry news and features on our website, www.saforestryonline.co.za as well as a monthly, digital SA Forestry eNewsletter that will be mailed out free to stakeholders via email.

SA Forestry Annual

In addition, we will publish one mighty, printed SA Forestry Annual per year. This will have thicker paper, more pages, and more photos, articles and features about forestry in South Africa than ever before. It will include all the best articles and reviews of the past year in forestry, and will serve both as a historical record of the year and as a showcase for the Forestry Sector going forward.

The first edition of the SA Forestry Annual will be published in November 2021. In order to secure your copy of the Annual, you will need to subscribe. The cost is just R 175.00. Pay by EFT (details at the bottom of this page) and don't forget to send us your name, contact details and postal address with the payment notification.

Alternatively, you can subscribe to the SAF Annual online on our website.

If you have subscribed to SA Forestry magazine already and still have magazines due to you under that subscription, you will receive the 2021 SA Forestry Annual at no additional cost. Please check in with our Subscription Manager, Debbie Walsh, to ensure your delivery details are correct.

All the info you need to continue to enjoy SA Forestry on our website, eNewsletter and Annual magazine is detailed at the bottom of this page.

Publishing since 1986

SA Forestry has been publishing since 1986, and we will continue to provide the news and info that helps to keep you, our readers, informed and motivated about everything to do with forestry right here on the southern top of Africa. 🇿🇦

CHRIS CHAPMAN
Editor



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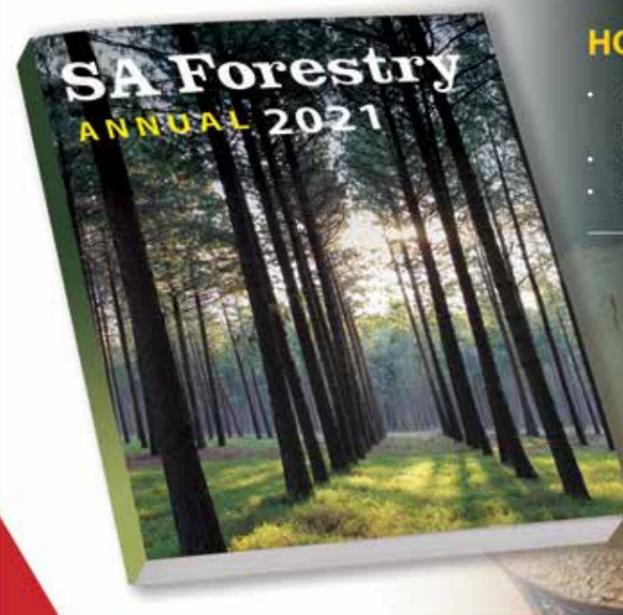
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New leadership at Sappi Forests



Duane Roothman, incoming Vice President Sappi Forests.

a BSc Forestry degree from the University of Stellenbosch (1994) and an MBA from the University of the Free State (2005) focusing on operations and logistics management. Duane joins the Sappi Southern Africa Executive Committee.

Duane has gained considerable knowledge and experience in integrated fire management having served as chairman of the Mpumalanga Umbrella Fire Protection Association, the KZN Umbrella FPA as well as chairman of the FSA Fire Working Group. He will continue to bring his expertise to this crucial aspect of the industry through his involvement in related industry structures. He will also continue with the influential role that Terry played within Forestry South Africa, the national grower

association that promotes the interests of the forestry industry in South Africa.

Mark Barnardo has been appointed as Duane's successor as General Manager, Forestry KZN with effect from 1st September 2020. He is currently the Senior Area Manager, Forestry South in KZN.

Mark joined Sappi Forests in 2011 where he has served in various positions in both Mpumalanga and KwaZulu-Natal. He has been involved in the forestry industry for 20 years and has gained extensive experience along the way. He holds various post graduate qualifications in Forestry and Business Management.

Mark has extensive experience in fire and FPA management structures and will participate in the forums that Duane will exit at the KZNFPA and FSA.

Sappi Southern Africa has announced the appointment of Duane Roothman as Vice President Sappi Forests. He takes over this position from Dr Terry Stanger, who retired at the end of August after 27 years of service with the company.

Duane has been with Sappi for 25 years and has held various roles within Sappi Forests, most recently as General Manager Sappi Forests, KwaZulu-Natal.

In his new role, Duane and his team will focus on increasing Sappi Southern Africa's timber self-sufficiency, leveraging the company's significant scientific and technical forestry expertise commercially and accelerating timber supply efficiency improvements. Duane has



Mark Barnardo appointed General Manager, Sappi Forests KZN.



Terry Stanger retires after 27 years with Sappi.

PG Bison NECF appoints new GM

PG Bison has appointed Francis Zhangazha as General Manager of North Eastern Cape Forests (NECF) with effect from 1 September 2020. Francis takes over from Pieter de Wet, who has managed NECF since the acquisition by PG Bison and development of the board plant at Ugie over a decade ago.



Francis Zhangazha takes over from Pieter de Wet as General Manager of PG Bison's NE Cape Forests.

In this new role, Francis will look after NECF forestry and cattle business units and will report to Pieter who has taken up a new position as Executive Director Logistics, based in Boksburg.

Francis holds an MSc in Forest & Wood Science from Stellenbosch University, a B Tech degree from Nelson Mandela Metropolitan University and a Business Management qualification from the University of Stellenbosch Business School.

He has been involved in forestry for 18 years during which time he gained extensive experience in both harvesting and silviculture. At the time of his appointment as the General Manager NECF, Francis was the



NE Cape Forests supplies the raw material for the modern board plant at Ugie.

silviculture manager at NECF, having joined the organisation in 2017. NECF's total land holding of 76 400 ha includes 33 200 ha planted to pine and gum. The fibre produced in the plantation supplies the raw material for the modern particle board plant at Ugie, as well as local sawmills.

The areas in between the forestry patches are used for cattle farming. NECF has a registered Nguni stud and more than 2 900 head of cattle. This herd forms an important part in NECF's fire prevention strategy by reducing fuel loads in between the plantation patches.

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Meet the STIHL MS 462 ... tested to the limit



The STIHL MS 462 is a 70cc professional-grade chainsaw that has been tested in the wilderness of Alaska and the Alpine forests. This machine is specially designed for harvesting thick wood and commercial felling and pruning.

Despite being a robust beast of a cutting machine, this is the lightest high-performance chainsaw in the 70 cm³ cubic capacity class. With saw bar and 20" saw chain, it weighs in at 7,4 kg, yet there's no compromise on delivery and it offers an impressive power to weight ratio of around 1.4 kg/kw.

The MS 462 features an improved HD 2 filter and oil pump system, a lighter, more compact chain sprocket cover and crankcase, and a weight-optimised flywheel. The 2-MIX engine is light on fuel and contributes to the significantly improved torque build up, making this hardworking model an excellent example of getting more for your money. It is also simple to maintain. Other positives include captive nuts on the sprocket cover which make it easy to change the chain, and tool-free fuel caps for easy and safe filling with fuels and lubricants.

The MS 462 is easy to handle and manoeuvre, with improved ergonomics

- *Designed for felling and pruning in medium-density and high-density stands.*
- *Easy to handle and manoeuvre, with improved ergonomics and reduced vibration for less operator fatigue.*

and reduced vibration for less operator fatigue - vital when all-day cutting is required. Designed for felling and pruning in medium-density and high-density stands, the MS 462 is an outstanding chainsaw from one of the world's leading chainsaw brands. 🌿

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Can the Forest Sector Masterplan turn the tide?

The Forestry Sector has a high level masterplan in place that is poised to revitalise the entire value chain, as well as to give South Africa's ailing economy a massive shot in the arm.



The cynics will be quick to laugh it off as just another plan that will end up on the scrap heap of countless abandoned plans, broken promises and political back-stabbing that has brought the SA economy to its knees over the past decade.

But the current Forest Sector Masterplan is different. It is more comprehensive, more focused, and more inclusive than anything that has come before – and it comes with a very detailed implementation roadmap and monitoring and evaluation plan that pinpoints who needs to do what over the next five years to make it happen.

It also comes at a time when the President is launching a major national offensive to turn the tide against fraud and corruption, non-delivery of government commitments and catastrophic job shedding upon which the future of his presidency – and the future of the ANC itself – is utterly dependant.

Moreover, Forestry is one of the sectors prioritised under the Public Private Growth Initiative thanks to its catalytic role and impact on the national economy – particularly the rural economy – and the President himself has come out in support of it on several occasions.

It provides a detailed road map for unblocking the key constraints that have held the sector back for decades. Chief among these is to remove

the impediments to bring more land into commercial forestry production, upon which future growth of the sector hinges.

Total plantation opportunity is close to 200 000 ha, comprising the recapitalisation of 68 820 ha DEFF-owned plantations and 151 000 ha new afforestation.

Investment target

The investment target is R24.9 billion, of which R8.4 billion has already been invested. A further R14 billion could follow pending removal of some of the impediments to growth of the sector, which could bring total investment to R38.9 billion. The bulk of this investment will come from big companies involved in the pulp and paper, sawmilling and board manufacturing sub-sectors, with R1.6 billion from new afforestation.

The jobs target is 100 549, with new afforestation contributing 60 265 jobs and the recapitalisation of state-owned plantations 22 610.

A comprehensive review that underpins the Masterplan found a compelling case for prioritising the Forest Sector for growth and development initiatives:-

- Forest products contribute 4.5% to total SA manufacturing, making it one of the top five sectors in manufacturing.

- Export earnings have almost trebled in 10 years. The sector shows a positive trade balance of R10 billion.
- The sector contributed just under 25% to agricultural GDP.
- Much of forestry operations are rural-based, supporting around 700 000 livelihoods.
- Land reform, if effectively implemented, could result in around 50% black and community ownership of land available for plantations.

The Masterplan details commitments to address many of the stumbling blocks that have been holding back the Forest Sector for years, including the following:-

- Land Claims Commission to finalise claims to open up investment opportunities.
- Promote the use of timber as green building material in the built environment.
- Business support and extension services for small-scale growers, including financial support for replanting 13 800ha of plantations in KZN damaged by pests (Leptocybe).
- Replanting of Western Cape areas affected by fire, including MTO exit areas.
- Support for targeted FPAs.
- Wider adoption of agro-forestry by small-scale farmers and communities to improve food security.
- Increased certification of small-scale growers.
- Boost R&D and innovation investment in the Sector.
- Address rampant plantation theft and crime.
- Promote greater strategic alignment between industry and Transnet Freight Rail.
- Simpler and quicker EIA processes.

Masterplan development process

The Department of Trade, Industry and Competition put the Forest Sector Masterplan development process in place, working closely with DEFF, which is the lead department with oversight over the Masterplan and its implementation.

The plan was compiled by strategic planning experts, Strategy Execution Advisers, working closely with leading forestry consultants.

A multi-stakeholder Working Group was established to drive the plan development process which involved extensive consultation with stakeholders including government, small, medium and large growers and vertically integrated corporations, sawmillers, board and pole manufacturers, industry bodies, the SETAs, SOEs, labour, CPAs and NGOs. Work on development of the plan started in February 2020, and was completed by September. This period coincided with the arrival of COVID-19 and the subsequent restrictions which provided additional challenges for the plan development team.

Implementation

Can this plan really be implemented? Yes! The private sector is on board and the President is on board, and the actions that are required to unlock the full potential of the sector are logical, affordable and do-able. There is nothing new in the plan, stakeholders have been knocking these issue about for years.

However it is true that most of the crucial steps that need to be taken, involve government who have a poor record when it comes to delivery.

Commented Mike Peter, Executive Director of Forestry South Africa: "We are very pleased both with the plan itself and that the President made reference to it in his address to the joint sitting of Parliament. It captures many of the binding constraints preventing the growth of the sector, and most importantly includes the private sector and State's commitments, which are in the Public Private Growth Initiative, which is a Presidentially-led program. This gives us much greater hope that it will be implemented, than we have had with any of the multitude of previous forestry plans, which the State has approved over the years but against which no officials have ever been held to account."

90-10 principle

As the authors note in their conclusion, the Masterplan provides a solid base from which implementation can proceed. However it is still just a Plan, so take note of the 90-10 principle. In the public sector, policy invariably takes 90% of the effort, with just 10% left for delivery. If this Plan is going to make an impact on the ground, the division of effort needs to be the other way around. ■

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TWK Agri and Sunshine Seedlings join forces

Sunshine Seedlings Services (SSS) has partnered with TWK Agri, one of South Africa's leading agricultural service providers. TWK Agri acquired a significant interest in Sunshine Seedling Services, and by doing so, Sunshine Seedling Services and TWK Agri will work together to provide a greater variety of products and services.

Sunshine Seedling Services will take over the operations of the TWK Nursery based in Piet Retief, and as a result will extend its reach into the Mpumalanga, Northern KwaZulu-Natal and Eswatini areas. The Piet Retief nursery will be focused on providing quality forestry seedlings. This partnership will bring synergies to the existing operations of both parties, providing existing customers better service in the area and also providing TWK growers the opportunity to harness new technologies.

Since 1982

Sunshine Seedling Services has its roots in humble beginnings since 1982. What started as a small crop of vegetables in the valley has flourished and expanded into a nursery yielding some of the highest quality timber and vegetable seedlings in South Africa.

The team has more than 130 years of practical and academic experience. From qualified agriculturalists to a well-established management team, Sunshine Seedling Services is a leader in the containerised seedling industry.

Sunshine Seedling Services produces over 50 million vegetable seedlings annually, as well as



10 million forestry clones, seven million forestry seedlings and four million essential oil seedlings and clones.

Sunshine Seedling Services has been involved in Eucalyptus clonal forestry for more than 20 years.

The last three years have seen several changes on the clonal side. The demand for clonal wattle has increased significantly as field trials show an increase in disease and frost tolerance along with increased yield.

Wattle clones

Sunshine Seedling Services has a selection of GXN, GXU and wattle clones, extensively tested across several sites. Clones are site-specific and should be planted on highest potential areas to gain maximum benefit. The wattle clones are an exciting addition and are now available on a commercial scale.

The nursery team is excited to introduce a new, exclusive variety to the product range, the GMAC (*E. grandis* x *E. macarthurii*). TWK Agri exclusively developed this variety to achieve profitable growth, good stem form, favourable wood properties, frost tolerance and good rootability. Trial results reflect that GMAC has good pulping qualities that fall within the norm for chip exports. The timber can also be utilised as mining timber or sawn timber.

Vegetable seedlings

Sunshine Seedling Services produces a wide variety of vegetable seedlings, which are grown to order in Pietermaritzburg. These seedlings will be transported to the Piet Retief nursery where they will be supplied into the local market.

The Pietermaritzburg and Piet Retief nurseries



also stock a wide variety of annual and perennial flowers. The seedlings are germinated and then planted out into six-pack punnets and four-pack punnets. The flowers are bagged according to special requirements and orders.

Other products that can be found at Sunshine Seedling Services include Blueberries, Pecans, Macadamias and Essential Oil seedlings, which include varieties such as Tea Tree, Rose Geranium, Rosemary and Eucalyptus radiata.

The Sunshine Seedling team has assured customers that all operations will continue as usual. There will be no changes to the management team and staff of Sunshine Seedling Services. The partnership with TWK Agri will bring synergies to both parties and will enable the team to provide better quality products and service in the future, together.

We look forward to growing the business together in the years to come.

TIMBER News

With the correct site species matching, foresters are able to identify and reduce the risks, increase the yield, and bring the rotation cycle down. Eucalyptus clones are available for the colder areas i.e. GXN and for subtropical areas GXU.

The *Acacia mearnsii* clones have been bred for either rust tolerance or frost tolerance. Contact us to begin the trials. The rust tolerant clone is SP644. The frost tolerant wattle is a mix of clones that have performed well on very cold sites.

We look forward to a more positive 2020/21 growing season with a focus on site/species matching to optimize future yields.

Contact us for assistance:
Erich Jacobs 076 260 1306 | Bryn Pollard 083 793 5806

SP644 1 Year Old

NCT Forestry recognises Top Tree Farmers

NCT Forestry has chosen its Top Tree Farmers for 2020. This is an annual award that recognises members for sound and sustainable management practices in tree farming. Ben Seele and Bhekuyise Shange were the winners in the two categories assessed: the first to a member who manages a large commercial farm, and the second to a small-scale grower who has improved and expanded his or her operation significantly over the past 10 years.

NCT's Top Tree Farmer of 2020



NCT's Top Commercial Tree Farmer for 2020, Ben Seele.

NCT's Top Farmer of the Year for 2020 in the Commercial category is fourth-generation farmer, Ben Seele, who has grown the family timber farming enterprise to an impressive 2 400ha of plantations with a total land area of 4 300 ha.

Ben's great-grandparents started farming in the late 1800s when they acquired a farm in the New Hanover district in the KwaZulu-Natal midlands. Subsequent generations continued the family farming tradition. Ben's father, Carl Seele, purchased a dairy and beef farm in the hills above Baynesfield in 1979 and converted it into a timber farm. This is where Ben grew up and still lives today.

After finishing high school Ben did a B.Comm at Stellenbosch University, followed by a wood

science postgraduate diploma. He then returned home to the Baynesfield farm and set up a sawmill, using profits to purchase more land in the Richmond and Dargle areas.

Today the farming operations, known as Trewirgie Timber (Pty) Ltd, is run by a small management team headed up by Ben, and employs a workforce of 230 people in harvesting, silviculture, sawmilling and transport.

Ben's HR philosophy hinges around identifying people with potential and training them up to

acquire skills and take on more responsibility. This approach has paid off as most of the skilled workers on the farm started off as general labourers, and staff turnover is low.

Diversification

One of the pillars of the Seele family success has been diversification. This includes planting a large variety of species according to site requirements and managing them for various markets. Pine is grown mainly for sawtimber



Trewirgie Timber farms are generally steep, so harvesting is done by hand with in-house teams. Chainsaw operators Antony Sithole and Lizwi Makhanya ... job well done!

that is processed at the Orange Farm Sawmill at Baynesfield while wattle is managed for pulp wood and bark production. Numerous species of Eucalyptus are planted for diverse markets: *E. grandis* and a selection of clonal hybrids for pole and sawtimber production, *E. smithii* for premium pulp markets and leaf production.

E. Smithii leaf is harvested and sold to a eucalyptus oil producer based near Richmond. Leaf harvesting starts when the trees are around 18 months old with a one-metre prune and as the trees grow taller they prune up to five metres. They also harvest leaf when the *E.smithii* compartments are clear felled at maturity.

This focus on diversification and market spread has stood them in good stead in the current COVID-19 crisis as they have been able to adapt to changing markets and react rapidly to any market opportunities that arise.

A good example of this is the compartments managed for pole production. The harvesting team are selecting out large trees for transmission poles; the butt-end is cut at 2.5



The Orange Farm Sawmill at Baynesfield processes pine and Eucalyptus round logs grown on the farm.

metres for a sawlog to be processed in their mill for pallets; the middle section is sold as a transmission pole and the top section is cut and stacked for pulp. Trees not suitable for poles are left standing, and will be sold for pulp when market conditions improve.

Environmental impact

Special care is taken to minimise the impacts of their operations on the environment. This includes layout and maintenance of roads; well-planned and executed harvesting operations and responsible waste and chemical management.

The conservation management on the farm is also noteworthy. This starts with ensuring that their timber farming activities do not pollute or degrade the environment and is carried through to setting aside significant areas as representative eco-systems. Although many of the unplanted areas are used for grazing, careful veld management ensures that these areas also have a high conservation value. Rehabilitation of the last remaining weed infested valleys are being carried out on the farms.

Ben takes great care to protect the soils on his farms to ensure long-term productivity and sustainability, and keeps burning of brush within compartments to a minimum. Around 70% of compartments are not burnt. When brush burning has to be done they apply 'cool' burns that do not damage the soil.

He believes that this approach leads to improved MAIs as the soil stays healthy and productive. He has seen how accidental 'hot' burns damage the soil to such an extent that even weeds battle to grow. He says he is investigating various options of brush reduction in compartments, including the use of a chipper to reduce slash and create a mulch layer over the soil after harvesting.

"These farms are an exceptional example of how the impact of plantation forestry can be managed to ensure sustainability, and at the same time not compromise on productivity," noted Craig Norris, technical forester for NCT.

Fire prevention

Ben's team maintains an effective network of firebreaks and plant wattle in strategic belts to limit the spread of fire. They have also been implementing cool burns under the canopy of gum compartments at the Richmond farm to reduce fuel loads and improve access.

Harvesting and silviculture work on the farms is done in-house, using traditional motor-manual systems of felling and cross-cutting with chainsaws, and stripping bark off the gum and wattle by hand. Brush is stacked neatly to facilitate easy access and re-establishment of the compartment.

He only uses contractors to help with harvesting from time to time when he needs to deliver a lot of timber to market in a short space of time.

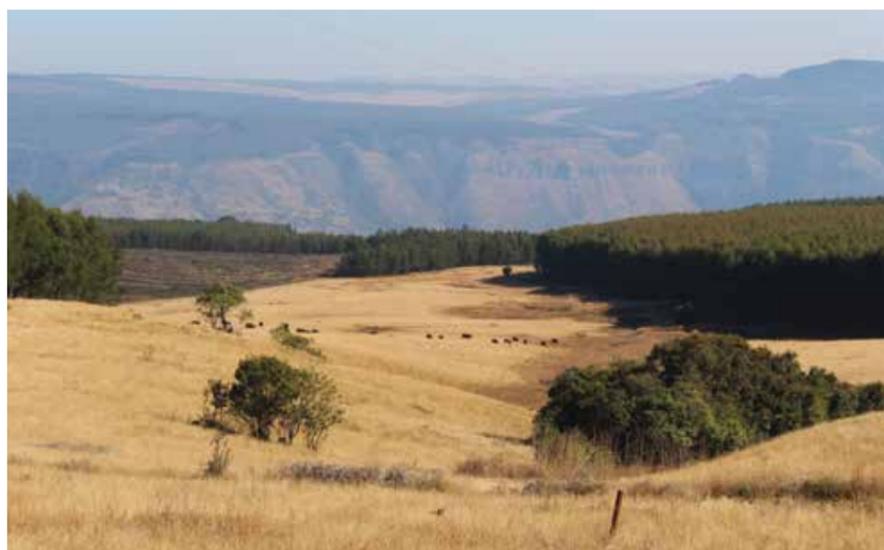
Ben is a family man with three small children, and is hopeful that one day there will be a 5th generation of Seele's involved in farming to continue the family tradition. 🌱



Ben (left) and two members of his management team, farm manager Pieter van Heerden and admin manager Conrad Strydom.



Harvesting E. smithii leaf for Eucalyptus oil production.



Trewirgie cattle grazing on well-managed grasslands in between the tree compartments.

NCT Small-Scale Tree Farmer of the Year

NCT's Top Small-Scale Tree Farmer of the Year operating on communal land is Ben Bekhuyise Shange from Kwanganase rural area in Manguzi, northern Zululand.

Ben received the award at NCT's virtual AGM, for expanding his tree farming operations significantly over the past ten years. He received a chainsaw sponsored by Stihl Pietermaritzburg as his prize.

Ben is a self-made tree farmer and entrepreneur who operates 70ha of gum plantations. He also runs a herd of 100 cattle, a tuck shop, a mobile fridge business and 15 rental cottages. He has 15 permanent employees and a further 25 casuals.

According to Ben it all began more than 20 years ago when he became interested in tree farming. At first he could not find seed to plant, so he started collecting seed from neighbours and old gum trees growing in the area, grew the seedlings and planted them out in his own plot. He was later introduced to commercial nurseries and thereafter started planting improved material.

Subsistence farmer

Prior to farming trees, Ben was a subsistence farmer growing fruit and vegetables and selling the surplus at the local market in Manguzi. The profits from the vegetable and timber sales were used to establishing his other business ventures.

Not wanting to be successful alone, he started recruiting other subsistence farmers into commercial timber planting. His influence in the area of KwaZibi led to the formation of a 42-member farmers association under his chairmanship.

Finding a market for his timber was a challenge until an experienced NCT member from the neighbouring town introduced him to NCT Richards Bay office. It was from that point that he realised the true value of his investment.

His success has empowered him to get more involved in the community. He provides support to local schools, churches and the traditional council, and has created permanent



NCT's Top Small-Scale Tree Farmer for 2020 is Ben Shange from Northern Zululand. Here he is at home with his awards and the STIHL chainsaw that he won.



Above: One of Ben Shange's well maintained plantations. Above right: Fire cleared compartment before planting, with a fence to keep cattle out.

employment for 15 local people in an area with very high unemployment rates.

However the journey hasn't been without its challenges. Top of the list of challenges are the wild fires which come from various sources to threaten his plantations, including burning of veld, land clearing and wild honey hunters. He says there is a lack of awareness among local rural communities about the dangers of fire. However he maintains that "creating a relationship between community and trees serves as a good fire prevention mechanism".

Recently, the Covid-19 pandemic resulted in timber sales orders being cut down across the board resulting in loss of income for growers and unemployment for many farm employees in his community.

However there is hope on the horizon as the pandemic rate of spread is going down and business is picking up again.

In his parting message, Ben encouraged his fellow timber farmers to form growers associations to share knowledge around farming, markets and business. 🌱

Annual Report highlights Forest Sector transformation progress

The 2019/20 Annual Status of Transformation Report marks the 11th report produced by the Forest Sector Charter Council (FSCC), and the 3rd under the Amended Forest Sector Code (FSC). A key objective of the FSCC in producing the Report is to assess the Sector's performance towards achieving the scorecard targets as outlined in the Amended Forest Sector Code. These targets are aimed at ensuring that the Forest Sector responds proactively to equity sharing, job creation and inclusive and meaningful economic participation of previously disadvantaged groupings.



Khosi Mavimbela, Executive Director, Forest Sector Charter Council and Dr Mahango, chairperson of the Forest Sector Charter Council.

The forestry industry has continued to make great strides in transforming the socio-economic landscape of the sector, with Medium and Large Enterprises (MLE) and Qualifying Small Enterprises (QSE) significantly improving their performance in all five scorecard elements for the first time in the history of the Amended Forest Sector Code. Although still short of achieving 50% of the target for Management Control, MLEs improved their performance for this element by a significant 7.7%.

MLEs improved their average B-BBEE rating to a Level 4 in the current year under review (previously Level 6) while QSEs achieved a Level 2 average, and Exempted Micro-Enterprises (EMEs) Level 3. The recently released Annual Report on the State of Transformation in the Forest Sector 2019/20 notes that concerted efforts are required to encourage QSEs and EMEs to report and lift their transformation performance, as they are the main beneficiaries of the B-BBEE programme.

The overall improved performance of the sector when measured against the Amended Forest Sector Codes has come in the context of a tough economic environment that has constrained the Forest Sector over the past year. The SA economy contracted by 1.4% in the fourth quarter of 2019, with economic growth for the year of just 0.2% - the worst showing since the global financial crisis of 2009.

Rampant timber theft, illegal timber treatment and on-going uncertainties around land reform are some of the factors that have impacted negatively on socio-economic transformation of the sector.

A drop in the number of MLEs and QSEs reporting to the Forest Sector Charter Council has taken some of the shine off the Sector's transformation performance. This is a disappointment considering that B-BBEE reporting is an imperative for all entities regardless of size as prescribed in the B-BBEE Act as Amended. This highlights the fact that the Forest Sector Charter Council needs to continue or even redouble its efforts to educate forestry stakeholders about the Amended FSC and the importance of consistent reporting.

Overall, the Sector is achieving a Level 4, thus qualifying as 'preferred' entities in terms of procurement or allocating projects. Notable performances were observed in the fibre (Level 1) and pole treaters (average Level 3) sub-sectors.

"The initiatives undertaken by the FSCC to encourage reporting - including my direct interaction with the CEOs of companies - has had a positive spinoff as shown in the latest level 4 B-BBEE status performance. However as FSCC, we would want to see more broad-based transformation taking place within the sector for the benefit of the beneficiaries and the overall growth in the industry. I would like to thank all the companies that reported and continue to prioritise B-BBEE implementation and reporting. One hopes those who are still invalidating this process will eventually have a change of heart and get on board." – **Dr Mahango, chairperson of the Forest Sector Charter Council**

"It is evident that the findings from the latest report validate the dictates of the B-BBEE Amendment Act of 46 of 2013 for yearly and consistent reporting. The sector's improvement from a Level 6 to a Level 4 might not have been easy, but confirms that a collaborative effort combined with consistent reporting is the only way forward. I believe that if we all work together, we can transform the sector." – **Khosi Mavimbela, Executive Director, Forest Sector Charter Council**

Medium & Large Enterprises (MLEs)

Medium and Large Enterprises are significant role players in the sector with a turnover above R50 million per annum. They are required to be measured against all five scorecard elements, namely: -

- Ownership
- Management Control
- Skills Development
- Enterprise & Supplier Development
- Socio-Economic Development

MLEs are required to undertake a B-BBEE verification assessment performed by an accredited, independent entity, and submit their certificate and B-BBEE report to the Forest Sector Charter Council (FSCC).

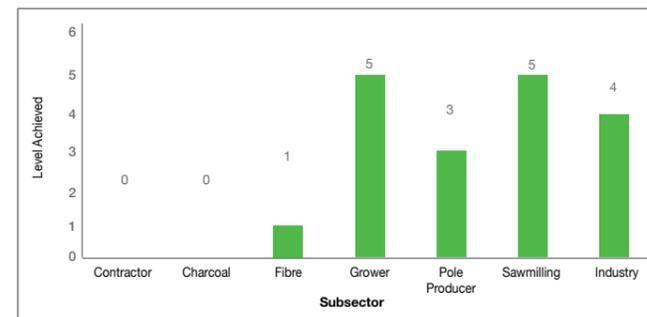
Twenty-one (21) MLEs (including SAFCOL) reported in the year under review, down from 27 reports received in 2018/19. (The FSCC's database has a record of 33 MLEs participating in the Forest Sector.)

Only 14 of the 21 MLEs that reported, submitted their underlying reports which provide more in-depth detail about the scores attained under the sub-sections of each element. The 14 entities that submitted underlying information include SAFCOL, which is analysed separately and therefore excluded from the in-depth analysis of other MLEs.

20 of the 21 MLEs have reported before, so only one submission received is from a new entity that has never reported before. Two additional MLEs who reported in the previous year were disqualified due to invalid certificates.

MLEs recorded an improvement in their overall B-BBEE performance from an average Level 6 in 2018/19 to a Level 4 in 2019/20.

Figure 1: MLE Overall Performance by Subsector and B-BBEE Level



Almost 30% of the MLEs which submitted certificates achieved a Level 1 rating, with the majority of these high performing entities belonging to the fibre subsector. These are typically the large pulp and paper companies.

Another highlight was the average Level 3 rating achieved by six reporting MLEs in the pole treatment subsector. There were no submissions from the charcoal and contracting sub-sectors.

It is commendable that the Forest Sector MLEs improved their performance to achieve a Level 4 average, which is a consequence of improvements in all the scorecard elements, in particular Enterprise and Supplier Development and Ownership which together account for over 60% of total scorecard points.

SAFCOL improved their overall B-BBEE rating from Level 4 to a Level 3 in the current year. However due to its status as a state-owned entity, SAFCOL is not measured on its black ownership profile.

The fact that SAFCOL does not have B-BBEE Facilitator status has had a profound impact on its suppliers, particularly those whose procurement budget is largely allocated to SAFCOL. These entities' procurement from SAFCOL is not recognised as procurement from black suppliers, resulting in losses of up to 13 points in the Enterprise and Supplier Development scorecard.

Figure 2: MLE Overall Performance per Element as a Percentage of the Compliance Target



Qualifying Small Enterprises (QSEs)

QSEs are entities with turnover between R10 million and R50 million. This is an important group within the Forest Sector responsible for a wide range of activities, although mostly engaged in contracting.

In the current reporting year, five valid B-BBEE QSE certificates and 21 affidavits were received. Three (3) entities also submitted underlying reports, allowing for the first time, an in-depth analysis of B-BBEE activities.

The current QSE database indicates that there are more than 60 known QSEs participating in the Forest Sector.

Although the number of reporting QSEs has improved this year compared to previous years, the improvement is largely due to the submission of affidavits from enhanced (more than 51% black owned) entities. The overall response from this grouping is disappointing as the majority of QSEs – whether enhanced or non-enhanced – are not reporting to the FSCC.

The majority (65,38%) of reporting QSEs are contractors. In addition, three growers, three fibre-producers, two sawmillers and one pole producer submitted reports. As is the case with MLEs, there were no reports received from the charcoal sub-sector. This raises the point that the bigger entities need to support enterprise development initiatives in this sub-sector.

The QSEs in the fibre sub-sector indicated that they are involved in manufacturing while at least eight contractors indicated involvement in harvesting.

This group is also unique in that majority black-owned (51% and more) QSEs are only required to produce an affidavit confirming their total turnover, black ownership profile and empowerment status. The intention is to encourage majority black ownership within the sector in these types of entities. Black ownership among the QSE category has increased in every reporting year.

QSEs achieved an average Level 2 rating primarily bolstered by the 21 affidavit submissions of which 13 were Level 2 and eight were Level 1.

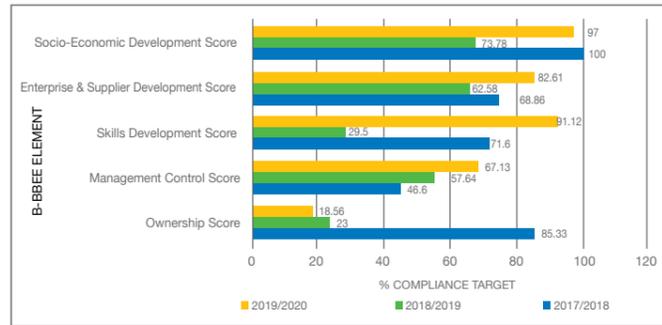
Of the five unenhanced QSEs, one achieved Level 1, two achieved Level 2, one achieved level 3 and one was non-compliant. These five enterprises averaged 81.13 points, placing them at Level 4.

QSE data follows a similar trend to MLEs, showing improvement in all five scorecard elements. However, like MLEs, QSEs appear to be underperforming in respect of Management Control.

The underlying reports submitted by QSEs in respect of Management Control reveal that QSEs prioritise placement of black youth – especially males - in junior management positions. African males and females also benefit from Skills Development initiatives in this group.

Analysis of Enterprise and Supplier Development patterns of QSEs showed that a typical QSE can easily spend over R20 million in procurement per annum. While they are only expected to spend 20% of their procurement on black owned businesses, QSEs are on average spending 12% of their

Figure 3: QSE Overall Performance per Element



“We are extremely proud of the Forest Sector’s performance in these unprecedented conditions. Our Sector is one of the few sectors in South Africa that annually reports on the status of its transformation performance.” – Michael Peter, Executive Director, Forestry South Africa.



procurement on these suppliers, reaching 80% of target.

In summary it seems that QSEs are complying with the Ownership requirements. The high number of affidavit submissions indicates that a large number of QSEs are majority black-owned. However, seven QSEs contacted telephonically indicated that they were either not interested in B-BBEE reporting or are non-compliant. This is an issue of concern as reporting on B-BBEE is mandatory and non-compliance is not an acceptable excuse for not reporting. Were these QSEs to report, the status of black ownership amongst forestry QSEs may change significantly.

Exempted Micro-Enterprises (EMEs)

EMEs have a turnover below R10 million per annum, and are not expected to carry out specific B-BBEE initiatives to become verified and rated.

Majority black-owned EMEs just like the QSEs are awarded a Level 2 or Level 1 rating depending on the black ownership profile of the measured entity. Any other EME is automatically a Level 4 entity and may elect to be verified using the QSEs scorecard if they want to improve their level and maximise their B-BBEE recognition level.

A total of 21 EMEs submitted affidavits this year, down from 25 certificates affidavits received the previous year.

A total of 17 of the submissions were from new enterprises with only four submissions from enterprises who reported previously, indicating a lack of consistency in reporting. Three enterprises that reported in previous years reported as QSEs this year, indicating growth in the sector.

The majority of EMEs are contractors involved in harvesting, silviculture and short haul transport. Fibre enterprises are mostly involved in manufacture of crates and pallets.

The average black ownership profile of this group is 24% while average black woman ownership is 14%, not far behind MLEs who have a black woman ownership of 16%. Most EMEs (66%) are Level 4 so still majority white owned. Three EMEs are 100% black owned i.e. Level 1.

This indicates that there are few black people starting up forestry enterprises. They are either participating at a later stage through the acquisition of shares in established businesses or through employment opportunities.

The average B-BBEE rating of EMEs is Level 3. 🟢

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York Timbers funds wood structural engineering research

FABI staff and University of Pretoria Vice Chancellor Prof Tuwane Kupe visited York's forestry and milling operations in Sabie to celebrate the launch of the research initiative. (Left to right) Prof. Bernard Slippers (Fabi), Prof. Tuwane Kupe (UP Vice Chancellor and Principal) and Piet van Zyl, York Timbers CEO

York Timbers, the largest solid wood processor in South Africa, has signed a funding agreement with the University of Pretoria (UP) to establish a Chair in data-driven wood structural engineering to promote a more sustainable built environment and the African bio-economy.

This initiative will be based at UP's new Engineering 4.0 facility, which is part of the new Innovation Africa@UP development (formerly known as the Hatfield Experimental Farm) in Hillcrest.

"This is a strategic partnership to establish a trans-disciplinary research programme that is focused on the entire innovation chain, from genome-based breeding to the structural engineering of advanced engineered wood products within the context of a sustainable, timber-based built environment and the wood-based bio-economy in South Africa," said Professor Zander Myburg, Chair in Forest Genomics and Biotechnology at the Forestry and Agricultural Biotechnology Institute (FABI) at UP. UP's Departments of Civil Engineering, Architecture, Computer Science, Chemical Engineering, Biochemistry, Genetics and Microbiology, as well as FABI, the Graduate School of Technology Management, and Innovation Africa@UP will be involved in this programme.

Prof Wynand Steyn, Head of UP's Department

of Civil Engineering, explained that South Africa has to develop the appropriate engineering, safety and building codes for its own engineered wood products to stimulate a new construction industry based on this technology.

"Most of South Africa's softwood timber is still used for low-value roof trussing and, compared to wood from northern hemisphere timber-producing countries, is perceived to be of lower grade due to the faster growth of our pine plantations."

Engineered wood technology

However, with new engineered wood technology, high-value wood construction products can be produced from local pine plantations.

"York's vision is to become the leading integrated timber processor in Southern Africa and to pioneer the application of engineered wood products as sustainable building materials in Africa," said CEO of York Timbers, Piet van Zyl. "Timber has vast benefits, as it is a sustainable resource, is carbon-positive,

sustains rural development, and is structurally and architecturally attractive."

Wood properties are unique, he said, and almost impossible to replicate with any other building materials.

"We are committed to stimulating the development of a sustainable, mass timber construction industry in South Africa based on advanced engineered wood products from locally grown forest plantations," Van Zyl added. "York's partnership with the University of Pretoria is to develop research excellence in timber improvement, engineering and design, and promote the use of engineered wood products as sustainable building materials in Africa."

UP Vice-Chancellor and Principal Professor Tawana Kupe welcomed the partnership. "The Chair will contribute to academic excellence in Innovation Africa@UP by helping to create a vibrant community of students, researchers, engineers, technopreneurs and local community members working together on innovations and bio-based products for the African bio-economy," he said. 🌱



(Left to right) Mond's Director of Forestry Operations, Themba Vilane launches the new PBS vehicle with Hedley Braithwaite, Operations Director at Logistics Matters and Rowan Lamb, Managing Director of Lambs Logistics.

New Generation PERFORMANCE-BASED SYSTEM (PBS) TRUCK

In 2005, Mond's embarked on a journey of modernising timber trucks to improve cost efficiency and safety. Many shapes and sizes of trucks were designed and tested and this has ultimately led to the latest version that Mond's Midlands Forestry Operations team proudly launched recently.

This vehicle carries 30% more payload than a standard 22m truck and 10% more than its predecessor the 25m Twin steer truck. The increased payload efficiency will result in almost 1,000 fewer trips to Mond's Richards Bay mill to deliver the same annual tonnage, reducing traffic congestion and improving road safety.

In a continuation of a logistics partnership between Mond's and its partners, this new vehicle will improve costs by hauling timber from the KZN Midlands to the Richards Bay mill and return loads to Pietermaritzburg.

- First of its kind truck
- 27.9m interlink step-deck with active steering axles in both trailers
- Pulled by a Volvo FH16 610hp truck tractor
- Weighs in at 89 tonnes when fully loaded, almost 8m longer than a conventional road truck
- Active steering and configuration design delivers better trailer tracking and less road surface damage



This latest generation PBS vehicle delivers timber to Mond's Richards Bay Mill, and hauls loads to Pietermaritzburg on its return journey, thus maximising payload efficiency while improving safety and reducing environmental impacts.



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Glen Cooper (Stellenbosch University) and ICFR's Richard Burgdorf in the field where soil core samples are extracted to investigate the contribution of regolith (the material between bedrock and topsoil) to plantation productivity.



Glen Cooper with soil core samples, part of the investigation into the contribution of regolith to plantation productivity.



NRF intern Nkosi Mhize (pictured above) is part of a team investigating the potential of near-infrared spectroscopy to predict seed quality and vigour. Other team members include Nuveshen Naidoo (ICFR) and Mike Kruger (Top Crop Nursery).



Michael Buthelezi, Nkosinathi Kaptein and Richard Burgdorf busy monitoring pot trials at the ICFR facility.

ICFR lab offers new opportunities for research and innovation

The development of an Analytical Laboratory Service (ALS) Platform at the ICFR has led to a resurgence of laboratory-based forestry research and a number of exciting new projects and services.



Forestry is often perceived as a largely field-based practice. However, behind the scenes research and development in a laboratory can be crucial to decision-making and for enhancing yields. In particular, new technology and applications are developing rapidly, going beyond traditional research into areas such as improved seedling production and quality improvement of non-timber forestry products.

In 2018 the ICFR was awarded funding by Forestry South Africa (FSA) to establish an Analytical Laboratory Service (ALS) platform for forestry. This platform is specifically funded to provide analytical capacity to the public and private forestry sector, and is available at reduced rates to FSA members.

The focus of the work is on application and implementation rather than pure academic research, serving as a link between academia

and industry, transferring scientifically informed guidelines and solutions to both established and emerging growers.

The ALS is a multi-disciplinary facility managed by Senior Scientist Dr Richard Burgdorf and staffed by scientists, technicians, interns, and students from around the country. The platform provides routine analytical services with a focus on forestry-specific analytical methods, which can differ from those typically used in other forms of agriculture.

High-tech equipment

For the past 30 years, the ICFR lab has primarily been performing soil and plant analyses for forestry research trial projects. However about eight years ago the ICFR team did a major overhaul of the lab and acquired high-tech equipment for quantitative elemental analyses. This included a Leco Trumac CNS analyzer to

determine the percentage of total carbon, nitrogen, and sulphur in soil or plant material. With the increased focus on climate change, carbon analysis of forestry soils and products is important for offsetting carbon tax and accessing foreign markets. Also, soil carbon can be important to inform fertilizer rates at establishment as higher carbon soils have higher levels of nutrient retention.

The lab is also equipped with an Agilent Microwave Plasma Atomic Emission Spectrometer to analyze other macro- and micro-nutrients, such as potassium, calcium and phosphorous in soils or plant material.

The lab has been supporting key research on site resilience since 2013, led by Nkosinathi Kaptein and his team of research technicians.

This work investigates the decline in soil nutrients at trial sites around KZN under different management practices. The high quality data

produced in the lab is essential to understand the processes taking place in the field and how management practices such as residue removal or burning affect long term productivity and sustainability.

Another project that connects plantations to the laboratory is the Forestry Sector Innovation Fund project by Stellenbosch University PhD student Glen Cooper. This project is investigating the contribution of regolith (the material between bedrock and topsoil) to plantation productivity. Soil and rock cores from up to 30 meters deep were extracted at SAPPI Highflats and are being analyzed in the lab.

Other important routine work includes the analysis of wood density for tree breeders. Wood properties are crucial factors that are of interest to breeders in order to develop more productive varieties that are better suited to market needs.

Recently the ICFR research laboratory has returned to its roots in wattle research. To complement the established wattle breeding program under Principal Scientist and Wattle Breeder Dr Julian Chan, Richard Burgdorf has initiated new research on wattle bark, the source of mimosa extract powder. This bark extract powder is a significant source of income for wattle growers and a major international export product for the region. It is used primarily in leather tanning and the manufacture of adhesives, but other applications such as in animal nutrition and the bio-economy are emerging.

The research is being funded by government via the DST Forestry Sector Innovation Fund administered by Forestry South Africa, with co-funding by NTE, UCL, and the South African Wattle Growers Union.



Letho Nzimande (ICFR) and Preesha Bridglall (NTE) busy with the wattle bark research project.

Richard leads a team which includes two post-graduate students, Preesha Bridglall, an NTE employee who will be doing an MSc at UKZN under Professor Mark Laing in Plant Pathology, and Andrea Davis, a PhD student in the Chemistry department at the University of Free State under Dr Susan Bonnet. Geoff Tomlinson and Kashri Bissessar (UCL), Leon van Kralingen (NTE) and Letho Nzimande (ICFR) are also part of the project team which is investigating different aspects of wattle extract quality.

These projects are using cutting-edge, high-tech techniques including electrospray ionization mass spectrometry, nuclear magnetic resonance, and near-infrared spectroscopy to develop tools to understand and improve the wattle bark characteristics that affect extract quality. Ilaria Germishuizen will also contribute to the project by analyzing the impact of climate and geography on wattle bark characteristics.

Near infrared technology

The ALS lab is rapidly pursuing the expanded implementation of near-infrared spectroscopy

(NIRS) coupled with chemometrics, to develop a wide range of analyses in diverse fields, such as wood analysis for cellulose, soil organic carbon, soil texture and plant nutrients.

The benefit of this work is to offer low cost analysis that can rapidly deliver high amounts of lab data to growers and researchers. New frontiers in this technology are being explored and some exciting novel applications are emerging, such as seed analysis.

NIR for seed screening

The Seedling Growers Association of South Africa has funded a feasibility study to investigate the potential of near-infrared spectroscopy to predict seed quality and vigour non-destructively, rapidly and inexpensively. The team includes Richard, Nuveshen Naidoo (ICFR), NRF intern Nkosi Trywell Mkhize and Mike Kruger from Top Crop Nursery. So far the results look promising and the ICFR is applying for a MSc project for Nkosi at UKZN to test this technology in a wider range of crops and applications.

The ICFR's long-term seed storage facility, which conserves genetic material of more than 40 different Eucalyptus species, will also play a role in this work.

The ICFR laboratory continues to provide high quality research for the benefit of the forestry sector, while exploring new applications, protocols and technologies that can be of use to growers and researchers.

For more information contact Richard Burgdorf Richard.burgdorf@icfr.ukzn.ac.za, or lab@icfr.ukzn.ac.za.

Mulching operations bring benefits for growers

Enviro-Mulch is a mechanized silviculture contractor that provides safe and organised mulching services in South Africa. The company currently has a fleet of 11 mulchers including RT200s, RT400s and RAPTOR 800s.



Inter-row mulching with the RT 200 reduced fuel loads (stumps and slash) and improved access to the compartment.

The RAPTOR 800 was designed and produced in Germany, and combines performance and functionality. It was specially developed for the most difficult tasks such as heavy land clearing, vegetation management as well as the creation of fire breaks, fire risk management and re-cultivating work in professional plantations and forestry.

During the 2020 fire season, Sappi commissioned Enviro-Mulch to fell burnt timber to waste in compartments that were damaged by fire. The Enviro-Mulch team deployed the RAPTOR 800 to mulch the burnt standing timber left in the compartments after the fire.

- The operation delivered numerous benefits:-
- Speed and efficiency of operation
 - Returns nutrients to the soil
 - The mulch covers the soil and retains moisture.
 - It offers the client the option of full mechanization after the compartments have been mulched
 - Reduces the costs of mechanical planting and pitting.
 - Reduces the fuel load, as there is no slash, stumps or unutilized timber left in the

compartment.

- Reduces long term maintenance costs with regards to weeding, soil erosion and access in the compartments.
- Enables the grower to get the seedlings into the ground faster, thus gaining a season when compared to normal 'fell to waste' operations.

The benefits of the RAPTOR 800 operation were such that other area teams within Sappi showed interest and commissioned the deployment of the RT series in different fire management applications.

Mulching firebreaks

They utilized the RAPTOR 800 to mulch firebreaks on the boundaries where other equipment could not gain access in dense wattle jungles and vegetation, without a big environmental impact afterwards.

The Forestry Manager of Sappi's Lothair plantation, Daniel James, took the initiative

to start inter-row mulching between standing trees in high fire risk areas, in order to reduce fuel loads and create improved access into compartments. The RT200s was brought in for this purpose.

Once the interrow work is completed, a disc can be brought in to disc the lines annually, which will serve as a small fire break within the compartment. This is extremely beneficial as it gives fire fighters extra time to respond in the event of a fire.

Interrow mulching also offers long term benefits in the form of productivity increases in harvesting and extraction operations, due to the inter-row stumps that have been mulched for improved access.

Enviro-Mulch's RT mulchers are operated, contracted and maintained by the staff of Enviro-Mulch. The RT mulchers can also be purchased from the South African agent, Bergvest Equipment, which is the current supplier of RT mulchers and spare parts - as well as a range of other equipment - in South Africa. 📍



BEFORE: the Raptor 800 was brought in to turn standing burnt trees to mulch.



AFTER: the 'fell to waste' operation by Enviro-Mulch resulted in a mulch layer covering the entire compartment, which brought many benefits including easy and quick mechanised re-establishment.



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New grapple saw with Total Tree Control

GMT Equipment, which is distributed and supported in South Africa by AfrEquip, has introduced a new, versatile GMT TTC grapple saw which gives arborists and tree-fellers more control when dismantling trees.

TTC stands for Total Tree Control. With the existing generation of GMT grapple saws (GMT035 and GMT050), the branch will always tilt down in a controlled manner after sawing. TTC gives the operator the ability to hold the tree section in position after sawing, so that it can be removed safely with total control. This unique 'tilt-blocking' method has been patented.

The new equipment will enter the market as a 16 inch GMT035 TTC and 20 inch GMT050 TTC.

Working safer

The mechanical felling of trees with a felling grapple is gaining in popularity. The biggest advantage is that the system is safer and more efficient than traditional manual felling techniques. The new models of GMT Equipment's grapple saws have been specially developed to make it possible to hold tree parts after the moment of sawing. Not only is the tilt cylinder of the grapple blocked, but so is the movement in all directions in the cardanic suspension. There is no limit to the holding capacity of the sawn tree sections, but for safety reasons these are set at the factory to the maximum permitted loads of the crane on the load-bearing vehicle.

"We have fitted a double knee joint above the rotation section and the attachment to the crane or telescopic handler," said Michel Gierkink of GMT Equipment. "Each knee joint has a hydraulic cylinder and a number of brake linings. These brake linings are clamped in place by the hydraulic cylinder pushing both suspension lugs toward each other. One push of a button suddenly transforms our pivoting grapple saw into a fixed grapple saw. This makes it possible to pick a branch from the tree exactly in the position in which it is attached, allowing the operator to work much cleaner and safer when picking apart and removing entire trees."

The GMT Equipment team developed the new TTC saws to meet the needs of customers who require more control when removing branches. This creates more possibilities when felling sick or dead trees or when there is little



or no room to manoeuvre, particularly when there are surrounding objects such as buildings or power lines.

This method of felling is ideal for felling trees in built-up areas, along roads, near high-voltage cables and in other places that are difficult to reach. GMT Equipment distinguishes itself from its competitors by the fact that the grapple saw is extremely robust and can be applied to any vehicle with a crane arm and gripping function without major intervention or electronic aids. The grapple saw can be applied to the tree or branch from all angles, contrary to other brands/types where the felling grapple is built-in and the positioning options are limited.

Commented Brendan Moore of AfrEquip: "The GMT equipment is perfect for the contractor who is wanting to take the first step

towards mechanising his operation without a massive capital investment. The GMT products are fully mechanical with no electronics on their standard GMT035 and GMT050, which can be fitted to most hydraulic carriers with the necessary hydraulic requirements. It is ideal for thinnings harvesting, bush clearing, urban tree felling or as a first step to mechanised felling.

"These units can be fitted to excavators, tractor or truck mounted cranes, even three wheeler loggers as long as the hydraulic requirements are met," said Brendan.

For more info contact Brendan Moore: mobile 072 708 9091; email: brendanm@afrequip.co.za; Visit: www.afrequip.co.za

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Much more than a simple box ticking exercise

Meeting the requirements of FSC's new pesticide policy may be tough going, but with the right approach it will improve your management practices, the health of your trees and ultimately the sustainability of your forestry business. JACQUI MEYER reports ...



Jacqui Meyer

FSC® has grown over the past 25 years from a small group of committed businesses, environmentalists and community leaders with a vision to put an end to deforestation, to become a global certification scheme covering over 199 000 000 hectares of the world's forest. In the process it has inevitably become more bureaucratic. The evolution of the FSC Pesticide Policy is a perfect example of this, with certified companies needing to produce more and more documentation to justify pesticide use.

The question is, does increasing the number of checks, measures and paperwork, ensure a more sustainable future for our forests?

The answer is definitely 'no'!

Simply ticking boxes, even if these boxes are based on the most noble of founding philosophies, is a sure way to fall short of the goals these

systems have been put in place to preserve. As one fellow forester put it when discussing the Environmental and Social Risk Assessment (ESRA) requirements of the new FSC Pesticide Policy (FSC Pesticides Policy, FSC-POL-30-001 V3-0 EN): "To simply monitor, for the sake of monitoring, does not improve environmental sustainability, but it will certainly impact the economic feasibility."

While approaching ESRA's as just another set of hoops to jump through and boxes to check, may - if completed properly - ensure success at an FSC audit, it would be unlikely to achieve the intended improvements in environmental and social sustainability. The box ticking approach involves simply packaging current practices into the required ESRA boxes, rather than specifically fulfilling the underlying requirements by developing the mindset shifts and changes in management practices to achieve the environmental and social sustainability goals ESRA's were intended to achieve.

So is it then just a waste of time?

Absolutely not, if the right approach to ESRA's is adopted.

Going beyond ticking ESRA boxes

To take ESRA's beyond a box-ticking exercise, you need to place them within an Integrated Pest Management (IPM) framework. This simple step elevates ESRA's to become an important cog within a detailed mechanism, geared to promote sustainable forestry.

Sustainable forestry is all about balance. Balancing the economic, social and environmental needs of the plantation and its beneficiaries, for present and future use. IPM is also about balance. IPM programmes provide the most cost-effective (economical), environmentally sound and socially acceptable method of managing pests.

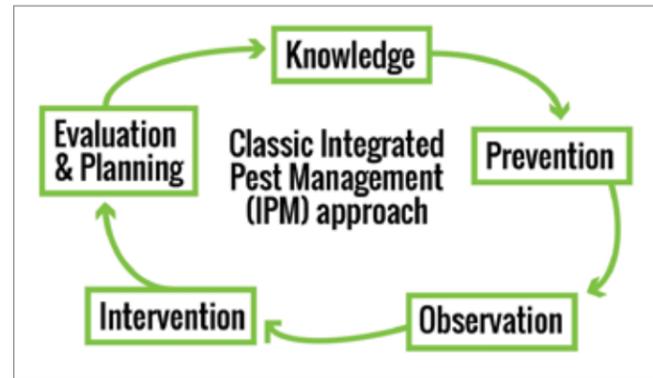
IPM is, effectively, a key part of sustainable forestry. It is also in many ways a risk-based approach to pest management, where IPM practitioners are required to evaluate the risks and benefits of the various control measures available to them before embarking on a course of action. In this respect, the IPM approach is in line with the risk-based approach taken in the new FSC pesticide policy.

By drawing these comparisons and placing ESRA's into a context South African foresters are more familiar with and are already implementing, will help transform ESRA's from something daunting - into something familiar and manageable.

How do ESRA's fit into an IPM approach?

An IPM approach includes five basic steps:

1. Knowledge
2. Prevention
3. Observation
4. Intervention
5. Evaluation and planning



The information required from ESRA's dictates how these five steps should be applied, and what can be drawn from these sections. This means those already applying an IPM approach to pesticide use can, with a bit of ESRA specific tweaking, draw the relevant information from the IPM process already in place along with any new ESRA requirements.

The objective of an ESRA is to ensure pesticide use is both justified and a last resort. The checks and measures in place in an IPM framework have the same function.

Firstly, by ensuring the user has sufficient knowledge about the species planted and the relevant pest threats (the hazard), to be able to make an accurate assessment of when the pest populations become a threat.

Secondly, having already put in place preventative steps through employing cultural control practices to reduce pest exposure and thus the need to take intervention measures.

Thirdly, to be actively observing (monitoring) both the health of the planted species and pest populations, to ensure any intervention measures required are timed to be most effective on the target pest species while having the lowest possible impact on everything else.

Fourthly, intervention in an IPM context looks first at non-chemical approaches to reducing pest numbers in the form of mechanical and biological control methods, before assessing all available chemical solutions and deciding upon the most appropriate and least harmful option.

Finally, an IPM approach is never stationary, it is constantly evolving and adapting to our ever-increasing knowledge and understanding of the species planted, associated pests, available control mechanisms and site conditions.

ESRA's require a similar approach, that includes the consideration of FSC listed International Generic Indicators (IGI's) along with the tree and pest species. The diagram at left is TIPWG's interpretation of how ESRA's fit within the IPM framework. A framework that we believe should be split across various levels, feeding in Sector-wide research and information, company-specific plantation management decisions and of course information coming directly from the compartment.

Acquisition of knowledge

As a sector, forestry spends far above the national average on research and development, approximately 1.6% of the sector's GDP, which is more than double the 0.73% national average. Forest protection and sustainability are the primary sector-wide focus areas for forestry-research.

As such, the knowledge required for both an IPM approach and ESRA about most commercial species, key pests, distribution, natural enemies/limiting factors and damage thresholds, are well established.

Preventing possible exposure

The choice of tree species planted and the cultural controls in place to optimise silvicultural systems, nursery and stand management, as well as site selection, ultimately rest at a higher management level within the

corporate company or on the shoulders of the private grower.

As does deciding upon where to place the economic threshold level, although this should be informed by information coming from sector funded research regarding economic injury levels, as well as company-specific requirements such as, for example, demand-driven acceptable damage levels.

Observing, intervening and evaluating.

For the most part, observation, intervention and evaluating both pest and pest control impacts needs to be done at a compartment level. However, the information generated should be fed into the decision process made at the company level and the research being conducted at a sector level too.

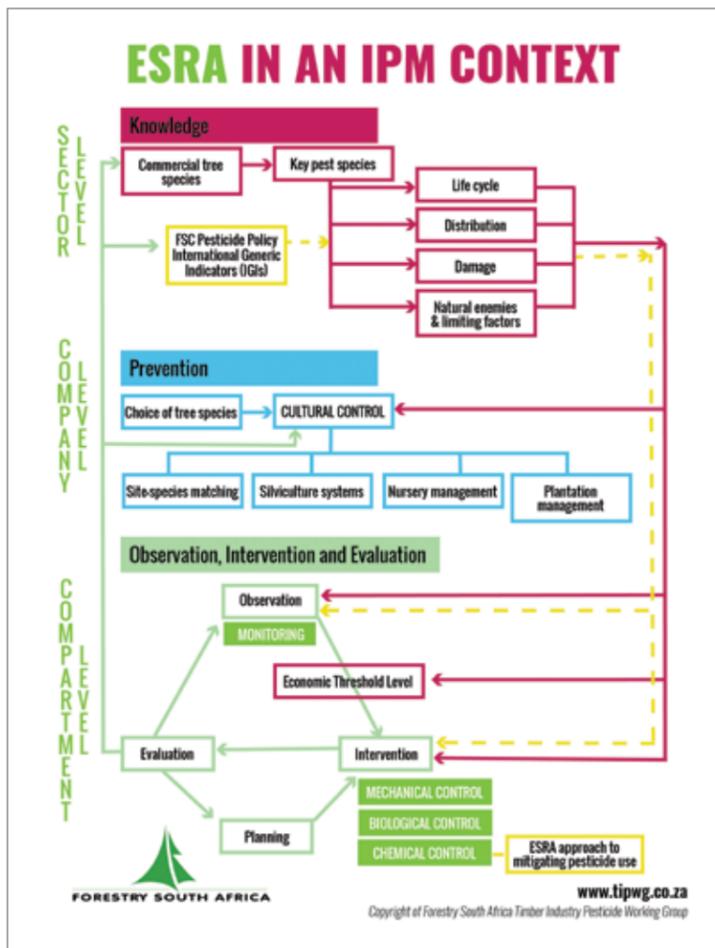
Planning

By using all the information obtained through knowledge acquisition, observation and evaluation, and feeding this back into knowledge acquisition and prevention of possible exposure steps, the industry can now effectively plan for each compartment and/or potential pest outbreak.

Incorporating ESRA's into IPM frameworks

Incorporating FSC ESRA requirements should be just this, an evolution of an IPM framework already in place to ensure environmental and social risks are considered and where possible minimised.

By doing this, ESRA requirements are transformed from a tick list to an integrated part of a sustainable pesticide philosophy the South African forestry industry actively promotes and abides by through the implementation and constant evolution of our IPM approach to pesticide use. ■



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Ramping up the planting of endangered pepper-bark trees

To help celebrate Arbor Week as well as the arrival of spring, Sappi, in conjunction with the SANParks Skukuza Nursery, has supplied 2 000 of the endangered Pepperbark trees (*Warburgia salutaris*) to the Endangered Wildlife Trust for their project in the Soutpansberg Protected Area in Limpopo Province. The saplings were originally propagated through cooperation between Sappi, the Agricultural Research Council Nelspruit and SANBI Nelspruit, and were looked after at the Skukuza Indigenous Nursery awaiting distribution to qualifying *Warburgia* projects.

In KwaZulu Natal 1 600 Pepperbark saplings that were propagated by Sappi's Richmond Nursery and Shaw Research Centre, have been supplied to the Sibaya Coastal Precinct. These trees form an important part of the natural vegetation rehabilitation programme, whilst at the same time forming a future seed orchard in a secure area.

Since inception of the project, Sappi and its working group partners, SANBI Nelspruit, Fort Hare University, ARC Nelspruit and the Shaw Research Centre have propagated and provided over 40 000 seedlings to traditional healers, urban and rural communities and created seed orchards in safe and protected estates.

Warburgia salutaris, commonly known as the pepper-bark tree or 'isibhaha' in isiZulu, has long been one of the most highly prized tree species in the Southern African traditional healthcare sector. However, with commercial gatherers increasingly crossing into protected areas such as the Kruger National Park, the trees have become increasingly scarce and are now considered critically endangered. Unsustainable bark harvesting means that trees die a few months after harvesting.

Protected tree

The tree is formally protected under SA legislation in the revised National Forests Act (2012) and the National Environmental Management Biodiversity Act (2004).

An initiative was launched in 2011 to propagate the trees and distribute them to communities living around the Kruger National Park in an attempt to take the pressure off the few remaining wild trees. In 2014, Sappi joined the project participants – SANParks, the Agricultural Research Council (ARC) and the South African National Biodiversity Institute (SANBI) – with an initial donation. Sappi also began using its tree breeding and production expertise to propagate pepper-bark trees.

With Sappi's involvement the project has expanded from the KNP to KwaZulu-Natal and the Eastern Cape with pepper-bark saplings distributed free of charge to rural communities, including Sappi Khulisa small-scale tree farmers.

A major breakthrough for the project has been the discovery that the medicinal properties so highly prized in the bark, are also abundant in the twigs and leaves. Thus, the twigs and leaves of trees planted out in the field can be harvested within four years – much earlier than would be the case for bark harvesting which can only be done on an adult tree. This ensures that the trees can be harvested sustainably, providing health benefits and economic opportunities for traditional healers and muti traders.

A key aspect of the project is education. Workshops are held with



Pepperbark saplings distributed and planted out through community participation.

Warburgia salutaris aka the pepper-bark tree, highly sought after by muti traders and traditional healers, and now critically endangered.



Sinevuso High School pupils with their Pepperbark tree.



The Sappi Forests team planting Pepperbark trees at Sutton plantation, and doing the 'Jerusalem' challenge.

traditional healers and community members to inform them about growing and nurturing the trees, as well as harvesting them sustainably.

This project has been a major success, with over 30, 000 pepper-bark seedlings and cuttings distributed by the end of 2018. Traditional healers and community representatives have attended workshops on planting, tending and sustainable harvesting of muti from the trees. A working group has been set up to co-ordinate and drive the *Warburgia salutaris* conservation project going forward. Gene banks and seed orchards have been established within this working group partnership, and assistance has been extended to Swazi and Zimbabwean conservation authorities to help them increase the number of trees growing in their countries.

The Sappi Shaw Research Centre has been working on seed propagation and the production of cuttings. 🌱



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Tracking Red-Listed species in timber production landscapes



Endangered blue cranes feeding on a timber farm, KZN Midlands. Blue Cranes are most vulnerable to human disturbance when they are breeding. Photo: Samora Chapman

By Lize Joubert-van der Merwe, Dept Conservation Ecology and Entomology, Stellenbosch University

The living spaces of animals are diverse. But they are also relatively easy to understand, once you grasp the fact that nothing in nature is discrete. There is always a continuum - a gradual increase in 'something' that renders that specific space suitable for an animal, or not. Also, no animal occupies only one living space. They move - no surprise there. So they often need a variety of habitat types to perform their various life functions.

Very broadly, there are animals soaring in the air currents above the earth surface, an often-overlooked living space. Then, there are the ones living in forest canopies (*arboreal*) and forest understorey, the ones living in woodland, savanna, grassland, wetland, and water (aquatic), those living in and among rocks (rupicolous), and those below the soil surface (*fossorial*). We know very little about fossorial animals, since they are mostly out of sight. However, they include a number of threatened species, notably skinks, snakes, and golden moles.

Within these broad living spaces, animals start spreading themselves out to find the habitats that they like best. Each species' preference will become apparent, as they distinguish between mountains and coastal plains, flat lands and hillslopes, whether there are rocky outcrops around, wetter vs. drier habitats, and sandy vs. clayey soils. They will disperse along a gradient in elevation, open vs. closed woodlands, old growth forest vs. relatively young thicket, and assess whether a grass layer is broken or continuous, and short or tall. Wetland species will differentiate between temporary and permanent wetlands, open vs. vegetated water surfaces, and water flow rate, which influences the underlying substrate and, therefore, specific

aquatic food items. Sometimes, occupation of a specific area will depend on the type of shelter available, such as old termitaria for snakes, rotting logs, or large trees with cavities.

Tolerance to human disturbance

On top of all species' likes and dislikes, of course, is the matter of human disturbance. The outcome of human disturbance, to a large extent, depends on the species in question. Is the animal species adapted to cope with human disturbances? The African Marsh Rat (*Dasymys incomtus*) and Maquassie Musk Shrew (*Crociodura maquassiensis*) only inhabit intact (or pristine) wetland and riparian zones without any human impacts. Similarly, endemic and endangered Southern Tree Hyrax (*Dendrohyrax arboreus subsp. arboreus*) only inhabits intact indigenous forests with trees that form cavities in which they can live. In contrast, the endemic Pondo Flat Gecko (*Afroedura pondolia*) live with people in their houses along the KZN coast. Similarly, the vulnerable and endemic Southern Bald Ibis (*Geronticus calvus*) can make use of sportsfields, golf courses and croplands in addition to its native grassland habitat. Specifically in the forestry sector, it is interesting to note that the vulnerable Crowned Eagle (*Stephanoetus coronatus*) uses forestry compartments along

with its native forest and woodland habitats. Furthermore, fire exclusion from narrow corridors could create additional habitat for the Bush Blackcap (*Lioptilus nigricapillus*) - a vulnerable endemic bird, which particularly likes Ouhout (*Leucosidea sericea*) and Sagewood (*Buddleja salviifolia*). Meanwhile, wetland delineation has created suitable habitat for the vulnerable African Grass Owl (*Tyto capensis*), which particularly likes tall rank Cottonwool grass (*Imperata cylindrica*) for constructing tunnels, roosting and breeding. The majority of threatened species can tolerate some form of human disturbance. But we should keep in mind the more sensitive species, which are the ones most likely to disappear from South African landscapes.

A case in point are the three near-endemic Grass Lizards species (with declining population trends) that inhabit grassland and wooded grassland. They are the relatively widespread Cape Grass Lizard (*Chamaesaura anguina subsp. anguina*), and two near-threatened species - the montane Coppery Grass Lizard (*Chamaesaura aenea*), and the coastal Large-scaled Grass Lizard (*Chamaesaura macrolepis*). Although these species inhabit fire dependent vegetation types, they are themselves fire sensitive because they shelter at the bases of grass tussocks when

threatened (also by fire). This leaves them at a distinct disadvantage when controlled fires burn into the wind (i.e. back burns), because these types of fires transfer more heat energy downwards into the grass tussock where these animals are hiding. Rather, cool head fires that burn with the wind should be used to manage areas where Grass Lizards occur.

Narrow-range endemics

The degree of overlap between a species' distribution range and the likely footprint of human disturbance is another consideration. Here, we can look at the Midlands Dwarf Chameleon (*Bradypodion thamnobates*) - a vulnerable, narrow-range endemic occurring between Howick, Mooi River and Nottingham Road. The whole of this species' distribution range is impacted by forestry, agriculture, and urban development. However, the saving grace is its relatively high tolerance to human disturbances. Although it prefers understorey vegetation in Southern Mistbelt Forest, it is also found in road verges and urban gardens, as long as there are many shrubs and trees around. This means that clever management of road verges, and mindful landscaping of urban gardens can make a real contribution to the conservation of this species, and may even create movement corridors between populations.

Specialist species

Species may have very specific preferences that may be tied to diet, habitat type, presence of other species, or really any other attribute. Predators with specific dietary requirements include the near-threatened African Striped Weasel (*Poecilogale albinucha*) that only eats small mammals, and the endangered Bat Hawk (*Macheiramphus alcinus*) that eat mostly bats (although it has learnt to eat birds too). Serval (*Leptailurus serval*) is a habitat specialist of wetlands, using networks of pristine and

Wetland delineation has created suitable habitat for the vulnerable African Grass Owl (*Tyto capensis*).

man-made wetland habitat to move around. The vulnerable White-tailed Rat (*Mystromys albicaudatus*) is a grassland specialist with zero tolerance for thicket, and so track vegetation succession after fire very closely. On a slippery note, the vulnerable Eastern Green Mamba (*Dendroaspis angusticeps*) lives exclusively in forest canopies. But most curious of them all is probably the Eastern Long-tailed Seps lizard (*Tetradactylus africanus*) with its specialist oviposition sites ... on top of Anochetus faurei ant nests. Anochetus ants are ferocious predators that live in small colonies (<100 individuals) in cryptic localities. So to put this into perspective, Eastern Long-tailed Seps leaves its clutch of 1-5 eggs at the door of a colony of serial killers. And hope the ants think 'friends, not food' and rather attack the creatures attracted to the eggs? Nice.

Management implications

Knowing about these species and all their peculiarities raises questions about the validity of a landscape approach to ecosystem management. Is it necessary to inventory all species and their habitats, and rather take a species approach to management? No. Apart from the fact that this is not possible to do in production landscapes, there is also the matter that it might not be necessary. Managing ecosystems in accordance with best environmental practice guidelines do no harm to threatened fauna.

What then is the purpose of knowing where threatened species occur? Locality data for threatened species helps to focus monitoring and management attention. If managers know about species' management requirements and specific periods of sensitivity, they can try to

steer their management practices accordingly. For example, large ground-nesting birds (such as Denham's and White-bellied Bustards, and Blue Cranes) are most vulnerable to human disturbance when they are breeding. Their breeding seasons (in spring and summer) do not overlap with foresters' fire season, which means this disturbance is not a direct concern. However, fire might be a concern for Wattled Cranes (*Bugeranus carunculatus*), because they breed in winter, in the fire season. Livestock disturbance is a concern regardless of breeding season, because it is a continuous disturbance that could impact breeding success and chick survival, and so should be targeted by managers.

Swamp Nightjar

In comparison to these large birds, the Swamp Nightjar (*Caprimulgus natalensis*) is also a ground-nesting bird, but it is more sensitive to disturbances and more habitat specific, with a preference for coastal grassland, dotted with Lala palms, near wetlands and rivers. It follows that a foresters' tolerance for mismanagement of disturbances (fire and grazing) in these ecosystems should be substantially smaller.

On the research front, 2019 marked the launch of a new research project by Rebecca Cawood about using threatened fauna as surrogates for ecosystem integrity, and species diversity of aquatic insects. It will help tremendously if we know whether the occurrence of threatened fauna can tell us something about the health of ecosystems, or about populations of other sensitive species. More news along these lines will surface from the Mondi Ecological Network Programme (MENP), as soon as the first results are published. 📍



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Vital mangrove forests under threat

Mangroves are disappearing at an alarming rate, with conservationists across the world striving to save them from local extinction. These nearshore forests that straddle land and sea provide a wide range of vital services including coastal protection, carbon sequestration and a nursery for many species of fish and crustaceans.



In a recent webinar hosted by the Commonwealth Secretariat to mark World Mangrove Day on 26 July, scientists and policy experts discussed how to 'unlock' the wealth of mangroves, by regenerating these extraordinary ecosystems.

"Mangroves are rare ecosystems that support rich biodiversity and provide a valuable nursery for fish and crustaceans. There is a range of livelihoods connected to mangroves, ranging from fisheries to tourism," said Hasanthi Dissanayake, Director of Ocean Affairs, Environment and Climate Change at the Ministry of Foreign Relations of Sri Lanka.

"Mangroves also act as a form of natural coastal defence against tsunamis, rising sea levels, storm surges and erosion. Their soils are highly effective carbon sinks, sequestering vast amounts of carbon."

Mangroves in South Africa

Mangroves occur in 37 estuaries and lagoons along the east coast of South Africa, from Kosi bay in the north to the Nahoon estuary near East London in the south. The Kosi, St. Lucia, Mfolozi and Mhlathuze estuaries account for around 75% of South Africa's mangroves which cover a total of only 1 688 ha. The Mngazana Estuary just south of Port St Johns is the third largest mangrove forest in SA (118 ha).

There has been little change in mangrove coverage since 1982 according to Gonasageran Naidoo of the University of KwaZulu-Natal, author of *Mangroves of South Africa: An Ecophysiological Review* published in the *SA Journal of Botany* in 2016. However he said that there is a critical need to re-evaluate the distribution of mangroves in South Africa more accurately.

An earlier study by JB Adams, BM Colloty and GC Bate of the University of Port Elizabeth found that mangroves, which previously occurred in 17 estuaries in the former Transkei, now only occur in 14 estuaries. The reasons cited for loss of mangroves along the Transkei coast include the harvesting of mangrove poles for building houses and animal enclosures, coupled with a lack of environmental protection from conservation authorities.

Poor farming practices in river catchments also leads to an increase in sedimentation, which restricts mangrove growth.

Lack of appreciation and understanding of the value of mangroves is still a concern as population and development pressures continue to mount wherever rivers intersect with the coast. In Kwazulu-Natal alone, mangroves have been removed from the Isipingo, Mgeni and Mkomazi estuaries to make way for industrial and residential development. Some 200 ha of mangroves have also been removed from Durban Bay to make way for harbour development.

Mangrove forests are notoriously difficult to re-establish. One of the Webinar panellists, Rahanna Juman, Deputy Director at the Institute of Marine Affairs in Trinidad and Tobago, cited a mangrove-replanting project in an area that had been cleared to construct a pipeline. To bring back the mangroves, her team first restored the natural

Poor farming practices in river catchments lead to an increase in sedimentation, which restricts mangrove growth.

topography and flow of water to the area, then replanted more than 260 seedlings.

However, very few survived in comparison to mangroves that naturally recolonised the area, once it was back to the original environmental conditions. Dr Juman advised: "Mangrove planting should be the last option".

Judith Okello, an ecologist from Kenya's Marine and Fisheries Research Institute, emphasised the importance of engaging local communities who are a key source of information to guide and facilitate mangrove restoration work.

Ecosystem services supplied by mangroves ...

- Mangrove wood is dense and is used by local communities for wood and charcoal
- Coastal shore protection
- Water filtration: 2-5 ha mangroves can treat effluent from 1 ha aquaculture
- More than 3 000 fish species are found in mangrove ecosystems
- Carbon storage potential of mangroves is 3 – 5 x higher than tropical upland forests
- 50% of global mangrove cover has been lost in the past 50 years

Drivers of mangrove loss include logging, agriculture, aquaculture, pollution (mangroves aerial roots through which they obtain oxygen can easily be smothered by pollution, sludge etc) and coastal development.

Did you know ...

- 726 tonnes of coal emissions are offset by 1 ha mangrove forest
- Mangroves are particularly effective at carbon sequestration, burying atmospheric carbon in below ground biomass.
- Worldwide, oil pollution is a serious threat to mangroves as oil settles with the tide in low wave energy areas and smothers aerial and feeder roots.
- Sri Lanka is the world leader in mangrove conservation.
- Restoring the physical environment, (the tidal hydrology) allowing natural colonisation to occur, is the only effective way to restore mangroves. 🌱



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Woman power turns alien invasive trees into chips

Women-inspired partnerships in South Africa are creating positive impacts on both the environment and livelihoods, with support from the Coca-Cola Foundation, through its Replenish Africa Initiative (RAIN). These are partnerships led by women that create jobs, save water and conserve biodiversity.

RAIN was launched in 2010 to provide access to safe drinking water for six million people in Africa by the end of 2020. The programme works with implementing partners to bring clean water to communities, but also to create employment opportunities for women, youth and families by supporting a wide range of water-related projects across the continent.

A wood chipping operation in Wolseley, known as Lyns Valley, which is owned and run by women, is one of these projects.

Wolseley is located in the upper Breede River valley in the Western Cape. The Kluitjieskraal Wetland, a key feature in the Breede headwaters, is infested with alien invasive trees and water weeds that choke the channels and prevent the flow of water into the river.

The RAIN partnership with WWF is helping to clear 470 hectares of alien invasive plants. This initiative releases significant amounts of water into the Breede River, but also allows the wood biomass collected from the alien clearing to create valuable mulching material for local farmers growing fruit and vegetables. The mulch produced is used by farmers to conserve soil moisture and improve the fertility and water efficiency of their lands.

The project has supported the establishment of Lyns Valley, the first black, female-owned wood chipping operation in the region. This small business currently supplies mulch to large fruit farms in the Wolseley area and provides permanent employment to community members.

SA Forestry spoke to Lynda to find out more about Lyns Valley.

SA Forestry: Tell us about the business.

Lynda: The RAIN project has given me the opportunity to own and build a sustainable business, whilst also creating much needed job opportunities for women who are often the sole breadwinners in the family. We turn alien invasive trees such as black wattle, which clog the water catchment areas, into wood chips. These are then sold to surrounding farmers as mulch which protects the soil in fruit orchards, preventing evaporation and improving the conservation of water.

SAF: Where does the biomass come from that you chip?

Lynda: RAIN, in partnership with WWF, is helping to restore the Kluitjieskraal wetland in the upper Breede River valley by clearing 470 hectares of alien invasive vegetation. The wetland is recognised as a national priority for water security as it acts as a sponge in the upper reaches of the river and is choked with alien invasive trees and water weeds. We use the cleared alien invasive trees for chipping.

SAF: What chipping and transport equipment do you use?

Lynda: The chipper is a Bandit Model 12xp Blue line. It's capable of processing logs of approximately 30cm in diameter. I also use a tractor and bakkie when moving in between sites. We chip in-field because it is easier to move the chipper around. It also depends on the terrain.



Lyns Valley owner Lynda Jansen briefing team worker Aubrey Abrahams.



The Bandit chipper turning invasive wattle into usable chips.

SAF: How many people do you employ?

Lynda: There are six people permanently employed on my chipping operation, and 65 on the alien clearing.

SAF: To whom do you sell your products and what are the chips used for?

Lynda: The wood chips are sold to surrounding fruit farmers who use it as mulch to protect the soil in their orchards. Also, on a small scale to local people using it in their gardens.

SAF: How did you source the capital needed to start your business?

Lynda: I received funding through the RAIN project and WWF to use as start-up capital. From this I was able to buy a compressor machine, a tractor and other necessary equipment, but very importantly I acquired the wood chipping machine which is the lifeline of the business.

SAF: Have you received any business support, advice, training etc?

Lynda: Through RAIN's partnership with WWF-SA I received training in financial management. This was helpful as it covered essential financial management skills such as how to effectively budget and administer a business. I also attended an induction course on chipping operations which covered all aspects of how to operate the machine. In addition, along with the team, we attended chainsaw operation, first aid and health and safety courses.

SAF: How did you get into this business, and what motivated you?

Lynda: It started 23 years ago when I joined Working for Water's job creation program doing alien clearing. My experience with chipping operations has been just over the past year. My motivation for starting the business was my love of people and their upliftment, especially the youth. Right now 80% of my team members are young people - but my business has also provided employment to older people and housewives. Mothers and fathers from our communities that have no education and could not find a job elsewhere have been given opportunities to work and look after their families, something which I am very proud of. 🌱

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BUILT TO WORK

NMU gets showcase CLT building



“This is the right technology for the times.”

After almost 150 years of concrete and steel, the world is returning to wood. This time around it is Cross Laminated Timber (CLT) that is transforming building construction globally.

Nelson Mandela University (NMU) has commissioned a CLT building that is set to influence a new direction for design and construction in South Africa. CLT and mass timber construction is already making significant inroads in Europe, North America, Australia and Scandinavia as the low carbon, sustainable, economically competitive construction technology of the future.

“To advance the adoption of CLT in South Africa we have established the CLT Engagement Unit as a transdisciplinary entity in the Faculty of Engineering, the Built Environment and Technology (EBET),” says the CLT Engagement Unit coordinator, Dr Ossie Franks.

Developing a new industry

NMU has committed R4.4 million to the CLT building project, and has partnered with Italian construction company Innovhousing for the construction, with the aim of promoting the CLT building technology and developing the industry in SA.

“This is the right technology for the times,” says Innovhousing’s founder and CEO, Eugenio Bin. “South Africa has a massive carbon footprint and a significant housing and building backlog. CLT offers the solution as it is a carbon neutral, sustainable way of building.”

Innovhousing architect Alessandro Zuanni and wood structural engineer Franco Piva have designed the two-storey 350m², multi-use CLT building. It is being prefabricated in Europe, will be delivered to site, flat-pack furniture style, and will be erected in a matter of days.

“The University will use the building to advance knowledge, research and skills about CLT and mass timber construction, incorporate it in our curriculum and transdisciplinary research, including engineering, architecture, construction management sciences, and business and economic sciences,” says Dr Franks.

CLT presents a major opportunity for new industry and job creation, according to Prof Jos Louw from the School of Natural Resource Management. “We need to recognise the many advantages of CLT and stimulate the culture of using wood for construction in South Africa.”

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Bush clearing improves cheetah habitat



Clearing encroaching bush in Namibia to restore a healthy balance between grassland and trees is playing a key role in the conservation of cheetahs, while a by-product of the initiative turns the cleared biomass into briquette fuel and supports sustainable jobs.

Namibia is home to a third of the world's cheetah population, and the Namibian Cheetah Conservation Fund (CCF) is committed to protecting this vulnerable species.

Namibia's cheetah population has already halved and CCF estimates that there are only 7 000 cheetahs left in the wild. To protect the

cheetahs, CCF works with local communities to improve biodiversity and open dialogues with local farmers.

Bush encroachment

A problem for the Namibian cheetah is bush encroachment. Cheetahs once thrived in the mixed woodland savannah of central Namibia, but human disturbance, overgrazing, fire suppression and removal of browsers like elephants and rhinos has tilted the balance of grassland and trees. Thorn bushes are choking the landscape, making it impossible for cheetahs to run or hunt.

CCF came up with a process that could use the bush while restoring the ecosystem. They started using the thorn bushes to produce fuel bricks – called Bushblok – that can be sold to support the work. The clearing of land is not just about creating space for cheetahs; Bushblok also means job creation in a region where unemployment is high.

Bushblok employs 30 people, and as the industry grows, so will jobs. FSC certifies that CCF's woodland practices are sustainable and the Wildlife Friendly Enterprise Network certifies that the products deliver improvements for wildlife.

Moveable bridge shortens long haul distance

New Zealand-based forestry company Juken NZ Ltd (JNL) has commissioned two moveable bridges that can be relocated to multiple harvest sites to keep capital costs down and shorten long haul distances between compartments and market.

The bridges, which are designed to carry heavy forestry loads, can be dis-assembled and relocated to the next harvest site at a fraction of the cost of building permanent bridges at all the river crossings.

The moveable bridges enable JNL to access and harvest wood from the Pamoia Forest, shaving 24km off each round trip to and from the harvest site.

The bridges can be moved to suit our harvesting and heavy traffic requirements, explains JNL's Planning and Engineering Manager Patrick Bethel.



The moveable bridge was built by Bridge It NZ. It is an 18m x 4m steel beam bridge with timber deck capable of holding a full load required for forestry truck and trailer units and heavy machinery.

Husqvarna and 'Beast' team up



The 'Beast' gets ready to apply a bit of that trademark power that front rows around the world are all too familiar with.

Husqvarna has partnered with Sharks and Springbok rugby icon Tendai 'Beast' Mtawarira to spice up their brand image. The 'Beast', who has anchored the scrum for the Sharks and Springboks in many epic clashes against some of the world's toughest teams, recently returned to the rugby field to shoot a special video featuring the well known Husqvarna brand which adorns a range of forestry and outdoor equipment, including their industry leading chainsaws.

The Husqvarna team chose to team up with 'Beast' to be their brand ambassador as throughout his illustrious career he has displayed all the characteristics of resilience and strength that are associated with their brand.

Mtawarira's reputation is such that whenever he goes on one of his trademark bullocking runs on the rugby field, spectators around the world bellow his nickname 'BEAST' at the top of their lungs, whether he is playing at home or away.

As South Africans begin to emerge from one of our most challenging periods to date, Tendai 'Beast' Mtawarira offers us an empowering message that ties in with our own resilience, of our strength, and our ability to triumph over adversity, explained Jenna Robinson, regional marketing manager for Husqvarna Africa. In a display of his extraordinary physical and mental grit, his story reminds us that no journey comes

without rough terrain.

Similarly, perseverance, tenacity and power are words which underpin Husqvarna's own ethos, said Jenna. "Our range of state-of-the-art outdoor equipment has the ability to help rebuild industries, enable businesses to return to work, and nurture our relationships with our domestic spaces, where we have all been spending an unprecedented amount of time."

Creative director Maria Bronzin, from Durban's Studio 031, had a clear objective with the visuals for Husqvarna's very first brand advertisement.

Powerful machines

"Because Husqvarna is all about these powerful machines, it was easy to parallel Beast's own physical prowess, which in real-time was quite awesome to watch. The production was shot at night, just after the last lifting of lockdown, with Covid-19 protocols in place, and major time constraints, not to mention some of the remarkable physical exertions required of Beast."

The shoot posed many hurdles of its own; a fitting backdrop to Beast's baritone voiceover, instructing us all to see "possibilities" over "problems".

"We decided to launch the brand campaign at this particular moment since it has been such a testing time for everyone, on both a local and global scale," explains Jenna. "The story we



Husqvarna's marketing manager Jenna Robinson and Husqvarna brand ambassador Tendai 'Beast' Mtawarira.

had to tell was about resilience and reliability, delivered through this visual that has such resonance for us all, not just the industries we service.

"Husqvarna is committed to benefitting both the industries and the homeowners we support through our sustainable innovations. We have a number of programmes and products that speak to that commitment," she said.

Look out for the brand advert on Husqvarna's digital brand channels, as well as Tendai Mtawarira's social media.

Watch it on YouTube - <https://youtu.be/h-InazTUqys>
Visit www.husqvarna.co.za

Sounds of the Forest

Timber Festival has commissioned cutting edge musicians Erland Cooper, Hinako Omori and Jason Singh to create new music using crowd sourced sounds from forests and woodlands across the world. The artists will perform live at next year's Timber Festival in the National Forest in July 2021.

Timber Festival asked its global community to submit one-minute sound recordings of woodlands near where they live to contribute to the first global forest soundmap

Over 550 people from more than 50 countries have now contributed short audio clips. So far it has sounds from every continent except Antarctica. Anyone can participate by taking a one-minute recording of their own local woodland.

The map also serves as an archive of ecosystems under threat by climate change, recording areas in stress and others being transformed.



Hinako Omori is one of the musicians tasked with creating Sounds of the Forest.

The National Forest is the UK's boldest environmentally led regeneration project, spanning 200 square miles in Derbyshire, Leicestershire and Staffordshire. The central part of the Forest, which covers a former coalfield,

has been transformed by the planting of nearly nine million trees over the past three decades.

For more info visit timberfestival.org.uk.



The World Forestry Congress, which is held every six years, is the biggest global event in the forestry calendar. In 2015 it was held in Durban, South Africa, and in 2021 it will be held in Seoul, South Korea. Here's a snapshot of South African delegates, Busi Mnguni and Sisa Damoyi, at the 2015 WFC, the first to be held on the African continent.

World Forestry Conference 2021

The XV World Forestry Congress (WFC) will be held from 24 to 28 May 2021 in Seoul, South Korea. Preparations for this Congress, which occurs every six years, are in full swing. The WFC Secretariat has opened a call for abstracts for papers, posters and videos as well as a call for proposals for side events. Early bird registration for the Congress is also open – check the website for details.

Conference theme

The theme is 'Building a Green, Healthy and Resilient Future with Forests'. The WFC Secretariat is keen to receive contributions from as many diverse stakeholders as possible on a wide variety of topics, in order to create a relevant and exciting event.

For more info visit the XV World Forestry Congress website: <http://wfc2021korea.org/>

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For the third year in succession, Ponsse has been selected as the most reputable company in Finland in the annual Reputation & Trust survey.

Ponsse was followed by game development company Supercell, while Fazer came in third. A total of 8,974 Finns participated.

"Ponsse has succeeded in maintaining its first place, and even in increasing its reputation during this challenging year. Ponsse received the highest individual score in the vital areas of leadership and modernisation. Especially during the Corona virus crisis, there is a demand for an ability to lead and modernise," said Harri Leinikka, CEO of T-Media, which conducted the survey.

The Reputation & Trust survey identifies the reputation of companies by analysing the greater public's impressions of them.

"This year has been challenging for us and we humbly accept this recognition. We have succeeded together, for which I would like to thank our customers and employees as well as their families, and our stakeholders," said Jarmo Vidgrén, Chairman of Ponsse's Board of Directors, at the award ceremony.

The results are based on the Reputation & Trust survey, carried out in the summer of 2020 with the goal of investigating the reputation of companies operating in Finland among the general public. A total of 8,974 Finns responded to the survey.

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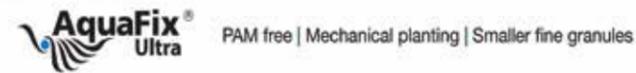
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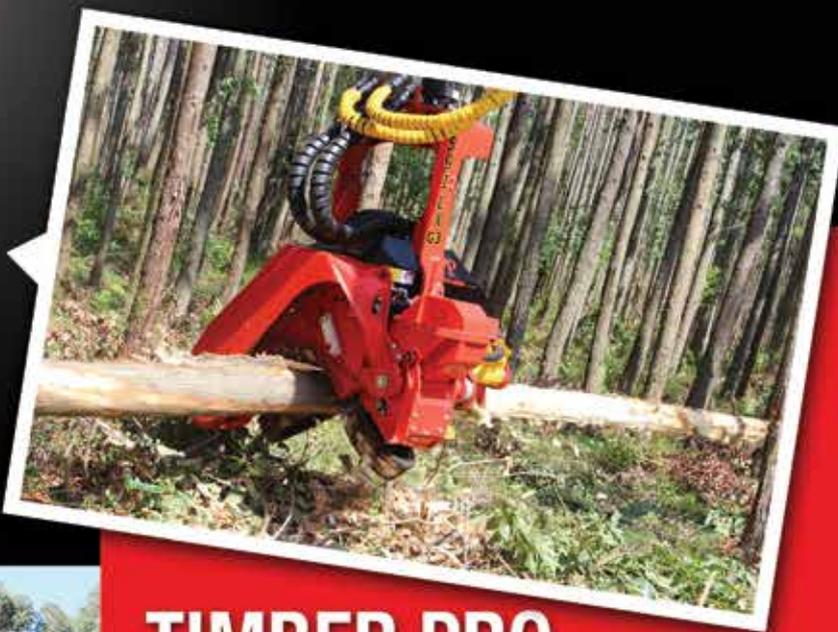


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