

Pan Pac Forests Public Summary

About Pan Pac

Pan Pac Forest Products Ltd is an integrated forestry / timber company wholly owned by Oji Holdings Ltd. For over 45 years Pan Pac has been growing and processing sustainable *Pinus radiata* products in New Zealand and delivering them to both domestic and international markets.

We have three operating divisions – Forests, Lumber and Pulp. The Forests division owns approximately 35,000 net stocked hectares of forest. Our trees provide for 45% of the lumber and pulp demand, and the remaining 55% is sourced from other forest companies or private wood owners.

Our Lumber division is the largest producer of appearance grade lumber in New Zealand. We export to over 16 countries with our largest markets in Asia and the USA.

The Pulp division produces both thermomechanical pulp (TMP) and bleached chemi-thermomechanical pulp (BCTMP) for manufacturing newsprint or cardboard products.

Pan Pac's Forest Stewardship Council® Certification

Founded in 1994, the Forest Stewardship Council® (FSC®) has promoted the management of global forests in an environmentally sound, socially beneficial and economically prosperous manner. Pan Pac is proud to hold FSC Forest Management (FSC® C017103) certification since 2001. Our pulp and lumber mills also have FSC Chain-of-Custody certification (FSC® C006931 and FSC® C106229) which provides a guarantee that we follow strict environmental criteria when sourcing fibre, manufacturing products and shipping goods to our customers.

Company Purpose, Goals and Values

Our company purpose includes:

- Sustainably managing the Pan Pac forest estate in accordance with FSC® principles and criteria
- Ensuring a secure, long-term wood supply
- Providing wood supply solutions that meet customer needs
- Maximising value through the supply chain by working together for continuous improvement and innovation

Our goals are to:

- Maintain safety and environmental standards
- Satisfy customer and shareholder expectations
- Achieve excellence in all that we do
- Employ, develop and retain skilled staff and contractors

Our values include:

- Honesty and integrity
- Fairness
- Helpfulness

Our People

Pan Pac and its contractors employ about 420 people. Harvesting is the largest employer with around 160, engineering around 40, cartage approximately 125, and forestry with about 60. There are about 35 forestry staff. Three forestry coordinators live at the forests based in houses built during NZ Forest Service times, or have private homes close by.

Pan Pac Forests does 5 yearly confidential one-on-one surveys to monitor its workforce. The purpose is to better understand who works for us, and how they feel about their work. Views can be incorporated into how we manage. There have been three surveys with the last in 2014. The following are some of the points that arose:

- Pan Pac is a safe company to work for and it promotes a safe work environment.
- Most believe Pan Pac is a good company to work for.
- Pan Pac has a stable and experienced workforce.
- Most workers live in Hawkes Bay.
- Pan Pac has an almost all male workforce (94%).
- The average workforce age is increasing. There are fewer young people entering forestry.
- About 65% is NZ European, about 30% Maori.

Location and History of Pan Pac's forests

The Pan Pac forest estate consists of five major forest areas located within 90 kms of the Whirinaki office, near Napier. Our forests include Esk, Gwavas, Kaweka, Mohaka, and Tangoio (Figure 1). In the 1940s, Gwavas Forest became the site of the first significant state planting of exotic species in Hawke's Bay and subsequent planting booms followed in the 1970s. During this period and into the early 1980's the New Zealand Forest Service established much of the Mohaka, Gwavas, Esk and Kaweka forest areas while Pan Pac also established the Tangoio Forest.

The legal forest area is comprised of 45,663 hectares with approximately 35,000 hectares in exotic plantation and approximately 4,700 hectares in indigenous forest. The remaining area is in:

1. Infrastructure (e.g. roads, landings, and service).;
2. Area waiting replanting (approximately 1,600 hectares);
3. Unplanted land not under indigenous cover (e.g. cliff areas and "gaps" within the planted estate).

Most of our forests are located on rolling to steep hill country backing the main divide that splits the western and eastern North Island of New Zealand, except Tangoio Forest that is located near the coast. Plantation forest areas were predominantly established on sites originally cleared for farmland. Small pockets of the original or regenerating native forest are still scattered through the plantation areas, particularly in riparian zones. The original forest or regenerating areas are generally confined to the steepest, hardest sites, and the deeply incised gullies where fire did not effectively burn.

Soil type varies depending on locality. However, most can be classed as thin, non-marine conglomerates or sandy loams. Yellow/brown earths are present with pumice at some sites. The geology consists primarily of sandstone, mudstones and in parts limestone.

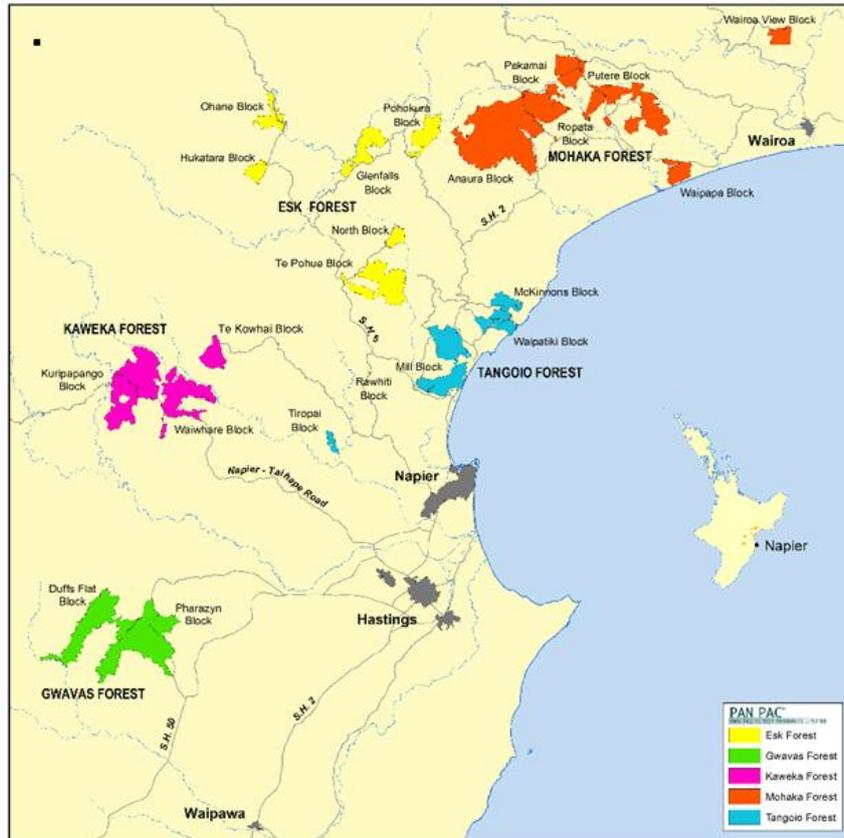
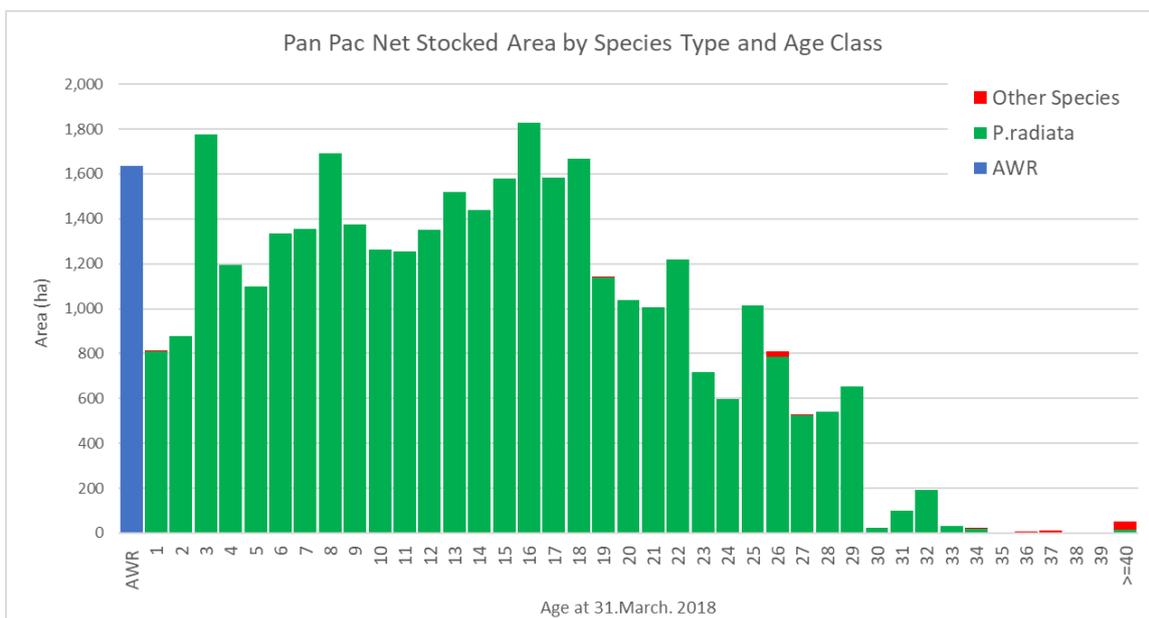


Figure 1. Location map of Pan Pac five forests, Hawkes Bay, NZ.

Forest Area and Age Class Structure

The forest age class by area is not uniform and reflects the initial planting which consisted of different establishment areas. As exotic, non-radiata tree species were harvested the area was replanted in radiata pine. This means that the harvest volumes fluctuate each year and reflects the changing age-class structure.



Forests Organisational Structure

The forest management duties are divided into several functional groups that report to the General Manager:

1. The Forestry Team manages all data relating to the land and tree resource. They are responsible for tree crop management and forest protection from planting until harvest planning and harvesting operations.
 - a. Tree crop management includes land preparation, establishment, silvicultural planning and operational management.
 - b. Forest protection involves post-harvest infrastructure maintenance, fire protection and stakeholder relations (forest access and liaising with local authorities over planning requirements under the Resource Management Act).
2. The Forest Optimisation Team strategically plans the implementation of supply chain management processes. They are also responsible for maintaining land information using Geographic Information System (GIS) and tree stand information system components (such as finance, accounting and administration).
3. The Forest Engineering Team plan harvest and road layouts, including new roads and harvest landings. They also oversee road construction by managing, supervising and monitoring the performance of our contractors.
4. The Operations and Distribution Teams manage harvesting contractors, control log distribution and dispatch logging trucks.
5. The Wood Resources Team coordinate operational wood flows while also managing the sale and purchase of all logs.

Our Planning Processes

Our forest planning, monitoring and reviewing processes are closely aligned and broadly separated into four levels:

1. Strategic planning
Strategic planning provides direction and focus on economic, environmental, and social aspects of Pan Pac's business. This includes:
 - a. Identification of management objectives and the long-term modelling of wood flows at an estate level over a 30-60 year period.
 - b. Identification of the required rotation length.
 - c. Identification of annual harvest levels and product mixes for more detailed planning.
2. 5-Year Business Plan
Information from strategic planning is an important input to the preparation of a 5-year Business Plan which clearly identifies goals for the all business groups. From a forestry perspective, the plan focuses on maintenance of a sustainable log supply to the sawmill and pulp mill. It identifies key actions to achieve sustainable supply of logs by strengthening the supply chain planning and logistics and continuously reviewing required resources (such as staff, contractors) and silvicultural strategies.
3. Operational – Annual Budget
A core requirement of Pan Pac is the annual budget process where projects are identified, and costings developed for the year. As with most businesses the budget is a critical component to estimate the detailed requirements behind the business and to measure performance against.

4. Operational – Monthly and Weekly Planning

Weekly and monthly planning meetings are held to continually review performance, identify new market requirements, changes in production, new research information and identify required plan adjustments.

In addition to the above, there are many key documents and databases that form important components of the Pan Pac planning process. They include the following:

- Financial and reporting systems
- Company intranet
- Forest Operations Manual
- Environmental Standards
- Rooding Manual
- Ecological Management Plan
- NES-PF Regulations and guides

These documents and tools help set out performance requirements for operations and provide essential management information on the estate. They also provide the means of communicating key information to operational staff.

Volume and Types of Forest Products

The forest resources are almost exclusively radiata pine. Non-radiata pine account for a fraction of a percent of the harvest. Other species would include Douglas fir, eucalypts and minor pine species like *Pinus nigra*.

The key product types are saw logs, pulp logs and export logs. The exact amount cut in any one year is approximately that which has grown or the maximum annual sustainable yield. How this is determined and monitored will be discussed in the planning section below.

Yield prediction is a big component of Pan Pac's management. It is considered the foundation of the Supply and Operational Planning process. Reliable data allows us to supply customers with products in specification and on time. Monitoring volume output and actual versus predicted volumes is incorporated into yield tables and estate planning detail.

In the last financial year, a stand of radiata would be harvested at approximately 30 years old and a hectare of forest would yield about 760 tonnes.

Rate of Harvest and Species Selection

The allowable cut for radiata pine is based on output from the Woodstock estate model which collates data from the five forests and uses the most up to date and volume verified yield tables for each stand. The model is run during the annual planning session according to various customer, supply and resource management constraints. This allows the most optimal/practical estate solution to be identified for the coming planning period (undertaken in 5-year planning cycles). The estate model's output is regularly monitored against actual yields and modifications are made to improve its predictions. Annually, Pan Pac harvests about 750,000 tonnes from its FSC[®] certified forests.

Minor species such as Douglas fir, Corsican pine, Contorta pine and the eucalyptus do not have a sustainable cut. Instead, they are cut as the market allows and are replanted in radiata pine.

Yield tables have been built and verified using inventory data from a range of sources including quality control plots, permanent sample plots (PSP's), and pre-harvest inventory data. Every stand is allocated an appropriate yield table that are continually monitored against actual recoverable data during the reconciliation process. The estate contains about 280 PSP's which have been formally maintained and regularly measured. After harvest, they are replaced in a similar location. Pre-harvest inventory is carried out at around age 22 at the intensity of 1 plot per hectare by a dedicated inventory crew. Mid-rotation and pre-harvest inventory of forests are also being undertaken.

Back in the 1950's there were extensive trial plots of different species and radiata demonstrated that it was the best species for Hawkes Bay. Most of an original trial remains in Gwavas Forest and includes dozens of species or provenances. These trials continue to demonstrate that radiata pine is a well-adapted species for regeneration. In the 2000's Pan Pac established some eucalyptus trials which demonstrated that the species did not grow well on the sites established.

Forest Engineering and Harvesting

Pan Pac has an active road maintenance, upgrade and new road construction programme. There has been a reduction in the need for new road construction as most of the forests have already been logged and new roads are no longer required.

Forest engineering is actively monitored to ensure contractors meet their construction specifications and environmental standards.

Pan Pac manages both harvesting and marketing operations. Most sales of logs are to Pan Pac's own mill, with the balance sold to other customers. Approximately 70% of harvesting is undertaken using cable systems due to the steep nature of many of the forest areas. The remainder involves a combination of skidder, tractor, and excavator (shovel) machines for extraction. Pan Pac is moving towards all-mechanised harvesting even on steeper slopes, but currently, felling involves a combination of motor manual (chainsaw) and mechanised methods. Unlike many companies, we do not cut most of the stems into logs while in the forests. Stems which are 18 metres are carted to our mill on custom trailer units where they are processed into logs using centralised stem processing. This is a process where the stems are scanned for external stem features while computer software optimises stem value based on the best mix of log products. The stem is then cut into these products. A traditional approach is used for the remainder of the harvest. Log handling and loading is undertaken with tracked excavators.

All road construction, harvesting and cartage use contracted services. Harvesting operations are monitored to ensure operational requirements are met.

Silvicultural Activities

Most of our planting is in the harvested areas and involves replanting to radiata pine. Recently logged sites are prepared for planting using a variety of techniques depending on the amount on logging debris or post-harvest weed infestation. Machines rake and pile slash around skid sites and near sites with flat/rolling topography where slash significantly hinders planting access, spot cultivation on mainly skid sites and aerial spraying of vigorous shrub weeds depending on the site and problem present. For the latter, a glyphosate-based mix of herbicide is commonly used. All sites, except those in Kaweka Forest, are over sown with grass species prior to establishment to help control shrub weed species. Climatic conditions in Kaweka forest make over sowing less effective.

Mostly bare rooted tree stock is hand planted at 850 stems per hectare (SPH) in the winter following harvest. Containerised stock is used later in the season to assist with survival rates. We are starting to move into clonal forestry with the establishment of trials in several of the forests. Recently planted areas are monitored for tree survival. Where there is poor survival the area may be replanted or “blanked”. Radiata is a hardy species so survival rates tend to be in the high 90 percent.

The forests are split between two major tending practises. Approximately 60% of the estate is subject to an “intensive tending” regime. Intensive tending operations are undertaken particularly on higher growth sites in Mohaka, Esk and Gwavas Forests. This involves selecting stems for pruning in three lifts between 5-8 years old to obtain a crop stocking of typically 330 SPH with a 6.5 metre prune height. Thinning to waste occurs at around age 10 to typically 330 SPH. The remaining 40% of the estate is managed on a less intensive silvicultural regime to produce unpruned logs. This regime involves one thinning to give a final crop stocking of around 375 SPH.

After all tending operations there is quality control monitoring. This includes detailed assessment to determine if the work met the contractual requirements. If not, and where possible, the job is redone by the contractor. Detailed stand records exist for the whole of the resource while inventory results are included in stand record system and the GIS/GeoMaster system provides spatial and database details.

Forest Regulations: National Environmental Standard for Plantation Forestry

The National Environmental Standards for Plantation Forestry (NES-PF) were published on 3 August 2017 and came into force on 1 May 2018. The regulations are based on good forestry practices and cover eight core plantation forestry activities that have potential environmental effects including earthworks, harvesting, river crossing and quarrying.

The regulations require management plans for all earthworks, harvesting, river crossings and quarrying. Pan Pac will need to give notice to the council for 5 of the 8 activities for transparency. For Pan Pac to meet its requirements under the new regulations most forest activities will be monitored against the regulations.

The NES-PF regulations look at the risk of both on and off-site effects. These need to be considered as part of the earthworks and harvesting plans.

Pan Pac will be using the NZFOA Forest Practise Guides. These are a suite of 25 individual non-regulatory guidelines based around NES-PF.

Costs, Productivity and Efficiency of Forest Operations

The senior management team meets monthly to review costs, productivity and efficiency. The previous month’s performance is reviewed to assist in planning for upcoming challenges. Reports consisting of forest expenditure and costs are produced to provide comprehensive information on financial position, supply chain management and operational productivity.

Daily and weekly, wood supply plans and execution plans are monitored to reflect changing demand. For example, we monitor the uplift of logs from the forest via log docket and weighbridge records using a computer database to track and reconcile load dockets.

Costs are analysed and incorporated into future budgets. Contract rates for all operations are based on locally accepted crew daily rates and nationally accepted work study production targets. The company is aware of its overhead costs.

Operational Monitoring

Contractors are issued with a job prescription for forest operations. As well as specific requirements in the prescription, contractors are required to comply with the Pan Pac Forest Operations Manual and Environmental Standards. Our operational coordinators and contractors are required to undertake a formal post-operational check using a Post Operation Assessment Checklist (POAC) which they are required to sign off. The results of monitoring are entered into our database, and Pan Pac forestry staff audit a 10% sample of POAC's. Non-compliance is followed up and corrective action implemented. Our POAC's provide comprehensive information on environmental compliance and impacts that might have occurred on site. POAC data is reviewed by the operations managers and their respective health and safety committees.

Our staff are also involved in direct supervision of contractor operations. Contractors are visited regularly as part of the forest management and supervision process. They are visited for health and safety monitoring as well as operation and post-operation checks and audits. Contractors' performance is checked against weekly and monthly targets and discussed as necessary. Monitoring is based on compliance with contract specifications and against a known checklist. Contractors carry out their own quality control as a check against the independent quality control checks. This allows our coordinators to provide additional assurance that environmental impacts are mitigated in a timely manner.

From an operational perspective, using monitoring data has resulted in more accurate yield calculations, improved harvest planning, improved environmental alerts and improved health and safety systems. Monitoring of operational costs are also incorporated into planning for future budgets.

Operation managers meet with contractors regularly to discuss performance.

Forest health

Annual Forest Health Inspections are carried out principally to identify new pests or diseases. These are undertaken under the NZ Forest Owners Association surveillance programme by an independent contractor. These may general involve aerial and ground surveys.

Currently, there are no significant forest health issues. *Dothistroma pini*, a needle blight, is not commonly found in the Pan Pac estate. From this year's survey, the assessor noted that there was possible boron deficiency in some blocks of Esk, Gwavas, Kaweka and Te Kowhai, and in the latter there is also phosphorus and magnesium deficiencies. Foliage sampling was recommended.

Plant and animal pests are controlled as explained the plant and animal pest control section.

Forest nutrients

Foliar sampling of young stands is undertaken at around age 5 to identify any nutrient deficiencies. This monitoring rarely finds deficiencies present. Deficiencies may be remedied through the application of fertiliser if necessary.

Plant and animal pest control

Pan Pac has an Integrated Pest Management Plan (IPM). This is a comprehensive document that outlines the process around how to manage the pest and the best method to do so given the situation. The IPM has incorporated the requirements within the Hawkes Bay Regional Council Regional Pest Management Plan for

consistency. Plant pests are tightly managed in conjunction with council staff. For example, Nassella tussock or Apple of Sodom. TbFree NZ also has statutory responsibilities to control Tb through reducing possum numbers down to a residual catch of less than 5%. This may involve operations within Pan Pac managed forest areas. The main animal pests that can impact tree growth are goats and possums. Goats can damage young trees until they get height and the bark thickens and hardens. Possums particularly impact the new branch growth.

Pan Pac have undertaken mapping of the distribution of important weed species within the estate. Animal pest control is monitored to include data regarding target and non-target animals exterminated. Extermination data is collected from pest control contractors and permit hunters while being entered into a database where trends can be monitored. Pest control is reported in the Forestry section of the monthly reports. In Kaweka there is a mustelid trap line that we maintain between the DOC and Pan Pac estate. There are 149 traps. This year, 2 ferrets and 35 stoats were exterminated. If you want up to date details on the exterminations, go to www.track.nz/view/trap-records-monthly-totals-table.

Industry wide research

Pan Pac maintains involvement in current industry research topics including site management, plantation management, and forest health. Research cooperatives establish and maintain a wide range of trials monitoring forests and management impacts around NZ. These include studies of the long-term impacts of plantation forestry on soils in New Zealand. The results of the research are carefully monitored for continuous business improvements including herbicide application, reductions in chemical use, specific clonal material used in cuttings, and improved seedling qualities from tree breeding research.

The Environment and Ecological Management

Pan Pac actively works with other organisations to improve environmental outcomes. We have strong relationships with Forest and Bird Protection Society, the Department of Conservation, ECOED, and the Hawke's Bay Regional Council.

Our staff are involved in the Hawke's Bay Biodiversity Strategy, Poutiri Ao ō Tāne project, regional pest control strategies, and strengthening existing predator control trapping to help protect endangered species like kiwi.

Our detailed Ecological Management Plan contains annual targets, objectives and a summary of the research undertaken within the forests indigenous areas since 2001. In the early years Pan Pac employed two staff for nearly two years to undertake the initial surveys. The series of sample plots was resurveyed in 2009 and again in 2015. A forestry student completed a dissertation regarding the changes within the forest over this time. The monitoring highlighted the dynamic nature of the forest as trees grew, died, or were blown over. In most instances the forests had increased the number of palatable species which indicates reduced animal browsing. In 2017, a forestry graduate was employed for 7 months to reassess the indigenous forest areas surveyed in 2001 including a large number that had not been surveyed since then. The findings again highlighted an improvement while also identifying areas that were consistently being impacted by deer and goats. Two enclosure plots were constructed to show the impact of browsing animals.

In addition, environmental monitoring includes plant and animal pest control, rare, threatened and endangered species, and environmental events (events where environmental standards have been breached). All environmental events are reported monthly at the senior management HSE strategic meeting. Monitoring of environmental events is incorporated into mitigation work.

Working with the community

Pan Pac has strong links to the community. Most of the Forestry coordinators live in or near the forest and are active in the community. The company sends out an annual community flyer to neighbours and interested parties explaining aspects of forestry and operations that are likely to occur in the coming year. Pan Pac also supports the local community through sponsorships and donation programmes that support schools, community water supply, and fire safety.

Pan Pac's mill block of Tangoio Forest is the premier mountain bike park in Hawkes Bay. There is about 70 km of track within it. It is used most days unless forest operations restrict access.

Working with Iwi

Pan Pac manages the Esk, Gwavas, Kaweka and Mohaka forests, that were previously owned by the Crown but land ownership has been transferred to Iwi post settlement governance entity groups. This means Pan Pac will now have both a business and a community partnership relationship with Iwi. We have had regular meetings with some of these groups for more than 15 years but Pan Pac is beginning to develop the relationship with others.

Social Impacts

Harvesting typically brings the most change to the community with increased trucks and machinery on the road, and increased risk of sedimentation and woody debris moving off-site. We use an environmental and social effects matrix for harvest planning and operational management. Some of the potential impacts include downstream effects of operations including risk of damage to infrastructure and water supply, impact to fish and fish breeding and habitat, and risks from slips associated with high intensity storms.

Since the early 2000's Pan Pac has been working with local communities and Iwi to consult and notify on harvesting activities. Meetings and letters are the most common methods of communicating this information and stakeholders are always encouraged to call us if they require further information. The most recent stakeholder outreach was implemented in 2018 regarding the future harvest within the Esk Valley area of Tangoio Forest.

Pan Pac records compliments and complaints. These are actively managed by the senior team. Where a complaint arises, the complaints procedure is followed. Pan Pac has not had any complaints that have required mediation.

All Pan Pac's trucks are part of the nation-wide industry phone line "0800 log truck". This is useful to record and monitor individual truck driver behaviour and monitor performance. For 2018, complaints were generally a result of truck noise, dust or speed and the compliments are usually regarding courteous driving.

Health and Safety monitoring

Health and Safety has a huge focus at Pan Pac where the Forests motto is "Protecting each other and the environment from harm". The company has spent a lot of time in the last two years working with contractors to improve health and safety culture. Monitoring includes recording and reviewing injuries by severity, near hits, incidents, rolling LTIFR, rolling MTIFR, events by type, events by operations.

Contractor monthly data returns are required to be submitted by contractors monthly. This includes confirmation of which employees have achieved unit standards for the month.

Company information is shared amongst all contractors and serious events are publicly shared with all other forestry companies in the form of Safety Alerts while maintaining the anonymity of those involved.

Health and safety information is passed onto the national database which is available publicly. In the last financial year, there was six lost time incidents, 12 medical treatments and 62 minor injuries. Pan Pac supports contractors and their staff to report near misses. Last year, 162 near misses were recorded and analysed to determine trends in where and why these near misses occurred. Safety flyers are used as a tool to spread these learnings across our workforce.

A recent initiative includes the formation of a Health and Safety Champions group, including worker representatives from the majority of Forests Division's contractor workforce and within the division.

Training

Pan Pac keeps detailed training records to help ensure that workers are adequately trained or are currently under training for the tasks they do. Collectively over the last year, staff undertook about 140 training courses of which nearly all staff (32) attended the hazard identification and risk management training, the National Environmental Standard for Plantation Forestry regulations (24), and 27 staff either their first aid renewals or first aid refresher courses.

High Conservation Value Areas

Pan Pac has assessed that no HCVF areas are present within the forest estate. However, all indigenous remnants are monitored for changes. As well as using its own ecological surveys, Pan Pac works with DOC, the Hawkes Bay Regional Council and others to determine the status of HCVF on the estate.

Rare, Threatened or Endangered Species (RTEs)

Pan Pac has a threatened species database which tracks sightings of RTEs. The main species is a falcon, although kiwi may be coming back into Kaweka forest due to their re-introduction into the Kaweka ranges. Pan Pac is a sponsor of the Kiwi Creche, which protects juvenile kiwi until they are about one kilogram and less likely to be predated by mustelids like stoats.

Staff and contractors have been trained in the identification of RTE species. A RTE sighting database has been maintained for 16 years. The Forest Operations Manual has a section on RTEs and what to do if they are sighted is within the operational prescriptions for the contractors. If a species is sighted there are protocols to guide the observer to stop operations and contact a Pan Pac coordinator.

Rare, threatened and endangered species are documented in the Pan Pac Forest's Ecological Management Plan.

Forest Security

As part of the monitoring programme, Pan Pac employs an independent contractor that manages forest security. Most of our forests are gated and locked, however, illegal entry is common for many reasons

including hunting and growing cannabis. The forest manager gets weekly updates and security is part of the monthly report system. Where monitoring shows increased activity, security is increase and remote cameras may be installed. The police may be involved with infringement.

Pan Pac also manages the forest access keys.

Forest Recreation

Pan Pac has long supported recreational activities within the forest. This is changing as the land under Crown ownership is returned to Iwi and a permit is now required for all forest access. Pan Pac only has authority to provide access to the land managed by the company (10% of the forest estate). Access is generally restricted on Iwi owned property.

There is a permit management system that records, monitors and manages those that have access to the forest. In the last year, there have been 545 permits issued, which were mostly activity requests for hunting pigs, deer and goats (449 permits). Other activities included firewood collecting, bee keeping, and dog sledding.

In the last year, there were 1,825 members of the Hawkes Bay Mountain Bike Club in the Tangoio Forest where members may also horseback ride as part of membership. The most common age of the riders is between 40 – 49, with the least age cohort between 20 – 29 years. In addition, about 1,500 day permits were issued by the club.

Additional information

Pan Pac has the following specific and detailed information on its website, www.panpac.co.nz.

- The Forest Operations Manual which describes in details the company's requirement around working in PP's operations
- Environmental Standards which are the standards expected in its forest operations
- Event reporting and investigation processes
- Forms, flowcharts and checklists used in monitoring its operations

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