2024 ANNUAL MONITORING REPORT

PF Olsen FSC® Group Scheme SCS-FM/COC-400064

FSC-C008844

January - December 2024

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23 May 2025

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1. Introduction

1.1 About PF Olsen

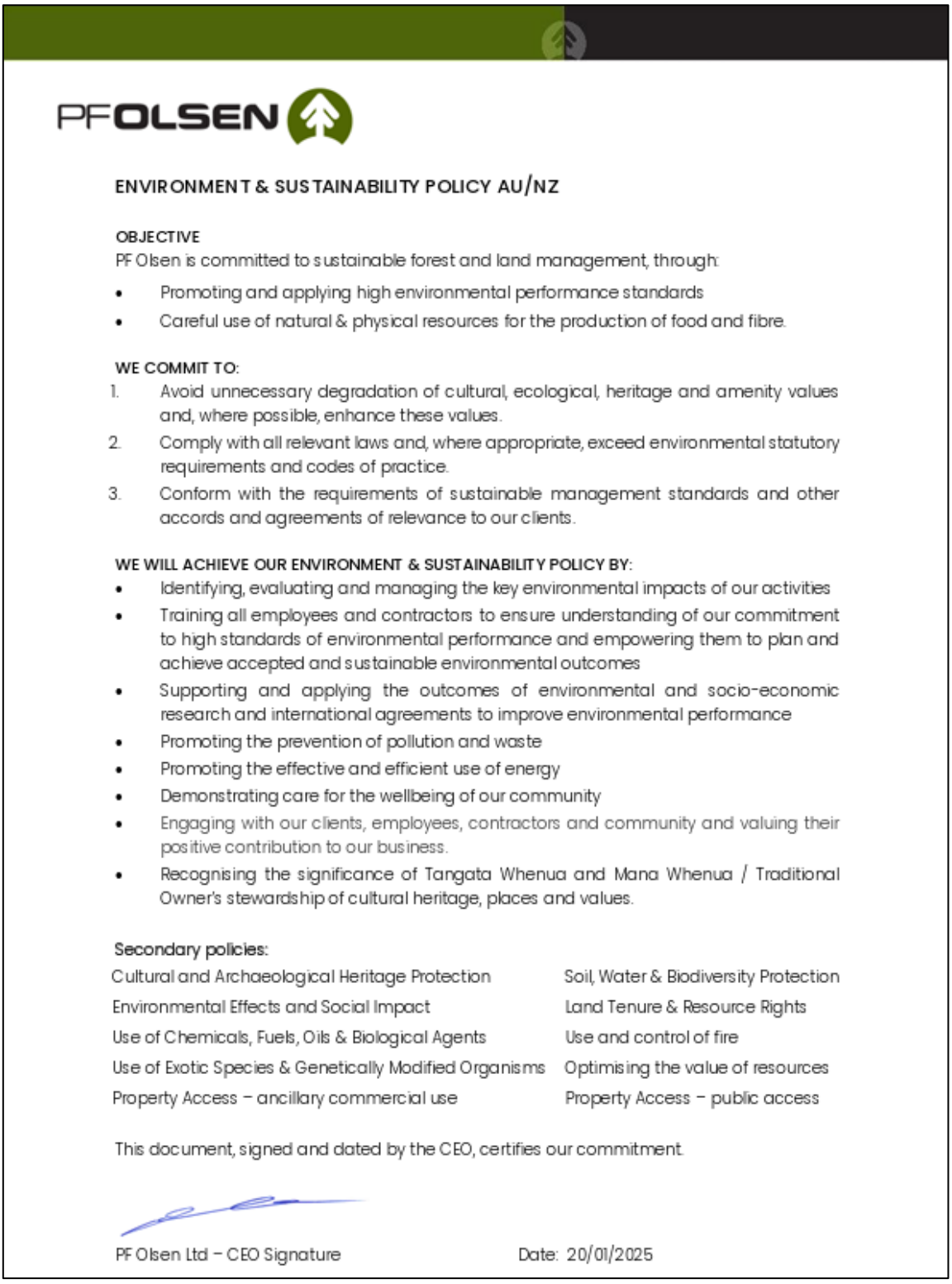
PF Olsen is a nationwide forest management services provider offering expertise in: forest and harvesting management, harvest planning and engineering, log marketing and sales services, environmental management and certification, forestry consulting, carbon accounting (Emissions Trading Scheme), due diligence and valuations, land information services (mapping, aerial photography, GIS). We have over 1,300 clients who collectively own approximately 130,000 ha of plantation forests (of varying sizes), with a range of objectives for their forest investments. We own two nurseries in the North island of New Zealand and a Seed Orchard in the South Island.

PF Olsen's service delivery is regionally led by local teams around New Zealand supported centrally by specialist staff.

PF Olsen Office locations

1.2 Our Environment and Sustainability Policy

Our Environment and Sustainability Policy is our commitment to appropriate environmental management.



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ENVIRONMENT & SUSTAINABILITY POLICY AU/NZ

OBJECTIVE

PF Olsen is committed to sustainable forest and land management, through:

- Promoting and applying high environmental performance standards
- Careful use of natural & physical resources for the production of food and fibre.

WE COMMIT TO:

1. Avoid unnecessary degradation of cultural, ecological, heritage and amenity values and, where possible, enhance these values.
2. Comply with all relevant laws and, where appropriate, exceed environmental statutory requirements and codes of practice.
3. Conform with the requirements of sustainable management standards and other accords and agreements of relevance to our clients.

WE WILL ACHIEVE OUR ENVIRONMENT & SUSTAINABILITY POLICY BY:

- Identifying, evaluating and managing the key environmental impacts of our activities
- Training all employees and contractors to ensure understanding of our commitment to high standards of environmental performance and empowering them to plan and achieve accepted and sustainable environmental outcomes
- Supporting and applying the outcomes of environmental and socio-economic research and international agreements to improve environmental performance
- Promoting the prevention of pollution and waste
- Promoting the effective and efficient use of energy
- Demonstrating care for the wellbeing of our community
- Engaging with our clients, employees, contractors and community and valuing their positive contribution to our business.
- Recognising the significance of Tangata Whenua and Mana Whenua / Traditional Owner's stewardship of cultural heritage, places and values.

Secondary policies:

Cultural and Archaeological Heritage Protection	Soil, Water & Biodiversity Protection
Environmental Effects and Social Impact	Land Tenure & Resource Rights
Use of Chemicals, Fuels, Oils & Biological Agents	Use and control of fire
Use of Exotic Species & Genetically Modified Organisms	Optimising the value of resources
Property Access – ancillary commercial use	Property Access – public access

This document, signed and dated by the CEO, certifies our commitment.

PF Olsen Ltd – CEO Signature Date: 20/01/2025

1.3 Forest Stewardship Council® (FSC®)

The Forest Stewardship Council is a globally recognised brand for responsible forest management and forest products. It is an international, independent, not-for-profit organisation that provides a voluntary accreditation system and independent, third-party certification. FSC was founded in Germany in 1993, following the 1992 United Nations Conference on Environment and Development (Earth Summit) in Rio de Janeiro.

FSC's mission is to promote environmentally appropriate, socially beneficial and economically viable management of the world's forests.

- **Environmentally appropriate** forest management ensures the sustainable production of timber, non-timber forest products, and ecosystem services while maintaining biodiversity, productivity, and ecological processes.
- **Socially beneficial** forest management delivers long-term benefits to local communities and broader society, fostering local engagement and commitment to sustainable practices.
- **Economically viable** forest management supports profitable operations without compromising the integrity of forest ecosystems or the rights and wellbeing of communities.

FSC has developed 10 Principles and associated Criteria (known as the FSC P&C), which provide the foundation for all FSC forest management standards and certification systems. These Principles and Criteria underpin the development of national standards, including the FSC Forest Management Standard for New Zealand. The significant role Māori have in the stewardship of New Zealand forests, water ways, lakes and other natural and cultural values is also reflected in the NZ FSC Standard.

The FSC requirements encompass the full scope of responsible forest management. This includes:

- Legal compliance.
- Environmental safeguards, such as water quality protection, soil conservation, biodiversity management, and appropriate use of chemicals.
- Social responsibilities, including the protection of workers' rights, recognition of Indigenous Peoples' rights, and benefits to stakeholders and local communities.
- Consideration of non-timber values and ecosystem services.
- The implementation of sound, economically viable forest management practices.

FSC also sets standards for the accreditation of Conformity Assessment Bodies (also known as Certification Bodies (CB)) that certify compliance with FSC's standards.

The PF Olsen FSC Group Scheme is currently audited by SCS Global Services.

For further information about FSC visit https:// fsc.org/en, or https://nz.fsc.org/en-nz.

1.4 PF Olsen FSC Group Scheme

PF Olsen established and continues to maintain New Zealand's first FSC Group Scheme. The certificate (SCS-FM/COC-400064) is held by PF Olsen on behalf of its clients. Should a client choose to leave PF Olsen and/or the PF Olsen FSC Group Scheme, the certificate remains with PF Olsen, the client's forest is deregistered and decertified.

Please note that due to the diverse environments in which PF Olsen FSC Group Scheme forests are located, aggregating certain data—such as monitoring results—would result in an inaccurate and potentially misleading summary. As such, this information is not included in this report. Monitoring data specific to an individual forest is available on request. However, any commercially sensitive information will not be disclosed or shared with third parties.

2. Estate Description

2.1 Members

PF Olsen's FSC Group Scheme currently consists of the following members:

Client members	Number of Forests	Certified Area (ha)
Craigmore Sustainable NZ Ltd	10	7,457.0
Nelson City Forests	4	1,938.8
Oji Fibre Solutions Ltd	25	7,117.7
Ponga Silva Ltd	10	4,604.3
ROBMIJON Holdings Ltd	1	223.0
Tasman District Council	6	3,291.7
Te Rata LP	1	1,864.7
TGH Natural Resources Ltd	1	549.5
W&S Garland & Tintagel Trust	1	22.5
Whangaparoa 3B Trust	1	50.8
Wightman Forestries	3	593.6
Independent members	**Number of Forests**	**Certified Area (ha)**
Summerhill Timbers Ltd	1	243.2
Torlesse Pine Company Ltd	1	20.2
Total	**65**	**27,977.0**

Client members have forests that are fully managed by PF Olsen, operating under the framework of PF Olsen's FSC certification systems.

Independent members retain responsibility for managing their own forests, but do so under the oversight of, and in accordance with, the requirements of PF Olsen's FSC certification systems.

2.2 Additions / losses to the PF Olsen FSC Group Scheme

During 2024, 13 forests were withdrawn from the scheme. Forests are typically withdrawn due to changes of manager, completion of harvesting and transfer of cutting rights, or landowners indicating that they will not pursue certification maintenance. For Oji Fibre Solutions, their certified area has been progressively decreasing as harvested land is returned to landowners in accordance with the terms of the forestry right agreements

Over the same period, 14 new forests entered the PF Olsen Group Scheme; ten under the ownership of Craigmore Sustainables NZ Ltd, and the remaining four belonging to Ponga Silva Ltd.

2.3 Management Units

In 2023, PF Olsen undertook a review of its Group Scheme structure. As a result, the scheme was reorganised into nine Management Units, based on the geographical location of forest management activities. The two independent client forests are each designated as separate Management Units.

As at 15 May 2025, the Management Units are summarised as follows:

Management Unit	Total FSC certified area (ha)
Northland	7,457.0
Central North Island (CNI)	7,740.5
Gisborne	4,529.0
Southern North Island (SNI)	223.0
Nelson	5,230.4
Otago/Southland	2,533.6
Independent 1	243.2
Independent 2	20.2

2.4 Area and species

The productive plantation forest area consists of a range of species with the predominant species being Pinus radiata. This species is present throughout most of New Zealand due to its capability to grow rapidly and predictably on a wide range of sites, paired with well-established markets and processing capability.

The PF Olsen FSC Group Scheme comprises of the following productive/reserve areas. On an aggregated basis, the area of indigenous reserves and protected areas is substantial at 19.4% of the total land area.

Area Type	Species	Area (ha)	Area (%)
Planted		21,078.0	75.3%
	Radiata pine	15,781.3	
	Eucalypts	4,369.4	
	Douglas-fir	379.1	
	Indigenous Species	238.2	
	Cypresses	84.5	
	Redwoods	67.1	
	Other Minor Species	158.4	
Awaiting Planting / Cutover		1,477.2	5.3%
Reserves		5,421.8	19.4%
Total Area		**27,977.0**	**100%**

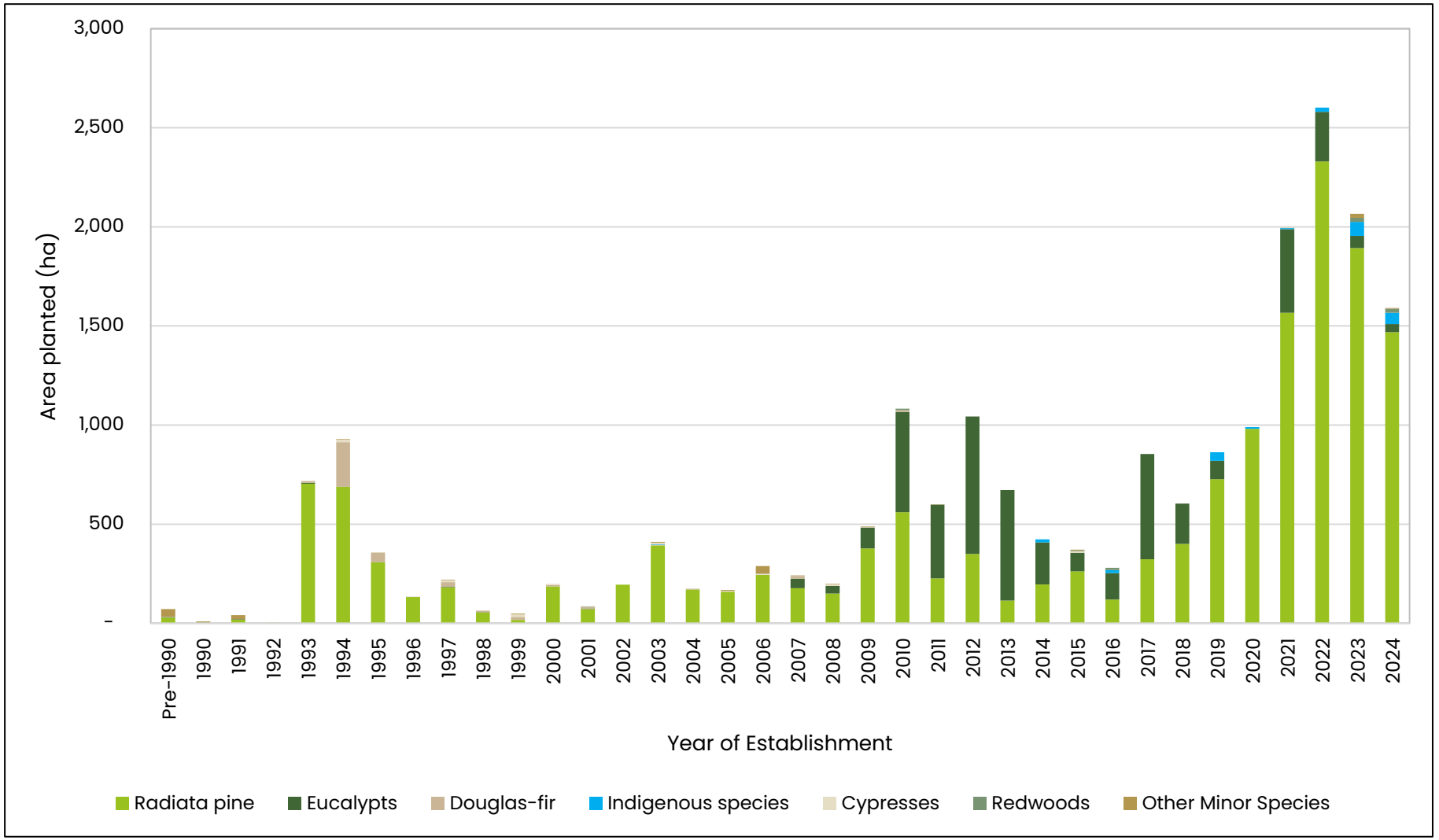
Reserve area figures vary over time due to ongoing assessment programmes and, in some cases, the retirement of land from production forestry or the implementation of stream setback zones. These processes can result in redefined boundaries and minor adjustments to reserve area totals.

Additionally, as cutting rights expire and land is returned to the underlying owners, some indigenous reserve areas may also be relinquished, leading to year-to-year reductions in the overall reserve area reported

2.5 Age distribution

The age-class distribution of certified forests spans from newly established plantations to stands approaching harvest maturity. The data reflect a reduction in area among older age classes, as expected with ongoing harvesting activities. At the same time, there are increases in the younger age classes, driven by new forest areas being added to the certificate register and through replanting efforts following harvest.

Species and age distribution of the certified forests in the PF Olsen FSC Group Scheme



2.6 Stakeholders

Stakeholders are classified as either local or national, based on their relationship to the forest.

Local stakeholders typically include forest neighbours, local councils, iwi, and other community groups with a direct interest in the forest area — such as recreational users, hunters, or community conservation organisations.

National stakeholders are notified of every certification, regardless of the forest's location. These stakeholders usually include other forestry companies with FSC certified forests, relevant government or statutory agencies (e.g. Department of Conservation, Herenga ā Nuku Aotearoa – the Outdoor Access Commission, Fish and Game Councils) as well as national environmental non-governmental organisations (e.g. Forest and Bird).

Stakeholders are consulted during the initial stages of certification where they are invited to provide feedback on the forest management plan. After certification, stakeholders are consulted if proposed forestry operations may affect their land, interests, or activities (e.g. when harvesting may impact a property boundary or recreational area).

2.7 Monitoring

As forests grow and are managed, a variety of monitoring activities may be carried out to assess forest health and management outcomes.

The Standard Forest Management Plan outlines the full range of potential monitoring activities (Section 14 – Monitoring) - Standard Forest Management Plan.

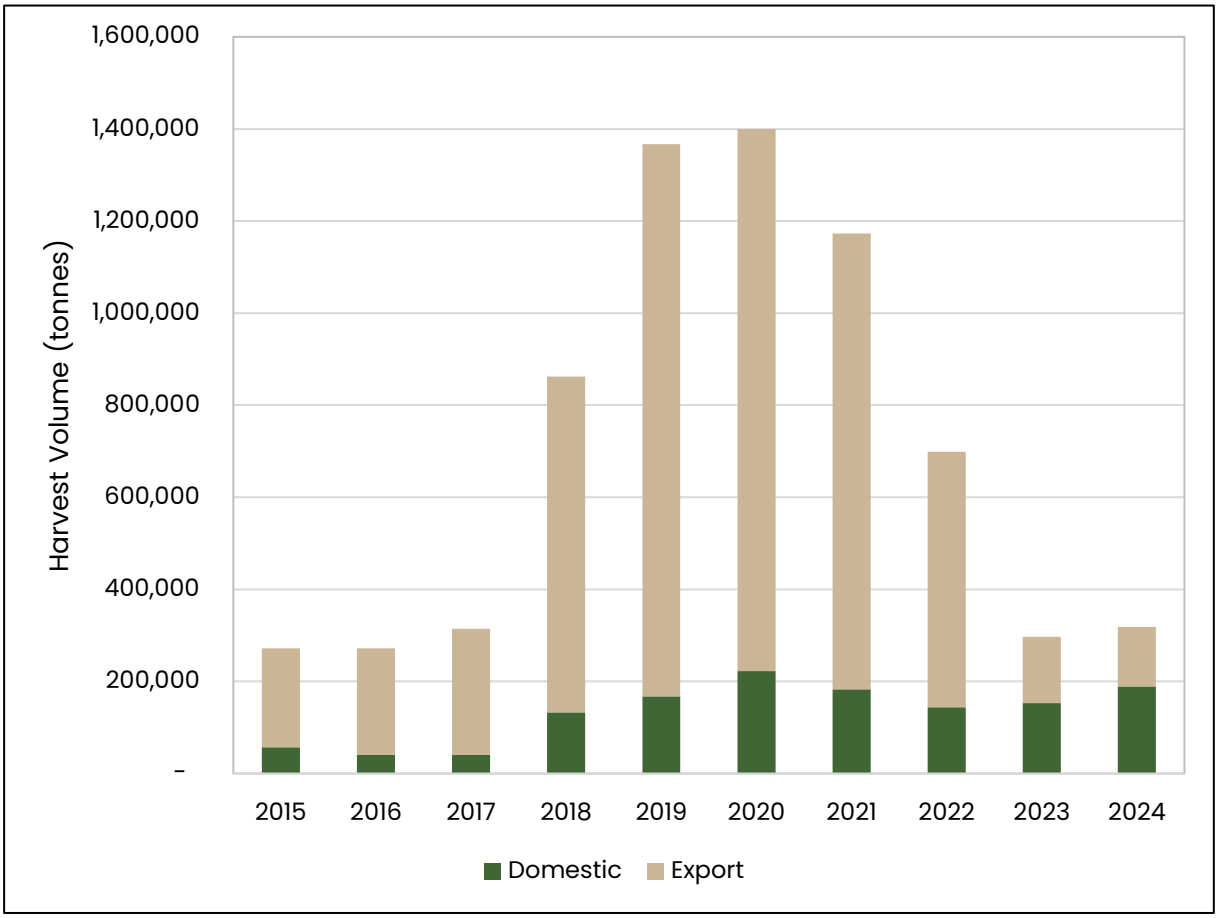
The Specific Forest Management Plan for each forest documents the prescribed ongoing monitoring activities - Specific Forest Management Plan.

2.8 Yield

The tonnes of logs harvested from certified forests varies from year to year. This variation is influenced by factors such as the area of harvest-ready trees, prevailing market conditions, and the number of participating clients in the PF Olsen FSC Group Scheme.

The graph below shows the volumes harvested out of the FSC forests over the past 10 years by market type.

Harvest volumes by market type from certified forests in the PF Olsen FSC Group Scheme



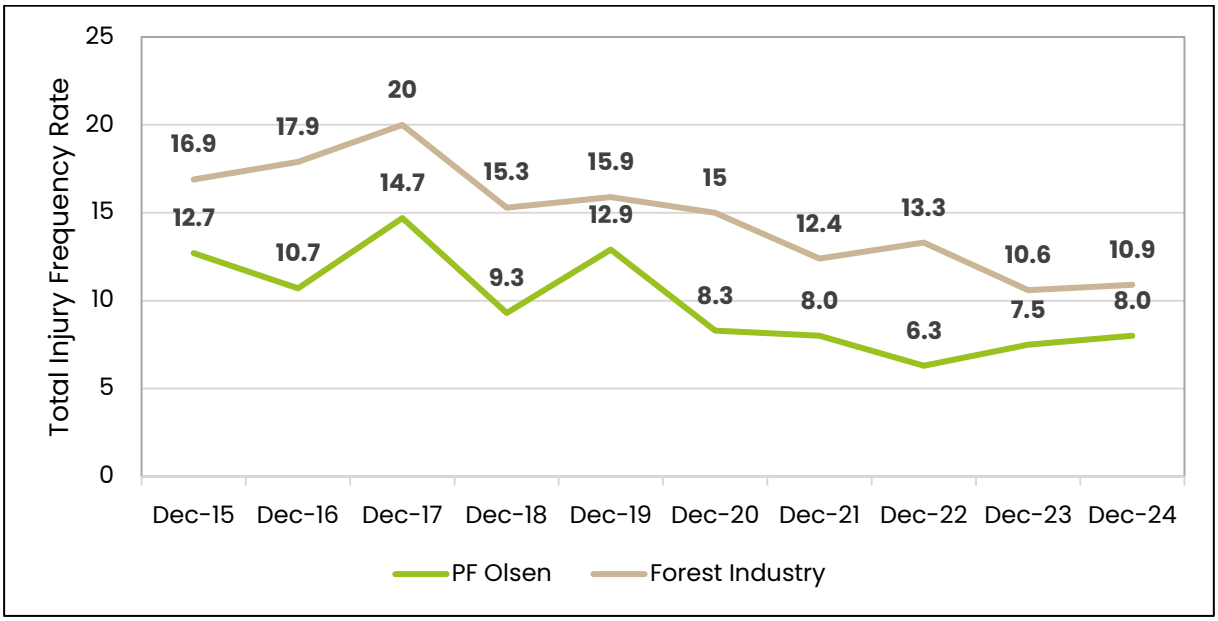
2.9 Map of FSC forest locations

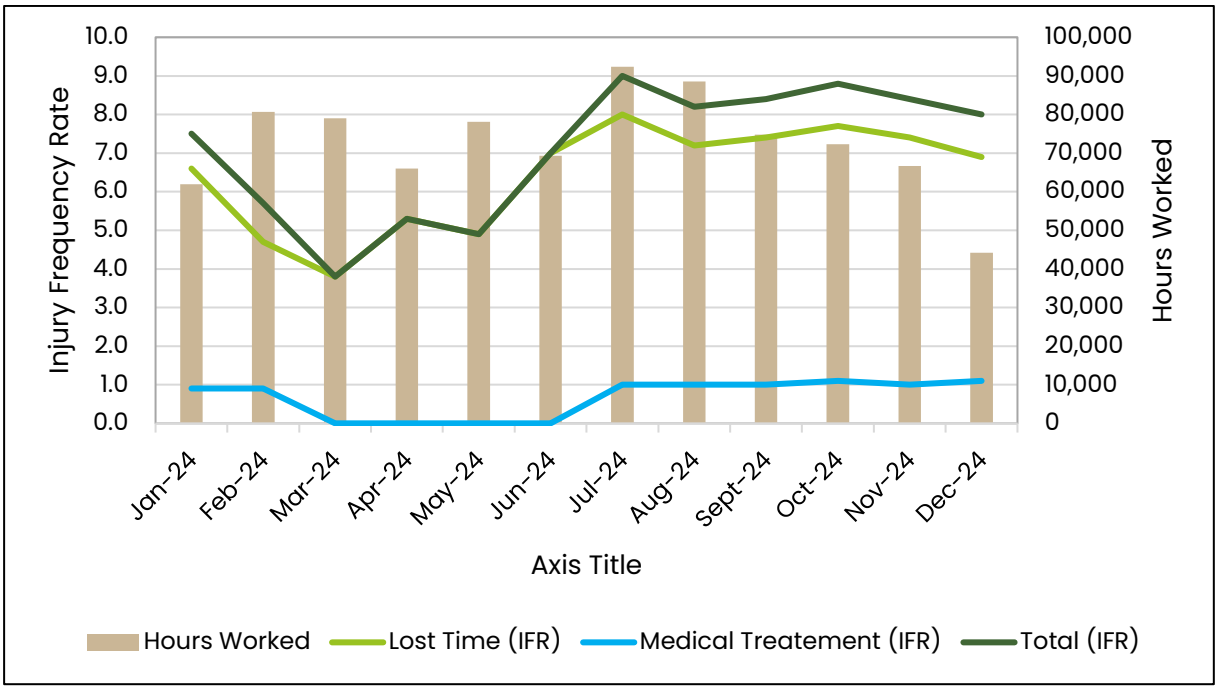
A map showing the locations of the PF Olsen FSC Group Scheme forests can be found on the PF Olsen website.

3. Safety Performance

3.1 Statistics

In 2024, we recorded the same number of LTIs and MTIs as in 2023 and achieved seven months without a serious harm incident. However, our Lost Time Injury Frequency Rate (LTIFR) was 6.9 and our Total Injury Frequency Rate (TIFR) was 8—both higher than our targets and 2023 results. This increase was largely due to an 18% decrease in the total hours worked. In comparison, industry rates were higher, with an LTIFR of 7.6 and a TIFR of 10.9.





Our commitment to risk management and compliance remains strong. WorkSafe NZ investigated three incidents during the year, with no breaches or compliance issues identified. A key initiative to improve compliance and culture was the rollout of Professional Operator Days (PODs) focused on ATV safety — one of our critical risk areas. The sessions reinforced safe operating practices, technical skills, and hazard awareness. Five regional PODs were held with 130 NZQA-certified ATV operators attending nationwide.

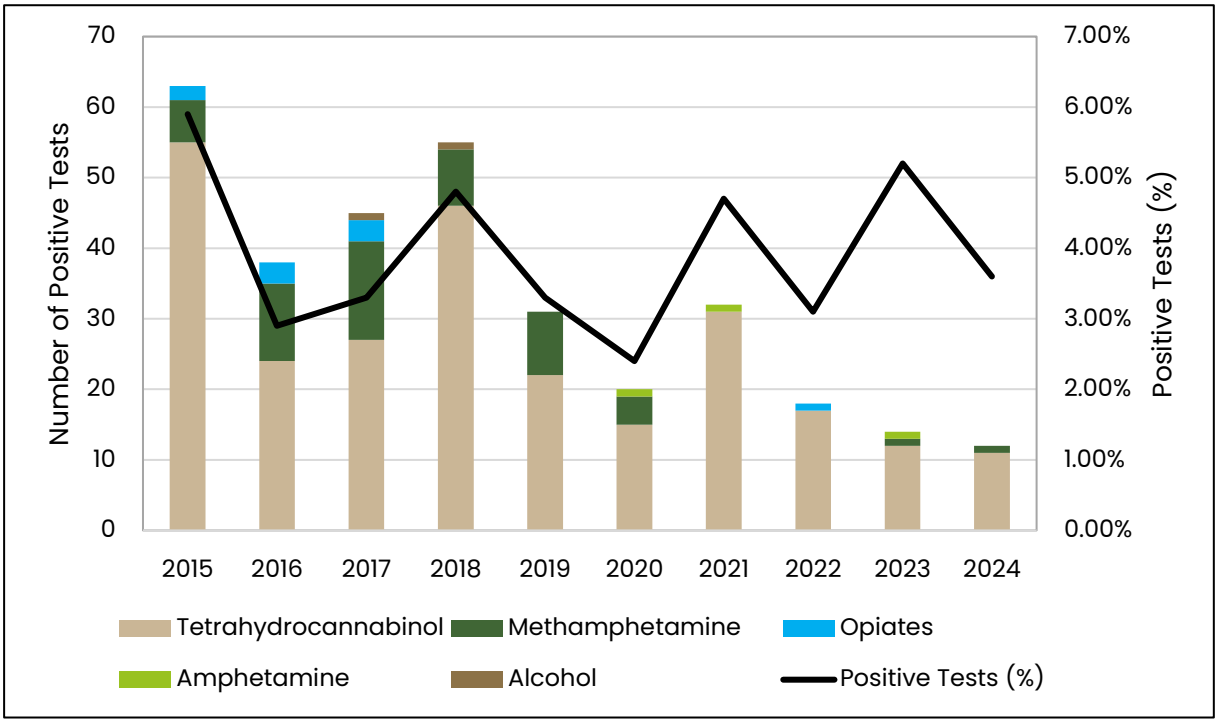
3.2 Critical risk management

PF Olsen remains focused on managing our highest-risk activities through strategic initiatives and strong leadership oversight. Among these key areas – working alone, operating ATVs, driving and fatigue management, manual tree felling, and working around live power lines – require continuous attention to ensure worker safety. By maintaining a proactive approach to critical risk management, PF Olsen ensures these high-risk activities are managed effectively, protecting both workers and operations.

3.3 Drug and alcohol testing

Of the 335 random drug and alcohol tests carried out in 2024, 3.6% returned a positive result – a reduction from 5.2% in 2023. In comparison, industry rates were higher – 4.8% according to The Drug Detection Agency – TDDA results).

PF Olsen's Drug and Alcohol Testing Rates



3.4 Other lead indicators

- Audit Completion Rates exceeded 90% in most snap-shot audits throughout the year, with improvements across our two main audit categories (CMA/ASA).
- We continued to see a positive trend in vehicle safety, with a further decline in high-speed events and overall risk points—a national benchmark provided by our GPS monitoring partner, Argus Tracking. In July 2024, we recorded our best result to date with just 0.24 risk points per 100 km driven. While this indicator increased in December (0.57), the national average across 2024 was significantly higher at 1.04 RP/100 km.
- Incident reports decreased by 24.4%, which corresponded with an 18% reduction in hours worked.
- We held a general health and safety meeting in December for all operations staff to review actions from an earlier ATV incident. We also provided a training session on PCBU interactions that introduced a WhatsApp PCBU communication process. We took safety messages directly to crews at their worksites. This ensured strong engagement and reinforced our commitment to safety leadership from the outset of 2024.

4. Ecological Management and Monitoring

4.1 Protected ecosystems

A core requirement of FSC certification is the protection and management of indigenous flora and fauna.

Prior to a forest being certified in the PF Olsen FSC Group Scheme, a comprehensive effort is made to identify, assess, and document all indigenous ecosystems within the forest. These areas are mapped and recorded in the PF Olsen Indigenous Vegetation / Protected Ecosystem Database.

Each area is classified by vegetation type, e.g. terrestrial, riparian, wetland, or waterbody and assessed to determine whether it is protected under other mechanisms (e.g. Significant Natural Areas, Ngā Whenua Rāhui, or QEII Trust covenants).

Management plans may also be developed in collaboration with ecologists for special areas. These plans may include:

- Restoration activities (e.g. indigenous planting),
- Protection measures (e.g. weed control or fencing), and
- Monitoring programmes (e.g. bat monitoring or drone-based vegetation surveys).

Details of the management and monitoring activities for each forest are included in the appendices of the relevant Specific Forest Management Plan.

4.2 High Conservation Value Forest (HCVF) areas

Under the FSC Principles and Criteria, any indigenous vegetation within the forest estate that meets the FSC definition of a High Conservation Value (HCV) area must be identified. Once identified, management plans must be developed and implemented to ensure the HCV is either maintained or enhanced.

HCV's are defined as areas that possess one or more of the following attributes:

- HCV1 - Species diversity: Concentrations of biological diversity including endemic species, and rare, threatened or endangered species, that are significant* at global, regional or national levels.
- HCV2 – Landscape-level ecosystems and mosaics: Intact Forest Landscapes and large landscape-level ecosystems and ecosystem mosaics that are significant at global, regional or national levels, and that contain viable populations of the great majority of the naturally occurring species in natural patterns of distribution and abundance.

- **HCV3 – Ecosystems and habitats:** Rare, threatened or endangered ecosystems, habitats or refugia.
- **HCV4 – Critical ecosystem services:** Basic ecosystem services in critical situations, including protection of water catchments and control of erosion of vulnerable soils.
- **HCV5 – Community needs:** Sites and resources fundamental for satisfying the basic necessities of local communities or indigenous peoples (for livelihoods, health, nutrition, water, etc.) identified through engagement with these communities or indigenous peoples.
- **HCV6 – Cultural values:** Sites, resources, habitats, and landscapes of global or national cultural, archaeological, or historical significance, and/or of critical cultural, ecological, economic, or religious/sacred importance for the traditional cultures of local communities or indigenous peoples, identified though engagement with these local communities or indigenous peoples.

The table below outlines the areas of High Conservation Value Forest (HCVF) identified within each forest, totalling approximately 590 hectares. Management and monitoring activities specific to each HCVF area are detailed in the appendices of the relevant Specific Forest Management Plan.

HCVF areas (ha) by FSC forest

Forest	HCV1	HCV2	HCV3	HCV4	HCV5	HCV6	Total Area (ha)
Bookers			11.8				11.8
Kingsland			23.4				23.4
Maitai	4.6				2.1		6.7
Pinnacle Pine			2.7				2.7
Rabbit Island	6.1		5.4				11.5
Te Rata			535.0				535.0
Total area (ha)	10.7	0.0	578.3	0.0	2.1	0.0	591.1

4.3 Threatened Species

Sightings of New Zealand's threatened species within PF Olsen managed forests are recorded in iNaturalist and linked to the 'Biodiversity in Plantations' project (New Zealand plantation forest industry database) to record information on the species that use and/or are present in our plantation forests.

During 2024 19 observations were recorded, six in certified forests, as shown in the following table. While not reflected in the sightings, Weka and Kārearea and now common sights in

forests. Around 3,000 observations have been made by PF Olsen staff, across all PF Olsen managed forests, since records began.

iNaturalist observations in FSC Group Scheme forests in 2024

Species	No. of Observations	Taxon
Greater Binweed	1	Plant
Greater Quaking Grass	1	Plant
Kārearea (New Zealand Falcon)	1	Bird
New Zealand Red Admiral	1	Butterfly
Tui	1	Bird
Weka	1	Bird

Data logged in iNaturalist is used to assist in identifying where management requirements and or specialist advice might be needed prior to planned forestry operations.

4.4 Water quality

Water quality monitoring is a common practice among forestry companies in Aotearoa New Zealand. It is undertaken both to better understand the potential impacts of plantation forestry operations on receiving waterbodies, and to meet the requirements of resource consent conditions.

Monitoring may be conducted as a one-off assessment or as part of a long-term programme. Parameters commonly measured include:

- Environmental DNA (eDNA), used to detect the presence of species in a catchment.
- Macroinvertebrate Community Index (MCI), a biological indicator of stream health.
- Water clarity, an indicator of sedimentation levels.

Where feasible, long-term monitoring sites are paired with reference sites under alternative land uses such as indigenous forest, agricultural land, or recently harvested forest compared with mid-rotation. This comparative approach helps to isolate the effects of plantation forestry and better understand how different land uses influence water quality over time.

One of the most well-known examples of this approach in New Zealand is the Pakuratahi Land Use Study, which has provided valuable insights into the relationships between land use and water quality.

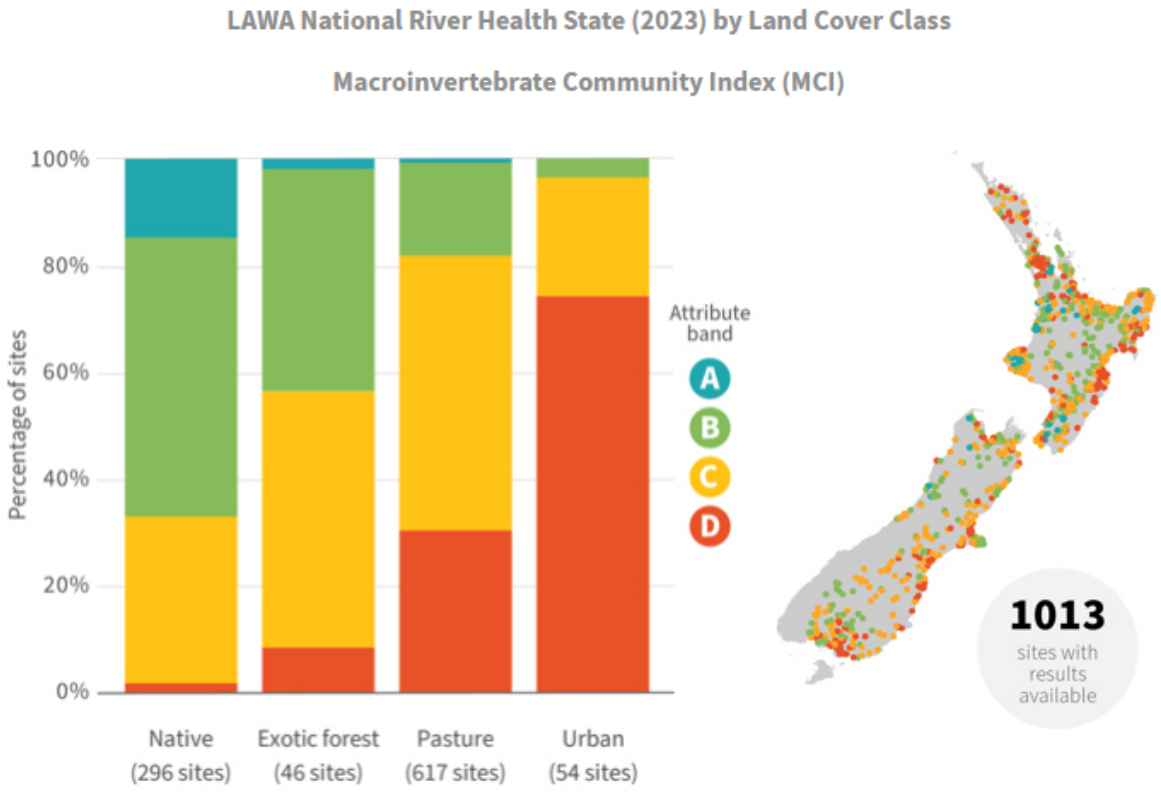
4.5 LAWA River Water Quality – National Picture Summary 2021

Regional and District Councils contribute environmental monitoring data to the Land, Air, Water Aotearoa (LAWA) database. Through the LAWA website, users can explore environmental data by region, individual monitoring site, or at a national scale.

The LAWA River Quality page provides a national summary of river health, with water quality results reported in accordance with the National Objectives Framework (NOF), part of the *National Policy Statement for Freshwater Management (NPS-FM)*. NOF bands are calculated using median values over a five-year period and categorised from A (Good) to E (Poor), depending on the attribute and its thresholds for ecosystem or human health.

Monitoring site locations are shown on interactive maps, and results are reported by land cover class—such as indigenous forest, exotic plantation forest, or pasture.

The LAWA graph below displays the current state of New Zealand's rivers and streams using the Macroinvertebrate Community Index (MCI) as the primary indicator.



A notable trend is the strong correlation in MCI scores between catchments dominated by indigenous forest and those under plantation forestry. Both land cover types consistently achieve higher water quality scores than pastoral land, a pattern also reflected across other reported attributes:

- Ammonia and nitrate toxicity
- Dissolved reactive phosphorus
- Water clarity
- E. coli concentrations

Across all indicators in the national summary, the best-performing streams are typically found in areas with indigenous vegetation cover, followed by exotic forest, and then agricultural land.

The LAWA website[1] reports that rivers and streams with catchments classified as being predominantly indigenous vegetation make up 48% of Aotearoa New Zealand's channel length, while pasture is also common making up 45%. Exotic forestry streams (5% of channel length) and urban streams (1%) are less common. While urban streams generally have the worst water quality, they are relatively uncommon throughout New Zealand.

Proportionally, across all four indicators, monitoring sites within indigenous forests are under-represented (approximately 20% of the sample size), while pasture and urban sampling sites are over-represented (50 – 65% and 9% of the sample sizes respectively). Exotic forestry water monitoring sites are also under-represented for three of the four national indicators.

Although catchments in the indigenous vegetation land cover class are the least affected by our activities, they are not fully representative of natural conditions because, their definition allows them to include some urban, pasture, and exotic forest land cover in the upstream catchment, if the catchment is still predominantly in indigenous vegetation. This might explain why some "native vegetation" sites are in the "D" band. Geological differences among streams may also explain high concentrations for some parameters, for example, phosphorus concentrations tend to be naturally high in catchments draining volcanic soils.

4.6 Environmental DNA (eDNA)

Environmental DNA (eDNA) testing is increasingly being used to assess biodiversity within freshwater catchments.

eDNA refers to genetic material shed by organisms into their environment through skin, hair, scales, bodily fluids, or faeces. This DNA can be extracted from water samples and analysed to detect the likely presence and distribution of species across both time and space. Using this method, eDNA tests can detect a wide range of organisms (including fish, birds, mammals, reptiles, amphibians, plants, fungi, protists, and bacteria) within each sample submitted.

[1] https://www.lawa.org.nz/explore-data/river-quality

It is important to note that eDNA tests indicate only the presence or absence of a species within the sampled catchment. They do not provide information on population size or abundance. All results are uploaded into a national eDNA database (national dataset) to support broader ecological monitoring efforts.

The table below presents eDNA results from three locations within a PF Olsen managed forest.

Species	Control (indigenous forest)	Indigenous riparian 1	Indigenous riparian 2	Plantation forest riparian
Aquatic Oligochaete Worm		391	42	377
Aquatic Snails				42
Bullies				1,920
Caddisfly		4		
Common Brushtail Possum	25	212	833	41
Common Chaffinch		33	24	
Common or Cran's Bully				2,231
Endemic NZ Caddisfly		21		20
Endemic NZ Dobsonfly		24		37
Goat	61			
Hominids			30	86
Human[2]	3,402	327	899	5,423
Hydra		18		35
Longfin Eel	40	287		163
Marsh Springtail			10	
Mayflies	44			
Micro Caddisfly		18		
Mud Snails		242	175	1,175
Oligochaete worm	21	1,413		350
Red Damselfly		4		
Sheep			26	
Shortfin Eel		721		15
Small Swimming Mayfly		325		

Species detected are listed with the corresponding number of DNA sequences identified. A higher number of sequences generally indicates a greater likelihood of the species being

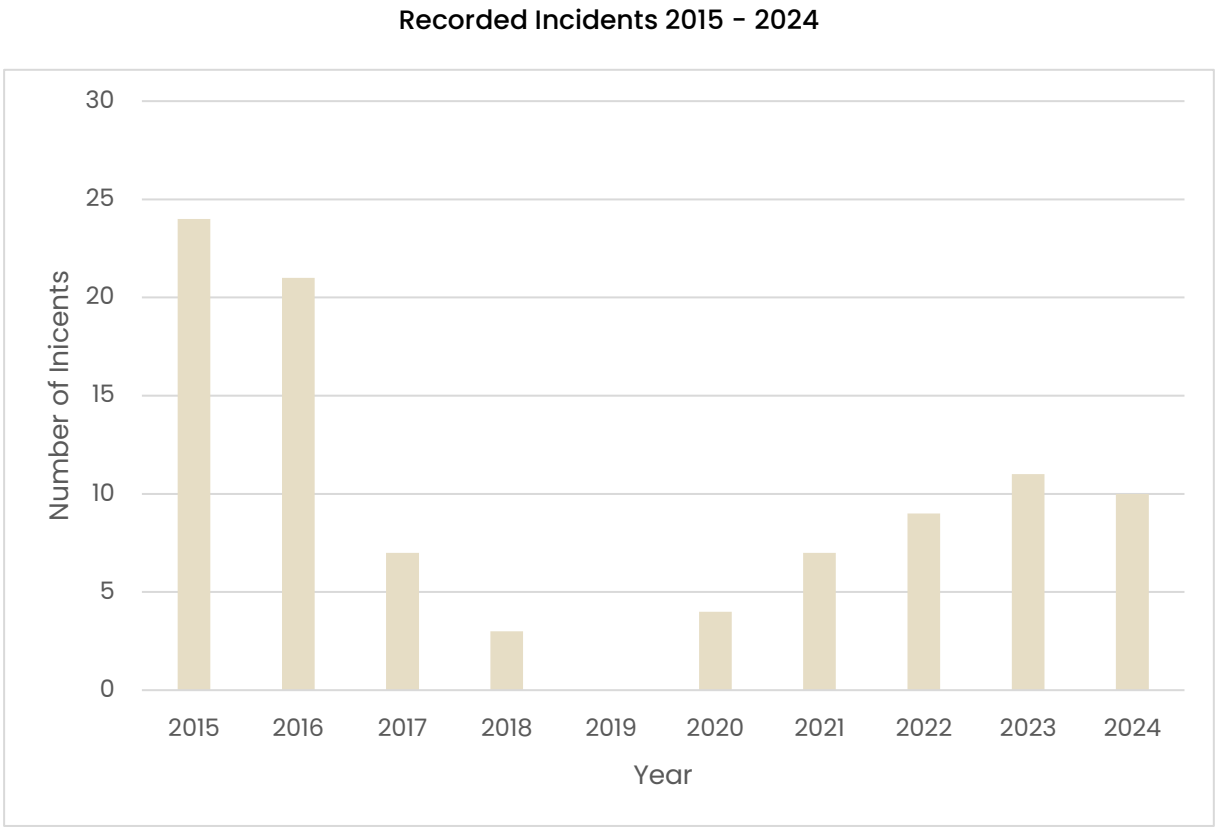
[2] Despite rigorous sampling protocols, trace contamination with human DNA is common and is reflected in consistently high human sequence counts across all samples.

present at the sampling location. Lower sequence counts may reflect either a limited local presence or the possibility of indirect DNA transfer (e.g. through a bird consuming an insect elsewhere and depositing DNA via faeces). The reliability of presence likelihood is strengthened through the use of replicate sampling.

5. Environmental Incidents

All staff and contractors are responsible for reporting and responding to environmental incidents. While many incidents are weather-related, e.g. damage caused by storm events, others result from human activities, such as chemical spills.

The graph below presents the number of environmental incidents recorded between 2015 and 2024 within forests managed under PF Olsen's FSC Group Scheme. The downward trend in recorded incidents from the mid-2010s through to the 2020s aligns with a reduction in the total forest area managed by PF Olsen over the same period.



All incidents are reviewed by senior management to ensure that the incident is fully understood and has been appropriately controlled and mitigated, and learnings shared.

6. Resource Consents and Archaeological Authorities

6.1 Archaeological Sites

Records of archaeological sites and historic places are maintained in the New Zealand Archaeological Association (NZAA) archaeological site recording scheme, accessible via the public ArchSite database: https://nzaa-archsite.hub.arcgis.com/pages/public-map.

If an archaeological site is discovered or suspected within a forest, PF Olsen follows its established archaeological site management protocols. Site-specific management plans are developed in collaboration with archaeologists and key stakeholders, such as Heritage New Zealand Pouhere Taonga (HNZPT), iwi, or other relevant parties may also be involved.

Where there is potential for damage, disturbance, or destruction of a site, PF Olsen will seek an Authority to Modify or Destroy from Heritage New Zealand, in accordance with the Heritage New Zealand Pouhere Taonga Act 2014. In some cases, a resource consent to modify an archaeological site may also be required from the appropriate District or Regional Council.

Prior to any harvesting or associated earthworks, checks must be completed to confirm the presence, exact location, and boundaries of any archaeological sites to ensure they are appropriately protected.

6.2 Resource Consents

Forestry operations are regulated under the Resource Management Act 1991, including the National Environmental Standards for Commercial Forestry (NES-CF), as well as relevant Regional and District Council rules.

Where proposed forestry activities do not meet the criteria for permitted activities under the NES-CF or the applicable regional or district plan, resource consent is obtained prior to undertaking the activity.

Electronic copies of all resource consents are maintained by PF Olsen, and printed copies are made available on-site for operational reference.

Compliance with consent conditions is monitored internally and managed by operational staff to ensure all activities are carried out in accordance with regulatory requirements.

6.3 Compliance Monitoring

There are 78 regional, unitary, and district councils in New Zealand, all of which have the authority to audit forestry operations to ensure compliance with resource consent conditions and permitted activity regulations.

Compliance monitoring is most commonly carried out by regional and unitary councils, particularly in relation to activities governed by the Resource Management Act 1991 and the National Environmental Standards for Commercial Forestry (NES-CF).

In addition, Heritage New Zealand Pouhere Taonga may undertake compliance monitoring related to the conditions of any Archaeological Authority issued under the Heritage New Zealand Pouhere Taonga Act 2014.

PF Olsen records the compliance outcomes of these audits. Regulatory authorities report their compliance inspections differently (requiring some interpretation of the compliance outcome to enable standardised reporting across PF Olsen). The data provides an independent assessment of compliance.

During 2024, three councils undertook nine compliance monitoring inspections of PF Olsen managed operations within our certified forests (six full compliance and three moderate non-compliance ratings).

Compliance monitoring results for all PF Olsen managed forests in 2024

Council	Full compliance	Low risk non-compliance	Moderate non-compliance	Significant non-compliance	Total
Northland Regional Council	4				4
Gisborne District Council			3		3
Tasman District Council	2				2
Total	**6**	**0**	**3**	**0**	**9**

7. Chemicals

7.1 FSC Highly Hazardous Pesticides

FSC requires certificate holders to identify and implement the best feasible measures to reduce both the use and volume of chemical pesticides in FSC-certified forests, and to prevent, minimise, and mitigate any associated environmental and social impacts.

FSC's pesticides policy is regularly updated to reflect evolving global requirements, scientific achievements and emerging technologies. The policy, which considers both global differences and social, environmental and economic needs, outlines FSC's commitment to ensuring that:

- the use of highly hazardous pesticides (HHP) is reduced and managed responsibly where no viable alternatives exist.
- the use of the most hazardous chemical pesticides is progressively eliminated

FSC maintains a list of highly hazardous pesticides; classified as prohibited (e.g. Arsenic, DDT), highly restricted (e.g. brodifacoum) and restricted (e.g. cuprous oxide).

Where restricted substances are used, forest managers must complete an Environmental and Social Risk Assessment (ESRA) for each chemical prior to application.

In New Zealand, the forest industry has collaborated to produce standardised ESRAs for many of the key chemicals used in plantation forestry. These assessments support consistent and responsible chemical management across FSC-certified operations.

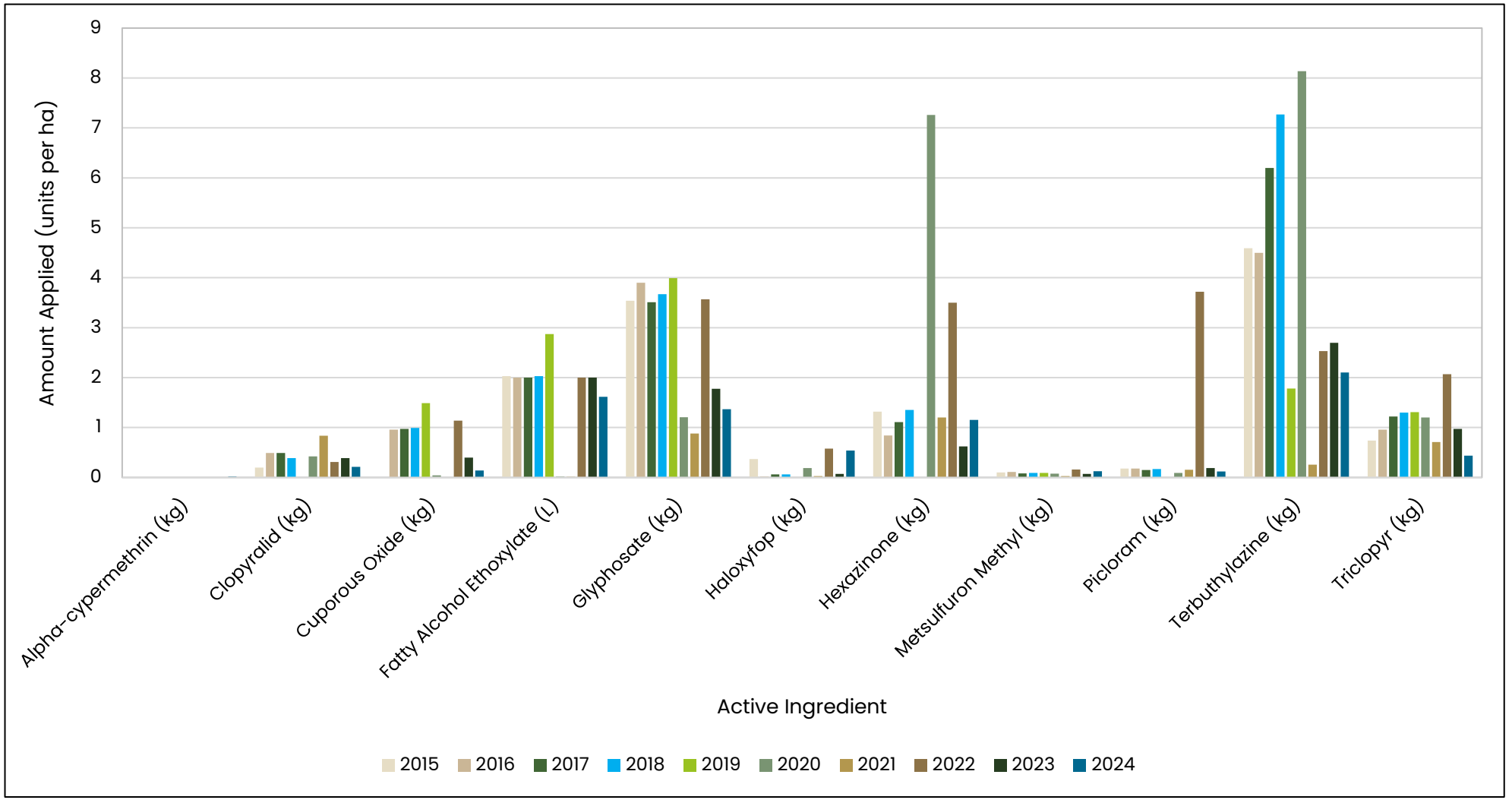
7.2 Chemical use in certified forests

PF Olsen maintains detailed records of chemical use within forests, including data on total quantities applied, treatment areas, and application methods. The majority of chemical use is for weed control, although some chemicals—such as cuprous oxide—are applied for crop protection, for example in the management of Dothistroma needle blight.

The graph below presents the quantities of key plantation forestry chemicals used over time. A high degree of year-to-year variability is evident in the data. This variation reflects several influencing factors, including:

- Changes in the total area of forest within the PF Olsen FSC Group Scheme.
- The type of application method used (e.g. aerial spraying or targeted spot spraying)
- Climatic conditions, which influence weed species prevalence and growth rates.

Chemicals used in FSC managed forests (quantity applied per hectare)



In addition to operational needs, chemical application is sometimes required to meet legal obligations, such as controlling pest weeds in accordance with Regional Pest Management Plans.

7.3 Research and innovation in chemical use

PF Olsen has provided financial support to industry-led cooperative research programmes aimed at improving the efficacy of vegetation management while reducing reliance on chemical herbicides. This includes advancing the use of biological controls and investigating alternative FSC-compliant treatments.
Key areas of focus for this research included:

- Chemical safety characteristics.
- Identification of alternative FSC-compliant formulations and treatments.
- Development and promotion of best practice tools for vegetation management.

As part of this work, a number of alternative active ingredients were tested against key plantation establishment weeds. This led to a shortlist of promising alternatives, which were advanced to field testing during the first year of a three-year Industry / Sustainable Farming Fund (SFF) project (Project 12/038) that commenced in 2012.

The field trials evaluated a range of chemical formulations, including:

- Mixtures free from terbuthylazine and hexazinone
- Mixtures containing reduced quantities of terbuthylazine
- A control treatment using Valzine (a standard industry mix of terbuthylazine and hexazinone)

Project outcomes confirmed that the current industry standards using terbuthylazine and hexazinone remained the most effective for weed control. However, several alternative active ingredients showed promise under specific conditions, warranting further investigation. The information has been published and may be accessed from the Sustainable Farming Fund website, Scion Research website and NZ Forest Owners Association website. The published reports can be accessed via the links below:

- Minimising the environmental impact of weed management in New Zealand's planted forests
- Final report on field trials

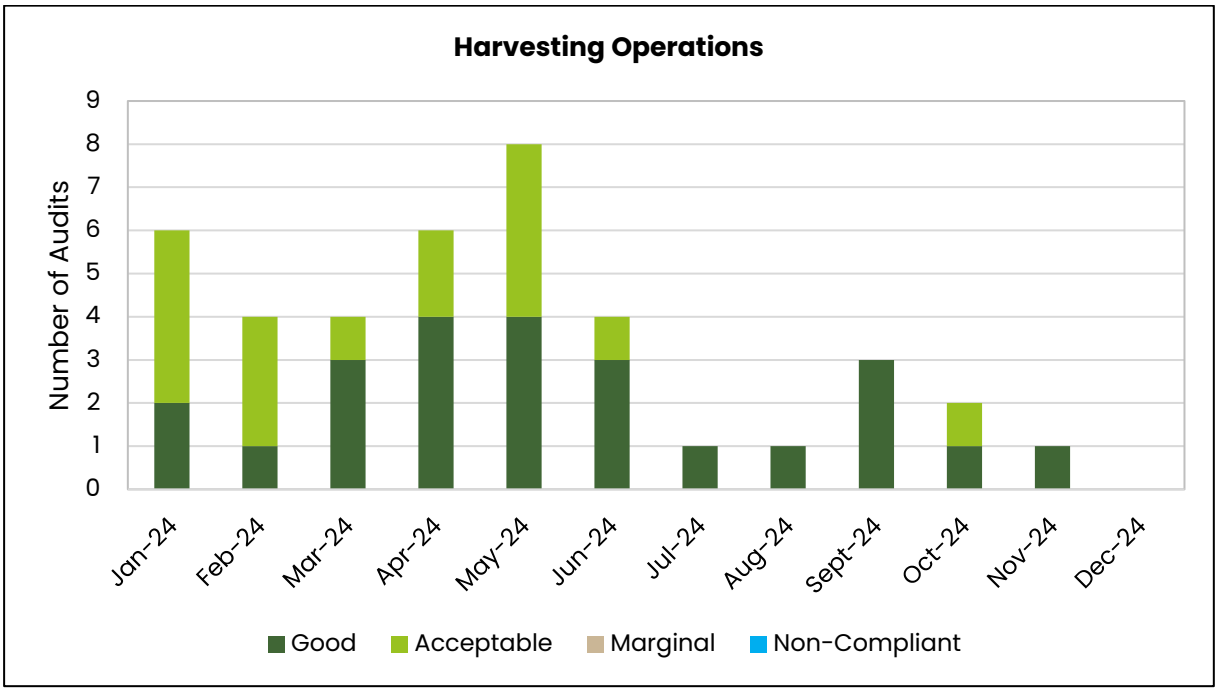
Since the conclusion of the SFF project, research funding has continued through a national levy on all forest growers, administered by the Forest Growers Levy Trust. Current research has shifted focus to the environmental fate of herbicides, particularly the leaching potential of hexazinone and terbuthylazine in vulnerable soil types.

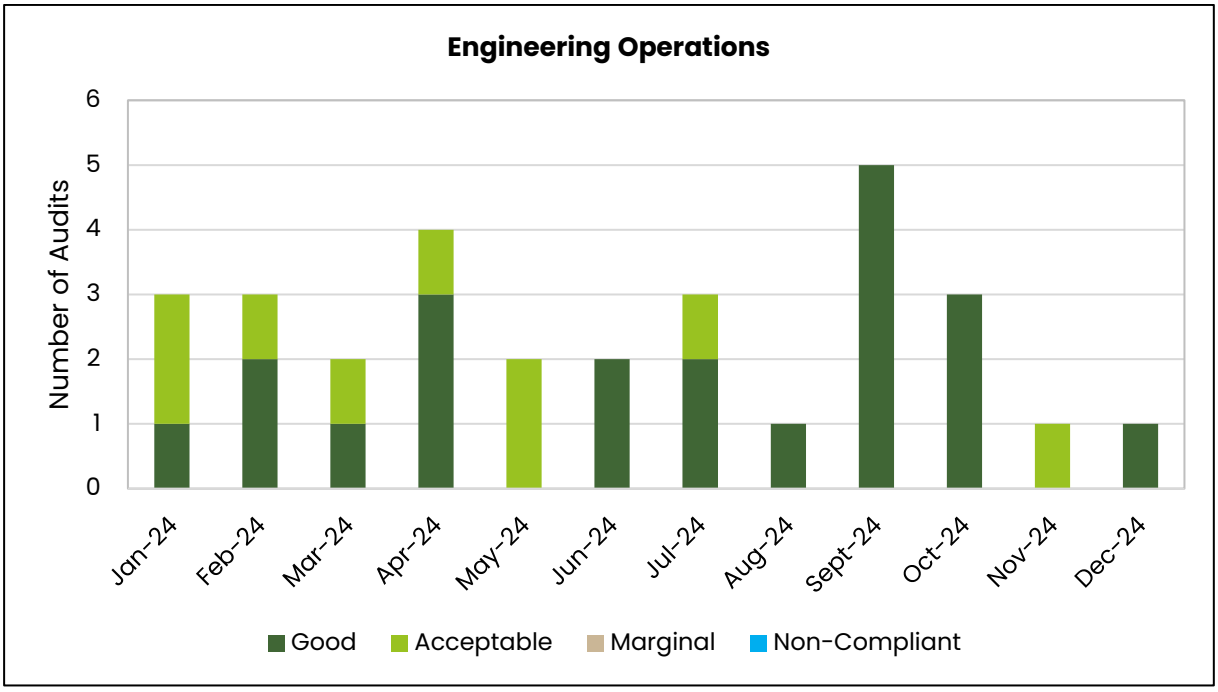
In 2015, the scope was expanded to include copper fungicides, in response to their new classification as highly hazardous pesticides under FSC's Pesticide Policy. In all cases, the trials reflected standard operational procedures and, while there was an initial detectable spike in presence in water in the hours immediately after application, rates degraded very quickly. The results concluded that human health risks were very low, as were the risk of impacts on aquatic fauna. Specifically, for copper, the report conclusions were:

- Copper was only detected for a few hours on the day of application.
- NZ drinking water standards (2,000 ug L-1) were not exceeded.
- FSC standard (LC50 18.9 ug L-1 for 48 hours) – concentrations exceeded the level but for less than 2 hours.
- ANZECC interim sediment quality guideline trigger values were not exceeded.

8. Operational Monitoring

PF Olsen staff carry out the monitoring of harvesting, engineering and mechanical land preparation operations on a fortnightly or monthly basis, depending on the risk level of the operation. Staff also carry out post-storm event checks as required. The below graphs show the monitoring results for operations in certified forests. No mechanical land preparation operations were carried out in certified forests in 2024.





9. Recreational Use

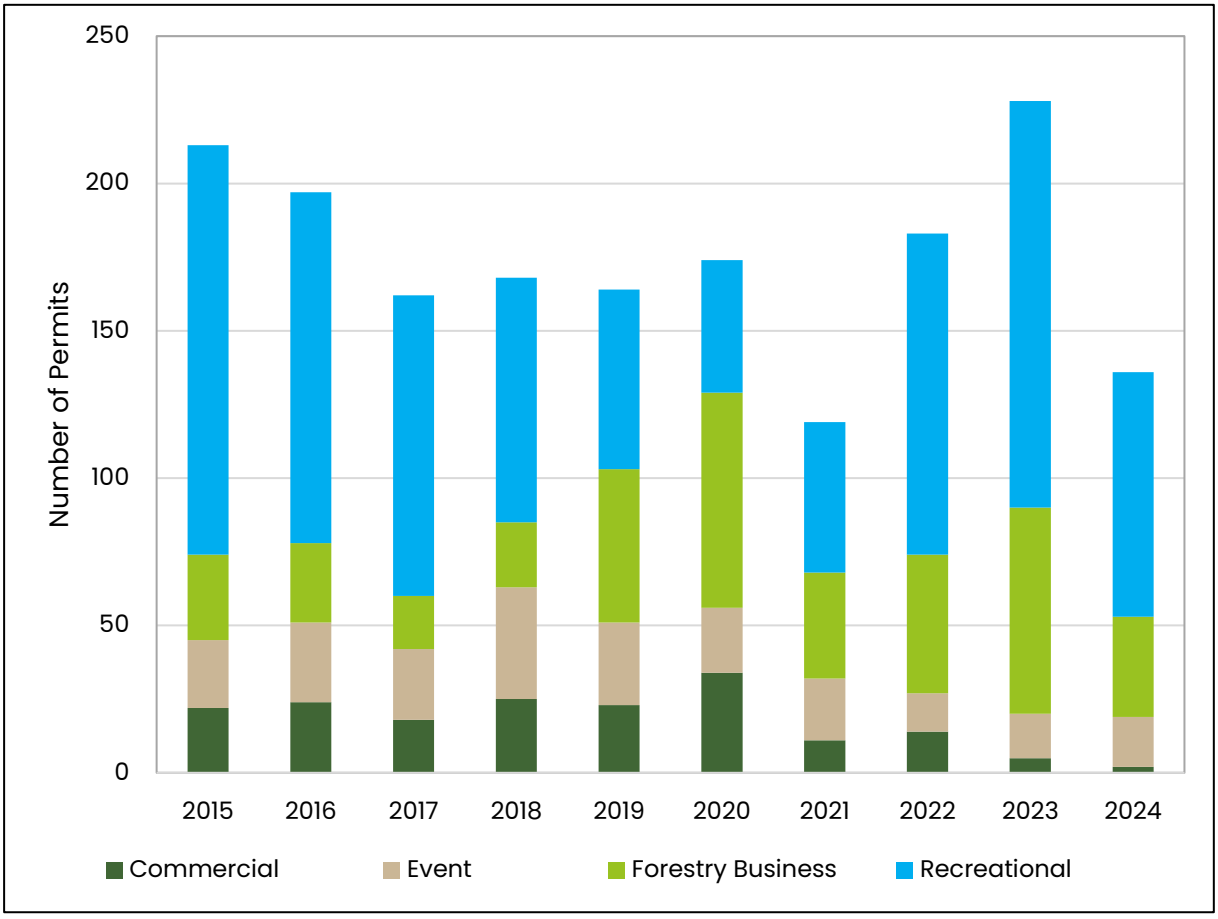
9.1 Permits

Recreational access to forests managed under the PF Olsen FSC Group Scheme is permitted, provided it does not conflict with operational requirements or safety protocols. Recreational activities range from passive uses such as walking or birdwatching, to more active pursuits including hunting, four-wheel driving, or motorbike riding.

All recreational access is managed through a permit system. For smaller Group Scheme members, permits may be issued directly by the member or facilitated through PF Olsen's regional offices. All permit information is recorded and maintained in PF Olsen's internal databases.

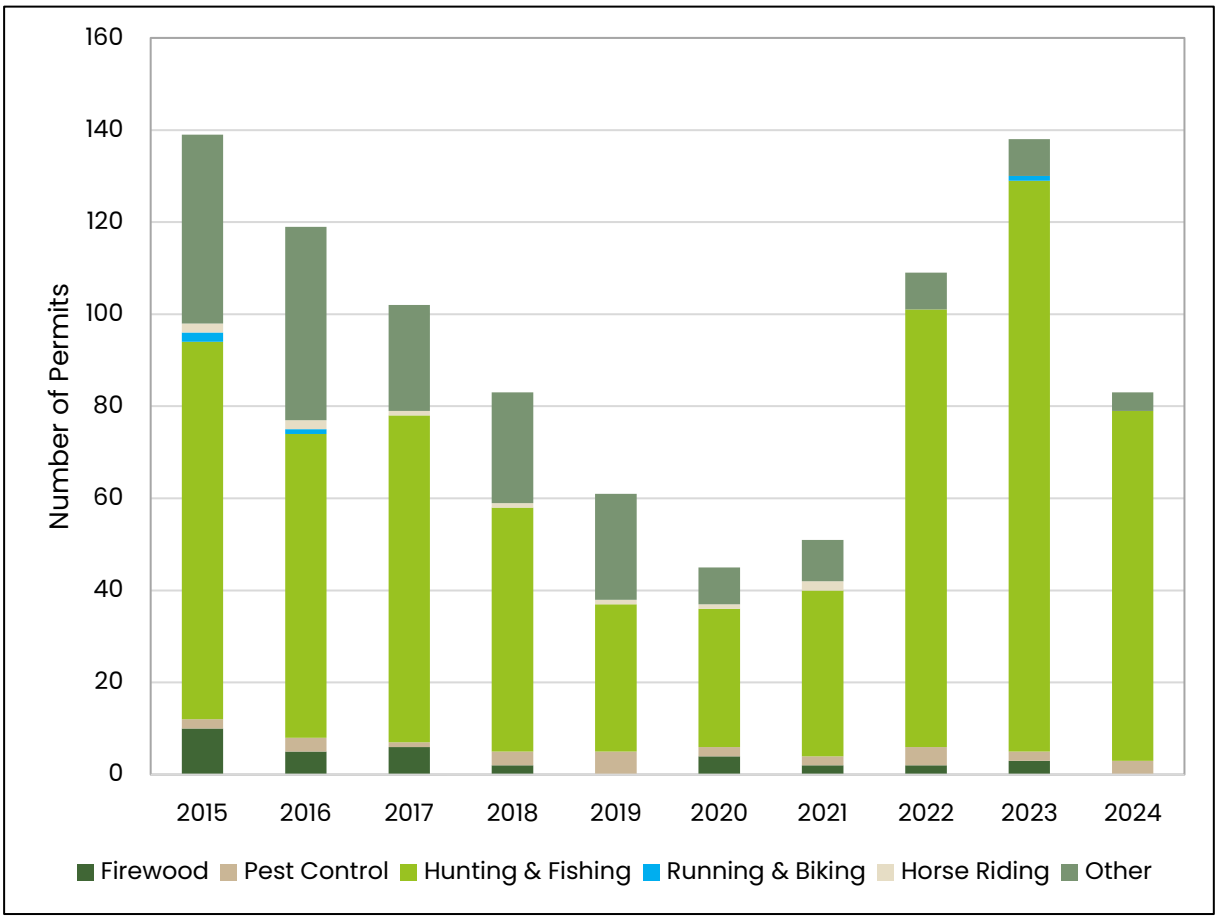
The graph below presents the relative proportions of recreational permit types issued over the past ten years within certified forests.

All permits by type issued for certified forests



Permits issued for recreational use are the most common, followed by those issued to contractors and service providers for forestry business. Hunting permits make up the majority of recreational permits issued as shown in the graph below.

Recreational permits issued for certified forests



10. 2025 Outlook

10.1 PF Olsen FSC Group Scheme

The PF Olsen FSC Group Scheme is stable, with one member indicating their desire to hold their own certificate in the future. Interest in joining FSC has slowed over the past 12 months, but there is still interest nonetheless. We expect to bring additional forest areas into FSC certification in Northland, the Central North Island (Waikato and Bay of Plenty), Marlborough, Otago and Southland in 2025.

10.2 Operating Environment

The outlook for New Zealand's plantation forestry sector over the next five years (2025–2030) is expected to be shaped by a combination of global market dynamics, domestic policy shifts (which have been significant and sustained for the previous three years), and industry transformation initiatives. Key factors influencing the sector include:

Global Demand and Export Markets

The NZ Treasury projects global consumption of roundwood to rise by 6.4% between 2025 and 2030, driven by economic growth, urbanisation, and the transition to a bioeconomy. This increased demand is expected to support gradual price growth for New Zealand's forestry exports.

However, the performance of New Zealand’s forestry exports will continue to depend on key markets, particularly China's construction and housing sector. While export volumes are expected to rise slightly in the next few years, constraints in log availability and a strategic shift towards domestic processing may limit long-term export growth.

Domestic Processing and Industry Transformation

The New Zealand government has launched the Forestry and Wood Processing Industry Transformation Plan (ITP) to enhance domestic processing capabilities and reduce reliance on raw log exports. Key initiatives include:

- Increasing wood processing by 3.5 million cubic metres (25%) by 2030.
- Growing export earnings from value-added wood products by $600 million by 2040.
- Establishing New Zealand’s first postgraduate qualification in wood processing.
- Developing a business case for a facility to support the commercialization of bioproducts.

These initiatives aim to create more employment opportunities, drive economic growth, and support the transition to a low-emissions economy.

Regulatory Environment and Land Use Policies

The termination of the previous government's billion trees planting programme and adjustments to the Overseas Investment Office (OIO) policy have constrained conversions from farmland to forestry under foreign ownership. Changes have also been signalled to the National Environmental Standards for Commercial Forestry and the Resource Management Act reforms are progressing at pace.

Workforce Development and Technological Advancements

The forestry sector continues to shift towards automation and the adoption of advanced technologies, such as AI and drone technology. While these advancements are expected to improve efficiency, they may also lead to a reduction in employment in certain areas.

To address the evolving skill requirements, the government and industry stakeholders are investing in workforce development initiatives, including the introduction of new qualifications and training programs to equip workers with the necessary skills for modern forestry operations.

Environmental Considerations and Climate Change Mitigation

Forestry plays a crucial role in New Zealand's climate change mitigation strategies, particularly through carbon sequestration. The government has set ambitious tree planting goals and is encouraging the use of forestry by-products for bioenergy and other low-carbon applications.

Conclusion

Over the next five years, commentators are signalling transformation, with a focus on increasing domestic processing, enhancing sustainability, and adapting to changing market and regulatory conditions. While global demand presents opportunities for growth, the sector will need to navigate domestic policy shifts, technological advancements, and environmental considerations to ensure long-term viability and resilience.