Media Release
13 April 2015

Tassal Sustainability Report 2014

Tasmanian salmon producer Tassal has published its fourth Sustainability Report that reports on all of the company's operations.

Tassal chief executive officer and managing director Mark Ryan said the company was committed to transparency.

"Through all of the sustainability reports that we have produced, including the latest report released today, we have demonstrated a tangible commitment to opening the doors of our business to external audiences," he said.

"We have made a tremendous amount of progress in the sustainability space over the past four years.

"Our partnership with WWF Australia has been pivotal, as has the contribution of researchers, regulators, peak bodies, community members and mentors."

Mr Ryan said it had been a "solid year" focusing on achieving outcomes supporting Tassal's transformation to a fully sustaining organisation.

"Progress made towards full Australian Stewardship Council (ASC) certification and securing OHSAS 18001 and AS 4801 workplace health and safety certification were two outstanding achievements of the reporting period," he said.

"We have achieved our target of full ASC certification across all marine sites, which was a first for the global salmon farming industry.

"In addition, we are one of only two aquaculture companies that are certified to the OHSAS 18001 and AS 4801 standards in Australia."

Mr Ryan said the company remained strongly committed to ongoing dialogue with stakeholders, proactively engaging with all stakeholders who were known to Tassal.

"Tassal has developed an adaptive Stakeholder Engagement Program to ensure than are ample opportunities for stakeholders, including the communities in which we operate, interest groups and individuals, to engage with us about our activities," he said.

Mr Ryan said during the reporting period, Tassal proposed two amendments to existing marine farming zones in the south east.

“Tassal expanded on its existing stakeholder engagement activities and conducted a number of community meetings, workshops and information sessions,” he said.

“As a direct result of feedback received, Tassal modified both amendments to align better with stakeholder expectations.”

The 2013/14 Sustainability Report is aligned with the Global Reporting Initiative’s (GRI) framework for sustainability reporting. It is Tassal’s first report to use the GRI’s latest G4 reporting guidelines.

The report notes that Tassal remains committed to operating responsibly alongside wildlife that are the rightful inhabitants of the environments in which Tassal operates.

Mr Ryan said sustainability was a key business driver and an area that was consistently increasing in consumer importance.

“Our focus on sustainability and gaining ASC accreditation across all of our farms is a demonstration of our commitment to the environment and fish health.”

Tassal is an ASX-listed public company that employs more than 950 people.

It operates two directly-controlled hatcheries, six marine farming locations, three processing facilities, two retail outlets and 2000 points of “retail presence”.

Released by:

Nicolas Turner Tel: 6210 5206 or 0418 538 865

tassal®

Sustainability Report 2014

About this Report

This report is Tassal's fourth annual sustainability report aligned with the Global Reporting Initiative's (GRI) framework for sustainability reporting and is our first report to utilise the G4 version. The report outlines our performance on sustainability topics that are material to Tassal's operations for the 2013/2014 financial year (1st July 2013 to 30th June 2014), presented together with year on year data trends. The report has been compiled in accordance with the GRI's 'In Accordance-Core' reporting requirements and a GRI Content Index is included. Restatements of previous year's data are referred to throughout the report where necessary. All financial statements for all of Tassal's entities are available to view in the Tassal Group Limited Annual Report 2014 at http://www.tassal.com.au/annual-reports/.

Defining Report Content

The GRI's 'Principles for Defining Report Content' were applied in defining the report content: Materiality, Stakeholder Inclusiveness, the Sustainability Context and Completeness. Material topics identified through stakeholder engagement have been addressed as is evidenced in the report content. We believe that we have represented Tassal's activities within the broader context of sustainability, that is, our short, medium and long term impacts and influence on the environment and society both at a local and global level.

Boundary and Scope

Our reporting boundary includes Tassal's entire operations. The scope of reporting has not changed significantly apart from the streamlining of material Aspects to G4 requirements. The only significant change during the reporting year was the Macquarie Harbour expansion which is detailed throughout the report. Specifically, environmental and animal welfare topics span our Marine Operations, Hatcheries, and Processing departments, and human resource and quality span all of the business. Safety data includes contractors. All operations are located in Australia.

External Assurance

External assurance was not sought for this report, however, all financial and food quality data is externally audited. In addition, our marine farming and hatchery operations data is externally assured through the Aquaculture Stewardship Council (ASC) certification which is currently being implemented across all Tassal sites. Marine farming operations data is also externally assured through the Best Aquaculture Practices (BAP) certification, which we have maintained across all farming regions. Symbols are used throughout the report to easily identify data that has been assured. Third party verification (not formal assurance) of reporting against the GRI framework, was also conducted by sustainability consultancy ZOOiD.

Tassal Group Limited
ACN 106 067 270
All correspondence to:
GPO Box 1645
Hobart Tasmania Australia 7001
Email: tassal@tassal.com.au
Web: www.tassal.com.au

Awards

Seafood Intelligence International Benchmarking – Number One

Tassal was benchmarked as the world's top Salmon farming company in corporate, social and environmental reporting by Seafood Intelligence.com, an independent international seafood market intelligence news and information service. Tassal improved one place from being ranked second in the previous reporting year.

The seafood intelligence report is published annually, and is a comprehensive and technically detailed review of the global Salmon and trout farming industry. The report is designed to help key players and stakeholders (including environmental NGOs and retailers) assess the level of proactive, and voluntary transparency and communication displayed by Salmon farmers worldwide as they relate to corporate, social and environmental sustainability.

2013 National Seafood Industry Award

The National Seafood Industry Award in the large business category award was presented to Tassal in recognition of demonstrated business growth, innovation, excellence in product, service and marketing and its substantial contribution to a positive future for the Australian seafood industry.

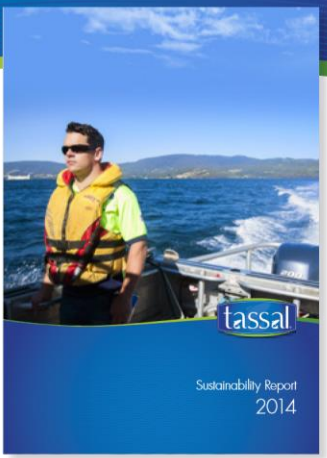
The National Seafood Industry Awards showcases the Australian seafood industry – its value to the national economy, its professionalism and its commitment to supplying some of the world's finest seafood to local, national and international markets. The awards recognise and celebrate the positive contributions of individuals, partnerships, businesses and organisations towards a sustainable and profitable Australian seafood industry. **Consumer Insight Award – Marketing Excellence (2013)**

Tassal's 'That's the Beauty of Tassal' campaign won the Consumer Insight award at the Australian Marketing Institute Marketing Excellence awards. The category judged, amongst other elements, an excellent use of research for brand enhancement and being able to identify and understand consumer insight to help consumers fulfil their needs.

Royal Hobart Fine Food Awards –2013

Tassal's range of branded value-added products performed well at the annual Royal Hobart Fine Food Awards, with the TQH Salmon Creamy Dill Pie taking out the Champion Award and Gold Medal.

A range of other TQH products won gold, silver and bronze awards.



Note to the report

Please see excerpt below from
media release, 15th November, 2014

Tasmanian company becomes first salmon farm to achieve "gold standard" ASC certification across all sites

Tasmanian salmon producer Tassal has today announced Aquaculture Stewardship Council (ASC) certification across all their salmon farming operations. In a first for any salmon company in the world, this achievement puts Tassal at the forefront of responsible global salmon aquaculture.

Tassal has been moving towards reaching full ASC certification since 2012, working in partnership with WWF-Australia to further develop its responsible aquaculture practices. WWF recognises ASC certification as the highest global standard available for responsibly farmed seafood; providing credible, third-party validation for practices which reduce impacts on the marine environment, protecting local surroundings and wildlife, and supporting local communities.

"Transparency was a key focus for us and is why we created our annual sustainability report, our ASC dashboard, and why we ensure our data is fully audited before being put into the public domain. This level of transparency is one which we feel genuinely sets us apart from others in the industry."

Speaking about Tassal's plans, Mark Ryan, CEO of Tassal said, "Sustainability is an inherent part of our culture and makes up a big part of who we are, as we aspire to world leadership in responsible aquaculture production.

"Our partnership with WWF-Australia has been an important part of working practically to achieve and maintain the highest levels of certification. To achieve ASC accreditation in all of our sites, ahead of our 2015 target, is something that we are extremely proud of." Mr Ryan said.

WWF-Australia CEO Dermot O'Gorman said that WWF supports voluntary certification schemes such as the ASC as a credible way for businesses to demonstrate sustainability and gain recognition in the marketplace, by meeting rigorous independent standards.

“Tassal’s demonstrated ability to reach ASC standards for all environmental criteria, including nutrient management and monitoring, is a great example of an Australian company leading in the global marketplace,” Mr O’Gorman said.

Contents

Message from our

Chairman and Managing Director

As we reflect back on another year and our collective journey as an organisation, we are also enthusiastically planning for the future. In Salmon farming we plan many, many years in advance - sometimes up to 15 years into the future. In this report, we highlight our selective breeding program which is all about us breeding a Salmon that thrives in Tasmanian waters, not only for now but long into the future.

Successful long term planning means identifying opportunities and assessing risks, but perhaps most importantly, it is about truly understanding our business and where it fits into the larger picture of people, planet, product, process and profit. In order to better understand our business and how we can achieve even better performance outcomes, we have introduced a Business Intelligence program. This company wide program looks to tap into existing and new data sources, and uses predictive analytics and visualisation tools to gain better market and environmental insights and ultimately improve decision making.

We have had another successful year on many fronts with the exception of the fatality that we discussed last year, which we will discuss in further detail. Ian's death is still very much with us all. We cannot state strongly enough the impact that this event has had on us all, and how it has made us even stronger in our resolve to work safely and look after each other. It has galvanised our continued focus on the safety culture of our organisation.

There is no denying that Tassal's culture as a company has evolved over the years in terms of our attention to detail, our shared belief in a caring attitude whether it be for a co-worker's safety, the health of the environment, the welfare of our fish, the satisfaction of our customers or in our pursuit of excellence.

Paying attention to the culture of our company is an important aspect of leadership. It also means culturally elevating from a 'can do' attitude to a 'can do – safely' attitude with a more holistic approach towards safety being reflective across all aspects of our business. In other words, striving for excellence by understanding the underlying issues, barriers and opportunities that we face, and then acting on the issues and opportunities in a way that aligns with our company values.

One of the very real benefits of a strong company culture is employee satisfaction. We continue to maintain our Employer of Choice status and are committed to building on this as a solid foundation for an even better future for our people. Employment at Tassal means connection to a larger community that collectively will reshape the way business is done into the future.

Our sustainability journey with WWF-Australia and Aquaculture Stewardship Council (ASC) certification are tools that we have used to better understand external influences, cultures and world views. Insights into consumer needs and behaviours, such as changing attitudes towards the planet and increasing trends towards healthy eating, have allowed us to develop communication and educational material that better informs consumers on our processes, products and commitments.

Sustainability is one of our key business drivers and an area that is consistently rising in consumer importance. Our focus on sustainability and gaining ASC accreditation, across all of our

farms, is a demonstration of our commitment to the environment and fish health.

We achieved ASC certification for two farm sites in FY2014. The focus for FY2015 is to achieve ASC certification for the balance of our farms. Our certification to ASC is supported by the earlier achieved Best Aquaculture Practice (BAP) certification for our marine sites and wet processing facility.

Tassal believes that part of its role is as a custodian of the environment, in particular, the marine environment. Our third Sustainability Report (2013) was benchmarked as the world's top Salmon farming company in corporate, social and environmental reporting by Seafood Intelligence.com. Tassal improved one place from the previous year after being ranked

second against the same international benchmarks.

Tassal has maintained its industry leading position in implementing a sustainability focus throughout the company. Key to this focus is meaningful communication with all stakeholders, including customers. Tassal's goal is to develop significant environmental and social initiatives led by stakeholder input. Through our partnership with WWFAustralia, we are aiming to continue to be the leader in sustainable aquaculture production in Australia and globally with all of our products meeting best practice environmentally responsible standards.

From a financial and operational perspective, we believe that Tassal has made significant progress towards achieving a key goal of generating more acceptable return levels. In recent years, Tassal has:

- Invested substantial capital ($166.56 million) over the last five years to make the business more sustainable, scalable and move closer to global best practice from an operational, financial and strategic perspective
- Focused on increasing profitability growth and $/kg returns through sales initiatives and operating efficiencies
- Sustainably generated more $/kg from sales – underpinning improved returns
- Received customer support through the tough supply period due to a hot summer in 2012/13, reflecting the sustainability of Tassal's domestic market strategy, and
- Executed a successful domestic marketing campaign to continue building brand and driving sales.

We expect to retain our position as the global leader in Salmon aquaculture through our commitments to producing Salmon in an environmentally and socially responsible manner, and trust that you will support us in our endeavour. Sustainability is a journey - we invite you to come along for the ride.

Allan McCallum and Mark Ryan

Message from our Head of Sustainability

Our fourth sustainability report already, who would have thought? After last year's seafood intelligence benchmarking as the world's top Salmon farming company in corporate, social and environmental reporting, we are really feeling the pressure to keep leading our peers with the good work they are doing in the corporate social reporting space.

At the same time, this past year we have started thinking about how we can make our report fresh again and construct it in a way that reaches more people, with the right information presented to our stakeholders in a way that is proactive, understandable and meaningful. The rigorous materiality assessment of the new GRI G4 framework supports this. A major goal for us in the upcoming year is to improve our sustainability communication both internally and externally.

Our new materiality focus using the GRI G4 guidelines has been transformational. We really are starting to understand how to identify and target the most material issues for our business. This new framework will help us refine our sustainability goals in the upcoming years.

Preparing for the ASC audits and certification over the past few years has made a tremendous difference to the environmental and social performance of the company. We continue to address many of the material issues brought to us by our stakeholders. The ASC standard is the only aquaculture standard in the world to have a dedicated social standard and audit component.

In the next reporting year, we will have a focus on reviewing our older flowthrough hatcheries and older processing facilities, and how to best manage water quality outcomes for the future.

As mentioned last year, Tassal has been working on a South East Region Optimisation plan which has involved the amendment of a number of older marine leases. This led to an unprecedented amount of stakeholder engagement. The restructuring of the leases supports the business and the economic success of Tassal in Tasmania, however at the same time it has raised issues around environmental impacts, impacts on amenity and potential conflict due to competing interests in the marine environment.

The positive outcome of that was much dialogue with communities and stakeholders which served to not only raise issues about the specific amendments, but also long standing concerns regarding Salmon farming in general and the planning framework in which Tassal engages. There were some issues on which we had to agree to disagree, however there were many more issues that found resolution in either compromises or an improved, shared understanding.

Is there still conflict? Yes. Is there a genuine wish to work through those conflicts? Also, yes. Make no mistake, none of this is easy on any of the participants and collectively we do not have all the answers. We respect that people will have opinions on what we do, how we produce Salmon and sometimes we not aligned in our views. I can say for the most part, we have all worked on the issues collaboratively and respectfully and Tassal has been truthful about our potential impacts and we are sincere about our focus to understand and reduce them.

Balancing a precautionary approach with development and economic reality is a challenge myself and Tassal face daily. Where possible, we implement a precautionary principle based on risk mitigation. If the principle is not practical or meaningful to the proposed activity, we take an adaptive management approach. Our marine site development in Macquarie Harbour is an excellent example of this type of challenge. We undertook a tremendous amount of science to best predict the impacts of our development there, but despite all that work and investment Mother Nature still threw us a curve ball, which we discuss in detail throughout the report. Key to successful next steps in that environment will be a willingness to acknowledge issues or concerns, investment in research and corrective action and then the courage to have the transparency that translates to accountability.

Transparency allows others to view issues in a way you may not see – the challenge is to reach agreement on the magnitude of the impact and navigate the compromises between environment and economics. In Macquarie Harbour, the limits of our modelling identified that there could be an issue with bottom water oxygen going forward which indeed there was. Now as we address that gap in knowledge and understand the actual interactions we must balance all aspects of the project, economic, environmental and social. Some people reading this may be confronted by our approach and others may be comforted. Transparency allows people to form their own opinion and express it.

Tough issues aside, we have made a tremendous amount of progress in the sustainability space in the past four years, which does not happen in isolation. We would not be where we are today without the support of many individuals and organisations. Our partnership with WWF-Australia has been pivotal as has the contribution of many others, including researchers, regulators, other seafood sectors and peak bodies, community members and mentors. They all challenge us to do better and provide a quiet helping hand when needed. To all of them I say a massive and sincere thank you.

Our sustainability team has grown and matured over the years and is rock solid in their approach. The people who work on our farms, in our hatcheries, in our processing facilities and sales and marketing teams are embracing sustainability as we see a growing cultural shift in our organisation. Our Zero Harm programs are striking a chord everywhere and are nurturing a culture of caring throughout Tassal.

It has been a solid year focussing on achieving outcomes supporting Tassal's transformation to a fully sustaining organisation. Two outstanding achievements for this reporting year are progress made towards full ASC certification and securing OHSAS 18001 and AS 4801 workplace health and safety certification. We are on target to achieve a first for the global Salmon farming industry being full ASC
certification across all marine sites by the end of the calendar year 2014. Additionally, securing OHSAS 18001 & AS 4801 accreditation was a first for an aquaculture company in Tasmania and we are one of only two companies that are certified to this standard in Australia.

The attention and resources committed to mitigating wildlife interactions continue to improve wildlife welfare outcomes, contributing toward lowering cost of production. Being chosen to pilot a new factory processing standard has solidified production processes and will identify gaps moving forward.

We are yet to improve alignment with sustainability and ethical aspects of our supplier audit program which is being fully revised with our legal department as part of Tassal's internal review of governance practice.

My late father always said, "It is a long road with no turning" and although we take the time every year through this report, to look backwards we will not get caught up in short term successes, what 'could have been' or mistakes we have made, but we will use that to look over our shoulders to learn, be accountable and to communicate. This will prepare us for the next steps we must take to make this world a better place, in some big and some not so big ways, every day. We will do that by simply caring. Caring for ourselves, our mates, our environment, our community and our customers.

Linda Sams

Tassal – an Overview

are Tassal Operations Pty Ltd and Aquatas Pty Ltd. Our head office is located in Hobart, Tasmania.

Australia's largest producer of fresh Salmon products, Tassal is a vertically integrated company that includes freshwater hatcheries and saltwater aquaculture, Salmon processing, value adding stages through to distribution, wholesaling and export.

Tassal Group Ltd is a public company listed on the Australian Stock Exchange (ASX Code: TGR) and our controlled entities

Our Production in FY14

Our Salmon

Tassal Salmon species of Atlantic Salmon is *Salmo salar*

Our Revenues

$266.33 **million**

Harvest Tonnage:
19,024 hog tonnes

Fish in sea water:
8,964,470 fish

Fish biomass in sea water:
16,257 live weight tonnes

Combined processing output:
19,037 hog tonnes

Our Network

- 2 directly controlled hatcheries – together with a majority ownership of Saltas Enterprises of Tasmania Pty Limited

Our Brands

Tassal sells and markets unbranded salmon products as well as branded salmon products.

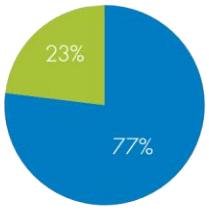
(Saltas), an industry hatchery

828 employees

Branded vs unbranded revenue & volume

	Volume %	Revenue %
Unbranded	67	63
Branded	33	37

Our Markets



Values are based on volume. Export markets make up less than 0.02% of overall sales volume

- 6 diverse marine farming locations
- 3 processing facilities
- 2 owned retail outlets
- 2,000 points of retail presence

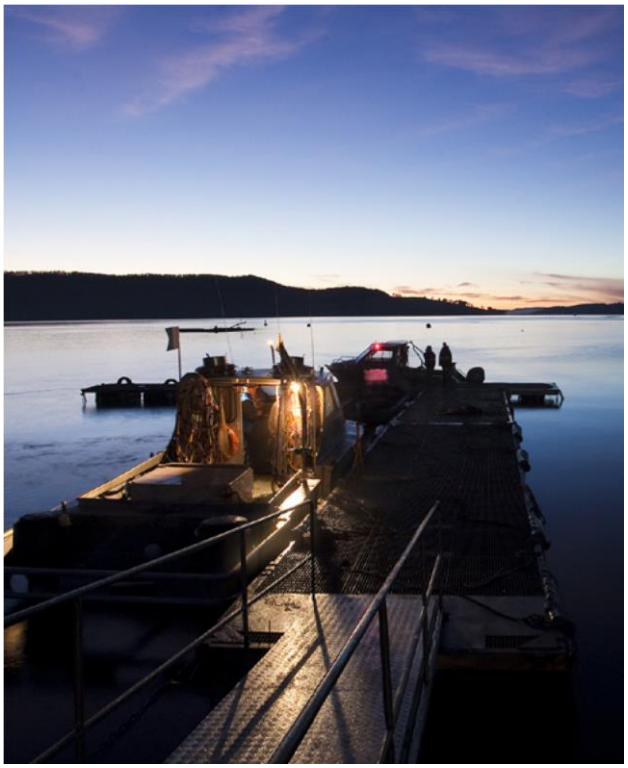
Our People

Marketplace

The global perspective

With global demand for seafood increasing, many of the world's wild fisheries are being fished at maximum capacity. According to the Global Salmon Initiative (GSI), world fisheries are currently 50% over exploited and natural fisheries will be depleted by 2056. With the world population expected to reach two billion by 2050, the world population will outstrip food supply (www.globalsalmoninitiative.org).

Salmon aquaculture has the opportunity to meet this growing world demand through increased production. Aquaculture is the fastest growing animal food producing sector in the world, growing by more than 60% over the past decade. The Food and Agriculture Organisation of the United Nations reports that by 2025 over half of all seafood consumed globally will be farm produced, which is good news for reducing pressure on wild capture fisheries.



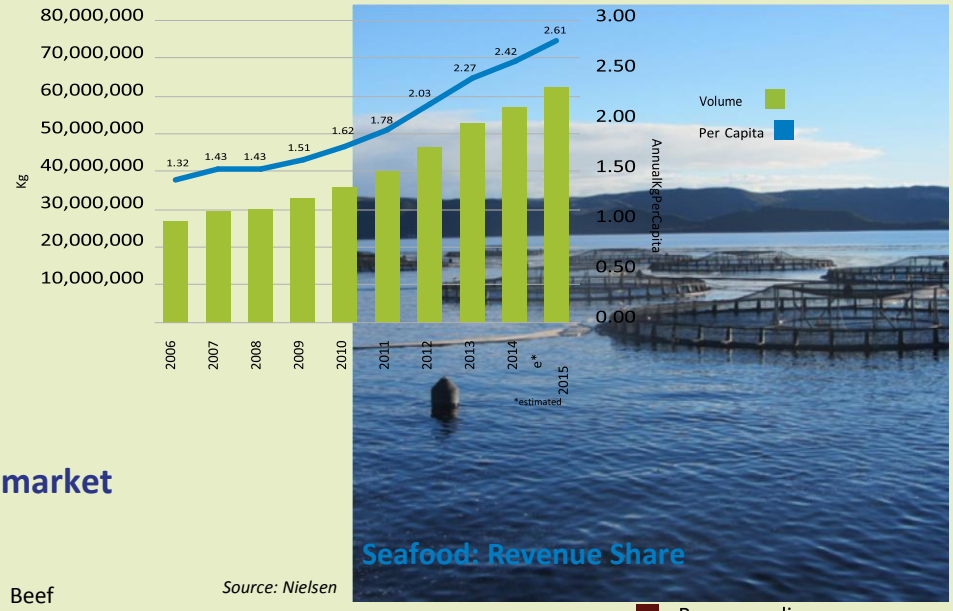
The Australian perspective

In Australia, seafood production is still dominated by wildcatch, which accounted for 87% of production in 2012, with aquaculture making up a relatively small, yet increasing, share of production (EcoInvestor, 2014). In terms of domestic seafood sourcing, Australia is expected to import over one million tonnes of seafood by 2020 – a sobering figure considering the country's potential to farm stocks locally (Tassal, 2014). Much still needs to be done to promote to Australians that locally farmed and responsibly produced Salmon is a viable and preferable alternative to imported seafood. Consumers are also not guaranteed that some imported farmed seafood is certified to best environmental and social practice.

From a regional perspective, aquaculture has the potential to significantly contribute to Tasmania's economic growth as part of Tasmania's booming primary industry production.

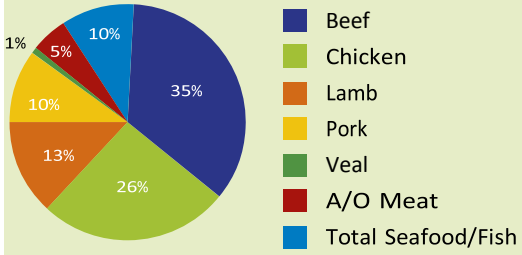
Farmed salmonids (including Atlantic Salmon and trout) are the leading farming activity in Tasmania ahead of dairy, vegetables, poppies, pyrethrum, beef, fine wool, wine and the once iconic apple industry. Farmed Salmon, in particular, has become a Tasmanian brand icon. According to the Tasmanian Salmon Growers Association (TSGA), member companies produce around 45,000 tonnes per annum, at a farm gate value of $500 million and sales are proving resilient. The Salmon and trout farming industry currently creates over 1,500 direct jobs, predominantly in rural communities, and $190 million to the Tasmanian Gross State Product (TGSA, 2014).

Salmon per capita consumption



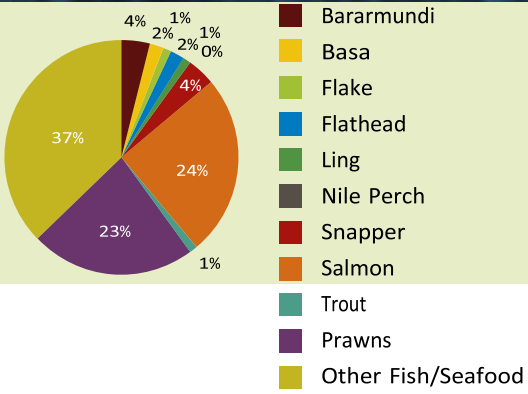
Australian domestic market

Protein: Revenue Share



Source: Nielsen Homescan

Seafood: Revenue Share



Adapted from the International Salmon Farms Association report 'Salmon Farming – Sustaining Communities an Feeding the World' (2015).

The Strahan Community and Macquarie Harbour, Tasmania

In 2013, Tasmania's Salmon industry received state and federal approvals for new leases, enabling it to double farmed Salmon production in Macquarie Harbour on Tasmania's West Coast. This expansion project included relocation of existing marine farms, construction of new farms and development of an aquaculture hub incorporating shore based infrastructure.

Salmonid farming is widely recognised as a long term and sustainable regional economic activity. It is capital and employee intensive and as such, sustains local employment, skills and economic activity in regional and remote communities wherever Salmon are commercially farmed. The expansion project is aligned with the State Government's Regional Economic Development plan for the
North West Coast, and the overall Economic Development Plan for the State.

Improved economic conditions were immediately achieved in the Strahan community through the creation of employment during construction and operation. The importance of aquaculture in such a remote community was highlighted most recently in July 2014, when Salmon farming in Macquarie Harbour was identified by both the state and local government as "part of the solution" for finding employment for 200 retrenched miners in a West Coast community of 1,800.

Year in Review

Tassal operates in a very dynamic sector. As an agricultural stock, we focus on ensuring that our culture, structure and operating environment is flexible so as to absorb and mitigate agricultural risk and consider growth opportunities.

The overarching strategic focus for Tassal is to deliver sustainable long term returns to shareholders as the leader in Salmon in Australia, by selling a highly recognised ethical and valued brand and product to Australian consumers and retailers. Underpinning Tassal's overarching strategic focus are four strategic priorities: Zero Harm, optimise the business, maximise cash flow, and deliver acceptable returns.

Zero Harm

Tassal's Board of Directors has endorsed a health and safety strategy that has as its core value Zero Harm for Everyone, Everywhere. Our safety performance is at an unacceptable level, due to the fatality of our team member Ian Thompson. Any fatality or serious injury is unacceptable. With respect to key developments over FY2014 from a Zero Harm perspective:

- Satisfactory results were achieved on all previously established lead and lag indicators from a safety perspective. All indicators are trending in right direction
- OHSAS 18001 & AS 4801 accreditation was secured. This was a first for aquaculture in Tasmania and we are one of only two companies that are certified in Australia
- The cultural program progress was supported by an external survey which confirms Tassal's journey to 'interdependence' is on track but not yet complete
- Tassal's commitment to safety is consistent with the company's focus on maximising shareholder value. Ultimately, no job is so important that it cannot be done safely.

Optimise the business

Tassal is sustainably generating more $/kg from its sales initiatives with returns also improving. The sustainability of our domestic market strategy was evident with customer support continuing despite a tough supply period where higher costs of production and lower supply were experienced due to the negative effects of the hot summer 2012/13 conditions.

Tassal's marketing campaign continues to build the brand and drive sales in the core domestic wholesale and retail markets. Overall, with the tough supply position, FY2014 operating revenue was largely flat at $260.77 million and volume was down 12.2% to 19,268 hog equivalent tonnes.

Core market domestic revenue (i.e. retail and wholesale sales markets) was slightly down 2.0% to $260.43 million. With respect to the core domestic sales market, retail market sales was the largest driver of revenue, with sales volume up 3.9% and revenue up 11.3%. Wholesale market sales were limited by the fish supply available with volume down 40.5% and revenue down 30%.

Maximise cash flow

Tassal's cash flow also improved further over FY2014:

- Operating cash flow was up 1.8%
- Investing cash flow increased by 49.6%
- Financing cash flow decreased by 8.1%

Deliver acceptable returns

Tassal has made significant progress towards achieving more acceptable return levels. To achieve this, Tassal reinvested substantial capital to make the business more sustainable, scalable and able to move closer to global best practice from an operational, financial and strategic perspective. The business was also repositioned away from lower margin export (volatile) and contract growing business towards domestic market sales. We also increased net assets by 8.4% from the previous reporting year.

Visit Tassal's Annual Report (www.tassal.com.au/annual-reports) for more information.

Looking Ahead

Tassal's key activities to address our priorities for FY2015 are

Zero Harm

- **Maintain** compliance focus – due diligence
- **Drive/Embed** continued cultural change towards interdependent behaviours – team & individual level
- **Leadership** – accountability/ performance management

KPIs	FY14
LTIFR	<1.38
Incident rate	<0.25
ATLR	<3
MTIFR	<35
Compliance	93%

Optimise the business

- W ith supply/demand for Tasmanian Salmon Industry in **equilibrium** (following hot summer) the market **fundamentals** are set for stronger domestic pricing, lower promotional costs and higher unit margins
- **Maximise** domestic market per capital consumption growth – whilst **maximising** gross and net pricing and maximising marketing exposure (for the right spend)
- **Ensure** optimal balance of Tassal supply/demand equation
- Plan and allocate fish resources across supply chain to **maximise value** – right fish, right size, right time, right use, right products

Maximise cashflow

- **Optimise** both Biological Feed Conversion ('BFCR') & Economic Feed Conversion ('EFCR')
- **Minimise** stock on hand (including Seafood Development) to ensure **minimise** working capital cycle and **maximise** cashflow
- **Maximise** the use of assets – **responsible** capital spend
- **Working capital cycles** – ensure minimum permissible tolerance around collection cycles

Deliver acceptable returns

- **Key focus** on 'ROA' (Return on Assets) to ensure the efficient use of the Company's asset base for earnings growth
- Through an LTI plan, the Tassal executive team is incentivised on delivering the following for FY15:

– **Statutory Return on Assets** of 15% to 17%

– **Statutory Earnings per share** growth of 10% to 20%

Climate Change Adaptation Responses

Tassal maintains a sophisticated risk management process and recognises that it needs to understand the impacts of a changing climate. For example, Tassal plans 10 to 15 years in advance for salmon production cycles.

Tassal anticipates and plans for projected risks and changes in the following ways:

Science-based information Tassal engages scientists from the University of Tasmania, the CSIRO and other organisations to identify emerging climate trends, system responses and adaptation options.

Selective breeding The company continually engages in a selective breeding process (non-GMO) to develop fish that are more resistant to amoebic gill disease in warmer waters and can function in lower oxygen conditions.

Comprehensive environmental monitoring Tassal invests in understanding the natural environment in which it operates and undertakes a range of monitoring practices to identify any early indicators of concern.

Additional supplies (fish and eggs) Tassal maintains its own internal product redundancy by having backup supplies of fish and eggs should any event affect the current population.

Diversification The company maintains a diversified geographic portfolio of operations and constantly reassesses these locations against key performance indicators. It is currently considering the viability of shifting to offshore waters should the need occur.

Corporate Governance and Ethics

Tassal takes the approach of ensuring that 'good governance practices' are applied both at the board and business levels. Whilst the Board of Tassal and board committees operate within Tassal's Corporate Governance Framework, 'good governance practices' are also being applied at the business level.

The characteristics of Tassal's good governance practices are simple. Good governance means compliance with the law as well as being: accountable, transparent, responsive, effective, and participatory in the way we do business.

This approach has had a positive effect on various aspects of the company including:

- Ensuring that Tassal has the right policies and practices in place so as to meet the company's compliance obligations
- Sending a clear message to the market, investors, shareholders, customers and suppliers about how Tassal does business
- Making the leaders in Tassal's business accountable for their decisions
- Ensuring that our employees conduct themselves appropriately and safely at work reinforcing our culture of Zero Harm, and
- Working as partners with the business so that interdependencies across the business are reflected in our contracts. For example, when 'Zero Harm' is not just about compliance with WHS obligations, but also mitigating operational, environmental, fish health and biosecurity risks.

Visit www.tassal.com.au/governance-policies/ for further information about Tassal's Corporate Governance and Code of Conduct.

Sustainability at Tassal

Our first Sustainability Report which covered the FY2011 reporting year, carried the title 'Sustainability is the Key to our Future'. This ethos is now truly embedded within Tassal and continues to inform and support the strategic direction of the company.

We continue to see triple bottom line returns from this strategy across the business, specifically:

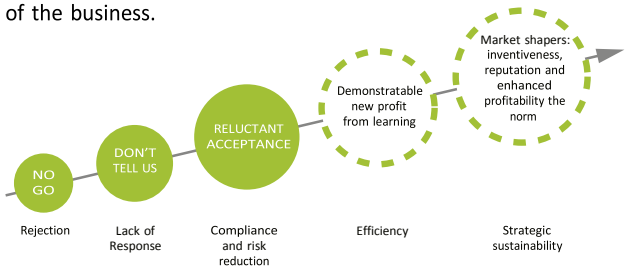
- Increased profit
- Improved compliance
- Improved wildlife welfare
- Improved wildlife exclusion and escape prevention leading to decreased cost of production and improved fish growth and survival
- Improved environmental outcomes (e.g. no more copper based antifoulant)
- Improved fish survival
- Improved outcomes for neighbours (e.g. noise mitigation)
- Improved community relations (community engagement officer)
- Improved communication between business centres (breaking down the silos)
- People in the company and community have a voice
- Innovation is supported from all levels in the business, and
- Development of a culture of caring within Tassal.

As part of our journey towards embedding sustainable practices throughout Tassal, we have adopted the Dunphy model of corporate evolution as a means of benchmarking and measuring, and creating a constructive culture that continually renews the long-term viability of the organisation. We believe that paying attention to the culture of our company is an important aspect of leadership within the broader aquaculture industry. During the reporting year, our

sustainability team members undertook a critical self-assessment on how they viewed Tassal's performance with relation to the six phases of the Dunphy scale.The sustainability team critically assessed Tassal's organisational performance between the 'Efficiency' and 'Strategic sustainability' spectrum of the scale. Further self-assessment will be rolled out to other parts of the organisation in the next reporting year.

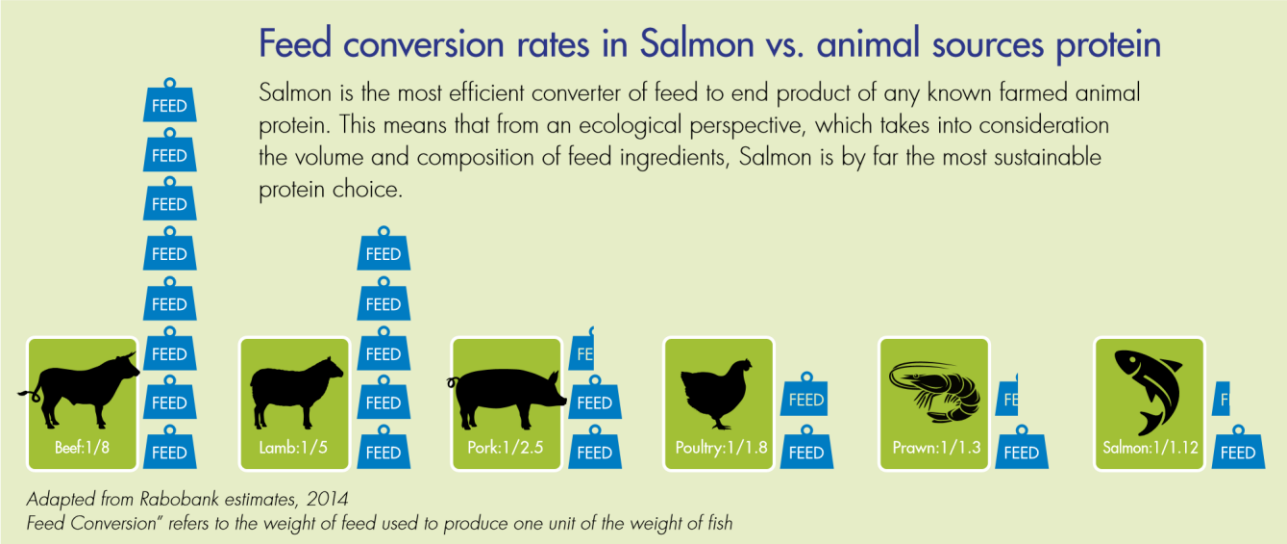
We will also further explore Tassal's value chain (how our underpinning processes and activities contribute value to our customers and consumers) by undertaking a gap analysis into what works well and where there is room for improvement.

By understanding these elements, we will be able to further refine our sustainability strategy across all areas of the business.



The sixth phase of the Dunphy scale is not shown as part of the scale as it is too abstract and not representative of today's current business reality

(Dunphy, D et al, 2003)



Research and Development

Investment in research and development (R&D) at Tassal is centred on better understanding of fish health and the environment in which we farm our fish, mitigating the impact of our operations on the environment and continual improvement of fish health and welfare.

which supports our mission to supply to the market supreme quality Salmon that is grown in an environmentally and socially responsible way. All investment into R&D activities is based on investigating how our internal and external sustainability impacts can be reduced.

Tassal invests heavily each year into various R&D initiatives

We are fortunate to have a vibrant research community in Tasmania whose expertise we draw on. We collaborate with groups including CSIRO, IMAS, University of Tasmania, other interstate and international research institutes and small independent consultancies.

Environmental		
Project Name	**Description**	**Impact on sustainability**
Nutrient outputs within marine leases	Collaborative project with CSIRO looking into the potential of integrated multitrophic aquaculture	• Increase knowledge base in relation to nutrient outputs from farming operations in different hydrodynamic ranges • Potential value for shellfish and seaweed farming in unison with finfish aquaculture • Potential for wild re-seeding giant kelp beds and collaborative work with wild fisheries • Greater understanding of the cumulative effects to near and broadscale locations from sites • Ground truth individual sites in relation to best available literature and science
Alternative farming techniques and their potential	PHD project looking at alternate farming techniques from around the world	• Understanding if Tassal is farming using the best technology available for the location and available resources • Covered land based, inshore and offshore farming technology techniques • Informing strategic direction of business
Logging sensor buoys within Macquarie Harbour – industry project	Continuous data loggers recording dissolved oxygen and temperature every 10 minutes day and night	• Improving understanding of Macquarie Harbour to learn how to farm sustainably within it • Movement towards predictive modelling capability and decision support systems • Provides data capture for statistical analysis and interrogation to track seasonal trends and better understand the Harbour • Linkage to dashboards systems for best practice management of feeding operations and animal health optimisation
ADCP deployment data analysis	Tidal monitoring around the South East of Tasmania and data analysis	• Informs efficacy of potential future farming sites • Feeds into depositional modelling, wave height and current velocity of sites • Assists with mooring requirements for individual sites • Builds hydrodynamic model for company and increases knowledge of the waterways in which we operate
DEPOMOD	Depositional modelling of sites and potential future sites in the South East	• Informs efficacy of potential future farming sites • Allows sustainable farming of sites • Management of sediment metabolic capability and ensures that a balance is maintained • Provides modelled output of a farming cycle in line with best practice farming
Mesh trials	Continual mesh trials to support shift from Copper based antifoulant and control predation	• Decrease interactions with seals, decrease stress on fish improved economic performance • Decrease biofouling on farming structures • Minimise net cleaning operations • Monitor mesh types that may harbor irritable species to stock

Environmental (continued)		
Project Name	**Description**	**Impact on sustainability**

Macro algal sampling for IMAS analysis	Sampling of marine vegetation around cages for lab analysis and metal testing to support IMAS PHD research	• Assess natural metal uptake by macro algae • Gain insight into bioindicator potential of macro algae for changing water quality parameters • Assist IMAS with regular sample collection and on water observations
Threatened species surveys and reporting	Hand fish marine survey work in and around marine leases Microalgae and habitat mapping around marine farming regions and further afield	• Understand impacts of Salmon aquaculture on threatened species • Assess potential interactions with ranging habitats • Characterisation of different areas of exposure and interactions with threatened species
Maugean Skate Research	Collaborative project within Macquarie Harbour to learn more about this endangered species. Includes industry and IMAS	• Impact of recreational fishing and aquaculture operations on Maugean Skate in Macquarie Harbour • improve knowledge of this relatively unknown species, especially regarding movement and habitat utilisation.
Macquarie Harbour dissolved oxygen project	Real time logging stations throughout Macquarie Harbour and daily onsite data logging	• Tracking of natural variation of deep water dissolved oxygen, temperature & salinity patterns • Day and night tracking of water quality parameters.
Macquarie Harbour current profiling	Acoustic doppler current profiling	• Logging of current direction and velocity including wave height at different areas of exposure throughout Macquarie Harbour • Improve knowledge of hydrodynamics
Macquarie Harbour depositional modelling	Depositional modelling outputs for production scenarios	• Predicting organic inputs of various production cycles • Combining this technology with up to date natural nutrient flux and variation data allows for sustainable management of organic outputs from aquaculture operations
Hydro survey Macquarie Harbour	Collaborative field work and data share setup with Hydro Survey Australia	• Building relationships with other stakeholders in the Harbour • Improving understanding of Macquarie Harbour to learn how to farm sustainably within it • Monitor the natural variation of the Hells Gates area of the Harbour and how this can change the hydrodynamics of the entire system
Breeding and Genetics		
Project Name	**Description**	**Impact on sustainability**
Genetic correlations between ploidy status and the effects of the environment within the Saltas Breeding Program	Examination of the effects of ploidy on fish performance in the two major Atlantic Salmon growing areas of Tasmania. Macquarie Harbour, and the South East region	• Maximise fish health and welfare and performance • Improve feeding efficiency, reducing environmental impact • Non-reproductive fish reduces risk to local ecology
Whole genome selection for AGD	Development of modern genomic markers to aid in the selection of resistance to AGD within Tasmanian SBP broodstock.	• Reduce freshwater use • Improve fish health and welfare • Minimise cost of production
Salmonid maturation – state of the art and recommendations for control within the Saltas SBP	Desktop study to examine the current methodologies for the control of maturation in Atlantic Salmon	• Improve fish health and welfare • Minimise cost of production
Survey of the status of diversity within the Saltas breeding population	Comparison of current levels of diversity in the Tasmanian Selective Breeding Program, with levels measured prior to 10 generations of selection for AGD resistance	• Reduce freshwater use • Improve fish health and welfare • Minimise cost of production
Environmental effects on the developmental physiology and performance of Atlantic Salmon *(Salmo salar)*	Examination of the influence of early rearing conditions on subsequent fish performance	• Improve fish performance • Improve fish health and welfare • Minimise cost of production
Genetic selection on Amoebic Gill Disease (AGD) resilience in the Tasmanian Atlantic Salmon (Salmo salar) breeding program	Evaluating the efficacy of marine and freshwater swim trials to determine the heritability of AGD handling resilience in the Tasmanian SBP	• Reduce freshwater use • Improve fish health and welfare • Minimise cost of production • Improve fish performance

Fish Health and Welfare		
Project Name	**Description**	**Impact on sustainability**
Animal Health Laboratory Centre of Excellence for Vaccine development	Development and building of an industry, FRDC and government funded biosecure fish facility to assist in diagnostic test and vaccine development	• Improve fish health and welfare • Minimise cost of production • Improve fish performance and survival • I mprove biosecurity
ATPase application in determining osmoregulatory capacity in Tasmanian Atlantic Salmon	Development of ATP-ase technique for Tasmanian Atlantic Salmon to determine smolt readiness. Evaluate Tassal's hatchery husbandry practices to determine its effects on smoltification.	• Improve fish health and welfare • Minimise cost of production • Improve fish performance and survival
Industry collaborative research	Developing diagnostics and/or vaccines for POMV; Aquabirnavirus; RLO virus; and Aquareovirus	• Improve fish health and welfare • Minimise cost of production • Improve fish performance and survival
AGD resistance- learning from other species	Further understand AGD resistance and resilience	• Reduce freshwater use • Improve fish health and welfare • Minimise cost of production • Improve fish performance
Thermal stress project (Deakin)	Understand the effects of rising water temperature on salmon health and stress	• Improve fish health and welfare • Project may inform the Selective Breeding Program
CSIRO Collaborative Research Agreement	Improve understanding of biology of AGD amoebae to optimise farm management strategies	• Improve fish health and welfare • Improve farm management strategies for amoebae treatment • Minimise freshwater use • Minimise cost of production

Working with like-minded Organisations

Since 2009, Marine Solutions and Aquenal have provided a range of specialised services to Tassal – including field based surveys, data analytics, environmental impact assessments, and providing an independent presence at community and industry meetings as a means of sharing relevant information on research and monitoring programs that support Tassal's continual improvement in environmental sustainability.

This productive working relationship that has enabled each company to grow in terms of knowledge sharing, meeting the environmental challenges of an expanding sector, and better understanding the beneficial role that a healthy and functioning marine environment plays in supporting a sustainable industry well into the future.

Sam Ibbott from Marine Solutions and Sean Riley of Aquenal, share a passion for Tasmania, its people and the unique attributes and diversity of Tasmanian marine life. They share a long history of working in marine research, environmental management and Tasmania's seafood industries. The ethos of shared sustainable development is central to both companies whose passionate and qualified staff utilise significant experience to leverage positive social and environmental outcomes. Building capacity and corporate knowledge, and low staff turnover at both companies has allowed us to provide fast paced responses to work to industry timelines.

At the 2014 Australasian Aquaculture conference in Melbourne, Marine Solutions and Aquenal won the 'Blue Thumb' award - Service Provider Award. This award recognised Marine Solutions and Aquenal for the application of innovative and sustainable practices. Tassal became the inaugural winner of the Aquaculture Service Provider Award in 2012.

Goal	Target	Did we achieve our target?	Commentary
Environment			
Achieve best Salmon farming practice certification across all operations	Achieve ASC certification across all marine and freshwater operations	In progress	ASC certification achieved across two out of six regions and a further three regions were audited during reporting period. We are on track to certify whole company by end of 2014.
Operate responsibly alongside wildlife	Develop a seabird rescue strategy	Yes	Three staff completed seabird rescue training at Bonorong Seabird rescue and kits distributed to all sites
People			
Continue our journey to safety interdependence	Achieve AS 4801 compliance	Yes	
	Conduct safety climate survey	Yes	
Improve induction delivery	Launch web based induction platform	In progress	Aiming to trial Q1, 2015
Community			
Improve communication with key stakeholders	Develop a series of fact sheets about our activities and practices on key material issues	Prototype fact sheets developed	Second version of fact sheets underway
	Hold two open days in regional centres	Yes	Open days held at Dover and Southport
Food Safety & Quality Accountability			

Better align sustainability & ethical aspects of supplier audit program	Fully revise current process	No	Process to be reviewed with Tassal legal department
Ensure factory practices align to best practice	Pilot new standard with major external partner	Yes	Standard has been formally issued. Gap audits to be conducted in 2015.

Our Goals and Targets

During the reporting year, we focused on committing to achievable yet challenging targets, which are set to reflect issues material to the business. As our materiality assessment processes further develop, we expect that future targets will evolve to align even more closely with topics material to our business and stakeholders who impact or are impacted by our day to day operations.

Progress on FY2014 Goals and Targets

Goals and targets for FY2015

Goal	Target
Environment	
Achieve best environmental Salmon farming practices	Achieve ASC certification across all marine and freshwater operations
Operate responsibly alongside wildlife	Trial new brass nets for predator exclusion Work with local wildlife researchers to develop a Code of Best Practice to reduce the likelihood of whale interactions Update Wildlife Interaction Plan and Wildlife Management System Develop a Wildlife Interactions Reporting Procedure for real time updates on ASC Dashboard
Reduce water use	Develop a freshwater monitoring framework
Improve sustainability of product packaging	Establish a Packaging Taskforce to review operational packaging constraints, food safety packaging requirements and recycling options for consumer disposal and recycling
Fish Health and Welfare	
Optimise fish health and welfare	Roll out Zero Harm for Fish program
	Finalise the draft guidelines: RSPCA Approved Farming Scheme Standards – Farmed Atlantic Salmon with industry and RSPCA Australia
People	
Zero Harm for people	Drive timely closeout of safety actions by targeting 0% actions overdue from the close out date Drive appropriate control effectiveness by driving elimination and/or engineering out of hazards and risks (Level 1 and 2 type controls) Drive cultural change improvements by extending Tassal's ROCK Sold Safety Leadership program to team leaders (previously undertaken by executives, senior managers and management level)
Create 'guiding principles' for employees	Design and launch Guiding Principles platform
Improve our understanding of sustainability	Roll out further sustainability self-assessment to other parts of the organisation
Community	
Improve communication with key stakeholders	Develop an additional series of fact sheets to improve community understanding of material issues
Food Safety & Quality Accountability	
Communicate product traceability	Achieve Chain of Custody certification across all processing facilities
Ensure factory practices align to best practice	Become formally certified to new standard with major external partner

Engaging with our Stakeholders

Tassal's stakeholders represent many diverse interests and significantly influence how we approach our business.

We pro-actively engage with all stakeholders who are known to us. Tassal has developed an adaptive Stakeholder Engagement Program (SEP) to ensure that there are ample opportunities for communities, interest groups and other stakeholders to engage in a range of consultative processes and discussions with relation to Tassal's activities.

At the local level, Tassal is actively engaged in all the communities in which it operates. A dedicated Community Engagement Officer invests time in the community, coordinates community activities, partnerships and research collaborations and liaises with non-government organisations and advisory forums. A formal complaints process ensures that all complaints are filtered through the Community Engagement Officer who liaises with internal or external specialists or regulators.

Social sustainability is a key operational pillar for Tassal, and stakeholder feedback is used as a catalyst for change and built into strategy development and executive planning processes within the company.

Of particular relevance to the stakeholder engagement program is Tassal's founding member status and ongoing engagement with the D'Entrecasteaux Channel Project ('The D'Entrecasteaux and Huon Collaboration') with the Kingborough and Huon Valley Councils and also Tassal's engagement with the IMAS Your Marine Values project. Both of these initiatives are improving community understanding of Salmon aquaculture in the waterway. Information about the D'Entrecasteaux Channel Project can be found at: www.ourwaterway.com.au.

During the reporting year, Tassal proposed two amendments to existing marine farming zones as part of its South East Region Optimisation Plan. Complementary to these proposed amendments, Tassal expanded on existing stakeholder engagement activities and conducted a number of community meetings, workshops and information sessions with stakeholders potentially impacted by these proposals. As a direct result of feedback received Tassal modified both amendments in order to align better with stakeholder expectations.

Tassal has continued to take a leadership role in transparency in the Salmon aquaculture industry, and considers transparency in communication integral to our approach.

During the reporting year, our website was upgraded to improve access to information, both current and historical, via our new ASC Dashboard (www.tassal.com.au/sustainability/asc-dashboard) meaning that 'real time' information about antibiotic use, wildlife interactions and unexplained loss of stock is publically available. Tassal's key stakeholder groups are:

- Employees
- Communities (including local councils) and neighbours
- Shareholders
- Customers and consumers
- Users of the waterways in which we operate (commercial and recreational)
- Regulators (state and federal governments)
- Industry associations
- Certification bodies
- Environmental groups
- Indigenous communities
- Suppliers

Engagement was not undertaken specifically for the preparation of this report, however, the outcomes of engagement strongly informed the material topics reported.

This year we have deepened our approach to engaging with stakeholders. New site amendments detailed in this report have caused some concerns in local communities and highlighted a lack of understanding of modern Salmon farming practices.

We have earnestly and in good faith answered questions and responded promptly to all requests for further information, be it written response, community information sessions, meetings, workshops or one on one conversations. We have been assisted by researchers, government and consultants who provided expertise based rigour to the information we require to appropriately consult. We have not shied away from the difficult conversations.

As part of our ASC audit process, a number of stakeholder meetings were conducted by the auditors. We supplied a comprehensive list of stakeholder contacts, many of whom attended the meetings. We took care to provide contact details for all stakeholders, not just those that may present a positive view of the company. The intention of the meetings were for

the auditors to gather all the issues our stakeholders have with not only Tassal's operations, but with Salmon farming in general. Whilst some of the negative feedback was difficult to hear at first, we took on board all the issues based feedback we received. These issues will be used as a benchmark against which our progress will be audited year after year.

Stakeholder Engagement Activities FY2014

Stakeholder Group	Engagement & Frequency	
Employees	One on one meetings and team discussions via Environment & Sustainability team	As required
	Pre audits of sites and assisting with site preparation for audits (annual)	Annual
	Head of Sustainability visits all sites to speak with entire organisation regarding certification, updates in siting, environmental issues, fish health and general research and development activities	Annual
Communities and neighbours (to our operations)	Meetings and presentations with local elected representatives	As required
	One on one resolution of complaints	As required
	Issues based one on one meetings	As required
	Community forums on the West Coast	Quarterly
	Sponsorship of and donations to community activities	Ongoing
	Information sessions	Annual or as required
	Stakeholder meetings (ASC)	Annual
	Feedback via formal statutory representation process when amending marine sites	As required
	Your Marine Values workshops (Channel and Huon)	As required – two workshops in the reporting year
	D'Entrecasteaux & Huon Collaboration	Ongoing
	Talks and presentations to community groups	On request
Indigenous communities	Tassal is receiving advice on how best to engage with Tasmanian indigenous communities	Ongoing
Users of the waterways in which we operate (commercial and recreational)	Presentations to clubs	As requested
	Workshops	As requested
Regulators (state and federal governments)	Formal meetings	Ongoing
	Compliance & audit meetings	Ongoing
	Response to complaints meetings	Ongoing
Industry associations	Face to face meetings with association executives including, Tasmanian Seafood Industry Council, Tasmanian Rock Lobster Fisherman's Association, Tasmanian Association for Recreational Fishing, and various yachting clubs.	As required – at least annually
Certification bodies	Engagement throughout audit process and if there are any issues that occur in between scheduled audits	Ongoing
Environmental organisations	Partnership with WWF – Australia	Ongoing regular informal and formal communication
	Tasmanian Conservation Trust – through the Sustainability Report Advisory Committee	At least annual engagement
	Australian Marine Conservation Society – sharing of information about our practices and informal conversations	Ongoing
	Southern CoastCare Association of Tasmania – informal communication via events	Ad hoc
	NRM South & NRM Cradle Coast – informal communication & conference speaking engagement	Monthly
	Environment Tasmania – engagement via industry association (TSGA)	Ad hoc

	Environment Defenders Office – engagement via industry association (TSGA)	Ad hoc
Customers and consumers	Social media – issues based online posts and direct feedback to consumers	Three posts go live every week and direct responses as needed.
	Sales people – team meetings and updates on sustainability as required	Weekly
	Website – regular updates including ASC Dashboard	Ongoing
Suppliers	Seek information from suppliers such as copies of certifications, specifications, policies and other quality/food safety information	At least every three years
	Issue non-conformance notifications	Ad hoc
	Conduct supplier audits	Every one to three years

Reporting on Topics Material to Tassal

This year is the first that we have undertaken a formal materiality assessment to determine key topics for our business and sustainability reporting.

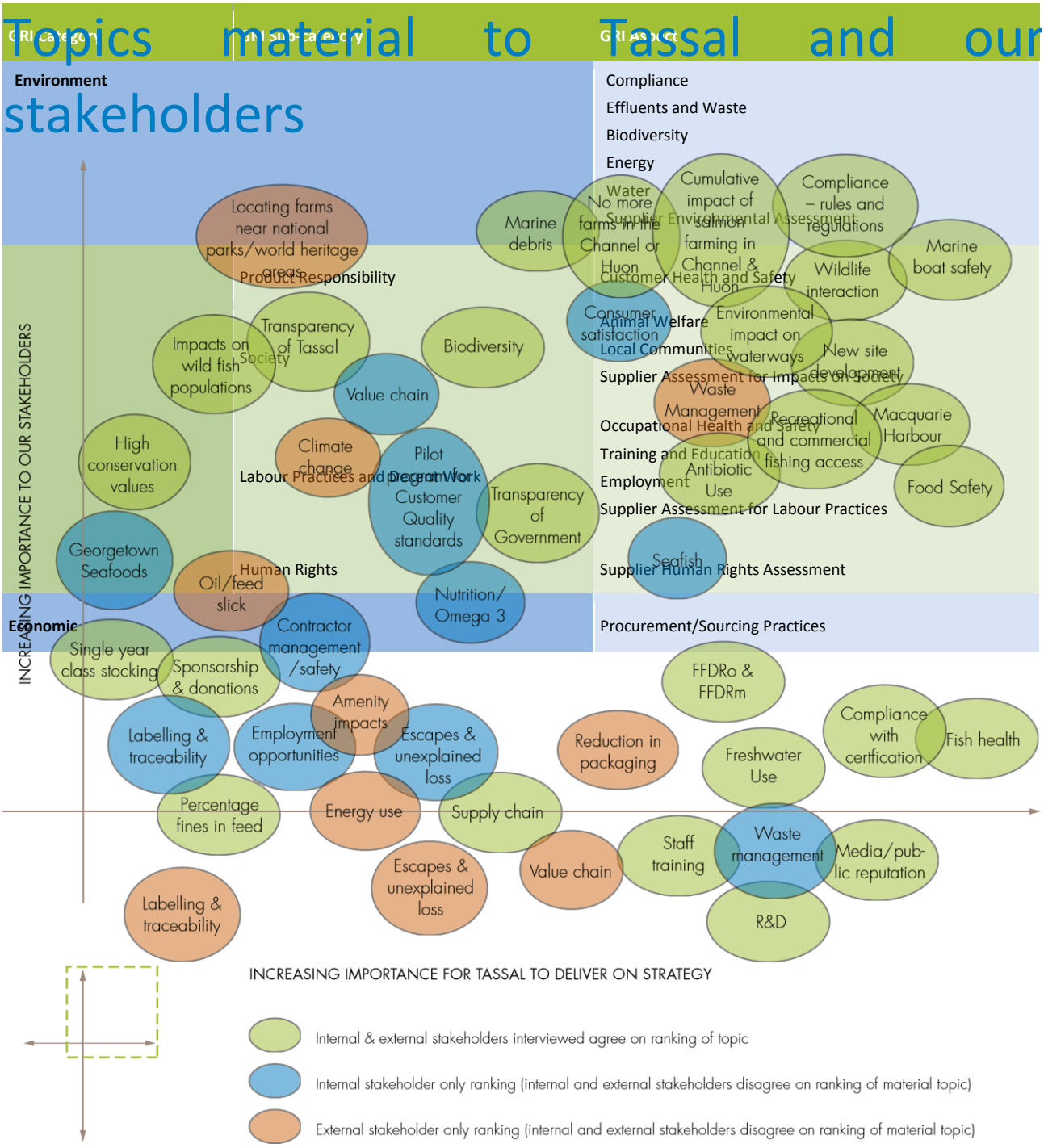
The process has proved to be valuable internally, as it has focused us on reporting on what internal and external stakeholders deem to be the most important of Tassal's activities. We aim to broaden the scope of potential topics in next year's report to include perspectives of the global aquaculture and food processing sectors.

Our methodology:

1. Topics from key external stakeholder engagement activities throughout the reporting year informed a list of 60 topics
2. These topics were circulated to the heads of each of the following departments: Environment and Sustainability, Human Resources, Sales and Marketing, Workplace Health and Safety and Quality departments who then prioritised the topics
3. Specific engagement was undertaken with the

   Sustainability Report Advisory Committee (SRAC) to represent external stakeholder interests. The SRAC is comprised of a diverse range of community representatives.
4. Each Tassal representative and SRAC member was asked to rank the topics in order of their view of the importance of the topic to external stakeholders and to Tassal's ability to deliver on their business strategy
5. The responses were collated and separated into three categories: (1) agreement in topic ranking by both internal and external stakeholders (2) material to internal stakeholders only and (3) material to external stakeholders only
6. The topics were then mapped against the GRI reporting framework's 'Aspects', including those in the Food

Topics material to Tassal and our stakeholders



Note: Labelling & traceability, escapes & unexplained loss, value chain and waste management were the only material topics appearing in the top right hand quadrant for which internal and external stakeholders disagreed on the topic ranking.

Although staff training and R&D were not identified in the top quadrant of material issues, we included these topics as we believe that they add important context to our operations. We will review why these topics were not identified in the top quadrant in the next reporting year.

Our Supply Chain

Understanding our supply chain, including our potential impacts on sustainability issues such as environmental, producing a 'safe' product for consumption, labour, human rights and society is important to Tassal, as our aim is to conduct our business in a way that reflects our commitment to strategic sustainability across all of our activities.

Tassal has rigorous systems and processes in place to ensure the production of safe food that meets customer and consumer expectations for quality. The overall systems framework is provided by the Tassal Integrated Management

System (TIMS) which incorporates key policies, procedures and work instructions.

The focus is on preventive measures based on the principles of Hazard Analysis Critical Control point (HACCP) which is used to identify critical processing steps for food safety, quality, and regulatory criteria. Effectiveness of controls implemented is verified through a range of measures such as internal audits, external certification audits and product testing. In the event of any deviations from expected standards, corrective action is implemented, ensuring that the root cause of the issue is identified so as to prevent a re-occurrence of the issue.

Our key supplier groups cover feed, ingredients, packaging, logistics, warehousing, and third party processing.

Tassal works closely with all suppliers to assure the quality of goods and services provided and that suppliers have

Tassal's Supply Chain

management systems in place to address: proof of certification and policies around quality and food safety, the environment and/or sustainability, occupational health and safety, ethical sourcing and/or social responsibility, discrimination and harassment, and compliance with labour laws. Of note, fish feed vendors must state whether they employ sustainable aquaculture/marine practices for raw materials, and whether they are a signatory to the WWF Sustainable Seafood Charter.

Other elements of our quality assessment framework include proof of quality management systems (QMS), document control, management reviews, internal audits, customer complaints, supplier management training of staff, product identification and traceability, the use of genetically modified organisms (GMO), product recall and withdrawal, product specifications, HACCP, sanitation and pest control, amongst others.

Our supplier program is risk-based, with risk assessments and supplier performance reviewed at least annually. Suppliers are required to complete a comprehensive questionnaire and provide evidence of third party quality and food safety certifications held. In some cases, on-site audits of supplier facilities are conducted.

Increased emphasis is placed on suppliers of goods and services that may impact the safety or quality of our products. New suppliers are extensively assessed before approval and on-going suppliers are reviewed to ensure that high standards are maintained.

In FY2013, 29 approved suppliers completed a questionnaire, and 11 participated in a site audit, including two international audits.

All (100%) Tassal suppliers are compliant with the company's sourcing policy. Specifically, (100%) of production volume manufactured in-house is certified by an independent third party and the only contract manufactured product not certified is the contracted Port Lincoln factory, meaning that 99.43% of all product is certified. There were no incidents of non-compliance with regulations and voluntary codes concerning the health and safety impacts of Tassal products during the reporting year.

Tassal has an ongoing commitment to continuous improvement in all aspects of food and safety and was pleased to be selected by a major customer to participate in the development of an enhanced standard which is now in implementation phase. A complete list of certifications can be found at www.tassal.com.au/food-quality-and-safety.

We also have our extensive external third party audit reviews underpinning our certifications:

	Auditing Body	Coverage	Main purpose	Audit Frequency
DA (formerly AQIS)	DA Biosecurity	Dover, Huonville, Margate Harvest Boat – as catcher boat only	Export compliance	Dependant on site rating and previous audit results – between six and nine months All facilities currently have an A rating
ISO 9001:2008	Societe Generale de Surveillance (SGS)	Dover, Huonville, Margate Rookwood Road Hatchery	International standard	Annual surveillance/ three year recertification
HACCP	SGS	Dover, Huonville, Margate Rookwood Road Hatchery	International Standard	Annual recertification/ six monthly surveillance (processing sites only)
SQF Code (Safe Quality Food) Level 3	SGS	Huonville Margate	International Standard / Customer requirement	Annual recertification
WQA	SGS	Huonville Margate	Customer requirement	Six monthly
HALAL	Halal Australia	Huonville Margate All products	Sell product with Halal approval	Annual desk audit
KOSHER	Kosher Australia	Dover, Huonville Margate (most products)	Sell product with Kosher approval	Annual audit
AS 4801	TQCS	All sites	Australian standard	Annual audit rotation basis/three yearly recertification
OHS AS 18001:2007	TQCS	All sites	International standard	Annual audit rotation basis/three yearly recertification
Best Aquaculture Practices	Global Trust	Marine Operations and Dover Processing site	International standard	Annual audit

ASC	SCS Global Services	Marine Operations – Macquarie Harbour, North West Bay (remaining regions to be certified by end 2014)	International standard	Certification for three years with annual surveillance audits

Sustainable Salmon feed

The use of fish meal and fish oil from forage fisheries is one of the key sustainability issues facing the global Salmon farming industry. Salmon feed is the primary input into the Salmon production process, and we have worked closely with our largest feed supplier to reduce the forage fish component of our feed and increase protein from other sources. Tassal is a world leader in this area with one of the lowest Fish Feed Dependency Ratio (FFDR) in the world.

As part of our commitment to ongoing improvement in this area and to address Principle 4 of the ASC Salmon Standard: 'Use resources in an environmentally efficient and responsible manner' our feed supplier, Skretting Australia, has made significant contributions in these areas.

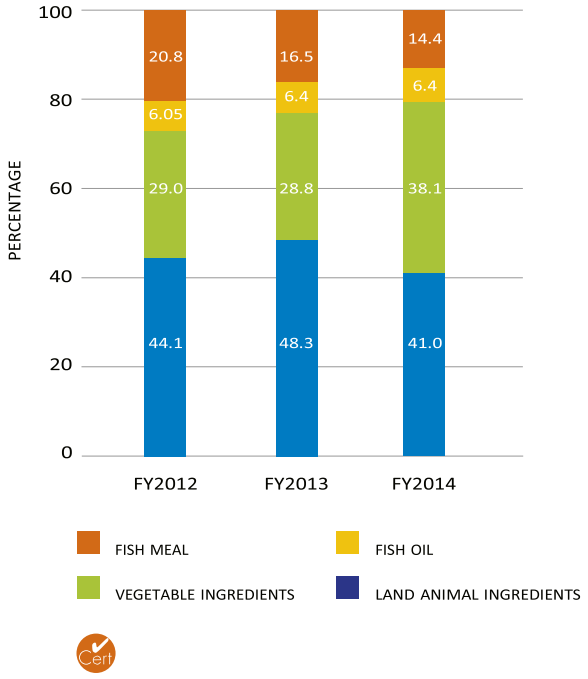
Skretting developed MicroBalance™, a tool that provides very precise knowledge of the nutritional needs of the fish. Knowledge of the raw materials' micro-nutrient content is vital when aiming to avoid being reliant on certain raw materials, such as fishmeal, and allows the flexibility to use different ingredient combinations in our feeds.

Since the introduction of MicroBalance™ to Tassal's fish feed in 2010, a continued reduction in our reliance on marine resources has resulted in fishmeal inclusion levels in our main grower feed are now as low as 8%.

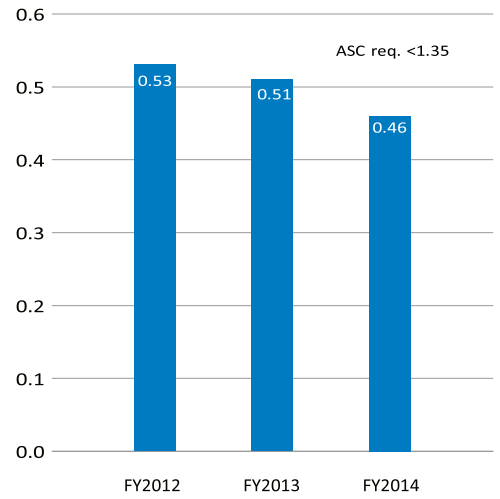
An increase in vegetable ingredients in our feed is the result of the inclusion of canola oil in the diets. This is part of a higher energy diet that is now used in the cooler months called 'Optiline Premium', from which higher energy plus metabolic activators delivers a lower feed conversion ratio, improved growth performance and a higher fillet fat and Omega-3 content. In other words, we can grow more healthy fish with less feed and reduce our reliance on marine resources.

With the introduction of canola oil into the feed, there was a corresponding decrease in terrestrial oil and protein. Whilst we have not increased actual fish oil levels in the diets, the small proportional increase relates to the proportional decrease in fish meal inclusion. We continue to focus on reducing our reliance on wild fish stocks in our feed.

Raw materials in Tassal feeds

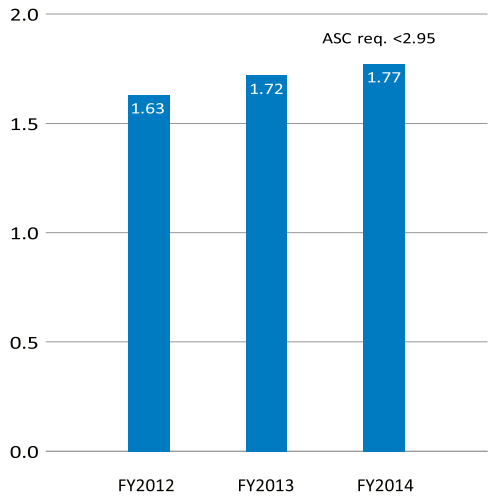


FFDRm* for Tassal feeds



Forage Fish Dependency Ratio (fish meal)

FFDRo* for Tassal feeds



Forage Fish Dependency Ratio (fish oil)

Understanding the Impacts of Salmon Farming

No farming operation is without impact, and Salmon farming is no different. These impacts may be both environmental and social. Although environmental impacts are well researched and understood, continuing to deepen our understanding through research and listening to stakeholder feedback provides the opportunity to reduce and sometimes eliminate impacts altogether.

Tassal is committed to reducing the impact of farming operations on biodiversity. As part of our ASC certification, reporting to Principle 2 'Conserve Natural Habitat, Local Biodiversity and Ecosystem Function' addresses the potential impacts from salmon farming, in particular, the key impact areas of benthic impacts, siting, effects of chemical inputs and effects of nutrient loading. Regular auditing by the ASC provides us with scope to evaluate the effectiveness of our monitoring activities.

Impacts on Amenity

Impacts of Salmon farming to amenity are of interest to all stakeholders that either live on or near, or regularly use the waterway. Amenity is an individual experience and what is acceptable to some may not be acceptable to others. Visual and noise impacts as well as the physical location of Salmon farms all have the potential to impact amenity.

The visual look of a Salmon farm is regulated with respect to colour and height of infrastructure. We have worked closely with neighbours to sites being amended as part of Tassal's South East Region Optimisation Plan during the reporting year in order to substantially improve visual amenity outcomes. Reducing noise output from marine farming operations is something that we have been investing in now for five years with excellent outcomes including a substantial drop in noise complaints. All environmental impact statements prepared as part of our amendments to marine leases involve detailed visual and noise reports.

Ease of navigation for recreational and commercial vessels is also an important consideration not only for amenity but for safety. To this end we have undertaken a comprehensive navigational risk assessment both within Tassal and with the broader salmonid industry. Consultation with Marine and Safety Tasmania (MAST), TasPorts, and yachting, tourism and commercial fishing interests have informed the risk assessments. An educational video is being developed which will communicate issues highlighted by the risk assessment to the recreational boating community.

Recreational and commercial fishing access

The physical reality of a Salmon farm is that it does have a 'footprint' on the water which necessarily reduces the opportunity for fishing in that particular location. However, regulations ensure that Salmon farms are not sited over rocky reefs, meaning that no abalone or rock lobster fishing territory is precluded by the presence of a Salmon farm. Line fishing is permitted outside the lease area noting that within the marine farming zone, underwater infrastructure exists to within five metres of the surface.

Environmental Impact on waterways

Principle 2 of the ASC Salmon Standard is intended to address the potential impacts from Salmon farms on natural habitat, local biodiversity and ecosystem function. Specifically, key impact areas of benthic impacts, siting of leases, effects of chemical inputs and effects of nutrient loading are addressed in our reporting to the ASC Standard.

Marine Debris

Marine debris has been highlighted by stakeholder materiality assessments as one of the most important issues for the Salmon farming industry to solve. Our 'Adopt a Shoreline' approach is continuing and we are seeing modest results from the implementation of farm level waste mitigation plans. Whilst farm staff do conduct clean-ups in FY2015 we will focus on improving site ownership of the issue by holding farm staff workshops and increasing staff engagement in community based marine debris clean-ups.

The increase in the percentage of rubbish attributable to salmon farms is the result of a focused effort by Tassal staff to clean up historic debris in the upper reaches of Macquarie Harbour, an area which has not previously been undertaken for clean up.

	Volume of rubbish removed m^3	Hours	% attributable to Salmon farms
FY2012	20	335	50
FY2013	30.9	363	59
FY2014	29.5	342	68

Note: "% attributable to Salmon farms includes all rubbish which originated from any salmon aquaculture operation, not just Tassal.

Visual Changes to Water Surface

Observations have been made of glassy calm water on the leeside of farming operations and this has been interpreted by some as a feed oil slick. This is a naturally occurring phenomenon that is often observed also on vessels and other infrastructure on the water. In response, Tassal sampled this surface water in Macquarie Harbour and in the D'Entrecasteaux Channel. Samples have shown no evidence to suggest a Salmon farming derived cause for these sea surface conditions, although there is a suggestion that the high organic oil content in Salmon feed may contribute to this by breaking the water's surface tension at a sea cage scale i.e. within lease boundary.

Impact on Wild Fish Populations

As Atlantic Salmon are not native to the southern hemisphere, there are no wild populations of Atlantic Salmon in Tasmania. Further to this, farmed Atlantic Salmon are primarily all female, with remaining farmed areas containing non-reproductive fish. Additionally, fish escape protocols and operational responses to eliminate escapes of farmed Salmon have been implemented across all of Tassal's marine farming regions as part of our ASC requirements.

The potential of Salmon farming operations to impact native fish stocks is mitigated by State and Commonwealth biosecurity legislation, which contains provision for strict regulation and monitoring to preclude potential disease transfer between farmed and native fish. Stock Assessment reports completed by IMAS strongly demonstrate that historic decline in some native fish stocks, both in Salmon farming regions and elsewhere within the state are the result of recreational and commercial fishing pressure.

Biodiversity

Studies by Edgar et al. (2009) showed that salmonid aquaculture in Tasmania impacts fauna in sediments and sediment properties beneath and near to farm leases. Effects detected by the study on sediments near farm leases included a decline in quality of sediments, an increased faunal dominance pattern and an increased proportional abundance of capitellid worms.

Benthic impacts from aquaculture are primarily associated with the settlement of solid waste products. Many studies have been conducted on the impact of marine farming on the benthic environment around fish farms with known effects that are well understood (Black et al. 1997, Hargrave et al. 1997, Crawford et al. 2002, Macleod et al. 2002).

The majority of feed is ingested and metabolised by the Salmon, a very small percentage is uneaten and some may be deposited in particulate form on sediments under stocked pens (NPI 2001). As part of our ASC accreditation, benthic monitoring results are audited. An additional focus of the certification is limiting the 'fines' or crumble factor in our feed to <1%.

The degree of impact to sediments is influenced largely by the rate of water exchange at particular sites, water depth, sediment characteristics, feed management systems, the physical characteristics of feed (e.g. settlement rate), pen size and pen separation distance (Holmer 1992, ICES 1995).

Visible impacts of solid waste deposition tend to be confined to directly under stocked pens, evident as distinct 'footprint' zones (Crawford et al. 2001). Benthic monitoring and research conducted at various sites throughout Tasmania has shown that physico-chemical and biological impacts extend beyond this footprint zone, but are generally not discernible more than 35 metres from the edge of the pen (Woodward et al. 1992, Macleod et al. 2002). Benthic impacts are reversible and an impacted site can recover to background conditions; however the time taken for this recovery is dependent on a range of factors including previous stocking practices, husbandry techniques and environmental conditions in the region (Black 2001).

Critical or sensitive habitats and species

The ASC Salmon Standard requires us to demonstrate an awareness of critical, protected or sensitive habitats in close proximity to farms, and to understand how the environmental impacts of marine farming operations could potentially affect or modify the behaviours and habitats of threatened or endangered species. Annual compliance monitoring in and around leases that we undertake also records the presence of any threatened species, and are reported to government as per regulations.

A three year research project through the Tasmanian Salmon Growers Association and co-funded by the three salmonid farming companies operating in Macquarie Harbour, including Tassal, examined the movement and habitat utilisation of the endangered Maugean skate was completed during the reporting year, and will be published in FY2015.

Giant Kelp forests in South East Tasmania are also the subject of a collaborative research project between Tassal and IMAS with relation to mapping kelp communities through the use of drone technology, in addition to a planned collaborative project in FY2015 with the FDRC, IMAS, 3rd party consultants and the wild fishery sector which will look at subtidal reef and macro algal monitoring. Tassal also has its own internal Giant Kelp mapping and monitoring programs undertaken by third party consultants, and has a reporting framework and database to capture this information which feeds into certification and regulatory requirements. We know that the warmer waters moving south towards South East Tasmania are nutrient poor and are impacting the Giant Kelp forests. Research has been undertaken to determine whether the nutrient deposits from Salmon farming may in fact be beneficial to the forests. Subsequently, Tassal is currently looking at the potential of integrated multi trophic aquaculture which means that the nutrient output of salmon farming would feed the kelp forests.

In conjunction with the Giant Kelp research, work is also being undertaken in collaboration with the Threatened Species section of DPIPWE to monitor and record the presence of handfish in the South East. The results of the survey will be reported in FY2015. These species are not common in the exposed areas of marine farming in operations due to their presence in sheltered areas. Any new site amendments require an extensive handfish assessment survey if environmental conditions are favourable, such as depth of water and sediment type.

Marine Vegetation

Marine farming operations have the potential to impact on marine vegetation if those operations are sited over or adjacent to marine flora, however regulations do preclude the siting of marine farms over rocky reefs.

In marine coastal waters, the two most important elements promoting algal growth are nitrogen and phosphorous in their dissolved forms, both of which are released into the receiving environment from feed inputs, however it is assumed that

Respecting Tasmania's Conservation Values

nitrogen is more likely to be limiting for growth in marine conditions than phosphorous (Sanderson et al. 2008, Mente et al. 2006).

Overall, approximately 5% of the total feed input is released into the environment as a form of nitrogen, of which 85% is released as dissolved nitrogen, and 15% in its particulate form (Ross and Macleod 2013). Assessment of the monitoring data for the D'Entrecasteaux Channel and Huon River, has shown that at the maximum level of industry production allowed under regulation, the ecosystem has the capacity to assimilate the inputs from Salmon farming activities as well as other human and natural sources.

For instance, Giant Kelp has been shown to respond favourably to the supply of nutrients from sewage outfalls and other nutrient sources (Eddyvane 2003, Parsons 2012). Studies suggest that the complex nature of the structure and function of macroalgal assemblages makes it difficult to discern any direct influence of aquaculture (Crawford et al. 2006).

Cumulative impacts of Salmon farming in the D'Entrecasteaux Channel and Huon River

Salmon farming has occurred in the D'Entrecasteaux Channel and Huon River for almost 30 years. The cumulative impacts of Salmon farming in these waterways are independently monitored through the Broadscale Environmental Monitoring Program (BEMP). The report 'Evaluation of the BEMP data from 2009 – 2012' is available at www.dpipwe.tas.gov.au/ sea-fishing-aquaculture/marine-farming-aquaculture/marinefarming-broadscale-monitoring-data-evaluation-2009-2012. Like any good monitoring program, it can be adapted over time in response to new information and technology. A comprehensive State of the D'Entrecasteaux and Lower Huon River report detailing all impacts to these waterways is available at www.ourwaterway.com.au

Tasmania is recognised internationally for its beautiful marine and land based environment. As an organisation that uses these environments for commercial purposes, we have an obligation to respect and work with the environment rather than against it.

Marine Reserves and Marine Conservation Areas

Tasmania's waterways are subject to a range of formal spatial conservation and management arrangements that aim to protect natural values, both along adjacent coastlines and in the marine environment.

Tassal has no marine leases sited within marine reserves, although some leases are contained within marine conservation areas most of which were created in 2009 via the Nature Conservation Act 2002 – some years after the establishment of these marine farming leases. Generally, marine reserves have a higher protection status than marine conservation areas and any form of recreational fishing is prohibited in a marine reserve.

Marine reserves close to Tassal's operational areas are located at Tinderbox and Ninepin Point. Marine conservation areas relevant to Tassal's operational areas are those at Central Channel, Simpsons Point, Roberts Point, Huon Estuary and Port Cygnet.

These areas are either solely managed by Tasmanian Parks and Wildlife Service or in conjunction with the Marine Resources Branch of DPIPWE. Specific Information regarding the natural values of these marine reserves and marine conservation areas

is available on the Parks and Wildlife website at www.parks.tas.gov.au/indeX.aspX?base=397 .

Appendix 1 details the proximity of each of Tassal's operational leases to the above marine reserves and marine conservation areas.

Two of Tassal's leases are close to land based national parks. The existing Butlers lease in Great Taylors Bay is approximately 150m from a walking track which follows the Labillardiere Peninsula in the South Bruny National Park. If approved, the proposed amended Butlers lease will be further offshore. The lease can be seen intermittently from the walking track through the vegetation for less than 10% of the length of the walking track.

The new (approved December 2012) Franklin Lease in Macquarie Harbour is 525m from the boundary to the Tasmanian Wilderness World Heritage Area (WHA). The siting of this lease was sensitive to visual impact from the majority of visitors to the WHA and was fully assessed by the Federal Government's Department of the Environment under the Environment Protection and Biodiversity Conservation Act 1999 (the EPBC Act).

Shark Refuge Areas

A number of shark refuge areas have been set aside throughout Tasmania which are important habitats critical to the breeding of school and gummy shark, skates and rays. The whole of the D'Entrecasteaux Channel and Huon River is a shark refuge area which encompasses the majority our operational leases in South East Tasmania.

New Site Development

Following the approval of industry expansion in Macquarie Harbour in December 2012, Tassal embarked on the South East Regions Optimisation Plan (the Plan) in 2013, a key project that supports the delivery of sustainable growth for the business.

The primary goal of the Plan is to improve fish health and welfare, optimise fish growth and better manage the marine environments within which we operate. The Plan covers all of Tassal's marine leases within South Eastern Tasmania waterways and involves amendments to some of our existing marine leases and applying for some new leases. We have a responsibility to operate these sites in an environmentally and socially responsible manner. The Plan is adaptive in approach and is constantly being modified to address stakeholder concerns and recommendations of environmental research.

The quantity of Salmon grown in the D'Entrecasteaux Channel and Huon River is limited by government regulations which place a cap on the amount of feed which can be inputted into the waterway (nitrogen cap).

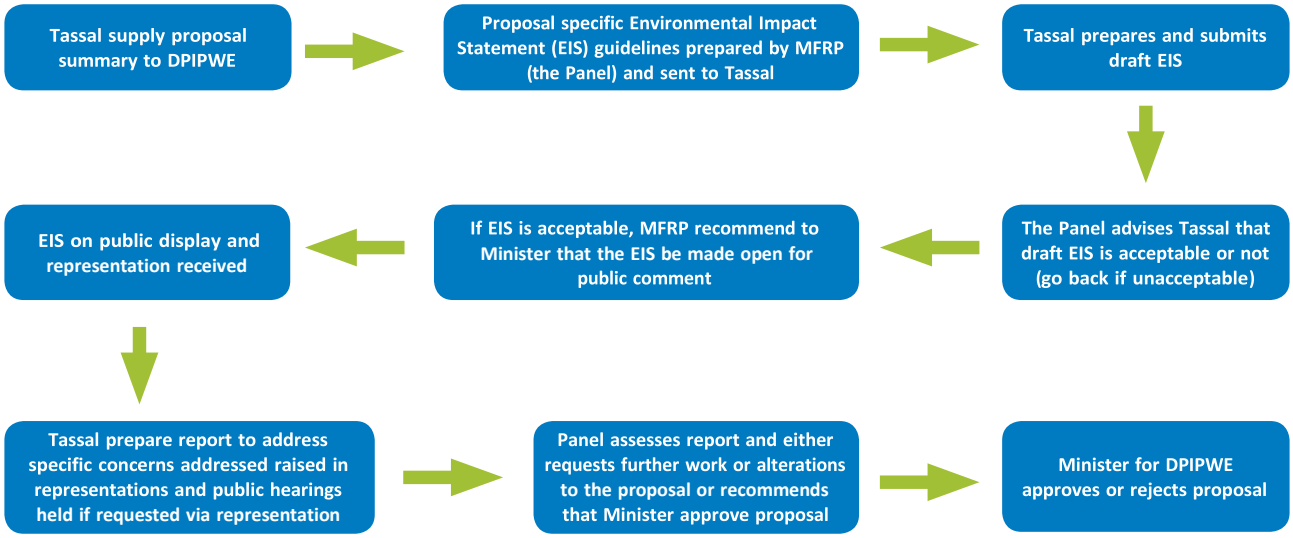
The nitrogen cap is based on scientific research and ongoing monitoring ensures that the capacity of the Huon River and D'Entrecasteaux Channel to assimilate nutrient inputs from Salmon farming is not compromised. This nitrogen cap will not be exceeded as a result of any amendment.

Marine farms are approved and regulated by the State of Tasmania. They are not under Federal jurisdiction. The marine farming industry is regulated by the Department of Primary Industries, Parks, Water and Environment (DPIPWE) under the Living Marine Resources Management Act 1995 and the Marine Farming Planning Act 1995. Under the latter Act,

Summary of Site Amendment Process

marine farming development plans are prepared, designating areas in State waters where marine farming may occur.

All marine farming operations must be licensed under the State's Living Marine Resources Management Act 1995. Licenses include environmental conditions to ensure that marine farming operations are sustainable and do not have an unacceptable impact on the marine environment.



Note: The Marine Farming Planning Review Panel (MFRP) is the independent expertise based panel which assesses amendments to marine farms.

Note: The Environmental Impact Statement (EIS) is a document addressing all environmental, social and economic impacts of the proposal. On ground research and consultation is documented in the EIS.

Summary of the South East Regions Optimisation Plan

Site	Summary of proposed changes to lease	Why	Status (end of FY2014)
Creeses Mistake (Tasman Region)	• Extend the current Lease by 500 meters to the west • 15º lease rotation to the South • 22 pen bay positions to be increased to 30 pen bay positions • Expansion of zone	• Improve animal and benthic health • I ncreased biosecurity • Improved fallowing management • Increased environmental stability with lease rotation to capture better water flows • Zone increase to provide adequate scope for underwater mooring system	• P ublic consultation throughout FY2014 • A mendment approved 10/4/2014 • C onstruction commencing third quarter 2014

Butlers (Great Taylors Bay)	• Increase lease and zone area • Number of pens increased from 10 to 20 • Move lease further offshore	• Flexibility for lease area management (allocation of smolt or harvest sized fish to specific areas to improve environmental and fish health outcomes) • Improved fallowing opportunities for Huon River sites • Zone increase to house underwater mooring system	• S takeholder consultation ongoing • E IS submitted
Lippies and Browns*	• Amend existing leases currently not utilised • Relinquish Browns lease • Increase size of Lippies lease and zone	• Allow for adequate cage numbers and moorage assemblies to be cost effective as an operational lease • Meet long term strategic targets for growth • Allow for optimal fish health and growth performance • Exposed nature of site supports best practice environmental performance • Zone increase to house underwater mooring system	• E xtensive public consultation ongoing • E IS drafted
Port Arthur	• Re-open existing lease – not stocked since 2005	• Meet long term strategic targets for growth	• In planning stage • P reliminary consultation underway
West of Wedge	• N ew lease	• Meet long term strategic targets for growth • Improve internal capacity for farming in exposed sites	• In planning stage • P reliminary consultation underway • E nvironmental monitoring underway

** Original proposal to expand both leases were substantially modified as a result of stakeholder feedback*

Change can often bring concern and fear to the foreground which is why throughout the planning and implementation phases of Tassal's South East Region Site Optimisation Plan Tassal has and will continue to genuinely consult with all relevant stakeholders. During the reporting year we have made substantial changes to proposed lease amendments that have resulted from this consultation. This has been challenging both for Tassal and our stakeholders who are learning to trust that we will do what we say we will do. We recognise that some stakeholders may never trust a large organisation such as ours, however we sincerely believe that our actions this reporting year have gone some way towards developing trust with many of our stakeholders.

Apart from ASC stakeholder meetings, stakeholder feedback to Tassal has been largely centred on the South East Region Optimisation Plan and covers off a number of broad areas of concern:

- Environmental impact of Salmon farming on our waterways
- Marine debris
- Impact on wild fish populations
- Recreational and commercial fishing access
- Amenity impacts
- Cumulative impact of Salmon farming in the D'Entrecasteaux Channel and Huon River
- A view that enough Salmon farms exist in the D'Entrecasteaux Channel and Huon River.

We have clearly heard the message from some of our stakeholders that there are enough Salmon farms in the D'Entrecasteaux Channel and Huon River. In fact, our South East Region Site Optimisation Plan is already resulting in a decrease in farming pressure in the Huon River as existing smolt sites there are fallowed on a seasonal rotational basis with the existing Butlers lease re-opened in March 2013. Tassal's long term strategy for growth does not include increasing our overall footprint in these waterways and we are looking to more exposed, offshore sites for those opportunities.

Aquaculture Best Practice Certifications

Best Aquaculture Practices Certification

Tassal maintained certification to the Best Aquaculture Practices (BAP) Salmon Farm and Seafood Processing standards during the reporting year.

BAP certification is voluntary, and defines the most important elements of responsible aquaculture, including environmental compliance, wildlife interactions, food safety, antibiotic use, fish welfare, feed composition and social responsibility.

Aquaculture Stewardship Council Certification

Two of Tassal's six marine farming regions became certified to the Aquaculture Stewardship Council Salmon standard and another three were audited during the reporting year. Certification was gained at our Macquarie Harbour and North West Bay Region grow out leases, and audits conducted at Dover, Bruny Island and Tasman Regions. Our final ASC certification audit is scheduled for the Huon Region in September 2014 and we anticipate being fully ASC certified by early November 2014.

The ASC is an independent not for profit organisation founded in 2009 by the WWF (World Wildlife Fund) and IDH (The Sustainable Trade Initiative) to manage global standards for responsible aquaculture. The goal of the ASC Salmon standard is to offer measurable, performance based requirements that minimise or eliminate the key negative environmental and social impacts of Salmon farming while permitting the industry to remain economically viable.

All aspects of the assessment process are carried out by SCS Global Services, an Accreditation Services International (ASI) accredited conformity assessment body, in direct accordance with ASC requirements.

In order to ensure a thorough and robust assessment process, in which all interested stakeholders were afforded opportunities to participate, SCS sought comment from the public through direct mailing and posting advisories on the ASC website. The audit team was available for engagement during onsite visits and also set aside time for stakeholder meetings, advising interested stakeholders of venue and time by direct email.

RSPCA

Tassal has conducted a detailed gap analysis of operations against the RSPCA UK Welfare Standards for Farmed Atlantic Salmon with an aim to bring our operations in line with the compliance criteria, including criteria for general management, fish health, husbandry practices, equipment, feeding, environmental quality and environmental impact, presmoltification in freshwater, transport and slaughter.

In February 2014 Tassal engaged the RSPCA Australia and RSPCA UK, inviting representatives to spend a week visiting our hatchery and grow out sites. At the conclusion of this visit, RSPCA UK provided us with a detailed report outlining observations made and highlighting areas for consideration within the context of the northern hemisphere, including hatchery stocking densities and incorporating a more efficient and effective stunning table in harvest operations. Tassal is now working with RSPCA Australia to develop draft guidelines for the southern hemisphere.

WWF-Australia and Tassal Group partnership – our journey to sustainability three years on.

WWF-Australia and Tassal have worked together in a partnership for sustainable aquaculture since 2012. The objective of this partnership is to ensure that all Tassal seafood is produced to the highest global standards of responsible aquaculture practices by 2015. As the industry leader in Australian aquaculture, Tassal's commitments will have a far-reaching impact on the seafood supply chain in Australia. This third year of the Tassal and WWF partnership has yielded the most significant achievement throughout the partnership period.

In April 2014, Tassal achieved Aquaculture Stewardship Council (ASC) certification for its Macquarie Harbour growout area, marking the first of Tassal's operations to achieve this internationally recognised standard.

This meant that Tassal became the first Salmon farm in Oceania to be ASC certified, and the first producers of an ASC certified product in Australia. A second growing area, North West Bay, was certified in June 2014.

With a major milestone of the Tassal and WWF partnership being the certification of all Tassal aquaculture operations by 2015, the certification of these two areas represents impressive progress towards this important target.

The ASC's standards include strict requirements for the management of nutrient impacts as well as monitoring, feed inputs, minimisation of escapes, chemical use and predator control, amongst other core issues. These requirements ensure that only operators performing world's best practice are able to comply with the standards and gain ASC certification.

WWF-Australia has helped Tassal on this journey by providing expert advice on the development and implementation of Tassal' sustainability strategy,

Significant progress has been made in this third year of partnership. Key achievements for Tassal in FY14 were:

- Tassal benchmarked as the world's best Salmon or trout farming business in corporate, social and environmental reporting
- Continued investment of significant resources in the roll out of the predator-proof KikkoNets (a further 40 nets were installed during the reporting period with another 26 on order for FY2015) and seal-proof birds nets to minimise interactions between people and seals
- The last nets to use copper based anti-foulant paints were removed in February 2014, signalling completion of the milestone to remove these copper treated nets ahead of schedule
- Open and transparent reporting of all seal interactions within aquaculture operations in real time through the ASC Dashboard
- Reduced wildlife interactions with seabirds, seals and other marine mammals
- Maintained a world leading Forage Fish Dependency Ratio

"Customers are demanding more sustainable products. Sustainability makes sense for the environment, and for the long term profitability of Australian companies.Fish production from aquaculture is currently the fastest growing animal-food-producing sector in the world, accounting for nearly half of the world's total food fish supply.

It is critically important then that aquaculture operations such as Salmon farms are managed responsibly so that the industry can be part of a solution to feeding a growing global population without placing further stresses on the environment.

I would like to congratulate Tassal and its staff for becoming the first Australian producer of farmed seafood to achieve gold standard Aquaculture Stewardship Council certification. This is a great example of an Australian company demonstrating global leadership on sustainability."

Dermot O'Gorman,

Chief Executive Officer, WWF-Australia

reviewing Tassal's operations and providing guidance throughout the various stages of ASC certification.

Wildlife Management

Tassal remains committed to operating responsibly alongside wildlife that are the rightful inhabitants of the environments in which we operate.

We are always working to minimise the impact we have on wildlife and are committed to equipping our staff with the knowledge and skills to fulfil this, whilst acknowledging that sometimes, negative impacts do occur.

Some detrimental outcomes of wildlife interactions may include injury to employees, contractors, or visitors and/or death or injury to fish or wildlife.

During the reporting period, Tassal developed and implemented an internal Wildlife Management System (WMS). The purpose of this management system is to support our Wildlife Interaction Plan to ensure that all facets of wildlife interactions are handled to the highest standard which will in turn reduce negative impacts.

The ASC Salmon Standard addresses the potential impacts from Salmon farms and identifies specific criteria with relation to wildlife interactions to ensure that certified farms have minimal impact on wildlife populations. Our certification to the ASC standard means that we are required to make information about lethal incidents publicly available and now do so within 30 days via the ASC Dashboard. There were no non-compliances with laws, regulations, of voluntary standards with relation to transportation, handling and slaughter practices for live terrestrial and/or aquatic animals.

Seal Interactions

We farm our fish in a natural system and no day, week or season is the same as another. For this reason, seal interactions with our farms are constantly changing and we are always adapting our approach to managing the interactions between seals and our farms.Minimum exclusion measures for marine farming infrastructure is prescribed by the Wildlife Management Branch of DPIPWE, and Tassal has invested considerable resources into ensuring that seal interactions are minimised.

Seal numbers have increased significantly in recent years due to their protection status. Australian and New Zealand Fur seals are known to cause fish losses through biting through pen nets and also present a safety risk to workers and visitors to the sites.

Exclusion measures

KikkoNet	KikkoNets have proved to be effective against wildlife exclusion and entanglements and KikkoNets are our primary net type deployed. Tassal is required to meet minimum exclusion requirements as per DPIPWE Wildlife Management Branch regulations, including net breaking strain. KikkoNets far exceed these minimum requirements.
K-Grid Nets	K-Grid nets are comprised of two interwoven polymers to form a ridged net which withstands the forces of large predators. Tassal has planned a trial at one of our South East sites early in FY2015.
Seal proof bird nets	Seal proof bird nets are deployed at the maximum height and tension achievable on a pen structure to prevent birds feeding and seals entering stocked pens.
Seal jump fences	Seal jump fences consist of a raised mesh netting suspended at a minimum of 2.4 metres above the waterline, encircling the pen and have a 300kg breaking strength rating. The fences are an additional exclusion measure implemented on our nets with larger mesh size.
Internal rigging audits	DPIPWE regulations require all pens to be rigged in a manner which excludes possible entanglements. Tassal's Senior Wildlife Management Officer conducts regular rigging audits of pens at each farming lease to ensure maximum exclusion capability.

Actual relocations have decreased this year as we have shifted our seal management focus to seals that have entered the pens, rather than targeting relocation of seals within the lease area. The reason for this change is that some seals have learned to defeat our exclusion measures. Two thirds of the relocated seals in FY2014 are located at one farm which is experiencing greater than historic seal pressure due to the success of our exclusion measures at other sites.

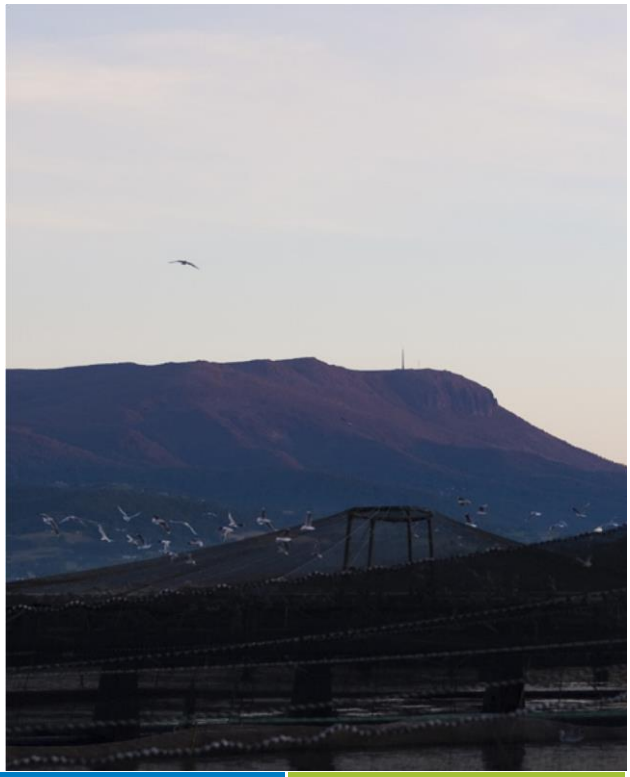
	FY2012	FY2013	FY2014
Relocation events	29	144	90
Euthanised	3	1	0
Accidental death (relocation)	1	4	1
Accidental death (entanglement)	5	7	5

Bird Interactions

In southeast Tasmania, it is common for many hundreds of Silver Gulls to be roosting on a single farm at one time.

The vast majority of birds interacting with our farms are Silver Gulls. Tassal staff at each farming region participate in an annual gull count, contributing to a 30 year data set. The count is coordinated by BirdLife Tasmania, and the data analysed supports the theory that a re-distribution of Silver Gulls is occurring away from their 'traditional' feeding and roosting areas on foreshores and waste disposal facilities towards new feeding and roosting areas. This is in response to the closure of local tips which has reduced the availability of food to the gulls. Sometimes birds become entrapped within the aerial netting enclosing a Salmon pen.

There has been an overall steady improvement in regard to bird interactions and welfare outcomes since reporting began April 2013. The implementation of our Seabird Rescue Strategy has enhanced welfare outcomes for the rare cases where birds require care.



	FY2012 (3 months)		FY2013 (12 months)		FY2014 (12 months)	
Region	**Accidental death**	**Alive and released**	**Accidental death**	**Alive and released**	**Accidental death**	**Alive and released**
North West Bay	4	92	3	96	13	41
Bruny	4	139	7	65	7	176
Huon/Great Taylors Bay	4	58	2	237	4	282
Dover	17	168	2	53	0	184
Tasman Peninsula	1	16	0	183	4	188
Macquarie Harbour	2	48	1	268	5	80
Total	**32**	**521**	**15**	**902**	**32**	**952**

Note: Tassal Bruny Island region's bird interaction numbers published in last year's sustainability report were incorrect, as due diligence for bird numbers was not completed. As a result of this discrepancy, Tassal has convened a Wildlife Working Group, which meets quarterly. A Wildlife Interactions Reporting Procedure will also be developed to create controls around recording of interactions to streamline the reporting process.

Shark Interactions

Sharks are protected in the D'Entrecasteaux Channel. They may occasionally enter a pen and they are captured using a large net to safely remove them. During the reporting year, although interactions with sharks at our marine farms are relatively rare, in response to stakeholder requests, we have started recording shark interactions for the first time. No shark deaths have occurred at any of our sites in the past four years.

Region	Accidental death	Alive and released
North West Bay	0	2
Bruny	0	1
Huon (Butlers lease)	0	1
Dover	0	1

Whale Interactions

In recent years there have been increased sightings of cetaceans in the D'Entrecasteaux Channel and surrounding waterways. Stakeholder feedback has prompted us to review our practices to ensure that we reduce the potential of an interaction. Aside from assisting with whale rescues, no whale interactions have ever occurred. In FY2015, we will work with local wildlife researchers to develop a Code of Best Practice to reduce the likelihood that whale interactions will ever occur at our farms.

Salmon escapes from our farms

Tassal is committed to exceeding the required regulations related to fish containment, and imposes stringent internal standards across all aspects of our operations. While our marine farming licences do not require us to report escape events of less than 500 fish, we have made the decision to report escape events of 100 fish or more. No escape events occurred during the FY2014 reporting period.

This result can be attributed to the continued rollout of KikkoNets and ongoing implementation of our internal Escape Prevention and Response Protocol (EPRP). The EPRP outlines procedures to follow in the event of a known or suspected escape event and relates to operational procedures, reporting procedures and information recording protocols. The aim of the EPRP is to prevent and understand escapes and stock leakage via means of education, training, standard operating procedures, inventory management, ad hoc community feedback, and continual improvement in areas of control.

Risks associated with escaped farmed Atlantic Salmon are negligible as they do not establish wild populations in Tasmania. Tassal has further minimised this risk by the exclusive farming of sterile triploid fish in Macquarie Harbour, which eliminates the risk of escapees populating waterways. The breeding of triploid fish has commercial benefits such as a faster growth cycle than the all-female diploid, however, this population of fish has higher deformity rates. Tassal strives to reduce deformity rates in triploids on a yearly basis.

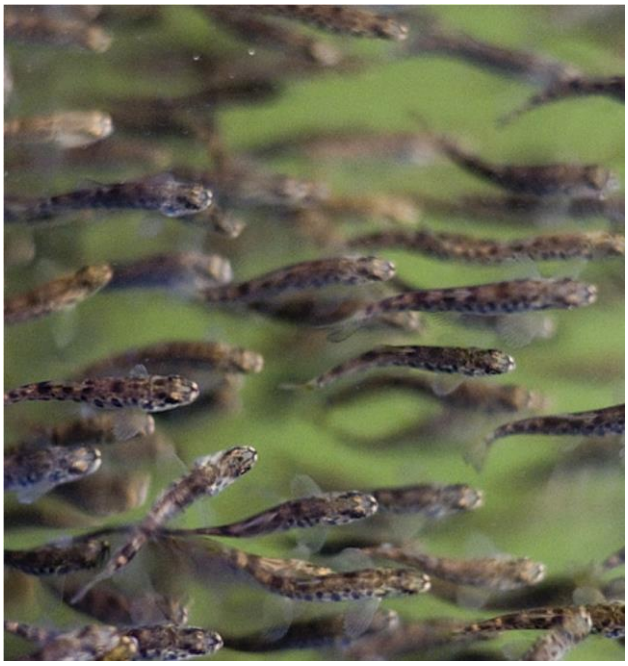
During the reporting year, Tassal commissioned the report: 'Evaluation of Practices on Salmon Farms to Mitigate Escapes and Ecological Impacts' from IMAS (Institute for Marine and Antarctic Studies).

The objective of this was to:

- Provide an independent assessment of domestic and international regulations regarding escaped salmonids from sea cage culture operations
- Report on the sustainability and effectiveness of Tassal's management practices and action plans designed to minimise, monitor and respond to escape events
- Identify key ecological risks associated with escapes of Atlantic Salmon and provide an assessment on the level of risk posed by escapees in Tasmania.

The report found that:

- Reporting conditions equipment standards in Tasmania are adequate and comparable with many of those in the northern hemisphere. It is evident that Tassal is keen to exceed the required standards and introduce stringent standards for fish containment.
- Tassal's progress in implementing and refining escape prevention strategies has been reflected in the decreasing incidence of escape events over the past few years. This is likely to continue despite projections of higher production levels in the future.
- Tassal's Fish Health Management Plan includes effective fish health and biosecurity management and escape prevention strategies which will minimise the spread and impact of diseases already present, and avoid the spread of diseases present to other regions.



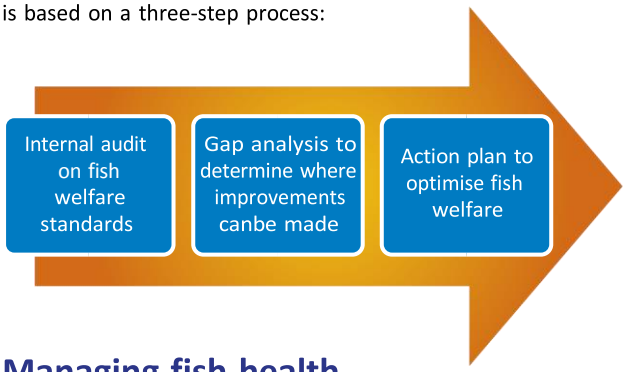
Zero Harm for Fish

The health and welfare of Tassal's fish is a top priority for the company, as our fish are in fact our business. Algal blooms can cause irritation to gills, sometimes produce toxins and at worst may cause asphyxiation.

Tassal has appointed a new fish health laboratory technician who will have a vital role in co-ordinating Tassal's new purpose-built fish health laboratory further supporting our Salmon health and welfare targets under our ASC certification.. The addition of this new facility will assist in building fish health and welfare capacity. Capabilities of this laboratory include environmental testing (water quality) and fish health testing (bloods, gross pathology, sampling for bacteriology and histopathology).

The fish health team plays a pivotal role in providing support to marine operations, and works closely with the technical officers across all marine sites and hatcheries to improve and maintain a high standard of fish health and welfare.

Tassal strives to continually improve fish welfare across all marine sites and hatcheries, and, to ensure that we in fact do this, during FY2014, Tassal developed a new framework to be rolled out in FY2015 to better support fish health and welfare: 'Zero Harm for Fish'. The program is based on the RSPCA UK fish welfare guidelines and sets the standard for what the company wishes to achieve. The Zero Harm for Fish program is based on a three-step process:



Salmon Health and Welfare

Breeding and Genetics

The Atlantic Salmon farmed by Tassal were originally brought into Australia in the 1960's from Canada, with no further introductions since that time. Since being imported from mainland Australia into Tasmania in 1984 the population has been carefully managed to maintain the genetic health of the stocks. In 2004, Tassal led the push to introduce a genetically family based Selective Breeding Program (SBP) in Tasmania in collaboration with the CSIRO. This program is based at SALTAS, an industry cooperative hatchery in central Tasmania.

All (100%) of Tassal Atlantic Salmon production is genetically improved. It is important to note that the traditional breeding methods used by Tassal use molecular biology, and not GMO technology.

The Tasmanian SBP selects for resistance to amoebic gill disease (AGD) and harvest weight as primary traits, and also monitors early maturation at sea, fillet colour and Omega 3 levels as secondary traits.

Commercial gains from the SBP were first realised in the 2012 smolt inputs, with a reduction in the number of AGD treatments (freshwater bathing) required becoming immediately apparent. The 2013 smolt inputs have shown further improvements in the number of AGD treatments required as well as in growth and handling resilience.

The Tasmanian SBP has utilised DNA pedigree technology to identify familial relationships since its inception. As such, the SBP is now perfectly placed to adopt emerging genomic technologies and reap the benefits of the recently completed Salmon genome project.

Tassal, through its major shareholding in the SBP is involved in research projects with the CSIRO that are investigating areas as diverse as the control of sex and maturation, the impact of sterilisation on genetic selections, physiology, and the genetic mechanisms of resistance to bacterial and viral challenges.

Managing fish health

Salmon face different health challenges according to the stage of their life cycle, local environmental variables and whether they are in a freshwater or saltwater marine environment. Tassal works to mitigate these challenges through a variety of operational and technical mechanisms applied during the entire lifecycle of the fish. These include: improved smolt transport, algal monitoring, feed formulations, fish handling protocols and wildlife exclusion. To support their primary role of ensuring fish health and welfare, our fish health team is also involved in a number of research and development collaborations with thought leaders in this area.

Marine based Fish Health Issues

Algal blooms and Jellyfish

Sporadic mortalities during the reporting year in the South East were caused by algal blooms, which can be common in these

sites. Algal blooms can cause irritation to gills, sometimes produce toxins and at worst may cause asphyxiation.

Each site monitors daily for potential harmful algal blooms in order to determine the risk to fish.

Jellyfish populations in the South East can wax and wane depending on temperatures, tides and season. These creatures can be problematic, causing contact irritation and low dissolved oxygen stress. Tassal is proactive in jellyfish management, using an in-pen venturation system as a part of our summer strategy to reduce the risk to our fish.

POM-V (pilchard orthomyxo-virus)

In FY2013, Tassal reported findings of an Orthomyxo-like virus. Assistance from Australian Animal Health Laboratories with gene sequencing, found that this virus was in fact Pilchard Orthomyxovirus. Salmon are likely incidental recipients of this disease, as it is found endemically in local pilchard populations. Through the implementation of stringent biosecurity standards and increased efforts in optimising fish health, POM-V outbreaks have been reduced. The Tasmanian Salmon industry is supporting research into developing a new vaccine for POM-V with the Launceston Fish Health Unit. Our participation in a state-wide Fish Health Surveillance Program allows all Tasmanian Salmon farmers to be aware of risks and emerging diseases.

Amoebic Gill Disease

Amoebic gill disease (AGD) is caused by a single celled organism called Neoparamoebae perurans. This parasite causes irritation to the gills, and is treated by freshwater bathing rotations on all of our South Eastern sites. Tassal is collaborating with CSIRO, the Tasmanian Salmon industry and the University of Melbourne, in projects specifically designed to improve our understanding of amoebae biology. These projects will lead to better treatment strategies and preventative measures. Our company envisages that these advances will improve fish welfare and health at all South Eastern sites.

Freshwater based Fish Health Issues

Yersiniosis

Yersiniosis is a bacterial disease that is endemic in Tasmania. Fish are currently vaccinated for the disease, but new research efforts in 2015 will be placed into the development of a more efficacious vaccination strategy for all of our sites. This will reduce the need for antibiotics and increase performance and fish welfare. **Smoltification**

'Smoltification' describes a set of physiological changes that allow a juvenile salmonid to transition from the freshwater to marine stage of their lifecycle. Further research will be undertaken in collaboration with Deakin University to increase our understanding of the smoltification process, with specific emphasis on the osmoregulation in our smolt.

The outcomes of this project will allow us to assess current hatchery practices and to find improvements in smolt welfare and health. **Antibiotic usage**

Fish are not treated with antibiotics unless they are sick and a bacterial disease is confirmed. Salmon which are treated with antibiotics undergo an extended withdrawal period and are tested for antibiotic residues before harvest. All harvest fish are food safe. Our goal is to continue to reduce antibiotic use by improving fish husbandry through the Zero Harm for Fish initiative, and move into preventative approaches for disease management with the use of vaccines.

We have expected that our antibiotic use will now fluctuate around this very low level of use. During the reporting year it was necessary to treat fish in Macquarie Harbour for yersiniosis, leading to an increase in antibiotic use. Yersiniosis is an endemic freshwater (naturally occurring) bacterial disease which can affect Atlantic Salmon in the hatchery.

Macquarie Harbour is an excellent environment in which to grow fish and these farms are among our best performing sites in terms of fish health and growth. The natural freshwater layer which occurs on the surface of the harbour means that we do not have to bathe our fish in freshwater to treat AGD, which means they are not handled as much as fish in our other regions.

Young fish coming straight from the hatchery experience some degree of low level environmental stress in Macquarie Harbour due to the this freshwater/saltwater halocline. They regularly swim into the freshwater layer (near the surface) to feed and then move down into the saltwater layer after feeding. There is a natural difference between capacity of saltwater versus freshwater to carry dissolved oxygen and the fish is happy in both layers, however the differential between the two layers necessitates regular osmoregulation adjustments by the fish. This may impact the immune capability of the fish meaning that it is more susceptible to another stressor such as disease.

Anaesthetic Usage

Anaesthetics are used in Tassal's marine and freshwater operations in the following instances:

- Fish sampling for weight check, AGD check and non-lethal samples
- Euthanising fish in freshwater operations when there are large numbers of fish that require culling or are moribund
- General handling, for example, grading in freshwater

The anaesthetic used is Aqui-S (isoeugenol) which is a registered product for salmonids requiring no withdrawal period. We also use MS-222 which is a registered product in the USA, but not yet Australia.

Antibiotic Use

Year	Grams antibiotic used per tonne of fish produced			Total Kg antibiotic used		
	Marine Sites	Hatcheries	Total	Marine Sites	Hatcheries	Total

FY2012	2.94	1.19	4.13	80.57	32.66	113.23
FY2013	1.80	0.37	2.17	46.14	9.34	55.48
FY2014	6.97	0.47	7.44	178.20	12.00	190.2

Note: We have changed the way antibiotic use is presented, as the table above is a more accurate representation of antibiotic levels used.

Environmental Compliance

Achieving compliance across our business is a key foundation to our sustainability objectives. Investing in compliance makes good business sense, minimises risk to the business and secures a healthy environment.

Meeting and in many cases exceeding environmental compliance requirements has contributed to improved efficiency, reputation, customer loyalty, stakeholder trust and also enhanced profits. Compliance is tracked throughout the year using our certification frameworks, environmental management system and internal audits.

Compliance remains a key indicator of the success of our processes and a benchmark to alert us to areas requiring improvement. We celebrate our 'beyond compliance' culture and whilst our compliance across our marine operations is excellent, there are gaps in compliance at our processing facilities which are currently being actively addressed.

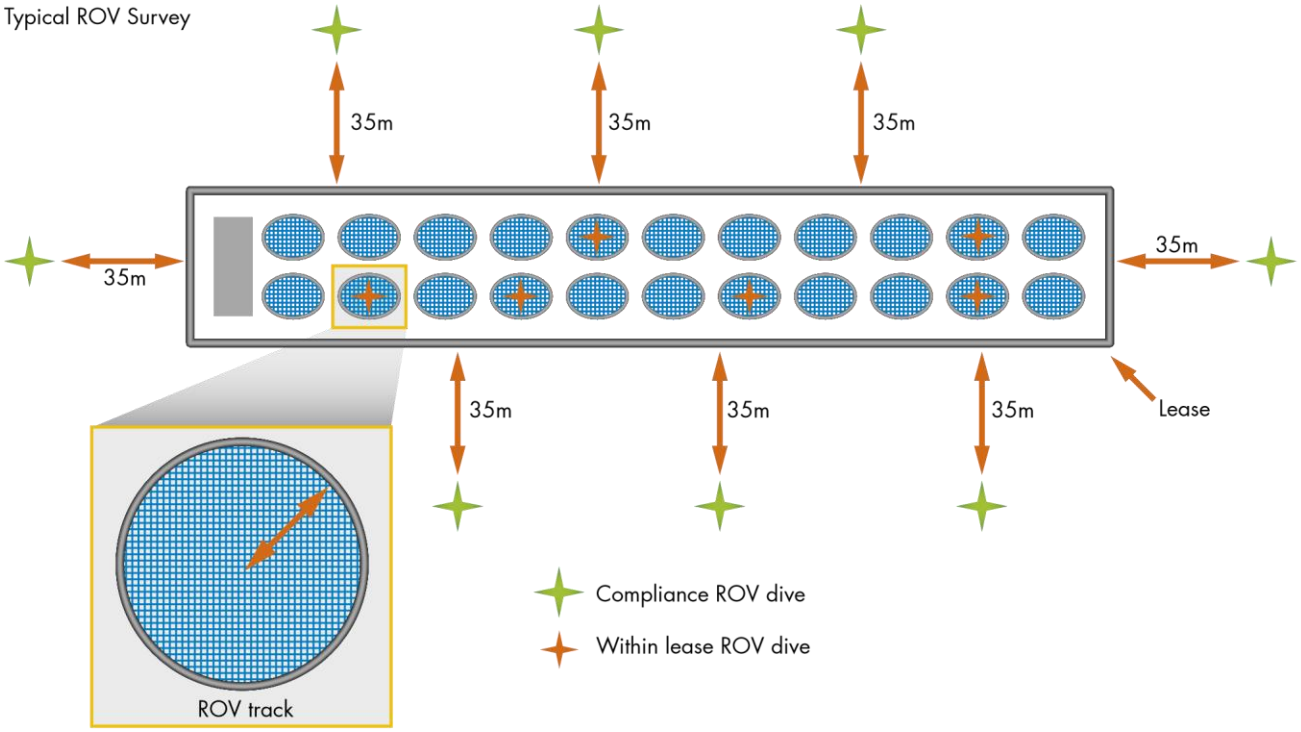
Compliance in Marine Operations

We undertake annual compliance work at all active marine operations sites as part of our licencing conditions. These surveys are conducted by trained environmental staff using a specialised remotely operated vehicle (ROV), which provides video footage of the seafloor under and near to Tassal leases. Surveys are recorded by DGPS which logs all time, date and location attributes of each dive.

The purpose of the video surveys is to look for visual signs of organic enrichment to specific areas of the seafloor which may be indicated by the presence of one or more of the following;

- Fish feed pellets
- Bacterial mats (e.g. *Beggiatoa spp*.)
- Gas bubbling arising from the sediment, either with or without disturbance of the sediment
- Numerous opportunistic polychaetes (worms) on the sediment surface and other indicator species, and

- Introduced marine pests.



The use of visual indicators is a scientifically robust method of sustainably managing the sediments within a marine farming lease.

Marine farming licence conditions allow for a visual impact within the lease boundaries (although they are not desirable from a fish health perspective), however our licence conditions state that there must be 'no significant visual, physico-chemical or biological impacts at or extending beyond 35 metres from the boundary of the Lease Area.'

Simply put, like a farm on land, we are allowed to have reversible impacts in the immediate area over which we farm our fish, but we are not able to significantly impact outside that area.

The Marine Farming Branch of DPIPWE (DPIPWE MFB) regulates compliance for all Tassal's marine leases. For each lease compliance survey, up to 10 dives are completed under the pens (within the lease) and at least six dives are conducted at compliance points at 35 metre distance from the lease boundary. Specific ROV dive locations for these surveys are selected by the DPIPWE MFB and the pen bay positions surveyed must include those that have been subject to the heaviest stocking pressure. For fallowed sites this includes pen bays that received the highest feed input prior to fallowing and for stocked sites this includes the sites which have received the highest cumulative feed input for the current stocking cycle. This means that organic and highest net cleaning frequency will have been at its greatest when survey dives are conducted and for fallowed sites, the recovery of the seafloor will be able to be assessed by the survey.

After each survey, a database is completed and submitted to the DPIPWE MFB, along with a report summarising findings from the survey, DGPS data files and a record of the ROV footage taken during the survey. The DPIPWE MFB will then issue a letter of compliance if they are satisfied with the survey results and the reported site management plan. Follow up work may be required in the rare occurrence that a marine farming derived impact is observed at any of the 35 metre compliance points or excessive farming related material is present under a cage site.

Tassal also uses ROV technology to proactively manage lease fallowing. Intermediate in house surveys are conducted at Tassal's discretion. This means that we can actively manage our leases to achieve the best outcome for both fish health and the marine environment. By undertaking internal pre stocking and pre fallowing surveys we can actively manage our leases on a site by site basis.

Tassal has also developed internal capacity to use the ROV technology to pro-actively manage sites to provide early warning and pro-active management strategies to avoid noncompliance.

During the reporting year, Tassal achieved excellent compliance with Marine Farming regulations across our Marine Operations. We received 11 letters from DPIPWE advising us of breaches to management controls relating to the position of moorings, buoys and navigational markers and farming equipment outside of lease boundaries. No infringement notices were issued and no monetary penalties were incurred due to the level of the breach and quick remediation by the company

In response to compliance management responses (approved, monitored and assessed by DPIPWE), the three non-compliant ROV dives positions in Macquarie Harbour disclosed in our FY2013 report were successfully remediated.

Benthic and Water Quality Management Compliance – Marine Operations

	FY 2012	FY 2013	FY 2014
Number of ROV Dives	114	183	122
Number in Compliance	114	180	121
% Compliance	100	98.3	99.2

During the reporting year Tassal advised DPIPWE of one out of compliance dive position in relating to visible organic enrichment of sediments outside the lease boundary at the Gordon (MF219) farm site (Macquarie Harbour). Light patchy *Beggiatoa Spp*. were present. There was also a recording of numerous Dorvelleid worms and present at that same site.

DPIPWE requested a management response and follow-up survey to resolve the issue.

Compliance in Hatcheries

Based on existing compliance points set by local councils and the Inland Fisheries Service, in FY2014 we achieved 98.4% compliance at Rookwood Road Hatchery and 100% compliance at Russell Falls and Karanja. In reviewing the EPN at Rookwood and the extensive associated monitoring requirements, in addition to the ageing infrastructure at Russell Falls and Saltas, we have identified a gap in monitoring requirements at these facilities. We have started to address this gap through the ASC requirements. We now have additional environmental and biodiversity metrics measured upstream and downstream of our flow through hatcheries, specifically, the abundance and composition of macroinvertebrate species at these sites. For compliance with the ASC standard, equality in this community condition is required between the upstream and downstream sites.

Wastewater Treatment Compliance

Our compliance performance against Waste Water Treatment parameters need to improve to ensure sustainable compliance. Capacity, personnel and systems related to the effective operation of Dover and Margate Waste Water

Treatment plants WWTP are being thoroughly reviewed with Tassal targeting a significant improvement in the next reporting period.

Dover Processing Facility

Dover operates under a permit issued by the Huon Valley Council (DA 229/2010) containing EPA issued and regulated conditions for the operation and management of the site.

The new Dover factory WWTP commenced commissioning in mid-April 2014 however, due to winter duress, the biological system development was inhibited and this resulted in a reduced compliance profile while commissioning was undertaken. The quality of effluent continues to improve on that previously produced by the lagoon system and the new WWTP has the advantage of a new comprehensive disinfection system. It is expected that the WWTP will perform as it was designed and compliance with emission limits will be sustainable.

Margate Processing Facility

Tassal's processing facility in Margate operates under Environmental Protection Notice (EPN) 7098/1 containing EPA issued and regulated conditions for the operation and management of the site. This EPN is to be updated in the next reporting period and Tassal has been advised that tighter wastewater discharge limits and other requirements will be implemented.

Margate WWTP achieved 82% compliance across similar water quality parameters to the Dover processing facility.

Tassal is considering options for improvements to the waste water treatment plant for Margate, following a detailed review that highlighted the need to improve wastewater management given the demands of expanding production on the existing treatment plant.

Huonville Processing Facility

Tassal's processing facility in Huonville operates under a permit issued by the Huon Valley Council (DA 54/2009) containing EPA issued conditions associated with the operation and management of the site. Waste water is discharged to TasWater's Ranelagh Wastewater Treatment Plant and is monitored by Tassal and TasWater to ensure responsible discharge. Tassal is in negotiations with TasWater on an updated tradewaste agreement.

Water Quality in Macquarie Harbour

Macquarie Harbour is an important growing region for Tassal. The natural freshwater layer in the harbour negates the need to bathe our fish which reduces fish stress and associated costs. There are also virtually no seal interactions with our farms in the harbour which removes another source of potential stress. These two factors result in fish performance and cost of production at these West Coast sites to be the best across the company.

In order to resolve concerns regarding dissolved oxygen in Macquarie Harbour, a number of factors need to be understood. A dissolved oxygen working group was formed through the Tasmanian Salmon Growers Association and several scientists were engaged to provide a comprehensive analysis to inform our understanding of the natural processes of the harbour. This work is ongoing and is now being assisted by several research projects in the harbour.

A review of the Macquarie Harbour Amendment Management Framework and Process was required as part of the commitments made by industry to DPIPWE and SEWPAC the Department of Sustainability, Environment, Water and Population and Communities for approval of the Macquarie Harbour Amendment. The review required that the original model (used to inform the Environmental Impact Statement for the expansion in Macquarie Harbour) be recalibrated and scenario based modelling be undertaken to review the 'interim trigger limits'.

The re-calibration resulted in an improved model, which delivered more accurate outputs overall for water quality and deposition. A better understanding of bottom waters and chlorophyll levels was also gained.

Internal validation showed close agreement between the original and recalibrated model, particularly in the upper water layers. This result validates both models and allows confidence in the outputs of the recalibrated model for the scenarios modelled. However there are still gaps in our understanding of overarching harbour influences on bottom water and dissolved oxygen.

As a result, Macquarie Harbour is being regularly and comprehensively monitored and there is a focus on understanding the natural variability of the harbour in relation to dissolved oxygen and the relative contribution of aquaculture to the carbon and oxygen budgets in the harbour.

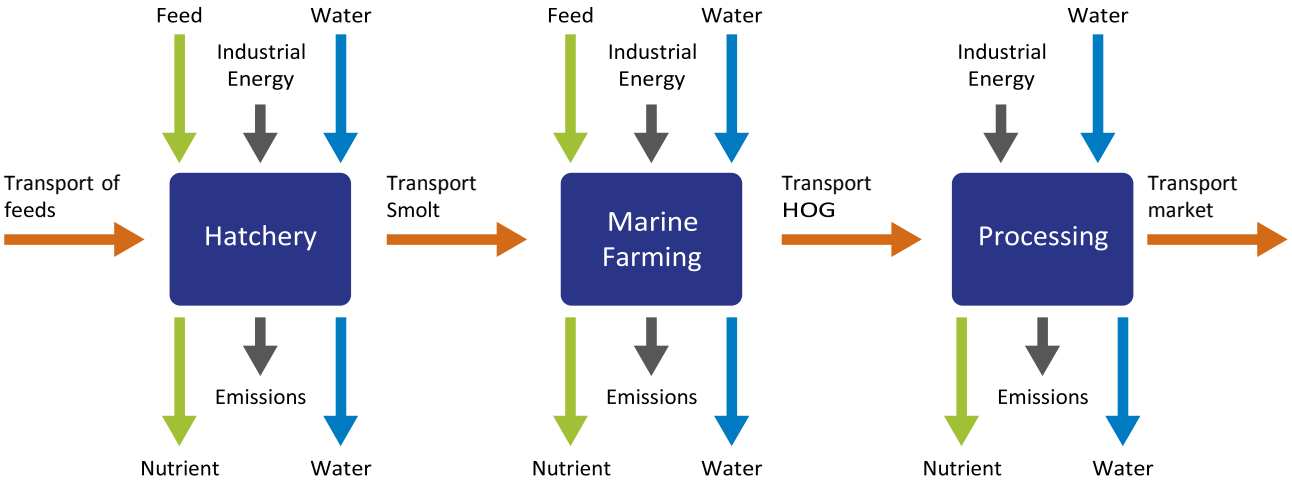
Environmental Performance

Life Cycle Assessment

During the reporting year, we once again undertook a detailed Life Cycle Assessment (LCA) to measure the environmental impacts of our operations. This allowed identification of improvements relating to energy and water use and nutrient emissions. This assessment followed our FY2012 LCA with the aim to measure the success of efficiency projects implemented during this time. A full breakdown of LCA results can be found in Appendix 2.

Scope of Tassal FY14 Life Cycle Assessment

Notes:



- *Processing activities at Petuna processing plant not included. Tassal uses Petuna Processing for fish from Macquarie Harbour.*
- *All operations owned and operated by Tassal and Saltas included*
- *Transportation of goods between the various sites included*
- *Transportation of packaging is not included in 2014 LCA (included in 2012 LCA) as this accounted for less than 1% across all impact categories.*

Eutrophication Potential

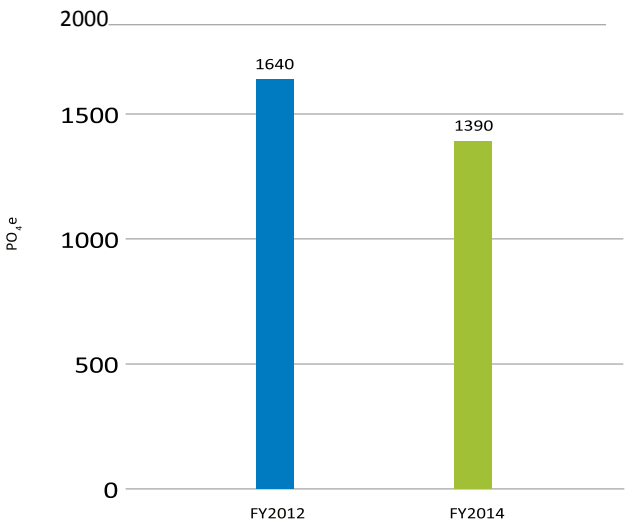
In the context of aquaculture, eutrophication potential refers to the enrichment of nutrients in a particular waterway. An 'oversupply' of nutrients to a particular waterbody may cause environmental changes if the amount of nutrients is greater than the natural carrying capacity of that waterway. In the waterways in which Tassal operates, nutrient input is strictly regulated and monitored.

A total of 1,390t PO4e was lost to the surrounding environment as a result of Tassal's operations during the reporting year. The vast majority of these nutrients originate from the metabolic by-product from the digestion of feeds by Salmon. As such, marine operations were the greatest source (97%) of nutrient emissions, with the remainder coming from hatcheries (2%), processing and transport (1%).

There was a 15% decrease in nutrient emissions in FY2014 compared to FY2012. This was driven by the improvement in the Feed Conversion Ratio (FCR) at our marine sites. This reduced the quantity of feed used per tonne of fish produced, meaning that nitrogen and phosphorus emitted to the marine environment were also reduced.

This efficiency results in a saving of potential nutrient emissions. Assessment of the monitoring data for the D'Entrecasteaux Channel and Huon River, has shown that at the maximum level of industry production allowed under regulation, the ecosystem has the capacity to assimilate the inputs from Salmon farming activities as well as other human and natural sources.

Eutrophication Potential (PO_4e)



Note: the value published in the FY12 SR for eutrophication potential (1198 tonnes PO4e) has been revised due to an error found in the calculations.

Water Use

Freshwater is a valuable natural asset which we have a responsibility to use as efficiently as possible. Access to clean freshwater is critical to the food safety of our product and the health and wellbeing of our fish in our hatcheries and marine farms. As our production of Salmon increases along with climate variability, we need to be smart about how we utilise Tasmania's freshwater assets.

Tassal is developing a freshwater framework to standardise information regarding water use across the business and to better understand the potential ecological impact of extracting this water from our waterways. The freshwater framework will evaluate and describe the use of reticulated water used in our Russell Falls hatchery and processing facilities and bore water used in our Rookwood Rd hatchery. Additionally, it will describe the use of freshwater for bathing in our south east marine sites, including points of removal, river, stream dam and catchment as well as volume used, distance from marine waterway and proximity to known conservation values.

The majority of the water used (87%) was water that was returned relatively unchanged to the same water basin i.e. effectively passed through, with the remaining 13% coming from reticulated supply.

In addition to the freshwater use, some seawater was used for the harvest boats as well as for ice, slurry and cleaning at the Dover processing plant.

Freshwater use

	Operational node	Freshwater Classification	Volume (ML)
Marine Farming Region	Bruny	Dam	258
	Dover & Huon combined	Dam/River (Esperance and Kermandie Rivers)	339.1
	North West Bay	Dam	219
	Tasman	Dam	148
Hatcheries	Rookwood Rd	Bore	893.5
	Russell Falls	Flow through	44,152
	SALTAS	Flow through	57,123
Processing	Margate	Reticulated	27.5
	Huonville	Reticulated	34.8
	Dover	Reticulated (Esperance River)	30

Note: The brackish water in Macquarie Harbour means that this farming region is not impacted by AGD and therefore there is no need to bathe salmon in freshwater

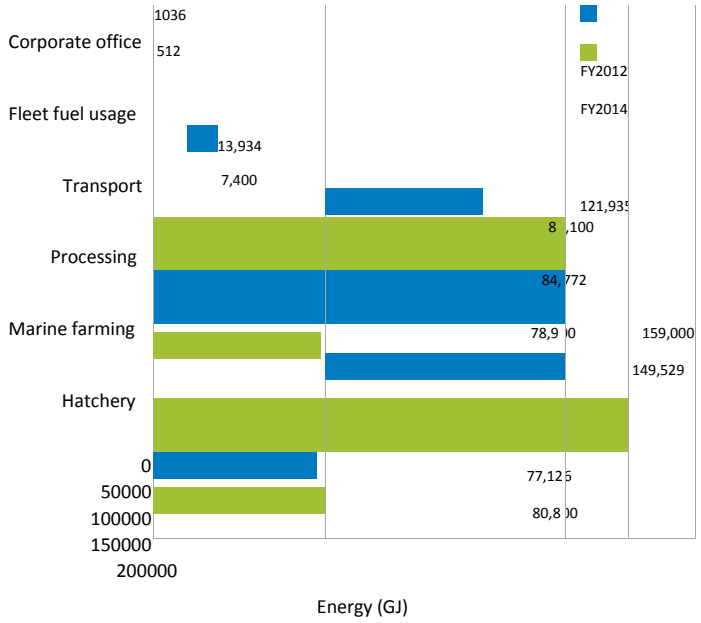
As we continue to refine data collection methodologies for freshwater use, comparisons between years is difficult, so data is presented for this reporting period only

Energy Use

Energy is an essential business input and understanding and managing energy inputs is a key component of our sustainability objectives.

A total of 415,712GJ was used in Tassal's operations in FY2014. The marine operations were the major source (38%) predominantly due to the diesel used on-site. Transport was also a significant user of energy (21%), with transport to market the largest contributor (69%). Air freight of finished goods to the north of Australia accounted for 40% of energy used for transport to market despite representing only 1% of the total goods moved.

Energy Use



LCA Results- Energy Use

Stage of Production	Increase/Decrease
Hatchery	4.76% ▲
Marine farming	6.33% ▲
Processing	6.93% ▼
Transport	26.93% ▼
Fleet fuel usage	46.89% ▼
Corporate office	50.58% ▼
Cumulative Energy Demand	7.28% ▼

The most significant reductions in energy use since the last LCA was in transport, due to a combination of reduced quantity of feed transported and the use of more efficient feed transportation methods. The introduction of a new feed delivery boat reduced the energy used by approximately 50% per tonne of feed transported within Tasmania. Additionally, Skretting is now our only feed supplier so all feed used by Tassal is now produced locally.

The energy use for processing was down by 6.93% due to a combination of reduced production (18%) together with a 43% reduction in fuel use. Although the overall contribution of corporate office and company car fleet is minor, the associated impacts were down approximately 50% across all impact categories compared to FY2012 due to a reduction in fuel and electricity use. These gains were partially offset by an increase in fuel use (6%) within marine operations. This increase was due to the establishment of a new marine site in Macquarie Harbour.

Waste management

It is important to the sustainability of our operations to responsibly manage our waste, primarily biological waste that results from our hatchery, marine farming and processing operations. As a fish farmer, our aim is to use every bit of usable product to maximise the value of each fish. Our biological waste has historically been sent to Seafish for rendering into fish oil and fish meal. Although Tassal has been working with the company to mitigate environmental and amenity impacts from waste in Triabunna for a number of years, success has been limited.

In FY2014, Tassal committed to a substantial investment in a new state of the art fish by-products processing facility in Triabunna which will eliminate these impacts. The $11 million total investment in the project is aided by a $3.85 million grant as part of the Tasmanian Jobs and Growth Plan under the Tasmania Forests Intergovernmental Agreement. All necessary approvals have been obtained and construction will commence September FY2015. The facility is due to begin operation in August 2015 and will produce high grade fish oil and fish protein.

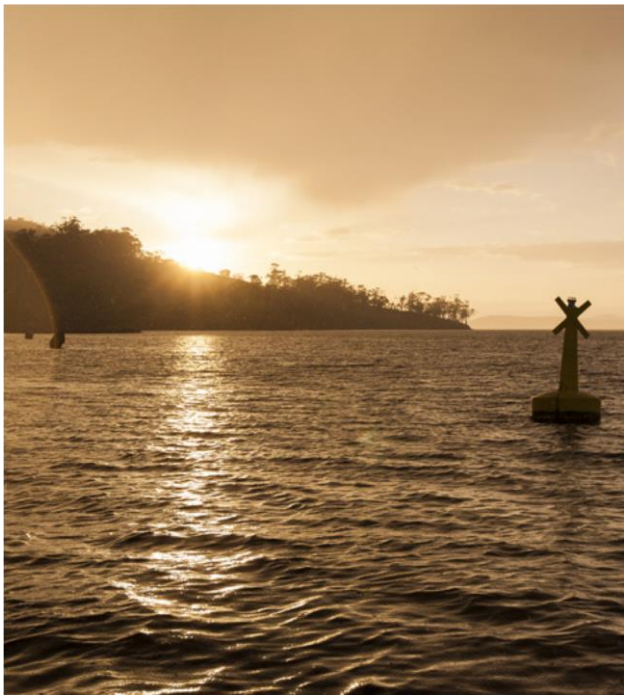
Recovery of nutrients from biomass sent to Seafish

Nutrient Recovery from Sludge and Fish Biomass

Tassal recovers nutrients from the collection and processing of fish biomass that is the result of waste collected from various stages in the production process. The weight of each truckload of waste is measured, and monitored through the rate of waste recovery. A total of 1,046 tonnes of sludge was collected from the Rookwood Road hatchery and distributed to local agricultural enterprises which not only avoided the need to dispose of 6.7 tonnes of nitrogen and five tonnes of phosphorus in landfill, but also provided nutrients equivalent to 8.7 tonnes of urea and 37.1 tonnes of single superphosphate .

Much of the raw materials was processed by renderer Seafish to create fish meal and fish oil which are used as ingredients for feeds for other aquaculture species, as well as protein hydrolysate for use in both feeds and fertilisers.

Approximately 1,842 tonnes of mortalities sent to Seafish for rendering were redirected to compost as the quality was not high enough for fish meal and fish oil. In 2013, Tassal worked with an external contractor to trial onsite composting to deal with mortalities and processing waste locally.



	Weight (tonnes)			Protein (tonnes)			Omega-3 (tonnes)		
Biomass	FY2012	FY2013	FY2014	FY2012	FY2013	FY2014	FY2012	FY2013	FY2014
Heads & Frames	2688	3381	2790	323	406	334	27	34	28
Guts	2918	3311	2930	642	728	645	298	338	299
Trims	699	881	743	140	176	149	7	9	7.4
Skins	90	403	314	18	81	63	1	4	3.1
Mortalities	2250	1405	321	421	263	60	113	70	16
Total Nutrients Recovered	8645	9381	7,088	1544	1654	1,250	446	455	353.5

Packaging

As a signatory to the Australian Packaging Covenant, Tassal is aware of the importance of both reducing packaging and using recyclable packaging. Packaging design is largely dictated by product preservation and quality assurance in addition to cost effective shipping and handling. Preserving food safety is paramount. We continue to investigate alternative recyclable and biodegradable packaging for our product. Food preservation and current packaging system requirements limit opportunities in these areas. A long term strategic focus is required to meet these challenges.

Tassal – a Great Place to Work

Tassal remains committed to our Employer of Choice status and continues to value our people, their wellbeing and collective contribution to the business. We take seriously our responsibility to provide a safe and rewarding workplace for our employees. We aim to achieve employee relations outcomes that are mutually beneficial, attractive to employees and consistent with the key drivers of the business. We operate under a number of industrial instruments and individual arrangements that meet the needs of the business and our employees.

We have a skilled, motivated and engaged workforce that believes in Tassal. Through our people strategy, we are strengthening our leadership to help navigate change and support our employees in reaching their full potential.

Responding to employee requests and increasing our flexible work arrangements has provided greater opportunity for employees to participate in the workforce. Our workforce profile shows an 80% increase in part time employees, 40% filling administrative roles and 60% operational roles within our processing facilities. From a gender diversity perspective, 37% of our new hires in 2014 were female, and female representation has increased by 1% to 29%.

Engaging and Retaining Talent

As one of Tasmania's largest employers, we continue to attract and retain talent from across Tasmania, mainland and the world. Our geographic and workplace diversity demands talented, motivated and inclusive teams. Our recruitment strategies are designed to best deliver these outcomes. We

recruit from the local community where possible, involving local management in the selection process and on boarding of new hires.

Our schools program is gaining momentum year on year with two School Based Traineeships currently in place.

Employment Conditions

Tassal's diverse operations require varied employment mechanisms and supporting policies and procedures to ensure that all our employees are clear about their responsibilities and can perform their work safely and in the best interests of the company and their workmates. Individual employment conditions are determined by the type and location of work that our employees undertake and can be in the form of a common law contract, a collective enterprise agreement or an award.

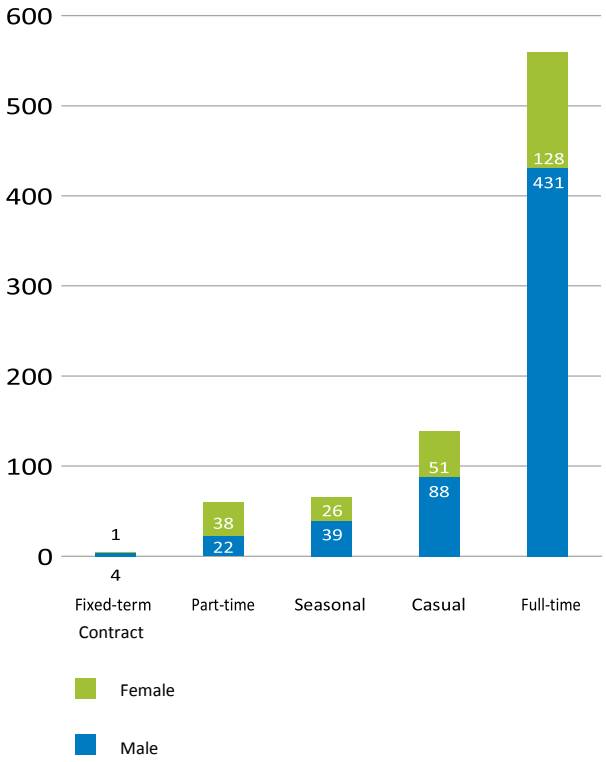
Common law contracts are reviewed regularly to ensure legislative compliance and benchmarked to maintain market position. Collective agreements are negotiated with employee representatives at the end of their term. We actively participate in external third party reviews at the key awards. At this time the agreements are updated for all/any legislative changes and market changes. Award employees are managed in accordance with the relevant award.

Workforce Profile

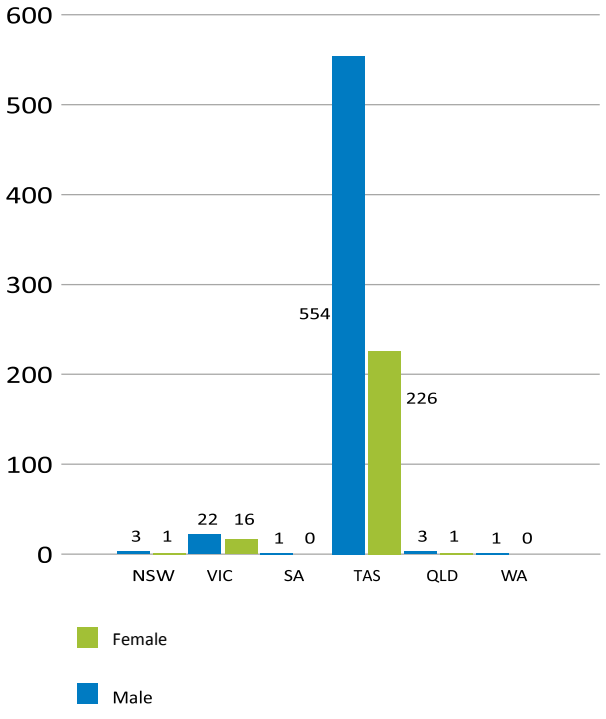
	<30	30-50	>50	Total
NSW				**4**
Male	0	1	2	3
Female	0	1	0	1
VIC				**38**
Male	10	8	4	22
Female	8	6	2	16
SA				**1**
Male	0	1	0	1
Female	0	0	0	0
TAS				**780**
Male	165	293	96	554
Female	75	52	99	226
QLD				**4**
Male	0	2	1	3
Female	0	0	1	1
WA				**1**
Male	1	0	0	1
Female	0	0	0	0
	259	**364**	**205**	**828**

Total workforce by age, gender and region

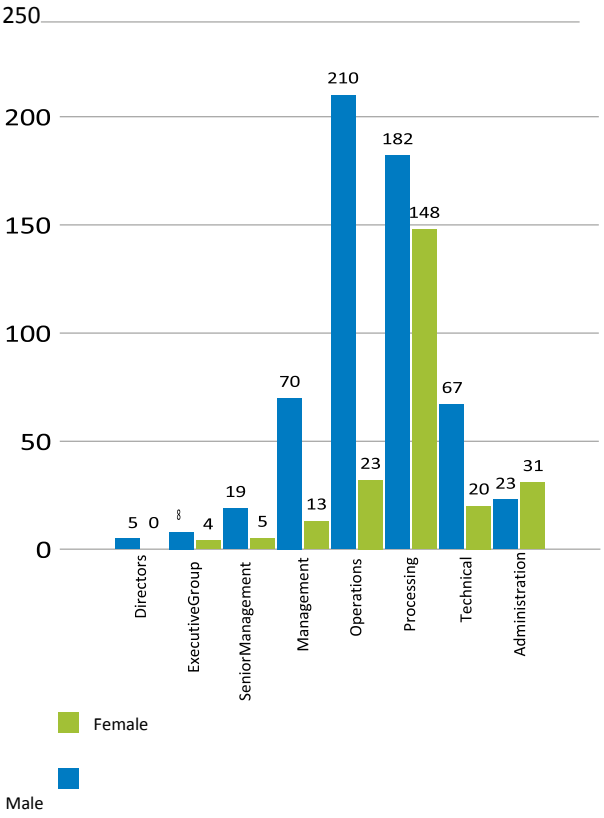
Employment type by gender



Total workforce by gender and region



Workforce by employment category and gender



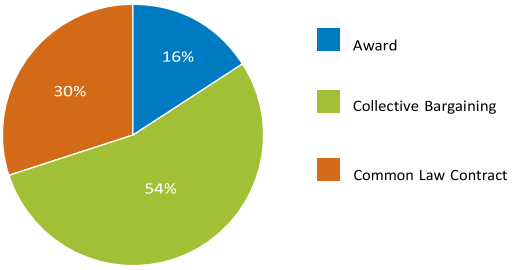
New hires by age group, gender and region

	<30	30-50	>50	Total
NSW				**2**
Male	0	0	1	1
Female	0	1	0	1
VIC				**10**
Male	2	2	0	4
Female	5	0	1	6
SA				**0**
Male/Female	0	0	0	0
TAS				**163**
Male	64	39	2	105
Female	40	16	2	58
QLD				**0**
Male/Female	0	0	0	0
WA				**0**
Male/Female	0	0	0	0
				175

Leavers by age group, gender and region

	<30	30-50	>50	Total
NSW				**1**
Male	0	0	1	0
Female	0	1	0	1
VIC				**13**
Male	1	6	0	7
Female	5	1	0	6
SA				**0**
Male/Female	0	0	0	0
TAS				**147**
Male	40	37	11	88
Female	14	13	5	59
QLD				**0**
Male/Female	0	0	0	0
WA				**0**
Male/Female	0	0	0	0
				161

% Employees covered by Collective Bargaining



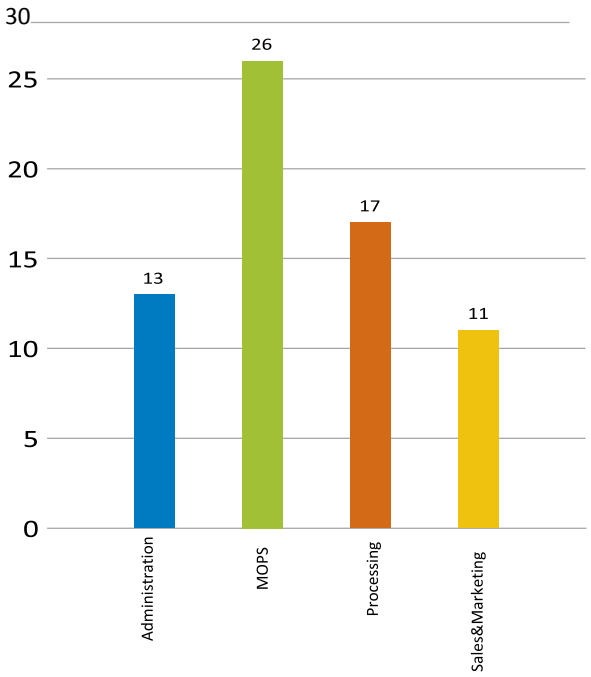
Learning and Development

Tassal leaders are chosen for their skills, knowledge and most importantly their passion. Our IMPACT Leadership Program continues to develop our current and future leaders, many of whom have progressed through the business into leadership roles. Thirty six leaders completed the program in 2014, also

achieving a Certificate IV in WHS. Planning for the 2015 program is well advanced.

The nature of our business requires us to undertake specific technical training, particularly in our Marine Operations business to ensure that our employees have the right skills and competencies to not only safely fulfil the requirements of their roles but to prepare them for future roles.

Average training hours per employee by department



Spotlight on Business Intelligence and Communications Technology (BICT)

Tassal operates a number of business units in geographically diverse locations on land and at sea with operations that run around the clock. This creates challenges for managing information, people, processes and compliance. Tassal BICT provides this capability through a platform of sophisticated business applications that manage information and automate processes, a hardware infrastructure platform and a highly experienced and skilled team of people. The team is made up of four key functions:

Business Intelligence

Business Intelligence (BI) takes raw data and transforms it into meaningful and useful information for Tassal. This data comes from almost all areas of the business including Marine Operations, Processing, Supply Chain, HR, Safety and Sales. BI uses a variety of techniques to cleanse, transform, analyse and distribute this information, which allows us to make better business decisions. How companies manage and extract value from their data resources is of increasing importance. Tassal is well placed to capitalise on this with a great BI platform and capability.

Business Systems

Business Systems include the suite of major enterprise applications that Tassal uses to operate the majority of its day to day business activities as well as the supporting business processes. We have applications to track our fish from the hatchery through to harvest, for managing our supply chain from harvest, through to processing and delivery to customers as well as to help manage our workforce and Zero Harm initiatives. Another important component are the tools and processes we use to integrate with our business partners, including customers and 3PL providers.

Service Desk

The Service Desk provides front line support to the business and acts as the primary point of contact between BICT and the business.

Key responsibilities of the Service Desk include:

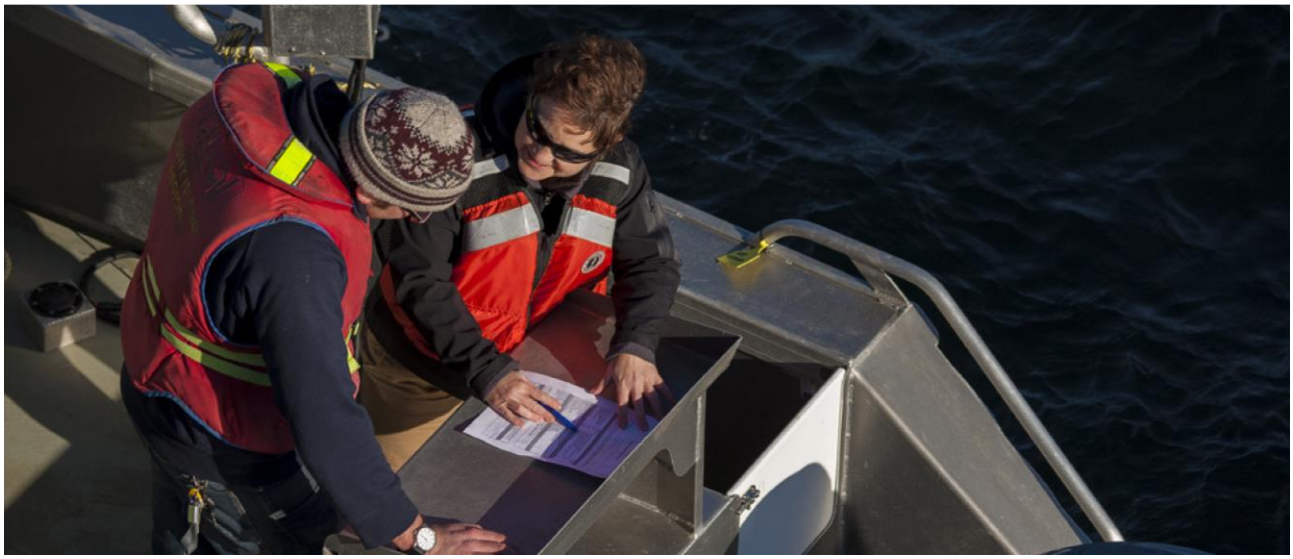
- Managing requests for IT support from staff, escalating to the other BICT teams when required
- Ensuring IT issues are resolved as quickly and effectively as possible
- Coordinating the deployment of computers and mobile devices to staff
- Providing front line support for the IT production systems at our factories

Infrastructure and Communications

The Infrastructure and Communications team manage the ICT technologies that enable the modern enterprise. This includes the networks that provide the backbone of communication between all our sites, the applications and database systems that enable the business to operate and the hardware that underpins this. The team also plays the important role of ensuring we have the right security processes and systems in place to protect our ICT infrastructure from external threats. We are always looking for ways that new and emerging technology can help improve the way we do business.

Bringing this all together is a BICT Strategy that ensures our activities are aligned with Tassal's four strategic pillars ensuring all major initiatives contribute to Tassal's strategic objectives.

Workplace Health and Safety



The loss of Ian Thompson needs to be acknowledged for the magnitude of impact it has had on the Tassal team and stands as a poignant reminder to every one of us the importance of a sustained and relentless focus on Zero Harm – for everyone, everywhere. There is no appropriate way to tell the story of Tommo's passing.

Tommo's accident happened in Great Taylors Bay near Bruny Island whilst he and the Huon Region works crew were following a procedure routinely undertaken in maritime work places. To the best of our knowledge, this kind of accident has never happened before. Worksafe Tasmania has concluded that no action is to be taken against Tassal or any employees as it was an unforeseeable accident and neither Tommo, his work mates, nor Tassal were at fault. Tommo's family continues to be supported by Tassal.

The accident strengthened our resolve to achieve our Zero Harm goals. We continue to invest in our safety leadership training which saw a further 40 individuals successfully graduate from the program during the reporting year. We continue to drive employee competence and knowledge with respect to safety, invest in fit for purpose equipment, and ensure that the design of the work place is both safe and efficient. Above all, we value a positive safety attitude from all of our employees. Our vision is that Tassal functions as, and is recognised as a truly interdependent Zero Harm culture company, where we care for our people, the environment, our consumers and those affected by our work, no matter where that may be. At the centre of this is our 'Take Care' and 'I Care For' approach to activities, accepting our role as leaders in the community. This is critical to our overall business success.

We have had a number of safety wins throughout the year, including accreditation of our safety systems. As a result, Tassal's Work, Health & Safety (WHS) management system has been accredited against OHSAS 18001: 2007 (an internationally recognised safety accreditation) and AS/NZS 4801:2001 (a nationally recognised safety accreditation).

Tassal has an extensive internal safety audit program with a Safety Scorecard as the key measurement tool. The scorecard measures compliance to Tassal's policies and procedures, relevant codes of practice, national standards, WHS legislation as well as National Standard for Commercial Vessel (NSCV) standards using a weighted risk based platform. Scorecards are conducted by key WHS team members in conjunction with the site team.

During the reporting year, in anticipation of the harmonised NSCV laws, Tassal reviewed all vessel safety management plans with the intention of managing all requirements under the current WHS management system, ensuring that all

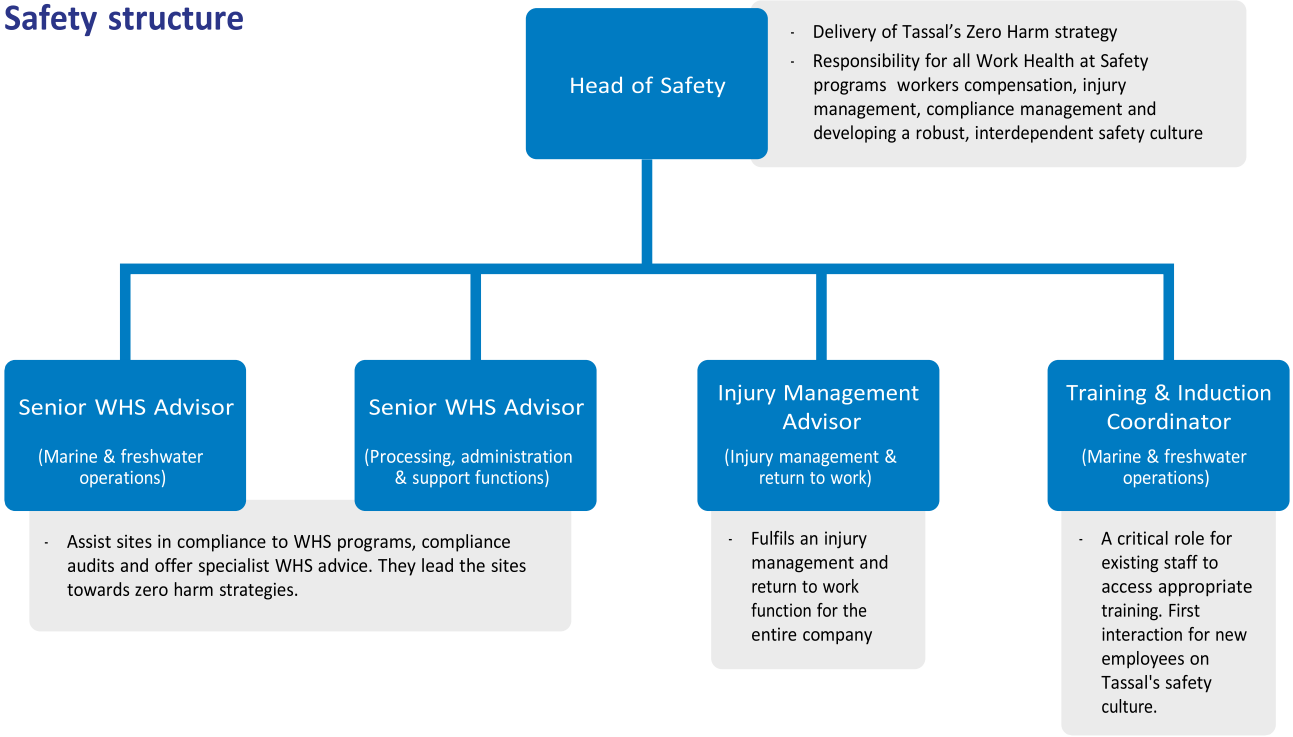
Overdue actions - Actions are given a set completion date based on their assessed risk. This measure supports a proactive safety culture as it drives sites to close out actions on time and as agreed. It also involves all employees being part of the solution as actions are raised by the teams.

We understand the safety risks that our employees are exposed to and actively manage these to reduce incidents or further risk to our team. Our key focus areas are:

- Slips, trips and falls (over objects in the marine and processing environments). Incidents reduced by 54% from the previous reporting period
- Muscular stress and repetitive movement type injuries - reduced by 22%
- Hit by moving object or hitting body with object - reduced by 23%

Positively, all incidents causing injuries were reduced by 26% from last year.

Safety structure



approaches to safety whether on land or water conform to both WHS legislation as well as marine safety legislation. This internal process re-engineering has improved not only safety, but efficiencies, consultation and communication, and has ensured that all new vessels put to sea are at a very high safety standard.

In addition, three new positive performance indicators were developed and targeted over and above the current safety scorecard which plays such an important role in driving our proactive Zero Harm safety culture across the entire organisation.

These new performance indicators are:

1. **Driving the safety culture** - Observable behaviours based on our ROCK solid safety leadership program. Measures are included in the safety scorecard and independent safety culture survey
2. **Control Effectiveness** - We measure how effective the implemented controls are by using a rating of Level 1, 2 and 3 (Level 1 is the best level of control through to Level 3, a low level of control)

Safety Survey

We continued our focus on improving our safety culture, which requires us to understand our current performance and what the pressing issues are. FY2014 was the third year that our annual safety culture survey was conducted and confirmed an ever improving safety culture.

The survey structure provides results across three dimensions:

1. **Tassal safety culture** - As viewed by our employees against key questions. % achieved is a view of agreement to set statements and themes
2. **Bradley Curve** - to determine progress on our objective of achieving interdependence with respect to our safety culture
3. **Benchmark activity** - to determine Tassal standing compared to global average and best practice based on a widely recognised and credible tool which references 50 high end global organisations

Safety survey results

Safety Culture Survey	Bradley Curve	Benchmarking*
Safety culture overall score of 80% for 2014 [2013: 77%]	Overall Tassal Safety Culture has been rated as 'Interdependent', with an improvement in 2014 – 80.1% [2013: 76.8%] (based uppon the Hogan SafeSystem factors of Management, Supervisor & safety attitudes, Equipment & training, Compliance vs. commitment, Measurement, Communication, Employee safety attitudes, Company Engagement, Culture & CoWorker Safety	Tassal is in line with a global safety culture average rating of 80%. Best practice rating is 85%.***
Tassal results exceed best practice standards on safety being prioritised over productivity, management caring about the safety of the work environment, supervisors encouraging staff to identify safety issues, and freedom to recommend safety improvements	Tassal needs to prioritise engagement and co-worker safety in order to achieve true interdependence	Tassal performed better against the global average Lost Time Injury Frequency Rate at 1.38 (average is 7.9)**
Initiatives undertaken following the 2013 safety culture process appear to be enhancing safety culture	Result represents progress towards strategic objective of sustainable interdependence	Tassal performed the best in survey in workers compensation rates when comparing workers compensation cost of insurance to the number of employees**
There is clear commitment from management and supervisors to ensure a safe work environment		Tassal performed below average for Medically Treated Injury Rate at 35.9 (average is 14.6)**
Safety processes such as regular safety meetings, wearing PPE, JSA pocket books and Take5 approach/meetings are making a positive impact		While Tassal has improved in management prioritising safety over productivity (FY13 – 72% to FY14 – 79%) and if there were no laws about safety, Tassal would still provide a safe work environment (FY13 – 67% to FY14 – 73%), these two aspects are still below the global benchmark ***
Staff value safety more than production		
Staff feel it is easy to report safety hazards and the majority of staff feel comfortable doing so		

**Results are based upon two studies:*

*** Safety Performance Survey 2014 conducted by workplace safety consultancy Safety Action. The survey analysed safety data from 23 companies in Australia and New Zealand spanning the manufacturing, utilities and 'other' categories.*

****SafeSystem Safety Climate Results conducted by Peter Berry Consultancy.*

Health and Safety Committees

All (100%) employees are represented by a health and safety committee. Each site has a health and safety committee that meet at least once per quarter. Further to this, each employee participates in daily or weekly Take 5 safety meetings, which are conducted on site at the start of a shift and alow all employees to highlight both hazards and solutions. These meetings are invaluable as they involve all employees, which promotes our Interdependent safety culture and re iterates our view that we are all responsible and accountable for safety in Tassal.

Contractor Safety

During the reporting year, there were no incidents reported for contractors. Contractors are managed according to our Contractor Safety Procedure which includes all contractors being selected based on key criteria including safety. Contractors undergo an onsite induction, and work with the site staff when arriving for work to ensure that the job they are appointed to do is assessed and all safety hazards and risks are controlled. In all instances, contractors are considered to be part of the Tassal team as opposed to the conventional supplier/purchaser approach. This enables a closer relationship and once again drives responsibility and accountablity for safety performance while onsite.

Lag indicators

	FY13 Actual	FY14 Actual	FY14 Target	FY15 Target
Scorecard	92.8%	93.6%	91%	93%

LTIFR	8.3	1.39	<6	<1.38
MTIFR	64.2	38.2	<60	<35
Incident rate	1.2	.25	<1.2	<0.25
ATLR	7	3.5	<4	<2
Fatality	0	1	0	0

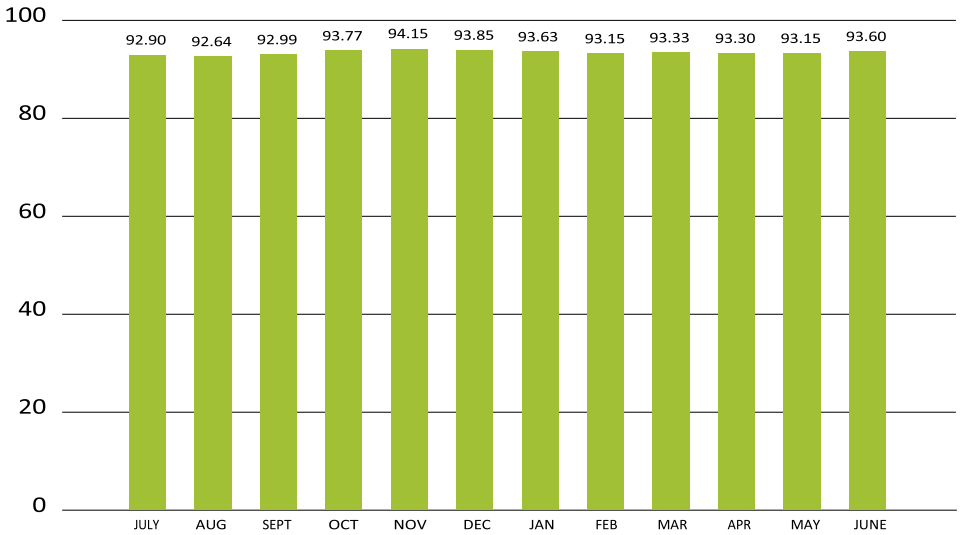
Notes:

- *Statistics noted above are recorded and reported in accordance with AS.NZS 1885.1 – 1990*
- *All statistics include male and female, and also contractor injuries*
- *The majority of injuries occurred in Tasmania, with three reported injuries in total recorded in Victoria.*

Lead indicators

	FY15 Target
Driving Safety Culture/Culture survey target	83%
Actions Overdue	<5%
Control effectiveness	Level 1 & 2 controls > 40% of total

WHS Lead Indicators – Scorecard Trend



Quality for our Customers

Pilot program for Customer Quality Standards

Quality standards for food manufacturing are continuously evolving. As part of our commitment to providing quality and ethically produced Salmon to customers and consumers, during the reporting year, Tassal undertook a pilot program for customer quality standards with a major external partner. This program is in addition to the rigorous standards and certifications that already underpin all aspects of our business. The program is focused on Tassal's value added processing facilities at Huonville and Margate and takes a total supply chain approach. The new standard incorporates elements for Tassal as a supplier to the partner, such as the incorporation of an Environmental Management System (EMS), labour standards, business integrity and other elements, and aligns with the expectations that Tassal has of its own suppliers. We expect to receive certification to this new customer quality standard within FY2015.

Chain of Custody Certification

Tassal's ASC Certification requires Chain of Custody certification for Tassal's primary and secondary processing sites at Dover, Huonville and Margate, and contract processing sites at Devonport and Georgetown. The audits

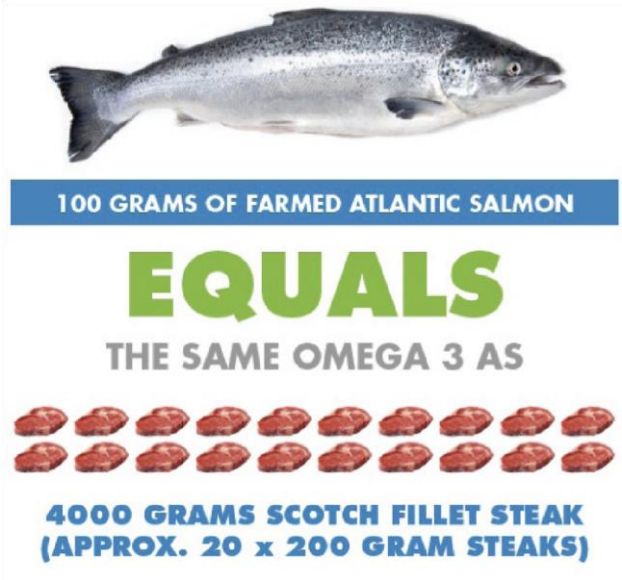
assess conformity to the relevant requirements of the MSC Chain of Custody Standard and MSC Certification Requirements.

Of particular interest is Georgetown Seafoods, a processing facility located in the small town of Georgetown, north of Launceston. The facility currently processes a portion of fish from Tassal's Macquarie Harbour farms, and going forward will process all Tassal fish from Macquarie Harbour. We will facilitate an upgrade of Georgetown Seafood's processing facility to increase their capacity to process more fish, including handling an increase in fish waste and waste water treatment.

Certification of all processing facilities to Chain of Custody is expected to be during FY2015.

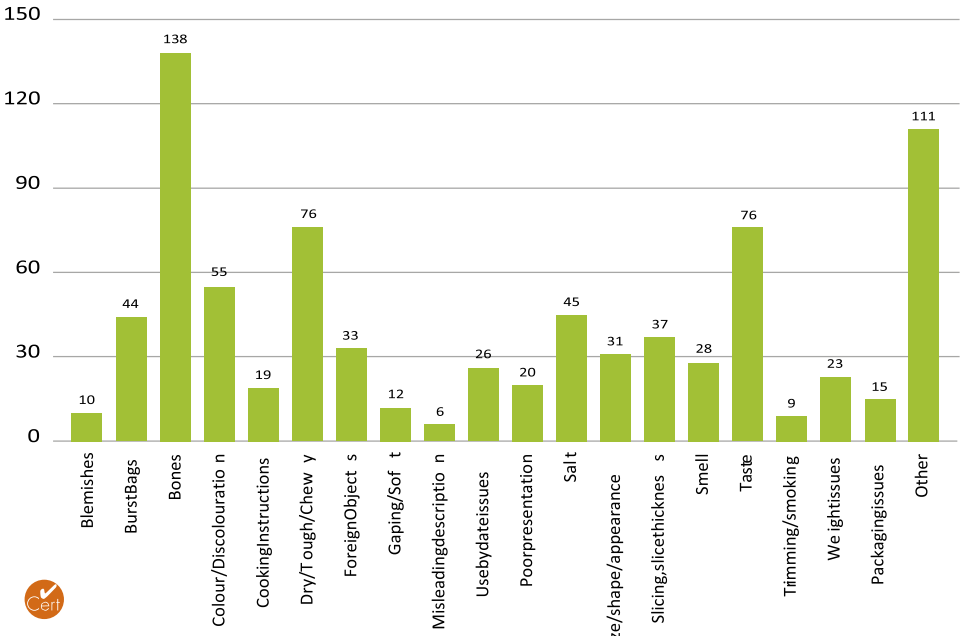
Omega-3 in farmed Salmon

Salmon is considered to be one of nature's superfoods as it is a good source of Omega-3s (EPA & DHA). Two 150g serves per week provide the recommended intake of EPA & DHA which contributes to many health benefits . Omega-3s are called 'essential' fatty acids because they're critical to good health, but cannot be produced naturally by the human body. Atlantic Salmon is one of the richest naturally occurring sources of Omega-3 fatty acids.



Customer Satisfaction

As part of our continuous improvement program, we aim to enhance our customer's experience with our product. We do this by collecting feedback on our product, and responding with changes to the way our product is manufactured when necessary. During the reporting period, there was a 19% decrease from the previous year in negative feedback and a 62% increase in positive feedback.



Sponsorships and Donations

Tassal's approach to community sponsorship is primarily about supporting community based initiatives in the areas where we have our operations.

This means that the most sponsorship and donation effort is placed in regional centres around Tasmania. Our employees

live in these communities and it is important for them that we offer the support necessary to assist the communities to remain vibrant places to live and work in these challenging economic times in Tasmania.

Tassal's community and sponsorship budget is $110,000, of which approximately 16% is comprised of Salmon product donations or gift vouchers from our Salmon shops. The remainder has been donated as cash. In FY2014, approximately 190 donations of product or gift vouchers were made to mainly small community based or sporting clubs. The staff in our shops are to be congratulated for their 'service with a smile' attitude in supporting the community engagement team to deliver this small but important support to our communities. This year, 31 schools received support from Tassal along with 30 local sporting clubs. Tassal has ongoing formal sponsorship arrangements with seven Tasmanian sporting clubs.

Donation Category	% of total sponsorships and donations
Local Sporting Clubs	45
Schools & Youth	8
Environmental initiatives	8
Community initiatives	25
Charities	7
Community Based Arts	7

Recipients of sponsorships and donations include (but are not limited to):

Channel Football Club Inc.

Huonville Cricket Club

Dover Golf Club

Lenah Valley RSL

Kingborough District Cricket Club

Kingston Beach Surf Life Saving Club

Channel Junior Football Club

Kingborough Anglers

Active Strahan

Kermandie Junior Football Club

Rotary Club of D'Entrecasteaux Channel

Huon Valley Little Athletics Centre

Kingborough Lions United Football Club

Kettering Yacht Club

Hobart Aquatic Club

Bonorong Wildlife Sanctuary

St Helens Landcare Conference

Strahan Christmas Parade

Lions Club Hobart

Snug Village

Cygnet Regatta

Bruny Island Wood Chopping Carnival

Bream Creek Farmers Market

Channel, Tasman & Bruny Island Men's Sheds

Cancer Research (various)

Menzies Centre

Derwent Valley Regional Arts

Memberships and Committees

Being a member of local and national peak industry bodies and other organisations of relevance to our business allows Tassal to keep up to date with industry trends, collaborate with like-minded business and organisations and ensure that our research priorities are met. Tassal is a signatory to the WWF Global Seafood Charter, which sets out clear principles and objectives to safeguard valuable marine eco-systems, ensuring the long term viability of seafood supplies.

Tassal is a member of the following organisations:

- Tasmanian Salmon Growers Association
- Tasmanian Seafood Industry Council
- National Aquaculture Council
- Tasmanian Business Sustainability Roundtable
- Australian Human Resources Institute

Board Membership:

- Institute of Marine and Antarctic Studies (University of Tasmania)

Tassal staff also sit on the following committees:

- Agrifood Seafood Advisory committee
- SQF technical advisory committee
- Institute of Marine and Antarctic Studies Research Advisory Committee

Appendices

Appendix 1. Minimum distance between lease and High Value Conservation Area

		Minimum distance between lease and High Value Conservation Area

Lease name	Lease Size (km2)	Marine Reserves		Marine Conservation Areas				
		Tinderbox	Ninepin Point	Central Channel	Simpsons Point	Roberts Point	Huon Estuary	Port Cygnet
Tinderbox	18.99	0.85	> 20	19.3	19.6	8.7	> 20	> 20
Sheppards	20.0	3.1	> 20	15.7	15.5	5.1	> 20	> 20
Sykes Cove	30.0	8.0	18.1	11.4	11.2	0.57	> 20	> 20
Soldiers Point	15.0	13.8	12.12	5.5	5.5	3.1	> 20	> 20
Redcliffes	51.0	> 20	6.1	5.9	15.7	> 20	> 20	14.8
Meads	40.0	> 20	11.8	10.8	>20	> 20	> 20	> 20
Stringers	40.0	> 20	10.5	9.3	19.9	> 20	> 20	> 20
Killala	12.0	> 20	14.4	15.1	> 20	> 20	8.9	10.5
Brabazon	12.5	> 20	16.7	17.5	> 20	> 20	5.9	13.3
Tin pot & Partridge	15.0	> 20	10.1	7.9	16.5	> 20	> 20	> 20
Butlers	10.01	> 20	14.0	> 20	> 20	> 20	> 20	> 20
Badger Cove	12.0	> 20	> 20	> 20	> 20	> 20	> 20	> 20
Creeses Mistake	48.5	> 20	> 20	> 20	> 20	> 20	> 20	> 20
Gordon	80.0	> 20	> 20	> 20	> 20	> 20	> 20	> 20
Franklin	80.0	> 20	> 20	> 20	> 20	> 20	> 20	> 20
Other MACHBR LEASE	120.0	> 20	> 20	> 20	> 20	> 20	> 20	> 20

NOTE: minimum distance from lease to High Value Conservation Area describes the minimum distance between lease and marine conservation area at their closest points

Appendix 2. Summary Supply Chain Life Cycle Assessment

Hatcheries			Marine Operations			Processing			Corporate Office/Car fleet		
	Unit	Amount		Unit	Amount		Unit	Amount		Unit	Amount
Input: Feed						**Input: Biomass**					
Skretting freshwater (local)	t	1,155	Skretting saltwater (local)	t	36,678	Biomass	t	22921			
Skretting freshwater (import)	t	131									
Input: Energy											
Electricity	MWh	12,981	Electricity	MWh	2,521	Electricity	MWh	11764	Electricity	MWh	83.5
Diesel	KL	38.9	Diesel	KL	2,335	Diesel	KL	118	Diesel	KL	66.5
			Petrol	KL	767				Petrol	KL	103.2
									Ethanol	KL	1.4
									LPG	KL	1.5
Input: Water											
Reticulated supply	ML	2.42	Reticulated supply	KL	2.63	Reticulated supply	ML	62.3			
Bore water	ML	893	Rivers, streams, dams	KL	1,740	Sea water	ML	30			
River water for flow thru	ML	101,274									

Output: Biomass											
Biomass	t	1,240	Biomass	t	27,733	HOG	t	18,928			
Mortalities	t	161	Mortalities	t	2,200	Cold smoke	t	2,148			
						Portions	t	2,714			
						Fillets	t	105			
						Hot smoke	t	339			
						Cans	t	139			
						Other	t	478			
Output: Sludge											
Sludge	KL	1,046									
N in sludge	t	6.69									
P in sludge	t	4.95									
Output: Nutrients to water											
Total N	t	12.80	Total N	t	1,476	Total N	t	6.0			
Total P	t	7.36	Total P	t	216	Total P	t	0.5			
						Water send to off-site waste water treatment plant	ML	37.7			
Output: Emissions to air											
CO2	t	83.1	CO2e	t	8,058	CO2e	t	315	CO2e	t	425
CH4	t	0.006	CH4	t	0.68	CH4	t	0.022	CH4	t	0.047
N2O	t	0.001	N2O	t	0.08	N2O	t	0.003	N2O	t	0.004
Output: Waste											
General/ comingled	kg	12.64	General/ comingled	kg	248	General/ comingled	t	3.3	General/ comingled	kg	12.6
Organics	kg	5	Deep burial	kg	27	Deep burial	kg	35			
			Cardboard and paper	kg	33	Cardboard and paper	t	2.1	Cardboard and paper	kg	12.2
			Liquid waste	t	62	Liquid waste	t	850			
			Mortalities to compost	t	1,922	Plastics	kg	207			

Glossary

Adaptive Management

A systematic approach for improving resource management by learning from management outcomes.

Acoustic Doppler Current Profiler (ADCP)

A hydroacoustic current meter similar to a sonar, measuring water current velocities over a depth range using the Doppler effect of sound waves scattered back from particles within the water column.

Algal epiphyte

Algae which grows on seaweed or other algal species.

Algal bloom

A rapid increase or in the population of algae (typically microscopic) in a water system.

Amoebic Gill Disease (AGD)

Caused by Neoparamoeba perurans, the most important amoeba in cultured fish. **Antifoulant nets**

See copper treated nets

Aquabirnavirus

A virus belonging to the Family Birnaviridae.

Aquareovirus

A virus belonging to the family Reoviridae.

Aquaculture

The farming of aquatic organisms including fish, molluscs, crustaceans and aquatic plants with intervention such as regular stocking, feeding and protection from predators in the rearing process to enhance production.

AS 4801

Australian Standard that establishes an audit framework principally for use by third party bodies that have been asked by an organisation to conduct an independent audit of the organisation's OHS management system.

Aquaculture Stewardship Council (ASC)

ASC aims to be the world's leading certification and labelling programme for responsibly farmed seafood. The ASC's primary role is to manage the global standards for responsible aquaculture, which were developed by the WWF Aquaculture Dialogues.

ATLR

Average time lost rate.

ATPase

An enzyme involved in the smoltification process.

Beggiatoa spp.

Beggiatoa is a genus of colorless, filamentous proteobacteria that grow under high nutrient conditions. **Best Aquaculture Practices (BAP) Salmon Standar**d A third party audited world recognised environmental standard.

Benthic

Relating to or happening on the bottom under a body of water.

Biofouling

The gradual accumulation of organisms such as algae, bacteria, barnacles, and protozoa on underwater equipment, pipes, and surfaces, corroding and impairing structures and systems.

Biological Feed Conversion Ratio (BCFR)

The weight of feed used to produce one unit of weight of fish.

Biomass

Biomass is biological material derived from living organisms such as algae, plankton or fish.

Biosecurity

Procedures or measures designed to protect a population against harmful biological or biochemical substances.

Birdlife Tasmania

An independent, not-for-profit organisation subsidiary of BirdLife Australia. Which is Australia's largest bird conservation organisation.

Bore water

Ground water that has accumulated in underground aquifers.

Bradley Curve

A management tool to assist organisations understand and benchmark their journey toward world-class safety performance.

Broodstock

Broodstock, also known as broodfish, are a group of mature Salmon kept for breeding purposes in aquaculture.

Capitellid worm

A marine worm which lives in the sediment belonging to the family Polychaeta.

Cetacean

A marine mammal of the order Cetacea: a whale, dolphin, or porpoise.

Climate Change

Changes in the earth's weather, including changes in temperature, wind patterns and rainfall, especially the increase in the temperature of the earth's atmosphere that is caused by the increase of particular gases, especially carbon dioxide.

Collaborative Research Agreement (CRA)

An agreement entered between two or more researchers engaged in a research project, specifying the intent to share data, research materials and facilities, and to publish research findings. **CSIRO**

Commonwealth Scientific and Industrial Research Organisation.

Cumulative Energy Demand (CED)

Cumulative energy demand is the total quantity of primary energy required over the lifecycle of the product.

Department of Primary Industries, Parks, Water and Environment (DPIPWE)

Tasmania's State Government entity that is responsible for the sustainable management and protection of Tasmania's natural and cultural assets for the benefit of Tasmanian communities and the economy.

DEPOMOD

A model which predicts the deposition of faecal and feed deposition with site specific information including current velocity and direction, depth and husbandry characteristics such as feed input and cage layouts.

Depositional modelling

See DEPOMOD

Differential Global Positioning System (DGPS)

An enhancement to Global Positioning System (GPS) that provides improved location accuracy

Diploid fish

A fish that is reproductively fertile and has not been genetically altered and therefore has the normal set of chromosomes.

Dissolved oxygen Oxygen in

its dissolved form.

DNA pedigree technology

Selection of specific desired traits in an organism gained through selective breeding.

Dorvelleid worm

A marine worm which grows under increased nutrient conditions.

Economic Feed Conversion Ratio

The quantity of feed used to produce the quantity of fish harvested.

Environmental Impact Statement (EIS)

A document prepared to describe the effects for proposed activities on the environment.

Environmental Management System (EMS)

An Environment Management System (EMS) is a tool for managing the impacts of an organisation's activities on the environment. It provides a structured approach to planning and implementing environment protection measures.

Eutrophication

Natural or artificial addition of nutrients to bodies of water which may change the natural marine or fresh water systems.

Fallowing

The practice of 'resting' an area from beneath the sea pen to improve the health of the substrate after farming activity.

Forage Fish Dependency Ratio (FFDR)

A measure of the quantity of wild (forage) fish used to grow a defined quantity of farmed fish.

Feed Fish Dependency Ratio (FFDR) is the quantity of wild fish used per quantity of cultured fish produced. This measure can be calculated based on fishmeal (FM) and/or fish oil (FO).

FFDRm

Fishmeal Forage Fish Dependency Ratio (FFDRm): formula available in ASC Salmon Standard Version 1.0 (available http://www.asc-aqua.org/index.cfm?act=tekst.item&iid=6&iids=290&lng=1)

FFDRo

Fishoil Forage Fish Dependency Ratio (FFDRo): formula available in ASC Salmon Standard Version 1.0 (available http://www.ascaqua.org/index.cfm?act=tekst.item&iid=6&iids=290&lng=1) **Fish meal**

A commercial product made from both whole fish and the bones and offal from processed fish. It is a brown powder or cake obtained by rendering and pressing the cooked whole fish or fish trimmings to remove most of the fish oil and water.

Fish oil

Fish oil is oil derived from the tissues of oily fish.

Food and Agriculture Organisation of the United Nations

An intergovernmental organisation that aims to meet the demands posed by major global trends in agricultural development and challenges faced by member nations.

Forage fish

Often called bait fish, forage fish are usually smaller fish which sustain larger predators.

Genetic selection

Using DNA to assign individual fish to their family groups

Genome

The complete set of genes or genetic material present in a cell or organism.

Genomic marker

A gene or DNA sequence with a known location on a chromosome that can be used to identify individuals or species.

Giant Kelp

Large, canopy forming algae which grow in dense beds along the inshore subtidal reefs of south-east South Australia, Victoria and Tasmania.

GJ

Gigajoule. A unit of measure of energy in joules. 1 GJ = 1 billion joules

Global Salmon Initiative

A leadership initiative established by global farmed salmon producers focused on making significant progress on industry sustainability

Halal (food)

Any foods that are allowed to be eaten according to Islamic Sharia law.

Halocline

A zone in the water column in which salinity changes rapidly with depth.

Handfish

A primitive aquatic family of fish found only in southern Australia - most species are known only from southeastern Tasmania.

Hatchery

A facility where fish eggs are hatched under artificial conditions

Hazard Analysis Critical Control Point (HACCP)

A tool to identify specific hazards and measures for the control and safety of food. It assesses hazards and establishes control systems that focus on prevention rather than relying mainly on end-product testing. **HOG**

Fish that have been processed as 'Head on and gutted'.

Husbandry

The care, cultivation, and breeding of crops and animals.

Hydrodynamic model

A tool which describes or represents the movement of water through a waterway.

Hydrolysate

A manufactured by-product of fish waste.

Institute for Marine and Antarctic Studies (IMAS)

IMAS pursues multidisciplinary and interdisciplinary work to advance understanding of temperate marine, Southern Ocean, and Antarctic environments.

In-pen venturation system

A system which artificially moves water through a sea cage (or pen).

ISO 9001:2008

An international standard related to quality management systems

Key Performance Indicator (KPI)

A measure used to evaluate success or monitor progress towards a particular goal.

Kosher

Kosher foods are those that conform to the regulations of kashrut (Jewish dietary law). Only fish with fins and scales may be eaten, for instance, tuna, salmon, and herring.

Lag indicator

An indicator that follows an event (e.g. rate of incidents/ injuries).

Life Cycle Assessment (LCA)

A technique to assess the environmental aspects and potential impacts associated with a product, process, or service. Sometimes referred to “Cradle to Grave” assessment.

LTI

Lost time injury.

LTIFR

Lost time injury frequency rate.

Macroalgae

Large aquatic photosynthetic plants.

Maugean Skate

A species of fish in the Rajidae family that resides in Macquarie Harbour on the Tasmanian West Coast. It is listed as endangered in the IUCN Red List.

Marine farming

Describes the process of aquaculture in a marine environment.

Marine lease

Areas of water registered to grow finfish, shellfish or other marine organisms.

Material issues

Material issues are those issues identified by our stakeholder groups as important to them.

Micro-nutrient

Vitamins and minerals requirement in small amounts that are essential for fish health, development and growth.

MTIFR

Medically Treated Injury Frequency Rate.

National Standard for Commercial Vessels

A safety standard for all organisations that operate commercial vessels as part of their day to day operations, administered by the Australian Maritime Safety Authority

Nature Conservation Act 2002

An Act in law that makes provision with respect to the conservation and protection of the fauna, flora and geological diversity of Tasmania, to provide for the declaration of national parks and other reserved land and for related purposes

Neoparamoeba perurans

An amoeba that thrives in high salinity sea water at increasing temperatures

Nitrogen cap

Nutrient output from salmon farming operations in the D’Entrecasteaux Channel and Huon Estuary are managed by the regulation of the Total Permissible Dissolved Nitrogen Output (TPDNO), or nitrogen cap from marine farming operations.

Non-GMO

A non-genetically modified organism

Non-Government Organisation

A non-governmental organisation (NGO) is any non-profit group which is organised on a local, national or international level.

NRM Cradle Coast

Cradle Coast NRM is one of 56 natural resource management organisations in Australia and one of three in Tasmania.

NRM South

NRM South is one of 56 natural resource management organisations in Australia and one of three in Tasmania.

OHSAS 18001

OHSAS 18000 is an international occupational health and safety management system specification.

Omega-3

Being or composed of polyunsaturated fatty acids that have the final double bond in the hydrocarbon chain between the third and fourth carbon atoms from the end of the molecule opposite that of the carboxyl group. These are found in fish, fish oils, green leafy vegetables, and some nuts and vegetable oils

Orthomyxo Virus

Any virus belonging to the family Orthomyxoviridae

Osmoregulation

The process of regulating water potential in order to keep fluid and electrolyte balance within a cell or organism relative to the surrounding.

Physico-chemical impact

The impact on the physical and chemical environment.

Ploidy

The number of sets of chromosomes in a cell, or in the cells of an organism.

Pilchard orthomyxo virus (POMV)

An endemic disease of pilchards belonging to the family orthomyxoviridae.

Precautionary principle

When an activity raises threats of harm to human health or the environment, precautionary measures should be taken even if some cause and effect relationships are not fully established scientifically.

Protein

Large, complex molecules that play many critical roles in the body. They do most of the work in cells and are required for the structure, function, and regulation of the body’s tissues and organs.

Reticulated Water

Treated water supplied through a system of pipes, mains and control valves

RLO

Rickettsia like organism is an intracellular bacteria endemic to Tasmania.

ROV Dive

Dives that are performed without humans but with Remote Operated Vehicles

Salmonid

Any fish of the family Salmonidae, which includes Salmon

Salmo salar

The scientific name for Atlantic Salmon

Seal interaction

Interaction that occurs when a seal attempts to enter a pen, eat fish or damages farm equipment in a marine farm environment

Sediment metabolic capability

A measure of the natural capability of sediments to utilise organic matter. **Selective breeding**

The intentional breeding of organisms with desirable trait in an attempt to produce offspring with similar desirable characteristics or with improved traits

Sensor buoy

Buoys moored in the ocean to measure environmental variables. **Silver Gull**

Most commonly known as 'seagulls', they are the most common gull in Australia. **Sludge**

Depositional material (including faeces and excess feed) that falls out from fresh water and settles in holding tanks or pond

Smolt

A stage in the life cycle of salmonids at which the salmon is ready to move from the freshwater to saltwater environment

Smoltification

An internal metabolic process which enables a fish to adapt from fresh to sea water with a minimum of stress; characteristic
of salmonid fish

Substrate

An underlying substance or layer

Tasmanian Parks and Wildlife Services

A Tasmanian Government department that manages national parks and reserves, including marine reserves

Tasmanian Salmonid Growers Association

The Tasmanian Salmonid Growers' Association Ltd is Tasmania's peak body representing salmon growers. It is a not-for-profit organisation.

TasPorts

A private company fully owned by the Tasmanian Government with responsibility for the operations and management of all ports in Tasmania.

Tassal Integrated Management System (TIMS)

Tassal's internal management system that includes procedures for the management of environmental, safety and quality indicators

Terrestrial oil

Oil derived as a bi-product of the growing of animals on land (e.g. poultry oil, canola oil).

Traceability

The ability to track any food through all stages of, production, processing and distribution. All movements can be traced one step backwards and one step forward at any point in the supply chain.

Triploid fish

Fish that have been sterilised, resulting in an embryo that has more chromosomes than occur naturally

UK RSPCA Atlantic Salmon Standard

RSPCA (UK) welfare standards have been developed to represent 'best practice' in the care and welfare of commercially-farmed Atlantic salmon at all stages of their lives.

Value-added product

The enhancement a company gives its product or service before offering the product to customers, for example, 'smoked salmon' is salmon that has been modified through a special cooking process.

Wild catch

Fish harvested from the wild (as opposed to being raised in captivity).

Wild capture fisheries

Fisheries harvesting seafood from the wild.

WQA

The Woolworths Quality Assurance (WQA) Standard represents benchmarking of the Woolworths Quality program against global product safety standards.

WQ monitoring

Water Quality monitoring.

WWF-Australia

WWF-Australia is part of the WWF International Network, an independent global conservation organisation. **WWF Sustainable Seafood Charter**

A charter from WWF that sets out clear principles and objectives to safeguard marine ecosystems, ensuring the longterm viability of seafood supplies.

Yersiniosis

A bacterial disease endemic in Tasmania

References

Black, KD 2001, *Environmental effects of aquaculture*. Sheffield Academic Press, UK.

Black, E, Gowen, R, Rosenthal, H, Roth, E, Stechy, D and Taylor, F 1997, The costs of eutrophication from Salmon farming: implications for policy—a comment. Jou*rnal of Environmental Management* 50(1): 105-109.

Brachionichthys hirsutus (Spotted Handfish). 2015. *Brachionichthys hirsutus (Spotted Handfish*). [ONLINE] Available at: http://www.iucnredlist.org/details/2958/0. [Accessed 31 March 2015]

Crawford, C, Mitchell, I and MacLeod, C 2001, Video assessment of environmental impacts of Salmon farms. *Journal of Marine Science* 58(2): 445-452 pp.

Crawford, C, Thompson, P, Jordan, A, Foster, S, Mitchell, I, Bonham, P and Willcox, S 2006, *Development of broad scale environmental monitoring and baseline surveys in relation to sustainable Salmon aquaculture in the D'Entrecasteaux Channel region*. Aquafin Cooperative Research Centre, Fisheries Research and Development Corporation, Commonwealth Scientific and Industrial

Research Organisation. Aquafin CRC Project 4.4. Tasmanian Aquaculture and Fisheries Institute, University of Tasmania.

Crawford, C, MacLeod, C and Mitchell, I 2002, *Evaluation of techniques for environmental monitoring of Salmon farms in Tasmania.* Tasmanian Aquaculture and Fisheries Institute and University of Tasmania. TAFI Technical Report Series No. 8. Hobart, 140 pp.

Dunphy, D, Griffiths, A and Benn, S 2003, *Organisational Change for Corporate Sustainability*, Rev.edn. London.

Eddyvane, KS 2003, *Conservation, monitoring and recovery of threatened giant kelp (Macrocystis pyrifera) beds in Tasmania*. Department of Primary Industries, Water and Environment, Hobart.

Edgar, GJ, Davey, A and Shepherd, C 2009, *Broadscale effects of marine Salmonid aquaculture and introduced pests on macrobenthos and the sediment environment in Tasmania between 1998 and 2003*. Hobart.

Global Salmon Initiative. 2015. Home - *Global Salmon Initiative.* [ONLINE] Available at: http://www.globalsalmoninitiative.org/. [Accessed 31 March 2015].

Hargrave, BT, Phillips, GA, Doucette, LI, White, MJ, Milligan, TG, Wildish, DJ and Cranston, RE 1997, Assessing benthic impacts of organic enrichment from marine aquaculture. In: *7th International Symposium on the Interactions between Sediments and Water.* Baveno, Italy, 22-25 September 1996, pp 641-650.

Holmer, M 1992, *Impacts of aquaculture on surrounding sediments: generation of organic-rich sediments. In: De Pauw, N.; Joyce, J. Aquaculture and the Environment: reviews of the International Conference Aquaculture Europe '91, Dublin, Ireland, June 10-12, 1991. EAS Special Publication 16. pp 155-176.*

ICES, 1999. *Report of the working group on Environmental Interaction of Mariculture. ICES CM 1999/F:2. Mariculture Committee.* Montpellier.

International Salmon Farmers Association 2015, *Salmon Farming Sustaining Communities and Feeding the World*

Macleod, C, Forbes, S, Bissett, A, Burke, C, Crawford, C, Holdsworth, D, Nichols, P, Revill, A, and Volkman, J 2004, Guide to the assessment of sediment condition at marine finfish farms. Aquafin CRC Project 4.1 Extension report to FRDC. Tasmanian Aquaculture & Fisheries Institute.

Mente, E, Pierce, GJ, Santos, MB and Neofitou, C 2006, Effect of feed and feeding in the culture of Salmonids on the marine aquatic environment: a synthesis for European aquaculture. *Aquaculture International* 14(5): 499-522.

NPI (2001). *Emission estimation technique manual for aggregated emissions from temperate water aquaculture: National Pollutant Inventory manual.* Environment Australia.

Parsons, KE 2012, *State of the D'Entrecasteaux Channel and the lower Huon Estuary 2012*. Report for the D'Entrecasteaux Channel Project, prepared by Ecomarine Consulting. 222 pp.

Ross, DJ and Macleod, CK 2013, Evaluation of Broadscale Environmental Monitoring Program (BEMP) data from 20092012, IMAS Technical Report 140pp.

Sanderson, J, Cromey, C, Dring, M and Kelly, M 2008, Distribution of nutrients for seaweed cultivation around Salmon cages at farm sites in north–west Scotland. *Aquaculture* 278(1): 60-68.

Tasmanian Salmonid Growers Association 2014, Agricultural Competitiveness White Paper Submission – IP474, Tasmania.

The Food Future is Feed Efficient Aquaculture. 2015. *The Food Future is Feed Efficient Aquaculture*. [ONLINE] Available at: http://www.ecoinvestor.com.au/Articles/The-Food-Future-isFeed-Efficient-Aquaculture.htm. [Accessed 31 March 2015].

Threatened Species Section (2015). Zearaja maugeana *(Maugean Skate): Species Management Profile for Tasmania's Threatened Species Link*. http://www.threatenedspecieslink.tas.gov.au/maugean-skate. Department of Primary Industries, Parks, Water and Environment, Tasmania. Accessed on 24/3/2015.

Woehler , E (2014) *2014 Winter Gull Count: Report to Counters, PWS, Councils, Land Managers and Aquaculture* BirdLife Tasmania, Hobart.

Woodward, IO, Gallagher, JB, Rushton, MJ, Machin, PJ and Mihalenko, S 1992, *Salmon farming and the environment of the Huon Estuary, Tasmania*. Technical Report No. 45. Division of Sea Fisheries, Tasmania.

GRI Content Index

General Standard Disclosures		Reference	External Assurance (Y/N)
Strategy and Analysis			
G4-1	Message from our Chairman & Managing Director	pp.2-3	N
	Message from our Head of Sustainability	pp.2-3	
Organisational Profile			
G4-3	Name of the organisation	Cover	N
G4-4	Primary brands, products, and services	p.7	N
G4-5	Location of headquarters	p.6	N

G4-6	Countries located	Inside front cover	N
G4-7	Nature of ownership and legal form	p.6	N
G4-8	Markets served	p.7	N
G4-9	Scale of the organisation	pp.6-7	N
G4-10	Employee profile	p.45	N
G4-11	% of employees covered by collective bargaining agreements	pp.46	N
G4-12	Supply chain	p.22	Y
G4-13	Significant changes in the reporting period	Inside front cover	N
G4-14	Precautionary approach/principle	p.5	N
G4-15	Commitments to externally developed economic, environmental and social charters, principles, or other initiatives	pp.31-32, 54	N
G4-16	Memberships and Committees	p.54	N
Identified Material Aspects and Boundaries			
G4-17	Entities included in reporting	Inside front cover	N
G4-18	Process for defining the report content and the Aspect Boundaries and implementation of the Reporting Principles for Defining Report Content	Inside front cover	N
G4-19	Material Aspects identified in the process for defining report content	p.20	N
G4-20	Internal Aspect Boundaries	GRI Content Index	N
G4-21	External Aspect Boundaries	GRI Content Index	N
G4-22	Restatements from previous reporting periods	Inside front cover	N
G4-23	Significant changes from previous reporting periods in Scope and Aspect Boundaries.	Inside front cover	N
Stakeholder Engagement			
G4-24	Stakeholder groups engaged by Tassal	p.18	N
G4-25	Basis for identification and selection of stakeholders	p.18	N
G4-26	Approach to stakeholder engagement	pp.18-19	N
G4-27	Key topics and concerns raised through stakeholder engagement, and responses	Throughout report	N

General Standard Disclosures		Reference	External Assurance (Y/N)
Report Profile			
G4-28	Reporting period	Inside front cover	N
G4-29	Previous report	Sustainability Report FY2013, published in 2014	N
G4-30	Reporting cycle	Inside front cover	N
G4-31	Contact details	Inside front cover	N
G4-32	'In accordance' option	Inside front cover	N
G4-33	Policy and current practice in seeking external assurance for the report, including scope and basis of any external assurance	Inside front cover	N

Governance				
G4-34	Governance structure and committees	p.11		N
Ethics and Integrity				
G4-56	Code of ethics	p.11		N

Specific Standard Disclosures				
Disclosures on Management Approach & Indicators		**Reference**	**Internal or External Boundary (I/E)**	**Assurance**
Category: Economic				
Procurement/Sourcing Practices				
G4-DMA		p.22		
FP1	% purchased volume from suppliers compliant with Tassal's sourcing policy	p.22	E	Y
Category: Environmental				
Energy				
G4-DMA		pp.41, 43		
G4-EN3	Energy consumption	p.42	I	Y
G4-EN6	Reduction of energy consumption	p.42	I	N
Water				
G4-EN8	Total water withdrawal by source	p.42	I	Y
Biodiversity				
G4-DMA		p.25		
G4-EN11	Operational sites owned, leased, managed, or adjacent to protection areas and areas of high biodiversity value outside protected areas	p.28	E	N
G4-EN12	Significant impacts of activities, products, and services on biodiversity in the areas identified above	p.28	E	N
G4-EN14	IUCN Red List species and national conservation list species with habitats in areas affected by operations, by level of extinction risk	p.27	E	N
Effluents and Waste				
G4-DMA		p.43		
G4-EN23	Total weight of waste by type and disposal method	p.43	I & E	Y
Compliance				
G4-DMA		p.38		
G4-EN29	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations	p.39	I	N

Specific Standard Disclosures				
Disclosures on Management Approach & Indicators		**Reference**	**Internal or External Boundary (I/E)**	**Assurance**

Supplier Environmental Assessment				
G4-DMA		p.22		
G4-EN32	% of new suppliers that were screened using environmental criteria	p.22	E	Y
Category: Social (Sub-category: Labour Practices and Decent Work)				
Employment				
G4-DMA		p.44		
G4-LA1	Total number and rates of new employee hires and employee turnover by age group, gender and region	p.46	I	N
Occupational Health and Safety				
G4-DMA		pp.48-49		
G4-LA5	% of total workforce represented in formal joint management-worker health & safety committees that help monitor and advise on health & safety programs	p.50	I	N
G4-LA6	Type of injury, occupational diseases, lost days, absenteeism and total number of work related fatalities by region and gender	pp.48, 51	I	Y
Supplier Assessment for Labour Practices				
G4-DMA				
G4-LA14	% new suppliers screened using labour practices criteria	p.22	I & E	Y
Training and Education				
G4-DMA		p.46		
G4-LA9	Average hours of training per year per employee by gender and employee category	p.46	I	N
Category: Social (Sub-category Human Rights)				
Supplier Human Rights Assessment				
G4-DMA		p.22		
G4-HR10	% new suppliers screened using human rights criteria	p.22	I & E	Y
Category: Social (Sub-category Society)				
Local Communities				
G4-DMA		p.18		
G4-SO1	% of operations with implemented local community engagement, impact assessments, and development programs	p.18	I & E	N
Supplier Assessment for Impacts on Society				
G4-DMA		p.22		
G4-SO9	% new suppliers screened using criteria for impacts on society	p.22	I & E	Y

Specific Standard Disclosures

Disclosures on Management Approach & Indicators		Reference	Internal or External Boundary (I/E)	Assurance
Category: Social (Sub-category: Product Responsibility)				
Customer Health and Safety				
G4-DMA		p.23		
G4-PR1	% of significant product and service categories for which health and safety impacts are assessed for improvement	p.22	I & E	Y
G4-PR2	Number of incidents of non-compliance with regulations and voluntary codes concerning the health and safety impacts of products and services during their life cycle, by outcome	p.22	I	N
FP5	% of production volume manufactured in sites certified by an independent third party according to internationally recognised food safety management system standards	p.22	I & E	Y
Category: Society (Sub-category: Animal Welfare)				
G4-DMA		p.36		
FP9	% and total of animals raised and/or processed by species and breed type	p.6	I	N
FP10	Policies and practices related to physical alterations and the use of anaesthetic	p.37	I	Y
FP12	Policies and practices on antibiotic, anti-inflammatory, hormone, and/or growth promotion treatments	p.37	I	Y
FP13	Total number of incidents of significant non-compliance with laws and regulations, and adherence with voluntary standards related to transportation, handling, and slaughter practices for live terrestrial and aquatic animals	p.33	I	Y

Production Notes

Sustainability Report Team

Linda Sams, Head of Sustainability, Tassal Group Ltd

Kaylene Little, Head of HR, QA and Safety, Tassal Group Ltd

Fiona Ewing, Community Engagement Officer, Tassal Group Ltd

Heidi Hansen, Environmental Certification Officer, Tassal Group Ltd

Sustainability Report Advisory Committee (SRAC)
(Note: Whilst the SRAC have provided advice in the preparation of this report, they do not necessarily endorse its contents)

Global Reporting Initiative (GRI) Advisory and Editing

GRI advisory and editing provided by Marian Gruber, ZOOiD, Australia. ZOOiD is a GRI Certified Training Partner and Organisational Stakeholder (see: www.zooid.com.au).

Design

Design services provided by Digital Ink (see: www.digitalink.com.au).

Paper

Printed in Tasmania, this report uses Revive Laser stock.
Text printed on Revive Laser 100% Recycled, manufactured from FSC Recycled certified fibre. Cover printed on Revive Laser 70% Recycled, manufactured from FSC Mix certified fibre. Both are certified Carbon Neutral by the DCC&EE under the National Carbon Offset Standard (NCOS), Revive Laser also supports Landcare Australia. Made in Australia by an ISO 14001 certified mill. No chlorine bleaching occurs in the recycling process.

Contact Us

If you have any comments or questions about information contained within the Tassal Sustainability Report 2014, please contact us at sustainability@tassal.com.au.

141260

www.tassal.com.au