The Tasmanian Salmonid Growers Association (TSGA) is a not for profit organisation established by its grower members over **20 years ago**
TSGA’s role, is to co-ordinate and facilitate:

- ongoing work with Government to continue to update regulatory framework aimed at ensuring long term sustainability

- collaborative research that aims to deliver quantifiable outcomes, lower production costs, sustainable growth, while maintaining and improving product quality
Continued...

- **Community engagement:**
  - School education programs
  - Community sponsorships
  - Representation at ENGO forums and conferences
  - Contribution to media requests and events
  - Field days and public information sessions
  - Implementing the Social Return On Investment framework
  - Representation on key stakeholder and broader industry
    Boards- *International Salmon Farmers Association (ISFA)*
R&D into ‘best practice’

Salmon farmers recognise that they must demonstrate their commitment to sound principles of:

• operational excellence
• optimal animal welfare
• high standards of husbandry
• achieving the sustainable use and sustainable management of Tasmania’s marine resources

The salmon farming industry in Tasmania has a long history of supporting and investing in both fundamental and applied research.

CURRENT TSGA R&D PORTFOLIO:
Value: $4,301,706
The Tasmanian Salmonid Industry

- Significant economic benefits to the State
  - Largest aquaculture Industry in Australasia
  - Second Largest Farming Industry in Tasmania
  - Directly employs 1,100 Tasmanians
  - >$400 m, including exports $60 m
  - Tasmanian GDP $160 m

A Tasmanian Industry poised to grow sustainably
Global trade 2009:
Farmed salmon & trout – world wide (Atl. salmon, large trout, coho & chinook in tonnes wfe)

- **Norway, Faroe Islands, Iceland**:
  - Harvest: 990,000
  - Market: 38,000

- **Russia**:
  - Harvest: 10,000
  - Market: 150,000

- **Japan**:
  - Harvest: 10,000
  - Market: 265,000

- **North America**:
  - Harvest: 135,000
  - Market: 350,000

- **Latin America**:
  - Harvest (CL): 490,000
  - Market: 90,000

- **EU**:
  - Harvest: 205,000
  - Market: 816,000

- **Other Asia**:
  - Market: 135,000

- **Australia & New Zealand**:
  - Harvest: 45,000
  - Market: 38,000

Arrows indicate trade flows with **to Japan** and **from Chile**.
Regulation of the industry statutory compliance

Legislation: Commonwealth
Aboriginal and Torres Strait Islander Heritage Protection Act, 1984
Aboriginal Lands Act, 1995
Aboriginal Relics Act, 1975
Agricultural and Veterinary Chemicals (Control of Use), 1995
Crown Land Act, 1976
Dangerous Goods Act, 1998
Disposal of Uncontrolled Goods Act, 1995
Energy Coordination and Planning Act, 1995
Environmental Protection and Biodiversity Conservation Act, 1999
Export Control Act, 1982
Export Control (Fish and Fish Products) Orders, 2005
Greenhouse Gas Emissions Act, 2005
Heritage Commission Act, 1975
Historical Cultural Act, 1995
Local Government Act, 1993
Marine and Safety (Mooring) By-laws, 1998
Maritime Safety Authority Act, 1990
Navigation Act, 1912
Poison Act, 1971
Pollution of Waters by Oil and Noxious Substances Act, 1987
Sea Installations Act, 1987
Sea and Submerged Lands Act, 1973
Sea Fishing Act, 1979
Shade Practices Act, 1974
Water Management Act, 1985

Legislation: State
Animal Health Act, 1995
Animal Welfare Act, 1993
Environmental Management and Pollution Control Act, 1994
Farm Water Development Act, 1993
Fire Services Act, 1979
Forestry Practices Act, 1985
Gene Technology Act, 2001
Groundwater Act, 1985
Health Act, 1997
Hobart Regional Water (Arrangements) Act, 1996
Hydro-Electric Corporation Act, 1995
Inland Fisheries Act, 1995
Land Use Planning and Approvals Act, 1993
Litter Act, 1973
Living Marine Resources Management Act, 1995
Marine Farming Development Act, 1995
Marine Safety and Authority Act, 1997
National Parks and Reserves Management Act, 1970
Nature Conservation Act, 2002
Resource Assessment Commission Act, 1989
Rivers and Water Supply Commission Act, 1999
Threatened Species Protection Act, 1995
Water Quality Act, 1999
Wildlife Regulations, 1999
Workplace Health and Safety Act, 1995
Wool-growers Act, 1975

Legislation: Other
Aquatic Animal Welfare Guidelines, National Aquaculture Council, 2004
Marine Farming Development Plans and Licences
Convention Concerning the Protection of World Cultural and Heritage Areas
State Coastal Policy, 1996
Tasmanian Salmonid Farming Industry Code of Practice, 2004
Water Environment Management Programmes
Global Reporting Initiative (GRI) Sustainability Reporting

Our industry is ‘measured and regulated’

An example: One of TSGA’s vertically integrated members complies with 672 Marine Farming Conditions
Regulation of the industry acting beyond compliance

- Broadscale Environmental Monitoring Program
  - The project is aimed at assessing water and sediment quality and benthic infauna health at a number of sites neighbouring finfish marine farms in the D’Entrecasteaux Channel and Huon Estuary.
  - This annual monitoring program has been entirely funded by Industry, not only to ensure the health of our stock, but also to monitor and demonstrate our credentials in environmental sustainability.

- Tasmanian Salmonid Health Surveillance Program (TSHSP)
  - The TSHSP is a joint initiative between the Tasmanian Department of Primary Industries, Parks, Water and Environment (DPIPWE) and TSGA.
  - It has been in operation since 1993.
  - The program aims to provide a coordinated salmonid disease surveillance program for the whole of Tasmania.
Regulation of the industry acting beyond compliance

- European Union Residue Monitoring Program
  - Within this program, the TSGA is required to screen their products for a pre-determined suite of residues, each with a specified performance level which had to be met.
  - These levels are set in a residue control plan by the EC in conjunction with AQIS and represented analytes that are of concern to the EU.

- INFORMD (phase 1 and 2)
  The aim of INFORMD is to develop a practical and science based method/tool that can support integrated planning, management and development of the marine and coastal ecosystems of the Derwent---Huon estuary and Bruny Bioregion.
Regulation of the industry

International comparison

TSGA, through international networks, benchmarks itself against other jurisdictions to understand opportunities for improvement.

<table>
<thead>
<tr>
<th>Phase</th>
<th>Norway</th>
<th>Chile</th>
<th>Canada</th>
<th>Scotland</th>
<th>Tasmania</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planning</td>
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<td></td>
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<tr>
<td>Environmental Impact Assessment</td>
<td>Conditional</td>
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<td>Conditional</td>
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<td>Baseline data</td>
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<td>Conditional</td>
<td>Mandatory</td>
<td>Conditional</td>
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<tr>
<td>Operational</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Escape Events</td>
<td>Prohibited and Reported</td>
<td>Prohibited and Reported</td>
<td>Prohibited and Reported</td>
<td>Reported</td>
<td>Prohibited and Reported</td>
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<tr>
<td>Waste Management: monitored and regulated</td>
<td>Mandatory</td>
<td>Mandatory</td>
<td>Mandatory</td>
<td>Mandatory</td>
<td>Mandatory</td>
</tr>
<tr>
<td>Fish Health: monitored and regulated</td>
<td>Mandatory</td>
<td>Mandatory</td>
<td>Mandatory</td>
<td>Mandatory</td>
<td>Mandatory</td>
</tr>
</tbody>
</table>
Planning in the industry—a case study

Draft Amendment No.1 to the Macquarie Harbour Marine Farming Development Plan

<table>
<thead>
<tr>
<th>The MFDP or Amendment must include:</th>
<th>Compliance</th>
</tr>
</thead>
<tbody>
<tr>
<td>a description of all marine farming zones in the plan area</td>
<td>Yes</td>
</tr>
<tr>
<td>a description of the maximum area of the zone that can be leased</td>
<td>Yes</td>
</tr>
<tr>
<td>an environmental impact statement (EIS); the level of information in the EIS will vary depending on the scale of the proposed plan and the public interest in the proposal</td>
<td>Yes</td>
</tr>
<tr>
<td>at a minimum, the EIS must address the potential environmental impacts of the proposal and make sure that the draft plan is consistent with the objectives of the RMPS</td>
<td>Yes</td>
</tr>
<tr>
<td>draft management controls</td>
<td>Yes</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Scale of EIS</th>
<th>&gt;1000 page document, the most significant in Tasmanian Marine Farming Planning history and according to industry experts the most comprehensive internationally</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost to industry of EIS</td>
<td>In excess of $0.5 million</td>
</tr>
<tr>
<td>Public consultation</td>
<td>Stakeholder engagement strategy, Strahan public open day and Social Return on Investment (SROI) analysis</td>
</tr>
<tr>
<td>Potential Effects and their management</td>
<td>15 variables addressed—<em>i.e.</em> water quality, marine mammals and waste</td>
</tr>
<tr>
<td></td>
<td>12 variables addressed—<em>i.e.</em> visual, noise and recreational fishing</td>
</tr>
<tr>
<td>Third party independent contributors</td>
<td>DHI (modelling), Rural Development Services (SROI and public open day), Peter Bennett Consulting (Socio-economic modelling)</td>
</tr>
</tbody>
</table>
Sustainable development

“...forms of progress that meet the needs of the present without compromising the ability of future generations to meet their needs”

U.N. World Commission on Environment and Development
Environmental Sustainability

There is a greater emphasis on **quantitative** measures of environmental impact rather than more theoretical or qualitative assessments.

We need to continue our research and ongoing efforts to minimise the impact of our industry on the environment:

- $2M committed in our current TSGA R&D portfolio
- Effective use of environmental impact assessment tools
Life Cycle Assessment

The Global Aquaculture Performance Index (GAPI) is one environmental impact assessment tool that has been specifically designed to assess the environmental performance of marine finfish aquaculture.

Life Cycle Assessment (LCA) is a biophysical accounting tool that quantitatively measures the environmental impacts that occur over the life cycle of a product.

- Its major strengths relate to its ability to incorporate upstream and downstream processes to determine the cumulative impacts across a broad range of environmental metrics.

- The salmon industry LCA will be based on primary data collected via face to face surveys with all TSGA members, thus it can be assumed that this approach will provide an accurate reflection of the individual performance.
Life Cycle Assessment

The purpose of the assessment is:

• Provide TSGA members with an overall assessment of the environmental, economic and nutritional efficiency of the Tasmanian salmon industry

• Identify opportunities in the production process that can be addressed to further sustainability objectives in farmed salmon production

• Provide a benchmark against which the industry can compare its performance overtime

• Provide a benchmark against which the Tasmanian Salmon industry can compare itself to other food production systems on a national and international level
Aquaculture Accreditation and Standards

- GlobalGAP
- Friend of the Sea
- Organic Standards
- ISO 14000
- Safe Quality Food (SQF)
- Global Aquaculture Alliance (GAA BAP)
- WWF Standards – Aquaculture Stewardship Council
- IFFO Feed Material Standards
- New ISO aquaculture standard
- Food and Agriculture Organization of the United Nations
- Salmon Aquaculture Dialogue (SAD)
- An Australian Aquaculture Standard???
Last Words

• We are passionate about our industry - we take pride in the effort that has gone into building our ‘worlds best practice’ industry

• Industry is maturing and evolving alongside with the planning and regulation process

• TSGA is connected to global aquaculture community

• Collaboration is the key to success

Dr Adam Main
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