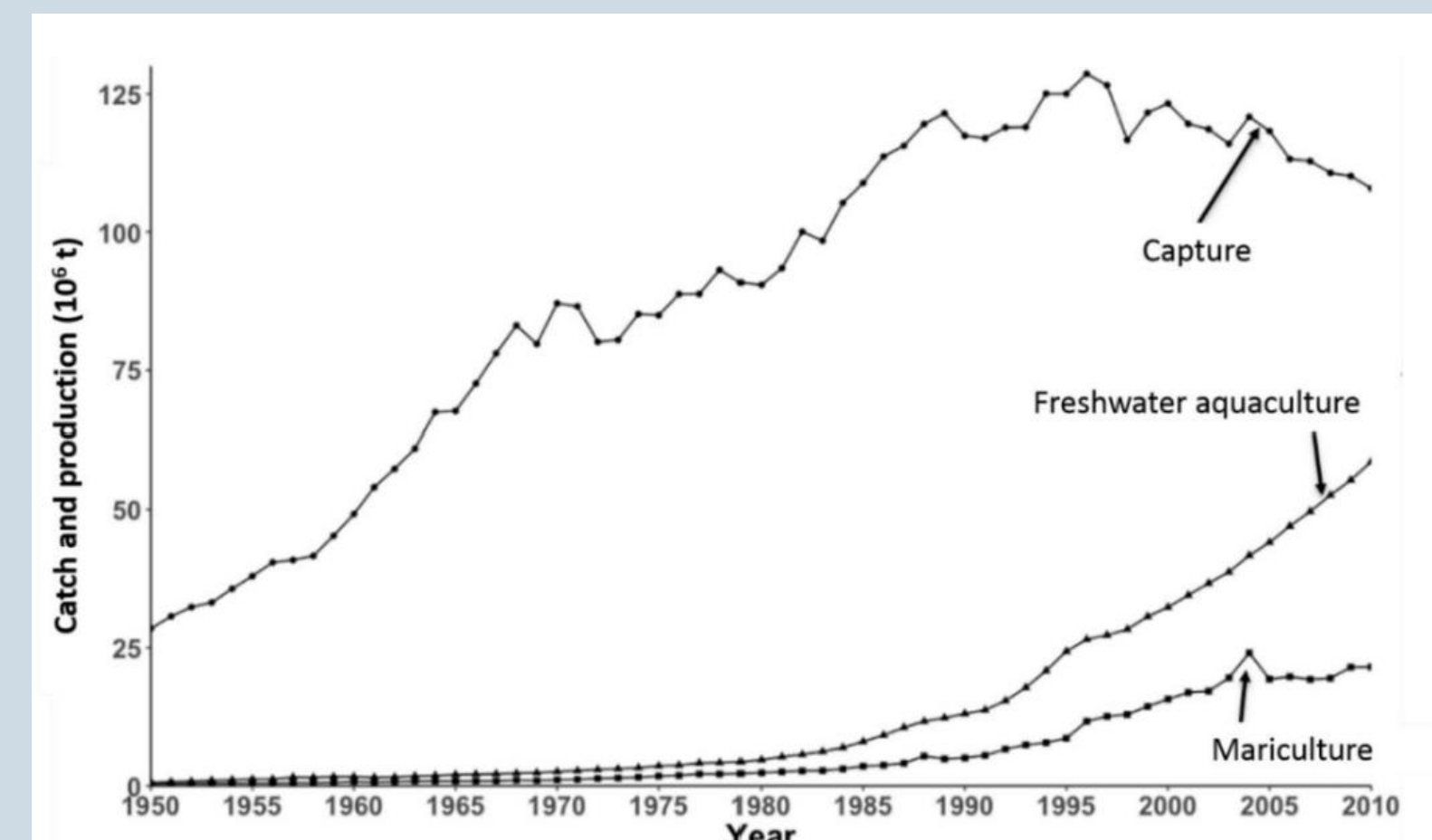


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- **Mariculture is growing globally due to seafood demand and declining wild fish stocks.** The world population will reach an estimated 9 -10 billion by 2050, increasing global food demand by 70-100%.
- **Technological advances enhance efficiency and sustainability.**
- **Diversification in species reflects changing preferences.**
- **Market expansion, especially in Asia-Pacific and Latin America, signals sector importance.**
- **Sustainability efforts rise, but challenges like disease outbreaks persist.**
- **Collaboration and innovation are vital for sector growth and sustainability.**



Source: Sea Around Us (2010) and FAO (2012). Global trends in food fish production from 1950 to 2010 with production from capture fisheries, freshwater aquaculture and mariculture.

Introduction

-Aquaculture involves farming aquatic organisms for food, offering a promising solution to global food security. Over three decades, global aquaculture production has grown steadily at around 8% annually, surpassing other major animal food sectors. **Mariculture**, focusing on marine organisms, now **accounts for a third of global aquaculture**.

-Yet, mariculture encounters **challenges like environmental impacts, reliance on wild resources, and genetic concerns**. Biotechnological advancements offer potential solutions but require careful consideration of ecosystem and societal impacts.

-Integrated mariculture and bioremediation offer ways to mitigate environmental impacts, but robust legislative frameworks and monitoring are essential for compliance and minimizing adverse effects. **Collaborative efforts between public and private sectors** are vital for promoting sustainable practices and maximizing the mariculture sector's potential.

-In conclusion, addressing mariculture challenges demands a **comprehensive approach prioritizing environmental sustainability and regulatory compliance**. By embracing sustainable practices and fostering collaboration, mariculture can contribute to global food security responsibly.

Trends and Forecasts

Global Growth: Mariculture, the farming of marine organisms for food and other products, has experienced significant growth in recent years. With increasing demand for seafood and declining wild fish stocks, mariculture provides a sustainable solution to meet the world's seafood needs.

Technology Adoption: Advances in technology, such as aquaculture automation, precision aquaculture, and recirculating aquaculture systems (RAS), are revolutionizing the mariculture industry. These technologies improve efficiency, reduce environmental impact, and enhance production yields.

Species Diversification: While traditional mariculture species like salmon, shrimp, and mussels remain popular, there is a growing trend towards diversification. Emerging species such as seaweed, oysters, scallops, and various finfish species are gaining attention due to their nutritional value, market demand, and environmental benefits.

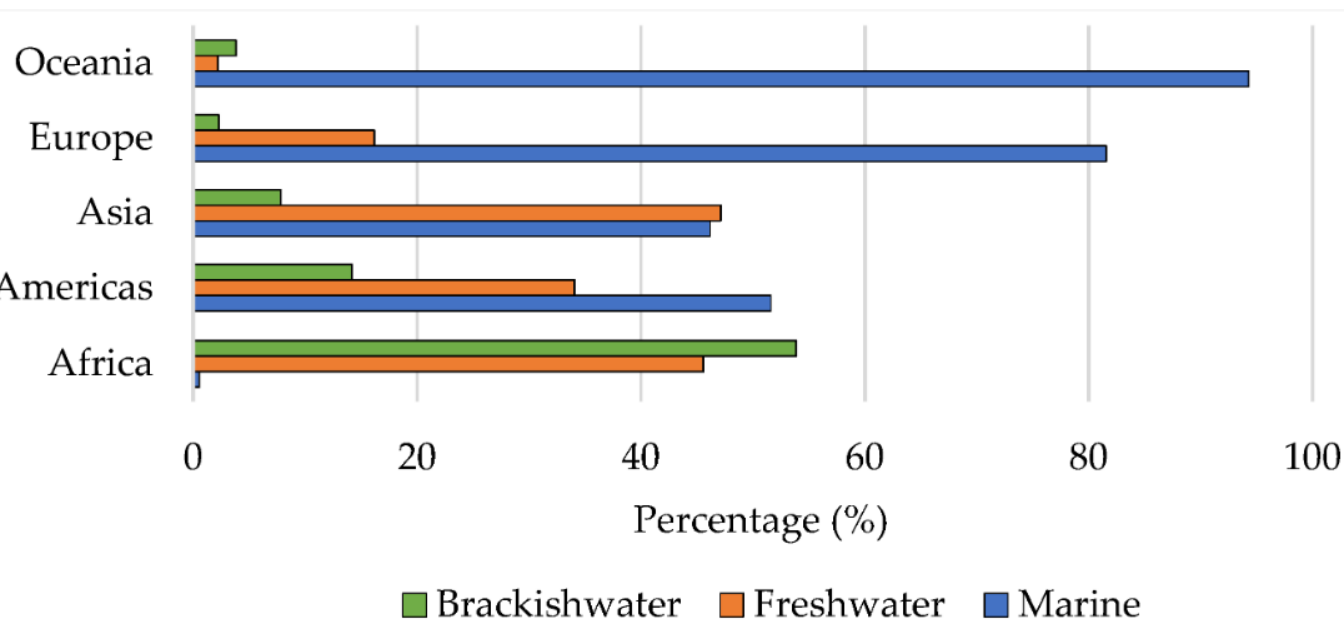
Market Expansion: The global mariculture market is expanding geographically, with increasing investment and development in regions such as Asia-Pacific, Latin America, and Africa. This expansion is driven by factors such as favorable climatic conditions, government support, and growing consumer demand for sustainably sourced seafood.

Sustainability Initiatives: Sustainability is a key focus in the mariculture sector, driven by consumer preferences, regulatory requirements, and environmental concerns. Practices such as integrated multi-trophic aquaculture (IMTA), organic certification, and responsible sourcing are becoming more prevalent, ensuring the long-term viability of mariculture operations.

Challenges and Opportunities: Despite its growth potential, the mariculture sector faces challenges such as disease outbreaks, environmental degradation, and regulatory constraints. However, these challenges also present opportunities for innovation, research, and collaboration to address sustainability issues and unlock the sector's full potential.

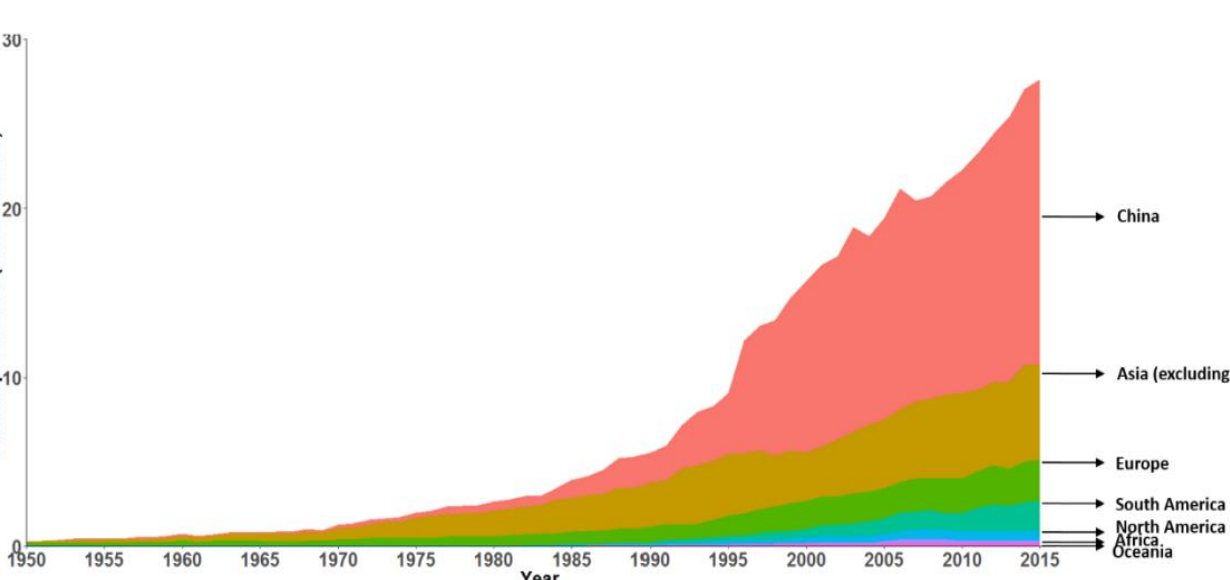
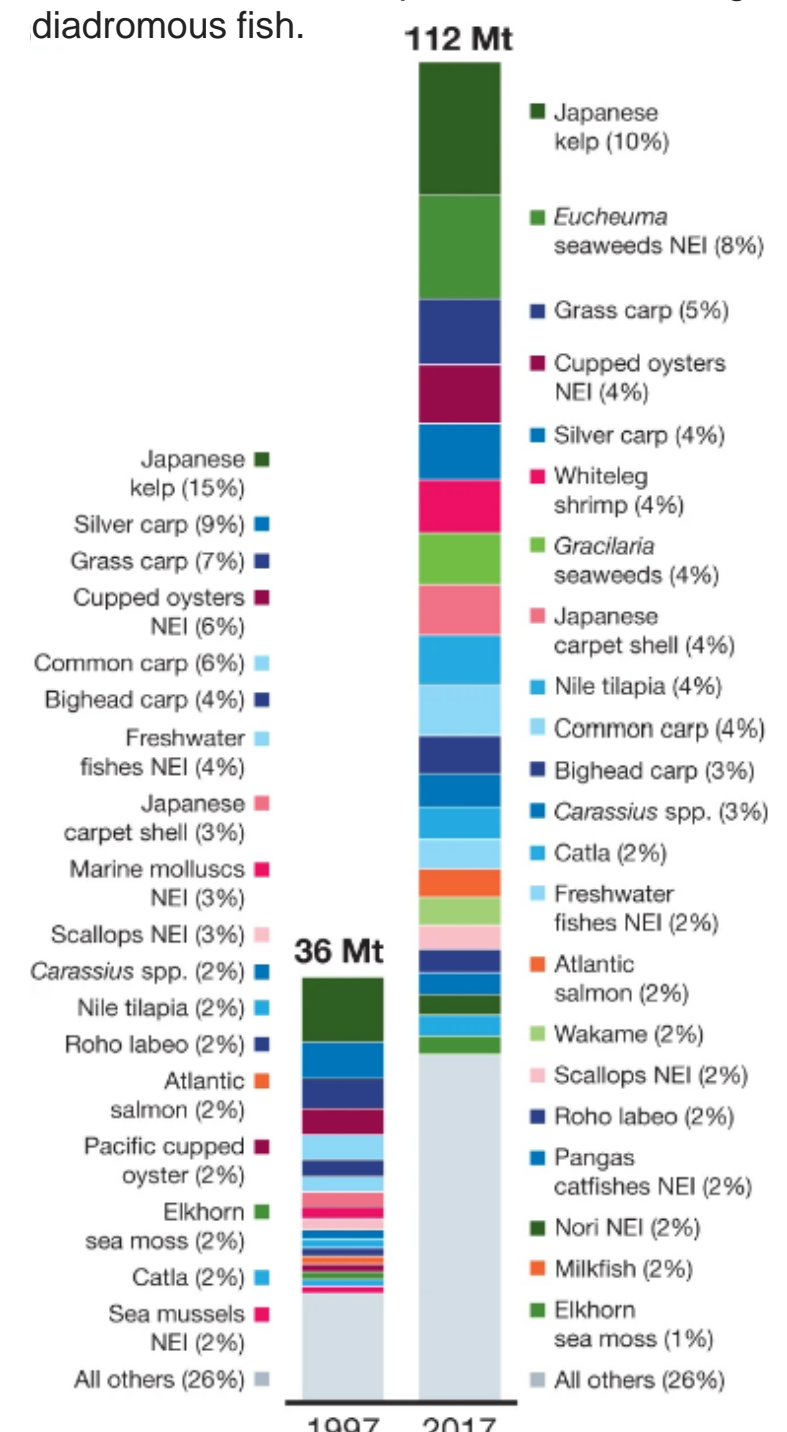
Future Outlook: The future of the mariculture sector looks promising, with continued growth expected in response to global seafood demand, technological advancements, and sustainable practices. As the industry evolves, collaboration between stakeholders, investment in research and development, and adherence to best practices will be essential for ensuring a prosperous and sustainable mariculture sector.

Visual data



Source: FAO, 2020. Seafood production of brackish, fresh and marine aquaculture: percentage of total production in 2018 by aquatic system in each continent.

Source: FAO, 2020. The species composition for 1997 and 2017. Green, plants and algae; blue, freshwater fish; pink, shellfish; orange, diadromous fish.



Source: FAO, 2020: Mariculture production by region from 1950 - 2015.