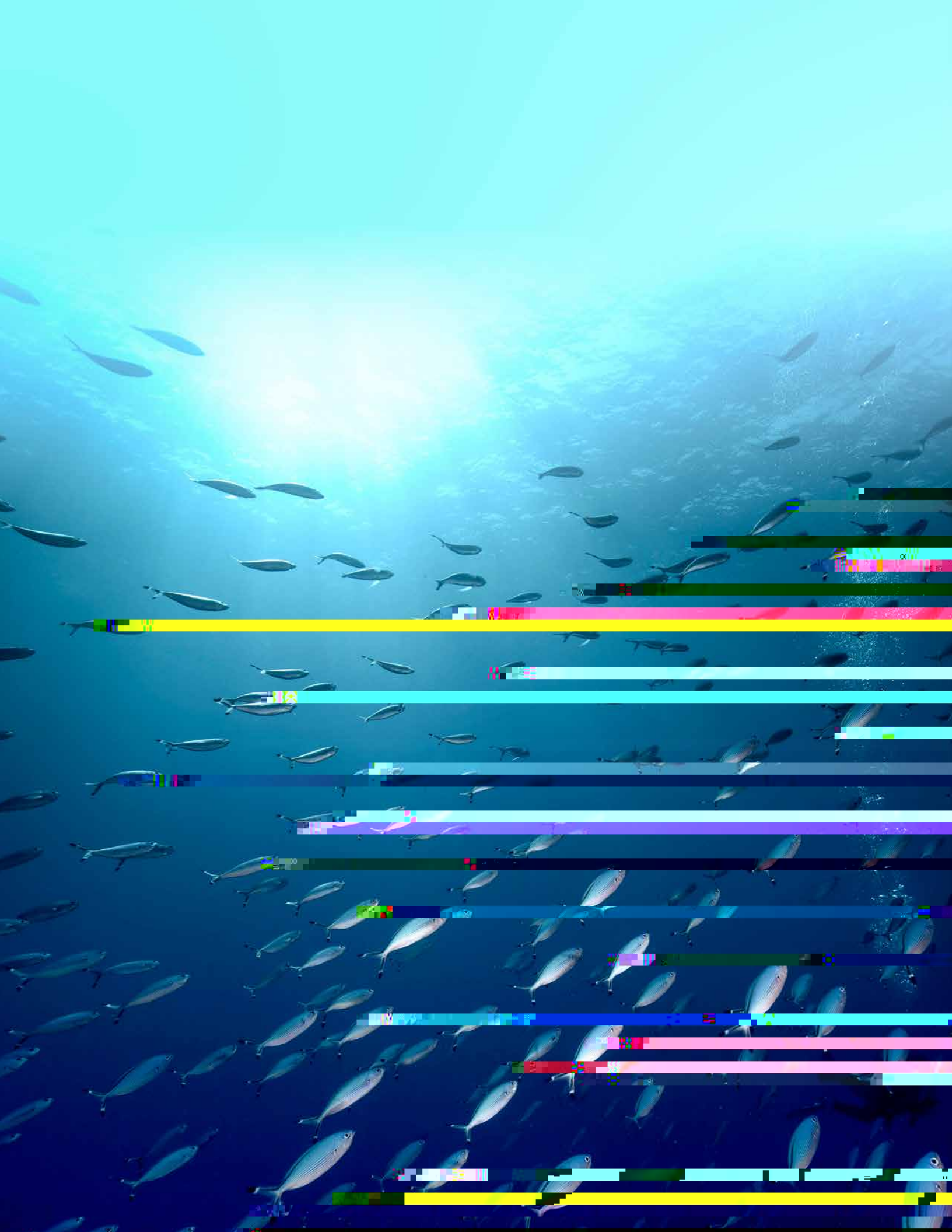

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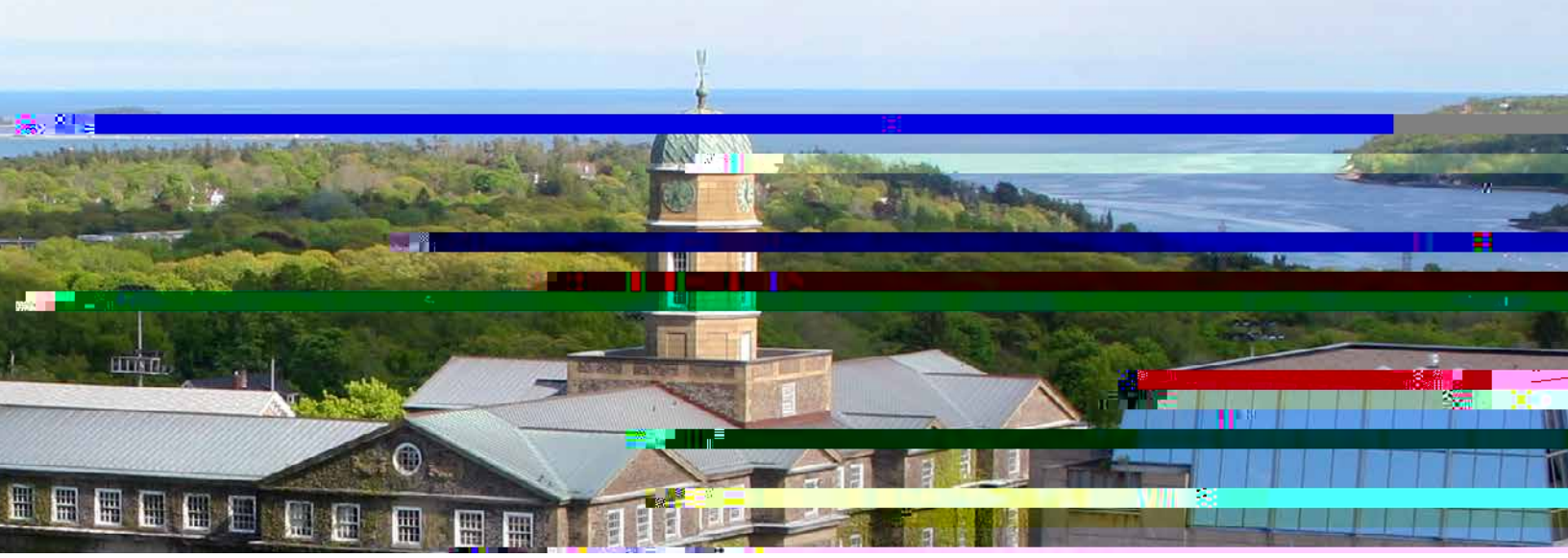

INTRODUCTION

Dalhousie University (Dal) is one of Canada's leading research-intensive university. Our students and faculty engage in learning and discovery across 13 faculties and attract more than $194 million in grants and awards annually. We host key ocean research facilities including the new Biological Oceanography laboratories in the Steele Ocean Sciences Building, the Aquatron and the Ocean Glider Facility.

Dalhousie has established itself as a world leader in ocean research and has embraced the United Nations Sustainable Development Goals (SDGs) identified as essential for a sustainable ocean.

Dalhousie's multidisciplinary approach and involvement in international research projects including the Ocean Frontier Institute (OFI); Ocean Tracking Network (OTN); Marine Environmental Observation, Prediction and Response (MEOPAR), and others allows Dalhousie researchers to contribute to the most pressing ocean challenges of our time.

Recent initiatives have highlighted the challenge of integrating research at Dalhousie across ocean disciplines spanning the natural, social and applied sciences, as well as engineering and the humanities. As research funding patterns change, there is increased importance, indeed urgency, for linking fundamental research to societal needs and benefits, and communicating research findings to funding agencies, governments, industry and the general public.

Ocean research at Dalhousie currently spans

STRATEGIC ALIGNMENT

"A Sustainable Ocean" is one of Dalhousie's five Signature Strategic Research Clusters (top of page 5). Activities in this cluster reach right across the Dal campus, and touch on all four of the Sustainable Ocean Strategic Research Clusters and themes (bottom of page 5). Ocean Technology and Engineering touches on Clean Tech / Energy, the marine Social and Human Impact are part of a broader e□ort in Culture, Society and Community Development, Marine Life impacts Food Security, and ocean health (Climate) impacts Healthy People, Healthy Communities, and Healthy Populations.

Ocean research, particularly in the natural and applied science, is nested in the requirement for, and generation and management of, big data. All areas of ocean research currently have interactions with industry, building and generating innovation, and talent and entrepreneurship that support business development.

Ocean Research at Dal clusters under the four broad Sustainable Ocean Strategic Research Clusters and research themes defined below, all of which connect in numerous ways to our Ocean Strategic Pillars (Unify, Partner, Challenge, Impact on pages 6 and 7). These themes overlap in various ways and are not intended to be exclusive. Most research would fall under one or two of these overlapping themes:

1. **Climate Impact**—This theme includes physical, geological and chemical oceanography that seeks to understand ocean dynamics across multiple spatial and temporal scales. It would include ocean observations, modeling and prediction, aspects of biological oceanography and elements of marine risk.

2. **Marine Life**—This theme includes fisheries and aquaculture, food security, ocean health, marine protection and ecosystem dynamics.

3. **Technology & Engineering**—This theme includes development of sensors, materials, tidal energy, underwater communications, analytics and autonomous vehicles.

4. **Social and Human Impact**—This theme includes marine and environmental law, policy and governance, cultural and social development of coastal landscapes and communities (including Indigenous communities), human adaptation to ocean change, human health and the ocean and ocean industrial risk.

3. **CHALLENGE**—bring transdisciplinary ocean research to the next level—we will propel research excellence by attracting and retaining the best researchers and graduate students while fostering diversity, all with the ultimate aim of addressing global challenges and national priorities with interdisciplinary teams.

   3.1 Facilitate research integration and build collaborations across disciplines

   3.2 Bridge priority knowledge gaps to solve research grand challenges

   3.3 Support top-level recruitment and retention

   3.4 Create pathways for future generations of ideas, enabling Early Career Researcher (ECR) leadership

4. **IMPACT**—we will drive impact through translational research and innovation, leveraging research to drive social, cultural and economic development. We will contribute to international / global ocean initiatives.

   4.1 Support science-based policy and industry linkages

   4.2 Align and translate research into policy, innovation and community impact

   4.3 Build and maintain e□ective outreach to the public

   4.4 Co-ordinate external communications across ocean research activities to maximize impact

OUR CONSULTATION PROCESS

Identifying and creating opportunities for consultation and feedback, both informal and formal, was a critical step in developing Dalhousie's Ocean Research Strategy. In the context of oceans, consultation is even more critical due to the immense scope of the subject matter and the stakeholders involved—our oceans and our collective research around them.

Consultation for Dalhousie's Ocean Research Strategy included:

This included the Faculties of Engineering, Science, Law, Management and Computer Science and a number of key departments, facilities and institutes, including DeepSense (deepsense.ca), the Department of Oceanography, MEOPAR and the Ocean Tracking Network. The feedback solicited was analyzed and used to validate some of our initial priority areas or "clusters" of work, each supported by an over abundance of tactics and operational plans across disciplines and departments.

Themes that emerged through these connections included:

ISSUES-CHALLENGES

- Organization/coming together
- Connect/link—acting in the aggregate
- Governance di□use
- Management decentralized
- Coordination of approach to investors and donors
- Siloed Infrastructure
- Succession planning
- Capacity building
- Building Equity, Diversity and Inclusion (EDI)

OPPORTUNITIES

- Innovative solutions
- Fundamental and applied research
- Harness momentum across campus
- Knowledge mobilization
- Rationalize investments
- Diversify funding

HOW DO WE ADVANCE OPPORTUNITIES AND LEVERAGE CHALLENGES?

- Integrate operations
- Interdisciplinary and transdisciplinary research
- Integration of governance collaboration on science/knowledge
- Industry
- International linkages
- Build capacity—undergrad programming and field work to build capacity for the future
- Build capacity—attract best, replace best, mentorship—early career
- Integrate Indigenous knowledge
- Champion EDI