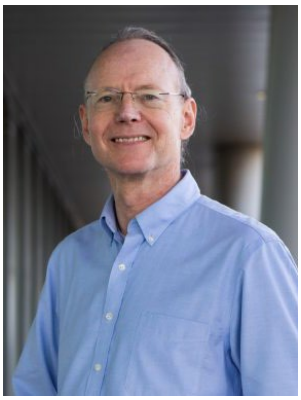

TIM CARRUTHERS, PHD

Director of Coastal Ecology

Tim Carruthers, Ph.D. has a strong U.S. and international reputation gained from more than 20 years working in coastal ecosystems, focusing on human impacts and management support. He has studied estuaries, coasts, coral reefs, lagoons, and river deltas in both tropical and temperate regions. He has applied this knowledge to coastal adaptation planning, marine management policy, as well as habitat restoration from single village up to whole ecosystem scales.

Carruthers has worked extensively with state and federal agencies, not only in the U.S., Australia, and New Zealand, but also France and many Pacific Island Countries. He has assisted dozens of U.S. National Park Service sites to assess and synthesize their natural resources and has worked to develop consensus amongst multiple agencies in prioritizing monitoring and adaptive management priorities in the northern Gulf of Mexico.

Currently, Carruthers is leading the Coastal Ecology Department in projects supporting integration of physical and ecosystem models, quantifying coastal carbon, expanding approaches for assessing benefits from ecosystem restoration, adaptive management to support habitat restoration, and large-scale data management and analysis across the northern Gulf of Mexico.

PROFESSIONAL EXPERIENCE

2014-Present: Director of Coastal Ecology, The Water Institute

2011-2014: Coastal and Marine Advisor, Secretariat of the Pacific Regional Environment Programme (Samoa)

2009-2011: Program Manager Integration and Application Network, University of Maryland, Center for Environmental Sciences (Horn Point)

2003-2009: Science Integrator, Integration and Application Network, University of Maryland, Center for Environmental Sciences (Horn Point)

2001-2002: Post-doctoral scholar, Integration and Application Network, University of Maryland, Center for Environmental Sciences (Horn Point)

2002-2003: Mellon Post-Doctoral Fellow, Smithsonian Tropical Research Institute (Panama)

2000-2001: Post-Doctoral Research Fellow, Marine Botany, University of Queensland, Australia

COMPANY ROLE

Director of Coastal Ecology

PROJECT ROLE / FOCUS AREAS

Ecosystem approaches for building resilience

Adaptive management

Building cross-agency consensus

Science to support coastal policy development

EDUCATION

Ph.D., Marine Science, University of Western Australia, 1998

M.Sc., Marine Botany, University of Western Australia, 1994

B.Sc. Hons, Botany, University of Western Australia, 1990

PROFESSIONAL MEMBERSHIPS

Coastal and Estuarine Research Federation

Society for Ecological Restoration

American Geophysical Union

SELECTED PROJECTS

Louisiana Adaptive Management Status and Improvement Report. *(2022) Louisiana Trustee Implementation Group.* Principal Investigator. Over a period of four years, the Louisiana Trustee Implementation Group (LA TIG) synthesized the past and current monitoring and adaptive management (MAM) efforts and developed a vision for the future in the Louisiana Adaptive Management Status and Improvement Report: Vision and Recommendations. To implement the vision, the consensus MAM needs were identified by all Trustees of the LA TIG, through development of SMART objectives, in the LA TIG Monitoring and Adaptive Management Strategy.

Maximizing Habitat Benefits for Bird Nesting from Habitat Restoration. *(2020-2023). Louisiana Department of Wildlife and Fisheries and Louisiana Trustee Implementation Group.* Principal Investigator. This project involved a facilitated conversation between avian subject matter experts and engineers / project managers currently engaged in implementing habitat restoration projects in coastal Louisiana. For aspects of different habitat restoration projects (e.g. barrier island restoration or marsh creation), design elements with potential flexibility under the control of the project team were identified. Implications of altering these design elements is being considered, developing a tabular matrix that indicates the potential of restored habitat to support bird nesting.

Improving the Utility of the Southeast Blueprint in the Gulf of Mexico. *(2018-2020) U.S. Fish and Wildlife Service. Co- Investigator.* Working closely with staff at USFWS, this project built upon the goals of the Southeast Conservation Adaptation Strategy (SECAS) seeking processes to increase usefulness and access to these data synthesis resources. The first stage was summarizing the Southeast Conservation Blueprint Mechanics, developing a uniform Blueprint data set and analysis across the northern Gulf of Mexico. This data and knowledge was then used to investigate potential for linkages with restoration planning within Louisiana and application for project scale planning at the Chandeleur Islands.

SELECTED PUBLICATION AND REPORTS

1. Carruthers, T.J.B., Raynie, R.C., Dausman, A.M., and Khalil, S. 2020. Strategies to improve implementation of adaptive management practices for restoration in coastal Louisiana. Shore and Beach 88(1): 83-91
2. Moss, L.C., Carruthers, T.J.B., Bienn, H., Mcinnis, A., and Dausman, A.M. 2020. Gulf-wide data synthesis for restoration planning: utility and limitations. Shore and Beach Vol 88(1): 23-33
3. Baustian, M.M., Stagg, C.L., Pery, C.L., Moss, L.C., Carruthers, T.J.B., and Allison, M. 2017. Relationships between salinity and short-term soil carbon accumulation rates from marsh types across a landscape in the Mississippi River Delta. Wetlands doi:10.1007/s13157-016-0871-3
4. Hemmerling, S.A., Carruthers, T.J.B., Hijuelos, A.C., and Bienn, H.C. 2020. Double exposure and dynamic vulnerability: Assessing economic well-being, ecological change and the development of the oil and gas industry in coastal Louisiana. Shore and Beach 88(1): 72-82
5. Hijuelos, A.C., Dijkstra, J.T., Carruthers, T.J.B., Heynert, K., Reed, D., van Wesenbeeck, B.K. 2019. Linking management planning for coastal wetlands to potential future wave attenuation under a range of relative sea-level rise scenarios. PloSone 14(5) e0216695

Selected Documents

1. Kiskaddon, E., Green, M., Hemmerling, S., Rhinehart, K., and Carruthers, T. 2021. Application of the SECAS Gulf-wide data suite in restoration planning – case study of Louisiana's 2017 Coastal Master Plan. The Water Institute of the Gulf and Royal Engineers & Consultants, LLC, for U.S. Fish and Wildlife Service.
2. The Water Institute of the Gulf. 2019. Louisiana Adaptive Management Status and Improvement Report: Vision and Recommendations. Prepared for the Coastal Protection and Restoration Authority (CPRA) and the Louisiana Trustee Implementation Group (LA TIG), funded by the LA TIG. Task Order 50.2, Contract No. 2503-12-58 Baton Rouge, LA (202 pp).
3. Kiskaddon, E. Bienn, H., Hemmerling, S., Dalyander, S., Grismore, A., Parfait, J., and Carruthers, T. 2021. Improving SECAS Gulf-wide Integration – Integrated data to support natural resource conservation and restoration in the northern Gulf of Mexico. Prepared by The Water Institute of the Gulf for U.S. Fish and Wildlife Service.
4. Deepwater Horizon Louisiana Trustee Implementation Group. 2021. Louisiana Trustee Implementation Group Monitoring and Adaptive Management Strategy (LA TIG MAM Strategy). Baton Rouge, 55p. Available: Louisiana Trustee Implementation Group Monitoring and Adaptive Management Strategy (fws.gov)
5. Rao NS, Carruthers TJB, Anderson P, Sivo L, Saxby TA, Durbin, T, Jungblut V, Hills T and Chape S. 2012. A comparative analysis of ecosystem-based adaptation and engineering options for Lami Town, Fiji. UNEP Technical Report, 28pp