

Marine Mammal Commission 2025 Annual Meeting Reducing Impact through Innovation Session Summary

The session showcased emerging technologies aimed at enhancing marine mammal research and conservation through less invasive and more efficient methods. Dr. Randy Wells introduced the TADpole tag deployment device, a non-capture-based tag deployment tool showing promise in attaching fin-mounted tags to bow-riding dolphins with minimal impact to the animals. Chris Zadra detailed drone-deployed suction cup tagging efforts, highlighting their effectiveness on elusive and/or endangered whale species. Dr. Cynthia Smith presented a minimally invasive blood collection device adapted from human medicine for dolphins, showing strong potential in health monitoring. Dr. Michelle Shero explored thermal imaging and drone-based photogrammetry to non-invasively estimate vital signs and body condition of pinnipeds. Dr. Ryan Kelly discussed the growing capabilities of environmental DNA in assessing marine mammal presence, concentration, and genetics, while Dr. Ashley Barratclough highlighted epigenetics as a tool to remotely assess age and health. The panel emphasized integrating these innovations into stock assessments, discussed challenges in data interpretation, and stressed the need for collaboration, standardization, and continued adaptation to diverse species and environments.