

Symposium/Session	Presentation Type	Author	Title
Addressing data standards and integration into stock assessments from non-traditional sources	Oral Presentation	Jones, Andrew	Collaboratively investigating the effects of bottom trawl survey net wingspread on catch efficiency
		Norelli, Alexandra	Systematic Reviews for Fisheries Model Parameters: Tropical Tuna Case Study
	Poster Presentation	Gering, Skylar	Interpreting Acoustic Data with eDNA
Advances in life history and environmental reconstruction using biogenic structures from organisms	Oral Presentation	Wilson, Kylee	Characterizing spacial and temporal variability in movement patterns of Yellow Perch ( <i>Perca flavescens</i> )
		Grønkjær, Peter	Exploring marine fish metabolic rates using otolith stable isotopes
		Romo Curiel, Alfonsina E	Inferring potential feeding areas from stable isotope analysis in Pacific white shark vertebrae
		Valenza, Apria	Manganese, Magnesium, and Micropogonias undulatus: Identifying Growth and Hypoxia Exposure Histories
		Gervasi, Carissa	Otolith stable isotope micro-sampling to discriminate poorly studied stocks: Crevalle Jack in the Gulf of Mexico
		Stevens, Justin	Rewriting the textbooks: Further evidence of life cycle diversity inferred from otolith microchemistry
		Samson, Melvin	Sub-lethal Effects of Hypoxia Exposure on Growth and Metabolic Status of Yellow Perch ( <i>Perca flavescens</i> )
		Santos, Nina	Trophic niche overlap of Atlantic cod and black sea bass in relation to warming southern New England
		Oster, Jacob	TROPHIC NICHE RESPONSES TO HYPOXIA AND CONTAMINANT STRESSORS IN COASTAL FISHES
		Curtis, Michael	Variation in Habitat Use and Trophic Dynamics of Catadromous Fish ( <i>Anguilla rostrata</i> ) in Sub-Tropical Environments
		Cordoleani, Flora	Walrus teeth as biomonitors of trace elements in Arctic marine ecosystems Years in their ears: what can fish earbones tell us about the success of vulnerable salmon populations
Atlantic striped bass populations: past, present and future challenges	Oral Presentation	Carreau, Jean	Confirmation of striped bass spawning in the Richelieu River and Fluvial reach of the St. Lawrence
		Nehemiah, Samara	Development of spatially explicit population models to estimate abundance of Chesapeake Bay fishes
		Jesse, Jerelle	Mycobacteriosis in Atlantic Striped Bass from Maryland Waters of the Chesapeake Bay They have tails: incorporating migration ecology into Striped Bass management
		Itakura, Hikaru	Tracking oxy-thermal habitat compression encountered by Chesapeake Bay striped bass through acoustic telemetry
		Perra, Paul	Were They Just Lucky with the Remarkable Recovery of the Atlantic Coast Striped Bass Population?
Back to the future of reservoir science and management: What have we learned in 50 years?	Oral Presentation	Jakubavičiūtė, Eglė	Can recreational fishing change a reservoir ecosystem? Insights about commercial and recreational fishing
		McCarrel, Alex	Early Life History and Stock Discrimination of Kokanee Salmon ( <i>Oncorhynchus nerka</i> ) in an Alpine Lake
		Hanson, Terrill	Economic Impact of Recreational Angling on Major Alabama Reservoirs

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Back to the future of reservoir science and management: What have we learned in 50 years?	Oral Presentation	Smith, Dustin	Long-term recovery of a fish community in an acid-impacted hydropower reservoir
		Leandro, Miranda	Perspectives on facing reservoir aging and climate change
		Sammons, Steven	Say Goodbye to Black Bass Fisheries As You Knew Them: The Impacts of Introduced Alabama Bass in S...
		Porath, Mark	Sedimentation and Reservoirs, exit strategy or life line?
		Klein, Zach	Suppression of Fishes in Western Reservoir Systems: Synthesis and Suggestions for Improvement
		Cole, Nicholas	The Fisheries Manager's Dilemma
		Pope, Kevin Sass, Greg	Valuation of recreation on reservoirs Woody and Artificial Habitat in Natural Lakes and Reservoirs: Physical and Ecological Considerati...
Beyond species detection - leveraging eDNA to inform fisheries management and conservation	Oral Presentation	Yamanaka, Hiroki	Basic knowledge accumulation in eDNA/eRNA analysis for mining more biological information from th...
		Jerde, Christopher	Can eDNA metabarcoding read count be used to estimate fish biodiversity?
		Missfeldt Sanches, Thiago	Comparative analysis of Chinook Salmon monitoring strategies using environmental DNA and net samp...
		Pochardt, Meredith	eDNA Facilitates Accurate and Inexpensive Population Estimates for Eulachon in SE Alaska
		Guxholli, Rina	Environmental DNA Applications: Developing Species-Specific Quantitative PCR Assays for New Bruns...
		Shelton, Andrew	Environmental DNA provides quantitative estimates of abundance and distribution of Pacific hake.
		Ikert, Heather	Environmental microRNA: Can it be developed as a non-invasive marker of fish stress?
		Harper, Nathanael	Evaluating the use of viability PCR to distinguish between exposed and membrane-enclosed vertebra...
		Garcia-Machado, Erik	Fish community shifts along a strong fluvial environmental gradient revealed by eDNA metabarcoding
		Williams, Molly Ann	Moving From the Lab into the Field: A CRISPR-Cas Lateral Flow Approach to Single Species eDNA Mon...
		Laporte, Martin	Proper environmental DNA Metabarcoding (eMetabarcoding) data transformation reveals temporal sta...
		Doi, Hideyuki	Sedimentary DNA tracks decadal-centennial changes in fish abundance
		Xu, Charles	Transgenes of genetically modified animals detected via non-invasive and environmental DNA
		Jo, Toshiaki	Understanding eDNA characteristics and dynamics for fisheries management and conservation
Andres, Kara	Using nuclear eDNA to detect population genetic structure of an invasive species		
Chesapeake Bay introduced species control and management	Oral Presentation	Balazik, Matthew	Commercial Electrofishing as a Tool for Removing Invasive Catfish

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Chesapeake Bay introduced species control and management	Oral Presentation	Nepal, Vaskar	Modeling the full life-cycle bioenergetics of an invasive population of Blue Catfish using Dynami...
Climate change effects on fish and fisheries: Understanding, forecasting, and communicating impacts	Oral Presentation	Petty, Todd Corso, Andrew Cline, Tim Neville, Helen Kastl, Brian Al-Chokhachy, Robert Yu, Hao Ray, Andrea Winnacott, Blair Lynch, Abigail J.	Building climate resiliency for cold water species conservation in Appalachian watersheds Climate drives long-term change in Antarctic Silverfish along the western Antarctic Peninsula Climate impacts on cold-water recreational fisheries Communicating and amplifying compelling science to promote climate adaptation, sequestration, and... Drought impacts on salmon migration phenology: Low streamflow limits the duration of seasonal do... Factors driving the body size of trout species: beyond climate refuges and refuges Impacts of climate change on stream fish distributions in the Northeastern United States: Provid... Integrating Climate Change Resiliency into the Analysis and Design of Fish Passage Facilities Persistent structure and sharp transitions in larval fish assemblages off northern California: An... Reducing uncertainty in climate change responses for inland fisheries management: a decision-path...
Climate informed fisheries management	Oral Presentation	Havron, Andrea Carvalho, Paul Wildermuth, Robert Khalsa, Noah Bell, Richard Haynie, Alan Barcelo, Caren Stawitz, Christine	A spatio-temporal cluster analysis of groundfish catch compositions from the Amendment 80 fleet in.. Can restoring age structure buffer Sacramento River fall Chinook populations against increasing c... Evaluating robustness of harvest control rules to variability in Pacific sardine recruitment Evaluating the Utility of Minimum Legal Size for Alleviating Impacts of Climate-Driven Changes to... Harvest strategies for climate-resilient fisheries Socioeconomic Scenarios in the Alaska Climate Integrated Modeling (ACLIM) Project Space Jam: Evaluating Assumptions and Methods for Conducting Spatial Stock Assessments The Fisheries Integrated Modeling System, a new modular paradigm for fisheries stock assessment S...
Climate-resilient fishing communities	Oral Presentation	Mills, Kathy Alves, Catherine Jablonski, Jillian Maltby, Katherine	Climate resilience in Maine's lobster fishery Predicting the adaptive capacity of the Atlantic sea scallop fishery to ocean acidification and w... The Intersection of Salmon, Economics, and Culture: Supporting Subsistence Salmon Resources and C... Using the past to understand the future: examining resilience in the Southern New England lobster...
Connecting the dots, management approaches for climate-ready fisheries	Oral Presentation	Marshall, Kristin	Assessing the climate readiness of transboundary fisheries using stakeholder-driven management st...

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Connecting the dots, management approaches for climate-ready fisheries	Oral Presentation	Gaichas, Sarah	Climate news you can use: risk assessment and ecosystem reporting in the US Mid-Atlantic
		Swam, Lauren	Defining oyster resource zones for use in restoration, fisheries, and aquaculture in coastal Loui...
		Drexler, Michael	Developing best practices for climate ready fisheries management
		Morrison, Wendy	Discussing the "M" in Federal Ecosystem-Based Climate Ready Fisheries Management
		Robinson, Michele	EBFM: The Mismatch Between Fishery Managers and Scientists
		Sagarese, Skyler	Enhancing single-species stock assessments with diverse ecosystem perspectives: a case study for ...
		Haltuch, Melissa	Moving toward next generation groundfish stock assessments using oceanographic drivers of recruit...
		Griffis, Roger	NOAA Climate and Fisheries Initiative: Building An End-To-End System for Climate Ready Fisheries...
		Karp, Melissa	NOAA Fisheries Distribution Mapping and Analysis Portal (DisMAP): Providing information on marine...
		Lusuegro, Alliyah	Stakeholder discourse in the media of climate change impacts on fisheries
		Hart, Amanda	Tackling technical interactions in Ecosystem-Based Fisheries Management through Management Strate...
Williams, Megan	The heat is on: Gulf of Alaska Pacific cod and climate-ready fisheries		
Ridings, Corey	What you can do about climate change: A menu for U.S. regional fishery managers		
Contributed Papers	Oral Presentation	Dubeck, Guy	A Review of the Atlantic Shark Fishery (2014-2019)
		Acre, Matthew	A state-space length-based assessment model for Korea chub mackerel Blue Sucker habitat use in a regulated Texas river: implications for conservation and restoration
		Kahn, Jason	Calculating adult sex ratios from observed breeding sex ratios for wide-ranging, intermittently b...
		Baldigo, Barry	Chemical and biological recovery from acidification in lakes and streams of the Adirondack Mounta...
		Young, Matthew	Coastal Distribution of an Anadromous Forage Fish in the Northeastern Pacific Ocean, Longfin Smel...
		Wager, Bethany	Ecological impacts of jellyfish in the Puget Sound, WA
		Ainsworth, Cameron	Ecosystem services of seagrass habitat on the West Florida Shelf evaluated using an end-to-end ec...
		Mulligan, Kevin	Effect of backwatering a streamgage weir on the passage performance of adult American Shad
		Almeida, Zoe	Effects of the thermal environment on Gulf of Alaska Pacific Cod hatching phenology and early gro...
Hsiung, Angela	Evaluating management strategies for an imperiled fish species in the Southeast		

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Contributed Papers	Oral Presentation	Hansen, Lindsay	Factors influencing growth in the Grand Canyon Colorado River population of flannelmouth sucker (...)
		Radigan, William	Factors related to age-0 abundances of 21 fish species in the four mainstem Missouri River reserv...
		Matlock, Gary	Fisheries Management Informed by Historical Data—Breuer’s trammel net data from 1968-1975
		Braswell, Christina	Fishial.AI- Enabling Fishial Recognition Global Population Structure of the Silky Shark (Carcharhinus falciformis), Illuminated with High- ...
		Huntsman, Brock	Joint-species analysis of native and non-native fish assemblages within the Santa Ana River, Cali...
		Troast, Brittany	Long-term trends and drivers of forage fish and predator community dynamics in two east coast Flo...
		Vieser, Jeffrey	Moving NOAA Fisheries stock assessments into the next generation
		Hutt, Clifford	NOAA Fisheries Review of the Atlantic Recreational Shark Fishery
		Jolley, Jeffrey	Partner-based Management Planning for Walleye and Yellow Perch in Saginaw Bay, Michigan, USA
		Hunt, David	Phenotypic response to a dissolved oxygen gradient in a range-expanding African cyprinid
		McGowan, Andrew	Population dynamics of common nearshore forage fishes in the Delaware Inland Bays, USA
		Griffin, Lucas	Predator-prey landscapes of large sharks and game fishes in the Florida Keys
		Feyrer, Frederick V.	Quantifying the role of predation by piscivorous fishes as a source of mortality of juvenile Chin...
		Fleming, Paul	Surveying Texas’ Urban Anglers: A Unique Approach and What We Learned
		Thorson, James	The multivariate Tweedie: A practical primer on generalized linear models for diet analysis deriv...
		Dawson, Kaitlyn	Use of otolith microchemistry as a natural tag to discriminate subpopulations of Golden Tilefish ...
		Krause, Kevin	Using inland fish community characteristics and populations to assess habitat conditions in the C...
		Rogers-Kirchner, Gway	Using Scenario Planning to Prepare Fisheries for Climate Change
		Porter, Steve	Variation in the distribution of Yellowfin Sole <i>Limanda aspera</i> larvae in warm and cold years in t...
			Poster Presentation
Kohal, Tanner	Developing an Aging Protocol for Age-0 Westslope Cutthroat Trout Using Otolith Microstructure		
Coons, Aaron	Estimating Spawning Times of the Endangered Longnose Darter ( <i>Percina nasuta</i> ) in Missouri		
Alford, Amy	Flow-Ecology Relationships for Fish and Mussels in West Tennessee		
Allen, Kira	Freshwater reduction and sea level rise impacts on estuarine forage fish in Apalachicola Bay, FL		

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Contributed Papers	Poster Presentation	Pfister, Annika	Implementation of Electronarcosis in Laboratory Experimentation with Bluegill Sunfish (40)...
		Young, Benjamin	Larviculture of Snubnose Pompano under High Salinity Conditions
		Allen, Benjamin	Mercury bioaccumulation and stable nitrogen isotope analysis of commercially important fish in ...
		Key, Kayla	Using eDNA to evaluate fish passage restoration efforts in a small headwater stream of the ...
		Heisey, Aaron	Variability in lake trout egg thiamine concentration from Lake Ontario: spatial, size, and ...
Contributed Papers: Black Bass	Oral Presentation	Peterson, Miles	Changes in foraging and predator avoidance behavior of Japanese dace ( <i>Pseudaspius hakonensis</i> ) to
Contributed Papers: Fish genetics	Oral Presentation	Rix, Anna	Modern lake trout origins and population genetics in interior and southcentral Alaska
Contributed Papers: Fish passage	Oral Presentation	Frechette, Danielle	Migration of adult sea lamprey in the vicinity of the Milford Dam, Penobscot River, ME
Contributed Papers: Fishery Statistics	Oral Presentation	Jones , Sarah	Application of geostatistics to downscale stratified random surveys: precision and bias of global...
		Marshak, Tony	Primary production ultimately limits fisheries economic performance
Contributed Papers: Freshwater fish ecology	Oral Presentation	Izzo, Lisa	A Framework for Estimating Abundance of Riverine Migratory Species: Combining Fixed-Location DIDSON
		Frawley, Susan	GROWTH AND SEASONAL FOOD HABITS OF WALLEYES IN THE CLARK FORK-PEND OREILLE BASIN, IDAHO
		Housh, Maddie	Temperature impacts on fish reproduction: thermal conditions affect oogenesis and vitellogenin...
		Vondruska, Joe	The Ohio River Ecological Research Program: 50 Years of Collaboration
Contributed Papers: Freshwater fishery management	Oral Presentation	Tracy, Erin	AFS Standard Sampling Fisheries Database: Strategies to create a simple and effective fisheries c...
		Fenstermacher, Carly	Effect of Seasonal Changes Compared to Years Since Deployment on Patterns of Fish Concentration a...
		Osborne, Christopher	Egg thiamine concentrations reflect dietary differences among humper and lean lake trout morphotypes
		Robinson, Tyler	Seasonal variations in the home-range size of Burbot
		Wszola, Lyndsie	The life history of harvest: combining social and ecological models of recreational fisheries
Contributed Papers: Hatcheries and fish health	Oral Presentation	Lubenau, William	Encounter Rates and Catch-and-Release Mortality of Steelhead in Idaho
		Black, Aaron	Evaluation of Natural and Hatchery-Produced Kokanee in Flaming Gorge Reservoir, Wyoming-Utah
Contributed Papers: Invasive Carp	Oral Presentation	Mueller, Andrew	A laboratory evaluation of bait preference for Grass Carp
		Cox, Cortney	Effects of Common North American Predators on the Survival of Juvenile Bighead Carp, Silver Carp,...
		Ridgway, Josey	Evaluation of Silver Carp Movement Response to Herding Stimuli in a Large Standing Waterbody

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Contributed Papers: Invasive Carp	Oral Presentation	Mason, Doran Acre, Matthew Hessler, Tyler Kroboth, Patrick Wildhaber, Mark	Potential Food Web Effects of Black Carp in Lake Erie and Lake Michigan Shady business: Silver Carp behavioral responses to shade-producing structure Spawning-Related Movements of Diploid and Triploid Grass Carp in a Large Reservoir Status of Black Carp <i>Mylopharyngodon piceus</i> in the Mississippi River Basin and an overview of pro... Study of the Avoidance/Attraction Behavior of Invasive Carps Exposed to a Range of Amino Acids
Contributed Papers: Marine Fish Ecology	Oral Presentation	Binion-Rock, Samantha Graham, Patrick Oleynik, Haley Kleiman, Lauren	Comparison of Feeding Intensity and Diet Composition of Juvenile Atlantic Croaker in Hypoxic and... Inferring growth, mortality, and distribution of Atlantic Tripletail ( <i>Lobotes surinamensis</i> ) from... Long-Term Shifts in the Fish and Macroinvertebrate Community in a Mid-Atlantic Estuary Modeling environmental influences on common snook position and distance moved in the St. Lucie...
Contributed Papers: Marine Habitats and Management	Oral Presentation	Piacenza, Susan Wilms, Sean Quennessen, Victoria	Developing a Spatially Explicit Management Strategy Evaluation for Kemp's Ridley Sea Turtles in t... Preliminary trials to assess bycatch reduction potential for deep-set pelagic longline gear in the When does accounting for short-term population dynamics improve fisheries management via marine...
Contributed Papers: Salmonid conservation	Oral Presentation	Collins, Erin Voss, Nicholas	Distribution of genetic variation underlying adult migration timing in steelhead of the Columbia ... Investigating threshold relationships between native Bull Trout and invasive Brook Trout in Idaho...
Contributed Papers: Sharks and migratory fishes	Oral Presentation	Peterson, Cassidy Buchanan, Rebecca	Altered stock assessment frequency had minimal impact on management performance of a large coasta... Diagnosing predated tags in telemetry survival studies of migratory fishes in river systems
Contributed Papers: Stakeholder engagement	Oral Presentation	Young, Talia	How do we reach more and different people? Strategies for increasing inclusion in a community-su...
Contributed Papers: Stock assessment and modeling	Oral Presentation	Robertson, Matthew Brodziak, Jon Peters, Colby	Accounting for a non-linear functional response when estimating prey dynamics using predator diet... Metapopulation Assessment System: Engineering a generalized spatial stock assessment platform Spatial and temporal variations in mercury contamination in recreational fisheries from southern ...
Cooperative research with stakeholders: recent progress and new directions	Oral Presentation	Hamelin, Kayla Griffin, Lucas Furman, Kelsi	Community-based approaches to addressing information gaps for a forage fish in Atlantic Canada Cooperative monitoring program for a catch-and-release recreational fishery in the Outer Islands ... Developing a Social Equity Framework for Fisheries Management

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Cooperative research with stakeholders: recent progress and new directions	Oral Presentation	McBride, Richard	Effectiveness of deterrents in reducing shark depredation with recreational line fishing Fishing for science: Enhanced biological sampling with fishing partners to refine fish vital rate...
		Redding, Stephen	Investing in Fisheries and Restoring the Gulf through the Deepwater Horizon Oceanic Fish
		Chandler, Mark	National Marine Fisheries Service: Cooperative Research Program
		Mercer, Anna	Successes, challenges, and scientific findings from 15 years of self-sampling by fishing fleets i...
		Lowman, Brooke	Tell me something I don't know: harnessing industry knowledge to understand dynamics of northern ... Testing a Bite-Shortened Hook to Minimize Fish Handling in a Recreational Fishery
Creating and implementing ecosystem wide integrated research/conservation plan for prairie streams	Oral Presentation	Gido, Keith	Keynote Address: Prairie Stream Conservation: Get the Rejuvenation Started
		Baum, Carli	Laboratory evaluation of reproductive success in Johnny Darter <i>Etheostoma nigrum</i> relative to wint...
		Walters, Annika	Non-native species as an emerging threat to northern prairie fishes
		Mayes, Kevin	Perspectives of Southern Great Plains State Agencies on Prairie Stream Conservation
		Mather, Martha	Plotting a course for science-based, data-driven watershed conservation through the development ...
		Rogosch, Jane	Population trends and trade-offs in long-term dynamics of a prairie stream fish community
		Hu, David	Prairie Fish Science Coordination Efforts - A Brief Summary of Collaborative Efforts to Date
		Hu, David	Prairie Fish Science Coordination Efforts - Federal Agencies Management Objectives and Research N...
		Winkelman, Dana	The Role of the Cooperative Research Units in the Conservation and Management of Great Plains Fishes
Diversity and Inclusion: a strategy to implement change for 2021 and beyond	Oral Presentation	Nesbit, Shivonne	Be the change you want to see: catching up with the Equal Opportunities Section
		Brown, Bradford	Levers of Change Want Change? You have Power: USE IT!
		Fabrizio, Mary	The Success and Relevancy of AFS Hinge on How We Value Diversity
		Mather, Martha	We have been working on this forever: why is "diversity and inclusion" so hard?
		Bunch, Aaron	What does inclusion in the fisheries profession look like?
Ecological forecasting: bridging fish, ecosystems, weather, water, climate and communities	Oral Presentation	Lanicci, John	"Connecting the Arrows" Between Ecological System Prediction and Environmental Security
		Sinnickson, Dylan	Assessing Causality and Time Lags in an Estuarine Food Web
		Munch, Steve	Chaos and noise in ecological forecasting Charting a Future Path for Ecoforecasting in the Ocean Sciences
		Werner, Francisco	Climate and Fisheries: forecasts in support of fisheries management and adaptation strategies
		Tommasi, Desiree	Climate predictions to support fisheries management in a changing ocean



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Ecological forecasting: bridging fish, ecosystems, weather, water, climate and communities	Oral Presentation	Gonsalves, Lonnie	Diversity, Equity, and Inclusion - a driver of Ecoforecasting Success
		Rosenberg, Andrew	Does Ecological Forecasting Need to Consider Environmental Justice and Equity?
		Stock, Charles	Earth System Predictions for Resilient Living Marine Resources in a Changing Climate
		Weltzin, Jake	Ecological Forecasting in Support of Natural Resource Management
		Saunders, Mark	Ecological Forecasting in the North Pacific: Outcomes of the International Year of the Salmon and...
		Barry, Jim	Forecasting ecological patterns and change in deep-sea systems; advancing technology and emerging...
		Gaichas, Sarah	Integrated Ecosystem Assessment and Ecological Forecasting: Let's Do This
		Raiho, Ann	Is ecology predictable?
		Marsh, Patrick	Lessons Learned from Forecasting High-Impact Weather
		Gross, Brian	Leveraging community-based modeling for operational Earth System prediction
		Townsend, Howard	Multi-Species Surplus Production Modeling and the Resource Management Option Review and Analysis ...
		Gross, Brian	Transitioning from Numerical Weather Prediction to Earth System Prediction in the National Weathe...
		Dolan, Tara	Using age structure to improve population forecasting
		Zuckerberg, Benjamin	Using community science for exploring the ecological effects of climate variability
Thomas, R. Quinn	Using forecasting challenges to advance the field of ecological forecasting		
Hare, Jon	Vulnerability Assessments - Qualitative Approaches to Ecological Forecasting		
Fish cops in actions - The NOAA Fisheries Office of Law Enforcement's commitment to conservation	Oral Presentation	Jaszka, Dennis	An Exploration of the Observer Conflict at the North Pacific Observer Program: What do observers ...
		Smith, Jaclyn Carney, Wynn Heckwolf, Joseph	Combating Hostile Work Environments NOAA OLE 101 Overview of the Carlos Rafael Enforcement Case
		Smith, Jaclyn Patterson, Katheryn	The Halibut Deck Sorting Program The Port State Measures Agreement in Action
Fish passage through the ages - historical approaches, current innovations, and future opportunities	Oral Presentation	Meixler, Marcia	A species-specific fish passage model based on hydraulic conditions and water temperature
		Khan, Fenton	Alternatives for Downstream Fish Passage at High-Head Dams in the Willamette Valley
		Swanson, Reid	Baseline assessment of a Lake Michigan tributary prior to implementing selective fish passage
		Drinkwin, Joan	Cataloguing Datasets on West Coast Barriers to Tidal Connectivity
		Wieferich, Daniel	Dam Removal Science and Dam Removal Information Portal (DRIP)
		Zielinski, Daniel	Design and future implementation of selective fish passage research at FishPass
		Bunch, Aaron	Field and laboratory testing of double acoustic tagging techniques to achieve fine- and broad-sca...

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Fish passage through the ages - historical approaches, current innovations, and future opportunities	Oral Presentation	Bailey, Michael	Introduction to Symposium Fish Passage through the Ages - Historical Approaches, Current Innovati...
		Collier, Jessica	Musseling Through: Barrier Removal and Aquatic Organism Passage for Fluvial Freshwater Mussel Con...
		Nuckols, Jason	Oregon's Tide Gate Optimization Tool: Supporting Decisions to Benefit Nature and People
		Fairchild, Matt	The Poudre River Headwaters Project: Using a hydro-biological approach to evaluate brook trout pa...
		Whidden, Christopher	Towards the automated detection, classification and counting of fish in fish passages with deep l...
	Poster Presentation	Pica, Jessica	USFWS Fish Passage Engineering Design Criteria
	Poster Presentation	Vander Werff, Jon	POST LOW-HEAD DAM REMOVAL ECOLOGICAL MONITORING IN COASTAL CONNECTICUT, U.S.A.
Fish Welfare	Poster Presentation	Balto, George	Determination of sampling design for electrofishing assessments of sport fish communities to ...
Fisheries PEP talk - increasing diversity in our science	Oral Presentation	LILES, GEORGE	Changing the Host Community
		Johnson, Kwanza	IN FISH: Employing Best Practices in a New Setting
Fishery-Dependent Observing and Monitoring	Oral Presentation	Dowlin, Alexandra	A Study Behind the Quantity and Diversity of Trash Related Items in the North Pacific Observer Pr...
		Hazen, Elliott	Comprehensive assessment of bycatch using U.S. fisheries observer data for prioritizing management
		Somers, Kayleigh	Mind the Gap - Multi-Species Fisheries Require Human and Electronic Monitoring
	Poster Presentation	Duque, Guillermo	influence of community structure on artisanal fishery yields in a tropical estuary with ...
Fishing for a molecule - the practical value of eDNA monitoring for invasive species	Oral Presentation	Darling, John	Communicating uncertainty in aquatic invasive species surveillance using environmental DNA
		Sepulveda, Adam	Early detection-rapid response structured decision making following environmental DNA detections
		George, Scott	Eastward Expansion of Round Goby: Assessment of eDNA and other Detection Methods
		Rees, Christopher	Environmental DNA Detection of Northern Snakehead and Blue Catfish in the Lower Susquehanna River
		Daniel, Wesley	Establishing the First Public Invasive Species Focused eDNA Database: An Enhancement of the Nonin...
Forage fish omics	Oral Presentation	Raines, Clayton	Omics-assisted Discovery of a Novel Hepatitis B virus that Infects the Migratory Alewife (Alosa p...
		LaBua, Savannah	Seascape Genomics of North Pacific Forage Fishes
Getting It Right: Advancing Successful Supplementation for Recovery, Rec, and Restoration	Oral Presentation	King, Erika	Assessing the contribution of precocial males to the next generation and genetic diversity in a n...
		Wilke, Nathan	Native fish restoration: Advancing conservation through science and supplementation

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Getting It Right: Advancing Successful Supplementation for Recovery, Rec, and Restoration	Oral Presentation	Mattheiss, Jeffrey	Using a Bayesian Model to Compare IHNV Transmission of Inland and Coastal Hatchery Salmonids in P...
Global fish biogeography and production, now and in the future	Oral Presentation	Guiet, Jerome	Status, challenges, and potential of global fish model predictions Why are relatively few fish caught in the high seas?
Growing fisheries research and management through angler engagement	Oral Presentation	Fine, Kimberly	Filling the Gap-A partnership between Recreational Anglers and Biologists, working together to st...
Highlighting effective engagement in fisheries management	Oral Presentation	Farr, Emily Karnauskas, Mandy Lych, Roman Havel, Lisa McManus, Conor Popoff, Nicholas	More Habitat, More Fish: Communicating the Value of Coastal Habitats for Fish Populations through... Participatory modeling of social-ecological fisheries systems in support of ecosystem-based manag... The effect of fishing regulations on harvest rates of freshwater fish species in central Europe A Profile of Atlantic Artificial Reef Development and Sport Fish Restoration Program Contributions Achieving fisheries and ecosystem research goals through the Sport Fish Restoration Program: a ca... Sport Fish Restoration along the Atlantic Coast – Investing in People, Habitat and Science.
Influence of Habitat, Land-Use, Infectious Agents, Environmental Stressors on Smallmouth Bass Pops	Oral Presentation	Walsh, Heather Raines, Clayton Simpson, Cheyenne Iwanowicz, Luke Blazer, Vicki Schall, Megan	An Integrative Approach to Long-term Monitoring of Smallmouth Bass Reproductive Health in a Major Establishment of a biosurveillance network to investigate the disease ecology and biothreat of th... Immune Status of Wild Smallmouth Bass in Chesapeake Bay Watershed Our Current Understanding of the Emerging Adomavirus Associated with Blotchy Bass Syndrome in Bla... Perfluorinated (PFAS) compounds in Smallmouth Bass Where do we go from here?: Quantifying spatiotemporal variability in fish health observations from
Inland fishes and fisheries with global change	Oral Presentation	Twardek, William Brogan, Caitlin Maloney, Kelly Law, Timothy Stokes, Gretchen	Bright spots for inland fish and fisheries to guide future hydropower development Inland Recreational Fisheries as a Hidden Buffer for Food Security and Climate Change? Stream habitat, fish, and fisheries in a highly uncertain future: the combined effects of land-us... The context dependent nature of lake-fish communities Towards a Global Threat Assessment Approach for Inland Fisheries
Interactions between offshore wind, fisheries, and fisheries resources	Oral Presentation	Smythe, Tiffany Kneebone, Jeff	A Governance Network Approach to Offshore Wind – Fisheries Conflict in Southern New England A multi-faceted approach to assess baseline presence of highly migratory pelagic fishes and assoc...

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Interactions between offshore wind, fisheries, and fisheries resources	Oral Presentation	Methratta, Elizabeth	Community Level Processes at Offshore Windfarms: Synthesis of Knowledge and Application to the No...
		Hogan, Fiona	Fisheries and Offshore Wind Interactions: Synthesis of the Science
		Galuardi, Benjamin	Impact Assessment of Offshore Wind on Fishing and Safety using Spatial Data
		Chen, Changsheng	Potential Impacts of Offshore Wind Facilities on Regional Sea Scallop Larval and Early Juvenile T...
		Silva, Angela	Socio-economic implications of offshore wind on fishing communities
		Van Hoeck, Rebecca	Spatiotemporal spawning dynamics of Atlantic cod and potential interactions with offshore wind en...
		Green, Rebecca	Strategies for Commercial Fishing Access in New York Bight Offshore Wind Farms
		Gervelis, Brian	Studying Demersal Fish Responses to Offshore Wind Farms: Progress and Knowledge Gaps
		McCandless, Camilla	Synthesis of information, knowledge gaps, and research recommendations for the effects of offshor...
		Jones, Andrew	Using fishery dependent data to evaluate impacts from offshore wind energy development
		Livermore, Julia	Using machine learning to predict fishing activity in the AIS
Investments in fish habitat science to support resilient fish populations	Oral Presentation	Farr, Emily	An assessment of climate vulnerability for marine, estuarine, and riverine habitats in the Northe...
		Morse, Ryan	Changes in habitat area and niche overlap between Atlantic cod and haddock on the US Northeast Shelf
		McKenna, James	Evaluation of relative benefits in various restoration areas of the Great Lakes nearshore zone ba...
		Ward, Ellen	Mitigating Climate Change Impacts to Essential Fish Habitat in Alaska
		Raz, Lillian	Water quality targets for fish habitat: Evidence synthesis as a tool for ecosystem-based management
Keeping cool: thermoregulating in a changing world	Oral Presentation	Lombard, Pamela	A Model for Estimating Baseflow for Streams Containing Endangered Atlantic Salmon in Maine
		Mejia, Francine	Bringing cold-water refuges into focus: Addressing science and management in a changing world
		Casas-Mulet, Roser	Identifying and characterising cold water patches using UAS-based TIR and RGB imagery: methodolog...
		O'Connor, Bryce	Linking spatial stream network modeling and telemetry data to investigate thermal habitat use by ...
		Kurylyk, Barret	Thermal heterogeneity and climate change sensitivity of transitional, coastal waters
Managing for a RADical future: resisting, accepting and directing ecosystem transformation	Oral Presentation	Kocik, John	Charting a RAD-ical Future for Endangered Gulf of Maine Atlantic Salmon
		Limpinsel, Doug	Ecosystem Transformation and Implementation of the Resist, Accept and Direct (RAD) Framework in A...

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Managing for a RADical future: resisting, accepting and directing ecosystem transformation	Oral Presentation	Leong, Kirsten	Fisher responses to COVID-19 that resist, accept, and direct social transformations of fisheries ...
		Morrison, Wendy	Management Foundations for Navigating Ecological Transformation by Resisting, Accepting, or Direc...
		Lynch, Abigail J.	Managing for RADical Ecosystem Change: Applying the Resist, Accept, or Direct (RAD) Framework
		Rahel, Frank	RAD Options for Managing Freshwater Fish Populations in a Changing Climate.
Native fish restoration in lakes- how can history inform the future?	Oral Presentation	Bunnell, David B.	A multi-jurisdictional partnership to restore native coregonine fishes in the Great Lakes
		Rook, Benjamin	Are Cisco and Lake Whitefish Competitors?: an Analysis of Historical Fisheries in Michigan Waters...
		Legard, Christopher	Bloater re-introduction in Lake Ontario
		Miller, Andrew	Distribution models for native Great Lakes fishes to inform coastal habitat restoration
		Honsey, Andrew	Effects of hatchery rearing on coregonine morphology
		Weidel, Brian	Habitat's role in Lake Ontario coregonine spawning success and rehabilitation potential
		Goetz, Frederick	Identifying siscowet spawning sites at Isle Royale using acoustic telemetry
		Hamm, Nathan	Insights from the La Grange Pool: Clues for Native Restoration and Invasive Removal
		Marsden, Ellen	Interlake Comparisons of Species Restoration Efforts: Lake Champlain as a Contrast to the Great L...
		Morton, Kyle	Juvenile Lake Sturgeon on the move: use of tributary and nearshore Lake Ontario habitats.
		Skinner, Megan Ackiss, Amanda	Klamath Lakesuckers: Past, Present, and Future Tackling the 'coregonine problem': the growing role of 'omics' for informing the conservation and...
Observational void: missing data in monitoring programs and its impact (virtual only)	Oral Presentation	Havron, Andrea	Cross-comparison study of statistical computing software relevant to next-generation fishery stock a
	Poster Presentation	Hodgdon, Cameron	Implications of Climate Driven Changes on Growth and Size-at-Maturity for Size ...
Planning for coldwater fisheries resources: modeling and managing temperature impairments	Oral Presentation	Yoder, Chris	A Historical Perspective on Thermal Effects Research, Applications, and Regulation Through Five D...
		Ebersole, Joseph	LINKAGE OF FISH POPULATION/ COMMUNITY MODELS WITH ECONOMIC MODELS FOR SCENARIO ANALYSIS
		McKenna, James	Mapping Temperature-Dependent Fish Habitat in the Salmon River, NY
		Pilkerton, Ashleigh	Modeling Influence of Temperature on Colorado River Cutthroat Trout Distribution in the Upper Gre...
		Smith, Troy	Shrinking the portfolio: variation in spawning migration distances Westslope Cutthroat Trout (Onc...
		Beebe, Brittany	Simulating Metacommunities of Riverine Fishes: Trials and Tribulations
		Hitt, Nathaniel	Thermal air-water oscillations reveal climate-resilient sites for brook trout restoration

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Retrospective and horizon scans for fish genetics/genomics	Oral Presentation	Marques, Elisa Sparks, Morgan Zbinden, Zachery	Application of Genomics-Based Tools For Studies Using Rainbow Trout Genomic insights from the introduction of Pink Salmon ( <i>Oncorhynchus gorbuscha</i> ) to the Great Lakes Hybridization between fish species in nature: A multi-species population genomic examination
Scale V.2021: Choosing & Matching scales for aquatic field data: status, options, and knowledge gaps	Oral Presentation	Huff, David Burke, Brian Pope, Kevin Wildhaber, Mark Smith, Joe Zydlowski, Joseph Carey, Michael Tingley, III, Ralph W. Henderson, Mark Irwin, Elise	Designing a salmon ocean ecology program to inform decisions about managed and protected salmon s... For a migrating species, ecological dynamics occur across all scales, but some are more relevant ... Imperfect excellence Monitoring Fish Communities of Streams, Large Rivers, and Estuaries: How Spatial and Temporal Sca... Review, evaluation, and reimagining the landscape of practical approaches to spatial scale: where... Scaling fish passage assessment; it's not just a local matter Spatial Scale concerns in high-latitude ecosystems Temporal differences in Lake Michigan prey fish biomass densities and implications for providers ... The importance of accounting for spatial autocorrelation in habitat analyses Thirty years, three regions, hundreds of species: perspectives of a field research biologist on t...
Sci comm conversations - Learning from the past, acting in the present, and preparing for the future	Oral Presentation	O'Reilly, Katherine David, Solomon Claussen, Julie Kramer, Nick	Communicating Controversy: What to Do When Things Go Belly Up Garnering respect for North America's so-called "rough fish" It just seems so obvious! Changing perspective on the value of freshwater biodiversity What role does/should agency biologists serve in science communication?
Shifting a paradigm Whitewater Parks and Biota	Oral Presentation	Wilson, Benjamin	Corps Permitting Processes for Whitewater Parks
Shifting angler dynamics in relation to the COVID-19 pandemic	Oral Presentation	Carlson, Andrew Duda, Mark Mateos-González, Fernando	Boat to bowl: resilience through network rewiring of a community-supported fishery amid the COVID... Retaining 2020's Surge of Licensed Anglers Temporal and spatial changes in recreational fishing effort during COVID-19 pandemic seen through...
Stakeholder perceptions of fisheries management	Oral Presentation	Perry, Diana Gawu, Richmond Teye Cullen, Victoria	Effects of Angler Specialization on Attitudes and Preferences for Common Fisheries Management Act... Light Fishing Perceptions of commercial fisher representation in the protection of the North Atlantic right whale
Standardizing recreational fishing data collection applications	Oral Presentation	Sievert, Nick Dainys, Justas	The U.S. Inland Creel and Angler Survey Catalog (CreelCat): A database and interactive tool for i... Using traditional methods vs. drone footage, image recognition and fishfinder user data to assess...

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Sub-tropical inland fisheries management and human well-being in the developing world (virtual only)	Oral Presentation	Jan, Arif	Ecological Niche Models (ENMs) As A First Step In Mapping Distributions Of Biological Invasions F...
Tails from the Anthropocene—stories and lessons from 150 years of aquatic introductions	Oral Presentation	Grabau, Matthew Gibson-Reinemer, Dan Chapman, Duane Fisher, Shannon Daniel, Wesley Pasko, Susan Sturtevant, Rochelle Neilson, Matthew	A Community of Practice to Advance Management of Introduced Aquatic Species A History of the Management of Common Carp Introductions A timeline comparison of the invasion histories of bighead, silver, grass, and black carps in Nor... Balancing Native and Desirable Invasive Species: A "Tail" of Two Trouts LOOKING FOR THE FUTURE FISH INVADERS FROM THE ORGANISM IN TRADE PATHWAY: A REVIEW OF THE NATIONAL... Overview of the Aquatic Nuisance Species Task Force Recent History of Nonindigenous Species in the Laurentian Great Lakes Vectors and patterns of freshwater fish introductions across the United States over time
The craft of communicating climate change: climate ambassador perspectives	Oral Presentation	Latzka, Alexander Landsman, Sean Pohl, John Conley, Keats Day, Samuel	A climate-driven shifting portfolio of Wisconsin recreational fishing opportunities, and how we d... Capturing climate change: the use of conservation photography as a visual communication strategy ... Climate Fiction as an Outreach Avenue for Climate Scientists Imagery, analogy, story: the shared space of science and poetry The Importance of Framing Your Message with Your Audience in Mind: A Tribal Perspective
Using indicators of ecological resilience to inform conservation/management of freshwater ecosystems	Oral Presentation	White, Shelby Gatto, John Bouska, Kristen Brewer, Matthew Mahlum, Shad Damiano, Matthew	Assessing Diversification Behavior of Virginia's Small-Scale Fishermen Evidence of Alternative Trophic Pathways for Fish Consumers in a Large River System in the Face o... Management implications of a resilience assessment of the Upper Mississippi River System Measuring Connectivity in a Recovering River System: A Case Study from the Penobscot River, Maine Using Thermal-optical habitat to predict walleye catches and inform management A size-structured management strategy evaluation tool for examining tradeoffs between commercial and