



FISH PASSAGE 2016

International Conference on River Connectivity



June 20-22, 2016

University of Massachusetts Amherst (USA)



Fish Passage 2016 Overview Conference Agenda

Sunday, June 19, 2016

9:00 am to 5:00 pm	Advanced Telemetry (Sold Out) - Campus Center 804-08	Short Courses Dam Removal - Campus Center 803	Stream Simulation - Campus Center 805-09
6:00 pm to 9:00 pm	Registration and Reception – Marriott Center		

Monday, June 20, 2016

7:30 am to 8:45 am	Continental Breakfast and poster set-up and registration (throughout day) - 1st Floor Concourse			
8:45 am to 9:00 am	Opening remarks - Campus Center Auditorium			
9:00 am to 10:00 am	Keynote Address: Horst Bleckmann - Campus Center Auditorium			
10:00 am to 10:30 am	Break and access to posters and sponsor booths - 1st Floor Concourse			
10:30 am to 10:45 am	Featured speaker: Wendi Weber - Campus Center Auditorium			
10:45 am to 11:45 am	Plenary Panel - Lessons across scale, small to large project perspectives and challenges for the future - Campus Center Auditorium Moderator Laura Wildman (Princeton Hydro), Panelists: Amy Singler (American Rivers and The Nature Conservancy), Steve Rainey (Steve Rainey Fish Passage Engineering), Lisiane Hahn (Neotropical Environmental Consulting Company), Laura Rose Day (Penobscot River Restoration Trust)			
11:45 am to 1:00 pm	Lunch via buffet (provided) - Amherst Room and Marriott Center Poster set-up and access to posters and sponsor booths - 1st Floor Concourse			
1:00 pm to 2:30 pm	Cross-cutting sessions Landscape Approaches - Campus Center 163C		The Penobscot River Restoration - Campus Center Auditorium	
1:00	Prioritizing Barriers	Erik Martin	Looking after the leap: reflections on the Penobscot River Restoration Project	George Aponte Clarke
1:15	Critical linkages: a landscape-based modeling approach for evaluating the restoration potential of dam removal and culvert replacement projects	Scott Jackson	Removal of the Veazie Dam – improving habitat access for sea-run fish, uncovering history, and unharnessing the Penobscot River	Joseph McLean
1:30	The Southeast aquatic connectivity program: a landscape approach to connecting rivers in the Southeast	Kathleen Hoenke	Fish passage enhancements on the Lower Penobscot River	Keith Martin
1:45	A three component mitigation approach for fish passage in St. Lawrence River tributaries	Justin Ecret	Aspects of design and construction of the Howland fish bypass channel, Piscataquis River, Maine	Michael Burke
2:00	Watershed level physical and biological response to dam removal in Glenbrook Gulch, a small coastal stream in Mendocino County California	Leah Mahan	Monitoring the Penobscot River Restoration Project: baseline data to inform ecosystem response	Molly Payne Wynne
2:15	A multi-scale web-based fish habitat decision support tool	Jason Clingerman	15 minute question period/panel	
2:30 pm to 3:00 pm	Break and access to posters and sponsor booths - 1st Floor Concourse			
3:00 pm to 4:00 pm	Concurrent sessions			
3:00	Landscape Approaches Continued Campus Center 163C	Dam removal I Campus Center 168C	Penobscot Restoration Continued Campus Center Auditorium	Pushing and Pulling- getting fish to go where you want I Campus Center 174-76
3:00	Balancing connectivity with sea lamprey control Jessica Barber	Synthesis of common management concerns associated with dam removal Mathias J. Collins	Penobscot habitat blueprint barrier prioritization Erik Martin	Can vibration or electromagnetic fields guide downstream migrating silver eels? Steve Amaral
3:15	FISHPass: A decision support tool for optimizing barrier mitigation Donald Ratcliff	Geomorphic and ecological adjustments following dam removal Keith H. Nislow	Stream connectivity projects on Tribal Lands Daniel McCaw	Acoustically guided avoidance responses in three invasive carp species Daniel Zielinski
3:30	What can we learn from 17,000 structures? Jed Wright	Listen to the river: flexibility, resiliency in dam removal project management, design and construction Gwen V. Macdonald	Reconnecting the Penobscot River with its tributaries John Burrows	Fish screening and passage at the St. Mary Diversion Dam near Babb MT Christopher Shupe
3:45	Spreadsheets for stream simulation design Mark Jordan	Comparing sediment contamination, regulatory responses, and sediment management approaches among dam removal projects in the Northeastern US. Paul Woodworth		Technical developments in fish exclusion, guidance, barrier and collection systems Andrew Peters
4:00 pm to 4:30 pm	Break and access to posters and sponsor booths - 1st Floor Concourse			
4:30 pm to 5:30 pm	Concurrent sessions			
4:30	Landscape Approaches Continued Campus Center 163C	Dam removal II Campus Center 168C	Featured International Case Studies Campus Center Auditorium	Pushing and Pulling- getting fish to go where you want II Campus Center 174-76
4:30	A landscape-scale watershed assessment method to support fish passage restoration strategies in Puget Sound, Washington State: A case study for the Fish Barrier Removal Board Justin Zweifel	Use of unmanned aerial vehicles for monitoring habitat restoration and dam removals Margaret H. Murphy	The swimming ability of wild-caught Mekong fish species and the implication for fish pass design in SE Asia Tobias Coe	North Fork floating surface collector design, operation, and results Peter Christensen
4:45	Landscape Approaches to Aquatic Connectivity Improvement: A review and panel discussion of fish passage prioritization tools and watershed scale biological outcomes William W. Duncan	No Longer Caught Up In That Old Race – Successful Velocity Barrier Elimination For Anadromous Fish Sean D. Arruda	Fish passage in a large dam of Amazon basin: the case of Belo Monte megadam, northern Brazil Lisiane Hahn	Temporal and spatial distributions of out-migrating juvenile blueback herring in the presence of an ultrasonic fish guidance system at a hydroelectric project Matt Balge
5:00	Panel discussion	Large wood debris and dam removal, Part 1: Elevating practice through complementary techniques Lisa Hollingsworth-Segedy	The FISHMOVE project - Development of mitigation measures for small instream obstacles to fish migration in Portuguese streams José Maria Santos	Survey of two behavioral fish guidance systems designed to improve safe downstream passage of anadromous salmonids Shane Scott
5:15	Panel discussion	Large wood debris and dam removal, Part 2: Refining river restoration practice through field experience Bob Beran		Advances in fish passage technology – How to move migratory species safer, farther, faster Todd Deligan
6:00 pm to 8:00 pm	Evening Reception off campus - Hangar Pub			

7:30 am to 8:45 am	Continental Breakfast and registration (throughout day) - 1st Floor Concourse							
8:45 am to 9:00 am	Opening remarks - Campus Center Auditorium							
9:00 am to 10:00 am	Keynote Address: John Waldman - Campus Center Auditorium							
10:00 am to 10:30 am	Break and access to posters and sponsor booths – 1st Floor Concourse							
10:30 am to 11:30 am	Keynote Address: Michael Love - Campus Center Auditorium							
11:30 am to 11:45 am	Tribute for Dr. John (Jack) Orsborn, professor emeritus at Washington State University - Campus Center Auditorium							
	Presentation of Distinguished Project Award - Campus Center Auditorium							
11:45 am to 1:00 pm	Lunch via Meal Card (provided) at Blue Wall (campus center) and access to posters and sponsor booths - 1st Floor Concourse							
1:00 pm to 2:30 pm	Concurrent sessions							
	Innovations I - Campus Center 174-76		Modeling - Campus Center 168C		Case Studies II - Campus Center Auditorium		Fish Passage Studies I - Campus Center 163C	
1:00	Using sediment core analyses to attempt to quantify the historical abundance of alewife (<i>Alosa pseudoharengus</i>) in three modified river systems in the maritime provinces of Canada	George Nau	What's in your tool box? Analytical tools for fish passage alternatives analyses.	MaryLouise Keefe	Fish trap and haul system for high dams in China	Xiaotao Shi	Producing European guidance for assessing the efficiency and related metrics of fish passage solutions	Jim Gregory
1:15	A 10-year history of Alabama Shad restoration via renewed fish passage	Shawn Young	Using 2D HEC-RAS to Determine Fish Passability and Habitat Quality	Suzanne Monk	Challenges of downstream fish passage at high head dams	Fenton Khan	Selective, bi-directional fish passage to balance tensions between management actions affecting fish movement	Andrew Muir
1:30	Upstream migrant trapping Solutions for a Puget Sound glacial-fed river and abundant pink salmon runs	Fred Goetz	Effects of Hydraulic Structures on Fish Passage: An Evaluation of 2D vs 3D Hydraulic Analysis Methods	Erin R. Ryan	Design and construction of a riffle grade control to restore fish passage	Eileen Straughan	Sea lamprey behaviour during negotiation of technical and nature-like fish passes	Pedro R. Almeida
1:45	The fish-lifting trough - a combined trash cleaner and fish passage device	Reinhard Hassinger	Stream Power Thresholds and Applications	James MacBroom	'Fish migration project Gabčíkovo dam Slovakia'	Wilco de Bruijne	Quantifying the swimming capacity of emerald shiner minnows (<i>Notropis atherinoides</i>) from the Upper Niagara River and fish passage criteria.	K.E. Vorenkamp
2:00	When Enough is Enough: Assessing How the Effectiveness of Fish Passage Can Influence the Recovery a Fish Population	Rob McLaughlin	Inskip diversion dam fish screen physical modeling	Kent Walker	Amethyst Brook restoration project: co-evolution of a project and a river with two dam removals	Michael Chelminski	Passage performance and migratory delay of American shad at the Holyoke Fishlift.	Theodore Castro-Santos
2:15			Experimental validation of an open-sourced and a commercial numerical model for simulating flows within a large scale pool and weir fishway in Québec, Canada	Jason Duguay	Citizen science on the move: detailing the spawning migration of alewife and blueback herring in a coastal Massachusetts watershed.	Andrew Jones	Evaluation of lake sturgeon passed through the Whooshh Fish Transport System	Stephen Amaral
2:30 pm to 3:00 pm	Break and access to posters and sponsor booths - 1st Floor Concourse							
3:00 pm to 4:00 pm	Concurrent sessions							
	Innovations II - Campus Center 174-76		Ocean Connections - Campus Center 168C		Case Studies III - Campus Center Auditorium		Fish Passage Studies II - Campus Center 163C	
3:00	Stereo vision camera system for monitoring of fish migration	Matej Sečnik	When a rising tide doesn't pass all fish	Matthew Bernier	Skokomish River Basin ecosystem restoration	Nancy Gleason	Estimates of turbine passage of fingerling and yearling lake sturgeon passing the Shawano Project, Wolf River, Wisconsin	Joanne Phipps
3:15	FISHCAM – A video based monitoring system for fish passes	Helmut Mader	European River Lamprey <i>Lampetra fluviatilis</i> passage efficacy at a tidal barrage using a navigation lock as a novel fish pass	Sergio Silva	Rehabilitation of the Yarqon River, a polluted Mediterranean Climate ecosystem and reintroduction of the Yarqon bleak, an endangered endemic freshwater cyprinid fish	Yonathan Raz	Long term effects on Atlantic salmon (<i>Salmo salar</i>) and brown trout (<i>Salmo trutta</i>) smolts after turbine migration	Tormod Haraldstad
3:30	Designing a cost effective vertical-slot fishway	Matthew Gordos	Migratory delay of anadromous river herring at anthropogenic obstacles on a small coastal stream	Derrick Alcott	Salmon SuperHwy: Strategic fish passage barrier prioritization and community engagement in the Tillamook-Nestucca Subbasin, Oregon.	Dan Shively	Comparison of three downstream fish pass solutions in Germany, using Atlantic salmon smolt	Maxim Teichert
3:45	Linking Passage, Habitat Quality and Rangewide Survival, New Approaches for Conservation of River Herring	Alison Bowden	Potential measures to strengthen diadromous fish stocks in the Wadden Sea	Catharina Philippart	Secure fish passage design for sustainable fish populations: a case study in Vereinigte Weißeritz River	Meliha Gamze Ekren	The drifting dead: drift of dead fish in three German rivers	Lisa Heermann
4:00			Silver eel (<i>Anguilla anguilla</i>) production, spawner escapement biomass and mitigation of hydropower mortalities in the River Erne, Ireland.	T K (Kieran) McCarthy				
4:15 pm to 4:30 pm	Break and access to posters and sponsor booths - 1st Floor Concourse							
4:30 pm to 5:30 pm	Concurrent sessions							
	Innovations III - Campus Center 174-76		Eels I - Campus Center 168C		Case Studies IV - Campus Center Auditorium		Fish Passage Studies III - Campus Center 163C	
4:30	The Maine Model – Flexible partnerships for restoration	Alex Abbott	The Eel Passage Research Center: Bi-national collaboration at the interface of research, resource management, and regulatory compliance	Paul T. Jacobson	Adaptive Management of Fish Passage at a Weir-Pool Fishway	Ben Gahagan	Fishway entrance gate orientation effect on upstream migrating adult American shad (<i>Alosa sapidissima</i>)	Kevin Mulligan
4:45	Fish passage philosophy on European rivers fueling hydropower installations in the 21 st century	Martin O'Farrell	Monitoring juvenile American eel movements to inform the design of eel fishways - location, location, location!	Jesse Wechsler	Mutiyear evaluation of fishway passage, river switching and survival of alewife (<i>Alosa pseudoharengus</i>) within the Tantramar Marshes, Canada.	George Nau	Flow and turbulence structure in brush fish pass	Serhat Kucukali
5:00	Fish Passage - Challenge Grants	Jason Wagner	European eel passage survival and injury through three propeller type turbines in France	Chris Avalos	A 5-Year Pit-Tag Survey tracking migrating fish in the River Elbe, at the Geesthacht Dam, Germany	Nicola Mast	Fish-size-based criteria for assessing attraction flow	David Gisen
5:15	The Future of Dams: Developing a stakeholder-engaged, solutions-focused framework for decision-making	Caroline Gottschalk Druschke	Telemetry study of downstream passage of silver phase eels at three small hydroelectric projects on the Shetucket River, Connecticut	Alex Haro	Evaluation of the Owens Pond Fishway, Amherst, MA	Boyd Kynard	Sediment redistribution & impact analysis at Springborn Dam, Enfield, CT	Joshua Wilson
5:30 pm to 7:00 pm	Reception and poster session - 1st Floor Concourse							
7:00 pm to 10:30 pm	Banquet with presentation of Career Achievement Award - Campus Center Auditorium							
8:30 pm to 12:00 am	After hours party at UPub							

Wednesday, June 22, 2016

7:30 am to 8:45 am	Continental Breakfast and registration (throughout day) - 1st Floor Concourse							
9:00 am to 10:00 am	Concurrent sessions							
	Stream Crossings I - Campus Center 174-76		Eel II - Campus Center 168C		Case Studies V - Campus Center Auditorium		Fish Passage Studies IV - Campus Center 163C	
9:00	Do low light levels in long box culverts affect the movement of Topeka Shiner and other prairie stream fishes?	Britney Mosey	American Eel Passage Improvements at Coastal Rivers in Massachusetts	Bradford Chase	Hydraulic impact on fish migration in Sariakandhi Fish Pass of Bangladesh.	Bijoy Kumar	Reducing sample size in an open flume experiment by using a crossover design	Cornelia Schuetz
9:15	Design criteria and culvert fish baffle comparisons	Kelly Hughes	Biological Studies of American Eel at the Conowingo Project	J. Chris Avalos	A critical analysis of existing fish pass structures at small hydropower plants in Turkey	Bülent Verep	Horizontal vs. vertical fish screens: efficacy in guiding fish schools	Jasper de Bie
9:30	Experiments on box culvert design for fish passage	Jessica Kozarek	Survival and health of European eels, <i>Anguilla</i> , entrained in water pumps of varying size, design and specification	Jonathan Bolland	FishMigrationRiver - project update	Roef Mulder	Passage options for climbing lamprey: if you build it they will come	Kinsey Frick
9:45	Engineering and design approaches to provide fish passage at culvert slipline projects in Connecticut	Brian D. Murphy	Analyzing small-scale movements in the downstream migration of European eel: a radio telemetry study	Florian Kreische	Fish Migration River – Monitoring and evaluation after construction	Wilco de Bruijne	Are fishways cost beneficial?	Matthew Gordos
10:00	Stream Sim Lite - Incorporating stream simulation concepts into Vermont statewide culvert design and construction standards.	Rich Kirn	15 Years of MIGROMAT® - An early warning system protecting migrant eels	Pascal Irmischer	Butas River, Naujan, Oriental Mindoro, Philippines fish assessment: Issues and challenges	Marius L. Panahon		
10:15 am to 10:45 am	Break and access to posters and sponsor booths - 1st Floor Concourse							
10:45 am to 12:00 pm	Concurrent sessions							
	Stream Crossings II - Campus Center 174-76		Eel III - Campus Center 168C		Case Studies VI - Campus Center Auditorium			
10:45	MaineDOT Stream Crossings – learning from ten years of experience to improve stream connectivity through transportation structures	Eric Ham	Evaluation of behavioral cues for guiding silver American eel at hydro projects	Stephen Amaral	Dynamics of the 2015 spawning migration of American shad (<i>Alosa sapidissima</i>) in the Connecticut River	Jason Boucher		
11:00	Bridges, culverts, and flood resiliency	Roy Schiff	European eel recovery - it is all about collaboration	Andrew Kerr	Restoring connectivity to Wreck Pond, Monmouth County, New Jersey	Alek Modjeski		
11:15	Assessment and prioritization of stream crossings for flood resiliency and ecological connectivity in the Wood-Pawcatuck Watershed	Rachael Weiter	Assessment of three sonars to evaluate the downstream migration of American Eel in the St. Lawrence River	Christopher W.D. Gurshin	Environmental toxicology with special reference to study the fish biodiversity and fish physiology	Kamal Ray		
11:30	The North Atlantic Aquatic Connectivity Collaborative: A coordinated effort to evaluate the effects of road-stream crossings on aquatic connectivity	Scott Jackson	Comparison of attraction and passage of downstream migrant American eels for airlift and siphon deep entrance bypass systems	Alex Haro				
11:45	Building municipal capacity for road-stream crossing replacement: Exploring a new model for habitat restoration	Beth Lambert						
12:00 pm	Lunch Boxes (provided), poster takedown – 1st Floor Concourse							
12:30 pm – 2:30 pm	Joint Committee of Fisheries Engineering and Science meeting (room TBD)							
12:30 pm - 2:30 pm	Know Your River - A Free Fish Counting & Migration Workshop with speakers from Vaki, FISHBIO and Biomark - Campus Center Auditorium							
3:00	Tours (sign up through survey to be sent in week of 5-30-2016)							

Thursday, June 23, 2016

9:00 am to 5:00 pm	Fish Passage Training Course – Sold Out USFWS Headquarters		Short Courses		NAACC Protocols and Field Training Holdsworth Hall 308		
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Posters

The fine-scale behaviour of downstream migrating silver European eels (<i>Anguilla anguilla</i>) immediately upstream of pumping stations	Nicola Baker
Comparing the effects of culvert fragmentation on potential functional connectivity of diadromous fish species using morphometrics	Andrew Chin
Optimal sampling effort for estimating juvenile alewife densities in freshwater lakes using a pelagic purse seine.	Matthew T. Devine
Providing upstream passage of adult salmon and lamprey at Wanapum Dam during atypical, emergency draw-down operations	Curt Dotson
Manager, media, and community member representations of dam tradeoffs in New England USA	Caroline Gottschalk Druschke
An investigation of pool-and-chute fishway hydraulics for a prototype vortex weir design for anadromous fish passage.	Brendan Foster
1000th culvert removed or upgraded for aquatic organism passage across the forest service	Nathaniel Gillespie
Lower mill pond dam / stony brook fish passage	Christopher Haker
Influence of reservoir size on migration and loss of Atlantic salmon smolt	Lisa Heermann
Inventory of freshwater fish species in the Buriganga River, Dhaka, Bangladesh	Md. Muzammel Hossain
Little River fish passage naturalization project, Gloucester, MA	Eric Hutchins
The eel passage research center: bi-national collaboration at the interface of research, resource management, and regulatory compliance	Paul T. Jacobson, Ph.D.
The Wetted Ramp for use in Passage of Non-Target Species over Low-Head Sea Lamprey (<i>Petromyzon marinus</i>) Barriers, Fish Length Dictates Passage Efficiency	Levi R. Kivari
Use of PIT tag technology to assess fish movement through two highway culverts in Maine	Mark Lickus
To remove or repair: How is fish passage science informing a decision for a future of a large dam?	Tommi Linnansaari
Stream connectivity assessments on National Wildlife Refuges in northeastern USA	Rebecca Longenecker
Spatial variation in characterized buried soils and legacy sediments of the northeast USA	Anna Marshall
Damming of New England Watersheds and Consequences to Freshwater Ecosystems	Steven Matlocks
Challenges of small town Atlantic salmon habitat restoration in their critical habitat	Sean Maxwell
Diadromous fish passage evaluation and drivers of movement in an Alaskan Steeppass	Kellie McCartin
NOAA Fisheries Service fish passage and hydropower review	Sean McDermott
USFWS Engineering Criteria and the design of attraction water systems	Jesus Morales
Providing refuges for Pacific Lamprey in Lower Columbia River fishways	Mary Moser
The indirect impact of pumping station operation on the downstream migration of silver European eels (<i>Anguilla anguilla</i>).	Leona A. Murphy
Mimicking fish with a convolutional neural network in 2D domain	Jundong Qiao
Comparison of the detection rate of three telemetry systems	Arne Rueter
A 3-year evaluation of Atlantic salmon passage and survival at a hydroelectric facility in Maine	Michael Sears
DATA Collection: A critical component in supporting a successfully operating fishway	Bryan Sojkowski, P.E.
Climate change induced shifts in the timing of migration of alewife (<i>Alosa pseudoharengus</i>) in Massachusetts natal streams	Sam Stettiner
Analysis of contributions and uncertainties of fish population models for the development of river continuity concepts in the river basin Ruhr, Germany	Daniel Teschlade
Energy Dissipation Factor (EDF) and the design of fishways	Brett Towler, Ph.D., P.E.
Federal interagency passage design guidelines: application to nature-like fishways for Atlantic coast diadromous fishes	James Turek
Exploring the impacts of a concentration dependent fish passage rate: Application of reactor theory Part II.	Barnaby Watten
A vacuum assisted weir (VAW) that reduces nappe velocities for enhanced fish passage at diversion structures: scale model and field trial results	Barnaby Watten
Economic effects of small dam removal in Massachusetts	Nick Wildman