TIME	Speaker	Diving for Science: Rivers and Lakes
10:00 – 10:15	Rupert Simon Finnish Divers Federation Scientific Committee	Welcome and Introduction
10:15 – 11:00	Elena Pranckėnaitė Institute of Baltic region History and Archaeology, Klaipėda University	Underwater Cultural Heritage in the Lithuanian Inland Waters: Archaeological Survey and Research
11:00 – 11:45	David Cleasby Finnish Maritime Archaeological Society (MAS)	Voyaging inland: A citizen science approach to the archaeology of Finland's waterways
11:45 – 12:00		Break
12:00 – 12:45	Pierre-Yves Cousteau Cousteau Divers	Citizen Science for recreational scuba diving
12:45 – 13:30	Edward Stockdale Finnish Scientific Diving Academy (FDSA)	Polar Scientific Diving Training at Kilpisjärvi 2024
13:30 – 14:15		Lunch break
14:15 – 15:00	Niko Milus Finnish Divers Federation	Inland water sites and their challenges
15:00 – 15:45	Sallamaria Tikkanen Finnish Heritage Agency	Rivers as Cultural Heritage and Landscape
15:45 – 16:00		Break
16:00 – 16:45	Jouni Leinikki Finnish Scientific Diving Panel	Professional scientific diving as a consultant - Why and how we dive in rivers
16:45 – 17:15	Mika Rautiainen Finnish Divers Federation Scientific Committee	Best practices of diving in rivers and streams
17:15 – 17:30	Rupert Simon FDF-Scientific Committee	Closing remarks

Rupert Simon

Introduction

Last year on April 22–23 diving enthusiasts and science professionals interested in citizen science gathered at Suomenlinna for a seminar organised by the Finnish Divers' Federation and the Finnish Maritime Archaeological Society. We learned about the potential environmental risks of Baltic WW-I and II wrecks, scale models of wrecks by 3D printing, ghost net removal, and research projects involving technical diving. Moving focus from cultural to environmental heritage we learned about the Saimaa ringed seal conservation project, the restoration of sea grass meadows, monitoring the state of the Baltic Sea and the future of scientific diving education in Finland. We agreed on using an online webinar type approach in 2024 to follow-up the successful event from 2023. And here we are. Enjoy the journey focussing on inland waters, rivers and lakes!

Elena Pranckėnaitė

Underwater Cultural Heritage in the Lithuanian Inland Waters: Archaeological Survey and Research

Since 1998 the systematic survey and investigation of underwater archaeological objects in the inland waters of Lithuania have been carried out. This paper will present the methods of field research used in the search for underwater cultural heritage, tendencies in underwater exploration, accompanied by the results and prospects gained from completed surveys of new objects and sites. Locations for underwater surveys were selected based on various sources: ethnographic material, information from the written historical data, orthophotos of water bodies adjacent to archaeological objects, information on probable underwater finds provided by recreational divers etc. By 2023, underwater archaeological surveys have been carried out in 90 water bodies or larger sections of lakes and rivers. In many of those, different sites – bridges, dwelling places (settlements), human remains, watercraft (boats and log boats), harbours, fishing equipment or fishing places, dating from Mesolithic to the 20th century, were detected. From the beginning of the research until today, the research methods have changed, newer technologies (geophysical survey, acoustic detection and so on) have been used and the research methods have been adapted to the specifics of Lithuanian inland waters. In this paper, the most successful exploration methods will be identified, taking into account a number of factors: water depth, visibility, currents, the bottom of a body of water, aquatic vegetation, etc. The results of underwater surveys demonstrate the potential of the field and variety of sites and objects found underwater and also raises a question of the impact of the methods or techniques applied.

David Cleasby

Voyaging inland: A citizen science approach to the archaeology of Finland's waterways

Finland has been called the land of a thousand lakes. In fact, it has over 187,000 lakes over 5 acres, with over 300 larger than 10 km^2, making Finland’s land area comprising an average 10 % water, and up to 20% in provinces dominated by lakes. These watery sites and shorelines have great potential for exploring the cultural heritage of Finland, in a land where the networks of lakes and rivers provided easier highways for trade and travel in the summers and icy roads in winter. However, in general these numerous regions have not experienced as much research as has occurred in coastal waters, for a myriad of historical, organisational and logistical reasons. Archaeological research in inland waters have largely occurred with known wrecks, or through haphazard discoveries made by local dive clubs, or research conducted on cultural sites on the foreshore, or more often where there is commercial and private expansion of waterfronts and harbours requiring statutory archaeological inspection, with developers providing the funding for research to occur, though in a rescue scenario. This talk will focus on a case study of research carried out at the important Finnish Iron Age site of Tursiannotko on the foreshore of lake Pyhäjärvi in the Pirkanmaa region. The research highlights the need to provide a maritime and landscape archaeology perspective to the traditional land-orientated model. A small diving team learned valuable lessons about the difficulties and advantages of lake land investigations. When the environmental topography of the site was reconstructed the Iron Age village could be seen in an entirely new light, providing insights for the interpretation of all lake archaeology sites. The research highlighted the merits of employing small-scale citizen science teams to conduct proactive lake archaeology studies and contribute to the heritage of Finland but also provide a focal point and rallying cry to amateur diving groups to join these types of projects.

Pierre-Yves Cousteau

Citizen Science for recreational scuba diving

Cousteau Divers: citizen science for recreational scuba divers. Deploying novel temperature sensors within the scuba diving community, Cousteau Divers is measuring near-shore shallow sea temperatures in near real-time worldwide (www.cousteaudivers.org). The presentation will be giving a short walkthrough of the website followed by opening to any questions by participants.

Edward Stockdale

Polar Scientific Diving Training at Kilpisjärvi 2024

As climate and anthropogenic impact on the polar regions increases there is a pressing need to study the direct impacts in occurring in these environments to establish conservation or mitigation policies. Part of this requires researchers to investigate under the water and ice, which requires specialized training and operational management to meet occupational regulations and carry out effectively. To address this, need the Finnish Scientific Diving Academy created a dedicated Polar Research Diving program to train diving operations in the challenging environments found in the Arctic and Antarctic, based at the Kilpisjärvi Biological Station. This presentation will outline the inaugural course in 2024, the differences from recreational agency-based ice diving training and the future developments in the occupational fields of diving in Polar regions.

Niko Miilus

Inland water sites and their challenges

Finland, the country of thousand lakes, from smallest forest ponds to the biggest lakes Päijänne, Saimaa, and Inarinjärvi as well as rivers from tiny creeks to big rivers, like Kymijoki and Tornionjoki. When the glaciers disappeared at the end of the ice age about 10 000 years ago, the first humans arrived in today Finland's grounds and water routes, the early oceans, lakes and rivers. One of the earliest living places is Myllykoski, Orimattila (8830 bce), in the Porvoonjoki valley, at the ancient Ancylus-lake. Ice and water have disappeared from there since those days. The water flows of the rivers have changed their directions about 5000 years ago from predominantly north to south for most of the current locations. We have many newer and different sites at and under the water of rivers and lakes from early pre-historic to iron and industrial ages. The timeline to study contains Viking, Deutsche Hanse Union, tar and board wood industry, and whatever we have not found yet. One of the challenges is how to recognise, measure, and identify a find? And if it's submerged in moving water such as a river, how to do it safely? How can we time and identify a wooden rowing boat, where the same model has been in use 50, 100, 250, and 500 years ago? How to take samples for radiocarbon- and dendrochronology? Main reason is that what we have we don't no. It is that the information that is there is uncertain. Are there any traces that survived? Information is scarce and scattered such that it is hard to assemble a reasonable timeline.

Sallamaria Tikkanen

Rivers as Cultural Heritage and Landscape

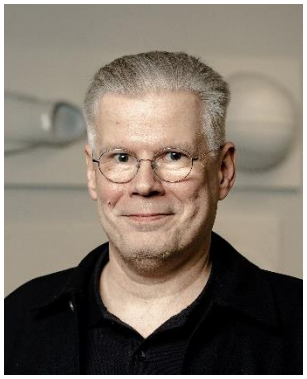
Rivers and river valleys have been, and still are, fundamental to human life. Various human activities have shaped the river valleys over the centuries and created a rich cultural heritage consisting of archaeological sites, built cultural heritage, and intangible and tangible values related to riverine landscapes and ecological values. New forms of use, modifications and renovations have, in turn, changed or destroyed what previous generation have created. At the same time, various measures have had a negative impact on the nature values of the riverbanks.
The Finnish Heritage Agency is currently running a project called “Cultural Heritage of the Finnish Rivers”. The goal of the project is to produce a snapshot, try to understand what may be left and which areas have potential for preservation of this heritage. As part of the project, a riverine archaeological webinar was organized together with partners such as the Finnish Divers’ Federation in November 2023.
The presentation uses visual examples to review different historical uses of rural and urban riverbanks, presenting both material and non-material cultural heritage and related phenomena. Special attention is paid to the landscape of the riverbanks, their diverse values and dimensions.

Jouni Leinikki

Professional scientific diving as a consultant - Why and how we dive in rivers

Alleco is a consultancy specializing in underwater surveying of natural values in different environments. One of the major areas involves mapping the threatened mussel species. There are two protected mussel species in Finland that are listed in EU Habitats Directive Annex II, meaning that they cannot deliberately be killed or even disturbed by human activities, such as building bridges, forestry, or even river restoration works. These mussel species are thick-shelled river mussel (TSRM) and freshwater pearl mussel (FPM). TSRM thrives in the murky rivers of southern Finland, while FPM prefer clear and pure waters, of which most are in northern Finland. Surveying techniques for these two are different. TSRM are usually collected with all mussel species in 0-visibility by hand for identification onshore. FPM can be identified visually underwater and usually live in small water bodies, so the divers swim up or down the creek or river and count the number of FPM they see. If the habitat of the mussels is inevitably threatened, they are often collected and transferred into a safe environment, usually upstream.

Mika Rautiainen



Best practices of diving in rivers and streams

Both scientists and recreational divers dive in rivers and streams. These conditions have their own challenges compared to the other kinds of waters. After the NBA river archaeology workshop, it was decided to compile the good practices of diving in rivers and streams to a single document. The pilot version was published in May 2024, and feedback was gathered. Updated good practices will be published by the end of September 2024.