

Paper ID	180
Author(s)	Hayato Kobayashi and Masahide Ishizuka
Title	Investigation of the dynamics of river floating debris using a camera and direct collection in summer 2023 at the Gobo river, Takamatsu, Japan
Abstract	
<p>Floating debris in a river was directly collected and their types and number were investigated in the Gobo River (basin area: 21.3km²) that flows through the central part of Takamatsu city, Kagawa, Japan. In addition, the photographs of floating debris were taken by a visible and infrared interval camera, and the load of debris into the Seto Inland Sea was calculated. The direct collection showed that about 50% of the floating debris was plastic in summer, and about 70% of it was plastic by mass. By the camera observation, we succeeded in measuring the first flush phenomenon, in which the amount of floating debris increases immediately just after flooding. Since the Food Sanitation Act was revised in 1982 in Japan, allowing the use of plastic bottles as soft drink containers, 42 years have passed. It is known that it takes 400 years for decomposition of plastic bottles naturally. It is expected that their accumulation will continue in the future, and this might cause a problem as microplastic wastes of time passes. From this perspective, it is necessary to establish measures and systems to control plastic bottle debris.</p>	
Keywords	visible and infrared camera, plastic debris, Gobo river, Takamatsu city, Water, Waste

Paper ID	118
Author(s)	Kanta Mazaki, Masahide Ishizuka, Shinobu Uemura, Syogo Saito, Ayami Nishioka, Masatoshi Nakakuni, Kazuhiko Ichimi and Naokuni Tada
Title	Research on microplastics and macroscopic floating debris from rivers to river mouth and beach in the eastern part of Takamatsu, Kagawa, Japan.
Abstract	
<p>We conducted direct collection of microplastics in rivers and beaches in the eastern part of Takamatsu city, Kagawa, Japan, and macroplastics floating river mouth and beaches, to investigate their characteristics and the number and weight. As a result, PE and PP were found to be common in microplastics both in river and beach. The average number density in the Gobo river, which flows through the urban area of Takamatsu city, was the same as the average in Japan. Furthermore, it was confirmed that it is difficult to identify the original product based on the size of secondary particles of microplastics. As for macroplastics, more than 50% of debris are plastics under the major category. Especially, bags, fragments, and cigarette butts are dominant. It was also confirmed that when the wind and waves are strong, the convergence zones does not form and the amount of debris slightly decreases. Furthermore, the sell-by date printed in the debris showed that the debris might move to river mouth and beach in a relatively short period of time, those are illegally dumped or improperly disposed. From the perspective of future plastic reduction, it is necessary to establish measures and systems that focus not only on plastic bottles and bags, but also on cigarettes.</p>	
Keywords	Plastic pollution, FTIR, Floating debris, Gobo river