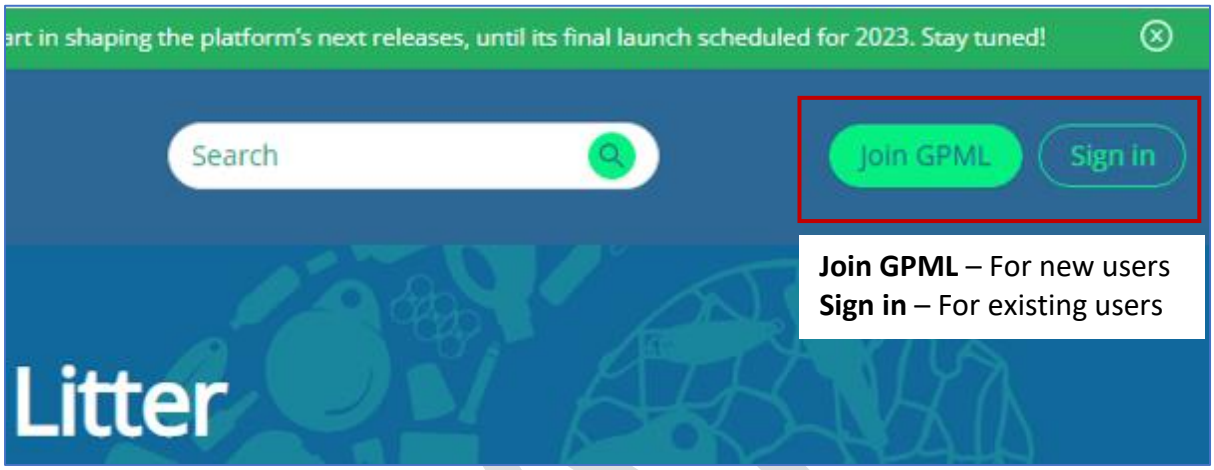
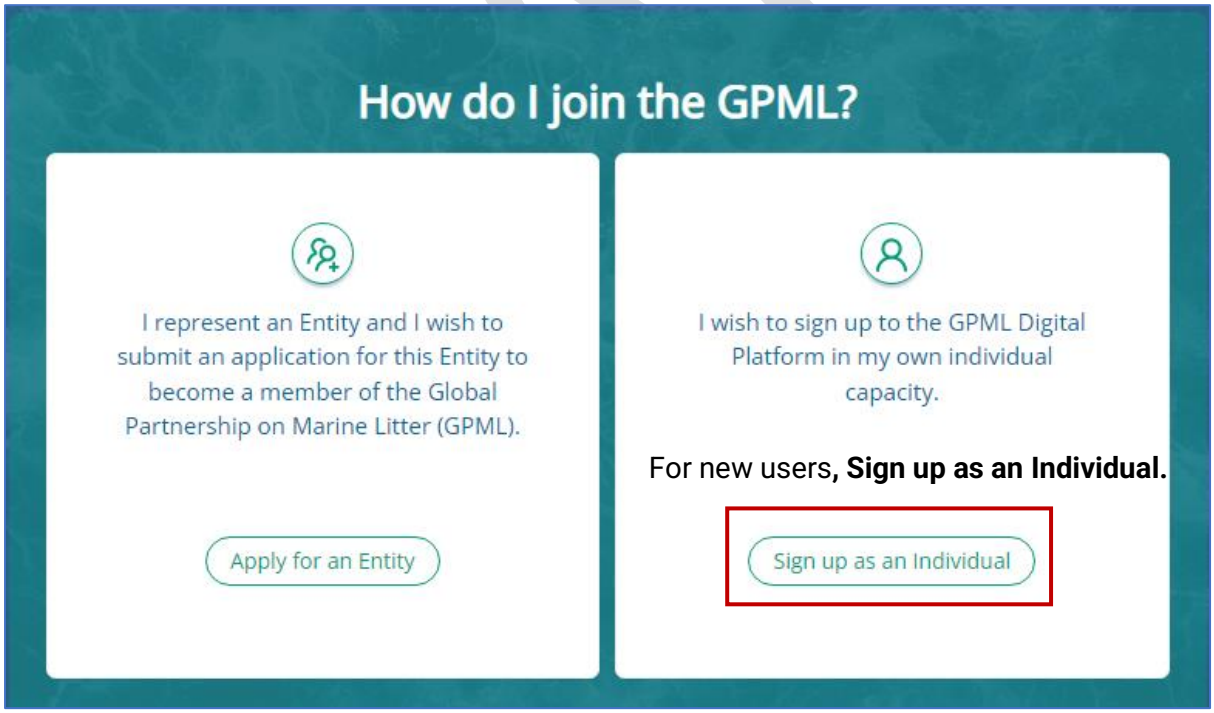
Guidelines: Marine Litter and Plastic Pollution Ontology Community of Practice

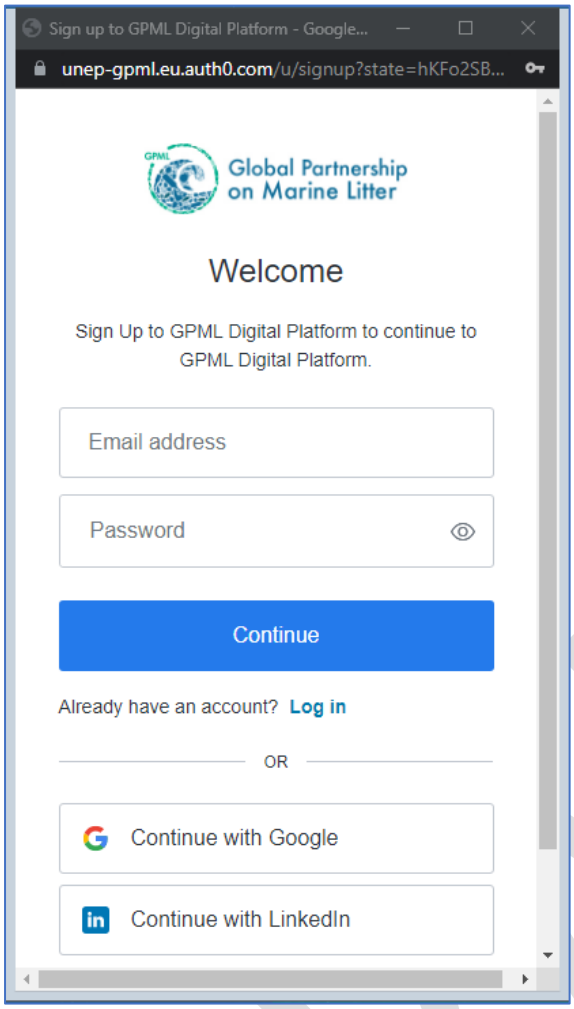
1. Step-by-step guidance on how to access the Ontology CoP forum

To access the Marine Litter and Plastic Pollution Ontology CoP forum:

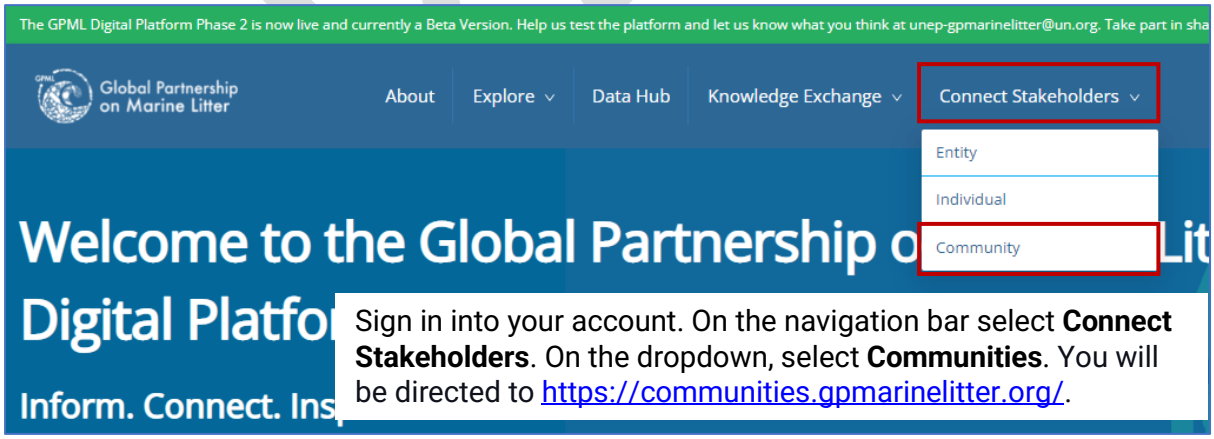
- Sign up to the Global Partnership on Marine Litter (GPML) Digital Platform as an individual.



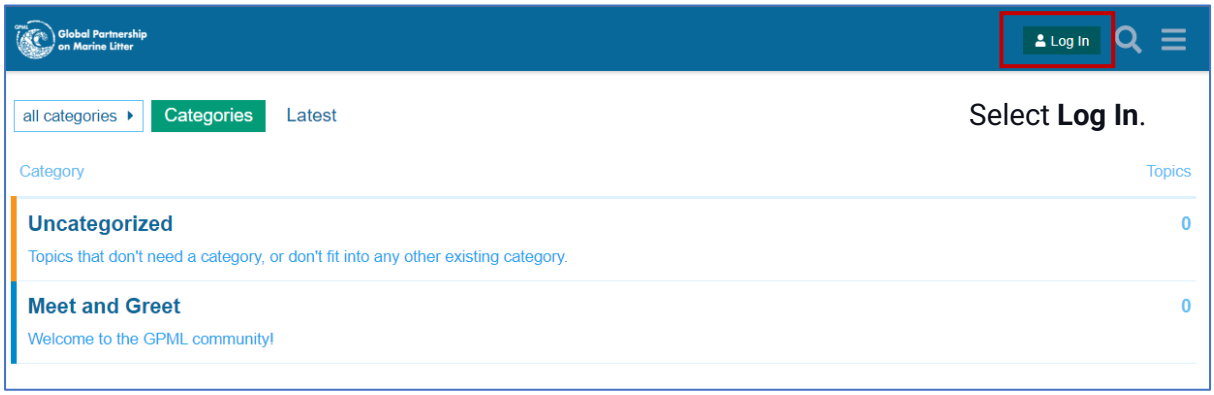




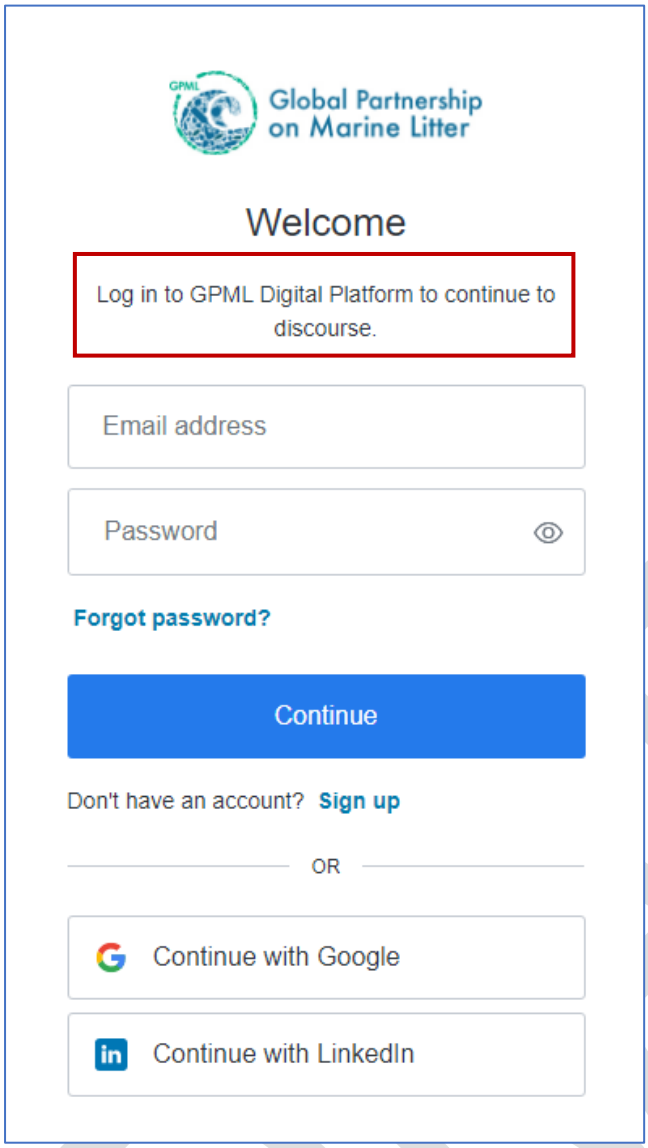
Fill in the pop-up form and **Continue**. Your account will be created and ready to use after approval which takes up to 48 hours. After approval, you can sign in as an existing user.



Sign in into your account. On the navigation bar select **Connect Stakeholders**. On the dropdown, select **Communities**. You will be directed to https://communities.gpmarinelitter.org/.

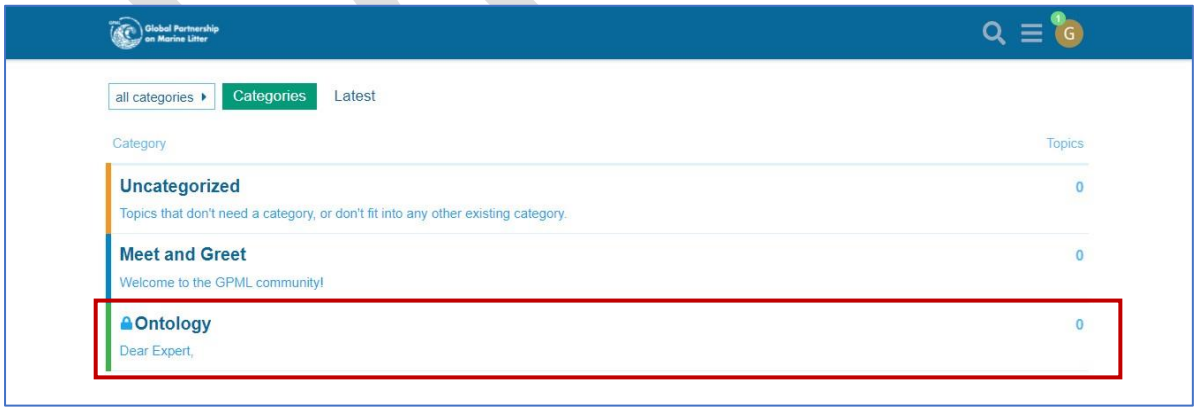


Select **Log In**.



A pop up appears prompting you **log in using your GPML Digital Platform credentials**. After successfully logging in with your Digital Platform credentials, your communities account will be created. Please note that at this point, you will only be able to view the publicly accessible forums.

- You will be added to the Ontology CoP forum (within 48 hours) as soon as the sign-up is completed. After acceptance, "Ontology" will show as one of your categories.



- Access the Ontology CoP peer review discussion forum.
- If you are unable to access the forum discussions (within 48 hours), please contact us at unep-gpmarinelitter@un.org.
- You can also find step by step instructions to learn how to access the forum here.
- Access the Peer Review Instructions directly in the Ontology CoP Forum

2. Marine Litter and Plastic Pollution Ontology Background

What is an Ontology?
The Ontology is a formal representation of knowledge, typically in graph or network structure, with both human and machine-readable definitions, with logical relationships (axioms) between the terms, which together define a knowledge domain.

Why do we need an Ontology?
Different disciplinary and regional communities often have different definitions for the same terms and/or the same definitions for different terms. This can lead to difficulties in discovering and integrating data and information. An ontology is a tool that helps us transparently manage this semantic ambiguity in systems like the GPML. Further, ontologies allow computational systems to use and act on the knowledge captured inside the ontologies.

What is the role of the Marine Litter and Plastic Pollution Ontology Community of Practice (CoP)?
UNEP, GPML, and IOC-UNESCO support the establishment of the Marine Litter and Plastic Pollution Ontology Community of Practice (CoP), which aims to create a coherent and machine-readable classification for marine litter and plastic pollution. The Ontology CoP will have a pivotal role in connecting experts with ontology developers to ensure the highest possible accuracy and utility of the Marine Litter and Plastic Pollution ontology.

How can the Ontology CoP help us?
The outcome of this process will ensure that your expert knowledge is captured in the ontologies used by the GPML. This will be achieved by the phases below:

During the current phase (until Feb 2022)

- The first peer-reviewed set of terms and definitions will be added to the Marine Litter and Plastic Pollution Ontology
- All peer-reviewed terms are made interoperable with selected high-quality and widely used ontologies.
- Enhanced search and filtering of GPML Digital Platform content.

Next Phases (from March 2022 and beyond)

- Multilingual interpretation
- Ontologies interoperability: interlinking different terms used for the same purpose at a global, regional, national, and sub-national level.
- Enable the creation of a knowledge graph
- Use the ontology to improve the accuracy and fairness of algorithms and AI technologies by creating label standards

How does the Ontology CoP work?

DRAFT

The CoP is a forum for experts to review terms in the Marine Litter and Plastic Pollution ontology. Currently, this ontology includes 70 terms, which were added following a semantic analysis of the GESAMP Guidelines for the Monitoring and Assessment of Plastic Litter in the Oceans and supporting literature. These terms were published as part of the Environment Ontology (ENVO), and will serve as the foundation of a Marine Litter and Plastic Pollution Ontology.

The Ontology CoP is accessible upon invitation only. So far, 90 experts were invited to contribute to the Ontology peer-review process. During the first peer review process (in July 2021), a broad set of draft terms (non-domain specific) were identified by experts. These terms were compiled in a DRAFT Glossary, which added to the Marine Litter and Plastic Pollution Ontology and related ontologies amounting to a total of 700+ terms.

We are taking a phased approach to ensure that we can coordinate as many contributions as possible from interested experts. The Ontology will be developed following a phased approach, so feedback will be collected and updates to the Ontology will be made within a six-month framework. Please refer to the ontology and glossary as a work in progress. If you wish to refer other experts, please contact us at unep-gpmarinelitter@un.org.

DRAFT