

OGC-WaterML WaterQuality Profile & FeatureOfInterest

donderdag 25 maart 2021 16:34

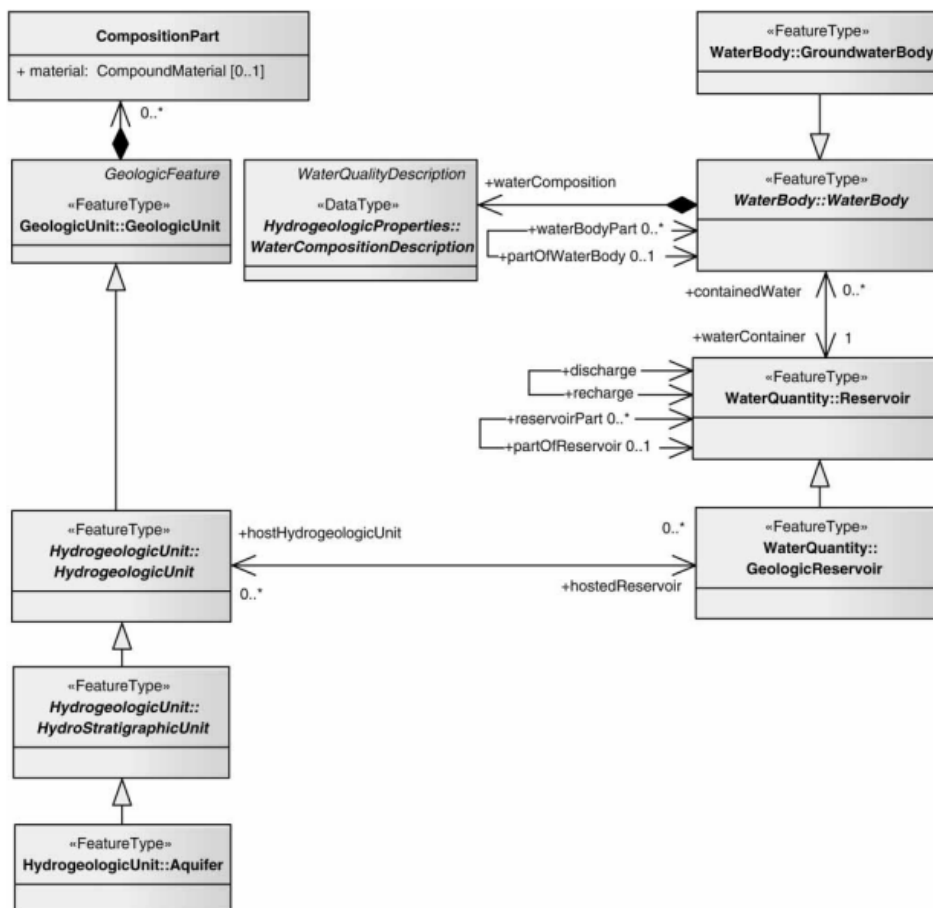
In [the profile](#) we see the following note about GFI_Feature:

The XML element om:featureOfInterest SHOULD have an xlink:href property that is an instance of a GroundWaterML 1 GroundWaterBody feature or sub-type of HydrologicUnit feature as specified in the XML schema at <http://ngwd-bdnes.cits.nrcan.gc.ca/service/gwml/schemas/gwml.xsd>
OR
The XML element om:featureOfInterest SHOULD have an xlink:href property that is an instance of an OGC HY_Features HY_HydroFeature or sub-type as specified at "HY_Features: a Common Hydrologic Feature Model Discussion Paper OGC 11-039r2"

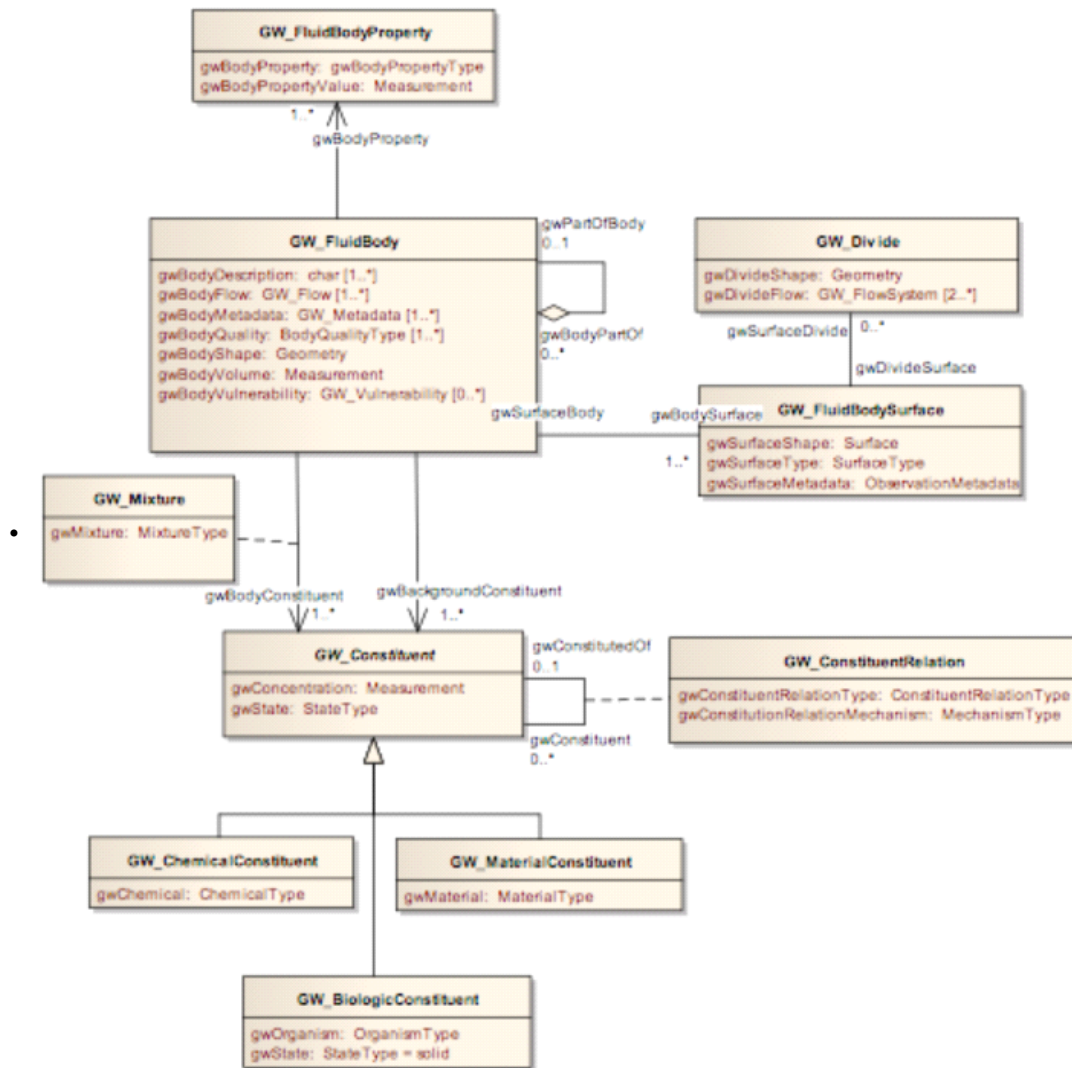
REMARK: In ISO O&M GFI_Feature is the featureOfInterest of the Observation. This can be a Samplingfeature (monitoringstation, watersample...) that samples a real world object like a river or a groundwaterbody OR it can be the real world object itself. In most cases the first is true, so actually the note applies to the sampledFeature.

So the potential sampledFeatures are:

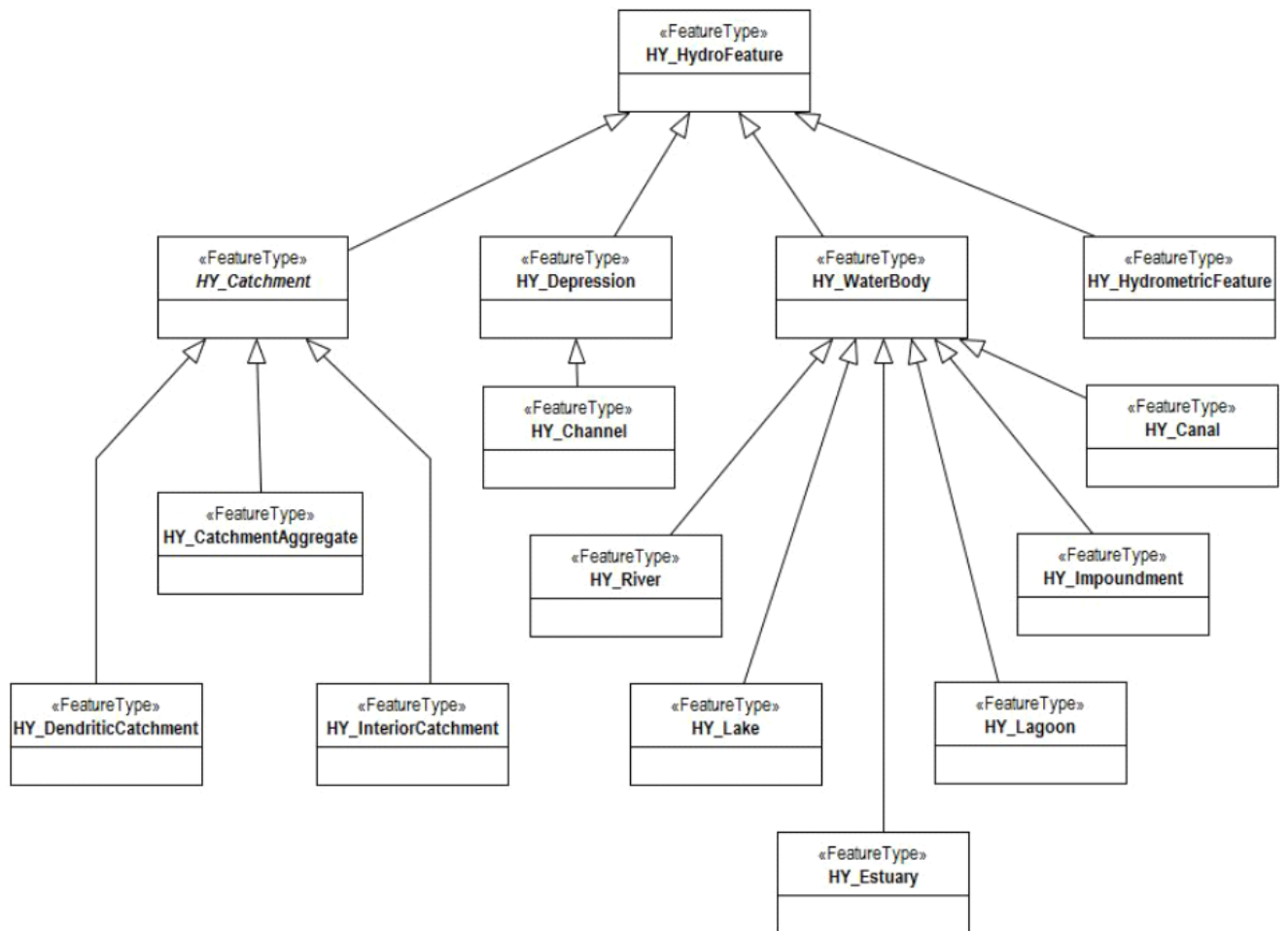
- GroundwaterBody (uit GroundwaterML1) = missing but mentioned in <https://iwaponline.com/jh/article/14/1/93/3144/GroundWater-Markup-Language-GWML-enabling> (GroundWater Markup Language (GWML) – enabling groundwater data interoperability in spatial data infrastructures):



- In Groundwater ML2 Groundwaterbody is not mentioned anymore, it seems to have been generalized as GW_FluidBody because it can not only consist of water but also for example of something like oil:



- Subtypes van HydrologicUnit = missing
- OGC:HY_HydroFeature or subtypes = <http://docs.openegeospatial.org/is/14-111r6/14-111r6.html> (WaterML2 part3 Surface Hydrology Features):



Compare all this with the list of waterbodies from WISE (see <https://dd.eionet.europa.eu/dataelements/75907>):

Coastal water body
Groundwater body
Lake water body
Marine waters
River water body
Territorial waters
Transitional water body

Discussion:

- The WISE list is a good summary when it comes to water bodies: contains surface waters, marine waters as well as groundwater. But no artificial water bodies?
- WISE: Can MarineWaters not be broken down further into subclasses like Sea, Ocean etc?
- WISE: The distinction territorial/coastalwaters is some other classification in WISE for marineWaters.
- Compared to WISE the HY_Hydrofeature taxonomy contains things like:
 - HY_Catchments (= catchment area of a river)
 - HY_Depressions (=collecting eg rainwater, with HY_Channel as a subclass)
 - HY_HydrometricFeature (= bv monitoring station)
 - HY_Impoundment (=bv reservoir, eg behind a dam)
 - HY_Canal (=man made)
- HY_Lagoon & HY_Estuary seem to correspond with Transitional Waterbody (transition zones between frsh & salt water).

Conclusion:

- If we combine all these categories (incl overlaps) then we get something like:

	<div> <div>«enumeration»</div> <div>WaterFeatureType</div> </div>
•	<div> <div>depression</div> <div>depression-channel</div> <div>waterBody-groundwater</div> <div>waterBody-lagoon</div> <div>waterBody-estuary</div> <div>waterBody-river</div> <div>waterBody-lake</div> <div>waterBody-impoundment</div> <div>waterBody-canal</div> <div>transitionalWater-lagoon</div> <div>transitionalWater-estuary</div> <div>marineWaters-sea</div> <div>marineWaters-ocean</div> <div>marineWaters-territorialWaters</div> <div>marineWaters-coastal</div> </div>