New details emerge on deep sea, marine-submerged bodies

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Findings of a new Simon Fraser University study could benefit investigators when bodies are recovered in deep water. It's the first to document carcass (pig) taphonomy (the study of what happens to organisms after death) in the open, well-oxygenated waters of the Strait of Georgia. SFU criminologist Gail Anderson says the research demonstrates "a dramatically different scavenging progression" than that seen earlier in nearby waters.

"Earlier studies in Saanich Inlet (100 metres) and Howe Sound (seven - 15 metres) indicate that a (pig) carcass approximating a human body in torso size, skin type and internal bacteria would be likely to survive for weeks or months, depending on oxygen levels, season, depth and whether it remained in contact with the seabed," she says. "However we've found that in highly oxygenated deeper water, it can be expected that such a body would be skeletonized in less than four days, although bones could be recovered for six months or more."

Anderson says the observations are important for recovery divers so that they know what to expect and what to search for. "When bodies or body parts are recovered, such information may also be valuable in estimating a minimum submergence time and indicating types of waters or habitats to which the remains may have been exposed."

Studying marine taphonomy is extremely difficult as the deep-sea environment is inaccessible and hazardous to divers. Anderson and SFU criminologist Lynne Bell, who is studying what happens to submerged

bones, are coordinating their research with Ocean Network Canada's Victoria Experimental Network under the Sea observatory, including ongoing research with different habitats and depths (http://www.oceannetworks.ca)

The pair recently published their research in the peer-reviewed journal *PLOS ONE.*

More information: Gail S. Anderson et al. Impact of Marine Submergence and Season on Faunal Colonization and Decomposition of Pig Carcasses in the Salish Sea, *PLOS ONE* (2016). DOI: 10.1371/journal.pone.0149107

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