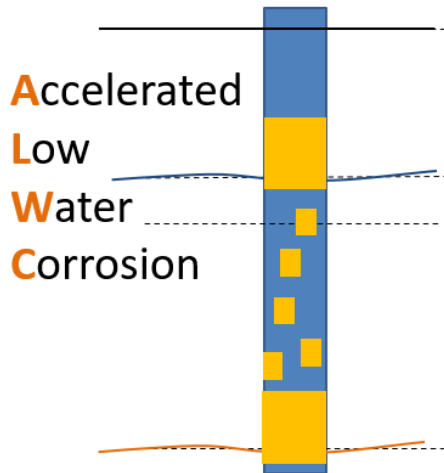


Accelerated Low Water Corrosion (ALWC)

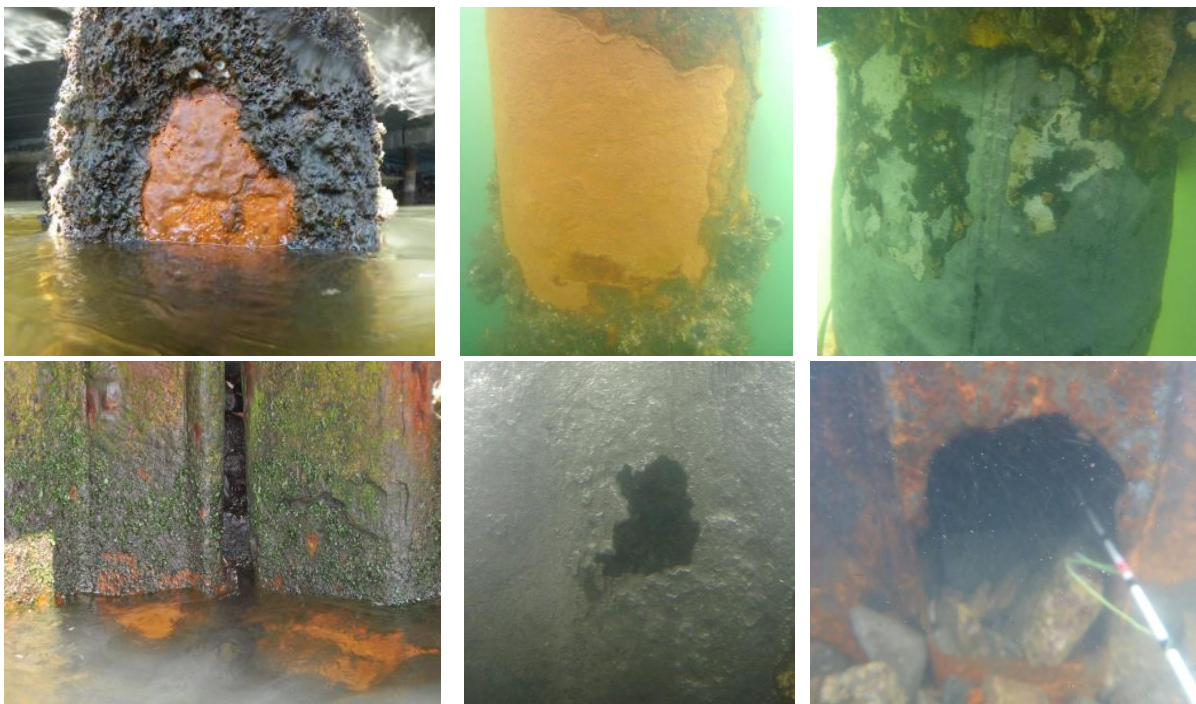


Accelerated Low Water Corrosion (ALWC) is an aggressive form of corrosion that typically leads to steel thickness loss of 0.5 mm per year (more than three times greater than conventional uniform corrosion rates). This phenomenon has historically been identified at or below low-water level and is associated with microbially induced corrosion.

Hallmark signs of ALWC include the formation of a bright orange surface layer that is often lightly adhered.

Identified in Victorian maritime waters by PDS in 2013, signs of ALWC have now been reported in the Yarra River and throughout Port Phillip Bay on pier piles and wharf sheet piling.

Prior to 2013, marine structures in Australia were not designed or built to allow for such aggressive attack. Without intervention many structures have resulted in loss of structural steel on key elements such as pier piles and wharf retaining wall.



Signs and damage from ALWC

Professional Diving Services

Part of the Professional Divers Group



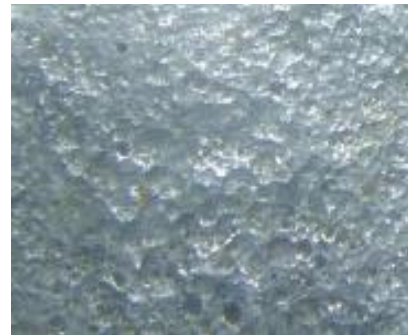
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Assessment

ALWC on steel piles and sheet piling is assessed by visual inspection, cleaning and steel thickness testing by professional divers and engineers. Other key signs of ALWC are the presence of an underlying black layer and pitted steel surfaces.

Laboratory tests can be conducted to confirm ALWC although this often doesn't alter recommended treatments. Structural assessments are strongly recommended on affected structures if repairs and protective treatments are not installed.



Surfaces commonly underneath orange blooms

Treatment

Protection of new and existing structures commonly includes cathodic protection and barrier wrapping. Strengthening treatments commonly include plate patch welding or encasements.

