

## **Project Update: November 2018**

Regarding DNA identification of *Ulva* samples, *rbcL* and *tufA* (chloroplast genes) has high successful amplification rate and has already been sequenced. However, the amplification of nuclear ITS gene has encountered difficulties (low amplification rate, non-specific band) and is subjected to a new amplification protocols.

Concerning water quality in investigated locations, many of them exceed Vietnamese standard for conservation of aquatic resources in terms of phosphate and some of them exceed in terms of nitrate. Particularly, for phosphate, 39 out of 50 water samples have a higher concentration compared to Vietnamese standard for conservation of aquatic resources of surface water and 29 out of 50 samples 50 water samples have higher concentration compared to Vietnamese standard for conservation of aquatic resources of sea water. The recorded pollution level is less for nitrate. Only six of 50 locations have higher nitrate concentration than Vietnamese standard. Among these polluted points, three natural habitats are recorded with both phosphate and nitrate pollution while seven other natural locations had only phosphate pollution.

In Vietnam, the sewage from local farms is often flushed to local rivers or channels, causing eutrophication and pollution of other chemical substances and damaging groundwater and coastal ecosystems. Therefore, integrated aquaculture with *Ulva* spp. to quickly remove excess nutrients from water may represent a good case to mitigate eutrophication and improve habitat quality for living organisms in Ca Mau and Kien Giang province, Vietnam.