5. CONCLUSION AND FUTURE WORKS

5.1. Conclusion

Abundance distribution of green turtle nesting along Pangumbahan beach was uneven. Most adult female green turtle (*Chelonia mydas*) had preferences to land and nest at the middle part of the beach (Pos 2). There was indication that topography, substrate type and fewer disturbances at this beach segment was the factor influencing nest fidelity. Pos 2 was characterized as wide, less steep, free from creeper plant burdens, and less disturbance by human and light.

Seaturtle conservation strategy in Pangumbahan beach includes eggs relocation from natural beach into hatchery sites. All eggs were treated similarly. A contrasting temperature and humidity pattern occurred at natural nests and artificial nests. In general, artificial nest temperature was slightly warmer than the original nest at nature condition. The recent massive mortality event of smaller sized hatchlings at the hatchery may be attributed by this factor. Shading level at hatchery sites influences ambient sand temperature at surface and subsurface (±10 cm depth). The unshaded area at open cage hatchery caused highest temperature while the hatchery with asbestos roof caused cooler and more stable temperature. It is confirmed that temperature conditions of natural nests and artificial nests were dissimilar.

Based on substrate type information, we may imply that Pangumbahan was selected as nesting beach because of its accessibility from open sea. Extensive foods are available around the shore where the potential foraging habitat is indentified at Muara Cikarang. It supported with food availability and turtle sightings evident.

There was contrasting sea surface temperature pattern when high and low nesting green turtle abundance occurred. Sea surface temperature at period of high nesting abundance (October 2011) was cooler than at low period (April 2011). The sea surface temperature was unevenly distributed at high nesting abundance period but even at low period. During the night of high nesting abundance, there was low temperature pool around Pangumbahan and along the shore. It may be cue for green turtle to find the nesting beach.
5.2. **Recommendations and Future works**

This study leads to some recommendation. It is strongly recommend that the UPTD Konservasi Penyu Pangumbahan alter their conservation strategy. It is best to secure the nesting beach area completely and let the eggs to hatch naturally. Meanwhile, there are some changes should be done for hatchery management. The relocated eggs are more advisable to be reburied at open cage hatchery. The depth of artificial nest should resemble the natural condition or at least adjusted with the amount of eggs. Deeper depth of nest should be made for more abundant eggs so that it would not too close to surface sand. In addition, tourism activity should be limited; it is advisable to limit not more than ten visitors during turtle watching activity at night.

It is worth to investigate the incubation temperature continuously at hatchery and natural nests and compare them. Furthermore, estimate the hatched hatchlings sex ratio within each nest. The output will help to develop and to support seaturtle conservation strategy. Migration study is required to identify foraging area which is also crucial to protect.