

Bycatch and Mechanical Aquatic Harvesting
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The unintended or incidental capture and mortality of non-target marine animals during fishing is known as *bycatch*. Removing macro-algae or aquatic invasive plants poses a threat to non-targeted animals that use the plant life for habitat. So bycatch is a concern when aquatic harvesting is used. Not all bycatch can be saved, but bycatch levels can be lowered with better precision aquatic harvesting.

Why is bycatch a concern? Not long ago, the work of international wildlife organizations like Greenpeace and the World Wildlife Fund publicized the deplorable practice of using large scale seining nets to capture schools of tuna -- but the practice also captured dolphins. The objective of the large fishing vessels was not to capture dolphins. However, to catch the millions of tons of high value ocean tuna, dragging large seining nets was the most cost effective method. The problem was the dolphins were inadvertently collected in the netting. It took extra time and effort to cut and release the non-targeted animals. Unfortunately, at the time commercial fishermen were not committed to removing the dolphins from the netting. The dolphins were merely bycatch, left to die after the tuna was stored.

Unfortunately, the captured dolphins were “collateral damage”, an unintended consequence in the competitive world of tuna fishing. Undercover reporting and international monitoring led to broad improvements in fishing practices accentuated by consumer pressure to humanely save the dolphins. To simply ignore the fate of captured dolphins, as *bycatch* was unacceptable. The practice changed and eventually tuna seafood companies would even highlight “dolphin free” labels on their tuna fish cans.

Aquatic harvesting also collects bycatch in the form of small invertebrates such as fish larvae, snails, and crabs. Larger scale harvesters usually require one crewmember dedicated to monitor the conveyer belt and remove bycatch as the harvested material moves toward the collection basin. Suction harvesting pulls all plant material (dead and living) from within the near shore water column pumping the material into a porous bag or container. Since there is no way to monitor animals and plants through pumping conduit, all bycatch will be inevitably

discarded using this method. **Weedoo**^{INC} has an even better method.

Weedoo^{INC} reduces bycatch of animals (usually invertebrates) using a precision harvesting approach. **Weedoo**^{INC} has broad sifting gaps in the lifting bars to allow small animals to safely fall back into the water. With **Weedoo**^{INC} harvested material lifted from the water can also be spread evenly on the shoreline for a detailed inspection. If the customer has volunteers interested in further decreasing bycatch, a small team can hand sort the collected plant materials and place the invertebrates back into the water.

The advantage of **Weedoo Shoreline Greenboats** is that the most bycatch can be sifted once the harvest material is lifted and turned. Numerous beneficial animals can be returned to the water. Additionally, if the harvested material is left near the shore, some animals can crawl back into water. Harvested material can later be carefully removed and composted. The **Weedoo**^{INC} method is the most advanced way to reduce bycatch of non-targeted animals that provide beneficial conditions to the aquatic ecosystem.

References

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