



Herring Net Panels and Enviroliner Piling Wrap have proved to be an effective way of restoring degraded Pacific Herring spawning habitat, such as eelgrass beds in urbanized areas like marinas and commercial wharfs. Below are the tools, equipment and the information required to attempt to provide herring with artificial spawning substrate.

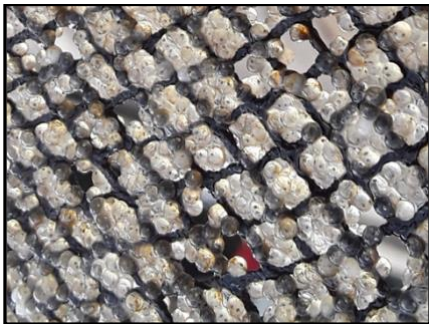
#### **Panel Nets or Herring Curtains:**

Purchase from **Pacific Net and Twine, Richmond BC (they can cut the panel for you as well)**



- Dimensions: 10' long x 5' wide
- Specs: 210D/9x3/8" Stretch Mesh (Rachel Knotless Nylon) Works over and over and needs to be pressure washed at the end of the season or if algae appears on nets which can smother eggs.
- Cross Pipes (plastic pipes) 5' wide go at the top of net panel. Purchase from any hardware store. Drill two holes, a hole one in each side for rope to go through to tie net panels onto the docks. If you are making a lot Rona Cuts and drills them for us.
- Zap Straps attach the net panel to the cross pipes at the top and lead line at the bottom.
- Led Line 1.1lb/fathom. Purchase from Pacific Net and Twine or look for donations from fisherman.

*Figure 1 Net Panels, Photo by Jenefer Smalley*



*Figure 2 Herring Spawn on net, Photo by Douglas Swanston*

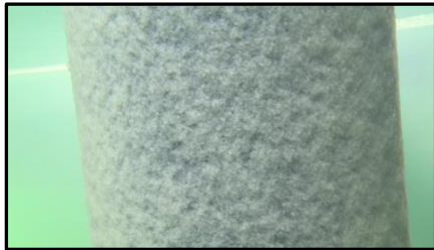
**You need to know:**

- Nets must be put in a shaded or semi shaded area, boats at the dock help for this or you can make shade above the nets using anything like tarps or wood panels- be creative. The nets get algae growth on them when left in the sun, and the fish won't spawn on them. If they already spawned the algae growth will smother the eggs. A little is ok and we just shake it off and run nets through the water to get it off.
- Try a few nets in different places around the dock (test nets), to see if there are herring there at all when starting out. It takes Herring take three years to come back initially, so patience is a virtue. This work requires committed effort.
- The materials used to make the net panels are not environmentally friendly, i.e. plastic pipes, zap straps and lead line are used as a temporary measure until this work is fully funded and eco-friendly materials can be engineered and sourced.

**NOTE:** for the net panel you can also use weed control material (NOT IF ITS TREATED WITH HERBISIDE) which is cheaper (not the shiny stuff it doesn't work). You can purchase this at any hardware store as well and works for a year or two.

**Creosote Piling Wrap: Enviroliner**

Purchase from **Layfield Group Manufacturer in Richmond BC**



- Dimensions: Enviroliner 1 bulk roll coast was \$6580.77
- Specs: 1 roll made 180 wraps for a pile that was roughly 1.8' diameter and 10' height.
- Nails and a hammer are required to attach wrap to pilings.

*Figure 3 Herring Spawn on Enviroliner Wrap, Photo by Scott Renyard*

**You need to know:**

- Enviroliner needs to be replaced after a few years, because it grows molluscs and crustaceans such as barnacles and mussels. At that point herring will not spawn on them anymore.
- Originally, Enviroliner was used to decrease leakage of creosote into the surrounding surface water which helped the egg hatch out rate on pilings. However, there was a lot of fuel on the surface that killed many eggs as the tide moved up and down. Keeping the eggs submerged by using net panels dramatically increases egg hatch out rates, so the Enviroliner is only used if surface waters are free of contamination and or piling is mostly submerged.
- The streamkeeper's are advocating for steel or concrete pilings on any new infrastructure, you should do the same!!

**NOTE:** herring eggs die when spawned on creosote pilings do to the noxious nature of creosote. Enviroliner needs to be installed at the lowest tide possible.

**For more information go to:** <https://www.squamishstreamkeepers.org/>