Manual for building artificial reefs

for the SEABASED-project

Figure 1. Image from one of the artificial reefs.

The stickleback population increases along the shores of the Baltic Sea and they affect other species negatively such perch as it predates its eggs and juveniles. Attempts are being made to find methods to reduce the population of the stickleback, but it is not easy! One way to reduce the population of the sticklebacks can be to strengthen the population of its natural predatory fish, such as perch and pike.

Within the Seabased project, CAB Östergötland have created artificial reefs by placing individual spruces and juniper bush in two of the pilot bays, Kattedalsfjärden and Edsviken. The primary purpose of constructing artificial reefs was to improve and increase the areas with spawning and nursery grounds for mainly perch but also for other species.

We started by contacting the landowners in each bay to inform that we wanted to create artificial reefs on their property which they were positive about.

We then continued the process of procuring an experienced consultant with the task of creating 10 artificial reefs in each bay.

The consultant carried out all the practical work required to carry out the assignment. Thus, procured all the materials needed and placed the trees at the places we had agreed on (Figure 2). The spruces were anchored at the bottom and were also marked out with a buoy.

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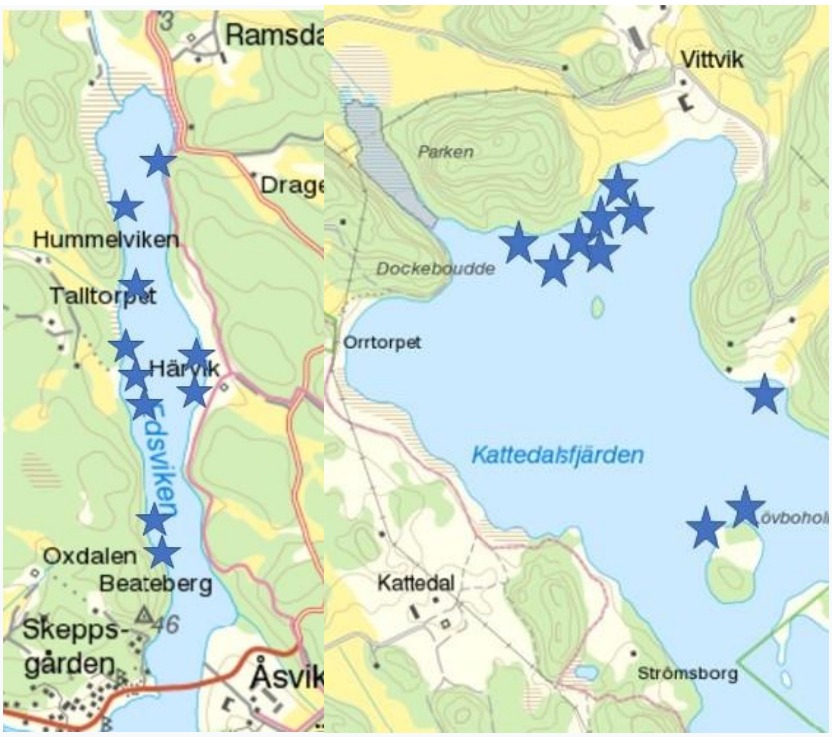

Figure 2. Location of the artificial reefs. To the left, Edsviken and to the right, Kattedalsfjärden

By filming the artificial reef, we have seen that it works well, and a lot of fish gathered around the spruces.

Perch usually spawn during the period from April to June when the water temperature is at least 8 degrees. If you want the artificial reef to be functional already the same season, it must be in place well before that.

There are many ways to build a successful artificial reef. But to make the reefs more long-lasting and reduce the work effort of putting in new spruces every year we think it is better to build larger reefs where you put many spruces and other small trees on top of each other from bottom to surface in a ring or square of about 4 to 6 pile with a diameter or side length around 2 meters which are deposited at the bottom and secure the spruces with ropes and weights. Then it is easy to fill in with new trees / branches when needed.

If the purpose is to create an artificial reef in order to make a good spawn areas (and not good fishing places), it is important that it is located at a depth and a place where water temperature and oxygen level are as optimal as possible for a successful spawn.

Artificial reefs in smaller size do not need a legal permit, but you must have a permit from the landowner and possibly other interest organizations before the construction of the artificial reefs starts. It is also a good idea to mark out where the artificial reefs are located so that boats or jet skis do not accidentally run into it.

To check if the artificial reef is used as a spawn area, you can use a water binocular or an underwater camera to check if there are rum strings after perch on det branches.

Our conclusion is that artificial reefs probably works well in most environments, but perhaps best where high-growing vegetation is lacking or there is a smaller amount of that kind of vegetation.