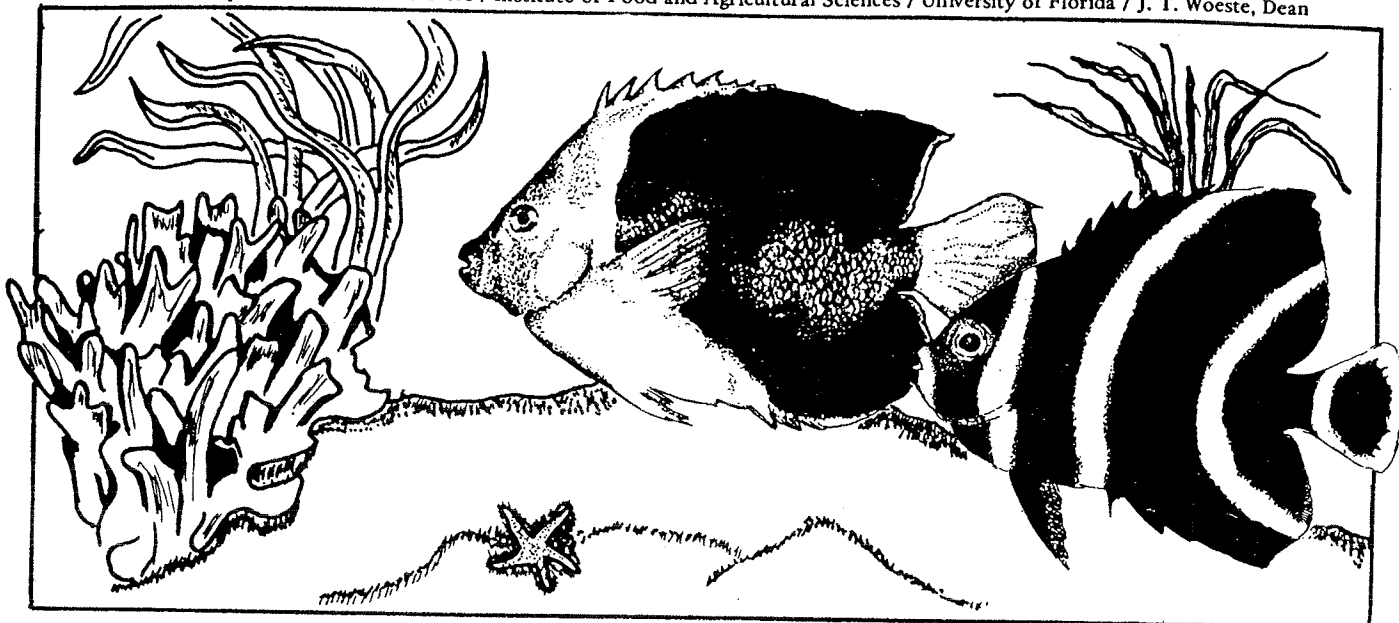


NAME _____
CLUB _____
BIRTHDATE _____
YEARS IN PROJECT _____
YEARS IN 4-H _____

4H-357

Starting and Maintaining a Marine Aquarium 4-H Member's Project Record Book

Florida Cooperative Extension Service / Institute of Food and Agricultural Sciences / University of Florida / J. T. Woeste, Dean



Project Maintenance List

In order to properly take care of your aquarium and the animals that live in it you will need to maintain a daily, weekly, and monthly check list.

Daily

For the daily check list you will need a calendar. Keep the calendar near the aquarium. This will help remind you to make daily checks and also provide a place for checking each day with a pencil.

You will need to check the following things every day:

1. See that the **pump is running smoothly**.
2. If you are using an air powered undergravel filter there should be a flow of **tiny, even bubbles**.
3. **Remove any dead fish** or other animals. If you have shells as decor in the aquarium, make sure that no animal has hidden and died inside the shell.
4. **Remove excess food**.
5. **Check the water temperature**. Most marine animals can live quite well in a temperature range of 70-75°F (21-24°C). The temperature should remain fairly constant. Record the daily temperature on your calendar.
6. **Clean the salt off** that has been deposited on lights, sides and top of the aquarium. This is very important. If this is not done daily, the salt and minerals will form a hard crust that will be almost impossible to remove later on.

Marine Aquarium Project Record

In order to complete your project on the marine aquarium you should do the following activities. This record of activities and your story will be judged if you decide to enter it as a marine science project.

Name _____

Address _____

A. Books and pamphlets read:

1. _____

2. _____

3. _____

4. _____

5. _____

B. People who helped with this project:

1. _____

2. _____

3. _____

4. _____

5. _____

C. Some problems encountered while setting up and maintaining the aquarium:

1. _____

2. _____

3. _____

4. _____

5. _____

D. Why did you decide to take this project?

Weekly & Monthly

For your weekly and monthly records, use the chart on the following page.
An example of how to maintain the Weekly & Monthly Chart is shown below:

| | | Month | <i>February</i> | | | | <i>March</i> | | | | <i>April</i> | | |
|-------------------|---|-------|-----------------|---|---|---|--------------|---|---|---|--------------|---|---|
| | | Week | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 |
| Weekly Record | Check water level | | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | |
| | Check salinity with hydrometer | | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | |
| | Clean algae off inside of front glass | | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | |
| | Gently stir the bottom material | | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | |
| | Take pH (if possible) | | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | |
| | Change the animals' diet | | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | |
| Monthly Record | Replace ¼ sea water | | ✓ | | | | | | | | | | |
| | Change carbon & floss to the power filter | | ✓ | | | | | | | | | | |
| | Oil power filter's motor | | ✓ | | | | | | | | | | |

| | | Month | | | | | | | | | | | | |
|----------------|---|-------|--|--|--|--|--|--|--|--|--|--|--|--|
| | | Week | | | | | | | | | | | | |
| Weekly Record | Check water level | | | | | | | | | | | | | |
| | Check salinity with hydrometer | | | | | | | | | | | | | |
| | Clean algae off inside of front glass | | | | | | | | | | | | | |
| | Gently stir the bottom material | | | | | | | | | | | | | |
| | Take pH (if possible) | | | | | | | | | | | | | |
| | Change the animals' diet | | | | | | | | | | | | | |
| Monthly Record | Replace ¼ sea water | | | | | | | | | | | | | |
| | Change carbon & floss to the power filter | | | | | | | | | | | | | |
| | Oil power filter's motor | | | | | | | | | | | | | |

| | | Month | | | | | | | | | | | | |
|----------------|---|-------|--|--|--|--|--|--|--|--|--|--|--|--|
| | | Week | | | | | | | | | | | | |
| Weekly Record | Check water level | | | | | | | | | | | | | |
| | Check salinity with hydrometer | | | | | | | | | | | | | |
| | Clean algae off inside of front glass | | | | | | | | | | | | | |
| | Gently stir the bottom material | | | | | | | | | | | | | |
| | Take pH (if possible) | | | | | | | | | | | | | |
| | Change the animals' diet | | | | | | | | | | | | | |
| Monthly Record | Replace ¼ sea water | | | | | | | | | | | | | |
| | Change carbon & floss to the power filter | | | | | | | | | | | | | |
| | Oil power filter's motor | | | | | | | | | | | | | |

| | | | | | | | | | | | | Month |
|--|--|--|--|--|--|--|--|--|--|--|--|---|
| | | | | | | | | | | | | Week |
| | | | | | | | | | | | | Check water level |
| | | | | | | | | | | | | Check salinity with hydrometer |
| | | | | | | | | | | | | Clean algae off inside of front glass |
| | | | | | | | | | | | | Gently stir the bottom material |
| | | | | | | | | | | | | Take pH (if possible) |
| | | | | | | | | | | | | Change the animals' diet |
| | | | | | | | | | | | | Replace ¼ sea water |
| | | | | | | | | | | | | Change carbon & floss to the power filter |
| | | | | | | | | | | | | Oil power filter's motor |

Weekly Record

Monthly Record

| | | | | | | | | | | | | Month |
|--|--|--|--|--|--|--|--|--|--|--|--|---|
| | | | | | | | | | | | | Week |
| | | | | | | | | | | | | Check water level |
| | | | | | | | | | | | | Check salinity with hydrometer |
| | | | | | | | | | | | | Clean algae off inside of front glass |
| | | | | | | | | | | | | Gently stir the bottom material |
| | | | | | | | | | | | | Take pH (if possible) |
| | | | | | | | | | | | | Change the animals' diet |
| | | | | | | | | | | | | Replace ¼ sea water |
| | | | | | | | | | | | | Change carbon & floss to the power filter |
| | | | | | | | | | | | | Oil power filter's motor |

Weekly Record

Monthly Record

Attach pictures of the aquarium on this page.

MARINE ANIMALS SUITABLE FOR CLASSROOM AQUARIUMS

FISH

filefish

trunkfish

pufferfish

triggerfish

gray snapper

flounder

pipefish

lizardfish

toadfish

catfish

spadefish

INVERTEBRATE

spidercrab

grass shrimp

hermitcrab

snails

mudcrab

amphipod

seastar

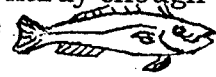
barnacle

hardclam

anemone

sea urchin

Many of the intertidal animals found along our coast are hardy enough to live in seawater at room temperature. Review the list of suitable sea animals at the end of this project book.

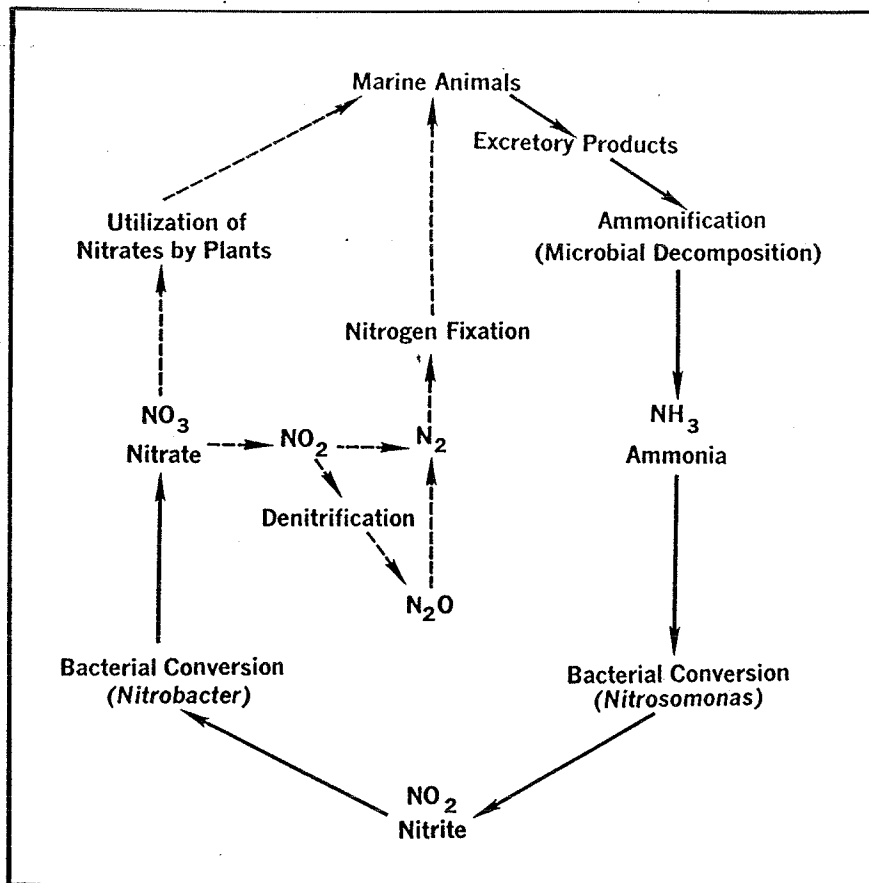


A biological (bacteria) filter can be set up in your aquarium which is very inexpensive and easy to maintain. Living bacteria can be cultured in gravel at the bottom of your tank, which will help control waste products (ammonia) which can be lethal to fish and invertebrates. It will take about 3-4 weeks for a population of healthy bacteria to be established in your tank. It is important not to overstock your tank during the first 4 weeks as the bacteria are getting established. If ammonia begins to get too high in your water, a yellow color may begin to show. If that occurs than the tank should be cleaned and the biological filter re-established. After 4 weeks the healthy tank can be fully stocked according to the size and filtration rate of the tank.

Evaporation of the tank water will occur but the proper salinity can be maintained in the aquarium if an equal amount of distilled water is used to replace the evaporated tank water. Salinity should be maintained between 25 parts per thousand and 35 parts per thousand. A hydrometer can be used weekly to measure the salinity.

Proper aeration with airstones is very important. Check your airstones weekly to see if they have been clogged up and replace them when bubble production becomes greatly reduced.

It is important not to overfeed your animals with food as the uneaten food will decompose and contaminate the water. Try to change 50% of the aquarium water each month to replenish trace elements found in seawater.



Nitrogen Cycle

On this page tell what you did in the project and some things you learned.

This publication was promulgated at a cost of \$599, or 7.5 cents per copy, to help 4H members to keep records on marine aquarium projects. 7-8M-81

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