

# **The Ideal Bait Tank Environment: How to keep your bait healthy.**

Shad become **extremely** stressed when they are caught and handled. Stress causes a fish's metabolism as well as adrenaline, cortisol and blood sugar levels to skyrocket. Some physiological responses to stress include:

- Loss of slime and scales
- Increased oxygen demand
- Increased ammonia production
- Increased carbon dioxide production
- Loss of salts

Our goal is to minimize these adverse reactions to stress by maintaining optimum water quality conditions in our bait tanks.

# The Basics

- More water volume is always better.
- Use cool water BUT not more than 5-7 degrees cooler than the water in which the bait was caught. Cool water holds more oxygen than warm water.
- 1 medium shad per gallon of water in 60\* water, ½ shad per gallon in 80\*water. Fewer lively baits are better than many weak baits.
- Be gentle to your bait. Don't empty your cast net on the floor of the boat.

# Oxygen

- Commercially available bait tanks equipped with aerators do a satisfactory job oxygenating the water as long as the tank is not overloaded or too hot.
- Supplemental oxygen provided with a tank, regulator and diffuser set-up is beneficial in hot weather or with a heavily loaded tank.
- Check your tank frequently to make sure the pump is working and the aerator is not clogged.

# Ammonia

Ammonia is a highly toxic waste product excreted by fish. The rate of ammonia excretion is very high for an hour after catching bait.

- Ammonia CAN NOT be removed by aeration.
- Small, frequent water changes, especially in the first hour after catching bait reduce ammonia build up. Large, infrequent water changes will shock the bait.
- Chemicals which bind to ammonia and render it harmless are available. Use them at 10x the recommended dosage.

# Carbon Dioxide (CO<sub>2</sub>)

Fish “exhale” CO<sub>2</sub> just like humans. CO<sub>2</sub> acidifies the bait tank water and fish blood and decreases blood’s oxygen carrying capacity. Fortunately, CO<sub>2</sub> degasses when water is exposed to air.

- Aerate and agitate! There is no such thing as too many bubbles. There is such a thing as too much current.
- Leave the lid of the bait tank open.
- Use a tank with large surface area.
- Use anti-foam. Foam decreases the surface area available for CO<sub>2</sub> to degas.

# Salts

Freshwater fish expend energy to maintain salts in their bodies through a process called osmoregulation. Stress and mucus loss interferes with osmoregulation. As a result, fish lose precious salts from their bodies. Excessive salt loss can cause death by coronary arrest, blood acidification and/or ammonia accumulation. Adding salts to the bait tank water prevents your bait from losing salts.

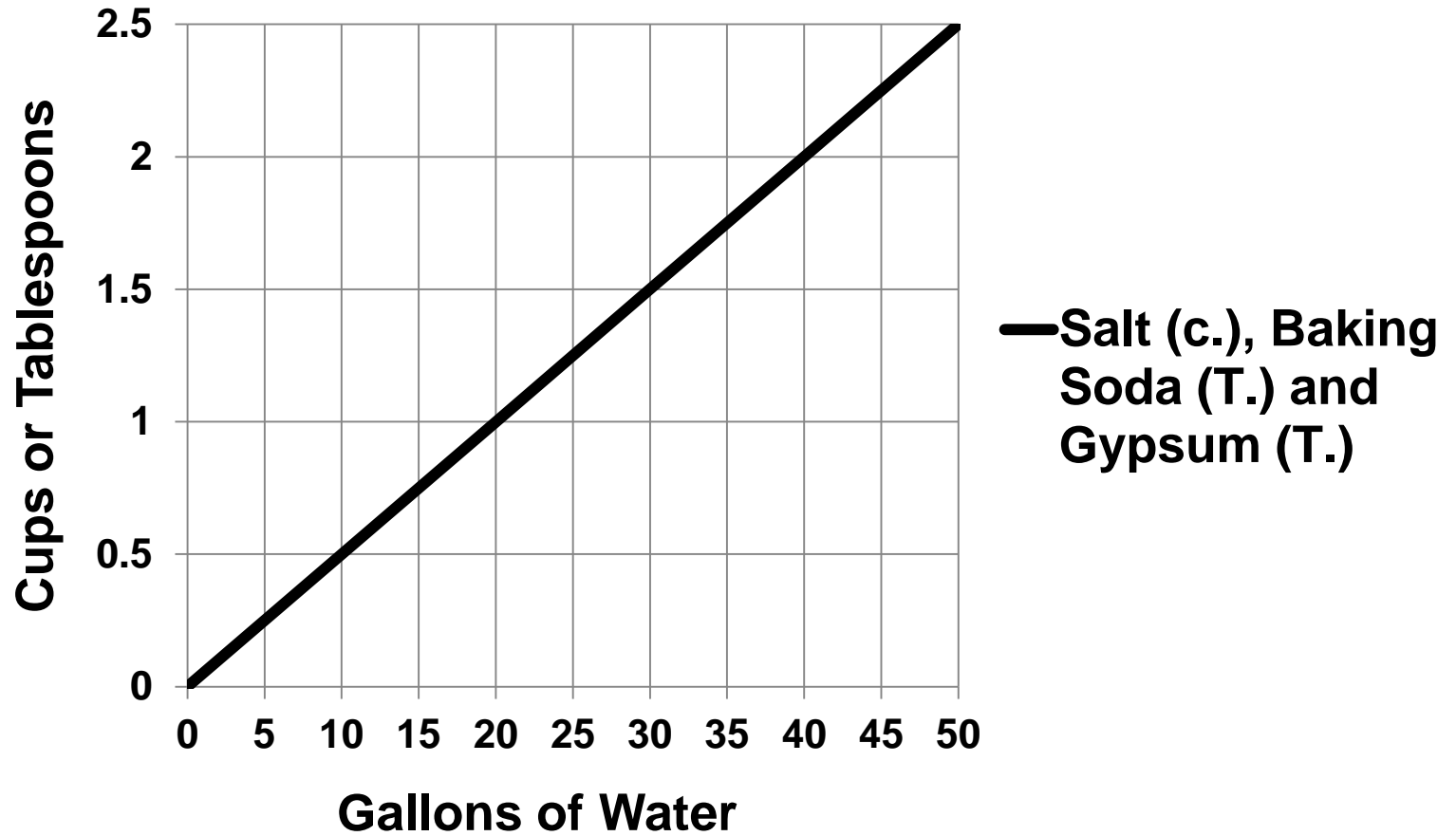
# Salts

Three different salts should be added to bait tank water:

- Sodium chloride (aka rock salt, table salt, water softener salt). DO NOT use salt that is iodized or contains additives to remove iron.
- sodium bicarbonate (aka baking soda)
- calcium sulfate (aka agricultural gypsum)



# Bait Tank Chemicals



# References

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