

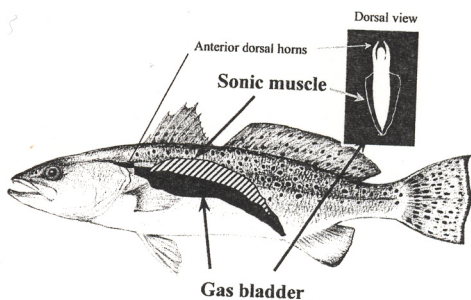
Artist: Nancy Turner

GRUNTERS

By
Jerald Horst

Anyone who has caught more than a few speckled trout has noticed that some of them emit loud croaks after being caught. All of the hundreds of members of the drum family found worldwide produce sound during spawning season. Names like croaker and drum recognize the sound-making ability of fish in the family.

Sound is a very effective means of communication in water, much better than sight. Even in the clearest water, light is lost rapidly and almost completely gone by 5,000 feet deep. In the less-than-clear waters such as in coastal Louisiana, light weakens and vision declines in inches. The opposite is true of sound, which moves five times faster in water than air. Because of this, it isn't surprising that so many marine creatures—fish, shrimp, barnacles, porpoises and whales—communicate with sound.



Artist: R. Grant Gilmore, Jr.

The speckled trout is not known to produce sound except at the time of spawning. Only male trout produce sound, and they do so by vibrating the membrane of the gas bladder with sonic muscles. The illustration at left shows the gas bladder and sonic muscle. The gas bladder is silvery-white and tough enough to interfere with a knife during filleting. The bright red sonic muscles surrounding the gas bladder are easily noticed if a freshly captured, recently calling male is cut open. The anterior (front) horns of the air bladder contact the skull of the fish.

During courtship and spawning, specks produce four major sound types: dual-pulse short grunts, long grunts, longer series of grunts called multiple pulses, and staccatos, which are long series of many short pulses, sounding almost like knocking.

When males gather in spawning schools, the most common call is the dual pulse (double grunt), with occasional long grunts. The rarest call, the staccato, is only heard during the period of maximum sound production, usually an hour or two after sunset.

Mature spawning speckled trout begin to form groups in late afternoon, an hour or two before sunset. Calling begins before sunset, but is usually limited to occasional single dual pulses (double grunts). Only after sunset do group calls start. Most calls are made from sunset to three hours after sunset, although some calls are heard as late as 1:00 or 2:00 a.m. No male calling sounds are heard in the daytime, except those produced just before sunset.

Scientists can only speculate about the advantages and disadvantages of speckled trout announcing their spawning sites with noise. Apparently, the attraction of females to spawning sites with large numbers of males ready to spawn makes egg fertilization more efficient. The advantages of spawning in noisy groups must be great enough to offset disadvantages, such as the attraction of trout predators like bottlenose dolphin and bull sharks, which hunt by sound.

Speckled trout calling occurs on all moon phases, but is most common on the full moon or within three to four days after the moon. The lowest amount of calling is during the last quarter moon. First quarter moon periods have slightly more calling than during the new moon. Calling takes place only from April to October. In contrast to research in Louisiana, which found that calling and spawning took place near passes and channels, research in Indian River Lagoon in Florida showed speckled trout calling took place almost exclusively over sea grass beds. There, calling males avoided waters near passes and freshwater sources.

When males have spawning on their minds, they don't feed. Repeated attempts to catch males on baited hooks from calling/spawning groups have failed. Females are caught quite often before and after sunset, but not at spawning.