

# THE PUBLIC CAUSE NETWORK

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May 4, 2001

Donna Wieting, Chief  
Marine Mammal Conservation Division  
Office of Protected Resources  
National Marine Fisheries Service  
1315 East-West Highway  
Silver Spring, Maryland 20910-3226

Reference Docket No. 990927266-0240-02, Low Frequency Active SONAR (LFAS)

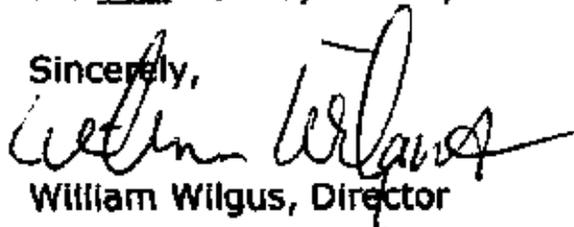
Dear Ms. Wieting:

The hi-intensity Low Frequency Active SONAR (LFAS) system is ecologically unacceptable and will not provide any tactical or strategic benefit to Anti-submarine Warfare (ASW) operations. Active SONAR is useless as a long-range detection system:

- Water temperature changes with depth and makes straight-line transmission of all sound frequencies impossible. The ability of active and passive SONARs to detect submarines depends upon the temperature 'gradient', the depth of the SONAR, and the depth of the submarine. While some gradients form 'channels' that 'trap' sound between two specific depths and straight-line transmission can be approximated, 'skip zones' always exist within the channel. Submarines choose operating depths according to the gradient and remain close to any channel boundaries so they 'hide' from an Active SONAR.
- Sound energy transmitted to water can render Active and Passive SONARs useless until after the energy has dissipated. Both discrete and broadband sounds can mask other discrete and broadband sounds, and the degree of masking is proportional to the relative strengths of those sounds.
- Active SONAR is tactically inappropriate at long range because it alerts the enemy that he is being sought and the direction from which the threat is coming.
- Active SONAR is a 'localization' system used to 'pin-point' a target for weapons, or to contain or 'herd' a target. All three exercises are short-range in nature, and use of the high power provided by LFAS would be inappropriate for these tactics. It's widely used by 'screening forces' against loitering subs.

The difficulties that quiet submarines present to ASW forces are somewhat overstated. The noise generated by a sub's propulsion system is proportional to her speed, and they're detectable by passive SONAR when transiting from one area to another. The Russians have apparently had some success with satellite thermal detection, which obviously would be more effective against loitering subs. However, the best ASW system is, and will remain, another submarine operating covertly.

Sincerely,



William Wilgus, Director

CC: Sen. Boxer, Congresswoman Mink, The Washington Post