



THE WOODS HOLE RESEARCH CENTER

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Mr. Keith Jenkins
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Dear Mr. Jenkins,

I am a scientist who has had a lifelong interest in how the earthly human habitat works. I have taught in universities, built a major program in environmental sciences at a national laboratory, and established two other major national scientific institutions dealing with environment. I have recently retired as Director of the Woods Hole Research Center, which I founded twenty years ago. I had a brief career as a young naval officer, part of which involved two years aboard two oceanographic survey ships whose primary mission dealt with underwater sound.

I am very much concerned with the Navy's current program aimed at detecting submarines using high intensity sound. I have had my attention drawn to the proposal for an elaborate undersea warfare training range (USWTR) offshore of the east coast of the United States. The particular proposal I am familiar with is off the North Carolina coast south of Hatteras.

I need not elaborate for you the role that sound has in the biological processes of the oceans. There can be no question that many organisms navigate using sound as we use light to define their environments. Nor do I have to remind you that sound is not necessarily diminished with distance strictly in accordance with the inverse square law but can be in many circumstances propagated through narrow channels for great distances due to refraction in layers of water defined quite precisely by sharp temperature differences. Distance is not a guaranteed savior for all sounds in all circumstances.

There is abundant evidence now that the high energy sonar that is being used by the Navy and other industrial ocean noise are killing many organisms that have very elaborate systems for using sound in their normal lives. The sounds they can accommodate are low energy sounds, and subtleties of sound matter greatly. The contamination of the oceanic waters with novel noises produced by the industrial world confounds these systems and

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may destroy them as shown by the numerous strandings of whales, porpoises and other organisms following certain naval exercises.

There is little question as to the effects of this extraordinary new use of high intensity sound. It has the potential for sterilizing large areas of the ocean and already appears to have devastated local populations of marine mammals, populations that may very well be genetically unique. The effects, of course, are not limited to marine mammals. They reach to virtually all organisms, including fish, sea turtles, and invertebrates, even those that do not rely on sound to navigate. The energy dispersed is sufficient to damage virtually any life.

I have seen the environmental impact statement and the assertions there as to the need for the facility and as to the fact that the effects are benign. I question both in that we do not have a sophisticated national enemy anywhere in the world that warrants the destruction of whales and other mammals and certainly no enemy that warrants the substantial sterilization of a large segment of the ocean. It is not true that because we have a technology and can use it, there is room in the world for it or justification for using it. There are many technologies that we do not use. And there will be many more as human demands on the environment increase. This technology, described in your environmental impact statement, is one that we cannot use. While a reasonable person might argue that there must be room in the world somewhere for it, there must also be a justifiable need for it. There is no need or enemy sufficient to justify the destruction of large marine mammals over a large area by intensive sound or by other military activities.

While there are many aspects of the environmental impact statement that one might question, I believe that this project is so seriously flawed in its basic concept, its purpose, and its effects that it cannot proceed.

I urge you and the Navy to reconsider your mission in the world and to recognize that the national defense hinges far more on the protection of the human environment than it hinges on the electronic system that might be used if we had a serious enemy in the world with a technology roughly equivalent to our own. Since that latter circumstance does not prevail, I urge you and your colleagues to withdraw your proposal and to refocus your activities away from the further development of high intensity sonar devices.

Yours truly,



George M. Woodwell
Director Emeritus

