

Presidential Address¹

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First, let me welcome distinguished guests, members of the Hyacinth Control Society, ladies and gentlemen. As we gather together for this twelfth annual meeting of our Society, I want to say that it's good to see you again. I recognize old friends and faces, but I also see new faces that are potential workers, who are here to share their ideas and experiences in aquatic weed control, the restoration, protection, and development of the waterways in our nation and the world.

People exist, have their being, and live their lives by and through the use and consumption of all natural resources. Our livelihood is dependent upon the conservation of these natural resources, with preservation of the beauty of this environment. You, as members of this great Society, are the guardians of our waterways with the responsibility of accepting this challenge with well-rounded cooperation in the control of all problems in unwanted aquatic plant growth. Field applicators, design engineers, industry, qualified field scientists, and research people must all be a part of this effort.

Most of us recognize pollution when we see, feel or hear it, in our air, and in our soil and water. Unless a broad approach is taken to all these pollutants, it is impossible to predict the metabolites that may be formed or the persistence of residues. Every estuary is different, the product of the activities in its drainage basin. The fauna and flora of the bottom silts differ in species composition according to the wastes delivered to the area. As the character of those wastes changes, so do the populations exposed to them. Change and adjustment is a basic law in Nature.

But there is another more immediate reason for my including all pollution in this paper. Most people have little knowledge of chemical and pharmacological action and are naturally disturbed by the implication of disaster. Maybe I can put things in a proper perspective by talking about a type of pollution with which we are all familiar. For example, certain legislators have proposed bills which would ban fossil-burning (gas, oil, coal) electric generating plants. Can you imagine how popular an abrupt action of that type would be when your lights went out and your refrigerator stopped working?

Environmental improvement is, in effect, good house-keeping. It begins with the personal habits of individuals. What does your room, your home, or the picnic area you have just left look like? How much effort and what percent of your own money can you invest to handle the problem of wastes? There are no bystanders. Everyone is directly involved, even when the subject is restricted to pesticides.

¹Presented at the 12th annual meeting of the Hyacinth Control Society at Miami Springs, Florida, June 9-12, 1972.

We have problems with pesticides. Most are local in nature, and progressively corrected. We'll continue to have "controllable" problems in the environment. The tens of thousands of species of living organisms in the environment form too complex a problem to be solved completely by pre-use studies of chemicals. It is difficult to relate limited laboratory studies to field conditions. Presently a nationwide monitoring program is in progress. It seeks to ascertain pesticide levels in soils, inland waters, estuaries, air, standing crops, food prepared for the table, man, domestic livestock, wild birds and their eggs, fish, and shellfish. The purpose is two-fold — first it pinpoints those pesticide usages that have an adverse effect on non-target areas or organisms, so that we can correct a local problem before it becomes critical, and second, by repeat sampling of the same area at stated intervals, it determines if residues are accumulating as the result of annual applications.

We must not sweep any of our problems under the rug. On the other hand, we have the obligation to insist that regulation and control of pesticides be based on sound information and the benefit/risk equation soberly evaluated.

Emotion is a pollutant we cannot live with.

There is a great cure for clean waterways. This tool has been around for years but we never had much inclination to use it. The rabid ecologist can easily exploit an apathetic public. His premise is that things are beyond control and the only way to conserve is to stop everything. Many reasonable people have fallen into the same philosophical trap. Our problems have price tags on them. We talk about correcting sewer systems, beach erosion, solving mass transportation problems — and our waterways, through maintenance, can also be cleaned.

MONEY, FOLKS, is the name of the game!

We have been wallowing in waterway weed problems for 40 years. Now we are facing a cleaning job of major proportion. This Right-On Generation of which the membership of our Society is a part, has voted by straw ballot a new name, "Aquatic Weed Science Society." However, this name change will need to be approved at our annual business meeting.² This change will generate new energy, which is the fuel that feeds the engine of success. It will also help to transmit a new image of management and control on any level — field applicator, industry, commercial, governmental agency, or scientific research, on any "aquatic weed."

So, I think we must analyze the word "Conservation" in terms of what it means to our children and grandchildren. We must conserve their natural resources, but we

²At the annual business meeting the membership voted to retain the name "The Hyacinth Control Society".

must also conserve their opportunity to work and earn by the means of their choice, wherever they might live. In my opinion, the discouragement of growth deals its sharpest blow at future generations. Maybe we can live off of each other quite well for the present but I think we will discover, sooner or later, that full production and sound development of our natural resources are at the very heart of a sound economy.

In our earnest attempt to protect animals, fish, and vegetation, I think many people forget that man is animal too. As someone pointed out recently, he is, in a sense, the weakest of all animals. He is born naked and unarmed, without fangs, claws, horns, or instinctual knowledge. Physically, he would fall an easy prey, not only to higher animals but also the lowest bacteria. Man's only weapon—his basic means of survival and advancement in this generation—is his ability to produce. We need not deny fish and fowl a place in the priority of the species, but there is certainly no reason we should give man's needs a secondary position. However, there are those who would do just that. They advocate restriction of growth, development, and even electrical power, without any regard for the consequences. Any serious student of economy knows that we must promise our children and grandchildren more than this. We can flourish and preserve

our environment, if we are willing to pay for it.

The greatest threats to all people, in my opinion, are (1) the coalition of those who would sacrifice future economy in the name of ecology, and (2) those who are unwilling to pay for our past and present problems. Of the two, I think the latter is the most dangerous. The self-satisfied, selfish interests that refuse to recognize and accept the fact that there are aquatic weed problems and a need for their control is quite another problem.

We must go forward in weed control on all fronts, chemical, mechanical, and biological. We must accept the obligation to develop new methods with high environmental standards. Once we have made that decision, the extremists on both sides will move off center stage and get on the periphery where they belong.

It has been a rewarding experience for me to serve as President of your Society this past year. The future of this Society, with its new members and new leadership, will find new growth and security in the years ahead by an ever present humility that we experience working with each other. With this kind of atmosphere your Society will be an inspiration and guide to help carry the heavy load of responsibility. We must retain our identity and purpose, confining our efforts to the control of vegetation problems in the waterways of the world.

The Florida Department Of Natural Resources And Its Role In Aquatic Plant Research And Control

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The boundaries of the State of Florida encompass approximately 2.4 million surface acres of inland water (5). This acreage includes farm ponds, lakes, rivers, canals, etc., and the vast majority is classified as fresh water. Conservatively, 200,000 to 300,000 acres are infested with noxious aquatic plants, thus rendering many of our water bodies useless.¹ Recreational activities, such as boating and fishing, are hampered; water qualities, resulting from natural death and decay of the aquatics, are threatened; efficiency of potable water reservoirs is declining; and clogged drainage ditches pose potential flooding problems (2, 3, 6).

A wide range of chemical and physical factors (bottom conditions, water flow, pH, hardness, etc.) govern these water bodies; therefore, control measures must vary. Additionally, research must continue to develop safer, more

effective and efficient control systems. The Department of Natural Resources is responsible for coordinating research and control of noxious aquatics in Florida waters. The program of the Bureau of Aquatic Plant Research and Control is threefold: (1) research, (2) matching funds, and (3) control. Research in aquatic plant control has drastically lagged in the past; therefore, a large portion of the budget is allocated to research needs. At present the control efforts entail biological, mechanical, and chemical systems. A brief outline of current research projects sponsored or co-sponsored by the Department of Natural Resources is listed below.

BIOLOGICAL CONTROL RESEARCH

Utilization of the white amur (*Ctenopharyngodon idella* Val.) as a potential tool is presently underway. According to Swingle (7), the white amur appears to be

¹Burkhalter, A. 1972. Personal communication.