

The Sea Grant Files
Fresh News About Fresh Water

Sea Grant Act Signed 50 Years Ago...And Then What!?

For Oct. 11, 2016

Hi I'm Jesse Schomberg and you're listening to the Sea Grant Files. Fifty years ago this week, on Oct 15, 1966, President Lyndon Johnson signed The National Sea Grant College and Program Act.

Why would he do such a thing?
What has it done?
What's its future?

That's what we're going to talk about today, but first I want to give you a blast from the past....a word from a former University of Minnesota dean and the man who created the Sea Grant concept, Dr. Athelstan Spilhaus.

(Recording of Dr. Athelstan Spilhaus)

Athelstan: "When I was asked what the task of the academy group should be of the next few years. I said marine science and oceanography were going strongly and I hope would continue to grow more strongly but that the year gap was that, that lay between the excellent science and the pitiful state of the United States performance in the exploitation of the sea. This is a part from the Navy which of course is alright. But our pitiful fishery efforts our poor merchant marine. The fact was that when we needed a bathyscaphe we purchased it in Europe. All symptoms for a lack of purpose and a failure to apply our good science through ocean engineering and biological engineering aquaculture. In 1963 with these thoughts in mind, I was giving a keynote address to a national meeting on fishery and I voiced my unhappiness and recalled that just about 100 years before a positive purposeful action of congress had been taken to stimulate the mechanic art and agriculture. The act to distort the established the land grant colleges. There should be no question that the Morrill act establishing a land grant fund for the support of such colleges and passed by congress. That this act contributed mightily through the mechanic arts to lead to our national preeminence in mass producing the things that people need. And through agriculture our amazing abundance of food to eat. Why not them provide a focus a commitment and continuing support in the context of Sea Grant Universities today to bring the United States to a position of leadership in ocean engineering and aquaculture. Well after this talk, I received many letters expressing interest in the concept. One was from professor Sayla of Rhode Island who attended the conference. As a result of his expressed interest, I wrote to President Horn and Dean Knauss and received desiring and heartening responses. They wanted to do something to explore the idea."

JESSE: If you just tuned in, that was Dr. Athelstan Spilhaus from over 50 years ago. That speech, and many more like it, led to what the National Sea Grant Program has become.... a federal government and state university partnership that tackles coastal challenges throughout the United States, including the Great Lakes, as well as Puerto Rico and Guam. Before he thought up the Sea Grant concept, Spilhaus, jokingly told Jacques Cousteau “oceans are not a dry subject.” He really meant it Spilhaus and other movers and shakers in the mid-60s envisioned Sea Grant Colleges as institutions that would concentrate on applying science to the sea. They speculated about how we could farm fish and hybridize sea plants to produce sea fruits and vegetables...and they dreamed of underwater prospecting, sea cities, marine pharmacology, and manipulating weather.

Sea Grant proponents wanted an EXACT parallel with land grant colleges; giving the institutions that participated, in perpetuity, bits of shoreline and waters out to the territorial limits, not only for experiments....but also for conservation. This granting of ocean real estate didn't happen but the Sea Grant concept was so compelling and so well-delivered to congress that President Johnson had no qualms about signing The National Sea Grant College and Program Act ... 50 years ago. The two scientists and two politicians that pulled and pushed Sea Grant into existence – Athelstan Spilhaus, John Knauss, Claiborne Pell, and Paul Rogers – if they were alive today, would have much to be pleased about. Definitely ... Sea Grant generates and serves coastal science to the public. And ... certainly ... it creates synergy among government, industry, and academia with oceanic and Great Lakes interests. Sea Grant involves science; it involves law; and it involves society. The accomplishments and impacts of the program are legion, ranging from fisheries to the sponge and tourism industries to coastal resiliency in the face of extreme weather to education. Spilhaus himself said, “I think Sea Grant exceeded my expectations.”

Here in Minnesota...where we tend to be painfully modest ... even we brag about our major contributions to hypothermia research, aquatic invasive species management, and ... stunningly, technology that is playing an important role in battling cancer! Our cancer treatment impact came in a little sideways to our typical coastal focus. But still, this story alone, offers a compelling example of why Sea Grant is something special. In 1997, Minnesota Sea Grant funded a project to engineer faster-growing fish for aquaculture. The project led researchers to discover and transform an inactive gene originating in the salmon family into a non-viral DNA delivery technology called the Sleeping Beauty transposon system. This system can transport normal genes into genetically damaged cells that cause such things as retinal degeneration and cancers. The success of the Minnesota Sea Grant research and the glimmers of possibility it wrought spurred millions in funding toward Sleeping Beauty's application to human gene therapy. Fast forward to now... researchers have used Sleeping Beauty to perform clinical trials on people with lymphocytic leukemia and non-Hodgkin lymphoma with remarkable success and drugmaker Merck paid nearly \$1 billion, plus royalties, to license a cancer-drug made using the technology. What does the future hold for Sea Grant? We anticipate extra effort to projects associated with climate change and ecosystem management. Minnesotans have told us they are concerned about climate resiliency, aquatic invasive species, the ecological and economic vitality of coastal zones and many other topics. These concerns will be reflected in the strategic

plan we are crafting that will take our research, outreach and education to the year 2021. The Sea Grant model has traveled to countries in Latin America, Southeast Asia, and North Africa. Looking to America's National Sea Grant Program for inspiration, institutions around the world are dedicated to applying science and technology to sustainably develop and conserve coastal and marine resource. As public servants, we are proud of this, and you... the people we serve we hope you are proud of all that Sea Grant is, too.

This episode of the Sea Grant Files was produced by Sharon Moen, Mariah Schumacher, Maija Jenson, KUMD, and me, Jesse Schomberg. To listen to more episodes of The Sea Grant Files and to subscribe to our podcast, visit the Minnesota Sea Grant website at www.seagrant.umn.edu. You can also follow Minnesota Sea Grant on Facebook, Twitter and Instagram.

Thanks for listening.