

## Invasive Species

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MR. EHRMANN: All right. Then,

2 Commissioner Sandifer, why don' we go ahead to invasive  
3 species.

4 INVASIVE SPECIES - BALLAST WATER

5 AND INVASIVE SPECIES

6 DR. SANDIFER: Continuing in my odyssey of  
7 stewardship issues today, the invasive species,  
8 aquaculture invasive species, issues come under multiple  
9 jurisdictions. There is something called the  
10 Aquaculture Species Task Force and there is the National  
11 Invasive Species Council, both of these plus a host of  
12 federal agencies -- NOAA, U.S. Fish & Wildlife Service,  
13 U.S. Geological Survey, EPA, and others, USDA -- have  
14 roles to play.

15 The real issue, though, and the one question  
16 we have got before us now is the ballast water effort or  
17 the ballast water issue related to invasive species. We  
18 are not going to deal with everything, but we are

19 talking about ballast water at this moment.

20 Our group had considerable discussion about

21 where we are with both national requirements and

22 international requirements and the move on the part of

1 some states to get ahead of the curve with state  
2 requirements due to frustrations over what appeared to  
3 be a lack of progress of the national and international  
4 efforts. Luckily, we were able to have updates on where  
5 things were going with IMO in this issue, and a long  
6 discussion of what the options were with regard to  
7 performance standards.

8           The reality becomes one that you have two  
9 kinds of performance standards that you can look at.  
10 You can look at a standard that says you have removed 80  
11 percent, 90 percent, 95 percent, 100 percent of  
12 something, assuming you can decide what that something  
13 is, or you have a standard based on the size of the  
14 organism.

15           Since at this moment we cannot fully list the  
16 suite of organisms that we are concerned about, nor do  
17 we know of any technology that is certifiable to meet a  
18 performance standard that is an exclusion that you could

19 say could be certified by the federal underwriters  
20 laboratory or whatever to exclude 95 percent of  
21 whatever, we went back to at least at this moment to  
22 lean on a performance standard based on the size of

1 organisms.

2           This is what apparently has been used at the  
3 early stages of international discussions to the point  
4 of actually making real progress in the negotiation at  
5 IMO. We felt that it was not necessarily the best  
6 standard, but the one that is likely to be  
7 technologically definable and meetable within the  
8 near-term, that is, the next five to ten years.

9           The first recommendation is that the nation  
10 develop a ballast water performance standard based on  
11 size of organisms. Obviously, that does not meet every  
12 issue that we are concerned about with regard to  
13 microbes, but it will get an awful lot of invasives done  
14 with, and it will set a specific standard we can work  
15 with.

16           Second, the nation should then allocate  
17 resources to the development of treatment technology to  
18 meet the standards, that is so that the industry then

19 knows what the technology is and what is going to be

20 required.

21 Third, the National Invasive Species Act

22 should be reauthorized through the Congress. In that

1 reauthorization, specific modification made to allow the  
2 United States the flexibility in negotiating an  
3 international ballast water regime, specifically to take  
4 into account these performance standards and the  
5 technologies that could get us there.

6           Along with this, going to the specific case of  
7 ballast water to the broader case of invasive species,  
8 there is already a very significant structure in place  
9 that we may deal with later in governance issues with  
10 different task forces, and so on.

11           The real issue here is to strengthen the  
12 education outreach and public participation in invasive  
13 species management. That has got to be done, because  
14 the public is the first line of defense.

15           Also, the issue is to develop a risk  
16 assessment and management process to evaluate non-native  
17 introductions, that is, to look at purposeful

18     introductions very, very carefully and have some kind of  
19     standard well-thought-out process by which the  
20     introductions are evaluated and a determination made  
21     whether to go or not to go.  A good point in question,  
22     at this moment the non-native species, oyster species,

1 introduction into the Chesapeake Bay.

2           The final issue is to develop revenue streams  
3 from local user groups and industries where possible to  
4 support the education outreach and control in  
5 remediation activities. It might be from aquarium  
6 industries, for example, who have been significantly  
7 implicated in some invasive species interactions or it  
8 might be from boating interests.

9           There is no specificity yet, but those who are  
10 both using or likely to be causing the problem ought to  
11 be paying some of the cost, the public cost, to deal  
12 with the problem. I will stop there and staff can  
13 elaborate on this, if we need to, otherwise it is open  
14 for questions.

15           MR. EHRMANN: Dr. Muller-Karger?

16           DR. MULLER-KARGER: Thanks, Paul, for  
17 summarizing this. I still remain concerned going

18 forward and making a strong recommendation that we base  
19 the standards on the size of organisms. I mean, most of  
20 these organisms have a larval stage and, depending on  
21 the season, they may flow right through a device that  
22 may detect them.

1           You may have a tank full of larvae, and then  
2 when they are out they will grow. More than that, I  
3 think you mentioned, and I am glad you mentioned it, the  
4 bacteria issue. You can have a whole bunch of pathogens  
5 coming into a ballast tank and they can discharge into  
6 our coastal waters and you have a major, major issue.

7           I hear what you are saying, that this may be a  
8 first step, but I don't think that we should be shy in  
9 making sure that everybody understands. It is not  
10 something that you can avoid. The world is a dynamic  
11 place and species migrate even without ships. I am  
12 concerned that if we focus on a size-based standard that  
13 we are missing a potential problem.

14           DR. SANDIFER: If I may, I will ask that in  
15 just a moment for Bob Wayland to respond to this with a  
16 little bit more information.

17           However, I think the intent is to set that  
18 size certainly above the microbe level, but at a level

19     that would pick up most larval stages.  None of us know  
20     what kind of methodology we would even start talking  
21     about that would pick up all of the bacterial pathogens  
22     and then the viral particles which are another issue.

1 We are trying to deal with the true invasive species as  
2 opposed to one slug of a pathogen of cholera bacterium  
3 or something that might cause an immediate problem, but  
4 then it would take care of itself.

5 I think that is more where we were at this  
6 point.

7 MR. WAYLAND: (No microphone.) I think this  
8 is another case of in abbreviating some of the  
9 discussion to fit on the slides some concepts were lost.  
10 One I remember clearly that the working group discussed  
11 extensively was a size-based standard along with a  
12 treatment or technology standard. I think we failed to  
13 incorporate that other element of the standard there.

14 As various technologies are evaluated for  
15 their performance, to specify a technology that has a  
16 high level of performance, do whatever appropriate  
17 metric to describe its performance so that you really  
18 have a treatment or a technology as well as size

19 standard. I think that was really the thrust of the  
20 discussion. We got pressed a little bit as we put these  
21 slides together.

22 DR. SANDIFER: That is an example of my gray

1 hair, I hope meaning wisdom but it also means loss of  
2 memory. We did decide that we simply could not figure  
3 out how you measured 95 percent removal of whatever, so  
4 that is why rather than a performance standard based on  
5 that, we would definitely like to have some disinfection  
6 methodology looked at. Bob, it has been very, very  
7 appropriate to remind me of that. One was to try to get  
8 rid of as much as possible of the organisms that are  
9 likely to invade and then try to have a technology that  
10 deals truly with the disinfection process.

11 DR. MULLER-KARGER: You notice, "I lost my  
12 memory."

13 (General laughter.)

14 MR. EHRMANN: Commissioner Borrone?

15 MRS. BORRONE: Well, thank you, Bob, for  
16 raising that because I was going to raise treatment as  
17 one of the issues. I would like to get back to two  
18 things that are fairly consistent governance questions.

19 The first is, When you say "allocate resources," what  
20 are you really saying?

21 In other words, are we asking the Congress for  
22 appropriations or for authorizing funds? Are we saying

1 this is a priority for the Coast Guard funding, if they  
2 have the responsibility to issue the regulations? I  
3 don't know exactly what you are saying. It is not clear  
4 to me by glancing through the paper exactly what you  
5 have in mind. I am suggesting that we be a little bit  
6 clearer.

7 Second, Paul, I thought you were very  
8 eloquent at the beginning talking about the next five to  
9 ten years in the shorter term, but we also have a  
10 long-term vision that I think needs to be described.

11 If we are going to set challenges out for the  
12 maritime community broadly, whether it is the  
13 recreational community or the commercial community or  
14 the fishing community as we look at vessel development  
15 in the future, maybe one of the challenges in terms of  
16 vessel development is we could talk to the Society of  
17 Naval Architects and Marine Engineers and others about  
18 ship owners and the desirability of progressing more

19 rapidly towards new technologies that have the ability  
20 to deal with these issues in a more effective way than  
21 costly retrofits will impose.

22 DR. SANDIFER: I think the later idea is

1 something we did talk about. You have said it far  
2 better than we did in our working group, and I will ask  
3 staff to make sure it gets picked up. We did spend some  
4 time talking about whatever technology is applied on the  
5 near-term to meet the standard.

6 One of the incentives is that those ship  
7 owners or ship operators that put in that technology now  
8 should get some credit for a period of time at least to  
9 amortize the cost of that before they are required to  
10 step it up. That goes along with the longer-term  
11 thinking that you don't stop here. You begin planning  
12 now for that next level of technology. I think your  
13 points are well taken.

14 With regard to the allocation of resources, we  
15 have been cautioned within our working group to be  
16 careful in thinking about financial resources, to not  
17 only always think about getting new resources. It is  
18 great if we can get them, but we need to suggest to

19 agencies that they need to allocate or prioritize their  
20 resources to meet the most pressing needs.

21 In this case, knowing that the Coast Guard is  
22 getting some additional funding, I think our tendency

1 was on the near-term rather than to ask for additional  
2 money is to suggest that they allocate some of the  
3 resources they are getting in the environmental arena  
4 specifically on this, and as progress is made then  
5 perhaps there could be additional resources brought to  
6 bear. I think that pretty well covers what we talked  
7 about. If I am inaccurate, then one of the members of  
8 the working group will remind me, but I believe that is  
9 the idea we had in mind.

10 MR. EHRMANN: Any other comments on invasive  
11 species in this context?

12 (No verbal response.)

13 MR. EHRMANN: Staff, you are all right.

14 THE STAFF: (Shaking heads.)