

Explanation of request to withdraw the petition to list the Eastern Oyster under the
Endangered Species Act
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It is interesting to read the speculations and misconceptions by others as to what is required in a petition to list a species, when actually the petition process is clear. The Endangered Species Act states that: "A species must be listed if it is threatened or endangered due to any of the following five factors:

- present or threatened destruction, modification, or curtailment of its **habitat** or range;
- **overutilization** for commercial, recreational, scientific, or educational purposes;
- **disease** or predation;
- inadequacy of existing **regulatory mechanisms**; and
- other natural or **manmade factors** affecting its continued existence."

Therefore, I started the process and tried to address each of the five factors in petitioning NOAA Fisheries to list the eastern oyster as follows:

Oysters habitats are subtidal and intertidal zones in estuaries, sounds, bays, and tidal creeks from brackish water (5 parts per thousand [ppt]) to full strength seawater (35 ppt salinity). In developing the petition, a large quantity of data were available that indicated that the deeper, bottom waters of the Chesapeake Bay, and also those waters in many other Atlantic coastal estuaries, sounds, and bays have been impacted by excessive nutrient loadings so that they experience periods of low or no dissolved oxygen during summer periods. In addition, many upper reaches of the Atlantic coastal estuaries and tidal creeks have lost oyster reefs due to increased freshwater runoff as a result of construction and other development in the watersheds. Therefore, very significant quantities of historic oyster habitat have been lost. And, these habitat degradations continue and may be getting worse.

Overutilization is a nice word for excessive harvest. The drastic decline in harvest, the best abundance indicator available although not perfect, was the driving force in preparing the petition. The numbers were available from the NOAA Fisheries website and once compiled the picture was clear. Harvest in the Chesapeake Bay was down to 0.2 percent and along the U.S. Atlantic coast down to 2 percent of the historic levels. The decrease in the Chesapeake Bay oyster harvest has resulted in the oyster being labeled "commercially extinct."

Further complicating the demise and potential recovery of the eastern oyster are the introduction of two protozoan **diseases** known as MSX (*Haplosporidium nelsoni*), and Dermo (*Perkinsus marinus*). In high salinity areas of both the Chesapeake and Delaware Bays, MSX has at times been responsible for the mortality of close to 100 percent of the adult standing stock biomass. MSX and Dermo have now been documented in high salinity waters from Maine to Florida.

All three of the above issues are reflections of human behavior (resource management) and contributed to the current blight of the eastern oyster. Therefore, one has to conclude that the **regulatory mechanisms** that could have prevented the losses to this resource were either inadequate or not adequately applied.

The Living Resource Management Agencies' (LRMA) suggested answer to the challenges facing the eastern oyster in the Chesapeake Bay is to **introduce a competitor** – the Asian oyster. If this introduction is instituted, it will most likely increase the stress on the remaining eastern oysters through competition for the limited suitable habitats and may also result in hybridization between the species. And, once the exotic Asian oyster is introduced into the Chesapeake Bay, how long would it take for it to be transported out of the Chesapeake to other eastern oyster habitat sites along the Atlantic and Gulf coasts?

I understand the petition to list the oyster has caused a great deal of frustration and concern and has resulted in one congressional hearing and numerous resolutions by local governments opposing the listing of the oyster as an *endangered species*. This concern indicates unclear understanding of the petition process. It also seems to focus on the restrictions resulting from an endangered listing and skips the less restrictive requirements if the oyster were to be listed as a threatened species which, in my opinion, is much more realistic.

According to information provided by NOAA Fisheries' Protected Resources (Marta Nammack, person. communications), the ESA's goal is to recover species, not to close everything down. The Agency looks at the species' needs and what is necessary to protect it. It is impossible to predict the consequences of a listing until more analysis of the situation can be done. If the species is listed as endangered, there are strict section 9 prohibitions (and there would be no harvest at all).

However, listing a species under the *threatened* classification allows much more flexibility in the application of the ESA. If listed as threatened, the agency (NOAA Fisheries for marine species) can issue special regulations that they deem necessary and advisable for the conservation of the species (section 4(d) rules), and under that scenario, there could be different regulations (including allowing harvest of healthy populations) affecting the listed threatened species in different portions of its range. The solution to addressing the demise of the eastern oyster is to address and correct the anthropogenic stresses that have/are limiting its survival. Aquaculture operations that are kept separate from the wild stocks would probably be allowed to continue normally; in fact, aquaculture could become an important partner in restoring and reestablishing the species in its historic geographic range.

In my opinion, a greater effort should be made to list heavily depleted and stressed species as threatened instead of waiting until they qualify for an endangered listing. After all, in anthropomorphic terms, it is easier, cost effective, and much more successful to recover a critically ill patient than one on life-support-systems. This analogy probable applies to the recovery of threatened versus endangered species.

Since the National Marine Fisheries Service's (NMFS) initial review of the petition and the conclusion that the status of this species deserved more detailed assessment, the petition has received a great deal of media and political attention. This might have been beneficial if the assessment/review process was understood by the public. For example, when a petition is submitted under the Endangered Species Act, it should not be assumed that the species will be listed; and if it is, that it will qualify to be listed as endangered instead of threatened.

Most of the news media coverage did not make these distinctions. Therefore, the public, political, and resource users seem to fear that the eastern oyster might be listed as an endangered species and that the most severe restrictions and regulations under the ESA would follow. I feel that this confusion and apprehension has resulted in very negative reactions to the listing review process.

Further aggravating the public perception of the review process is the need to consider the entire geographic range of an invertebrate. Although information has been available to identify various strains of the eastern oyster, it is not clear that NMFS has enough information to conclude that any populations of the eastern oyster will qualify as subspecies. If the data were available, then NMFS might determine that listing only one subspecies might be warranted, thus affecting a smaller geographic area. However, the petition review timeline does not accommodate such new research.

Therefore, I have submitted a request to NOAA Fisheries to recall the petition to list the eastern oyster. I apologize for the inconvenience this may cause. However, I hope that the on-going, focused, information review of the current status of the eastern oyster and the numerous stresses impacting its abundance and distribution will be allowed to be completed. Such compiled information should be of great value in focusing restoration activities in support of this important resource.

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