



## Great Lakes and Great Plains Virtual Book Club

### The Death and Life of the Great Lakes by Dan Egan

7 PM CT/8 PM ET on March 25<sup>th</sup>, 2021

#### Meeting Dates and Chapters

- March 25 - Chapters 5 and 6
  - April 8 - Chapters 7 and 8
  - April 22 - Chapters 9 and 10 and ideas for the classroom
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## DISCUSSION QUESTIONS

### Chapter 5 – Continental Undivide: Asian Carp and Chicago’s Backwards River (pages 151-186)

1. Back in 1869, when the canal was open and Chicago became the nation’s busiest port, did anyone worry about future problems this canal might cause?
2. What do you think we might be doing today that in 150 years could turn out to be a problem?
3. A species of Asian carp known, as the grass carp, was imported in 1963 to a research lab in eastern Arkansas to be used as a “non-toxic aquatic weed control agent” in place of toxic pesticides and herbicides. This was the first documented importation of the carp. Years later, hoping to get his own batch of these weed-control fish, an Arkansas fish farmer accidentally imported three other Asian carp species (black, bighead, and silver carp).

Silver and bighead carp are filter feeders that strip plankton out of the waters they inhabit. Black carp eat mollusks. Ultimately, the fish farmer turned the accidental carp over to the government and long story short, state fishery workers tried to breed the fish and were eventually successful. Some of the carp were used in sewage treatment projects and there were plans to sell the fish as food.

- a. Using carp in place of herbicides may have seemed like the correct approach back when the fish were brought over from Malaysia (“one fish to do one job—keep chemicals out of the environment”). But what were the long-term consequences from the eventual release of the Asian carp (silver and bighead in particular) into the environment?
  - b. What could have been done to avoid the problems that followed?
  - c. What are your thoughts on using the carp from the sewage treatment ponds for food?
  - d. Later, carp caught in the Illinois River were being caught and sold for food to China. How is this different than the idea of using the carp from the sewer ponds?
4. Recall the Chicago River and the canal development that reversed its flow from out to Lake Michigan and instead into the Des Plaines River and eventually into the Mississippi River basin.
    - a. Did the cities downstream have any recourse after this project was done?

- b. What health problems were caused downstream and continue to be caused?
5. How could you have your students invent and test barriers that would keep invasive species from going from the Chicago River to the Great Lakes?
6. What proof do we have that the silver and big head carp have indeed invaded the Great Lakes? Can the spread be stopped?

### **Chapter 6 - Conquering A Continent: The Mussel Infestation of the West (pages 187-211)**

Here we circle back to the zebra and quagga mussels. They don't travel by currents alone; they also use the natural superglue they excrete to bind to hard surfaces (like boats that move from one place to another). Chapter 6 discusses the problems at Hoover Dam and other dams that provide water for many cities.

1. What are some of the economic threats/consequences associated with zebra and quagga mussels? How is this passed onto consumers?
2. Mussel infested water can be treated with UV light and a variety of other means, are these good solutions? Why or why not?
3. We have discussed the ways states are trying to stop the mussels ("biological pollution") from traveling from state to state, even making it a felony. Is this successful? Why or why not? What more could states try?
4. A proposed solution for Lake Powell was to bring in sterilized mussel-eating black carp (one of the invasive species of Asian carp from chapter 5). What do you think about this idea?
5. How did you feel when reading about the fine for Seaway ships that illegally discharged any water from the tanks (\$3,000 is what has been charged the few times it happened)?
6. What do you envision will be the future of our water supply?

### **Closing**

Pick #BookBento image(s) for this meeting – so far, we have sea lamprey, quagga, and zebra mussels.

