

## WF4313/6613-Fisheries Management

Class 25– Commercial fisheries management

## In the news



**Feature: Chinese business brings prosperity to fishermen on Mississippi**  
 中国渔民致富记

Photo taken on Oct. 30, 2017, near Mississippi River, Kentucky, USA. The fisherman is selling his catch to a local business run by a Chinese entrepreneur.

Butler has been fishing almost every day on the Mississippi River for more than 43 years. Before 2013, he sold his fish either to a market up north or to a seafood restaurant in Louisville, Kentucky. Then Angie Yu came to the City of Wickliffe in west Kentucky and opened the Two Rivers Fisheries to process fish from the Mississippi.

"The year she opened, we started selling to her. She pays a good price and she's just been good to us," Butler told Xinhua. "She's closer and that's where we've been ever since. I have no need of searching for other places."

Butler was not the only one who embraced Yu's business. Wickliffe, a small town with a population around 800, a per capita income of slightly more than 17,000 dollars and 16.1 percent population living below the poverty line, received Yu with open arms.

"In (Two Rivers Fisheries) brought a little more hope that there would be more jobs. It's a good place and it's going to get better. Jobs are important, everybody likes jobs," Wickliffe Mayor George Lane told Xinhua. "They (local residents) all hope she does well, and everybody likes her. It would be really good to get more workers."

2 days ago BGR Staff

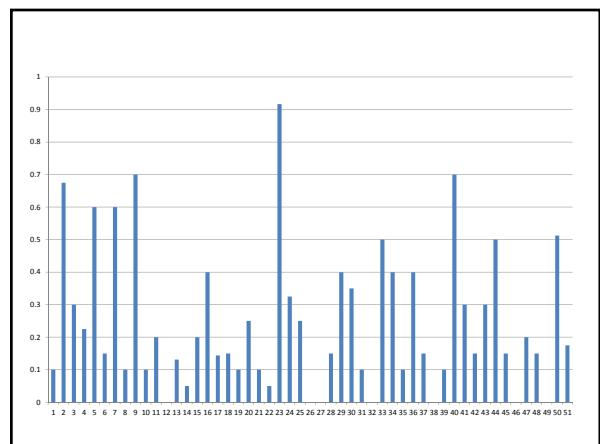
### Mysterious 'dinosaur' shark caught, called a 'living fossil' by researchers

When the dinosaur-killing asteroid struck the Earth many millions of years ago it spelled doom for countless species, while allowing many others (like mammals) the chance to come out of hiding and gain dominance. However, some creatures were able to carry on largely unaffected by the trauma the space rock wrought, and some even still exist today. The frilled shark is one of those rare animals, and a fishing trawler accidentally snagged one of the very few specimens ever seen by human eyes.

The animal, which was snagged off the coast of Portugal, is considered a "living fossil" by scientists because the species is thought to have remained

## Announcements

Exam II graded  
 No Lab Tomorrow!  
 Management brief article due Weds!



## Management Brief

- Brief- Due 8 am December 5<sup>th</sup>, the management brief should be no longer than 1000 words and targeted towards the same stakeholders as the presentation.
- Brief presentations-November 28<sup>th</sup>. The presentation should be short, 5 minutes at most and aimed at an audience of stakeholders. Stakeholders in fisheries may include anglers, angler groups (e.g., BASS), and lake associations. The following rubric provides guidance on how this element will be assessed. Presentations will be held Tuesday November 28th during lab.

## Presentation rubric

Scoring Rubric for WFA 4313 Oral Presentations

<b>PRESENCE</b>	0	2.5	5	7.5	10	12.5	15
-body language & eye contact							
-contact with the public							
-poise							
-physical organization							
<b>LANGUAGE SKILLS</b>	0	2.5	5	7.5	10	12.5	15
-correct usage							
-appropriate vocabulary and grammar							
-understandable (rhythm, intonation, accent)							
-spoken loud enough to hear easily							
<b>ORGANIZATION</b>	0	2.5	5	7.5	10	12.5	15
-clear identification of objectives							
-logical structure							
-clear management implications							
<b>MASTERY OF THE PAPER</b>	0	2.5	5	7.5	10	12.5	15
-pertinence							
-depth of commentary							
-spoken, not read							
-able to answer questions							
-application to Mississippi fisheries							
<b>OVERALL IMPRESSION</b>	0	2.5	5	7.5	10	12.5	15
-very interesting / very boring							
-pleasant / unpleasant to listen to							
-very good / poor communication							
<b>TOTAL SCORE</b>	_____ / 75						

## Journals to look in

- [North American Journal of Fisheries Management](#)
- [Canadian Journal of Fisheries and Aquatic Sciences](#)
- [Transactions of the American Fisheries Society](#)
- [Fisheries Management and Ecology](#)

## Homework Assignment 1

- Due November 15<sup>th</sup> 8am.
- Find an article and email it to me to check.



## COMMERCIAL FISHERY MANAGEMENT

National Oceanic and Atmospheric Administration  
U.S. Department of Commerce

NEWS & FEATURES

### Americans added nearly 1 pound of seafood to their diet in 2015

Report shows continued stability, sustainability in U.S. fisheries; some declines in West Coast stocks

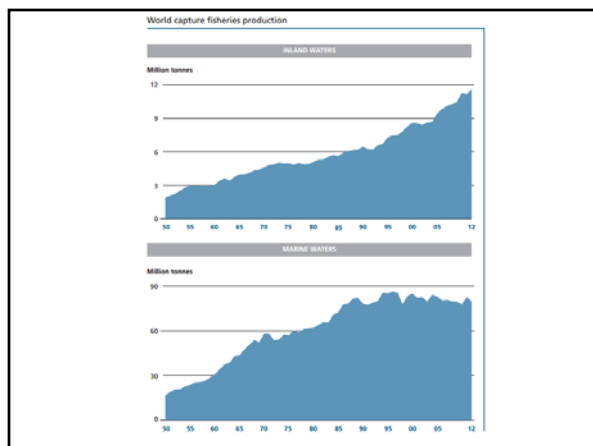
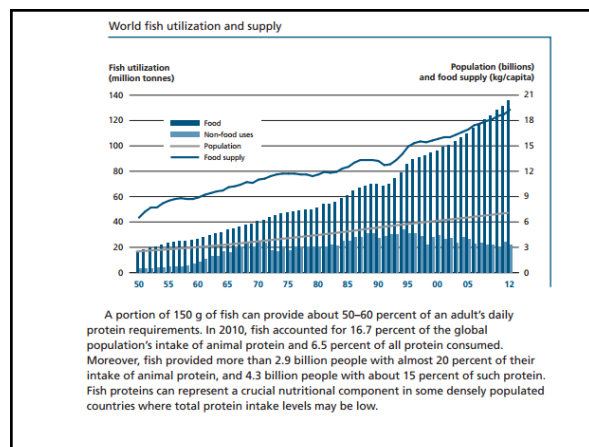
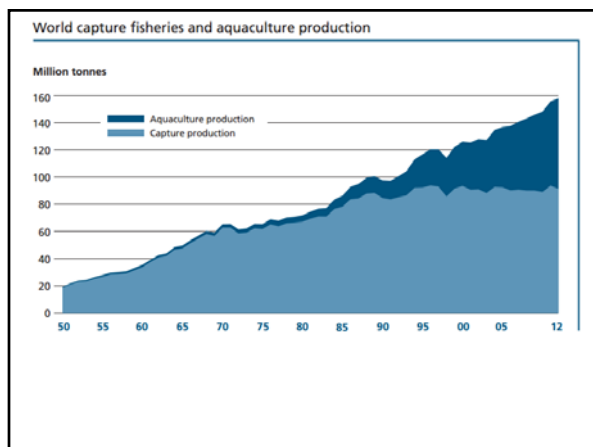
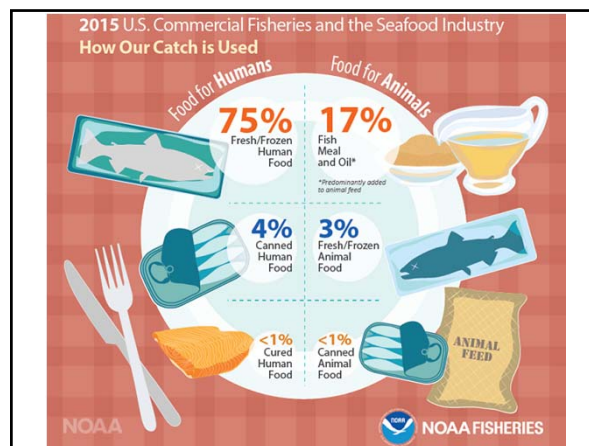
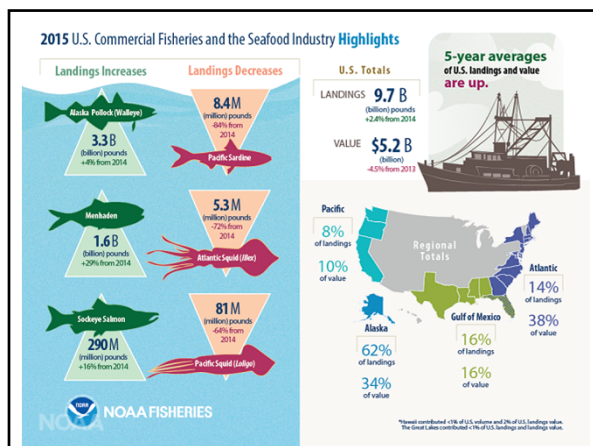
Photos: seafood

news | twitter | facebook | email | rss

October 26, 2016 —



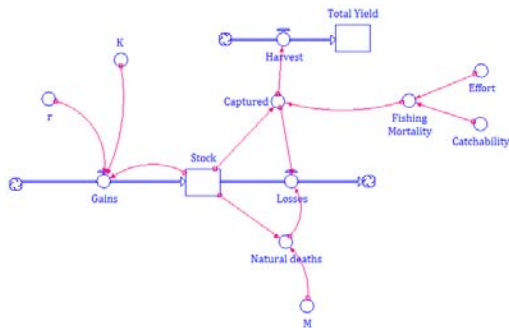
<http://www.noaa.gov/media-release/americans-added-nearly-1-pound-of-seafood-to-their-diet-in-2015>



## FAO Conclusion

- The maximum wild capture fisheries potential from the world's oceans has probably been reached.
- Overall, 80 % of the world's fish stocks for which assessment information is available are reported as fully exploited or overexploited and, thus, requiring effective and precautionary management.

### A commercial fishery conceptually



### Did somebody say catch?



### A stock's status

- Underexploited
- Moderately exploited
- Fully exploited
- Overexploited
- Depleted
- Recovering

### Underexploited

- Undeveloped or new fishery. Believed to have a significant potential for expansion in total production;

### Moderately exploited

- Exploited with a low level of fishing effort. Believed to have some limited potential for expansion in total production;

### Fully exploited

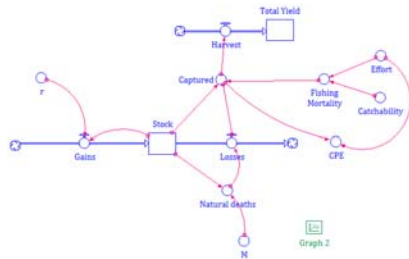
- The fishery is operating at or close to an optimal yield level, with no expected room for further expansion;

## Overexploited

- The fishery is being exploited at above a level which is believed to be sustainable in the long term, with no potential room for further expansion and a higher risk of stock depletion/collapse;

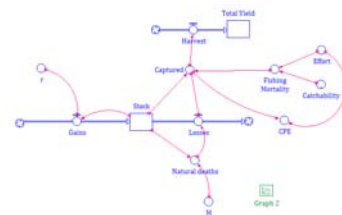
## Depleted

- Catches are well below historical levels, irrespective of the amount of fishing effort exerted;



## Recovering

- Catches are again increasing after having been depleted

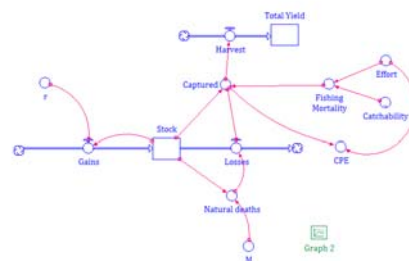


## 600 Stocks monitored by FAO

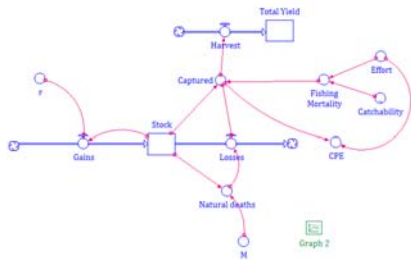
- 3% are underexploited
- 20% are moderately exploited
- 52% are fully exploited
- 17% are overexploited
- 7% are depleted
- 1% are recovering from depletion

As of 2014

## Control variables

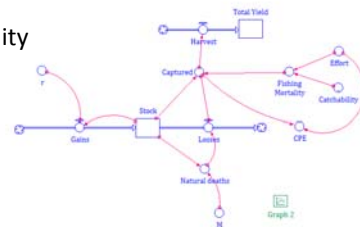


### Input control variables

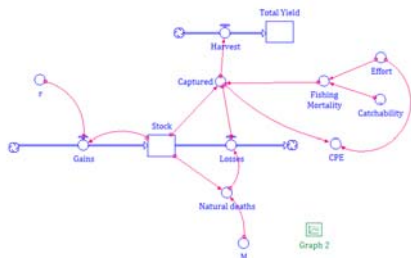


### Input controls

- Effort
  - ?
  - ?
- Catchability
  - ?

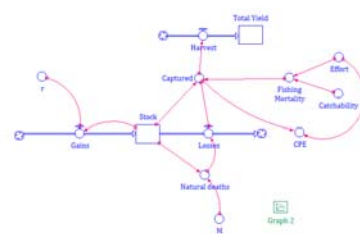


### Output control variable



### Output controls

- Captured
  - ?
  - ?



### Types of commercial fisheries

1. Open access
2. Limited access

Most U.S. fisheries have historically been open-entry or open-access fisheries.

### OPEN ACCESS FISHERY



What is an open access fishery?



What is the problem with open access?



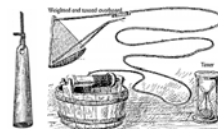
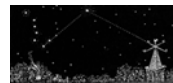
What is the problem with open access?



Can catch 2 tons of fish

Total allowable catch is 8 tons!

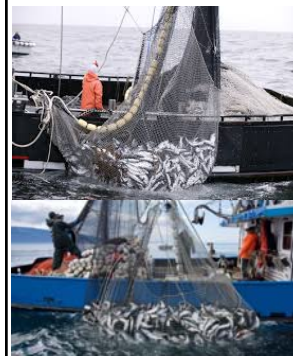
What is the problem with open access?



What is the problem with open access?



Consequences of race for fish?



### Fix for the problem

*Limited entry & controlled access fisheries....*

*Limit access to a public trust resource?*

### *Limited entry & controlled access fisheries*

How can we do that

### Preliminaries

- Total allowable catch is still the rule
  - Once exceeded fishery is closed
  - How do you share the TAC?

### TAC Allocation

1. Commercial Harvest
2. Recreational Harvest
3. Conservation

Equals the TAC

### LIMITED ENTRY (CONTROLLED ACCESS)

1. License Limitations
2. Individual quotas

### License limitations

Suppose you are moving to a limited access fishery. How do you determine how many licenses to issue? Need 2 parts

1. ?
2. ?