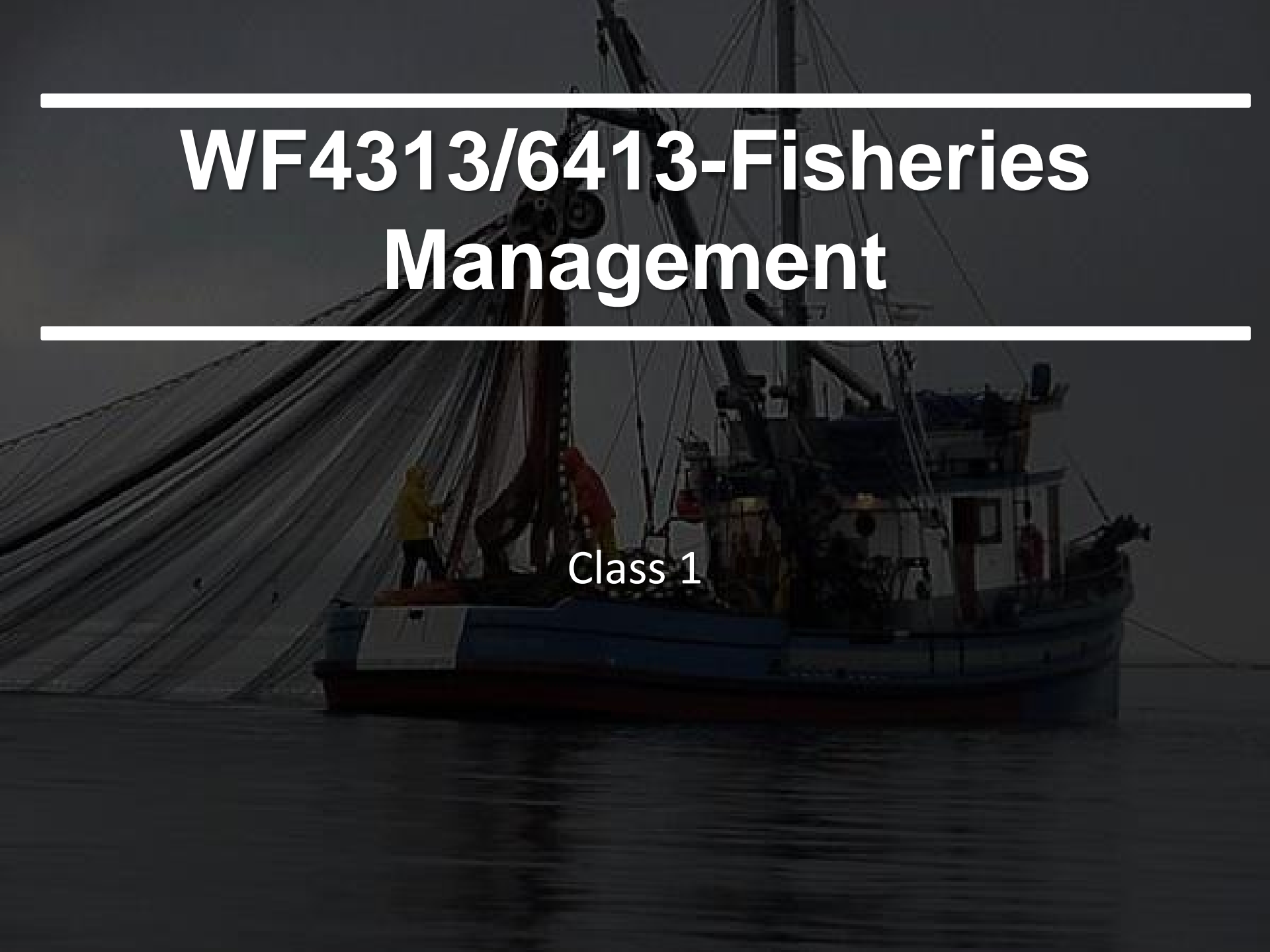

WF4313/6413-Fisheries Management

Class 1



Class overview

1. Announcements
2. Syllabus and class overview
3. What is fisheries management
4. Why is fisheries management important
5. What you can expect as a fisheries manager
6. History of fisheries management

Announcements

- First lab is September 4th @ 1pm.
- AFS student unit meeting September 4th @ 5 pm
- AFS=American Fisheries Society
(www.fisheries.org)

Volunteer/Job opportunities

- Paddlefish at the Refuge
- Enid habitat additions
- Bluff Lake Creel Surveys



Course preliminaries

1. This is Fisheries Management
2. Fisheries Management \neq Fisheries Techniques
3. Larger class with no TA & van limitations

*I endeavor to expose you to techniques when possible
but do not that this class will be a techniques class*



Course Website

WFA4313/6313

 Classes

 Labs

 Assignments

 Schedule

 Literature

 Syllabus

 Email



WFA4313/6313 Fisheries Management Course announcements

- Welcome to class!
 - You can see the course schedule [here](#) and syllabus [here](#).
 - We will not have class next week due to the Annual AFS meeting in Tampa.
 - You can find class content [here](#)

[https://mcolvin.github.io/WFA4313-Fisheries-
Management](https://mcolvin.github.io/WFA4313-Fisheries-Management)



Syllabus

Instructor: Dr. Michael E. Colvin

Office: Thompson 215

Office phone: 662-325-3592

Email: michael.colvin@msstate.edu

Office hour(s): By appointment

Lecture (M, W): THMANX 208, 8-8:50 am

Lab (T): THMANX 313, 1:00-4:50 pm

Catalog description

Principles of fisheries management and methods for assessment and analysis of fish populations and aquatic habitats. Two hours lecture.

Textbook and course material

There is no required textbook for this class, supplementary PDFs will be provided as needed and available on the course Blackboard site

Course background

Contemporary fisheries managers require diverse skills and abilities to properly identify management actions and alternatives, as well as implement management programs. Additionally, developing monitoring programs for fish, habitat, and anglers is essential to evaluate management actions. Fisheries professionals also must:

- Possess and understand the analytical tools necessary to interpret analyses of fisheries data and use the results to inform management and conservation decisions.
- Be able to communicate with natural resource professionals and non-technical stakeholders
- Collaborate with peers from multiple disciplines to successfully complete projects

Email etiquette

- Include a proper salutation

- No “Hey doc”

- For the most part we are all Doctors
Dr. Soandso,

- Email text

- No need to say “Hey this is Soandso from your class”.

- Include a subject

- If I don’t respond within 48 hours please follow up.



WF4313/6413-Fisheries Management

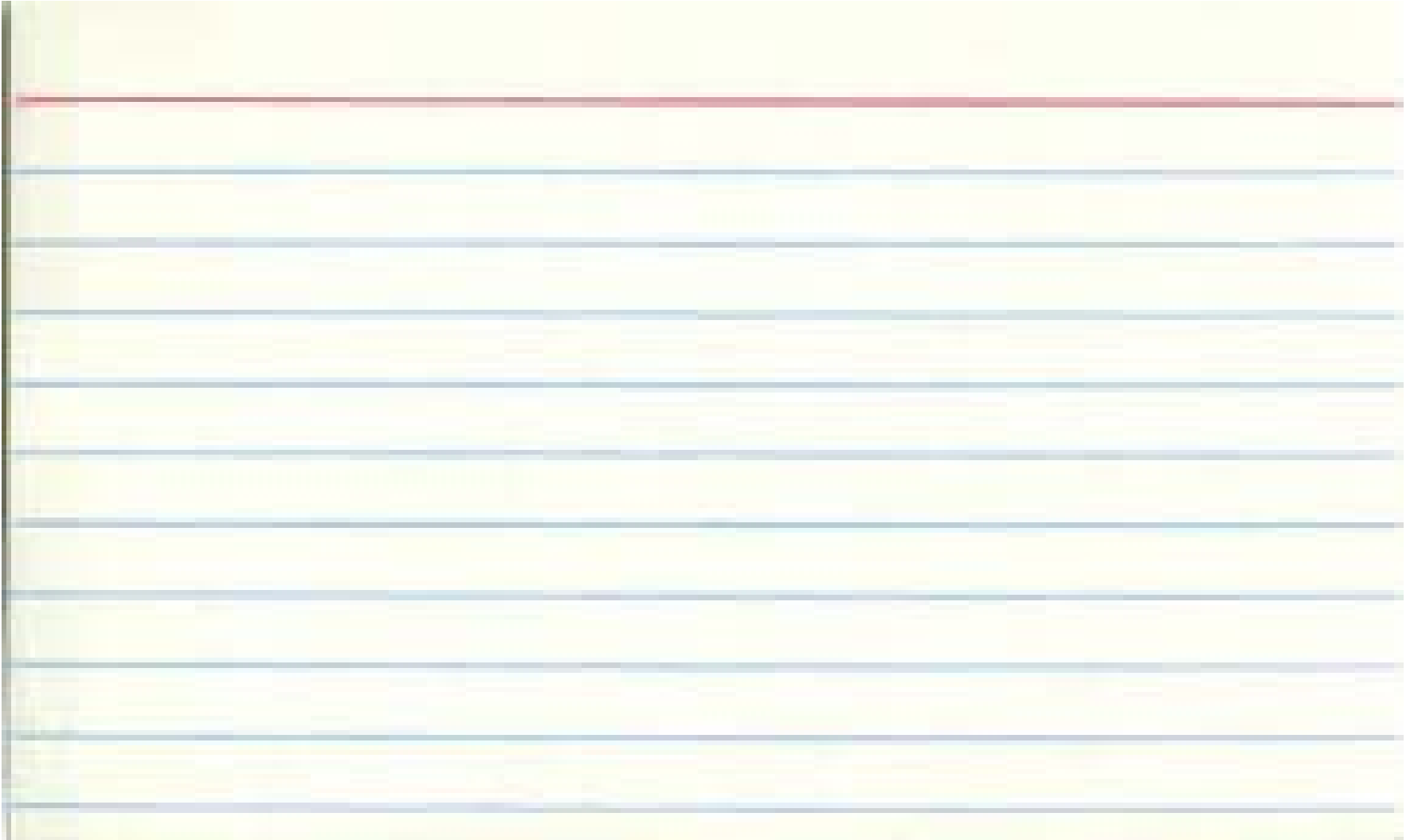
Module 1: Fisheries Management Overview & History

A dark, atmospheric photograph of a fishing vessel at sea. A large, dark fishing net is being hauled in from the left side of the frame. Several crew members are visible on the deck, some wearing bright yellow and orange safety gear. The boat has a blue hull and a white cabin. The background is a dark, overcast sky and calm water.

What is fisheries management?



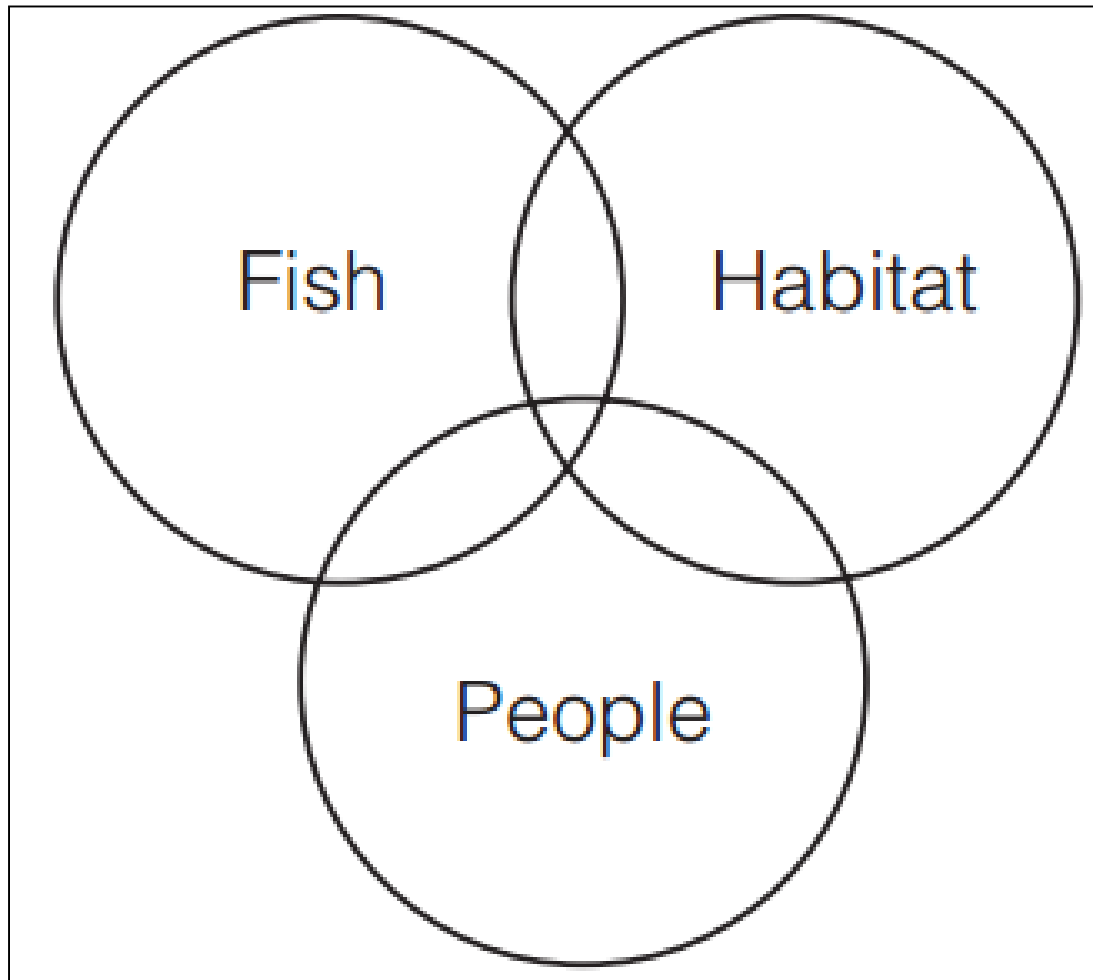
What is a Fishery?



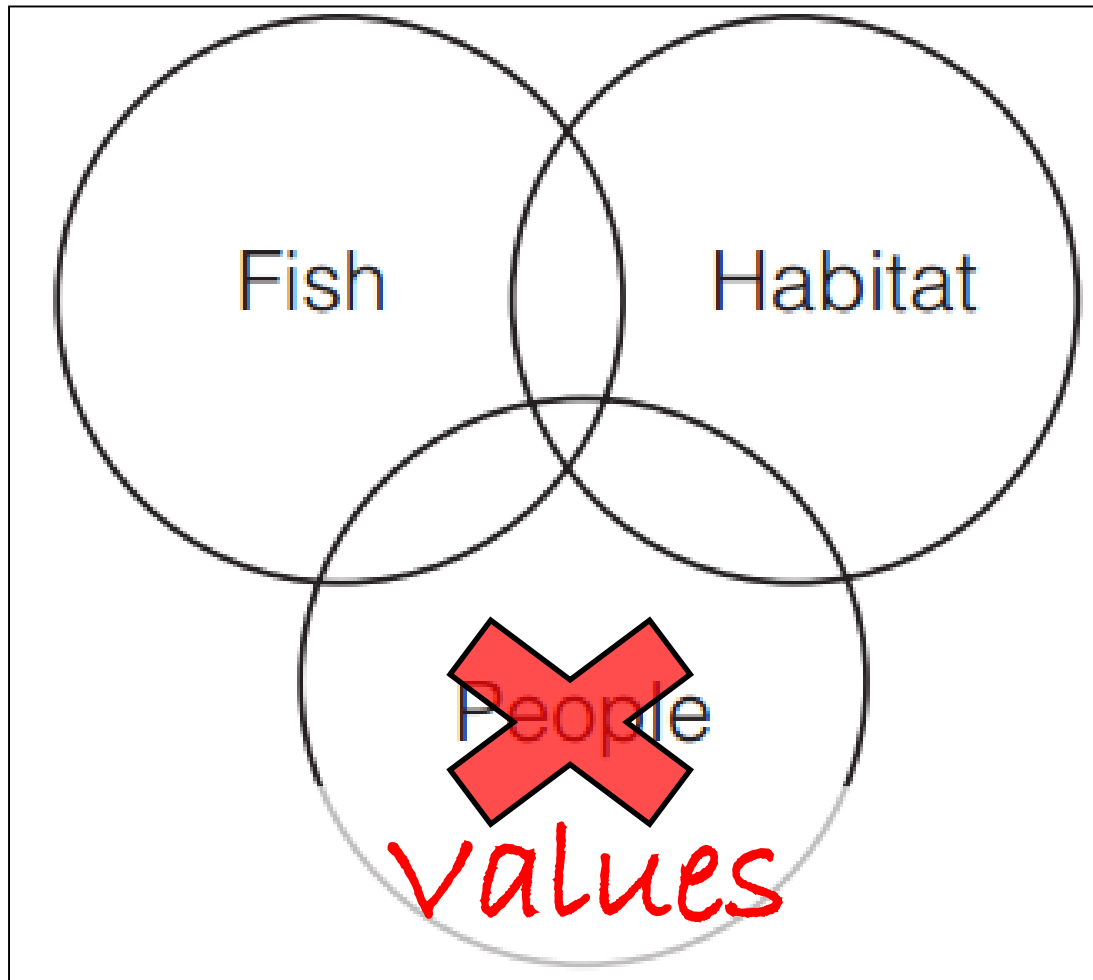
What is Fisheries Management

“The integrated process of information gathering, analysis, planning, consultation, decision-making, allocation of resources and formulation and implementation, with enforcement as necessary, of regulations or rules which govern fisheries activities in order to ensure the continued productivity of the resources and the accomplishment of other fisheries objectives.”

The classic model



The classic model



Thinking inside the box

Fish

Value

Habitat

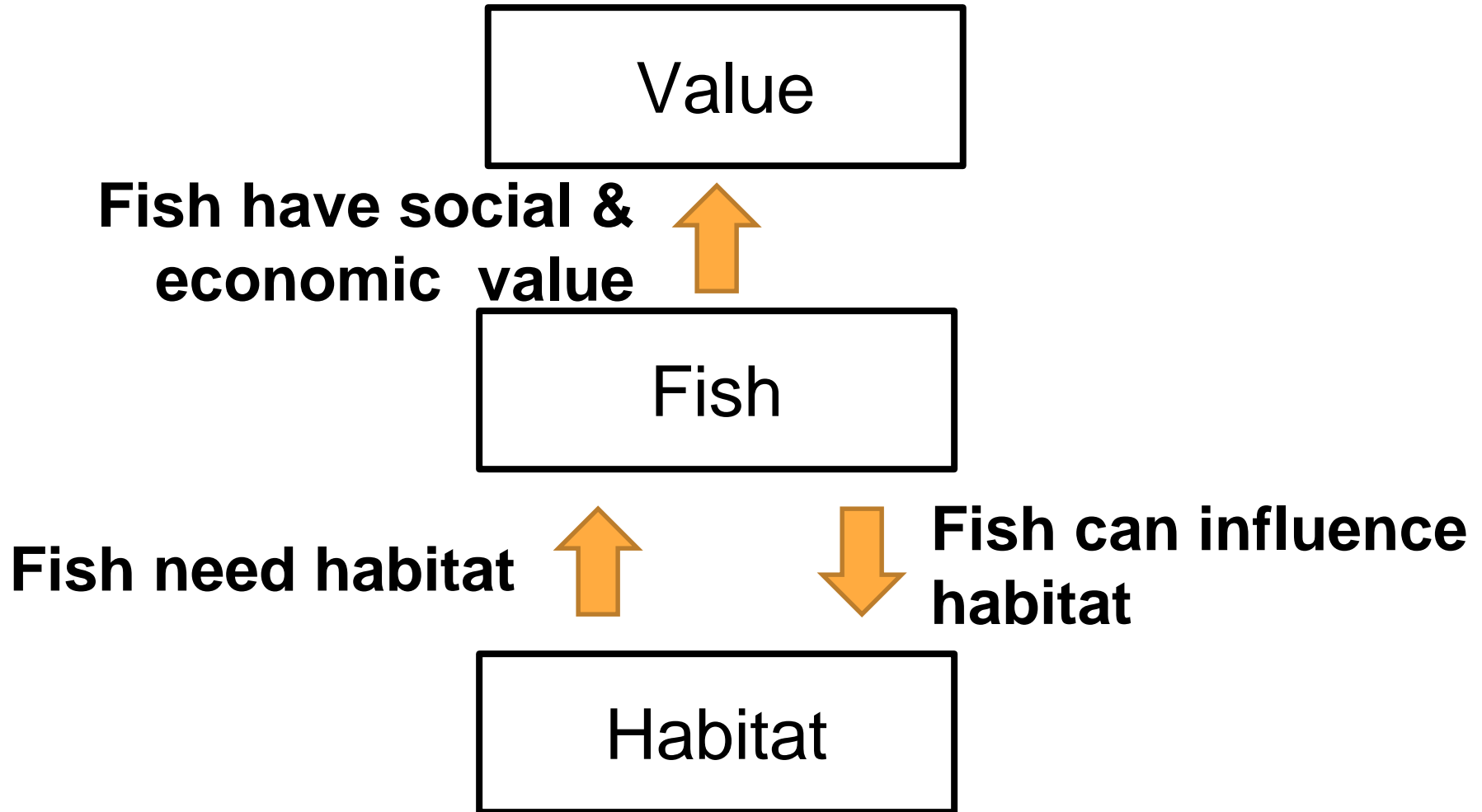
These are quantifiable

100 fish

100 tons of harvest

25 acres of habitat

The boxes are related



Fisheries values

The seafood industry—harvesters, seafood processors and dealers, seafood wholesalers and retailers—generated \$129 billion in sales impacts, \$37 billion in income impacts and supported 1.2 million jobs in 2011

Fishery Benefits

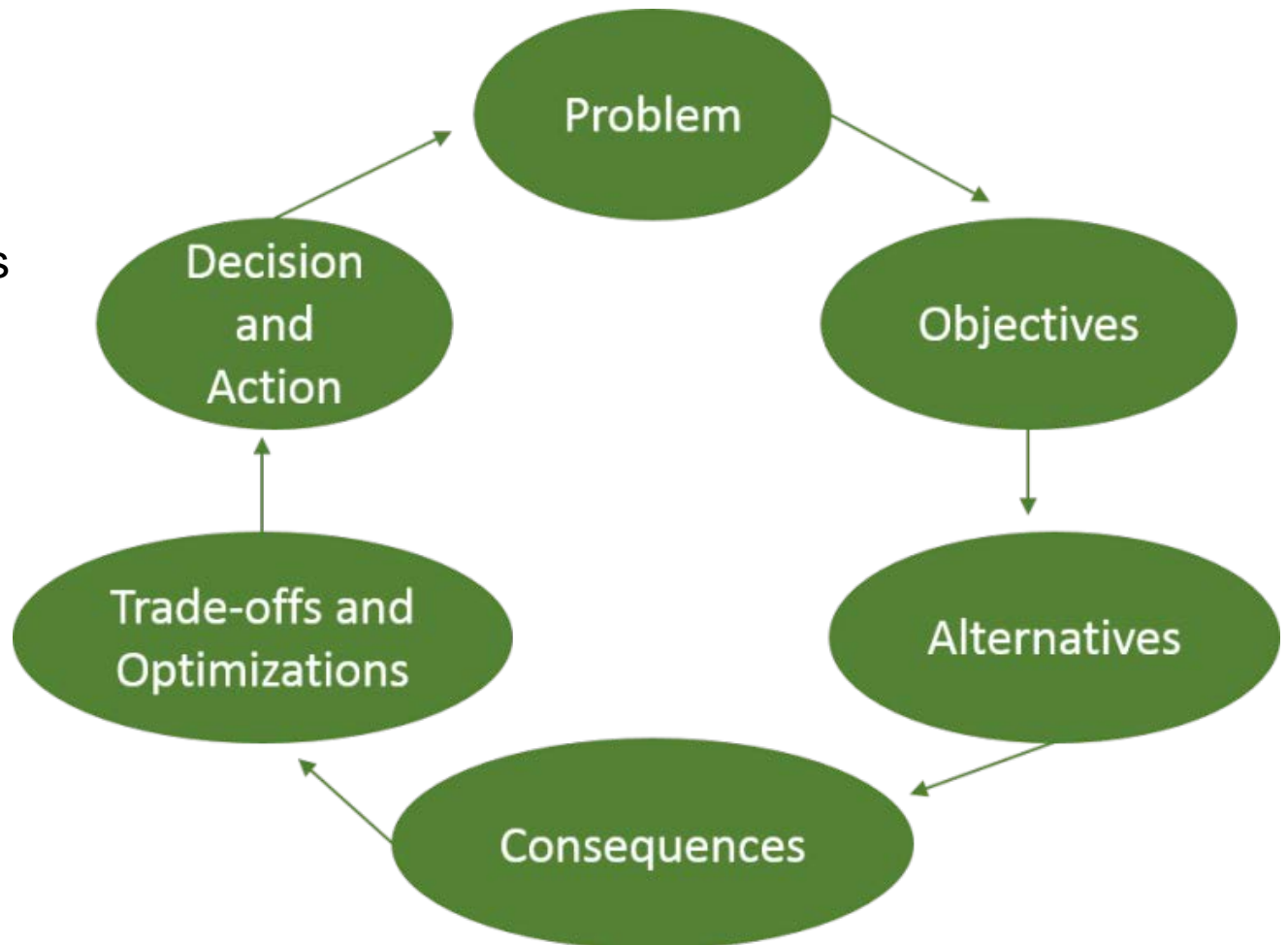
- Commodity output — the weight or number of fish produced
 - animals harvested by capture (fishing for wild animals) or
 - culture (produced as captive animals)
- Commonly called the capture fisheries and the culture fisheries

Fisheries Management Goal

To produce sustainable biological, social, and economic benefits from renewable aquatic resources

PrOACT

Problem
Objectives
Alternatives
Consequences
Tradeoffs



Why is fisheries management important?



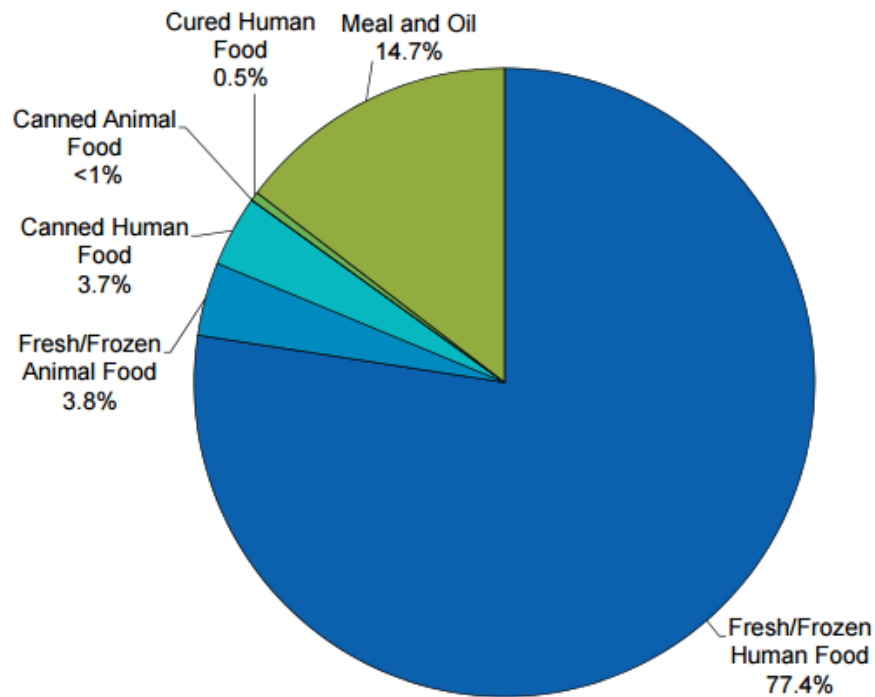
Why is all this important?



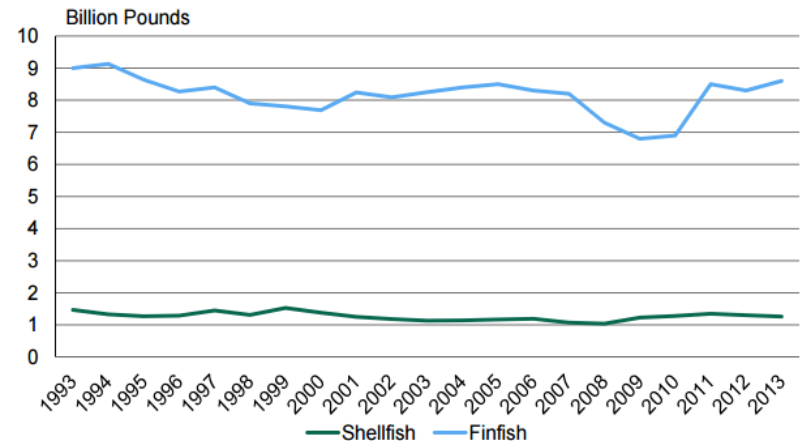
Why is all this important?

Economics

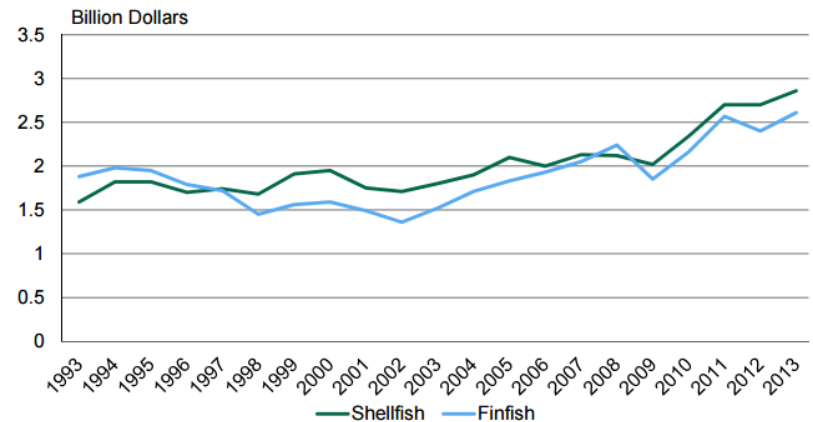
Disposition of U.S. Domestic Landings, 2013



Volume of U.S. Domestic Finfish and Shellfish Landings 1993-2013

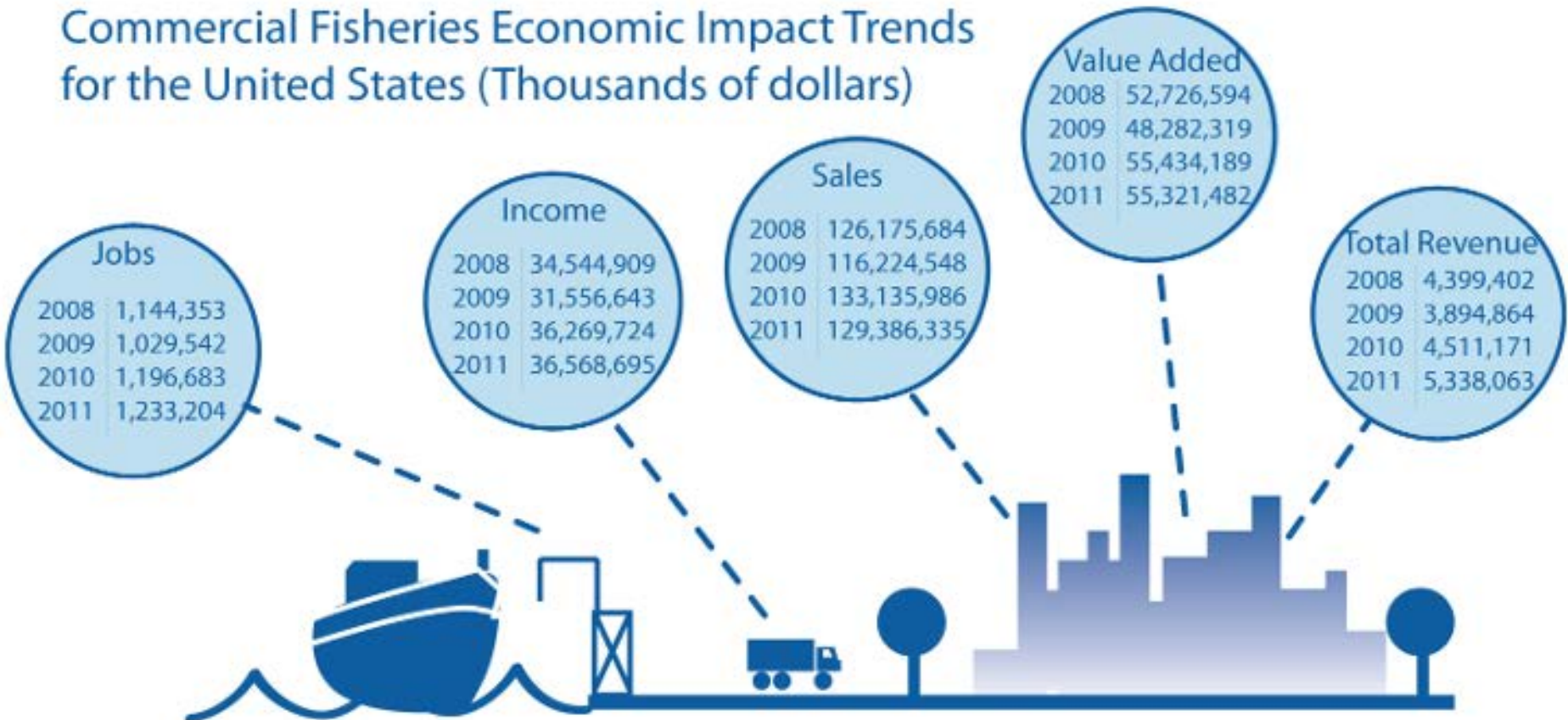


Value of U.S. Domestic Finfish and Shellfish Landings 1993-2013



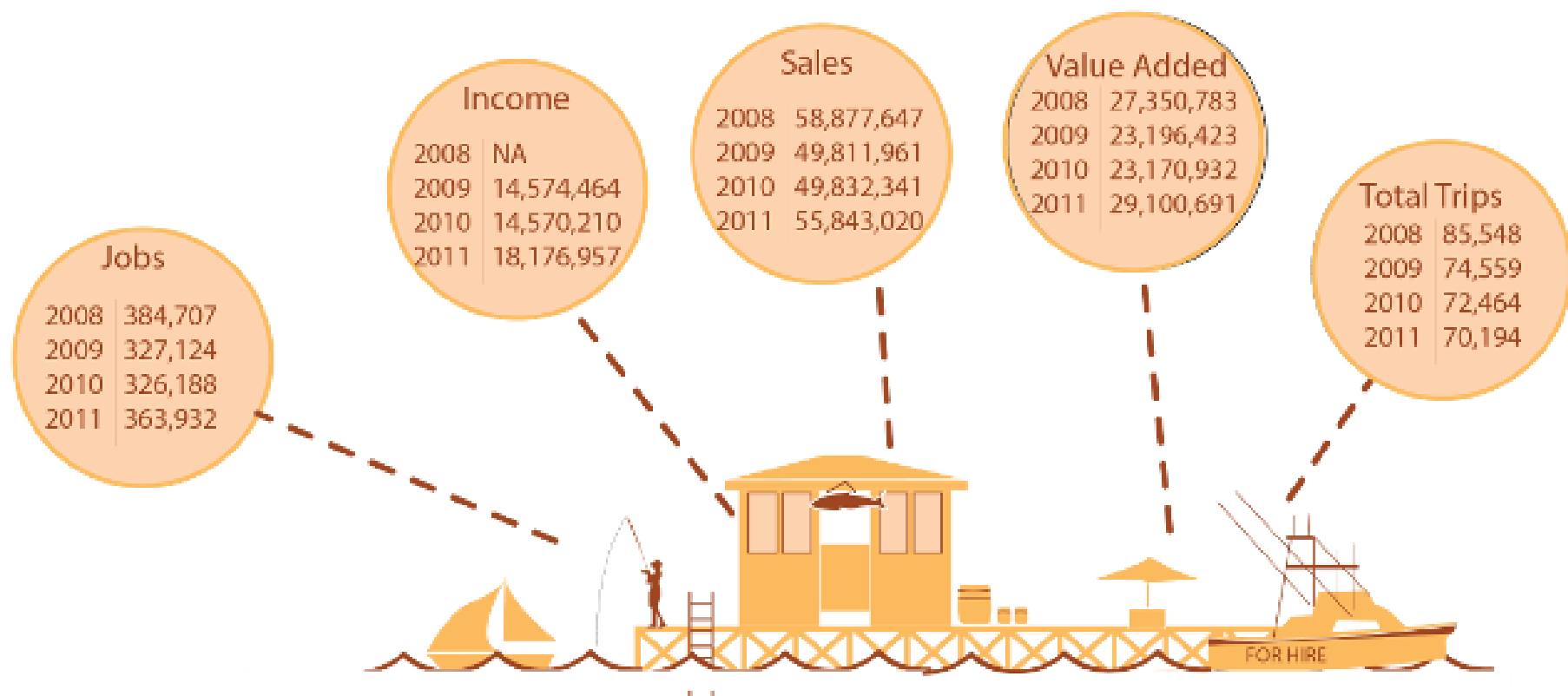
Why is all this important?

Commercial Fisheries Economic Impact Trends for the United States (Thousands of dollars)



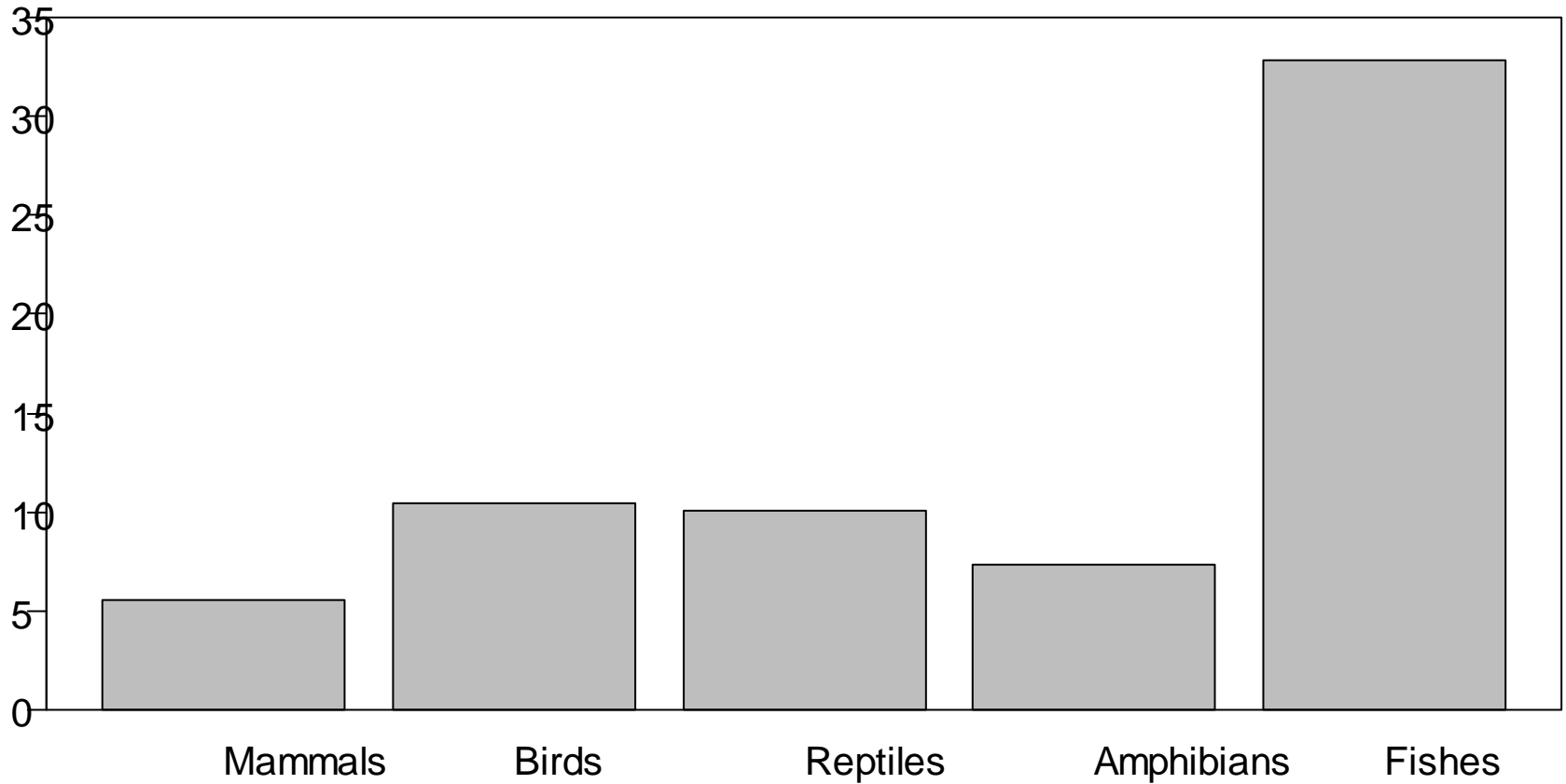
Why is all this important?

Recreational Fisheries Economic Impact Trends for the United States (thousands of dollars and trips)



There are lots of fish...

Estimated number of spe



And there are new fish being found...

- Terapontidae
(grunters)
16 new



- Eleotridae
(gudgeons)
3 new



- Atherinidae
(hardy heads)
1 new



Twenty new freshwater fish species uncovered in Australia Remote, iconic Kimberley unveiled as biodiversity hub

Date: January 6, 2016

Source: University of Melbourne

Summary: Researchers have discovered a record 20 new fish species while conducting fieldwork in the remote Kimberley, unveiling it as Australia's most biodiverse region for freshwater fish.

FULL STORY



Researchers have discovered 20 new species of freshwater fish during field work in the remote Kimberley region of Western Australia.

Credit: The University of Melbourne

It is the single greatest addition to the country's freshwater fish inventory since records began and boosts the total number of known species in Australia by almost ten per cent.

The research team included Associate Professor Tim Dempster, Professor Stephen Swearer, James Shelley, Matthew Le Feuvre (University of Melbourne), Dr Martin Gomon (Museum Victoria) and Dr Michael Hammer (NT Museum).

Team leader Dr Tim Dempster, from the University of Melbourne's School of BioSciences, says the discovery highlights the hidden wealth of biodiversity within the Kimberley.

"The freshwater ecosystems of the Kimberley are among the poorest known and least researched areas of Australia," Dr Dempster said.

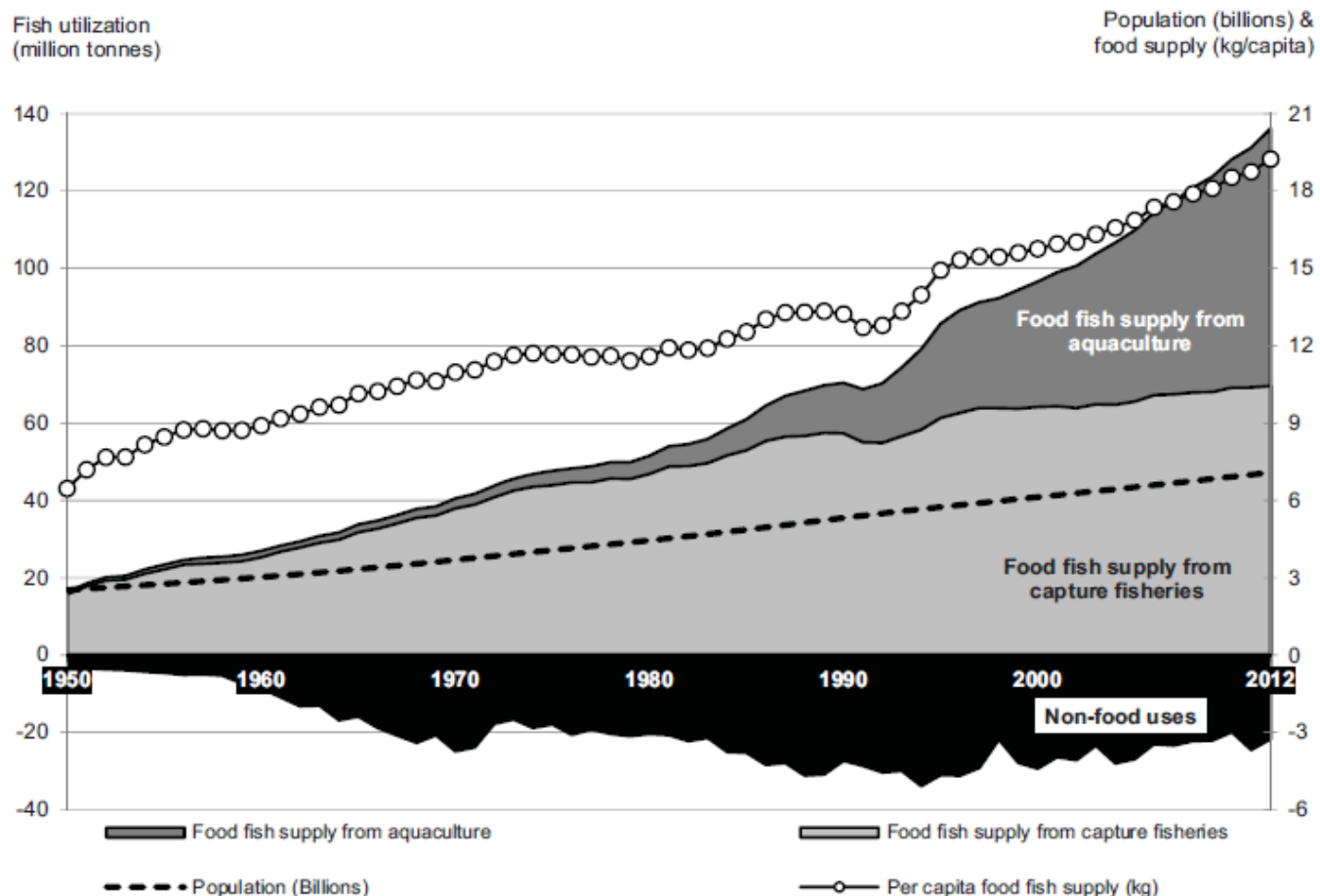
"If we can double the number of known fish species unique to the Kimberley in just three years, it can only mean the entire biodiversity of life in Kimberley rivers is underestimated.

"Certainly, it is a treasure trove for freshwater fish -- and the amazing thing is that we weren't even looking for it."

There are lots of fisheries associated with those fish

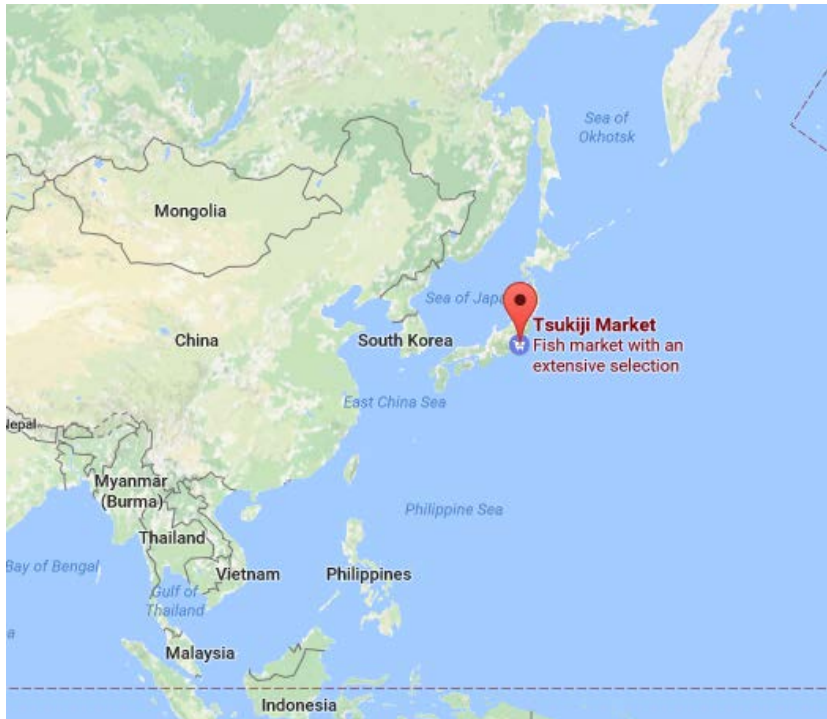
Figure 1

World fish utilization and supply/Utilisation et disponibilités mondiales de poisson/
Utilización y suministro mundiales de pescado



Fish are worth money...

Tsukiji market in Tokyo-Sprawling wholesale fish market with an array of seafood & viewing areas for a popular tuna auction.



Fish are worth money...



Kiyoshi Kimura, president of restaurant chain Sushi-Zanmai, poses with a 200-kilogram bluefin tuna he bought for \$117,000 in Tokyo on Tuesday.—Reuters (5 January 2016)

Fish are worth money...

Bluefin tuna sells for £500,000 at Japan auction amid overfishing concerns

Huge fish sells for 74m yen as conservationists call for moratorium to help stabilise plunging Pacific stocks



 Bluefin tuna auctioned for £517,000 at Tokyo market



A [bluefin tuna](#) has fetched [74.2m yen](#) (£517,000) at the first auction of the year at Tsukiji market in Tokyo, amid warnings that decades of overfishing by [Japan](#) and other countries is taking the species to the brink of extinction.

74200000 Japanese Yen equals

636964.7060 US Dollar

<input type="text" value="74200000"/>	<input type="text" value="Japanese Yen"/>
<input type="text" value="636964.7060"/>	<input type="text" value="US Dollar"/>



Disclaimer

The Guardian (5 January 2017)

<https://www.theguardian.com/world/2017/jan/05/bluefin-tuna-sells-for-500000-at-japan-auction-amid-overfishing-concerns>

Massive Bluefin Tuna Rakes in \$323,000 at Tsukiji Fish Market Auction

It weighs 890 pounds and can be made into 13,000 pieces of sushi

by Whitney Filloon | @whitneyfilloon | Jan 5, 2018, 11:37am EST



Restaurateur Kiyoshi Kimura poses with a bluefin tuna he bought at Tsukiji fish market's New Year auction. | AP



World capture fisheries production in 2006 was about 92 million tons, with an estimated first sale value of \$91.2 billion, comprising about 82 million tons from marine waters and 10 million tons from inland fisheries.-FAO



Fish are worth big money here in Mississippi ...

- Dockside value of caviar: \$350K (\$60 per pound)
- Retail value of caviar: \$1.6 mil. (\$228 per pound)



Fishing is worth money in Mississippi...

- Recreational fishing
- 773 Million USD
 - 772.6 Freshwater
 - 46.3 Marine
- 12.8k Jobs

Henderson, J.E., S.C. Grado, I.A. Munn, W. D. Jones 2010. Economic Impacts of Wildlife- and Fisheries Associated Recreation on the Mississippi Economy: An Input-Output Analysis. Forest and Wildlife Research Center, Research Bulletin FO429, Mississippi State University. 21 pp.



Why is all this important?

Subsistence



People like to fish...

FRESH CHUM



Norwegian police to investigate 'fish mafia'
August 15, 2017

Police in Norway are set to open investigations into what authorities suspect to be illegal releases of pike fish at several locations in the country. ...



Steelhead Chest
August 14, 2017
Handwrought sculptural steelhead chest. Pretty awesome.

Magnolia Crappie Club
America's Oldest Crappie Club
25 Years of Crappie Fishing
"Family, Fun and Fishing"



This Obscure Fishing Book is One of the Most Reprinted English Books Ever

'The Compleat Angler' is much more than an instruction manual on fishing. It's a Walden-like meditation on nature and friendship



Angling on river banks, trowling for pike,
Is noble Sport, when as the fish doth strike,

ANGLING.

And when your pleasures over then at night,
You and your friends doe eate them with delight,

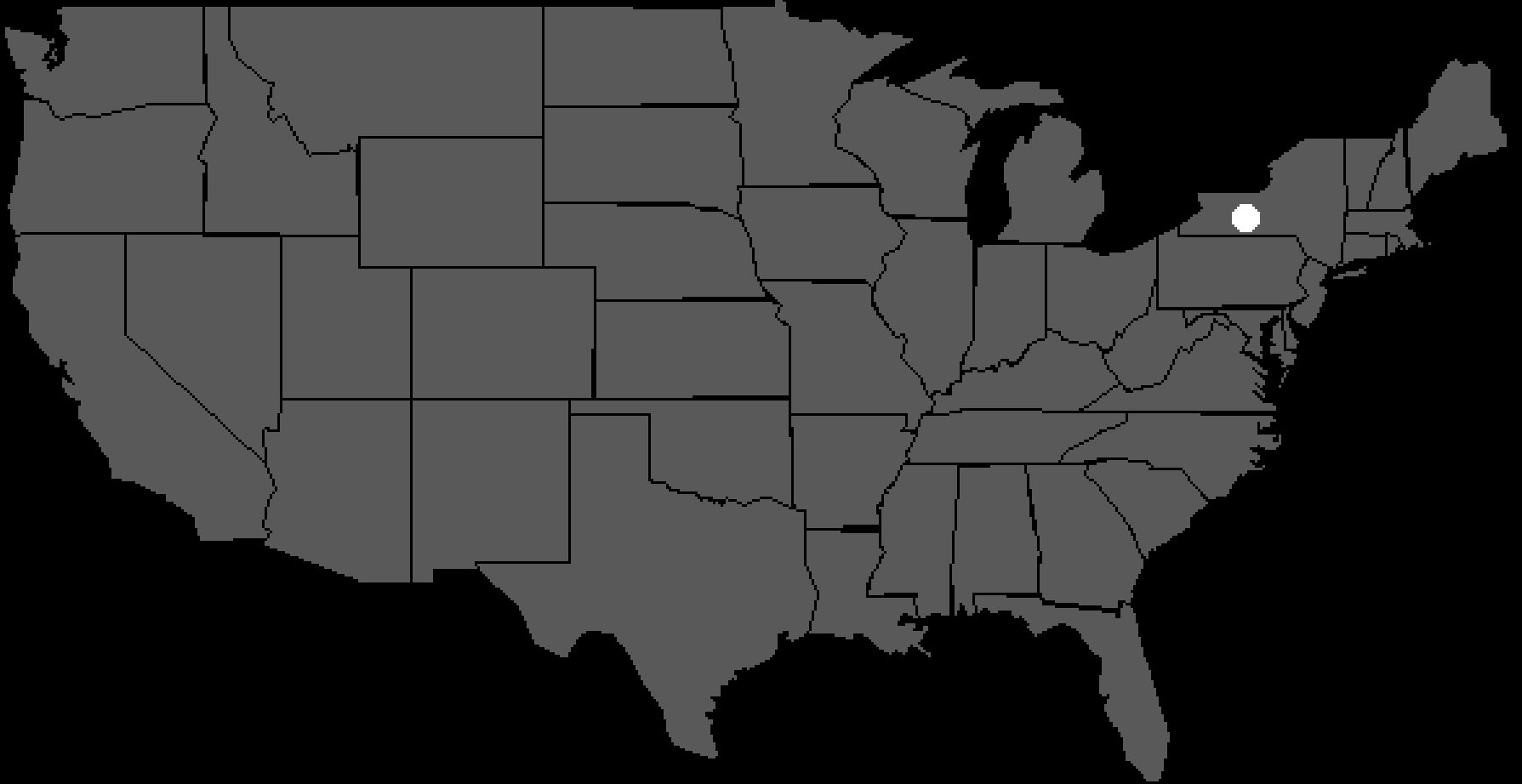
The sport of angling ("angle" is an old work for "hook") was a popular 1600s pastime that had a number of guides written about it. ([Wikimedia Commons](#))

An introduction to the Fisheries Manager: what can I expect?



You can expect...





To move around!

Interdisciplinary

“For fishery science is interdisciplinary. Rigid educational backgrounds for fishery biologists are impractical, and the continually increasing mass of scientific data makes it more and more likely that the solution of future problems will come from teams of specialists— teams that might include experts like the biometrician and the water chemist, whose cooperation is commonplace in fishery agencies today. “

Everhart et al 1975

Interdisciplinary & teams

- **Work with others:**

- Within agency
- Among agencies
- Stakeholders: lake associations, fishing clubs
- Disciplines: fisheries, wildlife, water quality

- **Do more with less**

- Distance teams
- Webex, Skype, conference calls