

# 1. Limitations of traditional university organization



## AESIS workshop on institutional structures for societal impact of science

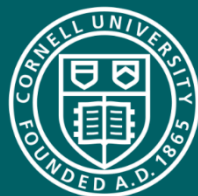
**David M. Lodge**

Francis J. DiSalvo Director

*Cornell Atkinson Center for Sustainability*

Professor

*Dept. Ecology & Evolutionary Biology, Cornell University*



# Impact we are pursuing at Cornell Atkinson Center for Sustainability

1. Public opinion, thought leadership
2. Practices—conceptual innovation incorporated into private or public sector
3. Products—technological innovation incorporated into marketplace products
4. Policy—government or otherwise

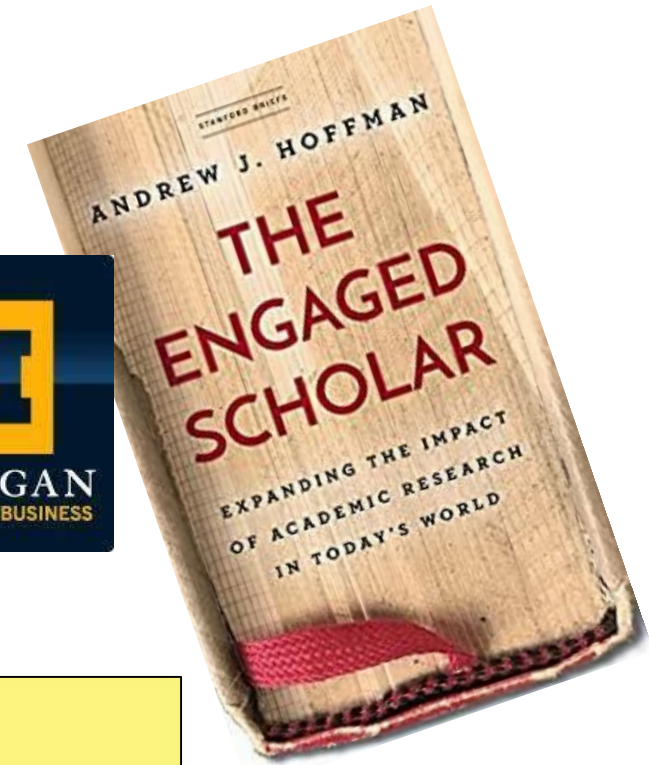


# Barriers to Moving University Knowledge to Impact

1. Traditional metrics of impact within universities
  - grants from basic research agencies
  - publications in basic research journals
  - service—to university and profession
2. Promotion & tenure incentives
3. Review process of external funding agencies = peer review
4. Organization and power structures within universities often impede interdisciplinary and transdisciplinary research
5. Hierarchical culture (benighting those with PhD and on tenure track)
6. Mismatch in speed of activity between university and “real world”

# Barriers to Moving University Knowledge to Impact

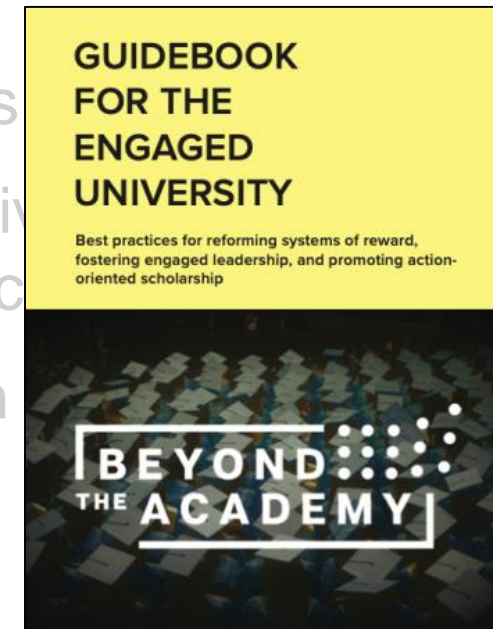
1. Traditional metrics of impact within universities
  - grants from basic research agencies
  - publications in basic research journals
  - service—to university and profession
2. Promotion & tenure incentives



**Cornell Cooperative Extension**



James Verdier leads communications training in Cornell Atkinson's Sustainability Leadership Program



# Barriers to Moving University Knowledge to Impact

1. Translating

- 
- 
- 



3. Review process of external funding agencies = peer review
4. Organization and power structures within universities often impede interdisciplinary and transdisciplinary research
5. Hierarchical culture (benighting those with PhD and on tenure track)
6. Mismatch in speed of activity between university and “real world”

# Barriers to Moving University Knowledge to Impact

## 1. Traditional metrics

- grants from basic research
- publications in peer-reviewed journals
- service—to university

## 2. Promotion & tenure

## 3. Review process of

## 4. Organization and power structures within universities often impede interdisciplinary and transdisciplinary research

## 5. Hierarchical culture (benighting those with PhD and on tenure track)

## 6. Mismatch in speed of activity between university and “real world”



Cornell University Architecture students' Silo House (2010 Solar Decathlon)

review

# Barriers to Moving University Knowledge to Impact

## 1. Traditional metrics

- grants from basic research
- publications in peer-reviewed journals
- service—to university

## 2. Promotion & tenure

## 3. Review process

review

## 4. Organization and power structures within universities often impede interdisciplinary and transdisciplinary research

## 5. Hierarchical culture (benighting those with PhD and on tenure track)

## 6. Mismatch in speed of activity between university and “real world”



# Barriers to Moving University Knowledge to Impact

## 1. Traditional n

- grants fro
- publicatio
- service—

## 2. Promotion &

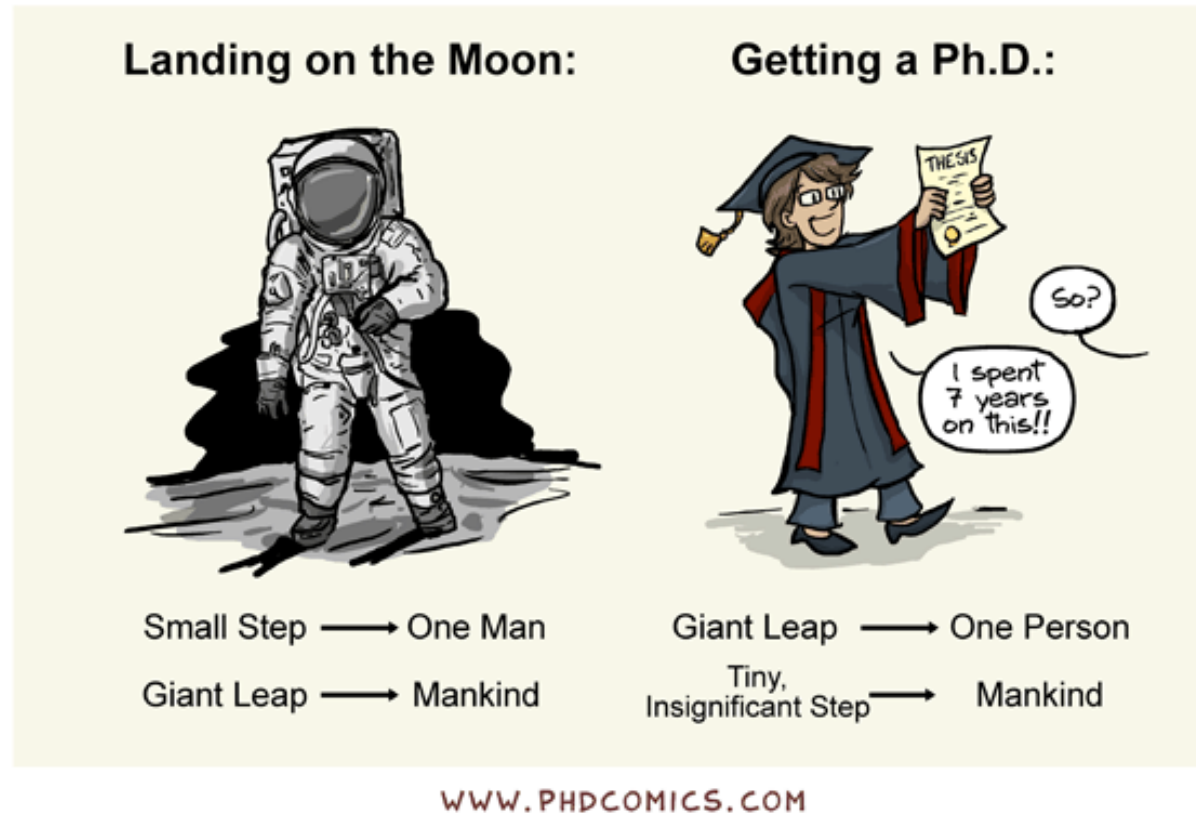
## 3. Review proc

## 4. Organizatio

interdisciplin

## 5. Hierarchical culture (benighting those with PhD and on tenure track)

## 6. Mismatch in speed of activity between university and “real world”



JORGE CHAM © 2014

N

impede

# Barriers to Moving University Knowledge to Impact

## 1. Traditional research

- grants from
- publication
- service—



## 2. Promotion &

## 3. Review process

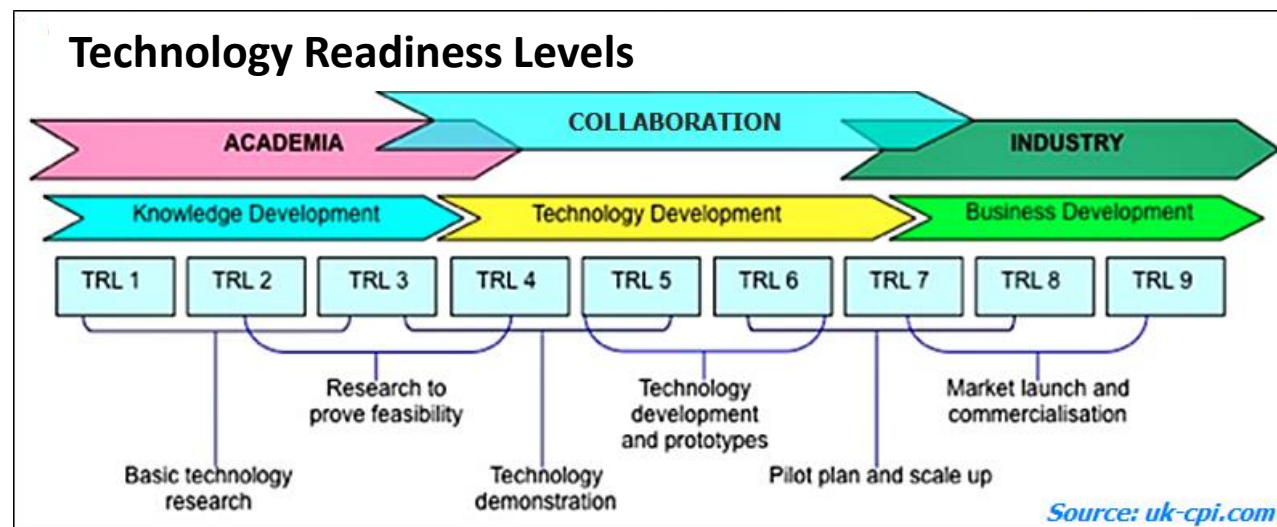
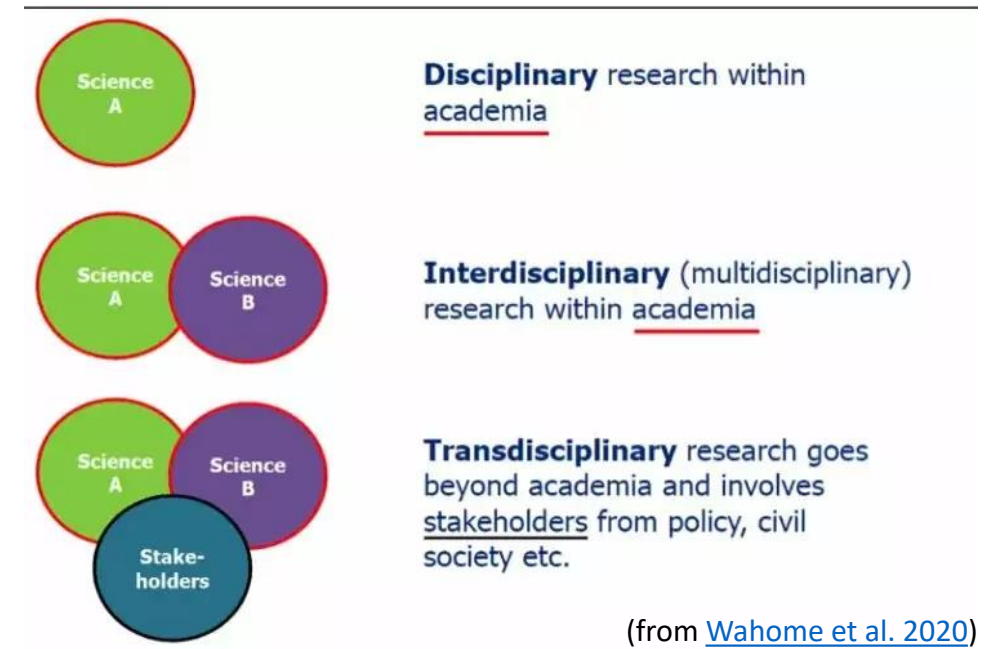
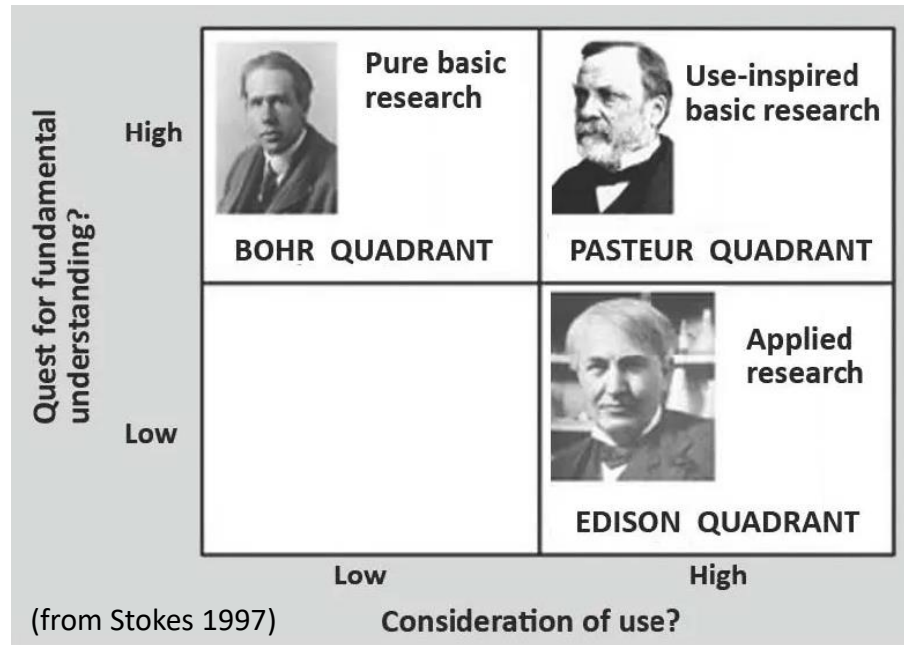
## 4. Organization

interdisciplinary and transdisciplinary research

## 5. Hierarchical culture (benighting those with PhD and on tenure track)

## 6. Mismatch in speed of activity between university and “real world”

# What Kind of Knowledge do Universities Privilege?



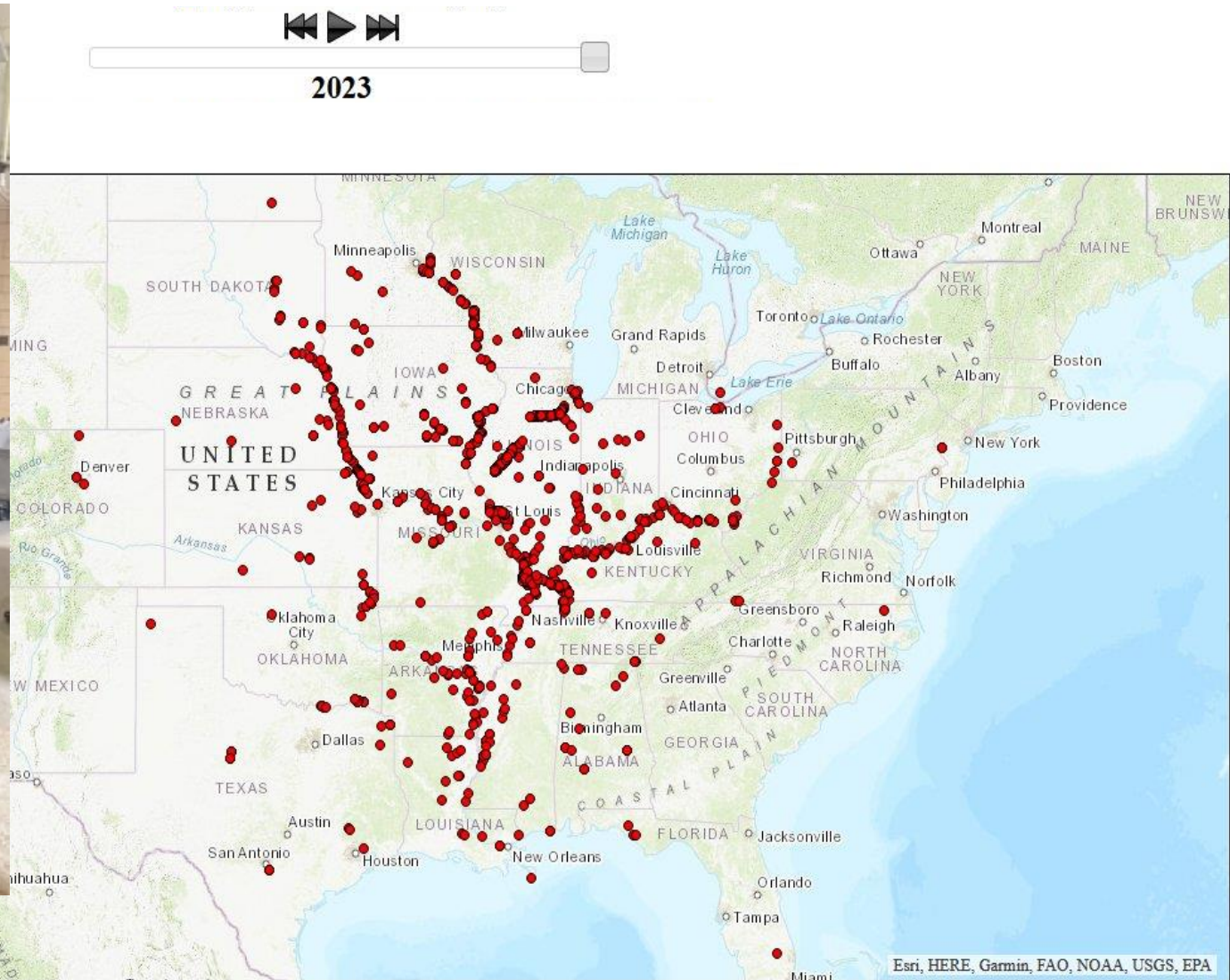
# What Kind of Knowledge do Universities Privilege?



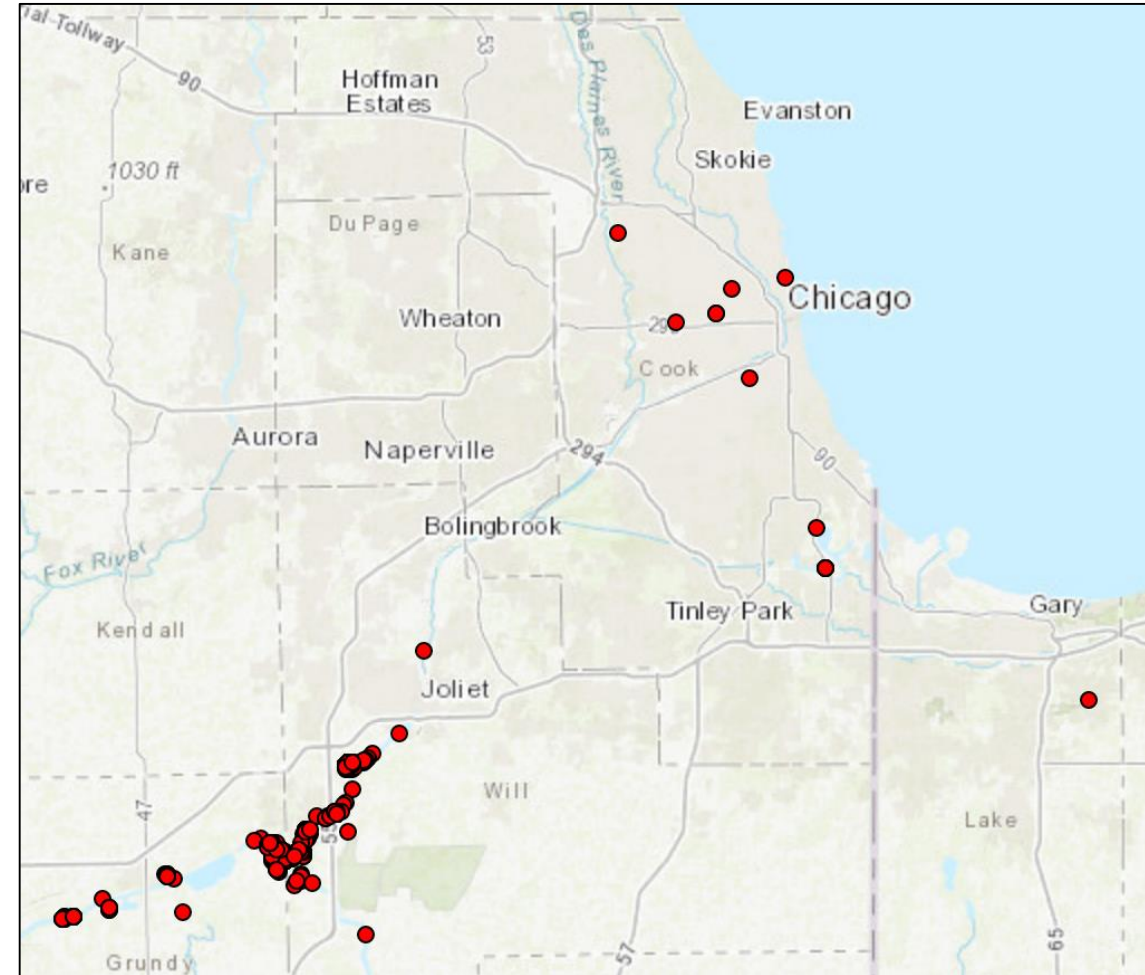
# Silver Carp (Bighead Carp similar)



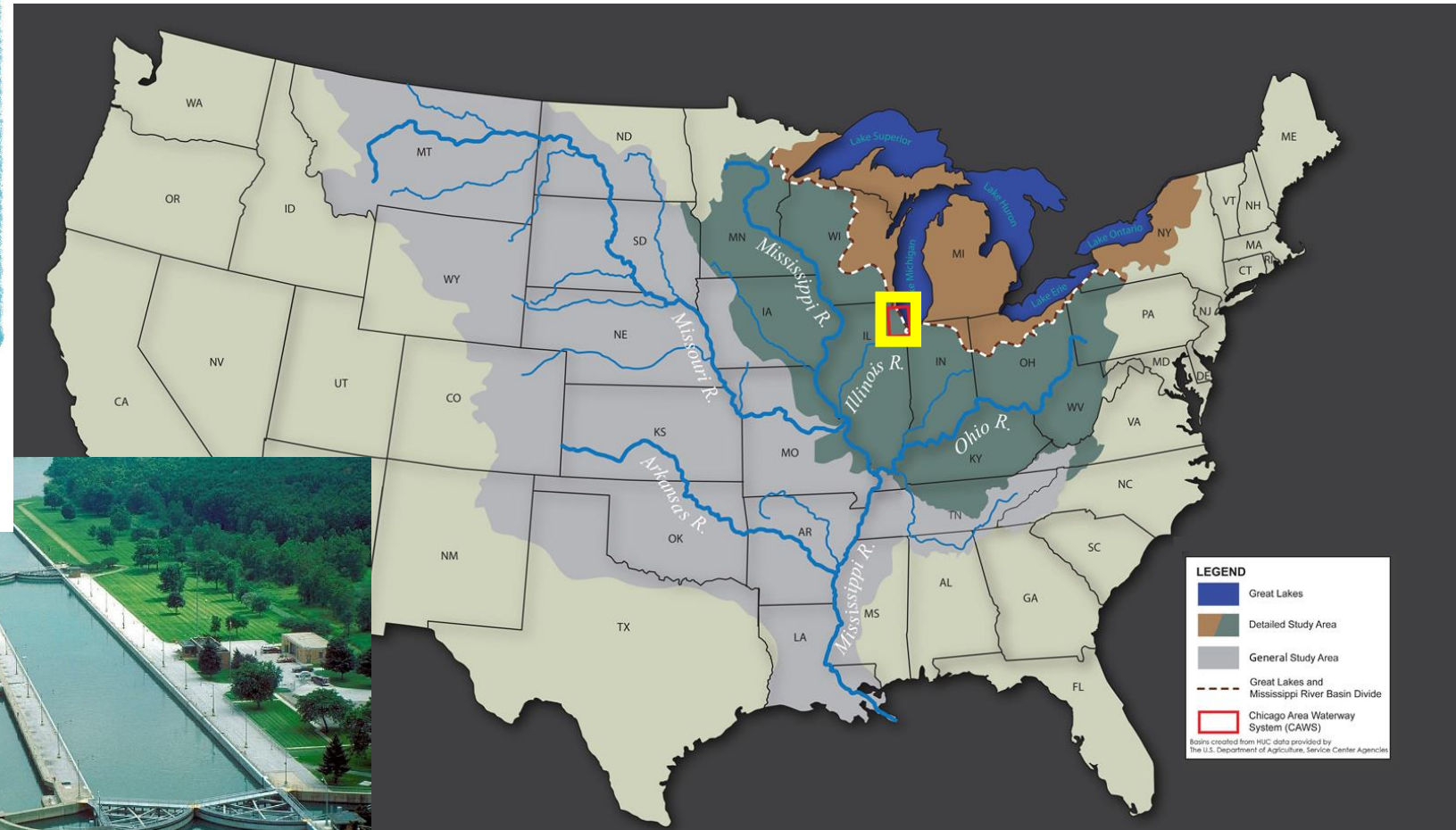
# Spread of Bighead Carp 1980-2023



# Bighead Carp in Illinois Rive and Chicago Area 2023



# Chicago Area Waterways Connect Great Lakes & Mississippi Basins





# Knowledge to Impact: Co-Creation, Co-Production



(Newcomb et al. 2020 Fisheries)

# POLICY, MANAGEMENT





# Cornell Atkinson Center for Sustainability: Theory of Change

