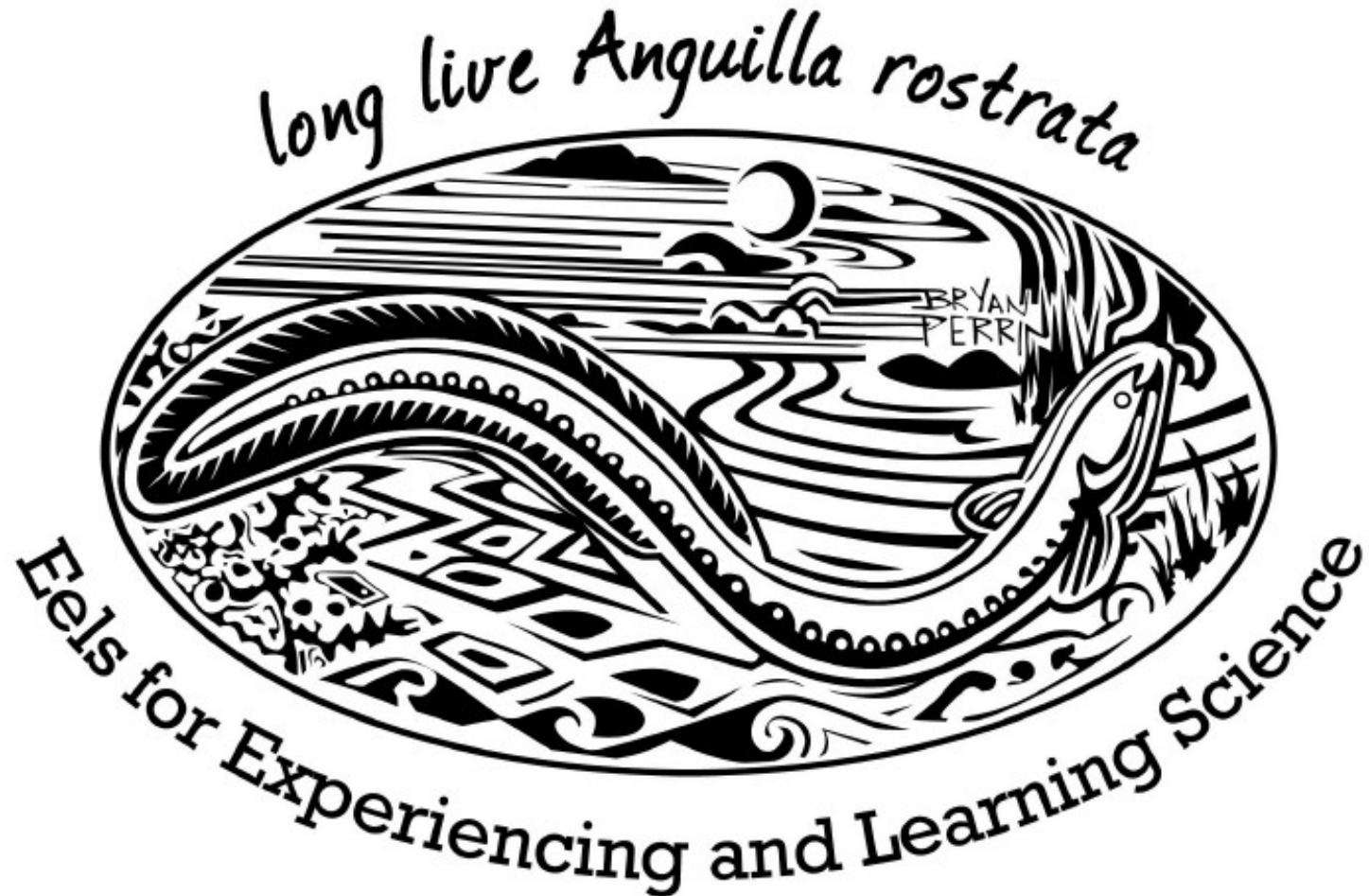


# Eels and Barriers

How barriers impact eels and how citizen scientists can help



Sarah Mount [sarah.mount@dec.ny.gov](mailto:sarah.mount@dec.ny.gov)



Department of  
Environmental  
Conservation





Eels grow for many years in rivers and streams

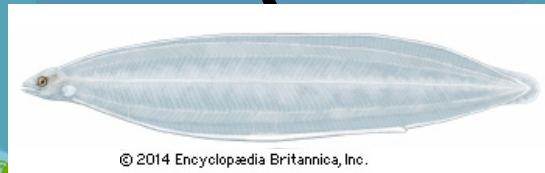


Adult silver eels return to the Sargasso to spawn



Glass eels arrive in estuaries

Larvae move north on Gulf Stream currents



© 2014 Encyclopædia Britannica, Inc.

**Sargasso Sea**  
American eels (*Anguilla rostrata*) likely hatch here



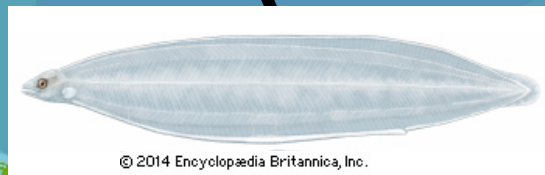
Eels grow for many years in rivers and streams



Adult silver eels return to the Sargasso to spawn



Larvae move north on Gulf Stream currents



© 2014 Encyclopædia Britannica, Inc.

**Eel numbers are going down**



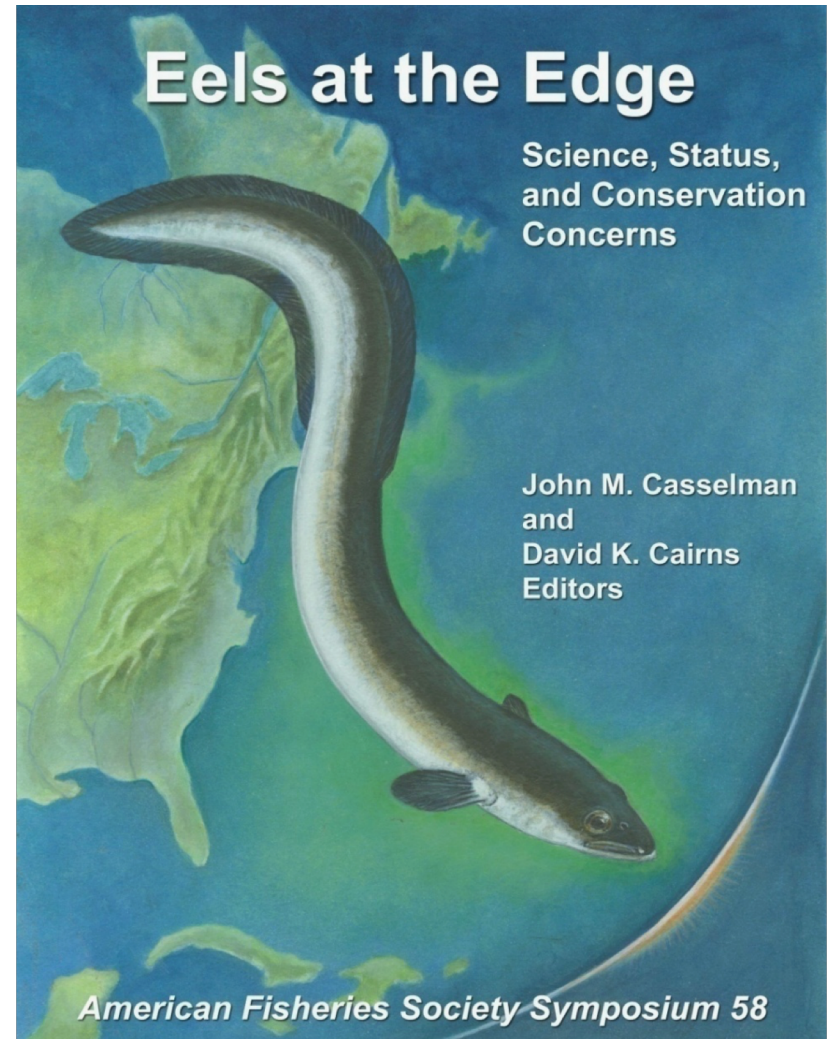
Sargasso Sea  
American eel  
(*Anguilla rostrata*)  
likely hatch here



# Possible Factors Causing Recent Eel Declines

## *Historic order of impact:*

1. Habitat loss
2. Dams and barriers
3. Water pollution
4. Overfishing
5. Hydroelectric turbines
6. Climate change
7. Food web changes
8. Parasites



(adapted from John Casselman, Queens University)



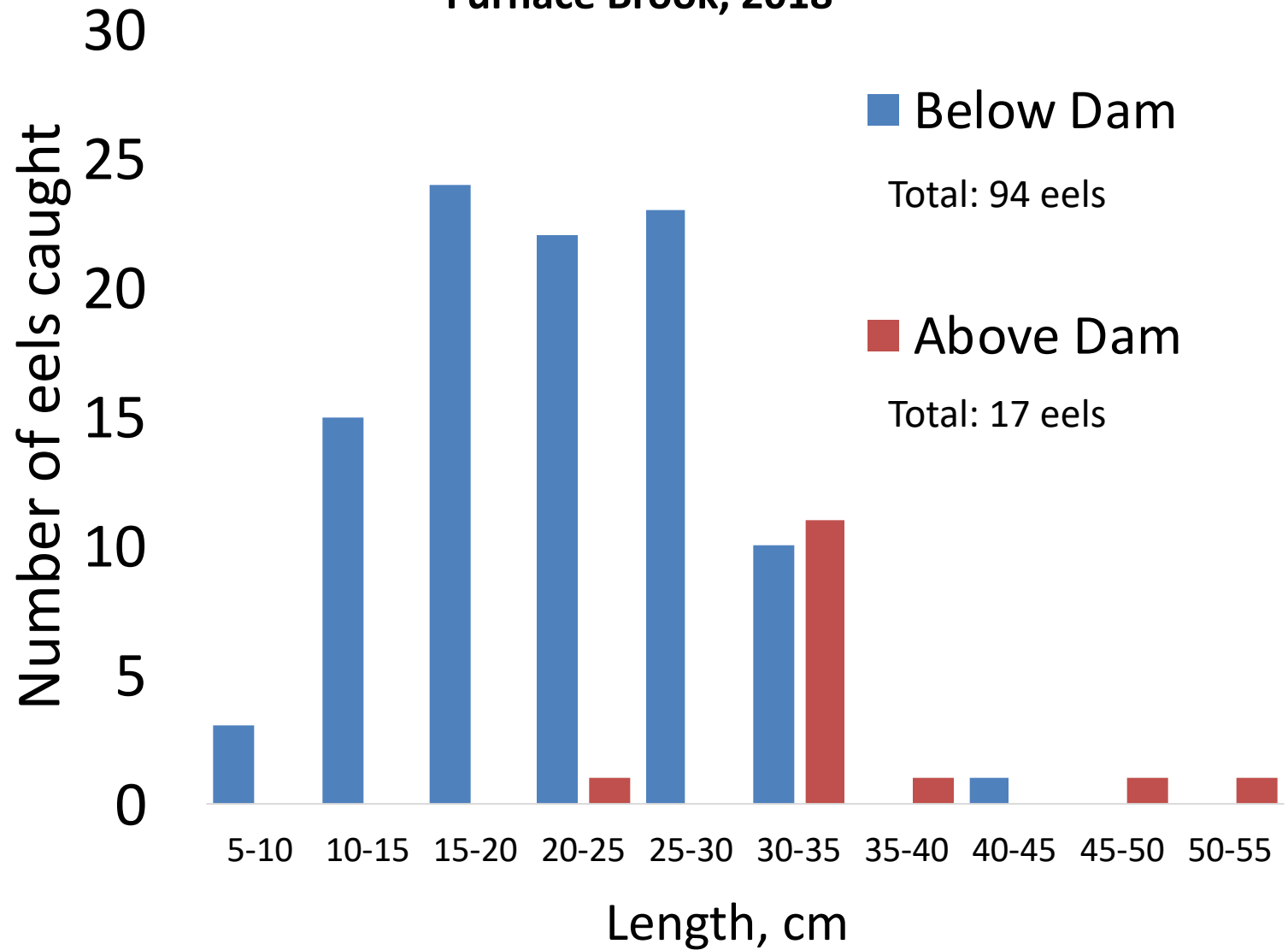
# How do barriers impact eel numbers?





# Eels Above and Below Dam

Furnace Brook, 2018





# Ecologically important

- Marine energy coming into freshwater as glass eels
- Consume a variety of macroinvertebrates, crayfish, and other fish as they grow
- Food source for eagles, herons, striped bass and more





# Culturally significant



Seal of the Haudenosaunee Confederacy

# Economically desired

## Netting Tiny Eels and Big Profits



Craig Dilger for The New York Times

Suzanne Smith, left, and John Taylor on Thursday gathered the elvers that they caught in their nets overnight in Pemaquid, Me.

By [ABBY GOODNOUGH](#)

Published: March 29, 2012 | [36 Comments](#)

The next two months will bring sleepless nights and high anxiety — and quite possibly an extraordinary windfall — for a small universe of people in Maine. They are the lucky few with licenses to catch elvers — young, tiny eels that look like cellophane noodles and by some accounts are fetching up to \$2,200 per pound this spring.

[f](#) RECOMMEND

[t](#) TWITTER

[in](#) LINKEDIN

[c](#) COMMENTS (36)



# Eels as an outreach tool

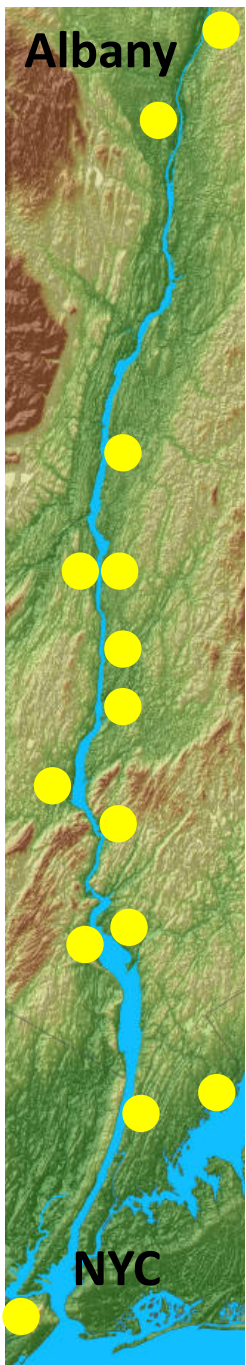




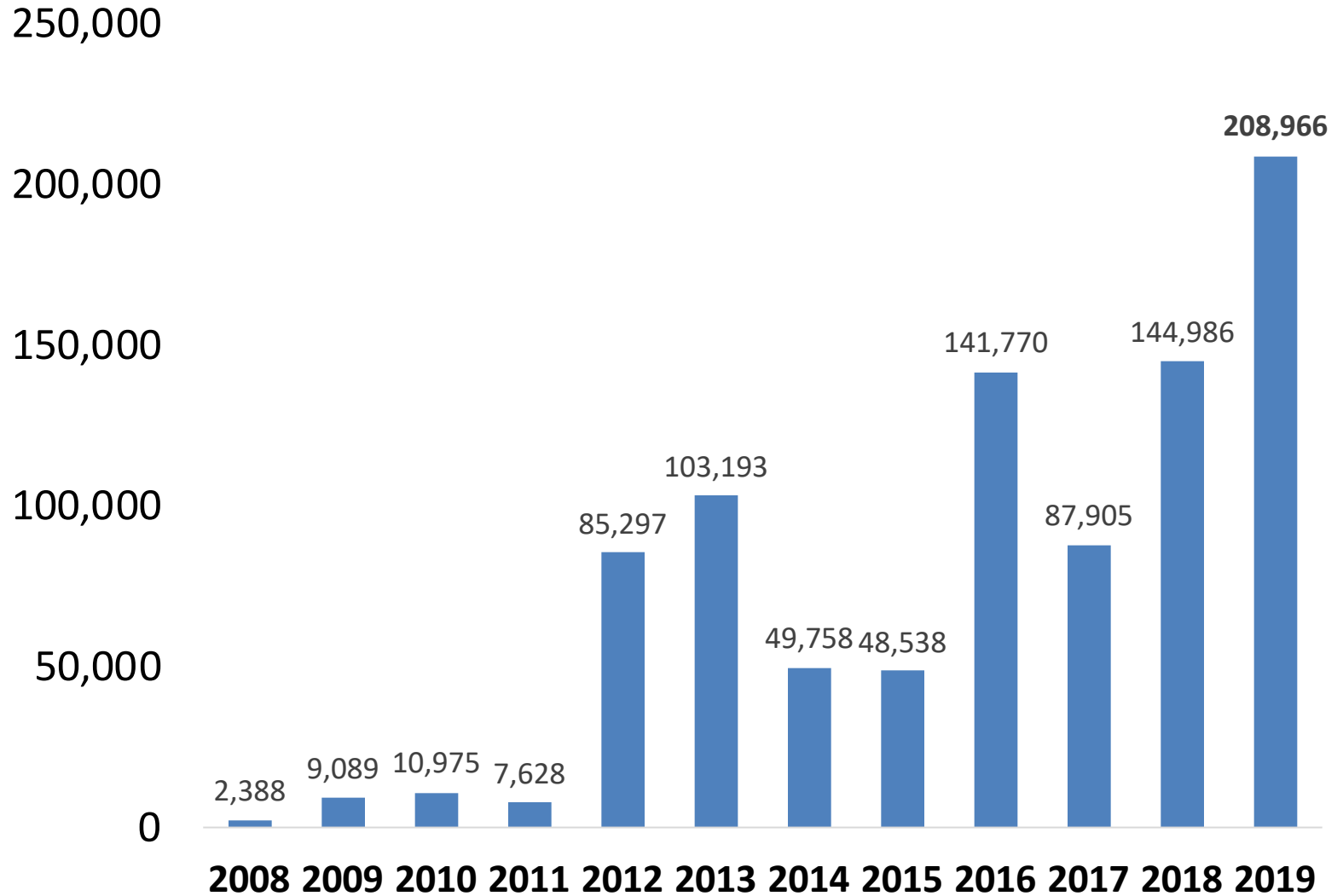
# Glass eel sampling (March-May)



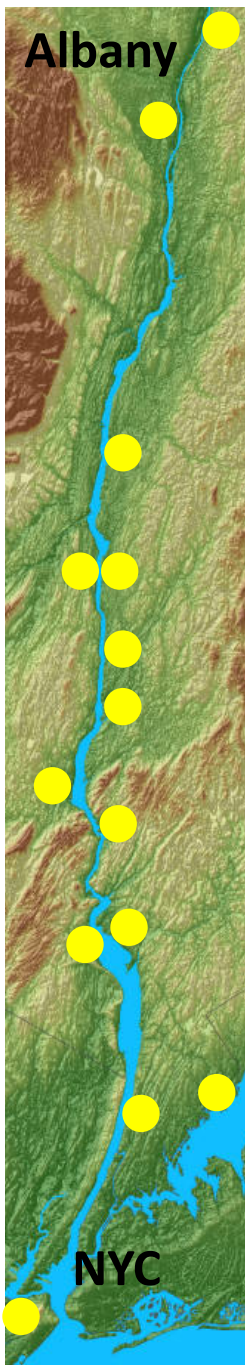
- Each spring, nets are placed in the mouths of streams
- Teams of trained volunteers catch, count, and release eels
- Project follows ASMFC methods



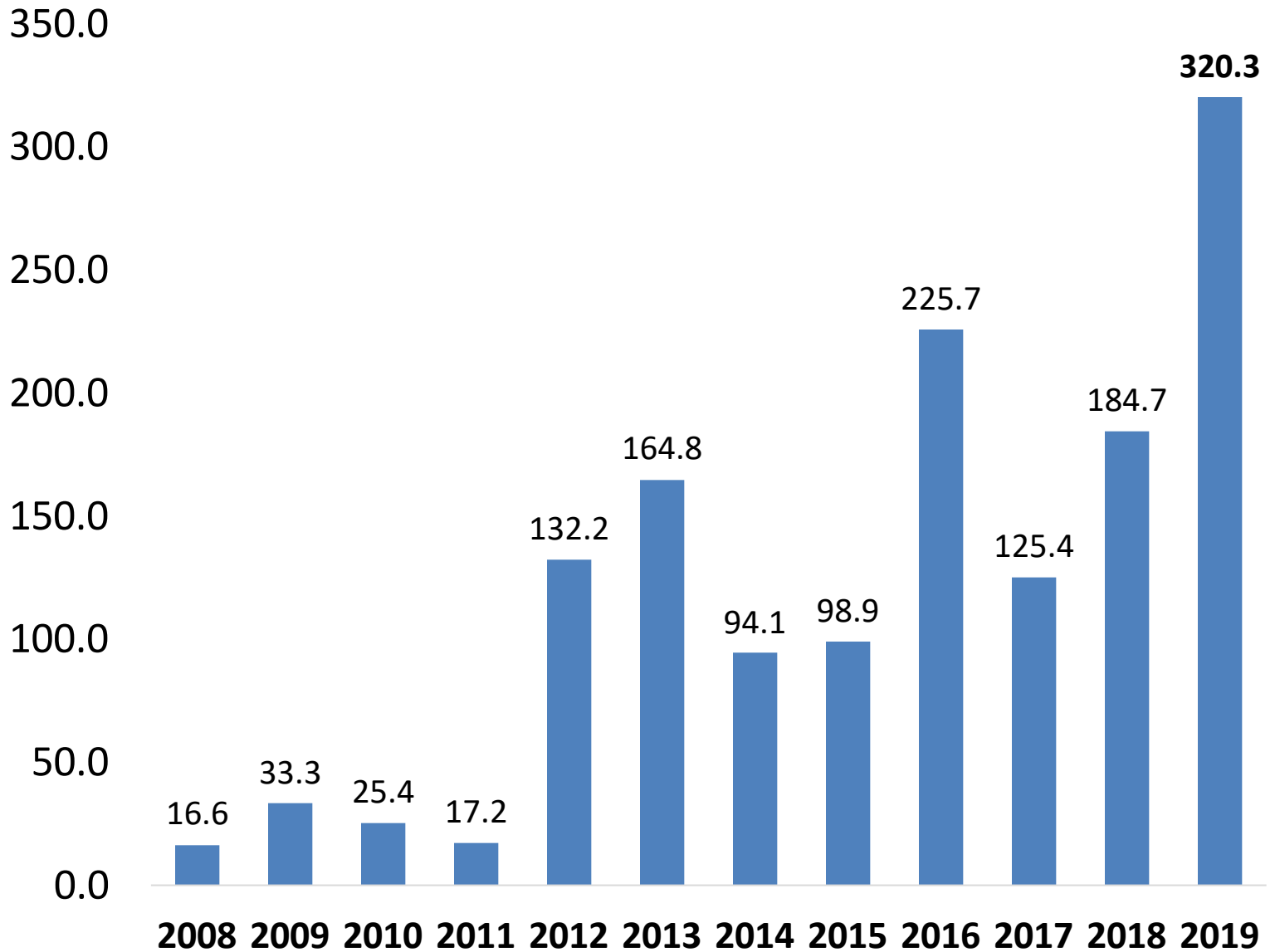
## Glass Eel Totals Each Year



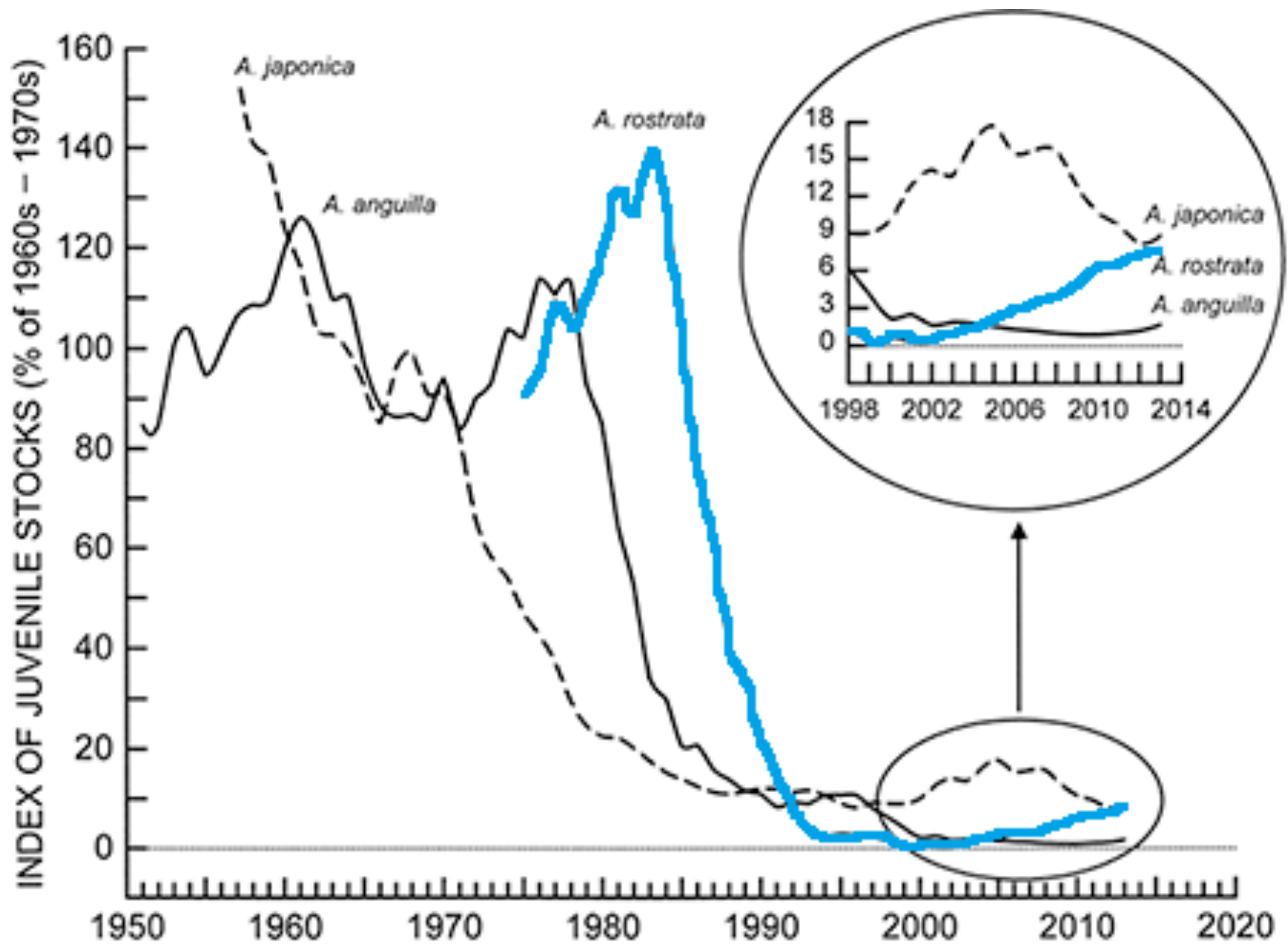
**We've caught and released over 900,000 glass eels since 2008!**



## Average Catch Per Day Since 2008



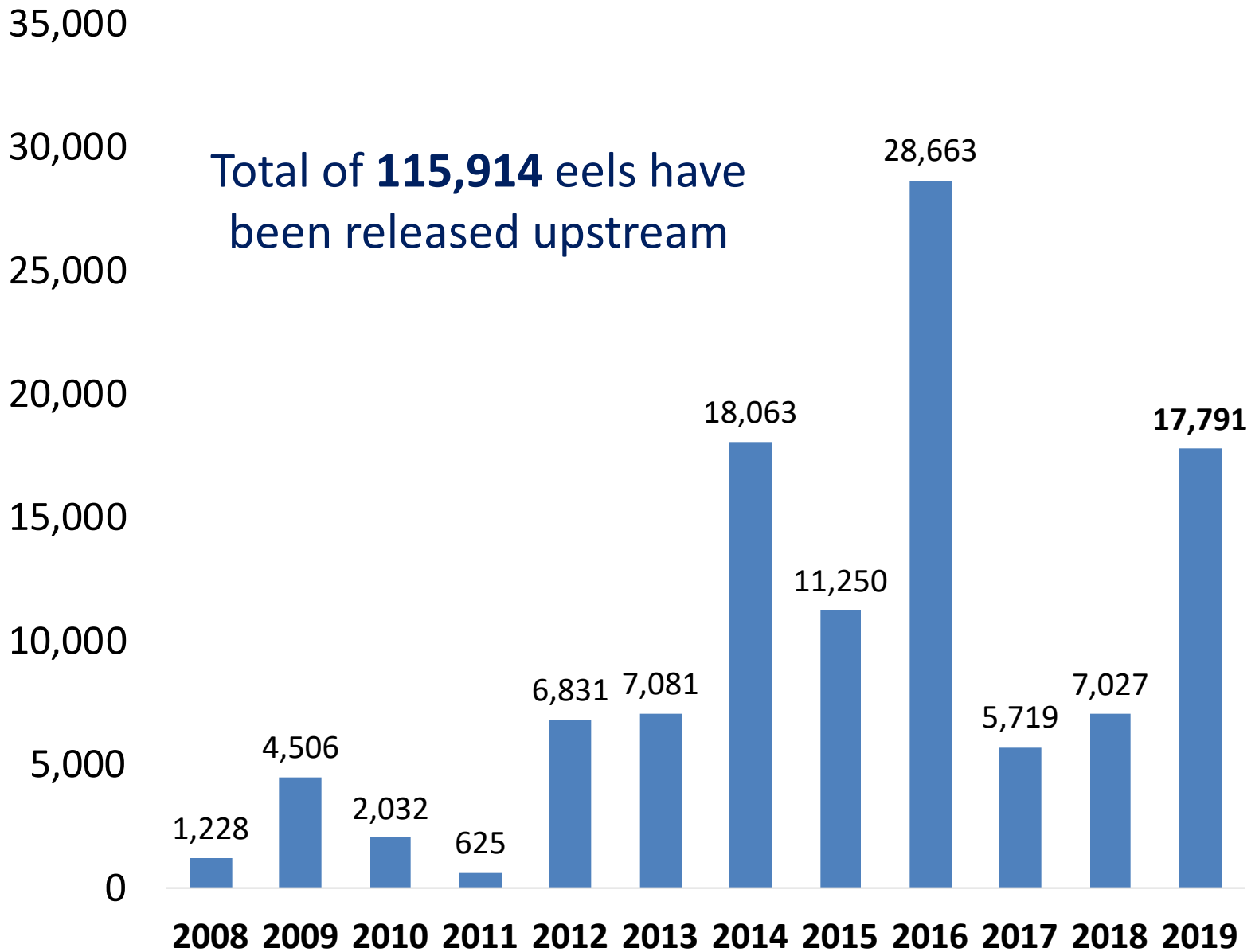






# Total Glass Eels Caught at Fall Kill

Total of **115,914** eels have been released upstream





# Eels Caught Upstream at Fall Kill (Electrofishing surveys)

Total eels caught

40  
35  
30  
25  
20  
15  
10  
5  
0



2009

2012

2014







## Eels Caught Upstream at Fall Kill (Electrofishing surveys)

Total eels caught

40  
35  
30  
25  
20  
15  
10  
5  
0

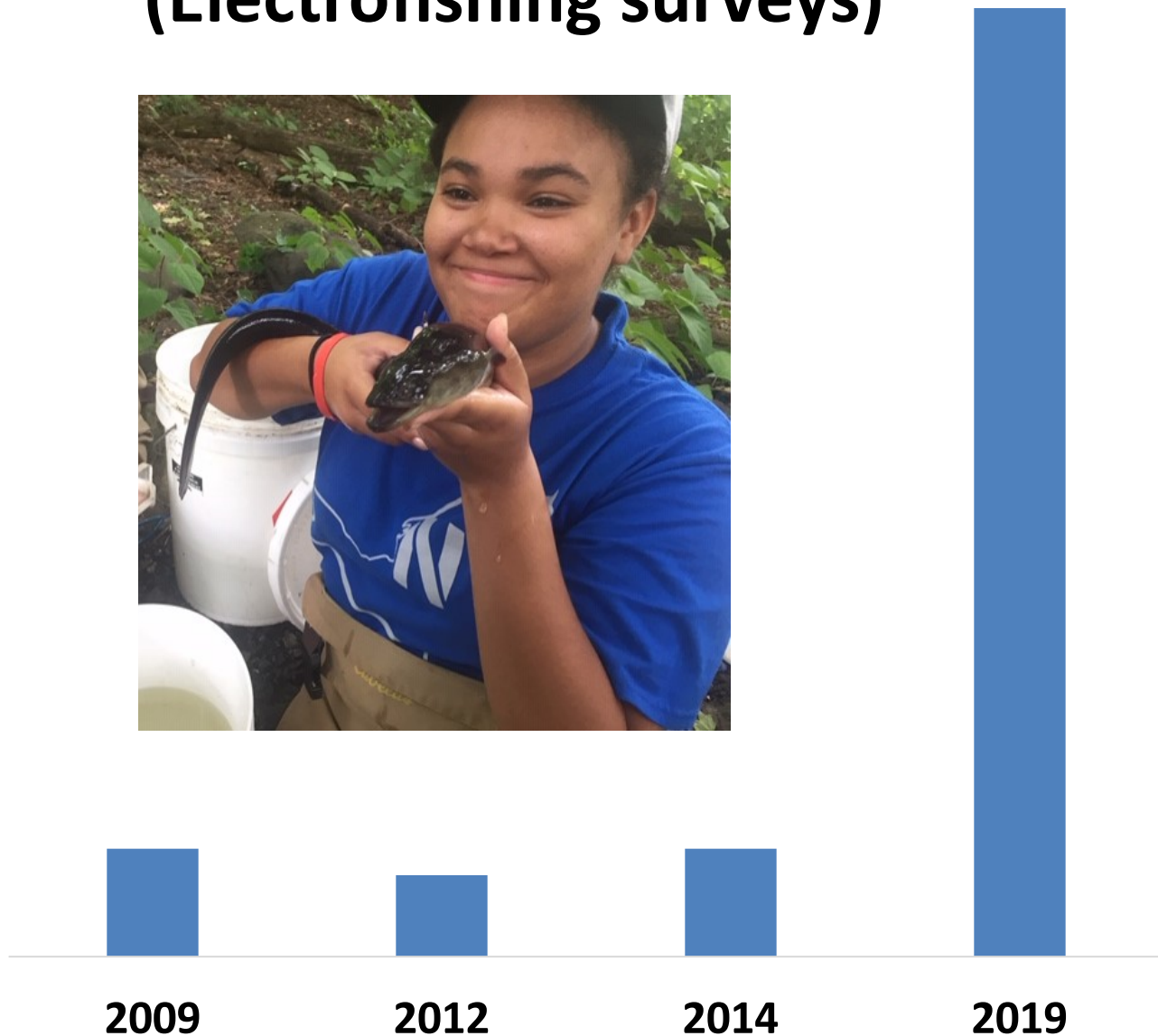


2009

2012

2014

2019





# Eel ladders to get eels past dams (Jun-Oct)





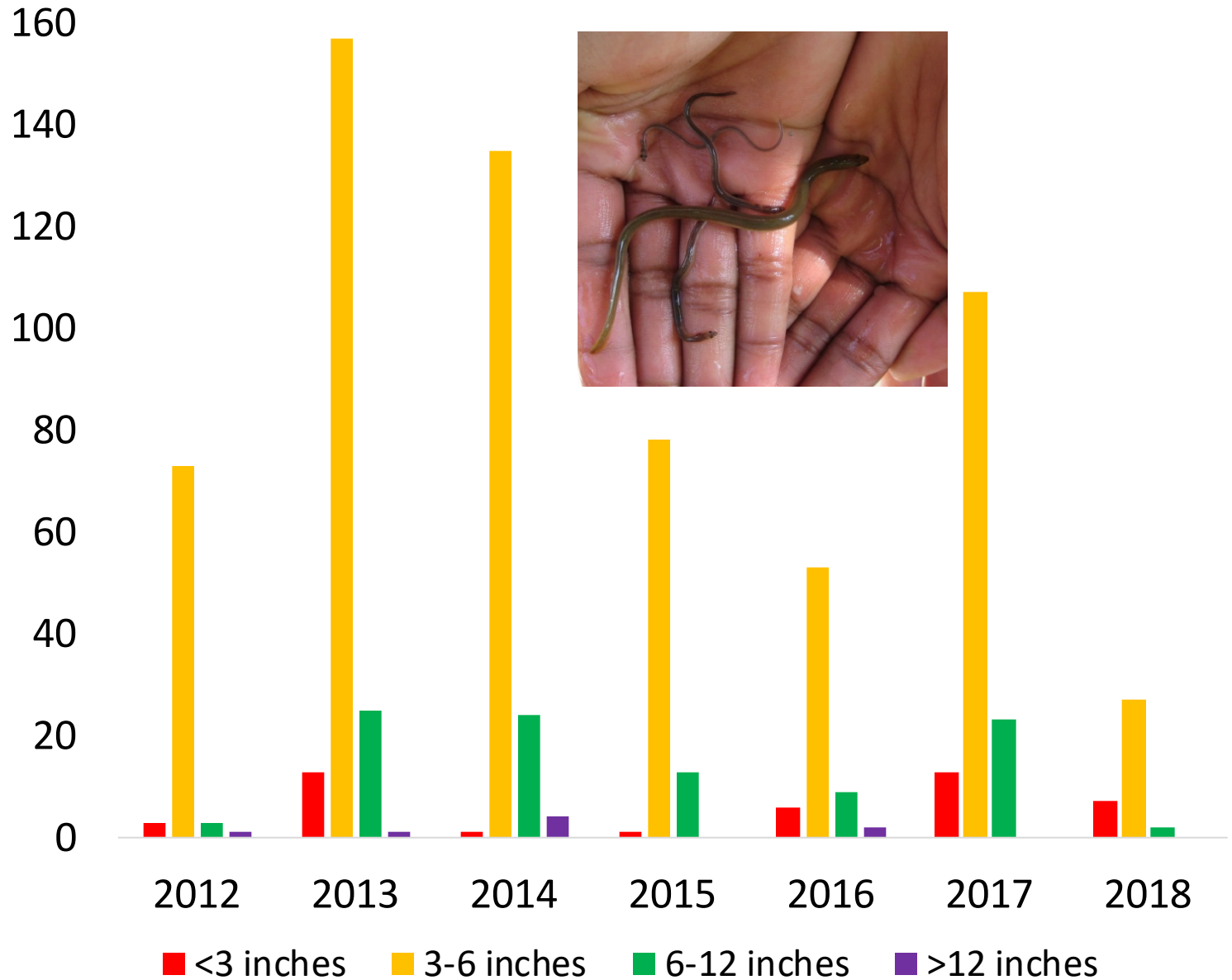
# “Eel-avators” to get eels past dams (June-Oct)





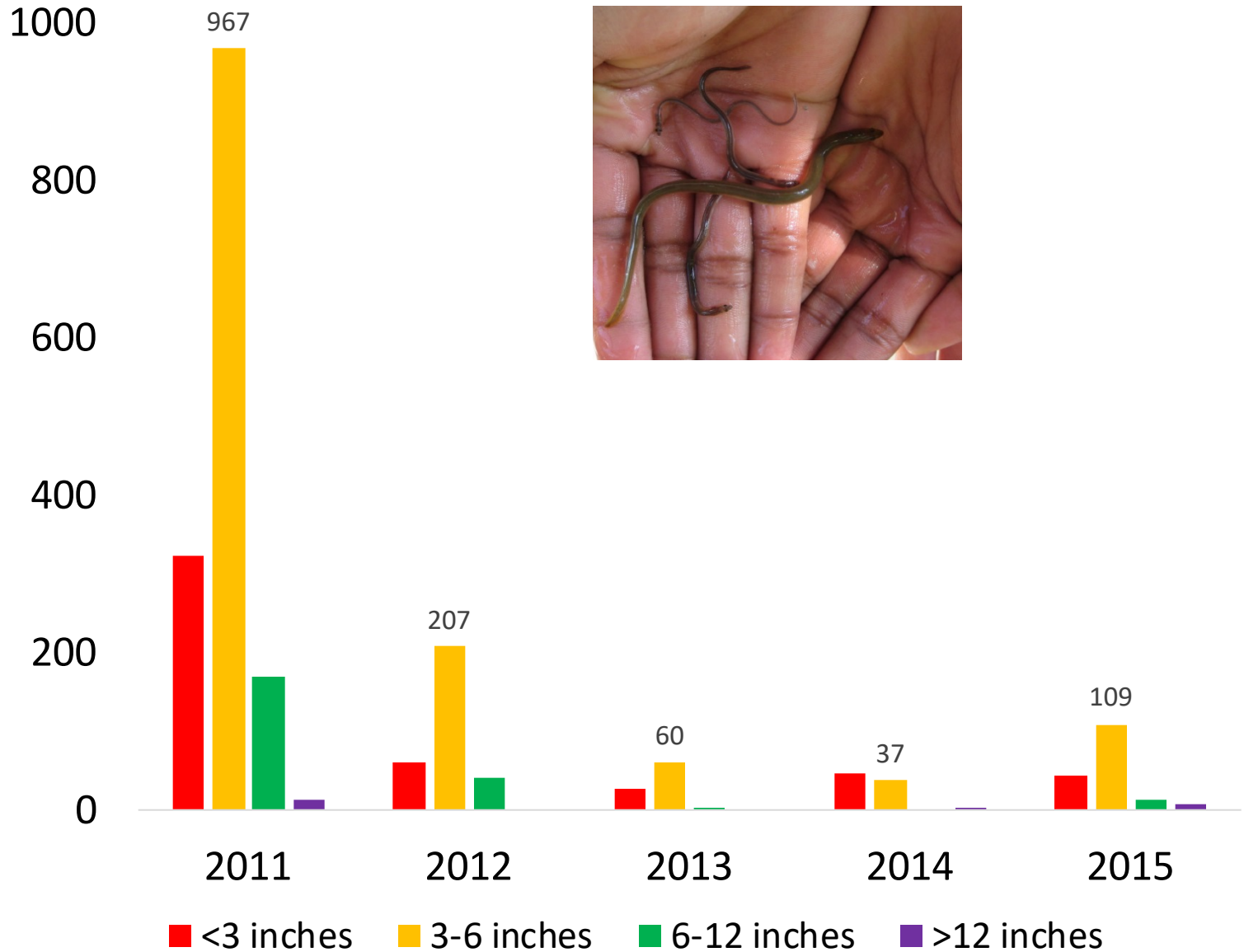


# Eels at Crum Elbow Ladder





## Eels at Furnace Brook Ladder



# Final Thoughts



- Volunteers and students can help with research and conservation (expands scope and reach)
- Having people involved in hands-on research and conservation creates active communities that **value** streams and want to **protect** and **restore** their local river and stream





# World Fish Migration Day: May 16, 2020

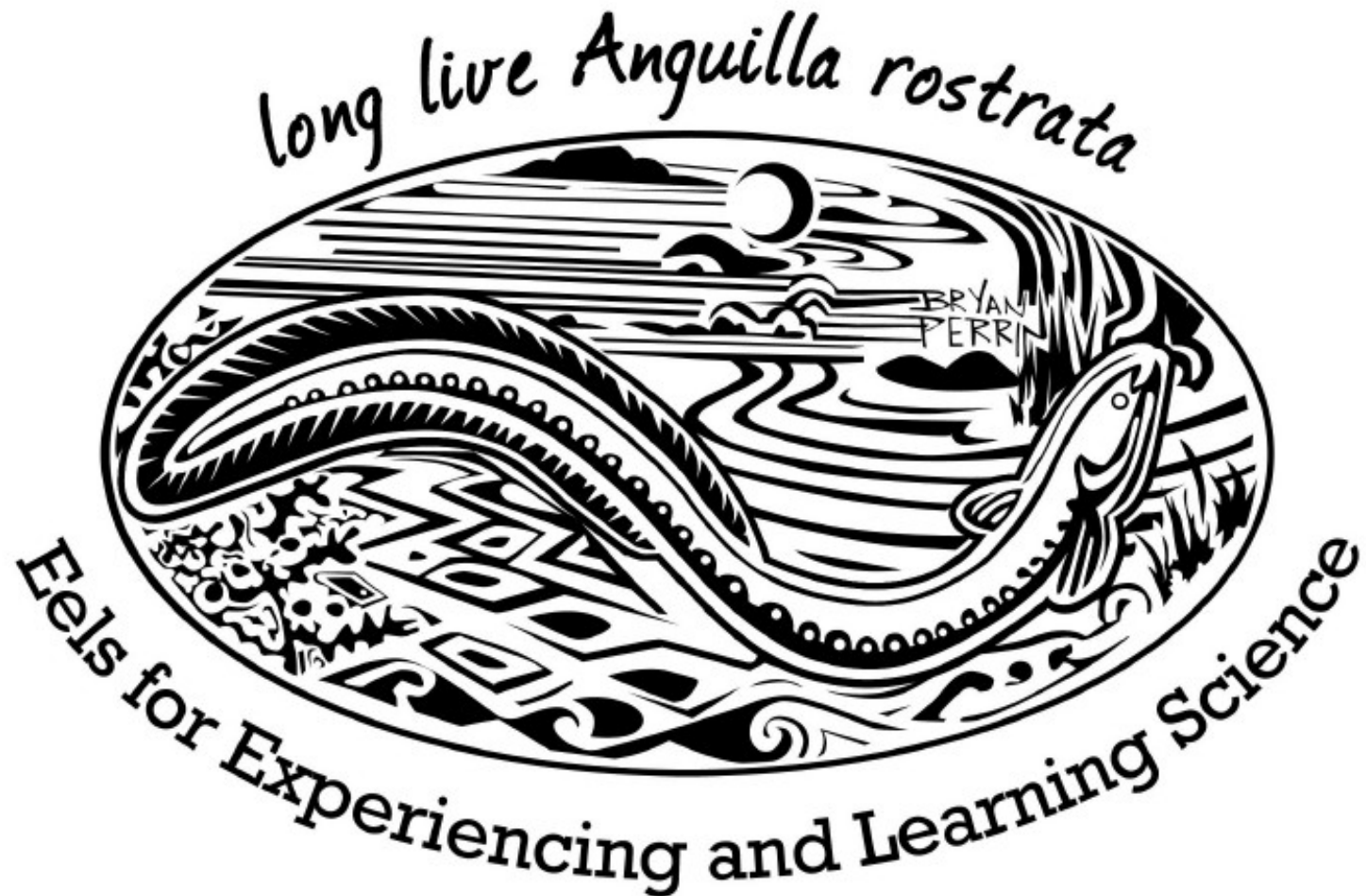


**LOVE  
FLOWS**

#worldfishmigrationday | 16 May 2020 | #happyfish

# Thank You!

## Questions?



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Department of  
Environmental  
Conservation

