

# Dam parasites

## How dams can force people to choose between health and livelihood

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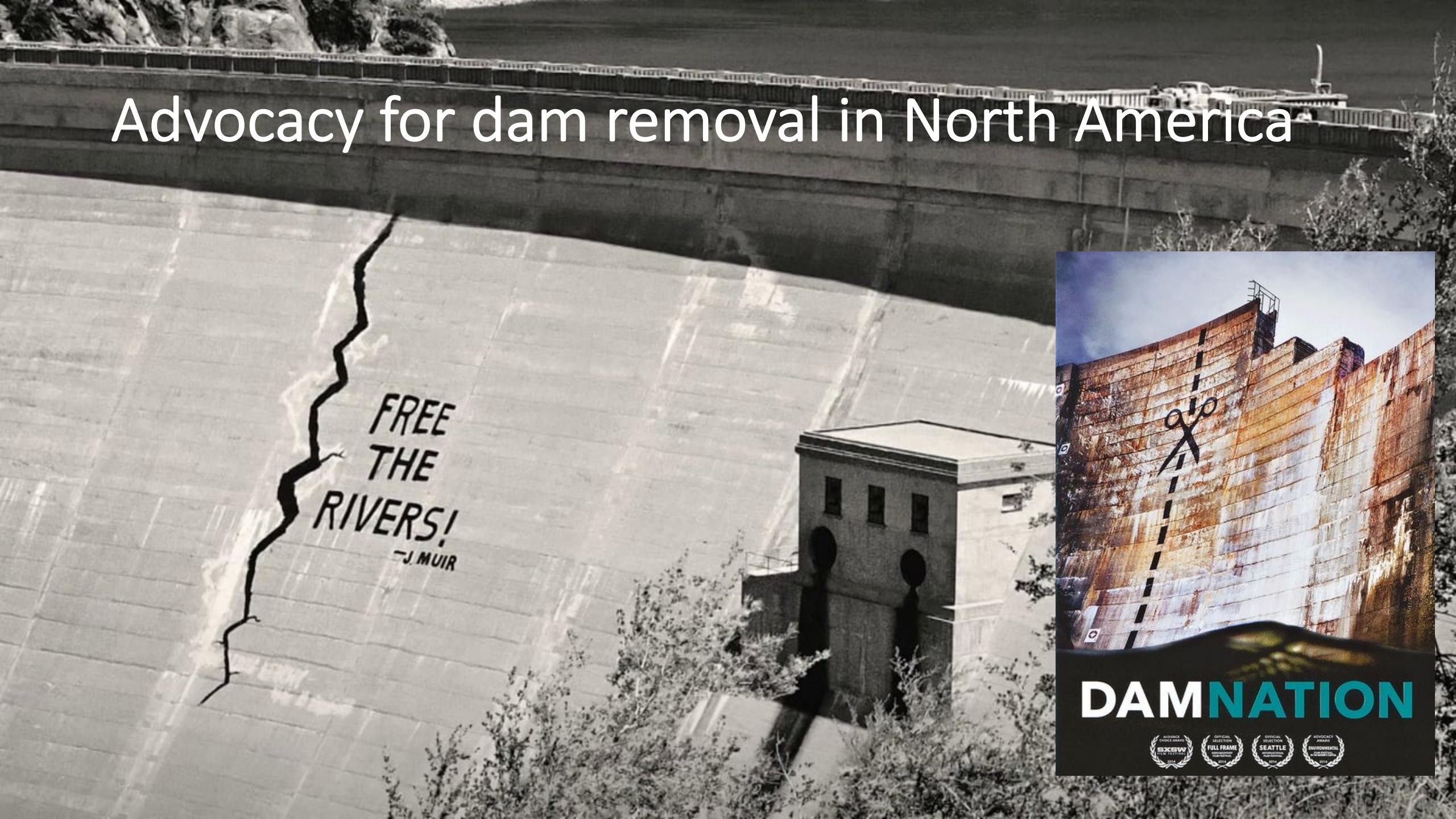
Hard Earth

April 16, 2019

Dams are an existential threat to migratory species



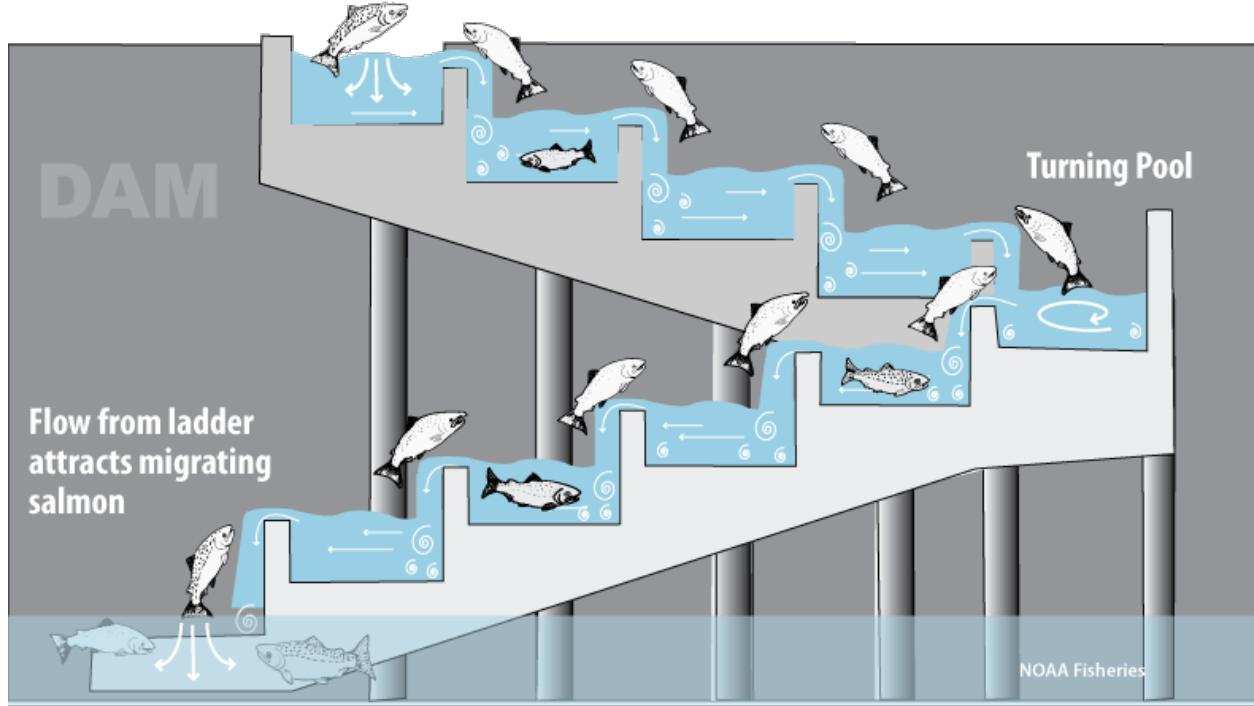
# Advocacy for dam removal in North America



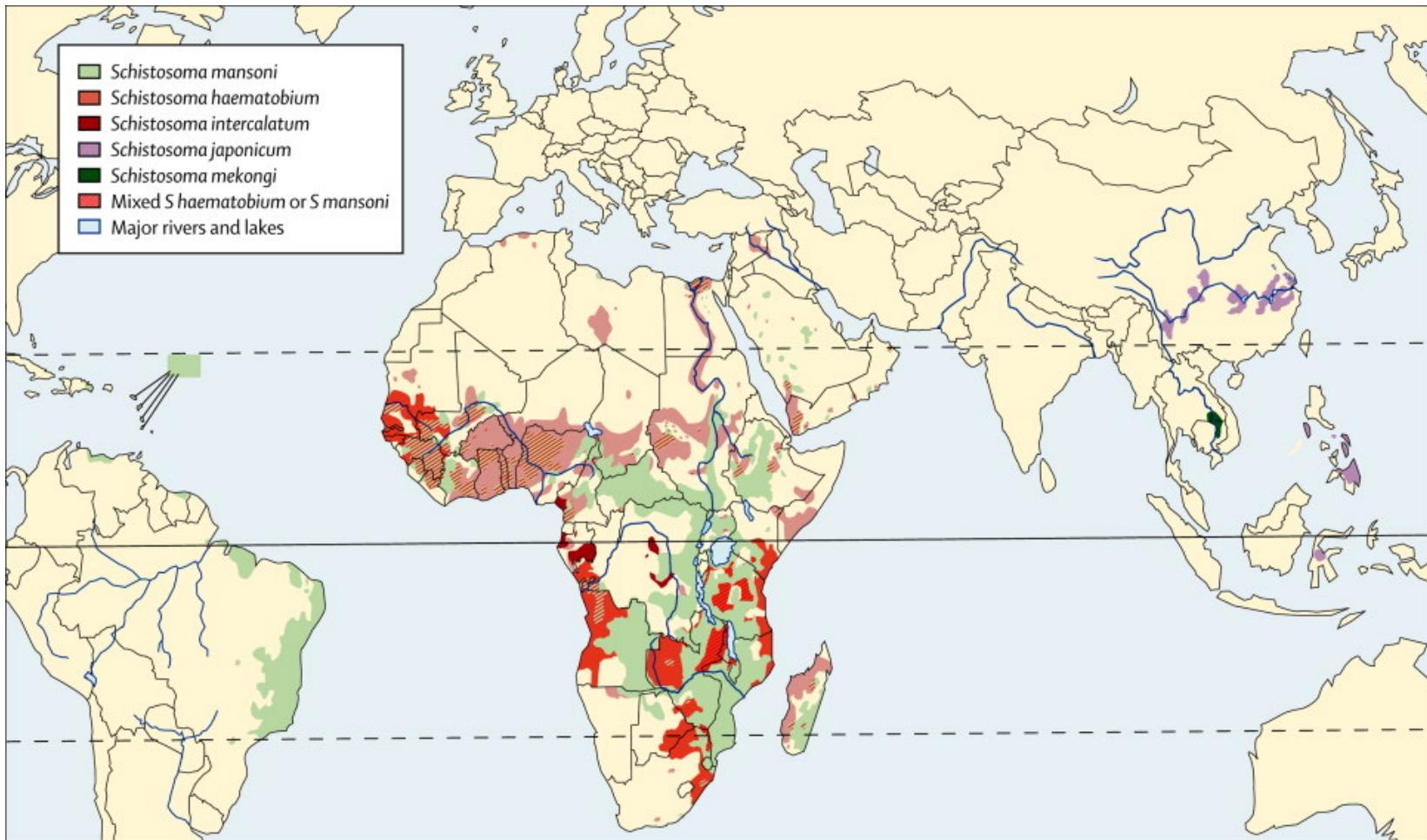
DAMNATION



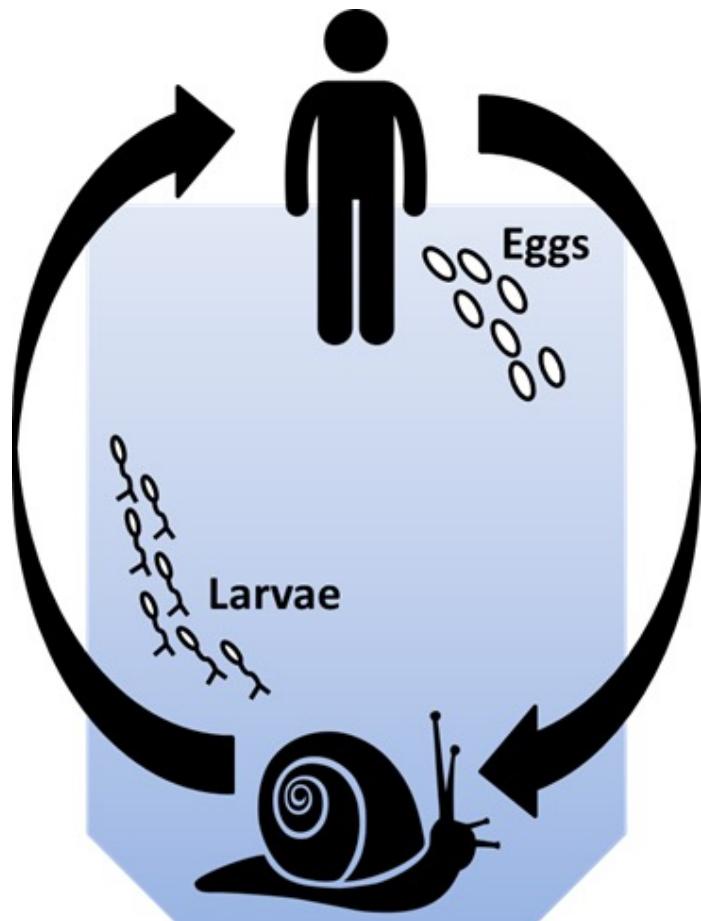
# Fish ladders help fish move across dams



# Dams also threaten human health



# Dams facilitate schistosomiasis transmission



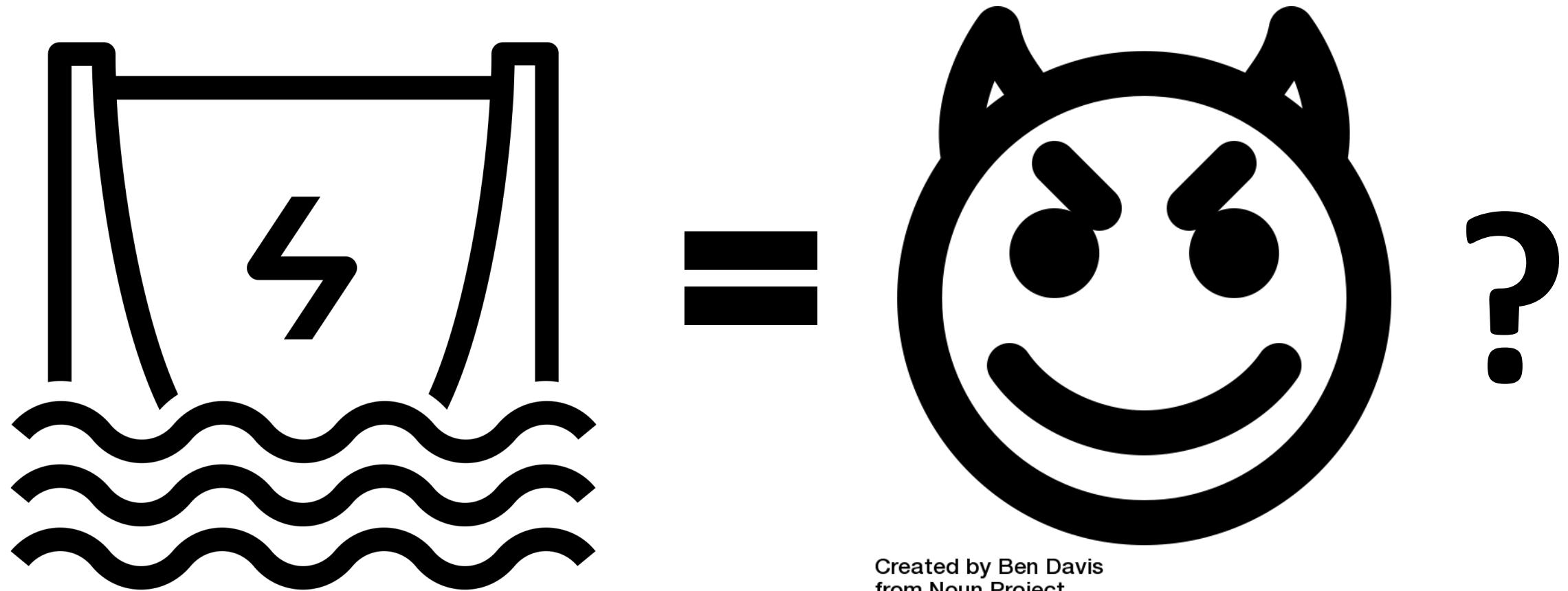
Senegal River before Diama dam



Senegal River after Diama dam



So dams are really bad, huh?



Created by Ben Davis  
from Noun Project

# Globally, investment in dams continues



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## NEWS

### Hydropower dams: What's behind the global boom?

By Reality Check team  
BBC News



The Washington Post  
*Democracy Dies in Darkness*

Business

### World Bank turns to hydropower to square development with climate change



## Los Angeles Times

The Ethiopians are building a massive dam, and Egypt is worried

# The New York Times

### The Race to Dam the Himalayas

Hundreds of big projects are planned for the rivers that plunge from the roof of the world.

By Sunil S. Amrit

Mr. Amrit is the author of the forthcoming book "Unruly Waters," a history of how water has shaped South Asia.

Dec. 1, 2018





People talk about how their lives are better

A scanning electron micrograph (SEM) of a parasitic worm, likely a nematode, against a black background. The worm has a long, slender body covered in numerous small, raised, circular structures called suckers or procoronae. It features a prominent, thickened anterior end with a large, bulbous structure and a pair of long, thin, finger-like appendages called strobila. The body tapers towards the posterior end.

But those dam parasites

Treatment cures but doesn't prevent

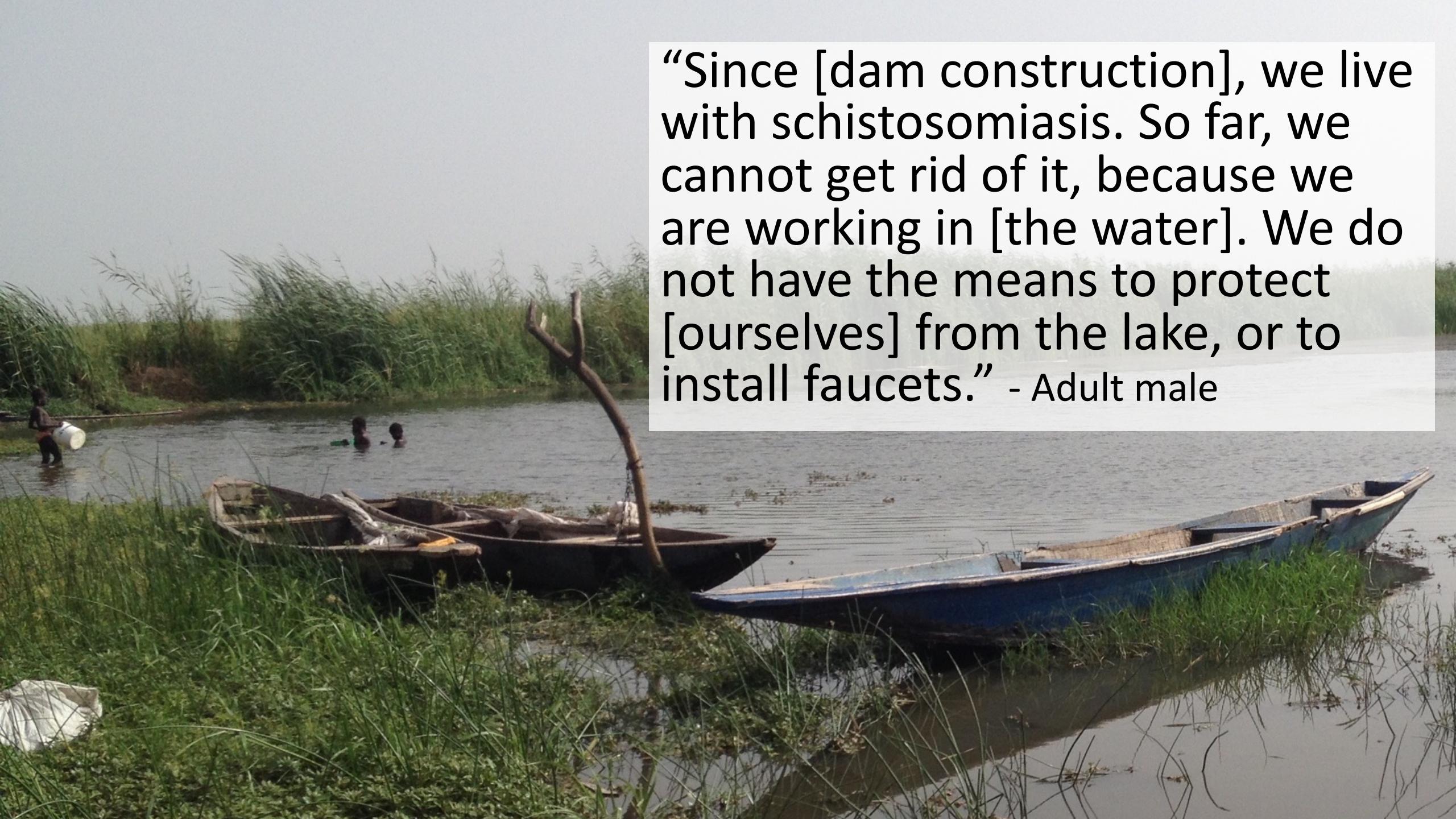


A photograph showing a close-up view of a person's lower legs and feet standing in shallow, brownish water. The water is murky and contains small debris and plants. The person's skin tone is dark. The text "Exposure through contact with water" is overlaid on the upper left portion of the image.

Exposure through contact with water

# Living in a pathogenic landscape





“Since [dam construction], we live with schistosomiasis. So far, we cannot get rid of it, because we are working in [the water]. We do not have the means to protect [ourselves] from the lake, or to install faucets.” - Adult male

“Children only know swimming. You know, they are happy when they bathe. It’s a kind of a pool. They like that. In this moment, if you go to the lake, you find children in the process of bathing. It’s this that... gives us schistosomiasis.”

- 68-year old female gardener





“I know that here, whether you are a farmer or a fisherman or whatever your job, you cannot escape schistosomiasis... Whatever your activity, as long as you’re in contact with the water, you cannot escape schistosomiasis.” – 68-year old male gardener



“That water, we cannot touch it. We cannot abandon it. If we abandon it, we will all become unemployed.” - 53-year old male gardener



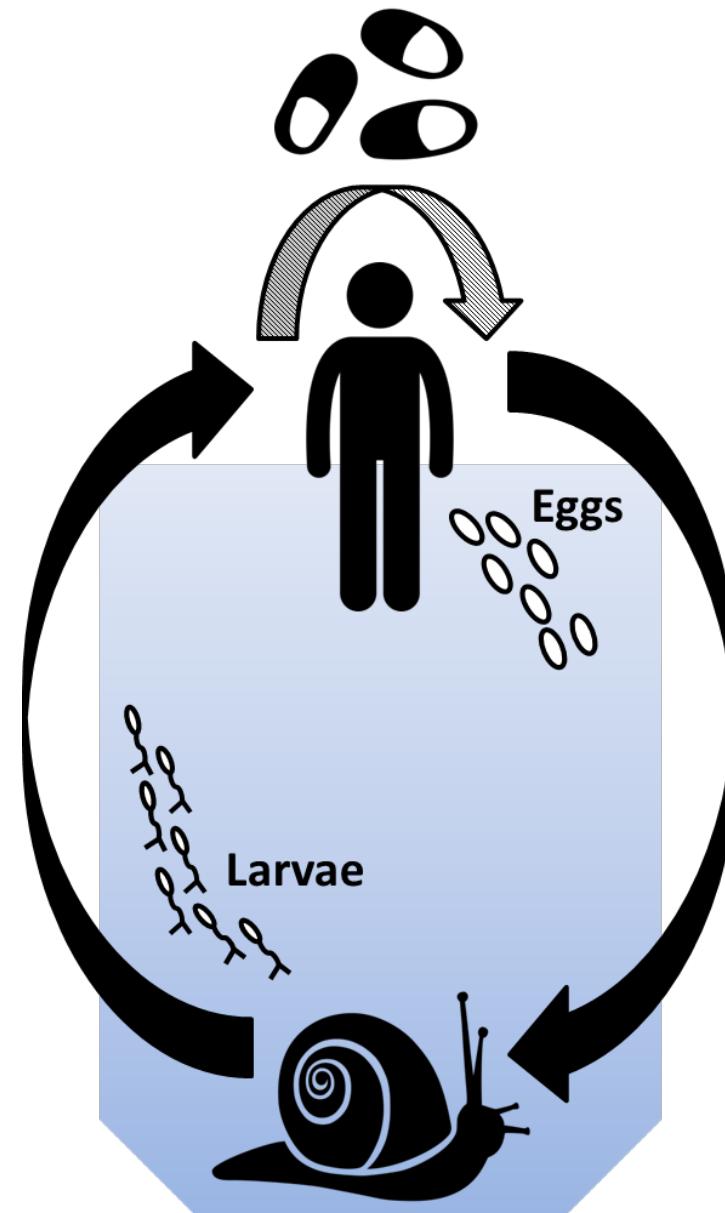
“It [water contact]’s not good for you. It’s not good. But we have no choice... because we are near the lake. If you say ‘I will not do it’ [go to the lake]... it is certainly not possible. It cannot happen like this. Fortunately, we pray for ourselves and we are given medicines... But we cannot protect ourselves... we are not easy to protect.”

- 68-year old female gardener

# Fighting schisto

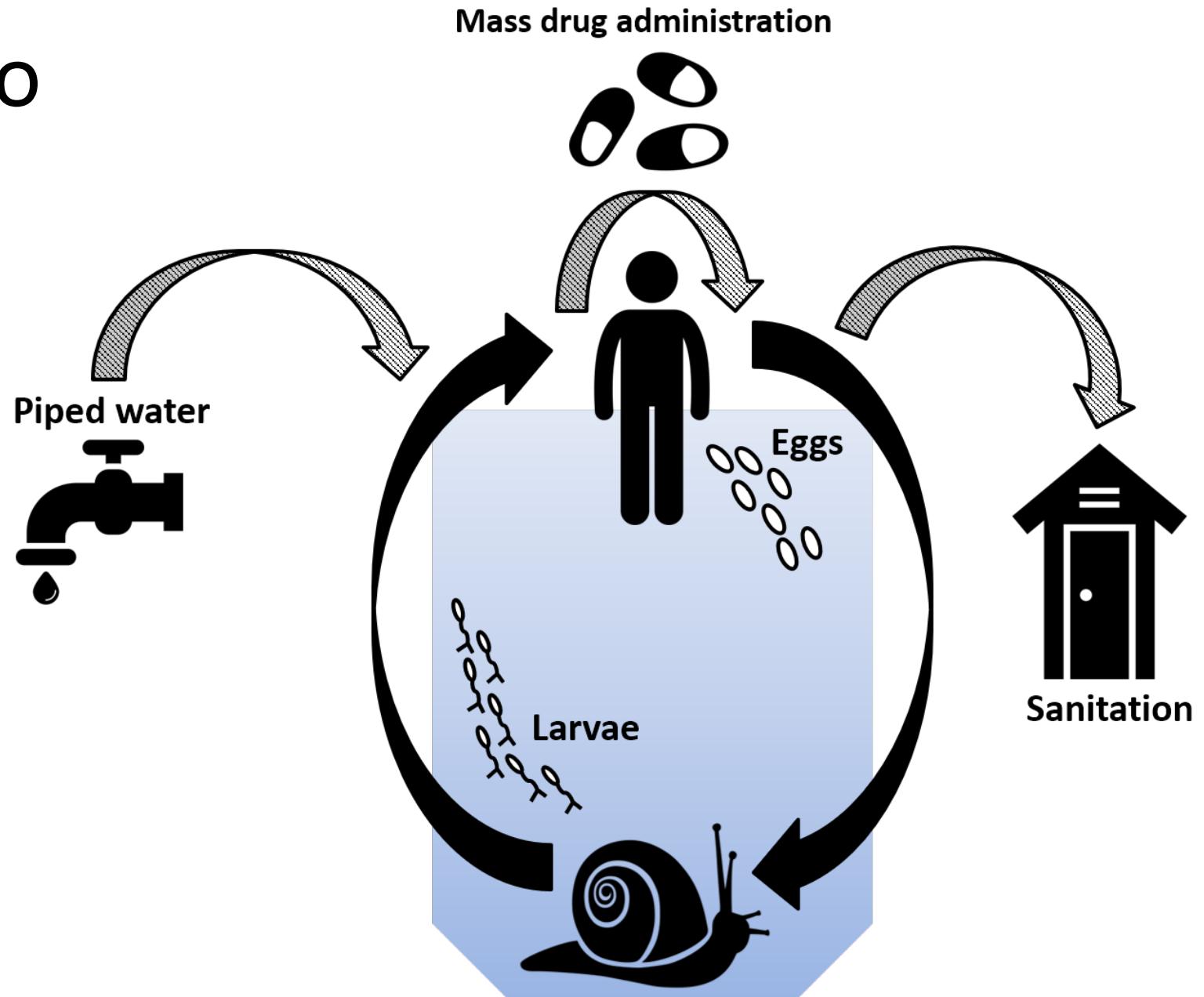
Business as usual

Mass drug administration



# Fighting schisto

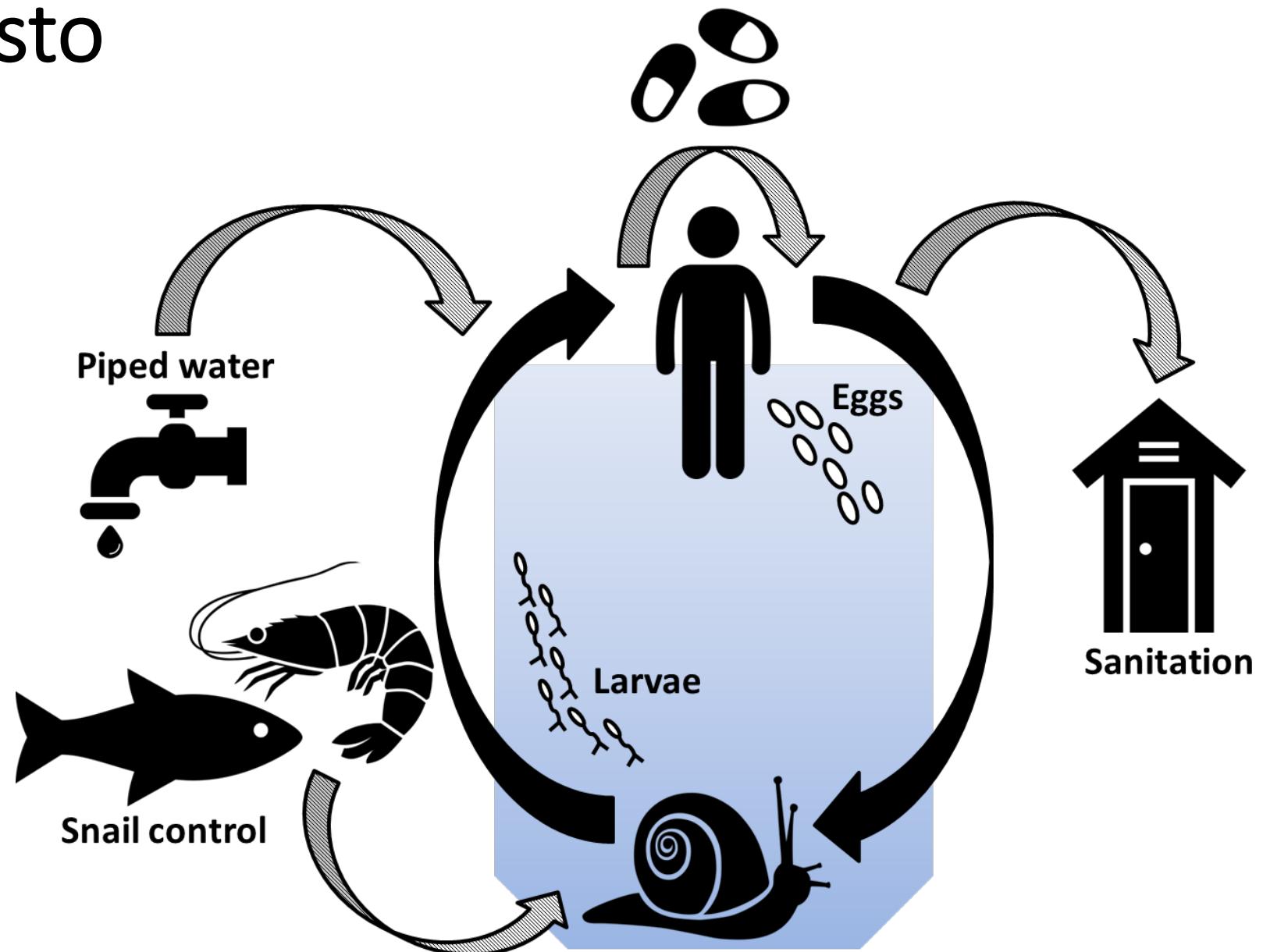
Business as usual  
+ water/sanitation



# Fighting schisto

Business as usual  
+ water/sanitation  
+ snail control

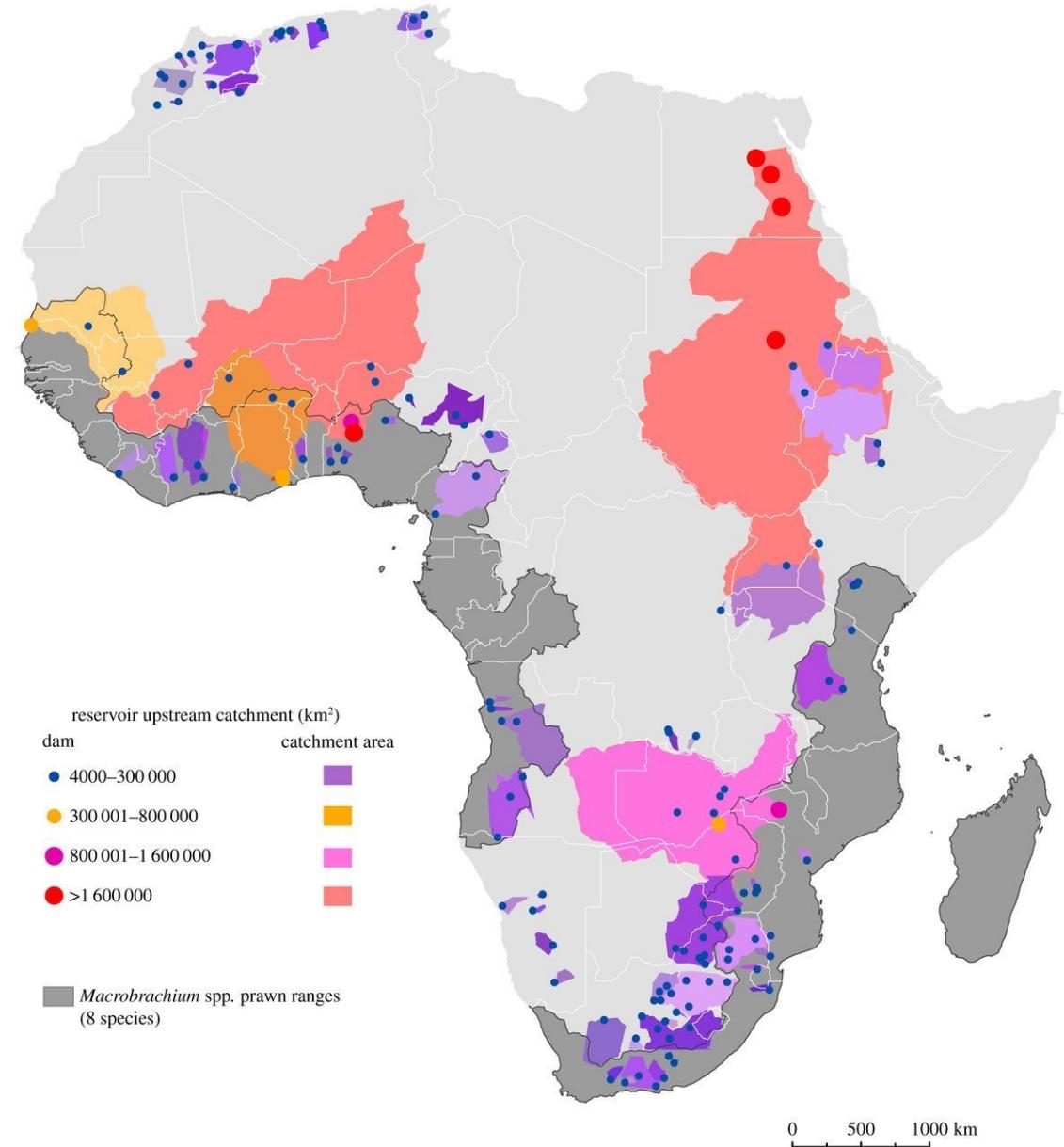
Mass drug administration





Freshwater prawns, snail predators

# Prawn restoration could interrupt schisto transmission across coastal Africa



Sokolow et al 2017. Phil Trans R Soc B 372: 20160127

# Shiny new prawn hatchery



Domesticating species is hard



# How do you contain prawns in the field?





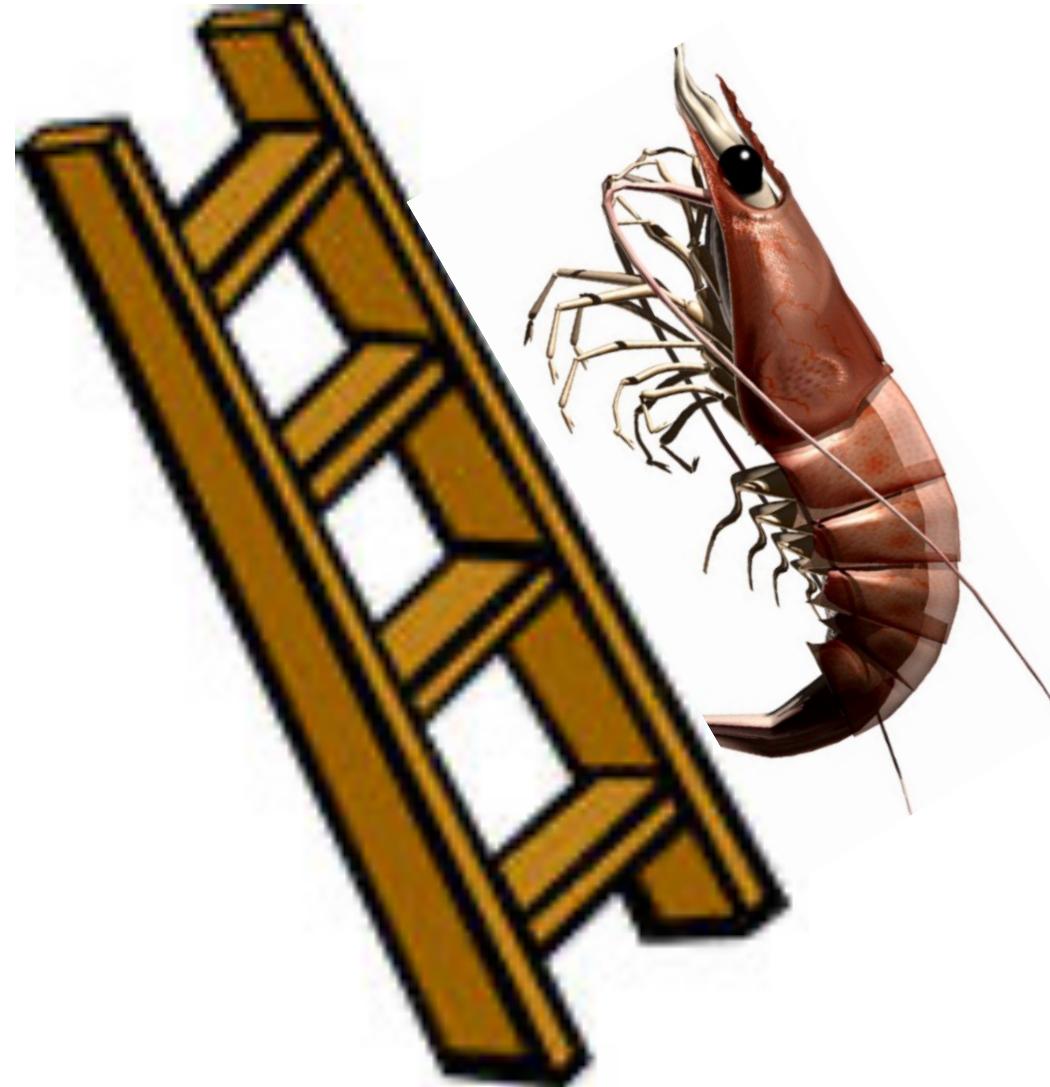
Where to go from  
here?

Could we take the Patagonia approach?

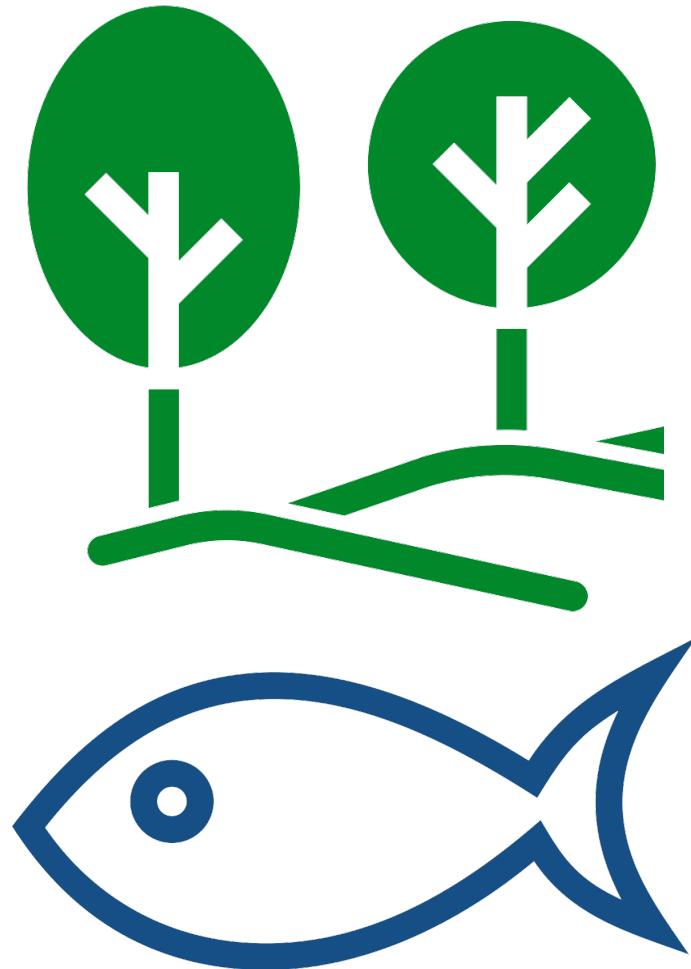
Remember the fish ladder...



# Consider the prawn ladder!



# Whose job is this?



# Acknowledgements

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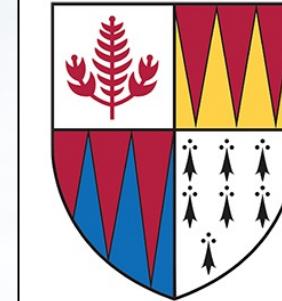
Andy Chamberlin

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