

# Spiny-mussels come home to the James River

The James River gained over a thousand new mussels Wednesday without even hitting the gym.

The James spiny-mussel hadn't been seen in its namesake river since the 1960s, until a collaboration between the Virginia Department of Wildlife Resources and the U.S. Fish and Wildlife Service culminated in the release of about 1,300 of the freshwater mussels.

## James spiny-mussels released

1 of 11



## Spiny mussels\_MK01.jpg

MIKE KROPF, THE DAILY PROGRESS In a collaboration between Virginia Department of Wildlife Resources and US Fish and Wildlife Service, James spiny mussels are reintroduced to the James River at the Scottsville Boat Ramp on Wednesday.



## Spiny mussels\_MK02.jpg

MIKE KROPF, THE DAILY PROGRESS James spiny mussels sit in a bucket at the Scottsville Boat Ramp on Wednesday before being reintroduced into the James River.



## **Spinymussels\_MK03.jpg**

MIKE KROPF, THE DAILY PROGRESS Brian Watson (left) and Brittany Bajo-Walker (right) from the Department of Wildlife Resources, collect water from the James River at the Scottsville Boat Ramp to acclimate James spinymussels before they are released.



## Spinymussels\_MK04.jpg

Brittany Bajo-Walker, the assistant state malacologist for the Department of Wildlife Resources, pours water from the James River at the Scottsville Boat Ramp to acclimate James spinymussels before they are released.



## **Spiny mussels\_MK05.jpg**

MIKE KROPF, THE DAILY PROGRESS Labels and tags are affixed to James spiny mussels before being reintroduced into the James River at the Scottsville Boat Ramp on Wednesday.



## Spiny mussels\_MK06.jpg

James spiny mussels are displayed at the Scottsville Boat Ramp on Wednesday before being reintroduced into the James River.



## **Spiny mussels\_MK07.jpg**

MIKE KROPF, THE DAILY PROGRESS Brian Watson, the state malacologist for the Department of Wildlife Resources, wades into the James River at the Scottsville Boat Ramp on Wednesday to help reintroduce James spiny mussels to the ecosystem.



## Spiny mussels\_MK08.jpg

MIKE KROPF, THE DAILY PROGRESS Rachel Mair, project leader at Harrison Lake National Fish Hatchery, checks her wetsuit in the James River at the Scottsville Boat Ramp on Wednesday while reintroducing James spiny mussels to the ecosystem.





## Spiny mussels\_MK09.jpg

MIKE KROPF, THE DAILY PROGRESS Brian Watson, the state malacologist for the Department of Wildlife Resources, wades through the James River at the Scottsville Boat Ramp on Wednesday to help reintroduce James spiny mussels to the ecosystem.



## Spinymussels\_MK10.jpg

MIKE KROPF, THE DAILY PROGRESS In a collaboration between Virginia Department of Wildlife Resources and US Fish and Wildlife Service, James spinymussels are reintroduced to the James River at the Scottsville Boat Ramp on Wednesday.



## Spiny mussels\_MK11.jpg

MIKE KROPF, THE DAILY PROGRESS Members of the Virginia Department of Wildlife Resources and the US Fish and Wildlife Service, head out on the James River to reintroduce spiny mussels to the ecosystem on Wednesday.

The release of the mussels, known to scientists as *pleurobema collina*, is an effort to restore part of the river's ecosystem function and recover the rare species, said Brian Watson, of the Department of Wildlife Resources. Watson is the state malacologist, one who studies mollusks such as the James River spiny mussel.

"[The] James spiny mussel has been a priority species I've been working with for my 20 years. It's been a goal of mine to try to reintroduce them to the

main stem James," Watson said. "Without being able to do that we probably can't really recover the species."

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Freshwater mussels work as a sort of purification system for the river. A single mussel can filter up to about 1/2 gallon of water an hour, or 10 to 15 gallons a day. While there have been as many as a dozen species of freshwater mussels found in the James River, surveys conducted in 2011 and 2012 found only seven.

The mussels being introduced to the river have been growing at Harrison Lake National Fish Hatchery since 2019 where efforts have been made to enhance propagation methods. Project leader Rachel Mair has been working on those methods since 2008.

"It's a very difficult species to grow because they require host fish that are very sensitive, that you have to go out and collect, and they don't like to be collected. And they don't like to be in captivity," said Mair. "It's taken us many years to get the technique down to where we can grow a lot of them and grow them large enough to be able to put a tag on them and to release them."

Each of the James spiny mussels that was released is labeled and tagged with Passive Integrated Transponders, or PIT tags, so that the population can be tracked. Once found, the mussels will be measured to see if they have grown. The hope is that mussels without tags are found, which would indicate that the population is growing on its own.

"Having an opportunity to release in the main stem of the James river for this mussels species is huge. It opens up a ton of available habitat that we wouldn't have had otherwise," she said.

Part of the reason that the mussels are able to be reintroduced to the river recently is because of the good water quality.

“Being able to put mussels here does speak volumes as to the condition of the river,” Mair said. “Mussels aren’t usually found in streams that have bad water quality.”

According to Watson, industrial discharge from the mid-20th century is responsible for poor water quality that led to the near demise of the James spinymussel. While the water quality has improved over the past few decades, the efforts of this collaboration to increase the freshwater mussel population should help raise it even higher.

“It’s definitely exciting to release these mussels out to the river today,” said Watson. “This is definitely not by any means the end of the story. This is a big hurdle [being overcome] to get them back in the river.”

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