

All in the Lifespan of One Rockfish

Many species of rockfish are long-lived, with some exceeding 200 years of age. Below is an otolith (ear bone) extracted from a yelloweye rockfish. The otoliths are calcium carbonate structures and are part of the inner ear. Otoliths allow the fish to hear and sense vibrations in the water.

As the fish grows, each year a new ring or annulus appears on the otolith. A similar comparison would be to how growth rings can be found on the cross-section of a tree trunk. In fish, the size of the growth ring can be determined by feeding habits, water temperatures, and other external factors.

The otolith pictured below shows that the fish, when harvested in 2021, was 121 years old. This fish was born at or around the year 1900, which was just five years after the yelloweye species was formally described.



Yelloweye Rockfish (*Sebastes ruberrimus*)
This fish is not the same fish that the otolith was extracted from.

Save a Rockfish. Practice Deepwater Release.



When released back to depth using a deepwater release mechanism, rockfish have over a 90% chance of surviving.



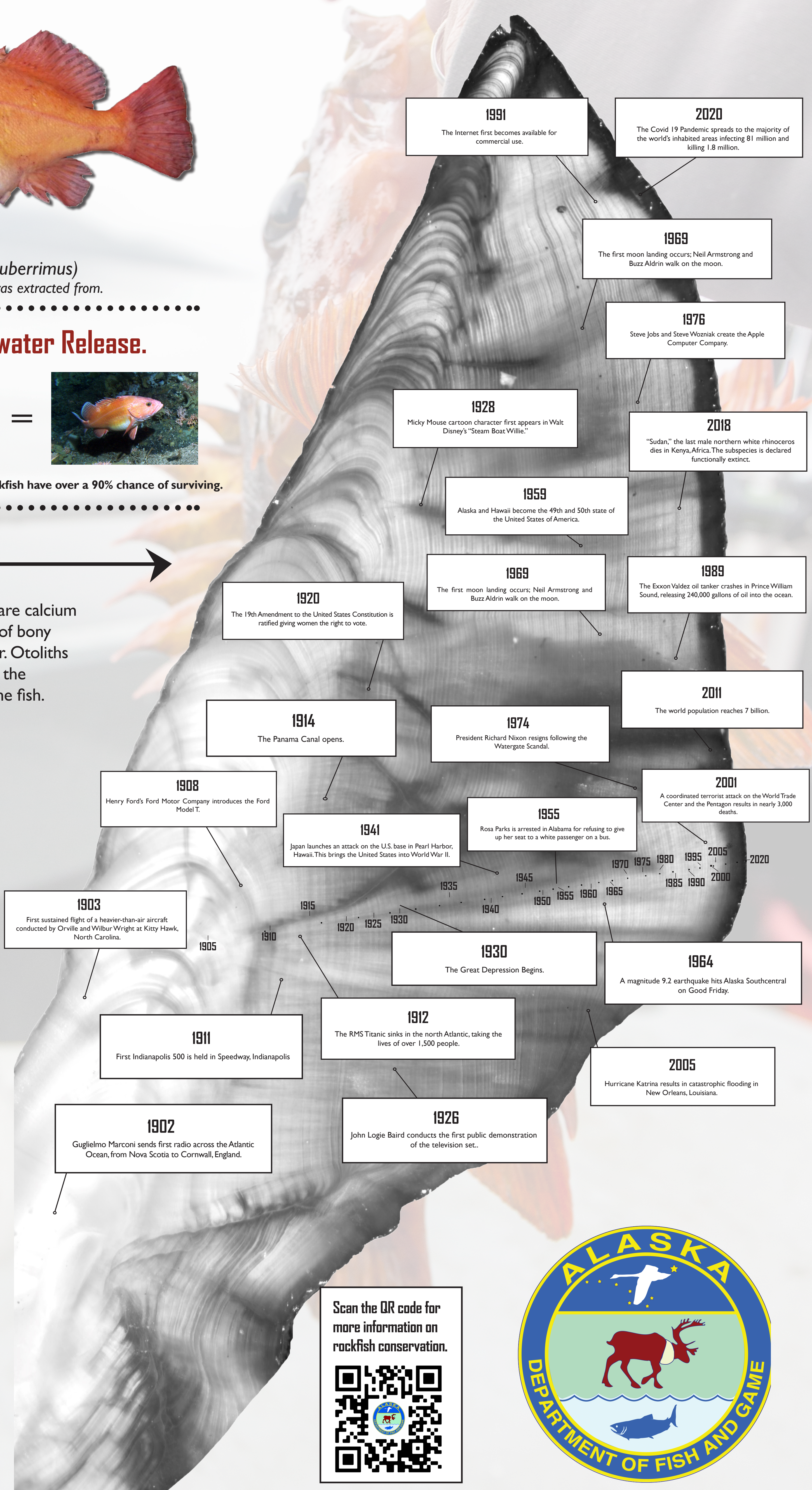
This is an Otolith

What is an otolith? The otoliths (ear bones) are calcium carbonate structures found inside the heads of bony fish, like rockfish and are part of the inner ear. Otoliths allow the fish to hear and sense vibrations in the water. Otoliths grow throughout the life of the fish.

Additional Significant Events in History. Can You Find them on the Otolith Timeline?

- **1920** – The 19th Amendment to the United States Constitution is ratified giving women the right to vote.
- **1935** – The Hoover Dam is completed.
- **1951** – The term “Rock n’ Roll” is first used by radio DJ Alan Freed.
- **1968** – Martin Luther King Jr. is assassinated by James Earl Ray in Memphis, Tennessee.
- **1977** – The Trans-Alaskan Pipeline opens.
- **1987** – World population reached five billion.
- **1999** – World population reached six billion.
- **2010** – Instagram is launched.
- **2012** – The Higgs Boson is discovered using the Large Hadron Collider at CERN near Geneva, Switzerland.
- **2013** – Nelson Mandela dies in the Republic of South Africa
- **2015** – The Dawn spacecraft sends first close-up images of Pluto and Ceres.
- **2017** – Oumuamua, the first interstellar object, is discovered.
- **2018** – Saudi Arabia repeals law banning women from driving automobiles.
- **2019** – The Event Horizon Telescope takes first photos of a black hole.
- **2019** – Victor Vescovo dives to 10,928 m (35,853 feet or almost 7 miles) in Marianas Trench using the submersible Limiting Factor.
- **2021** – The yelloweye rockfish from which the otolith pictured was taken in a commercial fishery in Southeast Alaska. The fish was approximately 29 inches long and weighed close to 15 pounds.

* Some dates may not appear on the ring corresponding to the exact year denoted.



Scan the QR code for more information on rockfish conservation.



Learn How You Can Help Conserve Rockfish: www.adfg.alaska.gov/rockfish