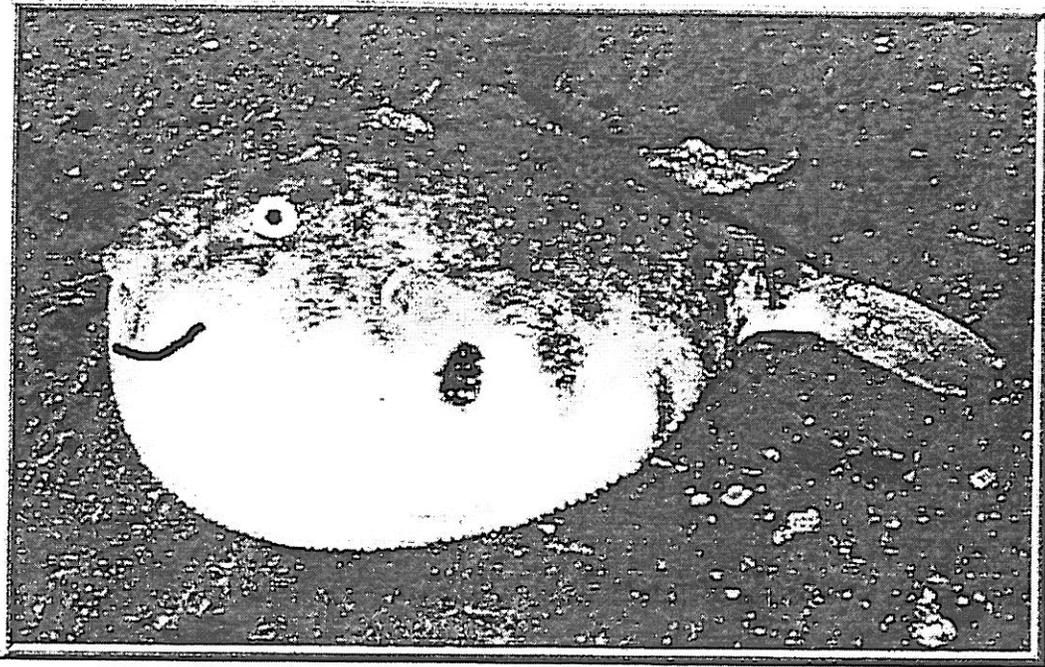


Puffy The Puffer's Book of Fun Fish Facts

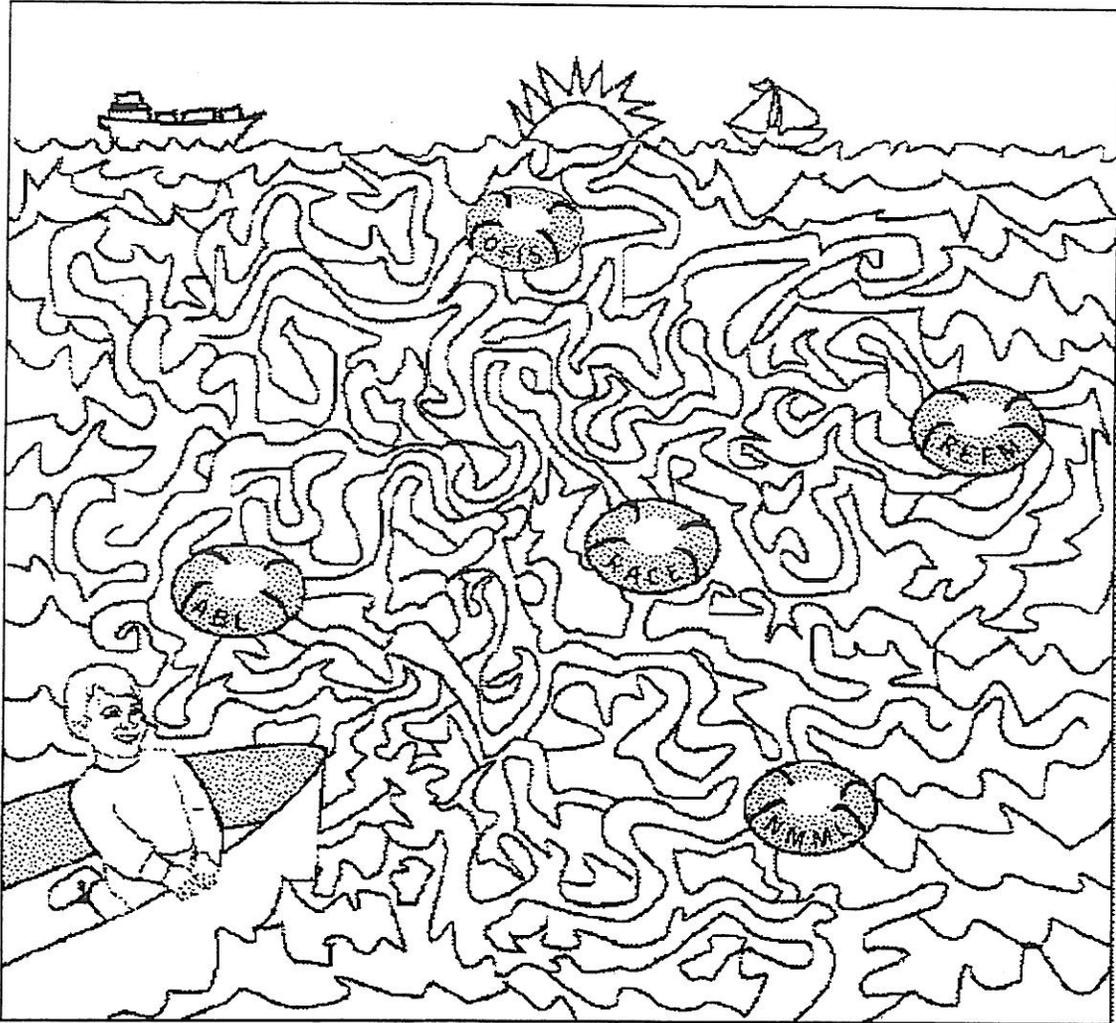


What you might find inside...

- Marine Trivia
- Games
- Mazes
- Crab and Salmon Quiz
- The Quack Heard 'Round the World
- What is a Marine Mammal?
- How We Age Fish (And Why)
- We Even Give Puzzle Answers

Help Joel collect each life saver as he sails out to open sea!

We are working for you and a better way of life!
Alaska Fisheries Science Center



Did you know ?

Auke Bay Laboratory (ABL) - scientists study the life histories of all five Pacific salmon species found in Alaska.

National Marine Mammal Laboratory - is the principal United States laboratory responsible for research on marine mammals in the Antarctic, Arctic, Bering Sea, Gulf of Alaska and California ecosystems.

Marine Trivia Page

1. The teeth of sharks are actually modified...
 - bones
 - fins
 - scales?
2. What corporate symbol was chosen because the company founder was a shell collector?

3. What capitol of an island country in the South Atlantic has a grouper named after it

- Dublin
- Havana
- Nassau

4. Sharks lack the following:

- fins
- bones
- gills

5. The fish used in England's famous "fish and chips" is

- dogfish shark
- blue marlin
- haddock?

Hint:

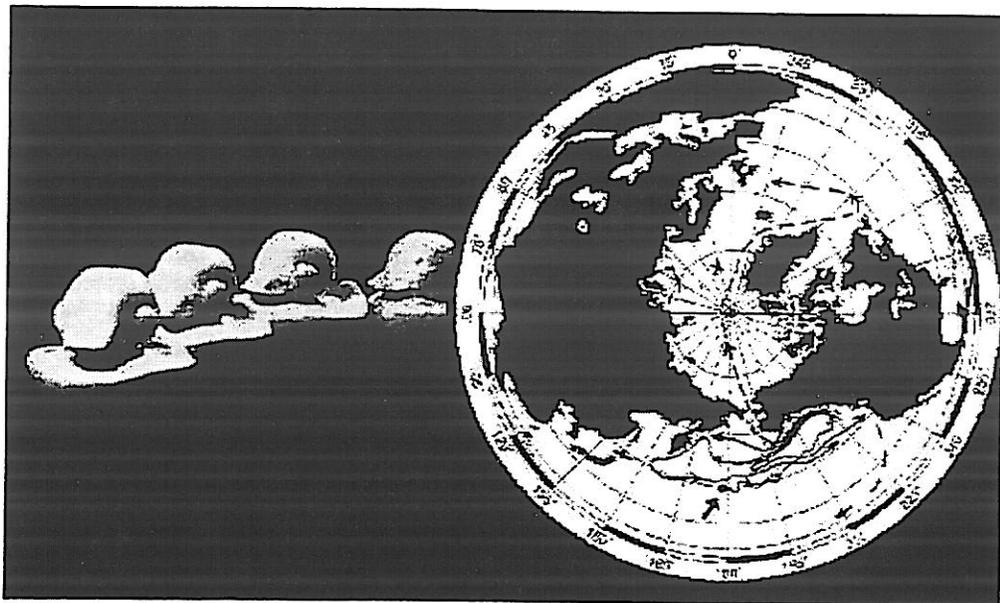


The Quack Heard 'Round The World



29,000 plastic bath tub toys are now afloat on the Pacific Ocean. The yellow ducks (pictured below) are the most famous. The toys were headed from China to Tacoma, Washington, aboard a container ship when it was caught in a fierce storm in the mid-North Pacific Ocean (see arrows on map). In the storm, 12

containers went overboard (one with toys) on January 10, 1992. After the container burst open, the toys were free to drift with the wind-driven ocean currents. At the Alaska Fisheries Science Center, we map ocean surface currents using an Ocean Surface Current Simulations model called OSCURS to study the effects of current changes on fish populations.

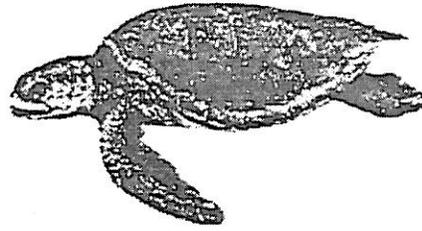


OSCURS normally uses special drifters which are tracked by satellites to map ocean currents -- the toys were natural drifters! The ducks provided us with a great chance to see how good the OSCURS model would be at guessing where and when the toys would reach land. The lines and arrows on the globe (see map) show their most likely paths across the North Pacific Ocean, which eventually will lead them back to the Washington coast in 3 years. Some may find their way to Hawaii! The dashed lines show where the toys that head toward the North Pole may go after being frozen in the polar ice, eventually reaching Europe. The British Parliament has discussed giving the ducks protected status when they arrive! Each toy will have an amazing story to tell us after it has been found on a beach.

Marine Trivia Page

1. Sea Turtle is a gourmet item in American seafood restaurants?

- True
- False



2. Eels are marine reptiles?

- True
- False

3. Fish Sleep

- True
- False

4. Red tide toxins sometimes contaminate filter-feeding mollusks such as

5. Red tide contaminated mollusks become safe to eat when cooked?

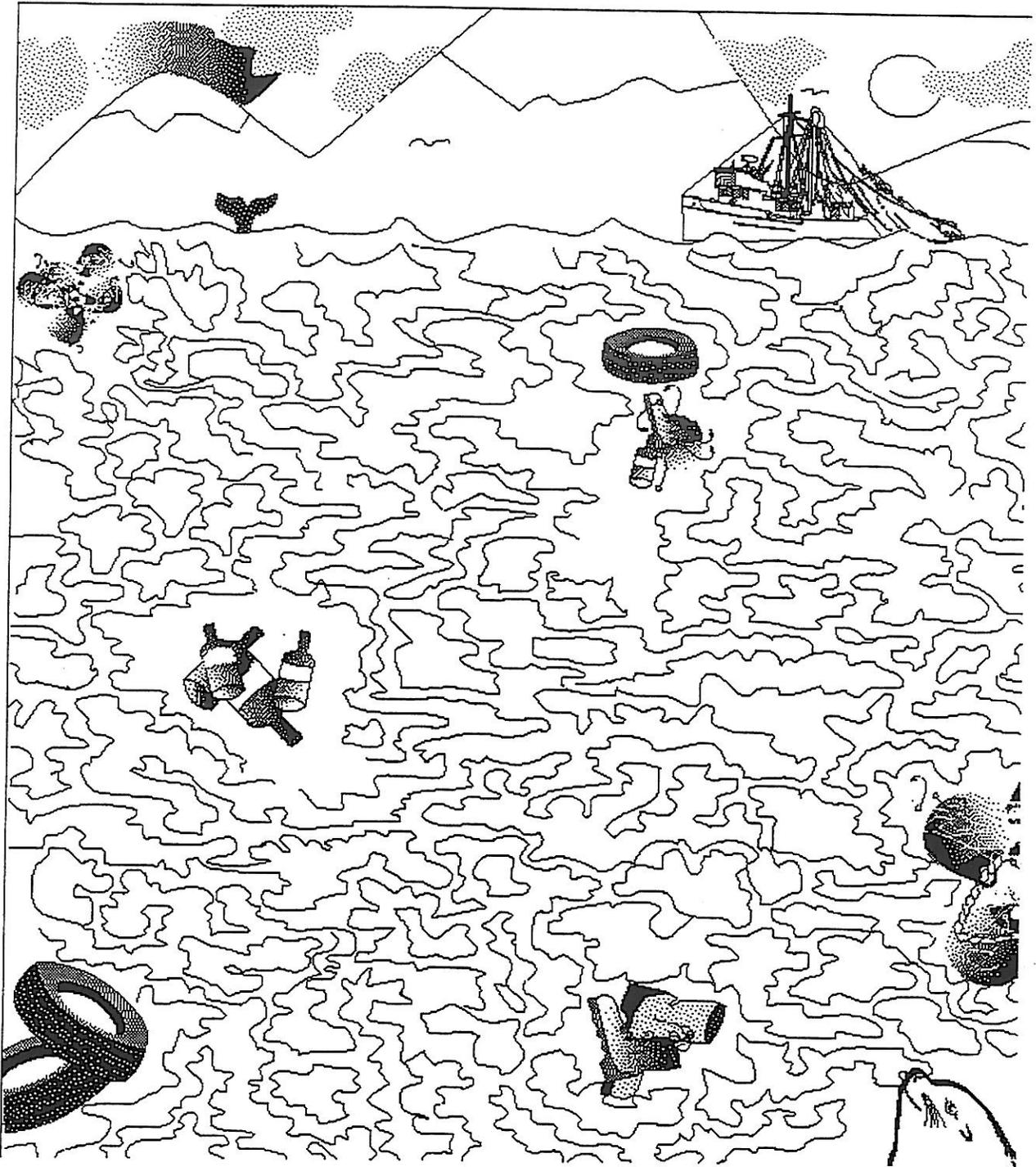
- True
- False

Answers Here



Help Sammy The Sealion Reach The Open Sea

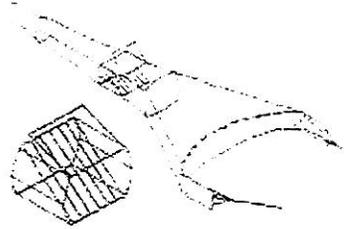
And while you are at it please help pick up all the garbage. NMFS encourages everyone to reduce trash in the oceans and waterways. Please remember, stow your trash until you can dispose of it properly!



Marine Trivia Page

1. A mechanical device which allows marine turtles to escape from shrimp nets is called a

- TED
- FED
- NED



2. The fish most frequently caught by anglers in the Gulf of Mexico is

- redfish
- speckled trout
- croaker

3. A famous Key West breakfast is

- grits and grunts
- tarpon and taters
- mullet and margaritas

4. A fish that has an edible gizzard is

- swordfish
- flounder
- mullet

5. How many "arms" does a squid have?

6. How many "arms" does an octopus have?



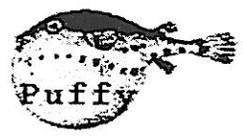
Fish Word Search

How many of these words can you find?

EGG LARVAE FISH POLLOCK MICROSCOPE
SALMON BONGO NET YOLK OIL
BONE FINRAY PIGMENT SURIMI FISHSTICK
TEETH KODIAK TAIL TRAWLER FIN
TUNA KOKANEE ANCHOVY RINGNET SPINES
FISHING BOAT TEETH ALASKA BERING SEA
PLANKTON ICHTHYOPLANKTON HALIBUT
FLATFISH TUCKER OCEAN FISHERMAN
ROCKFISH LUMPSUCKER EEL

XRAY

I C B N C W E R T Y K O K A N E E U I I O P A L K
V C N A M R E H S I F C Z A S D G F G H J N K N J
B N H Q F I N R A Y W E R T Y U G J K L C Z A X H
K J G T F D S A P L O I T Y T R E W M H N E B V F
L R Z X Y C V B N N A W U E R T Y U O I C O P L I
B I V K C O L L O P X S C Z A S D V D O F G H J S
N N M Q W E P R T Y U I K I O P Y L J H T E E T H
Q G M N B V C L X Z A S E A D F G H B O N E L K S
W N E R T Y U I A O P L R K J H G F E F D S A Z T
R E E W Q Z X C V N E T B N M L K J R H G F D H I
T T R A W L E R Y U K I O P L K O D I A K J K S C
I U T B R W E Q M N B T V C X Z A S N D F G H I K
O P L O K H J G D S A T O Z X C V B G N M Q W F E
S D F N G H J K L P A O I N O M L A S U Y T L D R
E A Z G X C V B N O M Q E R T O Y U E I P O A R L
E Q Y O L K M N B A C X Z A S I D F A G L J R O K
L W E R T Y U G I N O P A S D L F G H J I K V W L
T E W Q Z X N C L U M P S U C K E R V B A N A S M
T Q E R T I Y U I T O P L K J H G F D S T A E Z X
U T R E H W Q Z X C V F B X N M L K J N H G F D S
B T T S Y U S U R I M I P R U I O P E L J H G F P
I O I I U Y T R E W Q N M A N B V M C X Z A S D I
L F L A T F I S H Z X C V Y B N G M K L H G F D N
A N M L K J H G F D S A Q W E I R R T Y U I O P E
H S I F K C O R N B V C X E P O C S O R C I M Z S



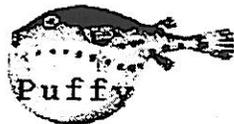
Crabs



Crab A crab has a hard outside shell.
Its shell protects its soft body.
A crab has legs with joints.
It has strong claws.
Some crabs can run fast.
Some crabs are good to eat.

Which of these are true about crabs?

- hard shell
- legs with joints
- inside shell
- outside shell
- legs without joints
- strong claws
- soft body
- good to eat
- all taste awful
- hard body
- can run fast
- has five toes



Marine Trivia Page

1. The most valuable product per pound harvested by Gulf of Mexico fishermen is

- wool sponge
- pompano
- spiny lobster

2. Does the statement "he drinks like a fish" have any basis in nature (do fish drink)?

- Yes
- No
- Yes and No

3. What crab, by law, must be returned to the water alive after it's claws are removed by fishermen?

- blue crab
- stone crab
- fiddler crab

4. The prime cause of food poisoning in Japan is from consumption of

- Pesticide laden water
- fugu (puffer fish) NOT PUFFY!
- bad saki

5. Scallops can

- swim
- molt
- change color

6. In seafood stores and restaurants Scallops are often made from skate wings?

- True
- False



Help The Observer Count Fish

Gretchen (an Observer) needs to count the number of different fishes. See if you can help her by finding the following animals:



Salmon



Redfish

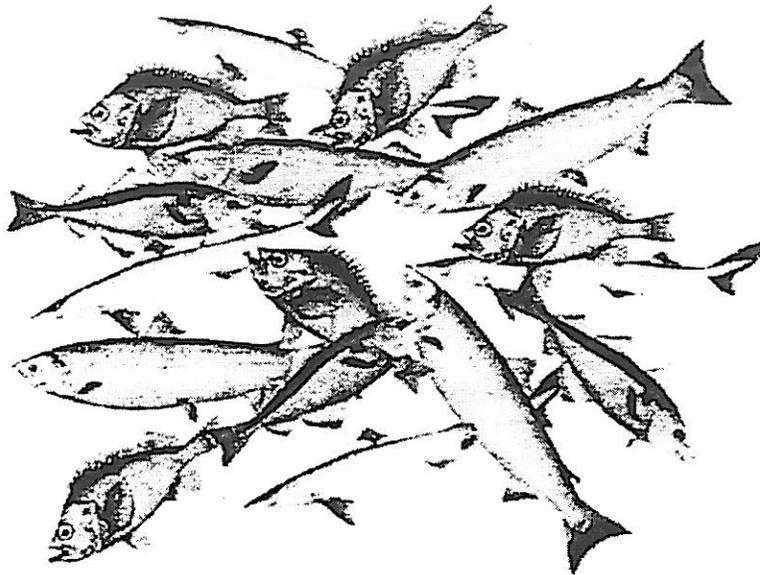


haddock



Dogfish

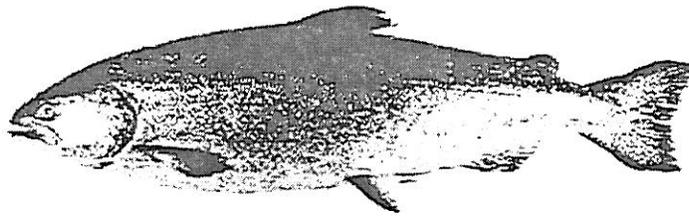
How many of each can you find on the **WHOLE** page?



Observers count the numbers of different fish caught by commercial fishing boats, so that NMFS can determine how to manage U.S. fisheries.

Only The Strong Survive

(Adapted from the Alaska State Museum's Salmon Kit)

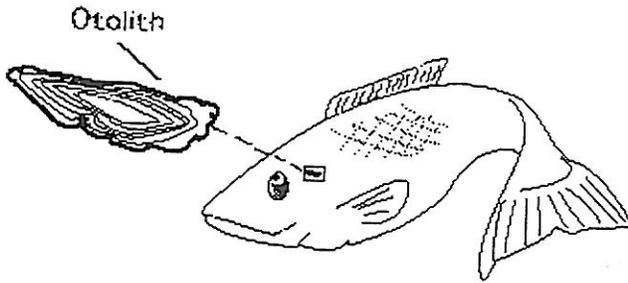


Salmon lay thousands of eggs but very few make it to the age where they come back and reproduce. Here are a few reasons why. Use the numbers below to find out how many salmon are left. Use this page for your work and keep a running tab.

1. A salmon deposited 5,000 eggs in a red
2. Five hundred (500) eggs were not fertilized.
3. Sixty (60) were washed out of the gravel when a 3-wheeler ATV crossed the stream.
4. Mud from building a new subdivision eroded into the stream and suffocated one thousand (1,000).
5. Three hundred (300) alevins died because they were very weak.
6. After the alevins developed into fry, five hundred (500) were eaten by other fish in the stream.
7. Forty-one (41) were eaten by birds.
8. As they neared the ocean, (260) smolts were caught in a pool where they got too hot and died because of thermal pollution from a coal-fired power plant.
9. In the ocean, 1,500 were eaten by bigger fish.
10. Seals ate 95.
11. Fisherman caught 556.
12. As the salmon returned to their spawning stream, bears ate 180 of them.
13. Three (3) were dashed against the rocks trying to jump the waterfall.
14. The rest of the salmon spawned.
15. HOW MANY SALMON WERE LEFT TO SPAWN?

How We Tell How Old A Fish Is (and why)

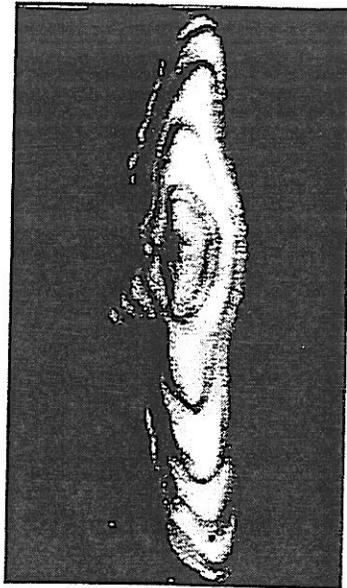
To age fish we use the fish's otolith. An otolith is a bone located just behind the ear which is used for hearing.



How: We count the number of lines in the otolith (one year= one line). just like counting the rings in a tree to see how old it is.

Why: Knowing the age of the fish helps us determine how long the fish live and how quickly they grow.

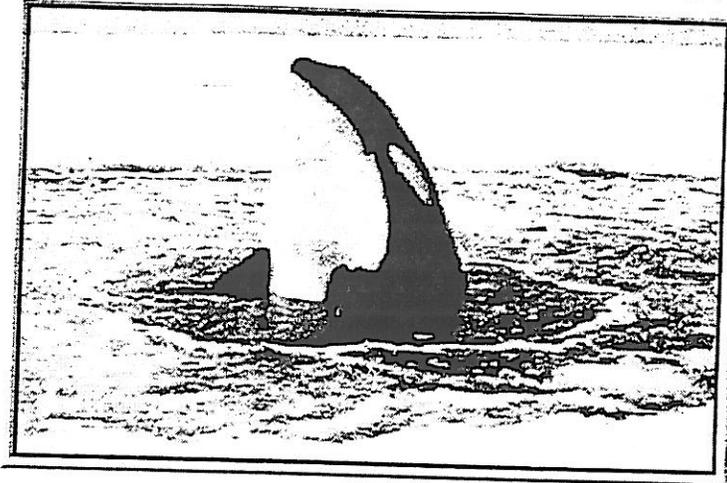
This otolith tells us this fish is _____ years old.
(Hint: It is the same as the one drawn above, each little dot is marking one ring)



Otolith under a microscope

We also use scales to determine the age of fish. Fish scales have lines similar to otoliths. With scales one year= one

What is a Marine Mammal?



1. Marine mammals are
 - cold-blooded
 - warm-blooded
2. Marine mammals breath air through
 - lungs
 - gills
3. Marine mammals have
 - eggs
 - live young
4. Marine mammals give their babies
 - milk
 - meat



