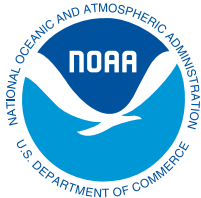




GERALD R. HOFF  
RESEARCH FISHERY BIOLOGIST  
NOAA/NMFS  
Alaska Fisheries Science Center  
7600 Sand Point Way NE  
Seattle Washington 98115  
jerry.hoff@noaa.gov

For more information about this  
research project visit the websites  
[www.afsc.noaa.gov](http://www.afsc.noaa.gov) and [www.nprb.org](http://www.nprb.org)



**U.S. DEPARTMENT  
of COMMERCE**  
National  
Oceanic and  
Atmospheric  
Administration

**National Marine  
Fisheries Service**  
Alaska Fisheries  
Science Center

# Where do baby skates come from?



**SKATES** produce large leathery eggs that are deposited onto the sea floor in areas called nurseries. Scientist are just beginning to understand where nursery sites are and why skates may use them. A current project focusing on skate habitat has located 8 nursery sites in the eastern Bering Sea. The nursery sites were located at the head of major undersea canyons and found on flat sandy to muddy bottom with egg cases deposited in very high densities over a relatively small area.



Skate embryos develop inside their egg cases on the ocean bottom independent of any care by the parents. In the eastern Bering Sea, embryo development times are extremely long due to the relatively cold water temperatures and embryos may take more than three years to emerge from the egg case. At emergence the young skates look like adult skates, are able to feed, and can avoid being eaten.



Developmental series of the Alaska skate from top to bottom: adult female, egg case, and five stages of embryo development.

## Skate Nursery Habitat

## Skate Embryo Development



Photo of a nursery site for the Alaska Skate in Pribilof Canyon in the eastern Bering Sea.

*Reproduction in  
Skates from Alaska*





## Egg Case Encounters



Skate egg cases are also called mermaids purses and are commonly found washed up on beaches after storms. Egg cases on beaches often quickly dry out becoming smaller, darker, and curled when compared to their normal state. Above is the egg case of the big skate, a common skate from California to Alaska. The egg case on the right is the normal condition, while the one on the left was found on the beach. Notice the difference in the two egg cases? Have you ever encountered a skate egg case on your beach?



*Bathyrāja trachura*  
Roughtail Skate



*Bathyrāja interrupta*  
Bering Skate



*Bathyrāja mariposa*  
Butterfly Skate



*Bathyrāja violacea*  
Okhotsk Skate



*Bathyrāja aleutica*  
Aleutian Skate



*Raja rhina*  
Longnose Skate



*Bathyrāja maculata*  
Whiteblotched Skate



*Raja binoculara*  
Big Skate



*Amblyrāja badia*  
Roughshoulder Skate



*Bathyrāja lindbergi*  
Commander Skate



*Apristurus brunneus*  
Brown Cat Shark

## Egg Cases of Alaska



*Bathyrāja parmifera*  
Alaska Skate



*Hydrolagus collieri*  
Spotted Ratfish



*Bathyrāja abyssicola*  
Deepsea Skate



*Bathyrāja taranetzi*  
Mud Skate

If you would like to help with an ongoing project documenting the location of skate egg cases washed up on beaches in Oregon, Washington, Canada, and Alaska please send an email to [jerry.hoff@noaa.gov](mailto:jerry.hoff@noaa.gov) with high resolution digital photos of the egg cases and the most accurate location and date of where you found them. I will email you back with an identification of the egg cases and include your data into our database.