

Trophic Characterization of the Charleston Bump

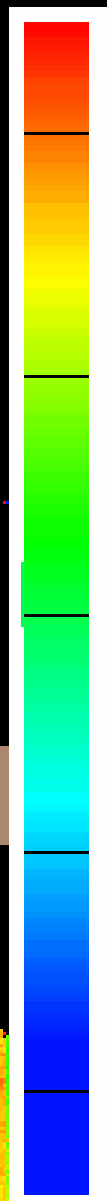
Sarah F. Goldman
College of Charleston



George R. Sedberry
SC Dept. of Natural Resources
Marine Resources Research Institute



Temperature



25C

15

5

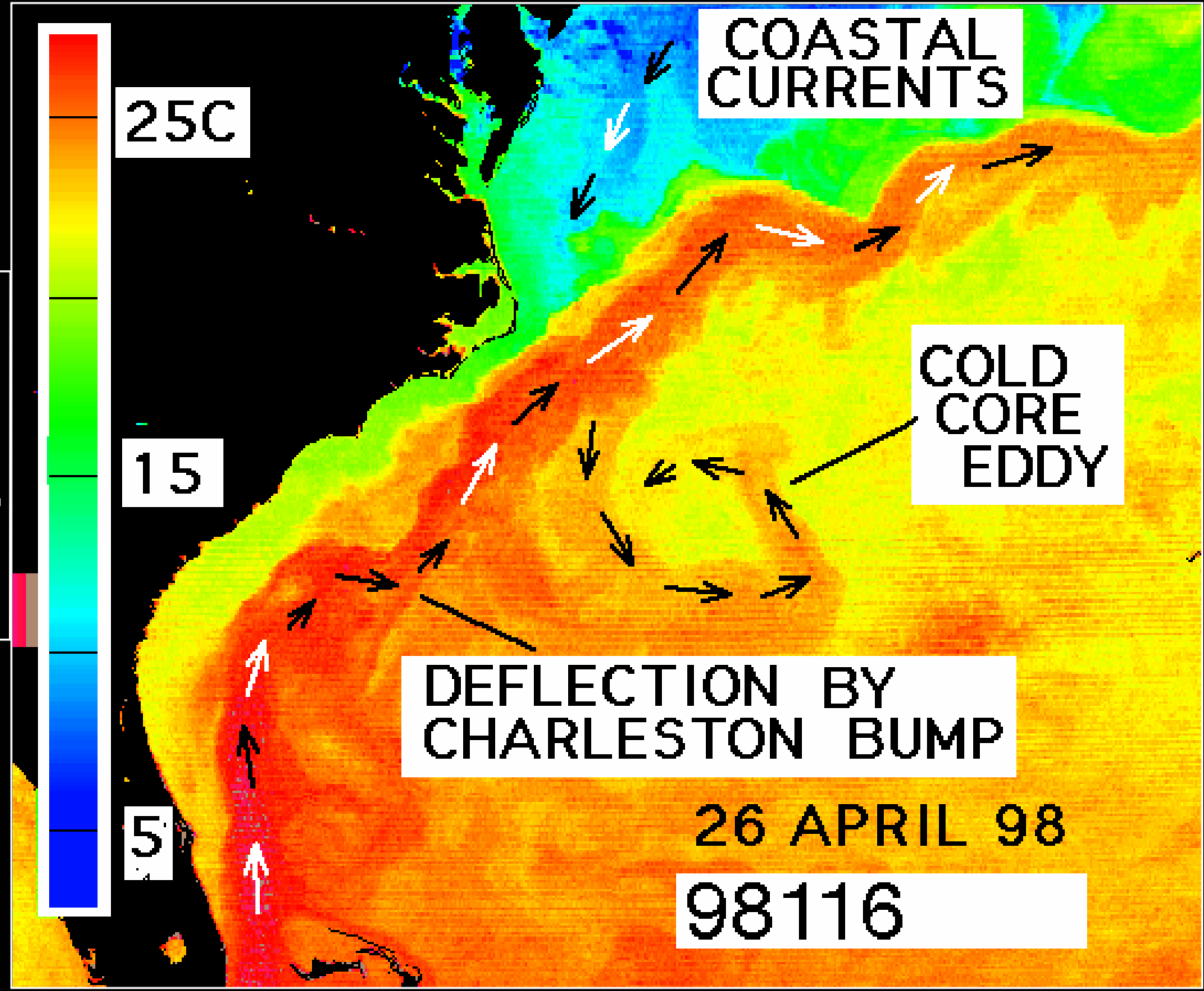
COASTAL CURRENTS

COLD CORE EDDY

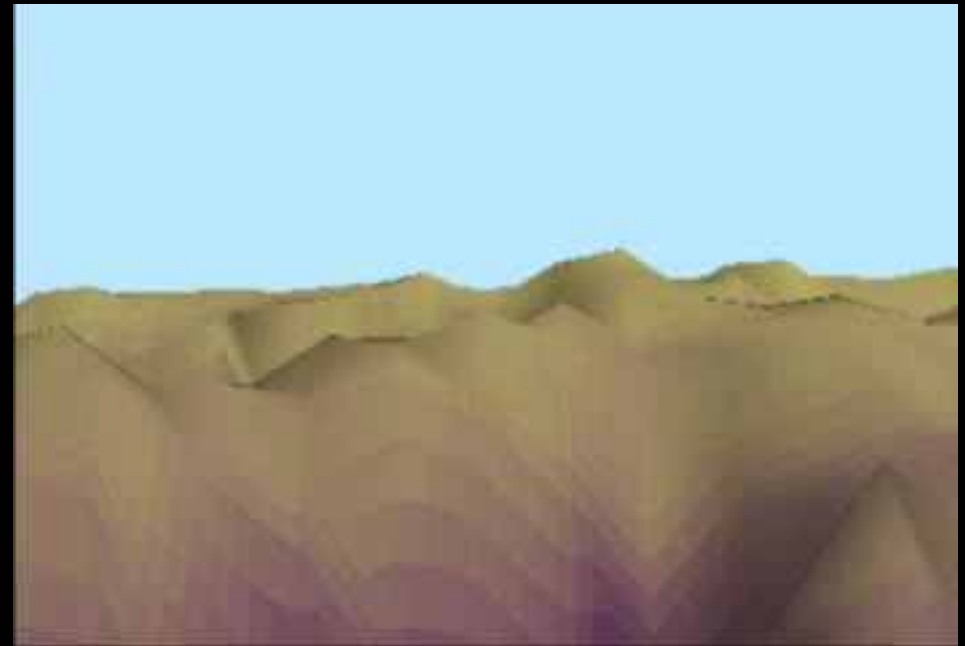
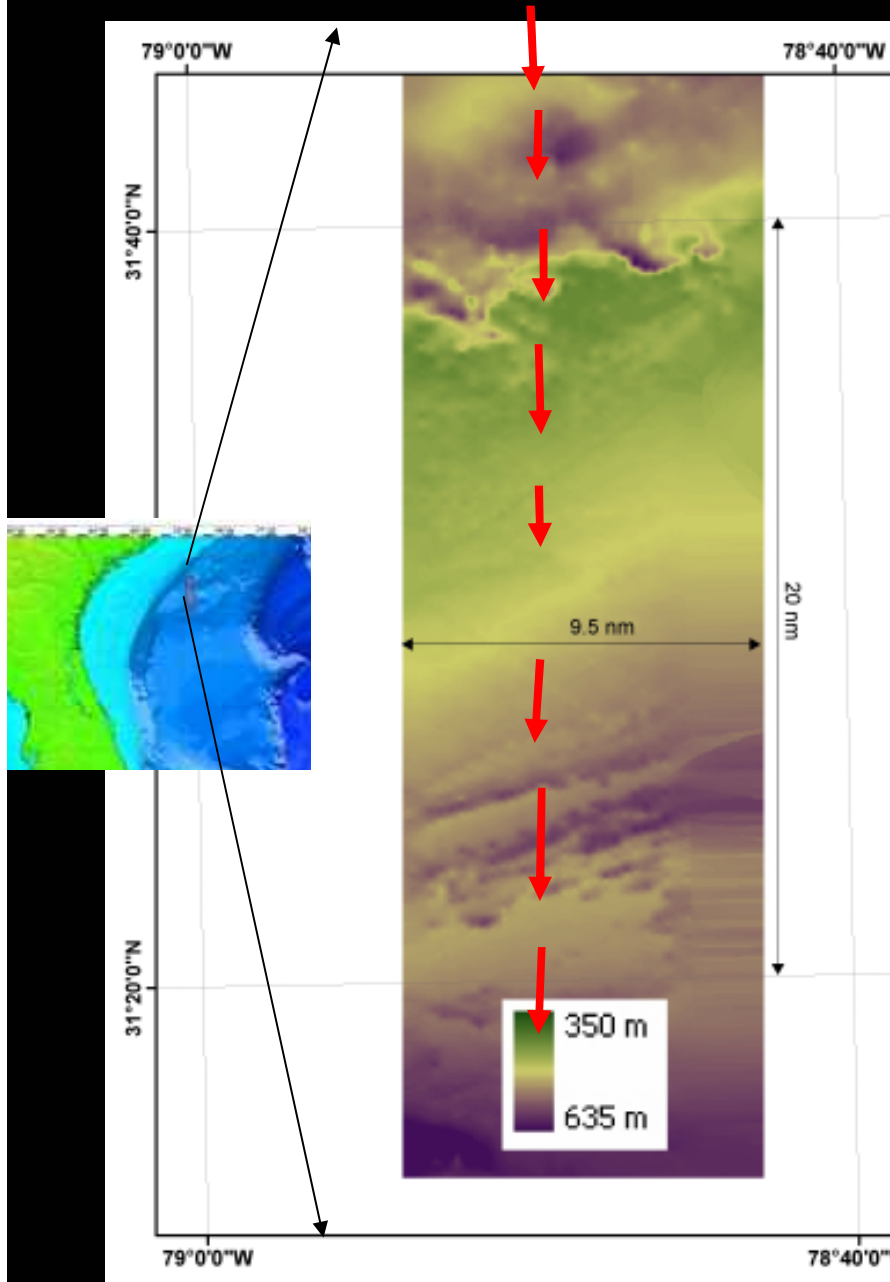
DEFLECTION BY CHARLESTON BUMP

26 APRIL 98

98116



GIS Mapping of Charleston Bump Habitats



(P.R. Weinbach, 2003)

Charleston Bump as EFH



Wreckfish



Swordfish



Dolphinfish



Scalloped hammerhead

Charleston Bump as Coral Habitat

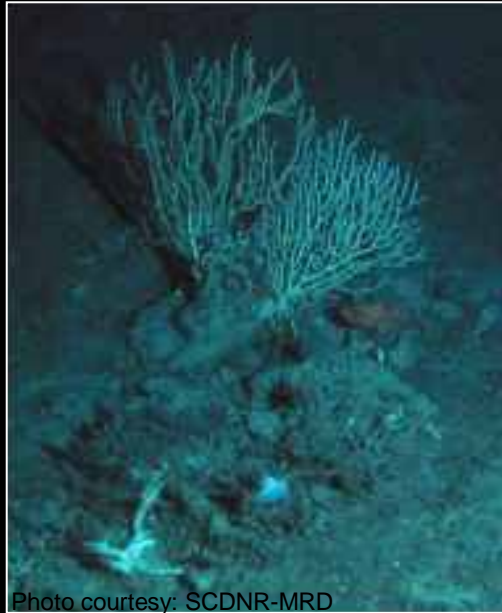


Photo courtesy: SCDNR-MRD



Photo courtesy: SCDNR-MRD

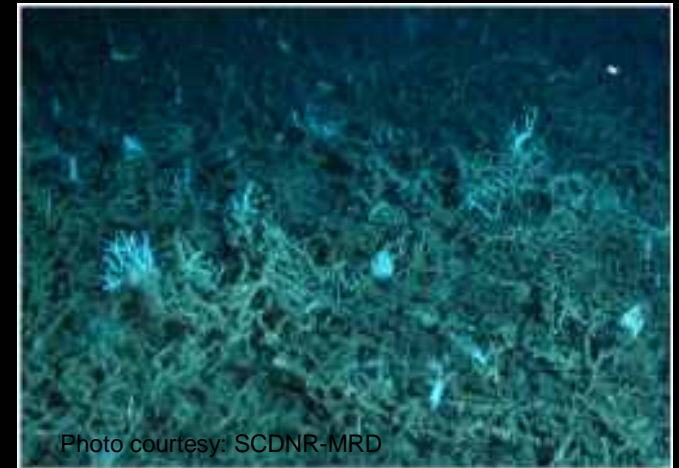


Photo courtesy: SCDNR-MRD

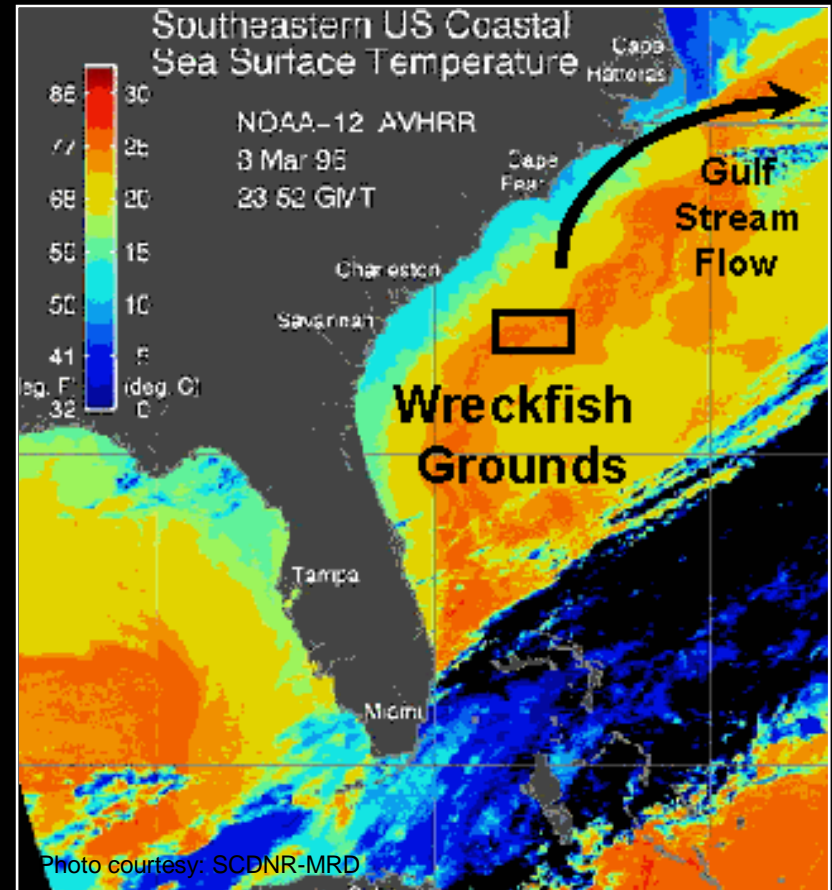
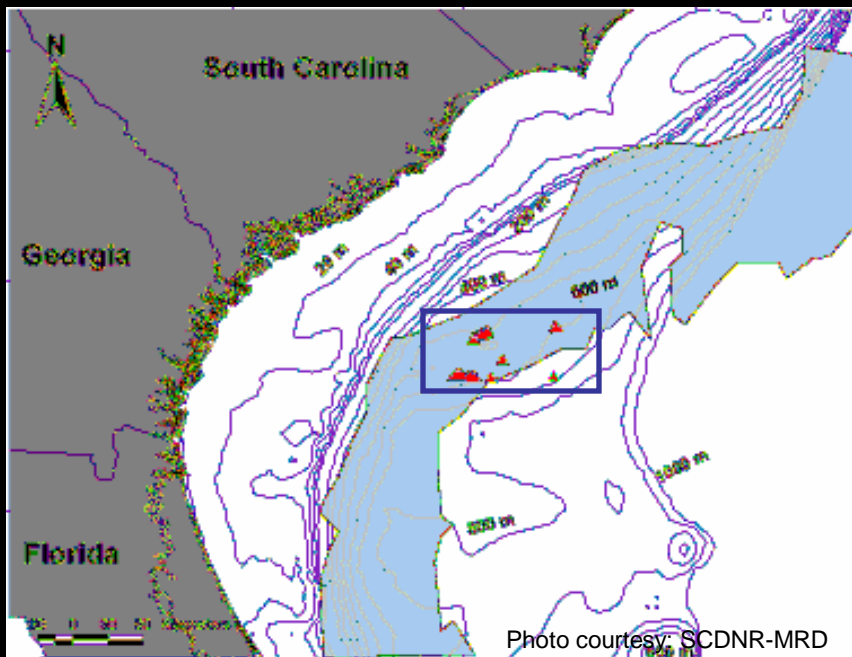


Photo courtesy: SCDNR-MRD



Photo courtesy: SCDNR-MRD

Wreckfish, *Polyprion americanus*



Commercial Wreckfish Boats



Photo courtesy: SCDNR-MRD



Photo courtesy: SCDNR-MRD

Annual Wreckfish Catch

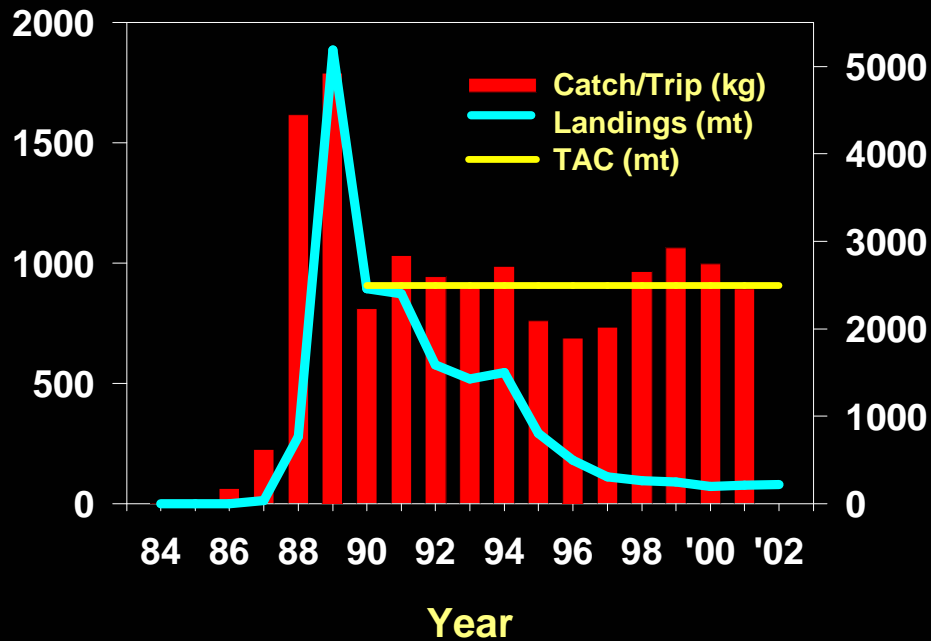
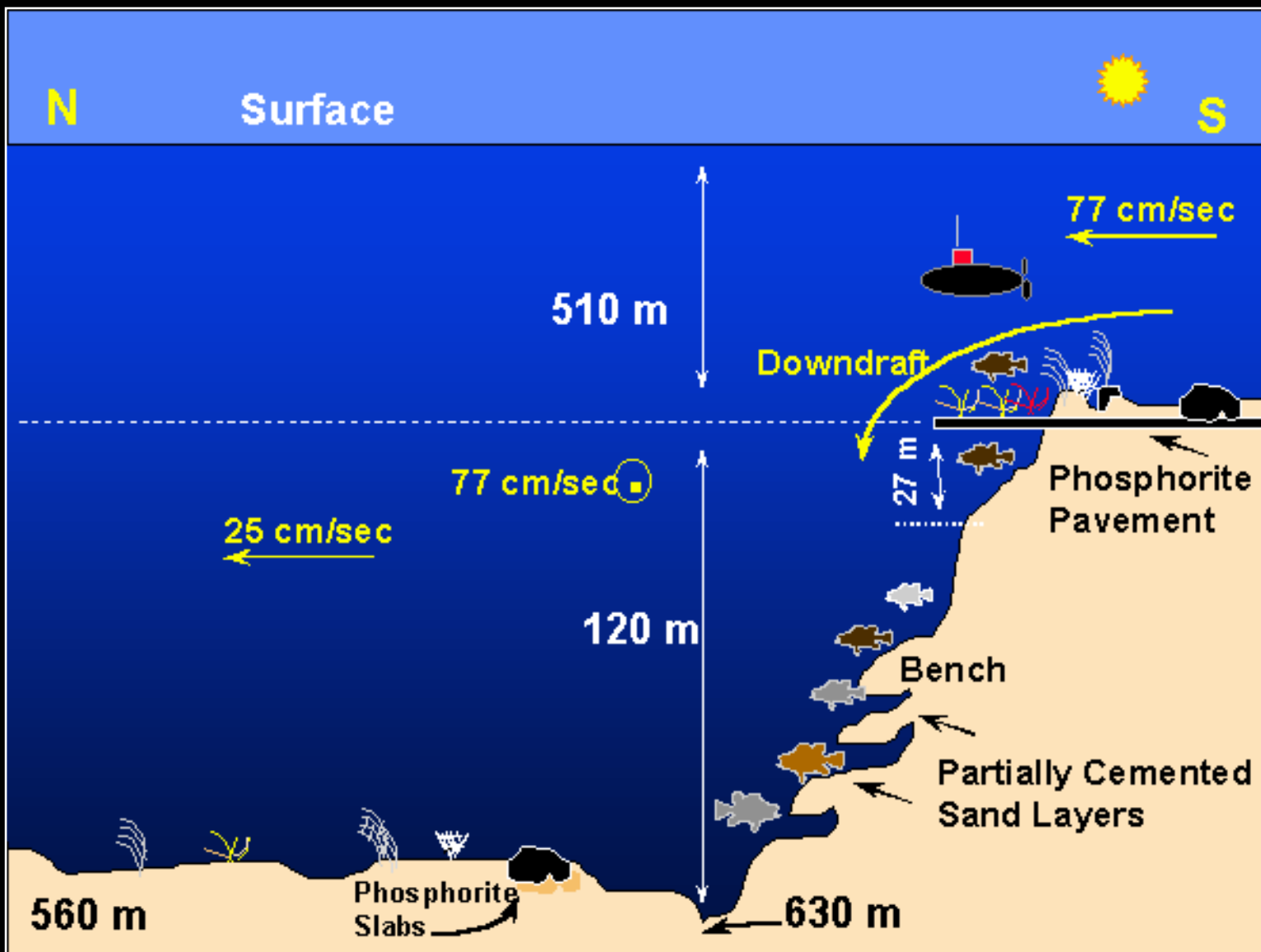
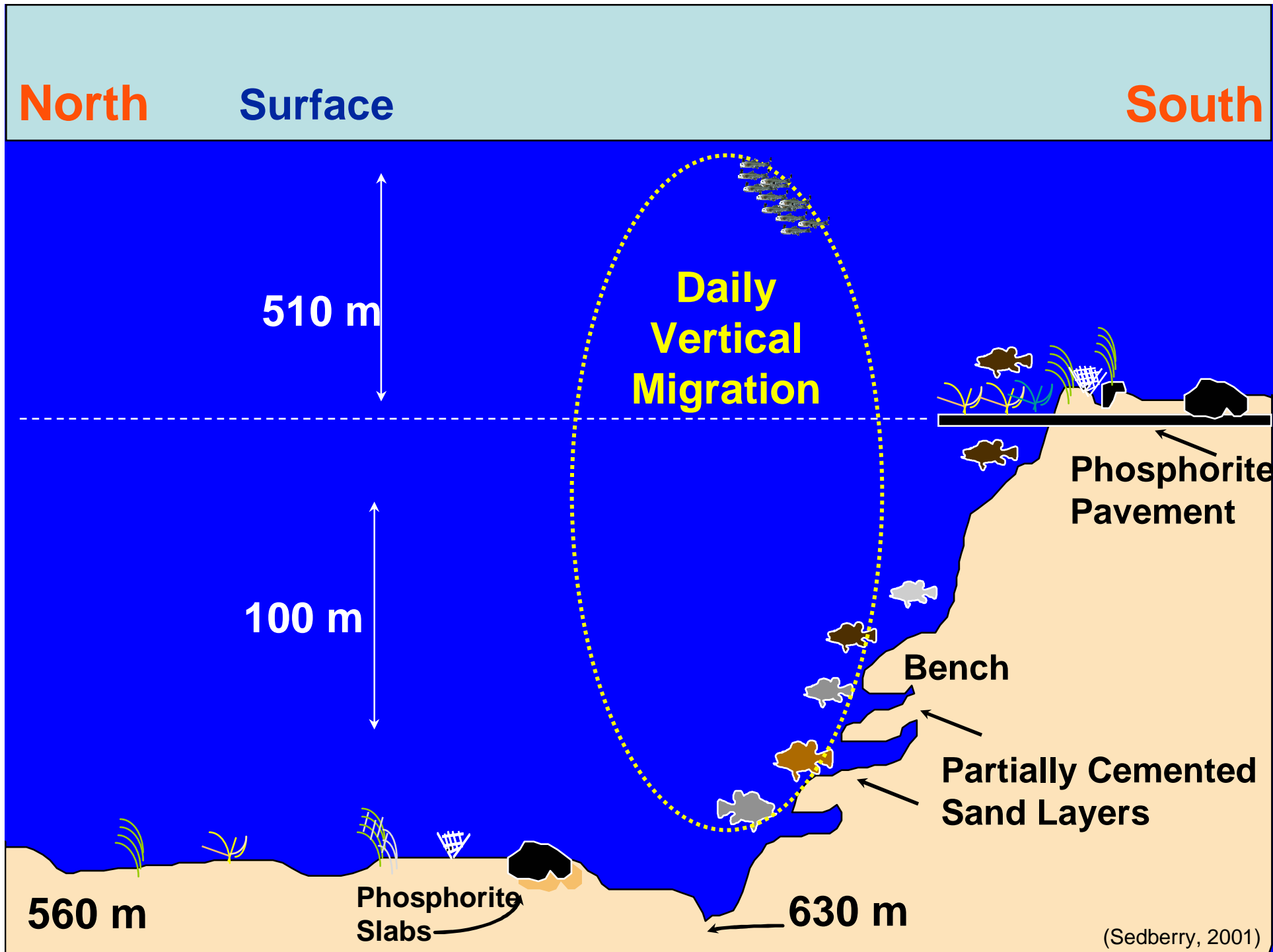


Photo courtesy: SCDNR-MRD

Wreckfish Habitat

Based on submersible observations (Sedberry *et al.*, 2000).





NOAA Ocean Exploration Expeditions Charleston Bump: 2001, 2003, 2004



Photo from NOAA Ocean Explorer

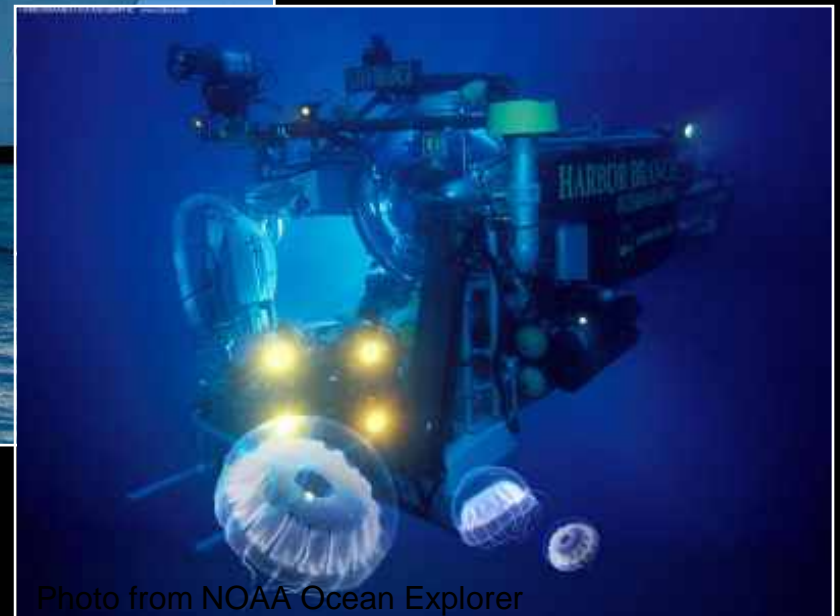


Photo from NOAA Ocean Explorer



Photo courtesy: SCDNR-MRD

Red Bream



Photo courtesy: SCDNR-MRD

Blackbelly rosefish



Photo courtesy: SCDNR-MRD

Conger Eel



Photo courtesy: SCDNR-MRD

Wreckfish

Blake Plateau – Charleston Bump 400 - 700 m (1312 – 2297 ft)

Common Charleston Bump Fishes



Photo courtesy: SCDNR-MRD

Darwin's Roughy



Photo courtesy: SCDNR-MRD

Rattails



Photo courtesy: SCDNR-MRD

Fangtooth



Photo courtesy: SCDNR-MRD

Pink Frogmouth



Photo courtesy: SCDNR-MRD

Blackfin Codling, *Laemonema*



Photo courtesy: SCDNR-MRD

Streamer Bass

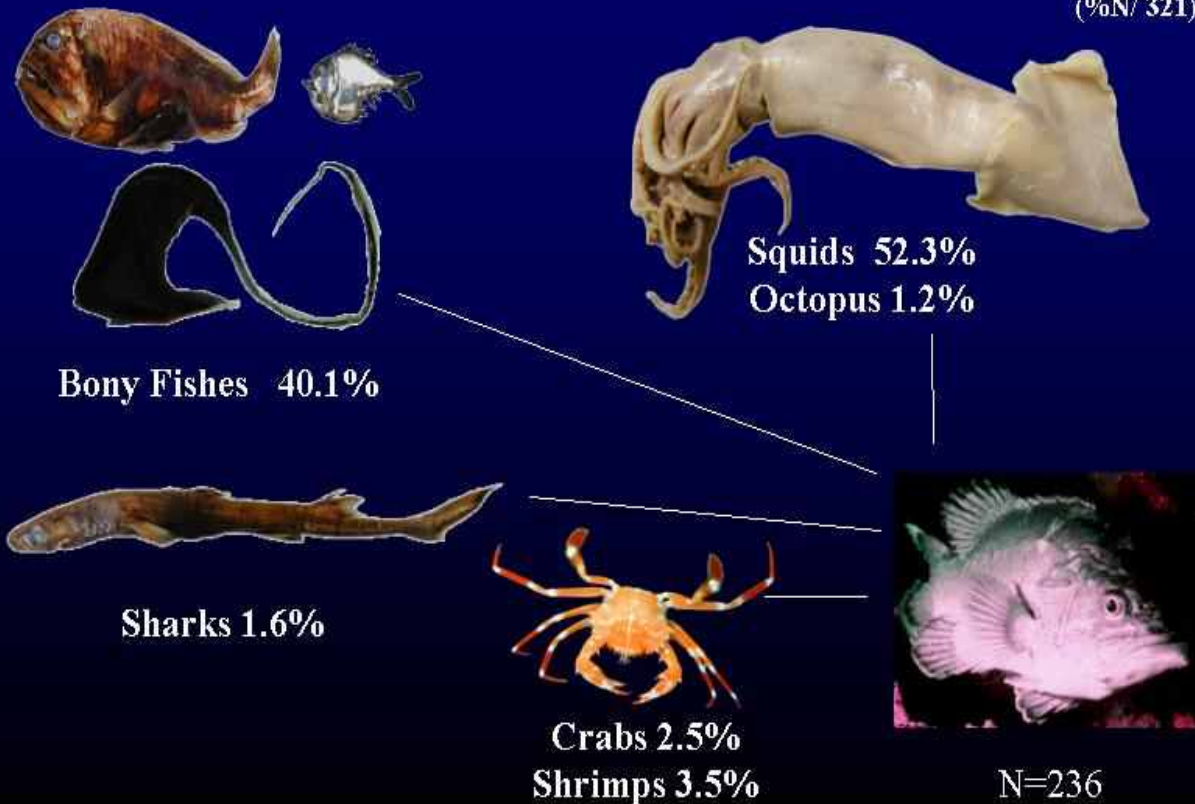
Trophic Pathways on the Charleston Bump

Sedberry and Weaver, 2001



Food Habits of Wreckfish, *Polyprion americanus*

(%N/ 321)



Wreckfish Fishery Bycatch



Photo courtesy: SCDNR-MRD

Heliocolenus dactylopterus



Photo courtesy: SCDNR-MRD

Beryx decadactylus* *Hyperoglype perciformis



Photo courtesy: SCDNR-MRD

***Cirrhigaleus* sp., *Centrophus* sp.,
and *Squalus* sp.**



Photo courtesy: SCDNR-MRD

Beryx splendens



Photo courtesy: SCDNR-MRD

Conger oceanicus

Life History Studies



Photo courtesy: SCDNR-MRD

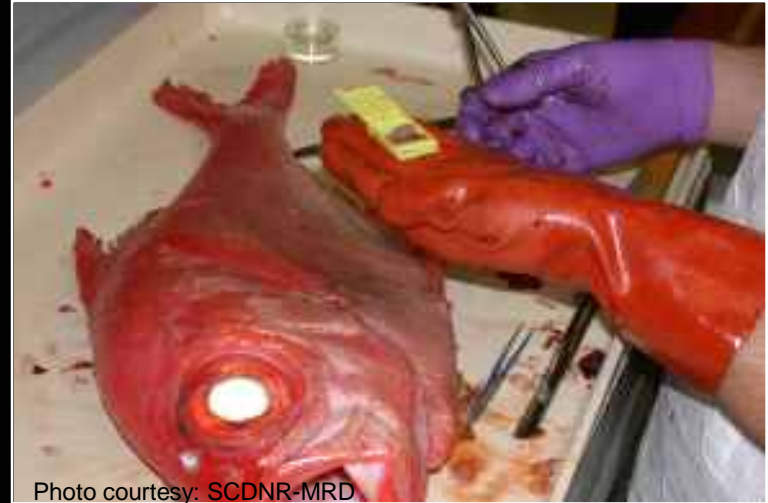


Photo courtesy: SCDNR-MRD



Photo courtesy: SCDNR-MRD



Photo courtesy: SCDNR-MRD

Feeding Habits of Several Deep Water Reef Fish on the Continental Slope off the Southeastern United States

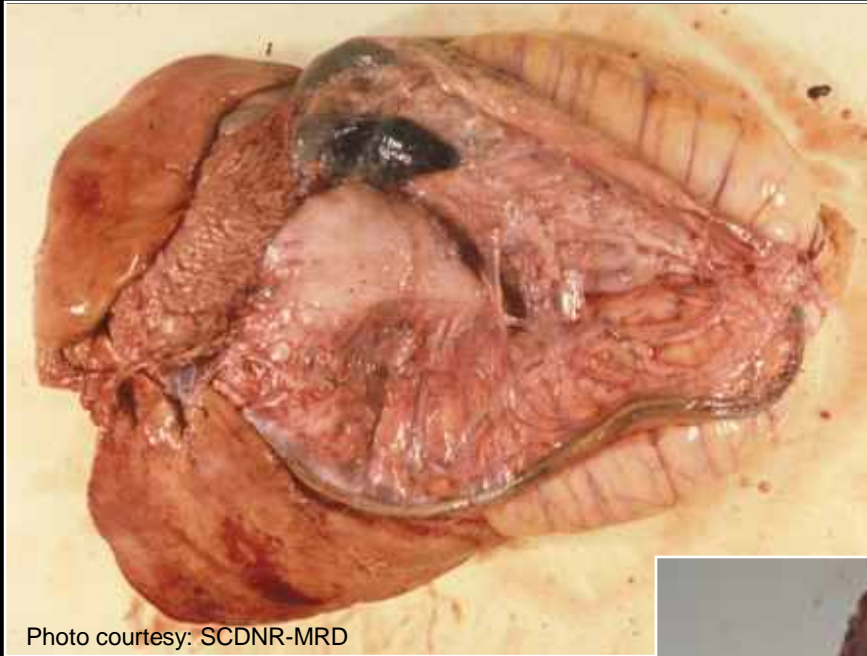


Photo courtesy: SCDNR-MRD



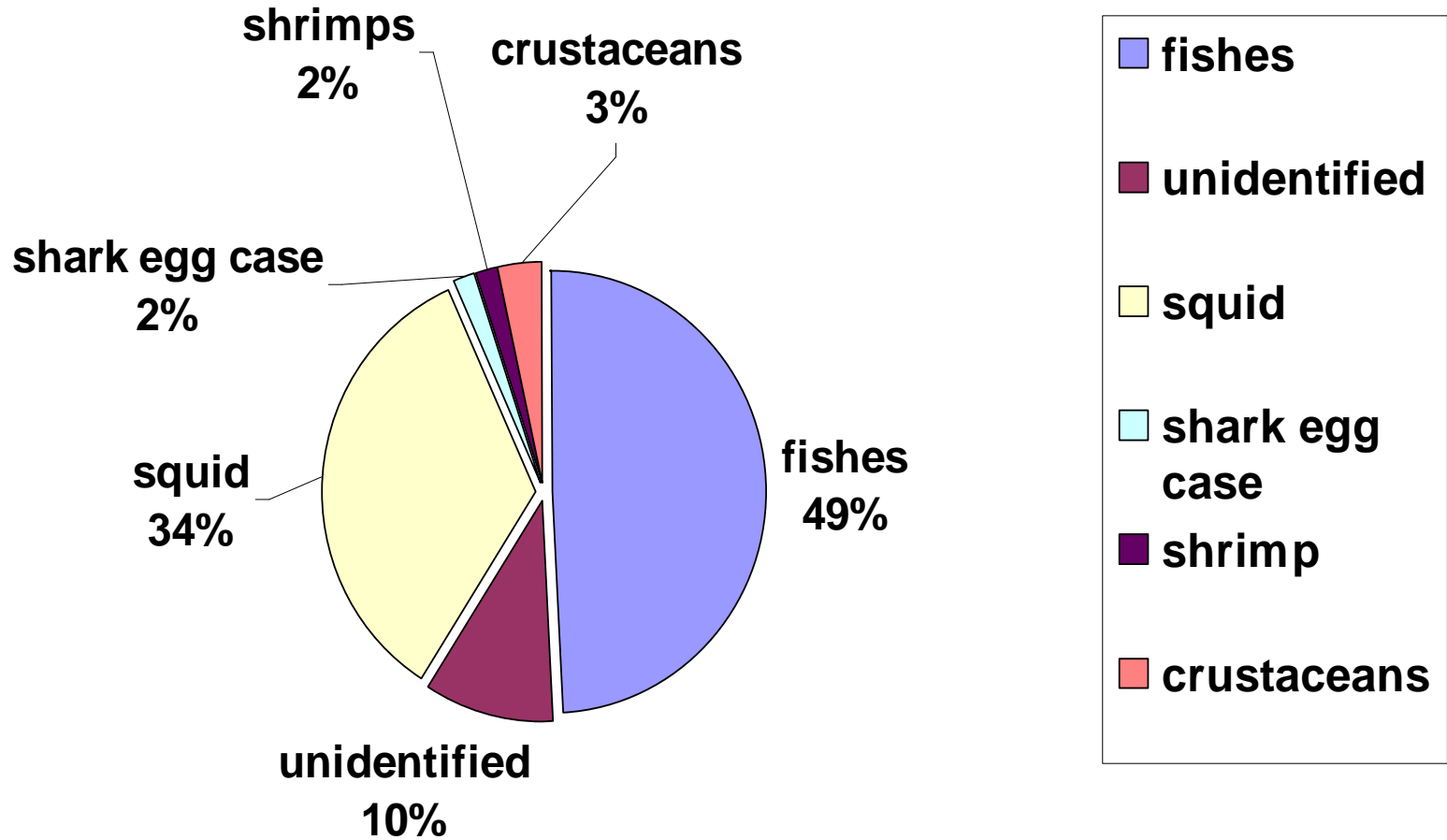
Photo courtesy: SCDNR-MRD



Photo courtesy: SCDNR-MRD



Wreckfish Prey Items



*represents prey from 36 fish

Wreckfish Prey Items



Photo courtesy: SCDNR-MRD

Chaceon fenneri



Photo courtesy: SCDNR-MRD

Illex illecebrosus



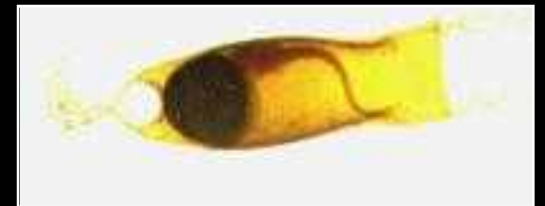
Photo courtesy: SCDNR-MRD

Beryx splendens



Photo courtesy: SCDNR-MRD

Squid beaks

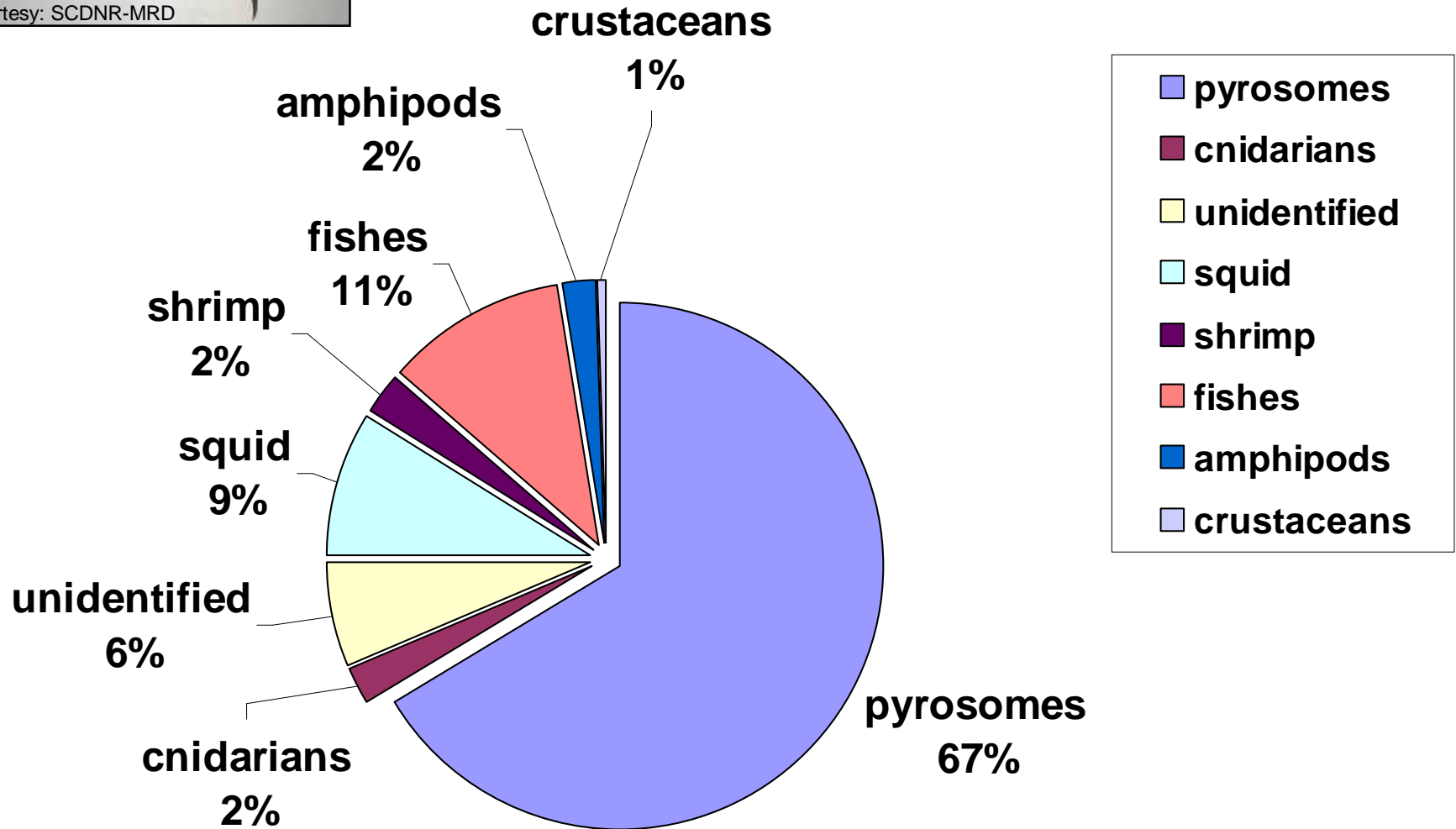


shark egg case



Photo courtesy: SCDNR-MRD

Barrelfish Prey Items



*represents prey from 108 fish

Barrelfish Prey Items



Photo courtesy: SCDNR-MRD

Pyrosoma atlanticum



Photo courtesy: SCDNR-MRD

Lophiid



Photo courtesy: SCDNR-MRD



Photo courtesy: SCDNR-MRD

***Phronima* sp.**



Photo courtesy: SCDNR-MRD

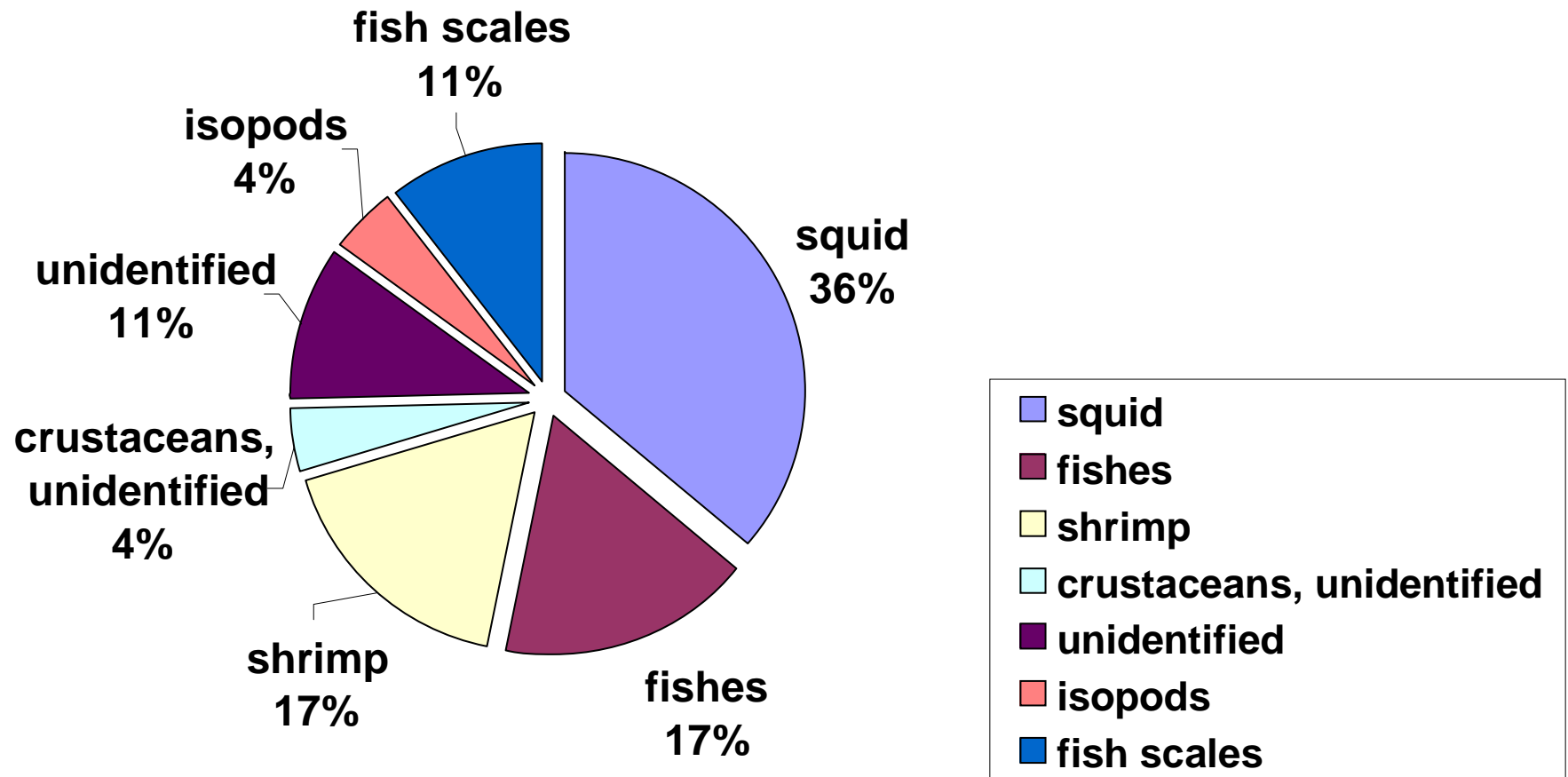
Nomeid



Photo courtesy: SCDNR-MRD

Unidentified shrimp

Beryx decadactylus and *Beryx splendens* Prey Items



*represents prey from 23 fishes

Red Bream and Splendid Alfonsino Prey Items



Photo courtesy: SCDNR-MRD

Cymothoid isopod



Photo courtesy: SCDNR-MRD

Unidentified shrimp



Photo courtesy: SCDNR-MRD

***Illex* squid**



Squid beak

Future directions



Acknowledgements

- **NOAA Fisheries**
- **NOAA Ocean Exploration**
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- **H. Scott Meister**