



Potential Environmental Impacts of Offshore Wind Farms on the Spatial Ecology of Coastal Elasmobranchs

Bryan Keller
bakeller@email.arizona.edu

KEY POINTS



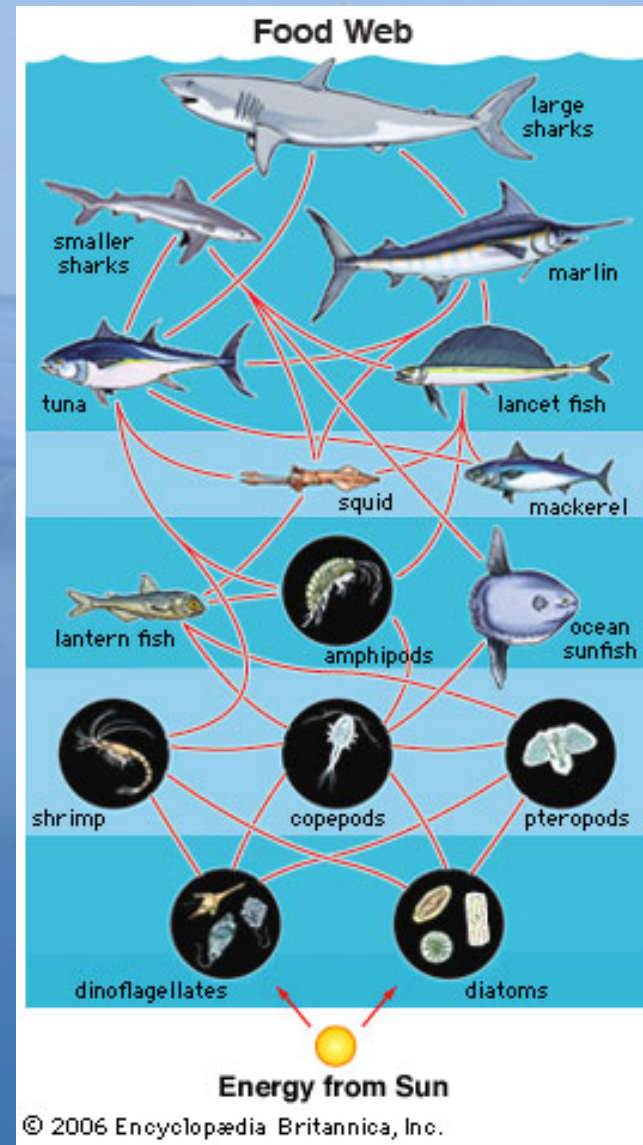
**Sharks
Maintain
Ecosystem
Integrity**

**Seasonal
Migration on
East Coast**

**Electromagnetic
Detection
Implications**

Shark Maintain Ecosystem Integrity

- Many species of sharks inhabit coastal waters of South Carolina
- Sharks display regulatory control over food web
- Sharks have relatively few numbers compared to heterospecifics



Seasonal Migration on East Coast



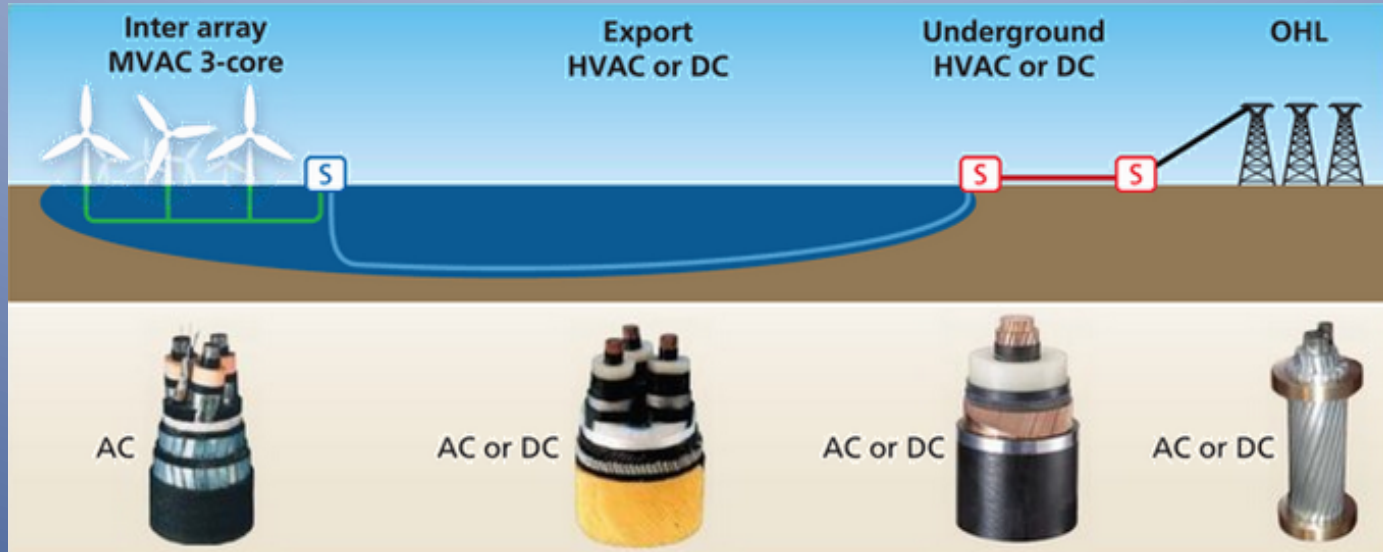
- Sharks arrive in early summer, leave late fall
- Travel along coast from SC to lower latitudes
- Often return to exact nursery as the previous year

Electromagnetic Detection

- Sharks have the ability to detect a wide range of magnetic impulses
- Used to find prey
- Thought to be used for migration, unable to be tested until now



Electromagnetic Detection



- Sharks can detect electromagnetic signatures from submarine cables (Gill & Taylor 2001)
- Unknown if presence of cables is severe enough to impact migrations
- Must determine if sharks use magnetic cues for migration

Summary

- Sharks are important to keep the ocean healthy
- These animals migrate along the East Coast
- Submarine cables could disrupt seasonal migrations, which would drastically impact the ecosystem
- Must determine if sharks use magnetic cues for migration in order to ensure a neutral environmental impact of the marine ecosystem



Questions?

Photo by: Nuno Sa