Deoxygenation effects on pelagic sharks, billfish, and tuna.

High metabolic rates make these species especially susceptible to deoxygenation.

Within North Pacific upper water column (above 1000m) oxygen concentration declines will be most dramatic.

Most affected species:
- Tuna
- Yellowfin
- Bigeye
- Pacific bluefin
- Albacore

Oceanic supply of O₂ decreases as ocean temps rise. Fish demand for O₂ remains high, leading to habitat shrinkage.

Habitat shrinkage shifts species distribution:
- Stock assessment and management complications.
- Reduced fish landings.
- Lower economic profit. Fishers spend more resources to locate & catch these species.
- Smaller scale fisheries and developing nation populations most affected by the change.

Aggregate economic value of tuna, ~US$9B

Marine life effects:
- Loss of biodiversity
- Loss of biomass
- Loss of habitat

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