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| --- | --- | --- | --- |
| **Key Ecosystem Component** | **Indicator** |  |  |
| **ENVIRONMENT** | |  |  |
| Surface Water Temperature | 1. Seasonal mean sea surface temperature | Satellite OISST (Huang et al., 2020) | Ian |
|  | 1. Marine heatwave days | Satellite OISST (Huang et al., 2020) | Ian |
| Water Column Temperature | 1. Bottom temperature anomaly | World Ocean Database XBT and CTD (Boyer et al., 2018) and **Seawolf Sampling** | Ian |
|  | 1. Cold pool volume | GLORYS Reanalysis (Lellouche, 2003-2021), consider updating with MOM6 (1993-2019) | Ian |
|  | 1. Cold pool duration | GLORYS Reanalysis (Lellouche, 2003-2021), consider updating with MOM6 (1993-2019) | Ian |
| Water Chemistry | 1. Bottom dissolved oxygen | **Seawolf Sampling** | **Me?** |
|  | 1. Surface and bottom pH, pCO2, aragonite | **Seawolf Sampling** | **Me?** |
| Winds | 1. Mean wind stress | National Data Buoy Center (1971) | Ian |
|  | 1. Number of large storms | **University of Manitoba Northern Hemisphere Cyclone Dataset** | **Ian** |
| Stratification | 1. Stratification anomaly | World Ocean Database XBT and CTD (Boyer et al., 2018) and **Seawolf Sampling** | Ian |
| Freshwater Inputs | 1. Hudson River flow | River Gauge (U.S. Geological Survey, 2016) | Ian |
| Salinity | 1. Surface water salinity | World Ocean Database XBT and CTD (Boyer et al., 2018) and **Seawolf Sampling** | Ian |
|  | 1. Bottom water salinity | World Ocean Database XBT and CTD (Boyer et al., 2018) and **Seawolf Sampling** | Ian |
| Climate Variability | 1. Global carbon dioxide | Keeling et al. (2001) and Macfarling Meure et al. (2006) | DS |
| Habitat | 1. Lobster thermal habitat | Glorys 12 Reanalysis (Lellouche, 2021) | Ian |
|  | 1. Location of 20 C isotherm | Satellite OISST (Huang et al., 2020) | Ian |
| **MARINE COMMUNITY** | |  |  |
| Phytoplankton | 1. Monthly mean surface chlorophyll | Ocean Colour Climate Change Initiative Dataset | DS |
| Zooplankton | 1. *Calanus finmarchicus* abundance | EcoMon Program | DS |
|  | 1. *Centropages typicus* abundance |  | DS |
|  | 1. Small/Large copepod index | EcoMon Program | DS |
| Forage Species | 1. Longfin squid biomass | Bottom Trawl Survey (Northeast Fisheries Science Center, 2022) | DS |
|  | 1. Northern shortfin squid biomass | Bottom Trawl Survey (Northeast Fisheries Science Center, 2022) | DS |
|  | 1. Forage biomass | Bottom Trawl Survey (Northeast Fisheries Science Center, 2022) | DS |
| Mid-Trophic Level Species | 1. NOAA foraging groups | Bottom Trawl Survey (Northeast Fisheries Science Center, 2022) | DS |
|  | 1. Total trawl biomass | Bottom Trawl Survey (Northeast Fisheries Science Center, 2022) | DS |
|  | 1. Black sea bass biomass | Bottom Trawl Survey (Northeast Fisheries Science Center, 2022) | DS |
|  | 1. Summer flounder biomass | Bottom Trawl Survey (Northeast Fisheries Science Center, 2022) | DS |
|  | 1. American lobster biomass | Bottom Trawl Survey (Northeast Fisheries Science Center, 2022) | DS |
|  | 1. Jonah crab biomass | Bottom Trawl Survey (Northeast Fisheries Science Center, 2022) | DS |
|  | 1. Northern vs. summer species biomass | Bottom Trawl Survey (Northeast Fisheries Science Center, 2022) | DS |
|  | 1. Structure oriented species |  | DS |
| Upper-Trophic Level Species | 1. Humpback whale body condition |  | DS |
| Biodiversity | 1. Species richness | Bottom Trawl Survey (Northeast Fisheries Science Center, 2022) | DS |
| Trophic Interactions | 1. Average trophic level of fish community | Bottom Trawl Survey (Northeast Fisheries Science Center, 2022) | DS |
|  | 1. Temperature preference of fish community | Bottom Trawl Survey (Northeast Fisheries Science Center, 2022) | DS |
| **HUMAN COMMUNITIES** | |  |  |
| Recreational Fishing | 1. Recreational harvest (total= harvest + released) | Marine Recreational Information Program | DS |
|  | 1. Recreational effort (number trips) | Marine Recreational Information Program | DS |
| Commercial Fishing | 1. Commercial fisheries landings (weight) | NOAA Fisheries Office of Science and Technology, Commercial Landings Query | DS |
|  | 1. Commercial landings value (USD) | NOAA Fisheries Office of Science and Technology, Commercial Landings Query | DS |
| Coastal Communities | 1. Human population of Long Island | U.S. Census Bureau (2022) | DS |
|  | 1. Vessel density and speed | BOEM and NOAA MarineCadastre.gov | Ian |
|  | 1. Sea level rise risk for Long Island | NOAA Social Indicators Tool https://www.st.nmfs.noaa.gov/data-and-tools/social-indicators/ | DS/JN |

Table X: (fits in one page in word) Status of the 40 indicators of New York Bight marine ecosystem health.  Under status, C=Completed, P=Proposed, U=Under development, R=Refined