4 1 *** 5** KKSET = Active **□ å••** Recreation In Working Tidal restored wetland habitats absorb sea level changes and are nestled between the site's existing sports fields and features. Only some active sports field space would be absorbed by habi-tat restoration; most fields remain in place or **Habitat Restoration** are shifted slightly to accommodate new site Diversion of roadways and parking features. New boating facilities in the lagoon leaves space for salt marsh restorawill reach out to neighborhood residents and tion and the establishment of beach increase their exposure - at greatly reduced dunes. Dune plantings such as American Shifting rates - to kayaking, canoeing, sailing, and beachgrass, beach pea, and seaside gold Economic windsurfing. Existing field uses would Infrastructure enrod hold sand with their root systems, Engagement remain, but fields would be reno-Future infrastructure developments in Workhile shrubs such as beach heather, bayberry vated to allow subsurface ing Tidal prioritize a transition to reduced vehicular Urban aquaculture endeavors have the pond beach plum provide wildlife habitat and flood storage. tential to create jobs and revive Boston's historic infrastructure and an increase in pedestrian and bicycle additional stabilization. Salt marsh plants infrastructure. A major alteration is the closing of the portion fisheries economy. According to the Department of (dominantly Spartina species) cycle nutrifish & Game's Designated Shellfish Growing Maps, the area of Day Boulevard that runs around Moakley Park. Vehicular traffic ents, protect against flooding and storm would be diverted to Old Colony Avenue, which connects Morrissey nas been deemed suitable for soft shell clam production, as surges, and provide food sources ong as the animals undergo depuration before being distributed Boulevard and Columbia Road to Day Boulevard. The portion of the road and habitat for wildlife. for human consumption. Nearby stretches of shoreline have been that serves as an entrance to the State Police would be preserved. In place of the road and beach front parking, an entrance drive and drop-off determined suitable for blue mussel production, so possibilities serve users that require vehicular access to the site. Working Tidal proposes or mussel farming could be further explored in this area. Presently a rapidly-expanding category of aquaculture in the Northeast is in a collaboration with UMass Boston to allow park users to park at UMass lots at non-peak hours for the University, and utilize a new shuttle system that eaweed and kelp production. Marketing varies from fresh consump would take visitors from the lots to the beach pavilion. The shuttle would tion to use as a stabilizing additive in other foods (i.e. carageenan production), and the industry has great potential in Massachusetts. also make a stop at the JFK/UMass T station, encouraging mass transit use. Urban agriculture programs like the Food Project and the Urban The closed portion of Day Boulevard would be converted to a multi-use path Farming Institute of Boston are successfully running career traii which would connect to raised boardwalks and trails throughout the site, ing and educational programs already - why not expand to but most importantly to the new breakwater path that stretches out into Boathouse ne sea? Carson Bay holds the potential for local econom Carson Bay. In addition to supporting energy-generating turbines, the breakwater would also include infrastructure for a commuter ferry growth that includes the surrounding com-& Docks stop, allowing quick downtown access for residents and diversimunity, while being at the forefront Shellfish fying transit options in the area. In addition, the path loop of seaweed agriculture in New Connecting **Farming** Is an extension of the Harborwalk, and an opportunity Neighborhoods for less confident bicyclists to feel safe in a vehi-Well-programmed urban parks Restored cle-free zone while developing their skills. naturally attract users from their surrounding neighborhoods, which is one of their principal functions. Through support of active and passive recreational engagement, opportunity for economic training and growth, and serving as a pedestrian, cycling, and mass transportation link, 2030 Moakley Park will fulfill its potential as a connection within this neighbor-9" Sea Level hood and with other parts of Educational Rise the city. **Opportunities** Boardwalks and raised trails through Moakley Park's marshes, Community dunes, and fields are an ideal opportunity for groups of Destination all ages to gain exposure to natural habitats found in Mas-In addition to existing sports and sachusetts. Interpretive signage highlights key species and Breakwater beach use, new water-oriented and unctions, and explains ecological concepts using an accessible, passive recreation opportunities will ateasy-to-understand approach. Community gardens offer a chance tract a broader range of users. Changes to Seaweed for neighbors to grow their own food, and teach others how to do access in the park will encourage visitors to so. Neighborhood children and adults are able to learn how to use Farming experience the place differently by arriving and develop confidence in small watercraft in the protected laon foot or by bicycle. Small watercraft progoon. Urban aquaculture and power generation activities in the gramming will include sessions for adults agoon will attract visitors, engineers, scientists, and researchand children - fostering a community ers that will use the park as a working laboratory and classconnection and enhancing residents' room. The concentration of STEM activity at the park can relationship with the harbor and 2050 be leveraged for school groups and summer camps, Playgrounc with the land. 21" Sea increasing exposure to marine-related studies and careers, and fostering Climate Level Rise an understanding of valuable Tidal Change Resilience ecosystems Turbines Working Tidal leverages Moakley Park's coastal location to accommodate rising sea levels in the Boston Har-Seaweed bor. Strategic restoration of salt marsh ecosystems in low areas of the park provide Farming storm surge storage in the near term, and control future changes in the coastline due to sea level rise. A breakwater with a multiuse path along its surface contains tidal Harnessing energy generation turbines, which re-Energy duce dependence on carbon-based With an area of about 1175 acres, Carpower sources. son Bay would move about 2.8 billion gallons of tidewater between high and low tides. With 2070 leading-edge modern technology underwater tur-36" Sea bines, such as those slated for use in the Swansea Bay Tidal Lagoon project in Wales, that amount of water Level Rise could produce an average of 1.4 mW per hour of power. That's enough energy to power 900 homes - about 1/16 of South Boston's approximately 14,400 residences! Embedded in the seawall that would be installed as part of Working Tidal, the turbines would include baffles which maximize and stabilize the energy output. The baffles can also be used in emergencies to help control storm surge - similar breakwater projects have been designed using natural materials to withstand 500-year storm surge events, and are easily extended upward as HIGH TIDE POTENTIAL ENERGY: sea levels rise. E = 1/2 Apgh2 where... SAND DUNE As horizontal area of basin - approx. 1, 165 acres on 4, 750,000 m2 p: density of water = 1,025 kg/m3 as accoleration due to granty 9.81 The he vertical tidal range = 75 Ft or 200m E 1/2/4,750,000 -1/1,025 = 1/2)(9,8) 3,)(2,25-) =12.09 ×10" Java ser high tale 2+les/Day - 24.18-10° July /Dig 86,400 soft - 2,800,000 Jules for = 2.8 Maga Watts of potential power conversion afficiency of 50% GENERATION CAPACITY OF CARSON BAY: 1 approv. 1.4 MW ONE MEGANAT POWERS ~650 HOMES = 900 Homes - 10 Boston 2013 Rop.: 3,717 : 900 Homes - 10 Boston 203 Add Homeson: 2.2 : 6.25 % of South Boston. HARBER WALK