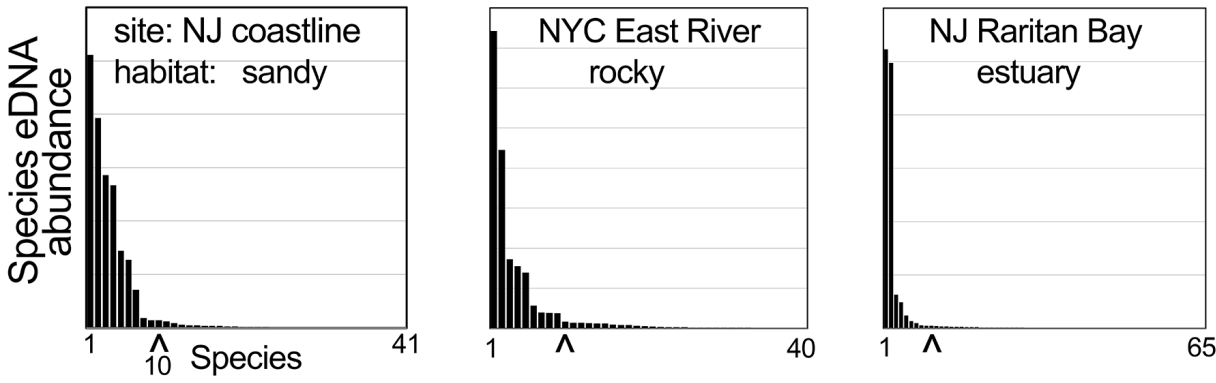# Ranking of top ten fish species by eDNA abundance suffices to define coastal habitats
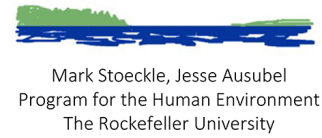
Methods:
1. Collect 1 L water samples from different habitats, analyze for fish eDNA
2. Rank species by eDNA abundance
3. Compare eDNA "top ten" most abundant species among habitats
4. Classify "top ten" by habitat type

Species eDNA abundance

site: NJ coastline
habitat: sandy

NYC East River
rocky

NJ Raritan Bay
estuary

Species

eDNA-dominant species ("top ten")

site: NJ coastline (sandy)	NYC East River (rocky)	NJ Raritan Bay (estuary)
1. Atlantic menhaden, Alosa herrings	1. Atlantic menhaden, Alosa herrings	1. Atlantic menhaden, Alosa herrings
2. Striped bass	2. Tautog	2. Atlantic silverside
3. Windowpane	3. Striped bass	3. Striped killifish
4. Atlantic herring	4. Oyster toadfish	4. Striped bass
5. Urophycis hakes	5. Cunner	5. Bluefish
6. Winter flounder	6. Feather blenny	6. Mummichog
7. Summer flounder	7. Bay anchovy	7. Black drum or spot
8. American eel	8. Skilletfish	8. Black sea bass
9. Bay anchovy	9. Seaboard goby	9. Northern kingfish
10. American butterfish	10. Black sea bass	10. Summer flounder

fish species classified by habitat type:
Sandy   Rocky   Estuary   Shared

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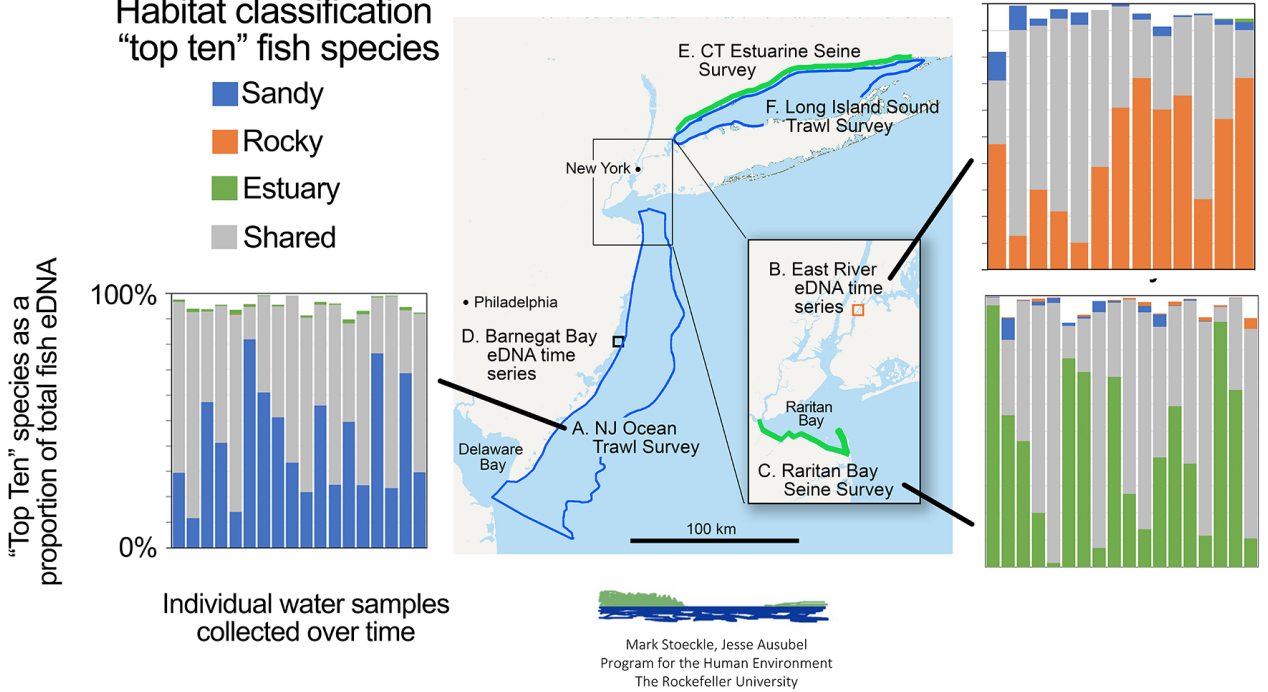
Fish species abundant by eDNA differ among habitats

Habitat classification "top ten" fish species
- Sandy
- Rocky
- Estuary
- Shared

"Top Ten" species as a proportion of total fish eDNA

100%

0%

Individual water samples collected over time

E. CT Estuarine Seine Survey
F. Long Island Sound Trawl Survey
New York
B. East River eDNA time series
Philadelphia
D. Barnegat Bay eDNA time series
A. NJ Ocean Trawl Survey
Raritan Bay
Delaware Bay
C. Raritan Bay Seine Survey
100 km

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