

In the context of funding research proposals for MAFMC, how important are these species compared to the species criteria?

Species / Species Criteria	High commercial value	High recreational value	Overfished (in this case overfished = more important species for research)	Overfishing (in this case overfishing = more important species for research)	Positive spillover on other species (ex. Forage fish as opposed to choke species, species with a lot of bycatch)	Row Total	Relative Decimal
Species Criteria Weights	0.173	0.041	0.46	0.286	0.041		
Bluefish	0.043	0.027	0.338	0.215	0	0.623	0.1115089
Tilefish	0.087	0	0.305	0.1	0	0.492	0.0880616
Surfclams	0.173	0	0.081	0.057	0	0.311	0.0556649
Ocean Quahog	0.087	0	0.081	0.072	0	0.24	0.0429569
Summer flounder	0.087	0.014	0.32	0.215	0	0.636	0.1138357
Black sea bass	0.043	0.014	0.276	0.286	0	0.619	0.1107929
Scup	0.13	0.027	0.015	0.072	0	0.244	0.0436728
Atlantic mackerel	0.043	0.041	0.23	0.143	0.021	0.478	0.0855558
Butterfish	0	0	0.438	0.143	0.021	0.602	0.1077501
Illex	0.087	0	0.23	0.143	0.021	0.481	0.0860927
Loligo	0.087	0	0.205	0.143	0.021	0.456	0.081618
Spiny Dogfish	0	0	0.305	0.1	0	0.405	0.0724897
Column Total	0.867	0.123	2.824	1.689	0.084	5.587	

Relative Decimal x .164 (species is important criteria) to fit in final matrix

0.018287

0.014442

0.009129

0.007045

0.018669

0.01817

0.007162

0.014031

0.017671

0.014119

0.013385

0.011888

0.164

**Max value for each cell is the full species criterion weight at the top of its column

Background:

Species	Commercial value \$ (2010)	Recreational value (# fish 2010)	Overfished (Stock size relative to)	Overfishing (Fcurrent/Fmsy)	Spillover?
Bluefish	1,075,604	2,559,736	95%	~0.75	neither
Tilefish	5,106,306	~0	104%	~0.35	neither
Surfclams	#####	~0	162%	~0.20	neither
Ocean quahog	7,878,102	~0	162%	~0.25	neither
Summer flounder	8,125,838	1,225,669	100%	~0.75	neither
Black sea bass	1,613,590	1,317,458	111%	~1.00	neither
Scup	2,935,522	2,735,543	202%	~0.25	neither
Atlantic mackerel	912,426	3,914,000	midpoint*	0.50*	forage
Butterfish	329,021	~0	Yes; exact data not	0.50*	choke
Illex	5,676,703	~0	Midpoint	0.50*	forage
Loligo	6,088,431	~0	128%	0.50*	forage
Spiny dogfish	228,607	~0	106%	~0.35	neither
* no data					

For use these to identify how well species meet species criteria.

For commercial value:

- Surfclams (100% of species criterion weighting)
- Ocean quahog, Tilefish, Summer flounder, Illex, Loligo (75% of species criterion weighting)
- Scup (50% of species criterion weighting)
- Bluefish, Black sea bass, Atlantic mackerel (25% of species criterion weighting)
- Butterfish, Spiny dogfish (0% of species criterion weighting)

For recreational value:

- Atlantic mackerel (100% of species criterion weighting)
- Bluefish, Scup (66.67% of species criterion weighting)
- Black sea bass, summer flounder (33.33% of species criterion weighting)
- Tilefish, Surfclams, Ocean quahog, Butterfish, Illex, Loligo, Spiny dogfish (0% of species criterion weighting)

For Overfished:

Normalized cumulative data for overfished (numbers in red are 1-normalized cumulative data because those species that are overfished should get a greater percentage of the criterion weighting): *=no data so they were assigned the median 50%

Bluefish	0.26561	0.73439	73% of species criterion
Tilefish	0.33818	0.66182	66% of species criterion
Surfclams	0.8232	0.1768	18% of species criterion
Ocean Quahog	0.8232	0.1768	18% of species criterion
Summer flounder	0.30495	0.69505	70% of species criterion
Black sea bass	0.39932	0.60068	60% of species criterion
Scup	0.96822	0.03178	3% of species criterion
Atlantic mackerel	.5*	0.5	50% of species criterion
Butterfish	0.04748	0.95252	95% of species criterion
Illex	.5*	0.5	50% of species criterion
Loligo	0.55533	0.44467	44% of species criterion
Spiny dogfish	0.3553	0.6447	64% of species criterion

Numbers in red are the percentages each species will get of the overfished criterion

For Overfishing:

Use the same proportions in above table (Fcurrent/Fmsy) as the proportions of the species criterion

Bluefish	~0.75	75% of species criterion
Tilefish	~0.35	35% of species criterion
Surfclams	~0.20	20% of species criterion
Ocean Quahog	~0.25	25% of species criterion
Summer flounder	~0.75	75% of species criterion
Black sea bass	~1.00	100% of species criterion
Scup	~0.25	25% of species criterion
Atlantic mackerel	0.50*	50% of species criterion
Butterfish	0.50*	50% of species criterion
Illex	0.50*	50% of species criterion
Loligo	0.50*	50% of species criterion
Spiny dogfish	~0.35	35% of species criterion

For Spillover:

- Species that are both choke and forage (100% of species criterion weighting)
- Species that are one or the other (50% of species criterion weighting)
- Species that are neither (0% of species criterion weighting)