

Method Matrix page 1

FISHE Step

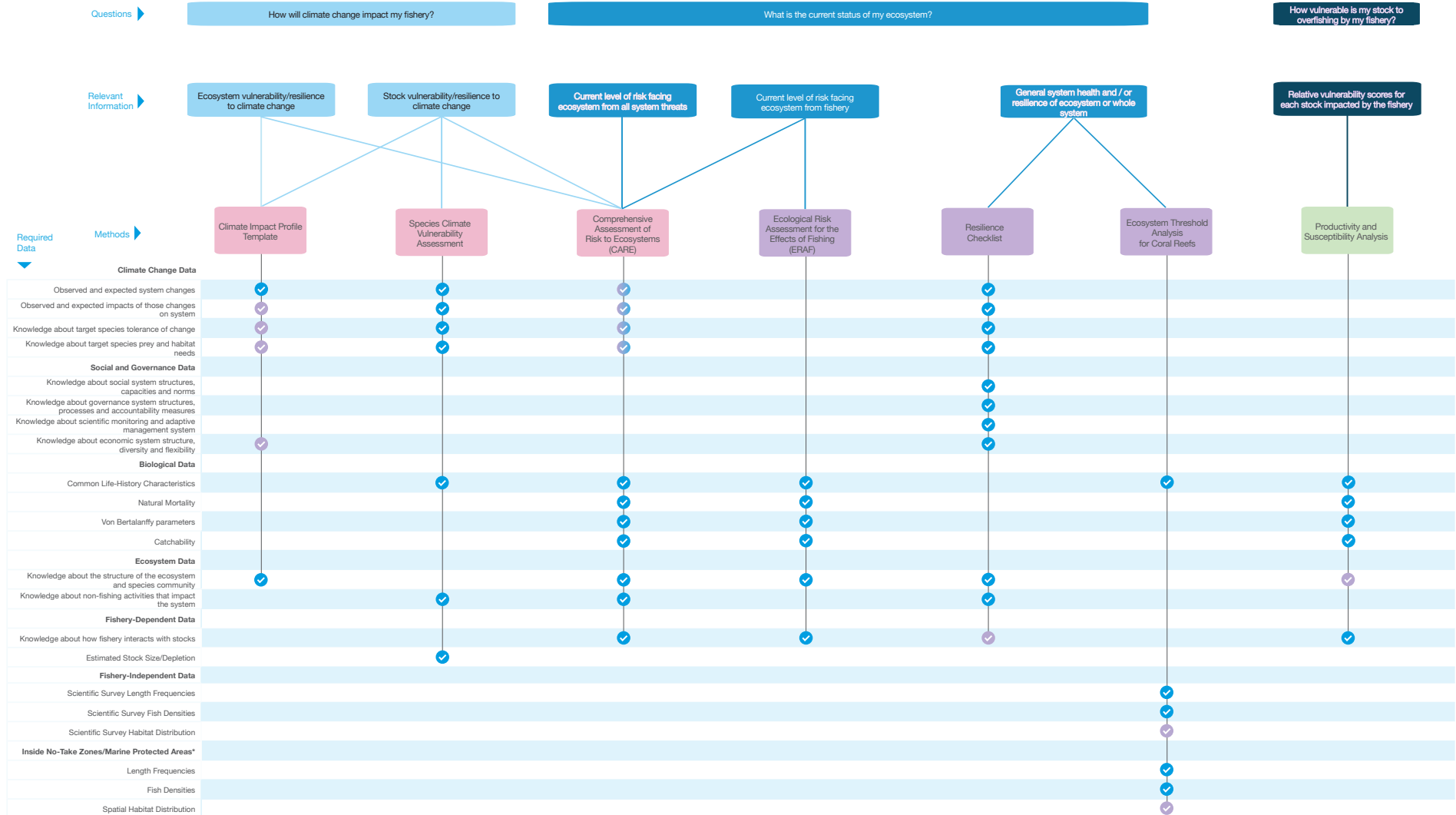
1 3 4

- ✔ Need to Have Data (data that is necessary to conduct a given method)
- ✔ Nice to Have Data (data that can be used with the given method to answer additional questions)
- ✔ Data could be Need to Have or Nice to Have depending on relevant information

* Marine Protected Area must be appropriately cited, to ensure habitats are comparable with corresponding fished areas, appropriately designed and managed to ensure efficacy in allowing stocks to rebuild, and old enough to infer that populations inside are representative of unfished populations.

Use the answers from your species data worksheets to determine which assessment method(s) are most appropriate for your fishery.

Visit <http://fisheriedf.org/method-matrix>



Method Matrix page 2 - inset 1

FISHE Step
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- ✔ Need to Have Data (data that is necessary to conduct a given method)
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* Marine Protected Area must be appropriately cited, to ensure habitats are comparable with corresponding fished areas, appropriately designed and managed to ensure efficacy in allowing stocks to rebuild, and old enough to infer that populations inside are representative of unfished populations.

** If species live >20 years, >500 fish are needed.

Use the answers from your species data worksheets to determine which assessment method(s) are most appropriate for your fishery.

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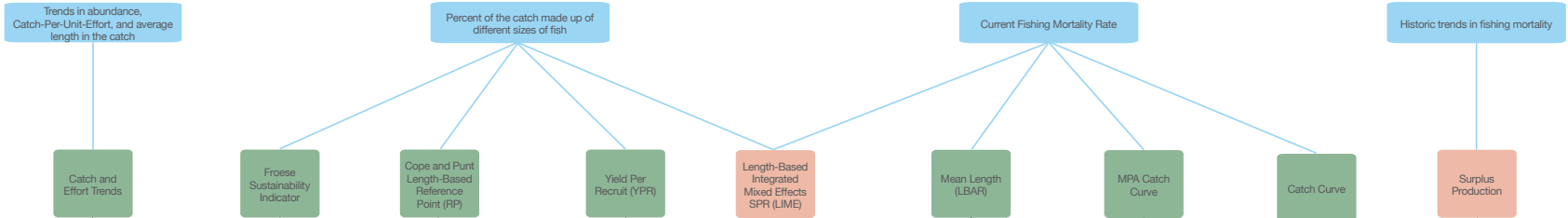
Questions ▶

Am I overfishing or fishing too hard?

Relevant Information ▶

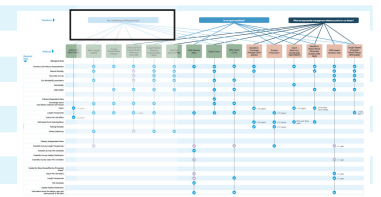


Methods ▶



Required Data

Required Data	Catch and Effort Trends	Froese Sustainability Indicator	Cope and Punt Length-Based Reference Point (RP)	Yield Per Recruit (YPR)	Length-Based Integrated Mixed Effects SPR (LIME)	Mean Length (LBAR)	MPA Catch Curve	Catch Curve	Surplus Production
Biological Data									
Common Life-History Characteristics		✔	✔	✔	✔	✔	✔	✔	
Natural Mortality			✔	✔	✔	✔		✔	
Fecundity Curves			✔	✔	✔	✔		✔	
Von Bertalanffy parameters			✔	✔	✔	✔		✔	
Catchability	✔	✔	✔				✔	✔	✔
Age/Length		✔	✔	✔	✔		✔	✔	
Fishery-Dependent Data									
Knowledge about how fishery interacts with stocks		✔	✔			✔	✔	✔	
Catch	✔ >3 years								✔ >10 years
Length Frequencies		✔	✔ >1 year	✔	✔ >100 fish **	✔	✔	✔	✔ >10 years
Catch-Per-Unit-Effort	✔ >3 years								✔ >10 years
Estimated Stock Size/Depletion									✔ >10 years
Fishing Mortality			✔	✔					
Fishery Selectivity			✔	✔		✔			✔
Fishery-Independent Data									
Scientific Survey Length Frequencies						✔			
Scientific Survey Fish Densities							✔		
Scientific Survey Habitat Distribution									
Scientific Survey Catch Per Unit Effort									
Inside No-Take Zones/Marine Protected Areas*									
Catch-Per-Unit-Effort							✔		
Length Frequencies									
Fish Densities									
Spatial Habitat Distribution									



Method Matrix page 2 - inset 2

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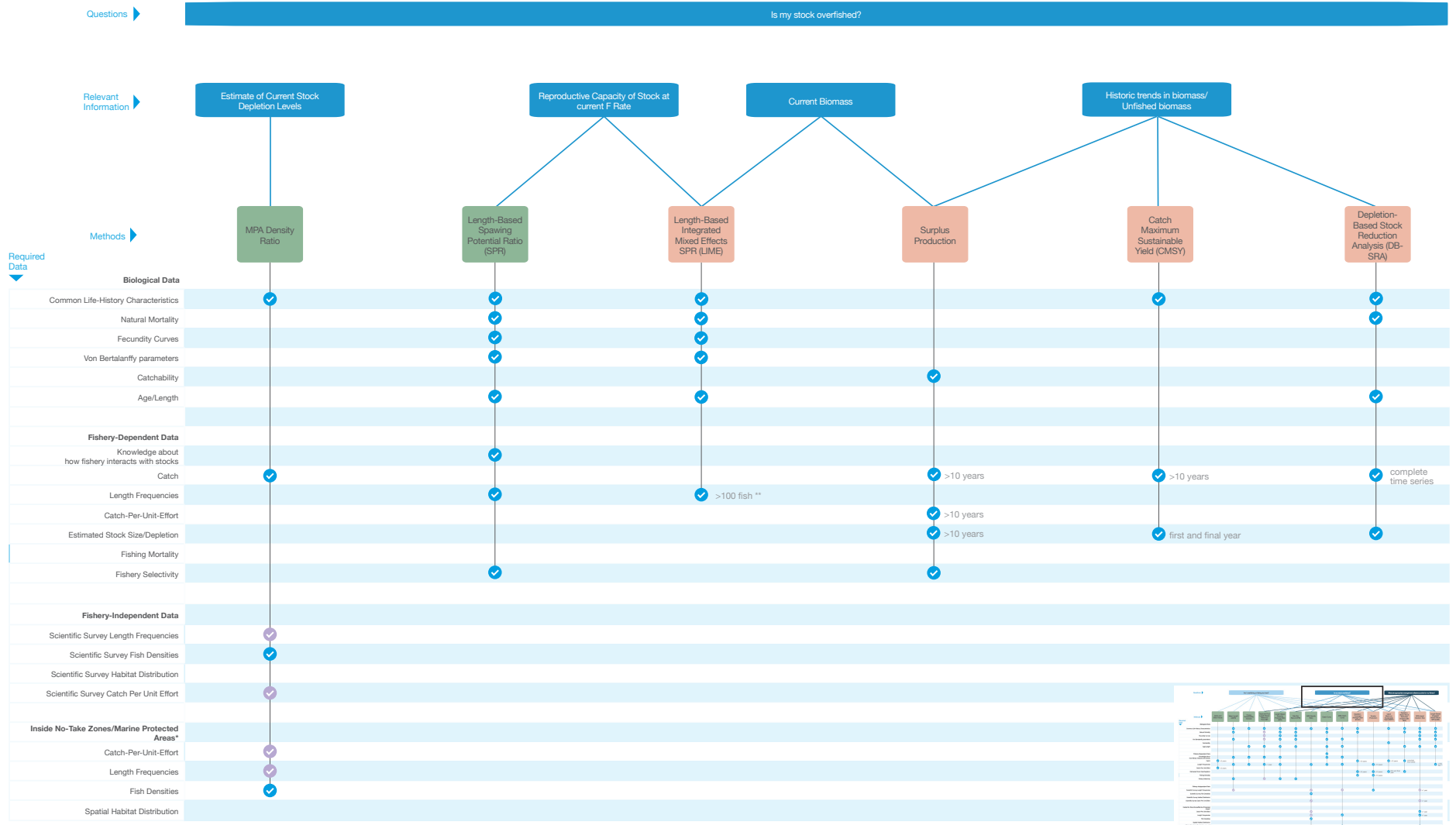
- ✓ Need to Have Data (data that is necessary to conduct a given method)
- ✗ Nice to Have Data (data that can be used with the given method to answer additional questions)

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** If species live >20 years, >500 fish are needed.

Use the answers from your species data worksheets to determine which assessment method(s) are most appropriate for your fishery.

Visit <http://fisheriedf.org/method-matrix>



Method Matrix page 2 - inset 3

FISHE Step

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- ✔ Need to Have Data (data that is necessary to conduct a given method)
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* Marine Protected Area must be appropriately cited, to ensure habitats are comparable with corresponding fished areas, appropriately designed and managed to ensure efficacy in allowing stocks to rebuild, and old enough to infer that populations inside are representative of unfished populations.

** If species live >20 years, >500 fish are needed.

Use the answers from your species data worksheets to determine which assessment method(s) are most appropriate for your fishery.

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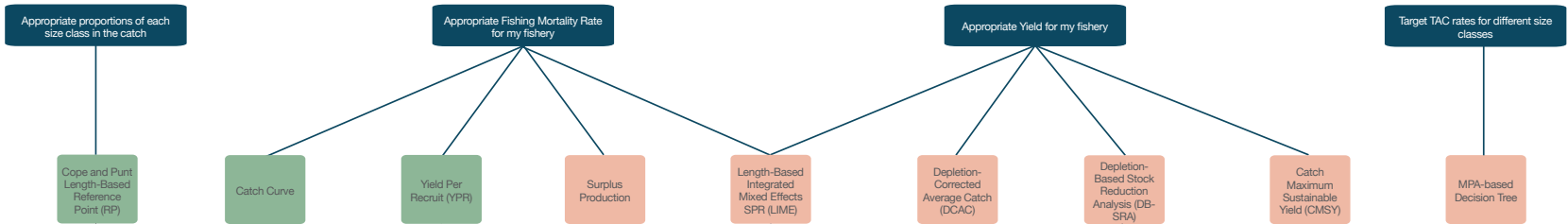
Questions ▶

What are appropriate management reference points for my fishery?

Relevant Information ▶



Methods ▶



Required Data ▼

Required Data	Cope and Punt Length-Based Reference Point (RP)	Catch Curve	Yield Per Recruit (YPR)	Surplus Production	Length-Based Integrated Mixed Effects SPR (LIME)	Depletion-Corrected Average Catch (DCA/C)	Depletion-Based Stock Reduction Analysis (DB-SRA)	Catch Maximum Sustainable Yield (CMSY)	MPA-based Decision Tree
Biological Data									
Common Life-History Characteristics	✔	✔	✔		✔	✔	✔	✔	✔
Natural Mortality	✔	✔	✔		✔	✔	✔		✔
Fecundity Curves	✔		✔		✔				✔
Von Bertalanffy parameters	✔	✔	✔		✔				✔
Catchability	✔			✔					✔
Age/Length	✔	✔	✔		✔		✔		✔
Fishery-Dependent Data									
Knowledge about how fishery interacts with stocks	✔	✔							
Catch		✔		>10 years		>10 years	complete time series	>10 years	
Length Frequencies	>1 year	✔	✔		>100 fish **				
Catch-Per-Unit-Effort				>10 years					
Estimated Stock Size/Depletion				>10 years		>10 years		first and final year	
Fishing Mortality			✔			✔			
Fishery Selectivity	✔		✔	✔					
Fishery-Independent Data									
Scientific Survey Length Frequencies									>1 year
Scientific Survey Fish Densities									
Scientific Survey Habitat Distribution									
Scientific Survey Catch Per Unit Effort									>1 year
Inside No-Take Zones/Marine Protected Areas*									
Catch-Per-Unit-Effort									>1 year
Length Frequencies									>1 year
Fish Densities									
Spatial Habitat Distribution									

