Prioritizing Key California Fisheries

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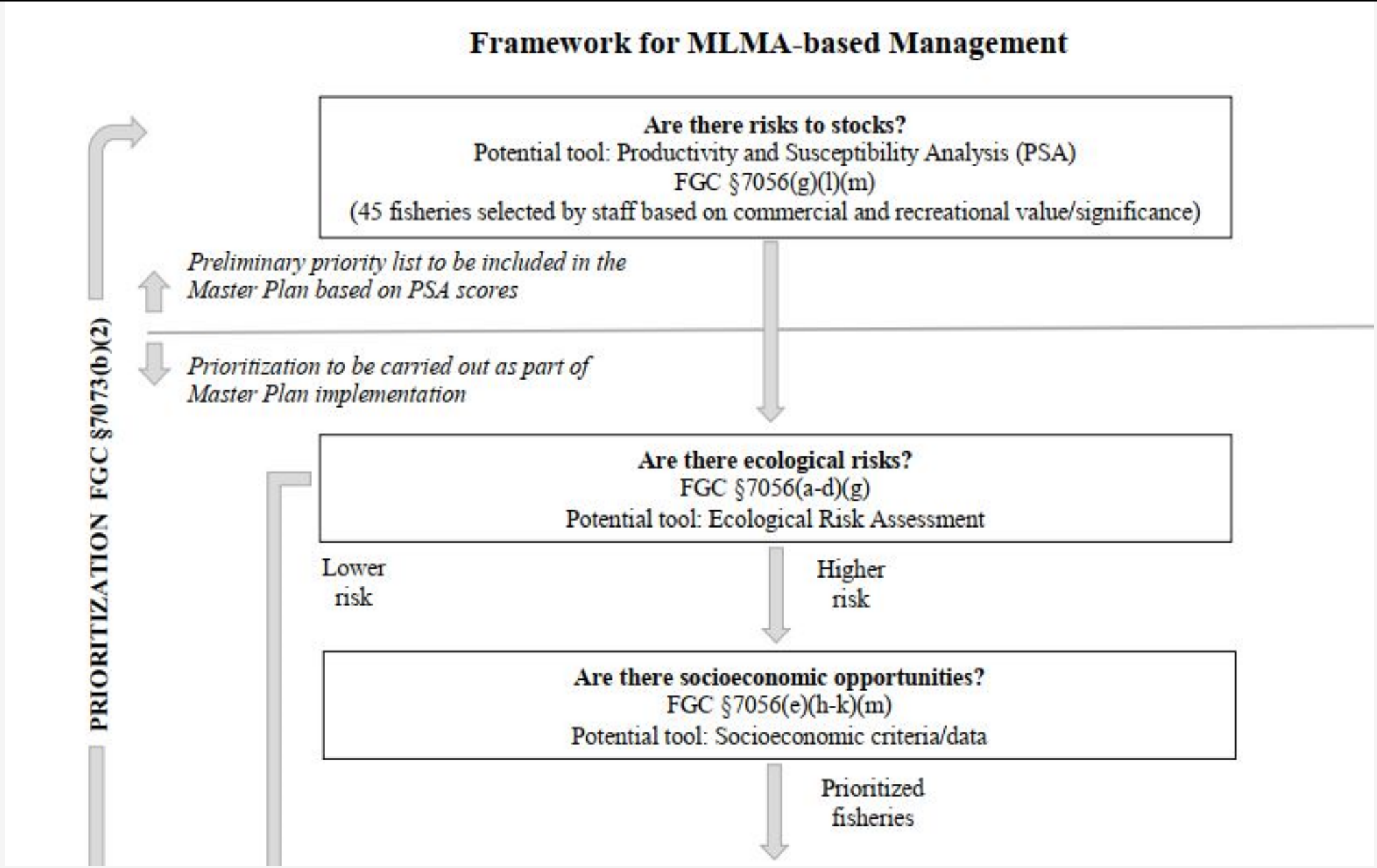

2018 Master Plan – Figure 1

Conducting a Productivity-Susceptibility Analysis (PSA)

- Collaboration with CDFW and partners to select and apply a PSA to state-managed fisheries with greatest catch or landings (2015-2016)

- 45 state-managed fisheries
  - 21 finfish and 17 invertebrate species

- Interim priority list in 2018 Master Plan based on PSA results only

Customizing an Ecological Risk Assessment (ERA)

- Iterative tool development, involving partners and stakeholders
  - Draft tool shared and refined during stakeholder workshops as part of Master Plan amendment process
  - Tool further refined by CDFW to be more streamlined, intuitive, and timely

Conducting ERAs

- ERA framework (21 finfish, 3 invertebrate species)
  - Target = impact from fishing activity to target species (impacts not captured in the PSA)
  - Bycatch = risk from fishing activity to bycatch species
  - Habitat = risk from fishing activity to habitats where fishing occurs

Results: Commercial Fisheries

Species	Gear	Total	PSA Rank	Bycatch Rank	Habitat Rank
Pacific Angel Shark	GN	4	1	1	2
CA Halibut	Trawl	5	2	2	1
CA Halibut	GN	5	2	1	2
White Seabass	GN	6	3	1	2
CA Bay Shrimp	Trawl	7	3	3	1
Spiny Lobster	Trap	7	2	3	2
Pacific Herring	GN	8	3	3	2
CA Sheephead	Trap	8	2	4	2
CA Barracuda	GN	10	3	2	5
Pacific Hagfish	Trap	11	4	4	3
Shiner Perch	Trap	11	4	4	3
Market Squid	PS	11	4	3	4
CA Halibut	HL	12	3	4	5
Pacific Bonito	PS	13	4	4	5
Redtail Surfperch	HL	13	4	4	5
Night Smelt	A frame	13	4	4	5
Jacksmelt	HL	13	4	4	5

Results: Recreational Fisheries

Species	Gear	Total	PSA Rank	Bycatch Rank	Habitat Rank
Brown Smoothhound	HL	9	1	4	4
CA Sheephead	HL	9	2	4	3
Kelp Bass	HL	9	2	4	3
Ocean Whitefish	HL	9	2	4	3
Spiny Lobster	Hoop net	9	3	4	2
Spotted Sand Bass	HL	10	2	4	4
Barred Sand Bass	HL	10	2	4	4
CA Halibut	HL	11	3	4	4
Barred Surfperch	HL	11	3	4	4
White Seabass	HL	12	4	4	4
CA Barracuda	HL	12	3	4	5
CA Corbina	HL	12	4	4	4
White Croaker	HL	12	4	4	4
Pacific Bonito	HL	13	4	4	5

Scaled Management

- Scaled management addresses the questions:
  - What happens next for fisheries that have been identified as higher priority?
  - What is the appropriate management action?

- Scaled management seeks to match the level of management effort with the management needs and complexity of the fishery

- During process, also will address fisheries or factors not contemplated in the prioritization process

Next Steps

- Fish and Game Commission
  - Possible support for prioritization approach

- CDFW
  - Conduct scaled management tasks
  - Include results of scaling within updated Work Plan and provide at FGC February 2020 meeting

Thank You

Questions?

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Compiling the PSA and ERA Results

- Four Target attributes were added to those of the PSA to provide a more comprehensive risk assessment for target species

- Ranks from PSA (=PSA + Target), Bycatch, and Habitat were added to get final totals

“PSA” Ranking

Commercial		
Species	**Gear**	**Rank**
Pacific Angel Shark	GN	1
California Sheephead	Trap	2
Spiny Lobster	Trap	2
CA Halibut	GN	2
CA Halibut	Trawl	2
California Barracuda	GN	3
California Bay Shrimp	Trawl	3
White Seabass	GN	3
Pacific Herring	GN	3
CA Halibut	HL	3
Market Squid	Purse seine	4
Redtail Surfperch	HL	4
Pacific Bonito	Purse seine	4
Pacific Hagfish	Trap	4
Night Smelt	A frame	4
Jacksmelt	HL	4
Shiner Perch	Trap	4

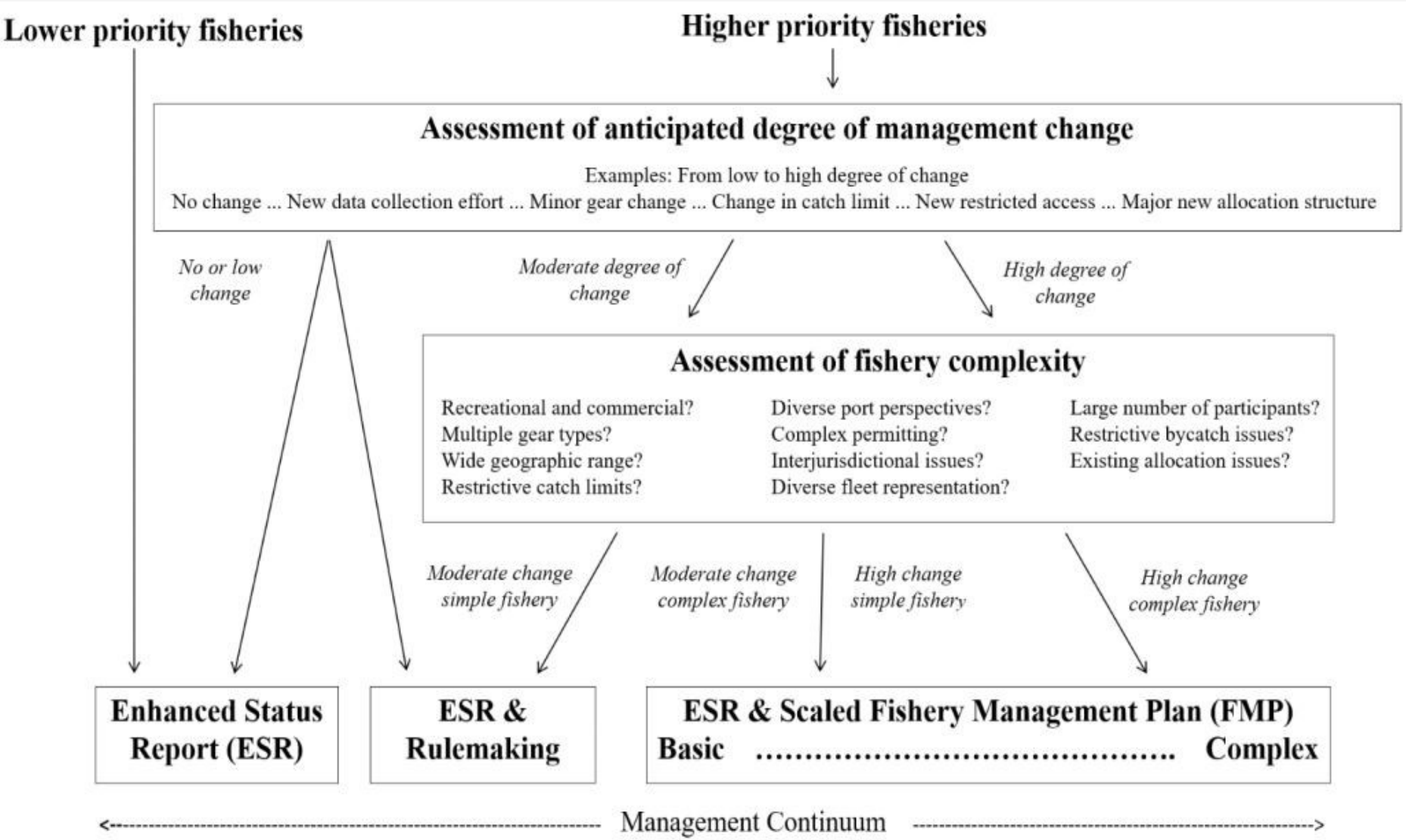
Recreational		
Species	**Gear**	**Rank**
Brown Smoothhound Shark	HL	1
Ocean Whitefish	HL	2
Kelp Bass	HL	2
Barred Sand Bass	HL	2
Spotted Sand Bass	HL	2
California Sheephead	HL	2
Spiny Lobster	Hoop Net	3
California Barracuda	HL	3
Barred Surfperch	HL	3
CA Halibut	HL	3
White Seabass	HL	4
Pacific Bonito	HL	4
California Corbina	HL	4
White Croaker	HL	4

Bycatch Ranking

Rank	Gear Type
1	Gill net - larger mesh
2	Trawl - CA Halibut
2	Gill net - smaller mesh
3	Purse seine - Market Squid
3	Beam trawl
3	Trap - CA Spiny Lobster
3	Gill net - Pacific Herring
4	Trap - CA Sheephead
4	Hook-and-line
4	Hoop Net - CA Spiny Lobster
4	Purse seine - Pacific Bonito
4	Trap - Pacific Hagfish, Shiner Perch
4	A-frame - Jacksmelt

Habitat Ranking

Rank	Gear type	Habitat
1	Trawl	Nearshore soft
2	Gill Net	Nearshore soft
2	Trap	Nearshore hard, vegetation, inverts
2	Trap	Nearshore hard, vegetation
2	Hoop Net	Nearshore hard, vegetation, inverts
3	Trap	Nearshore soft, offshore soft
3	Hook-and-Line	Nearshore hard, vegetation, inverts
3	Hook-and-Line	Nearshore hard, vegetation
3	Hook-and-Line	Nearshore hard, nearshore soft, vegetation
4	Hook-and-Line	Nearshore soft, vegetation
4	Hook-and-Line	Nearshore soft
4	Purse Seine	Pelagic, Nearshore soft
5	Gill Net	Pelagic
5	Hook-and-Line	Pelagic
5	Purse Seine	Offshore pelagic
5	A Frame	Nearshore soft



2018 Master Plan

Figure 3. Identifying where a fishery falls along the management continuum.