Dolphin Wahoo Participatory Workshop Update

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Dolphin/Wahoo AP Meeting

October 28 2020

Workshop Overview

GOAL: Increase information flow between scientists, managers, and fishermen in support of improved fishery resources in the Atlantic

Develop a conceptual model of the Dolphin Wahoo fishery in NC/VA & FL Keys

- *Major factors affecting the fishery*
- *Where risks in fishery lie*
- *What targeted research needed*
- *What is valued in the ecosystem*
- *How changes in ecosystem affect businesses & communities*
- *How environmental factors affect the fishery*

Collaborators

- *SEFSC (lead): Mandy Karnauskas & Matt McPherson*
- *SAFMC*
- *MREP & Gulf of Maine Research Institute*
- *All of the fishermen & community participants!*

What we hope to accomplish

- Opportunity for industry to voice concerns and perspectives
- Convey these perspectives to science and management community
- Common understanding fosters improved management
- Understand what people value → end-goals of management
- Identify data gaps → research priorities
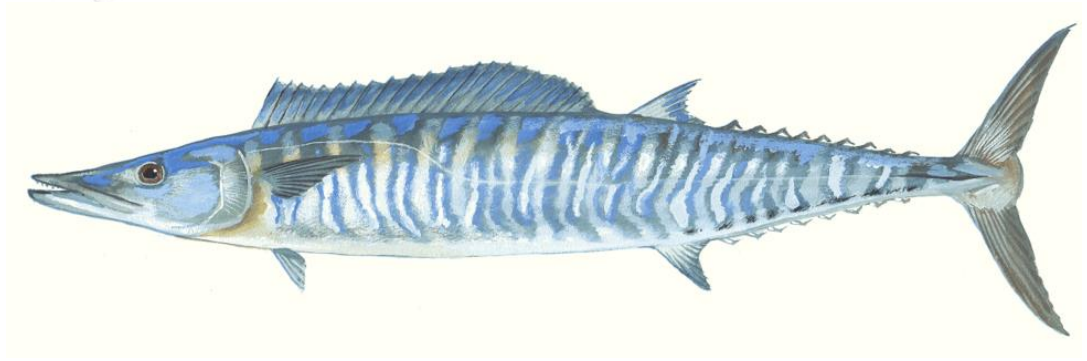
Workshop Locations & Timing

NC/VA Workshops

- *March 9: Beaufort, NC*
- *March 10: Wanchese, NC*
- *March 11: Virginia Beach, VA*

FL Keys Workshops

- *Originally scheduled for Summer 2020*
- *COVID-19 impacted planning*
- *Potentially reschedule for early 2021*
- *Will be contacting Council members, AP members, and other interested parties to get input on timing & locations*

NC/VA Workshop Overview

Beaufort, NC: March

7 industry participants

Primarily for-hire & limited recreational

Wanchese, NC: March

14 industry participants

Primarily commercial & for-hire

Virginia Beach, VA

4 industry participants

Primarily for-hire & recreational
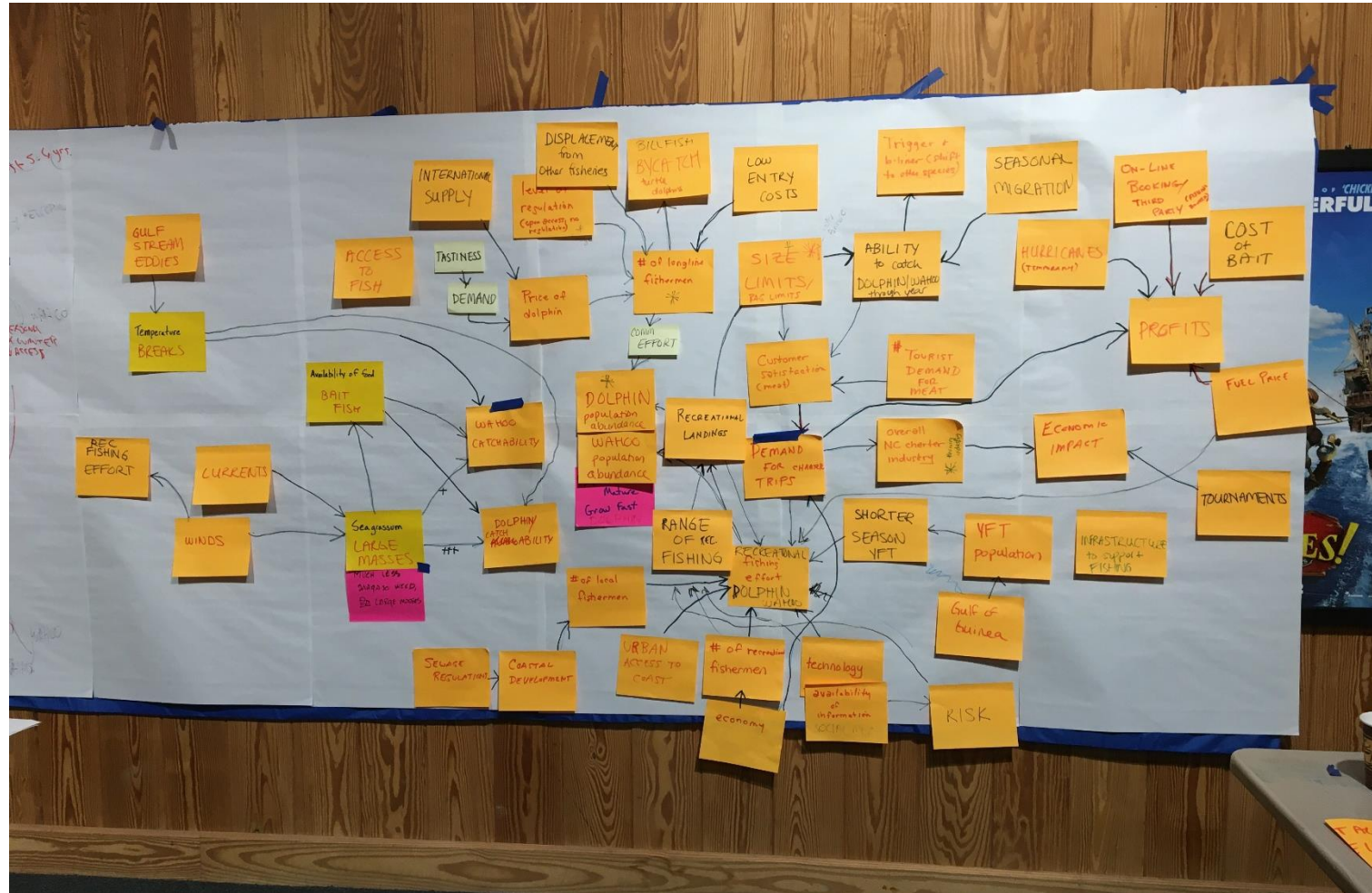
Workshop Process: Starting Point
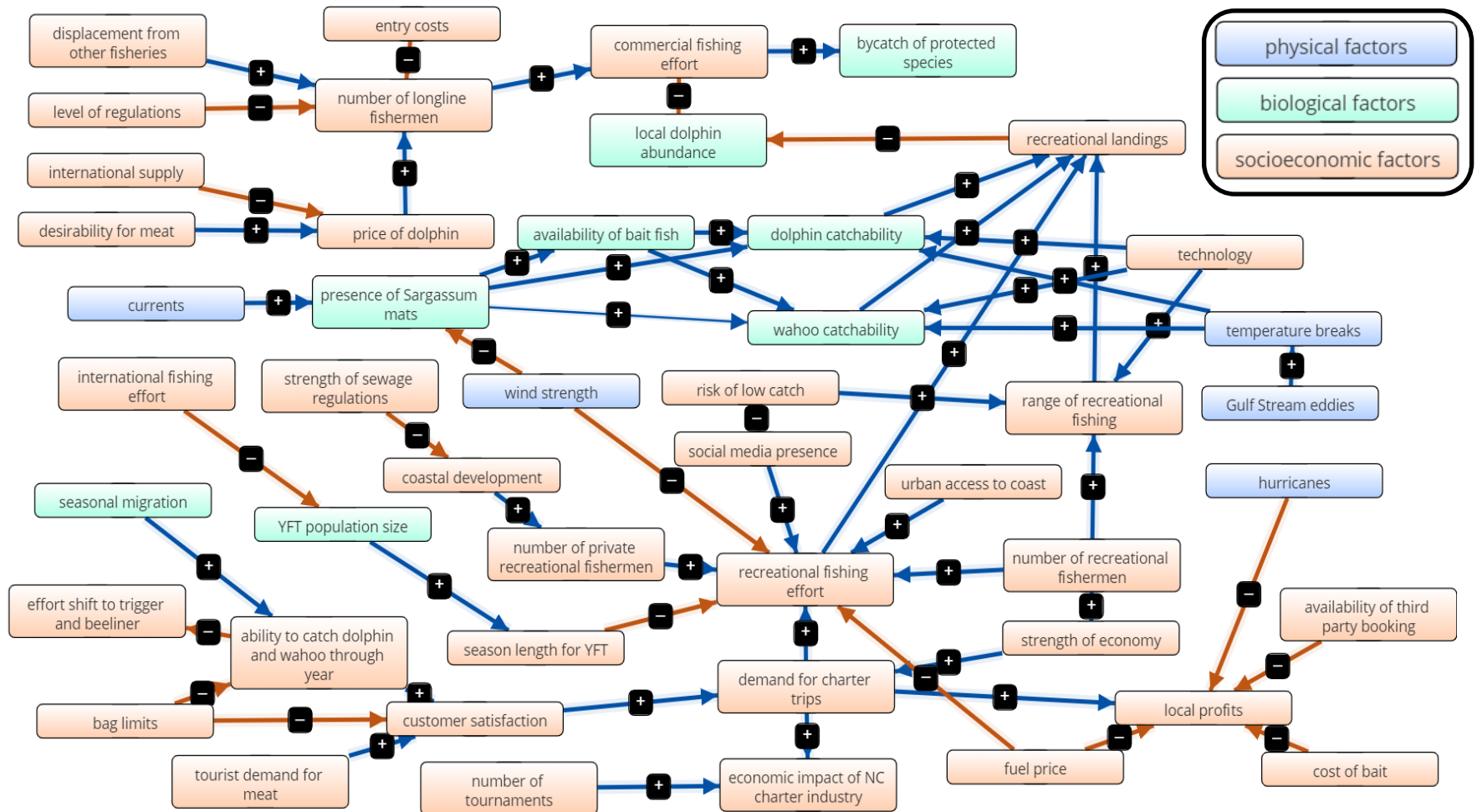
Workshop Process: Underway
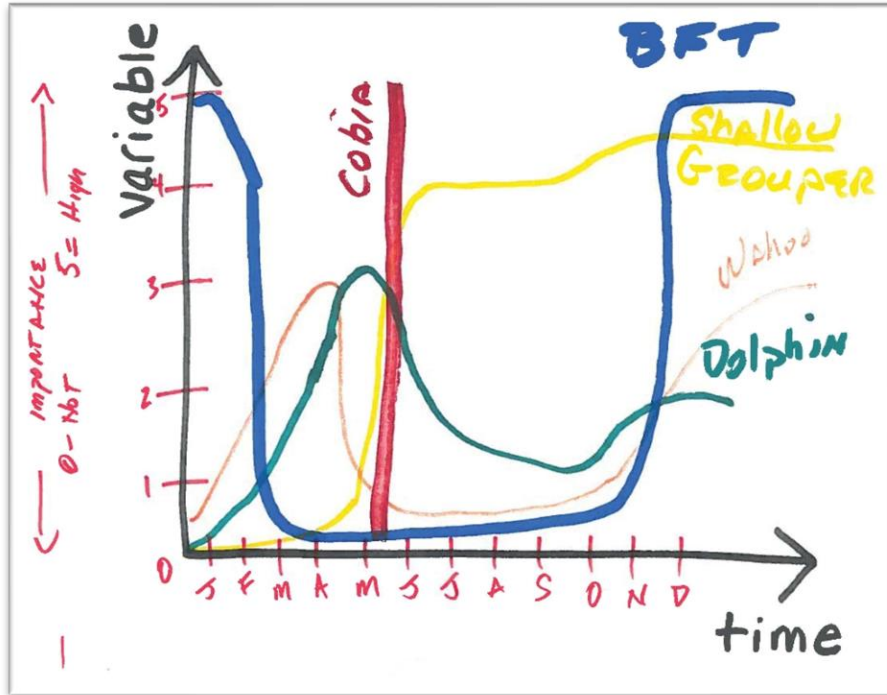
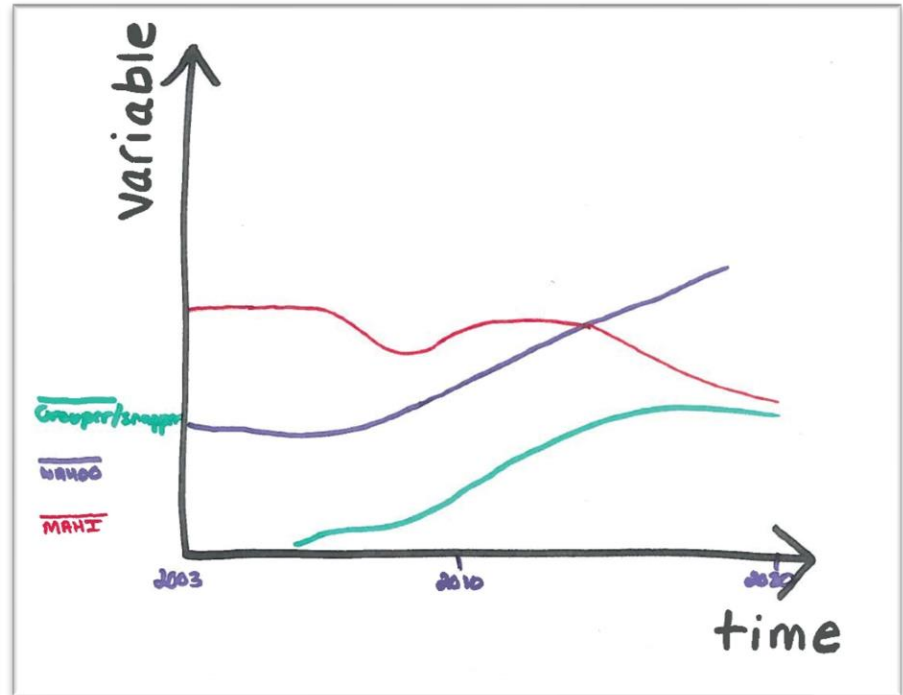# Workshop Process: End Products

End Result: Conceptual model

Digitized model from Beaufort workshop

Graphs provide further insight

Participants plotted the importance of different species to their fishing operations throughout the year

Participants plotted perceived local abundance trends over time for dolphin, wahoo and other species

Results

- Perceived overall population trends
- Perceived drivers of commercial sector
- Perceived drivers of recreational sector
  - Social media analysis
- Summary: themes emerging from results compiled to date

Caveats:

- Results represent workshop participant perspectives (e.g., issues that warrant further investigation)
- Perspectives are regionally specific (do not necessarily represent the average over management area)

Perceived abundance trends

Observations were largely attuned to local abundance. Few insights on overall stock abundance.
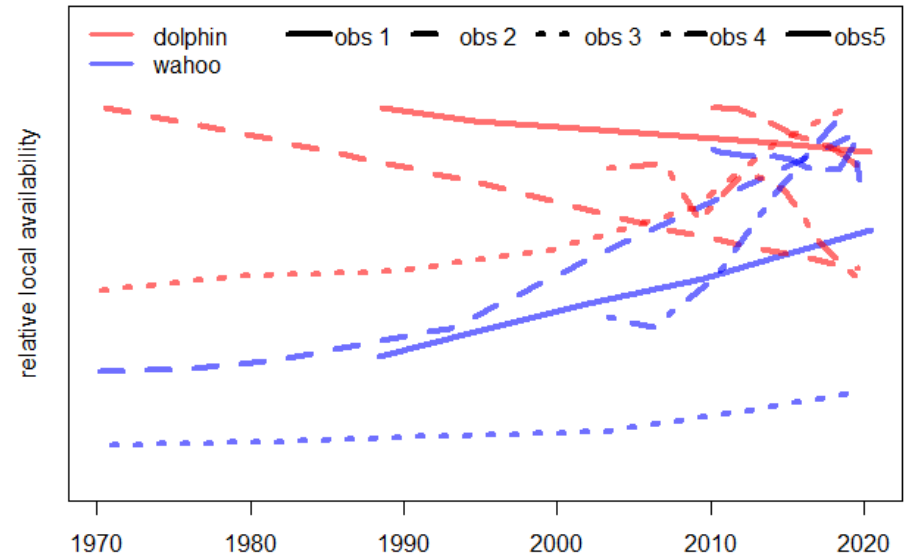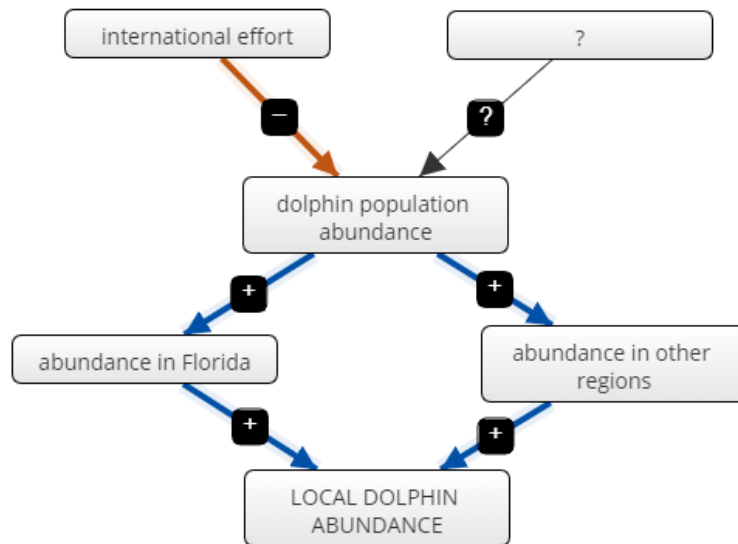
Beaufort - average perception: local dolphin availability has been gradually decreasing and local wahoo availability has been increasing.

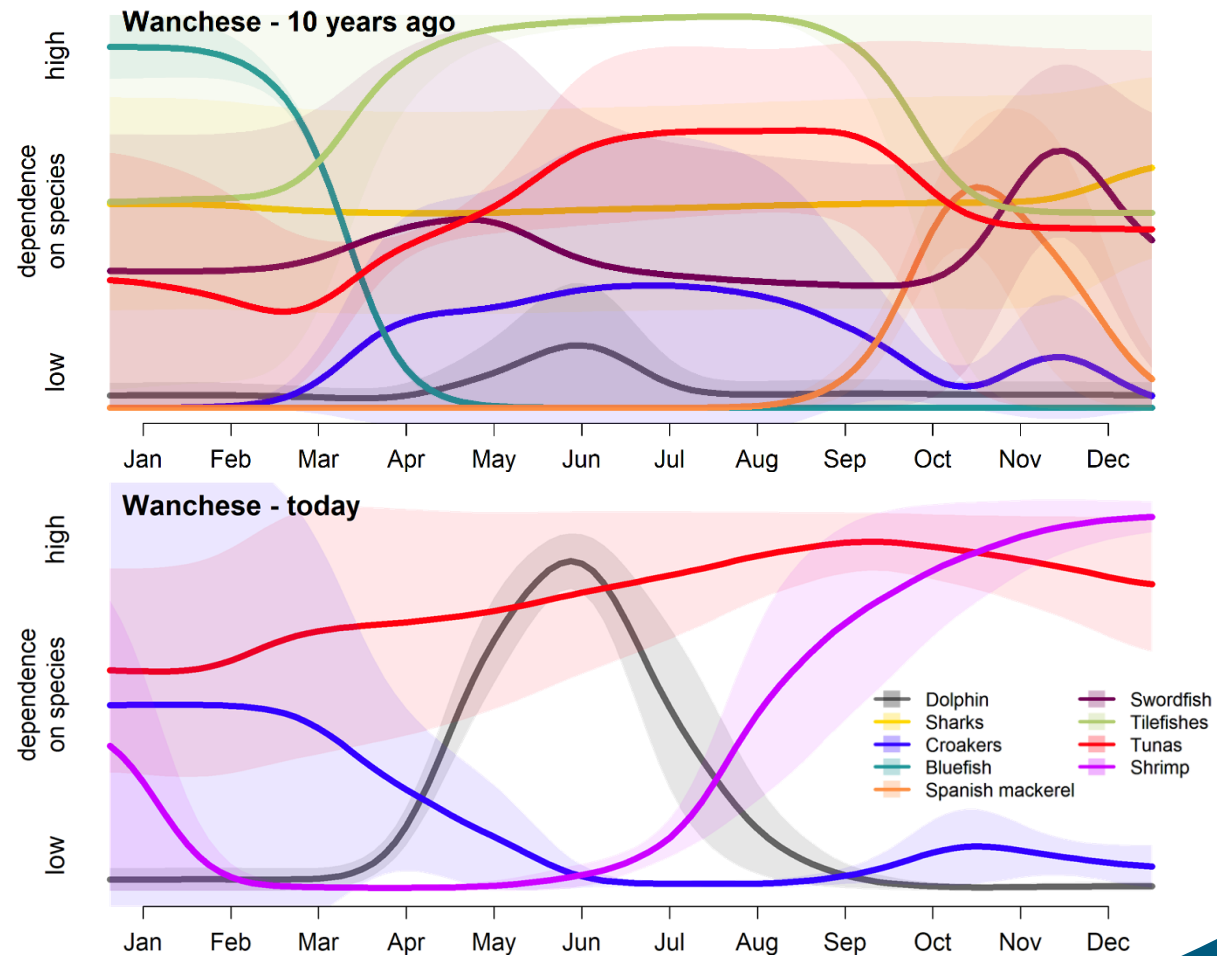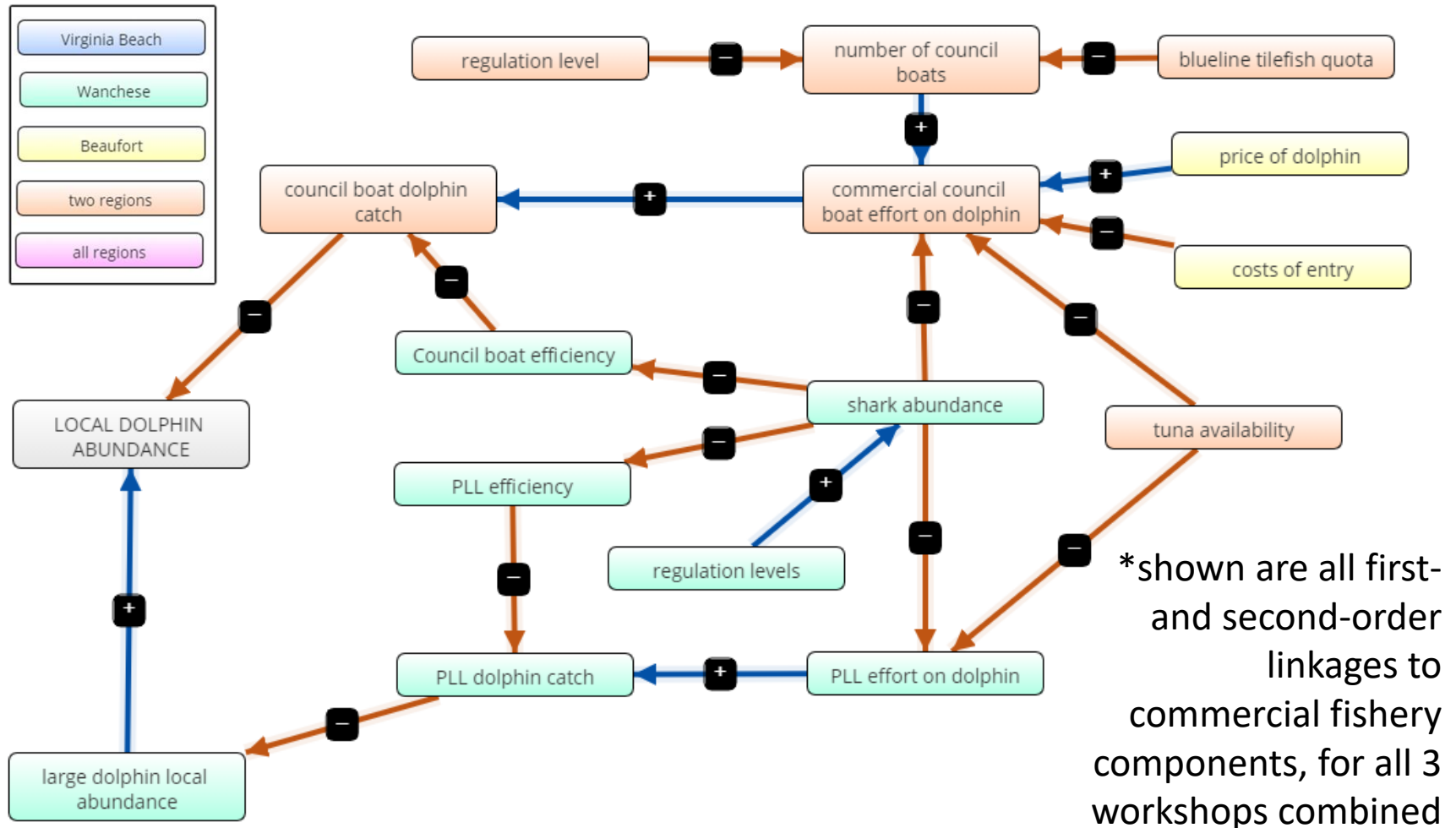Virginia Beach - average perception: no change in dolphin or wahoo

Which species do your businesses depend on throughout the year?

Commercial fleet

- Substantial shifts occurred in last 10 years

- Historical reliance on tilefishes, tunas, sharks, but low dependence on dolphin

- Present dependence on dolphin increased in summer, shrimp in fall

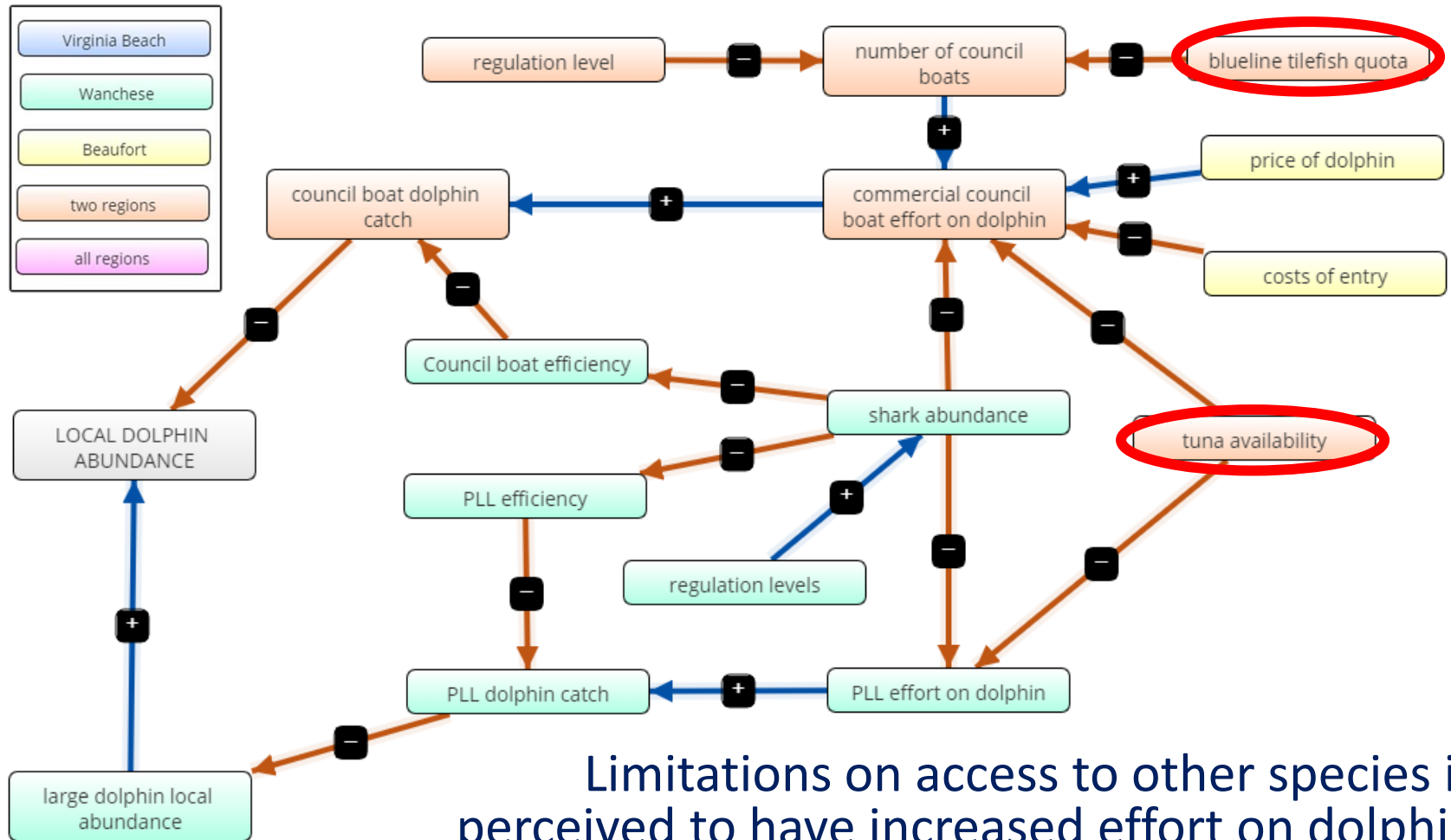- *Charts represent value to businesses, not landings*
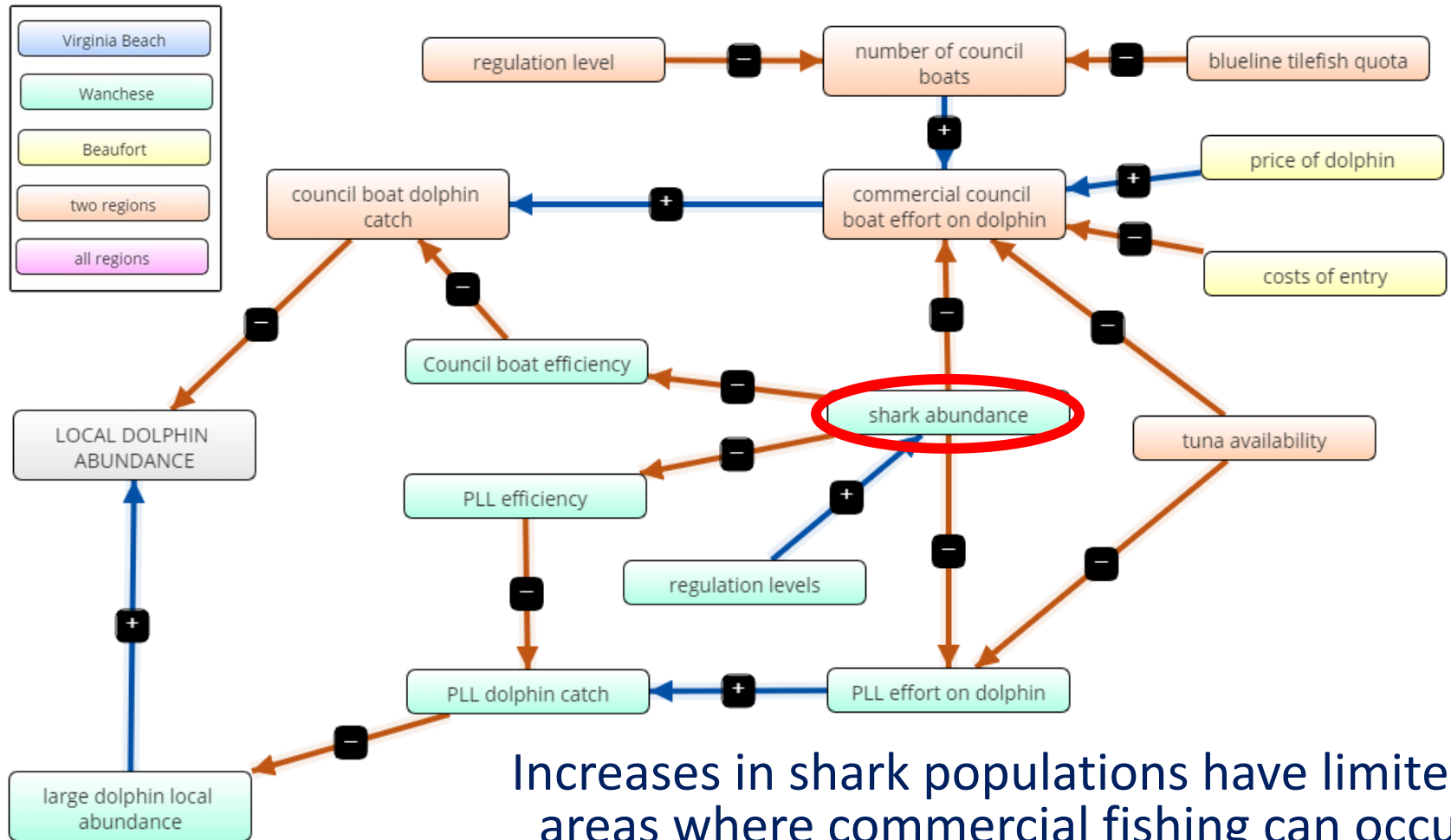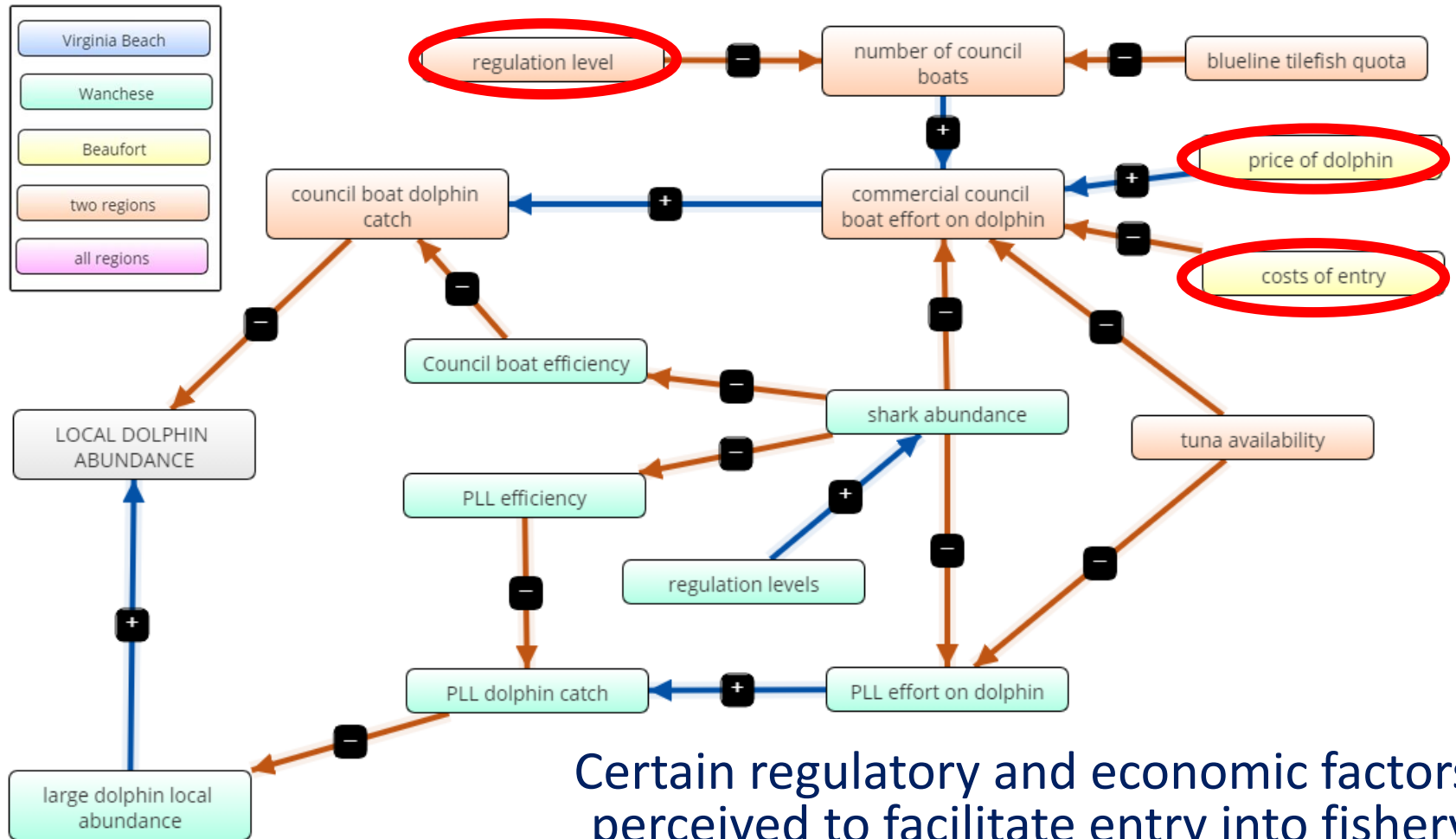
Commerical conceptual model

*shown are all first- and second-order linkages to commercial fishery components, for all 3 workshops combined

Commerical conceptual model

Limitations on access to other species is perceived to have increased effort on dolphin

Commerical conceptual model

Increases in shark populations have limited areas where commercial fishing can occur

Commerical conceptual model
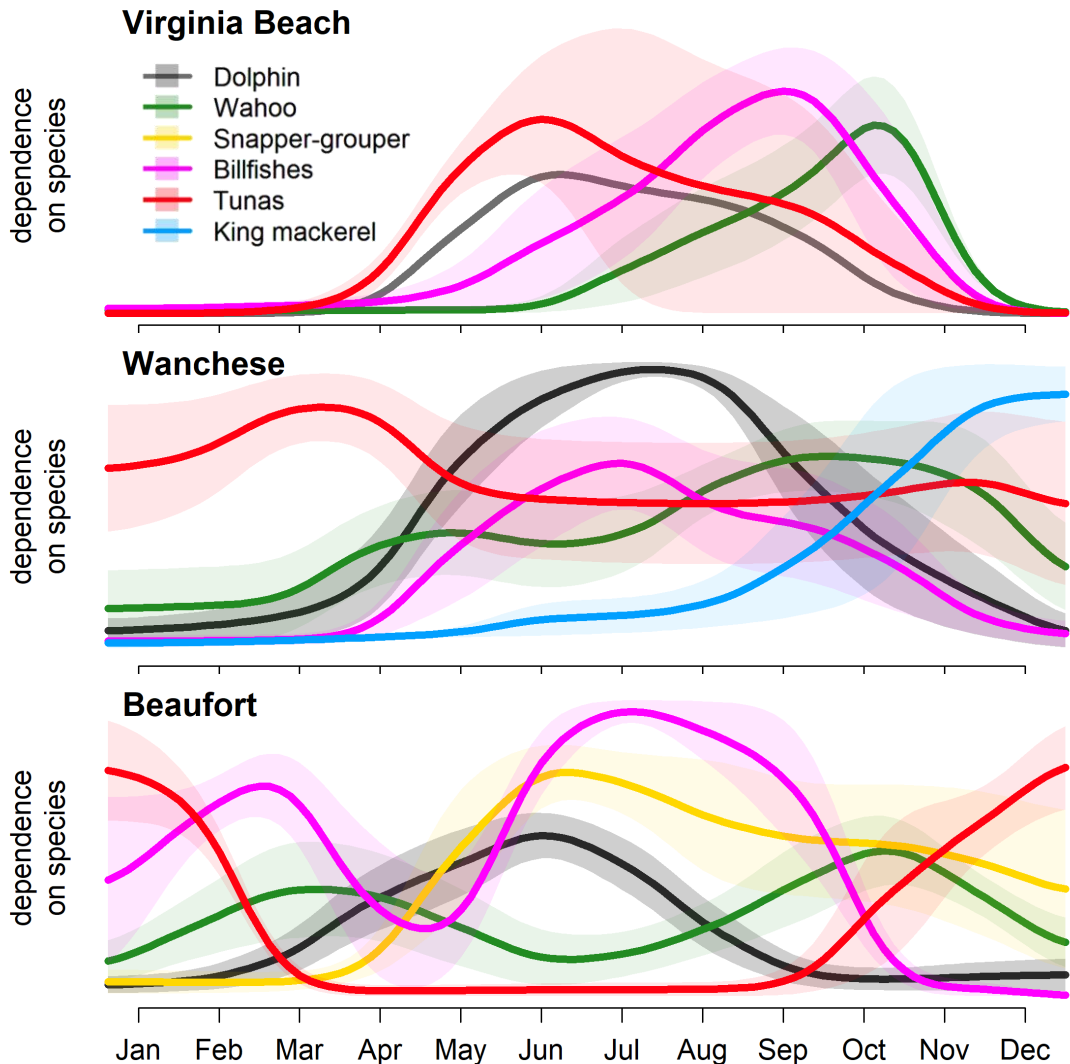

Certain regulatory and economic factors perceived to facilitate entry into fishery
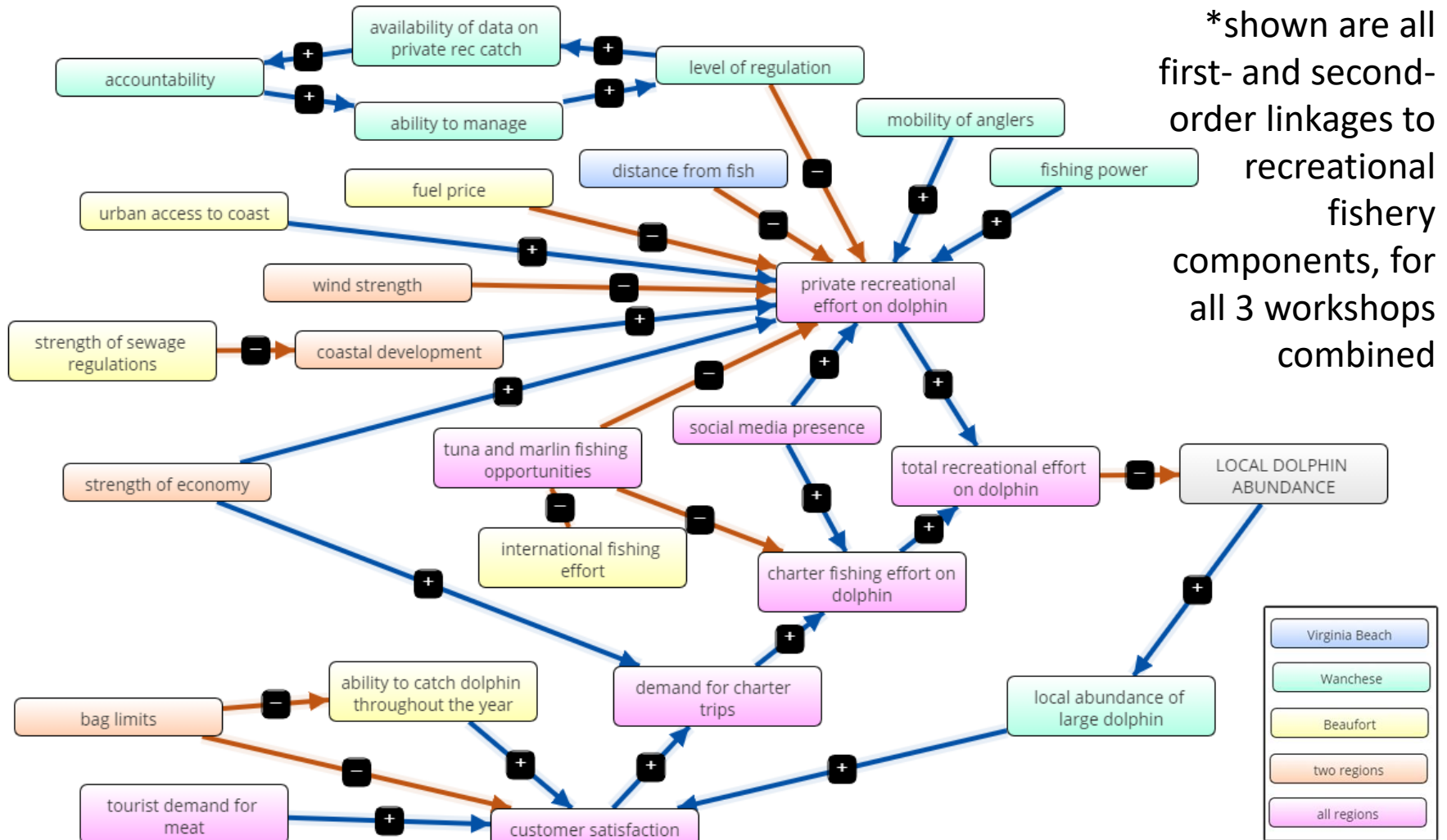
Which species do your businesses depend on throughout the year?

- High variation across regions

- Later arrival of dolphin and wahoo moving north

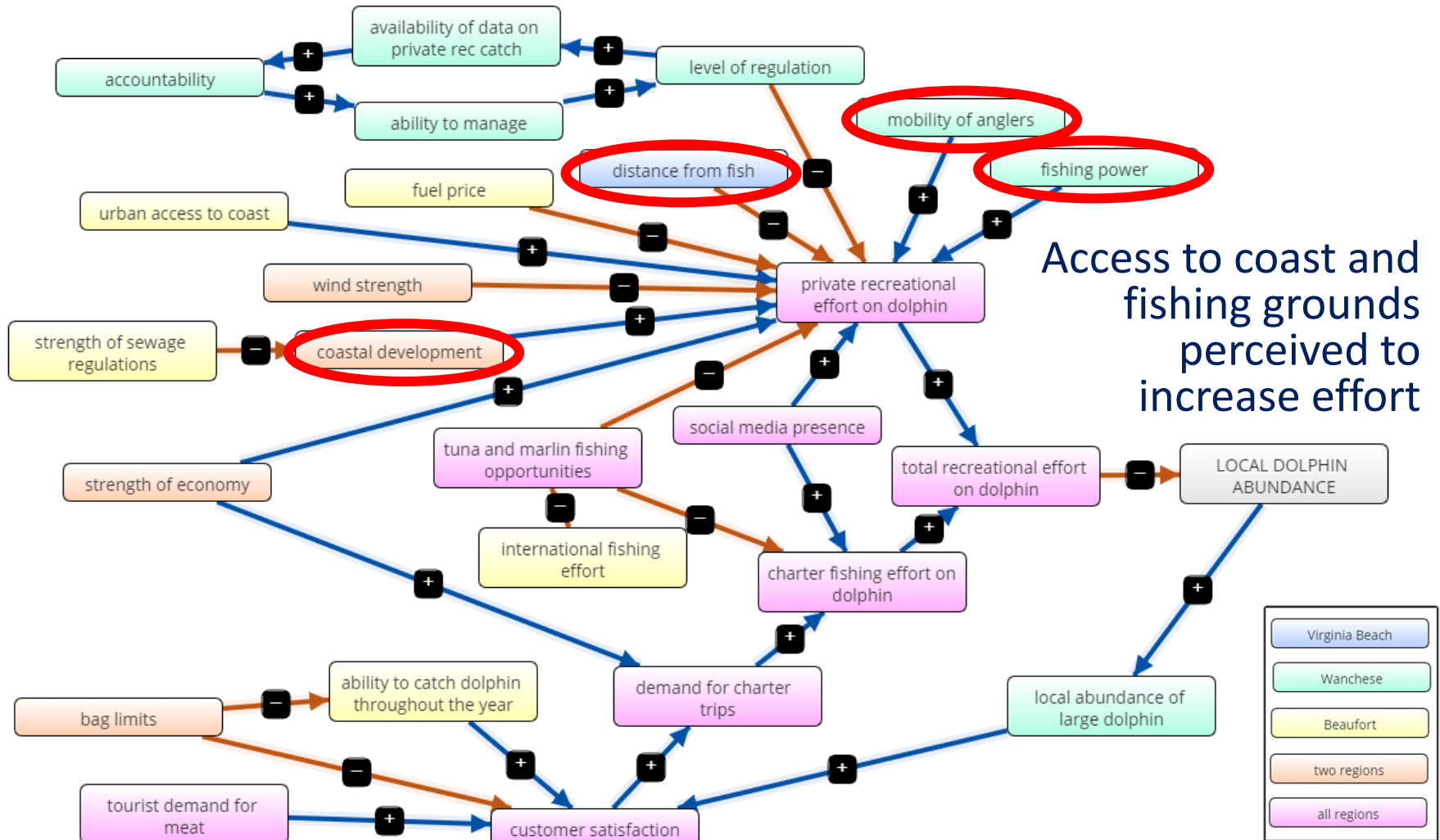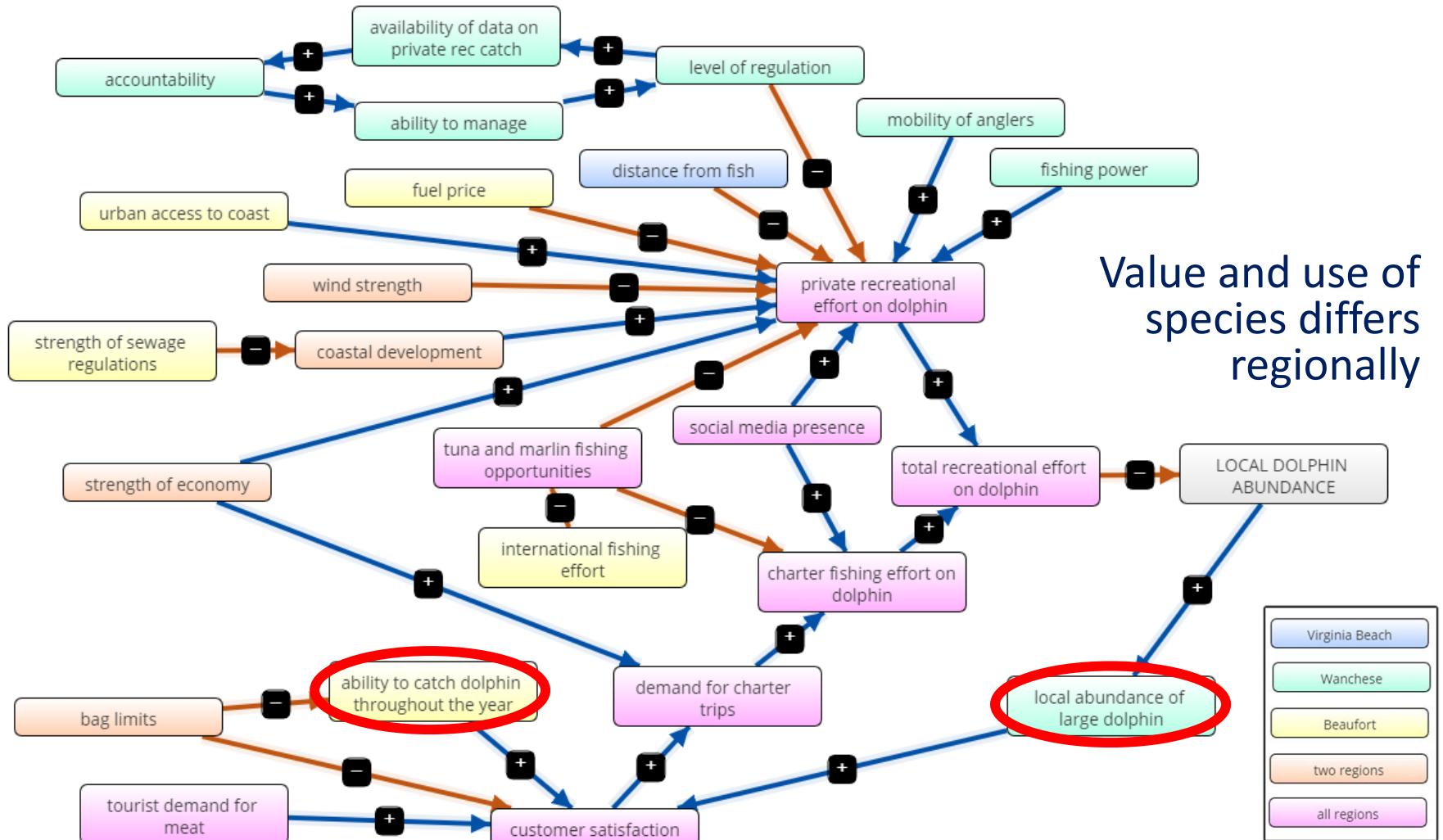- High dependence on dolphin in Wanchese during summer months
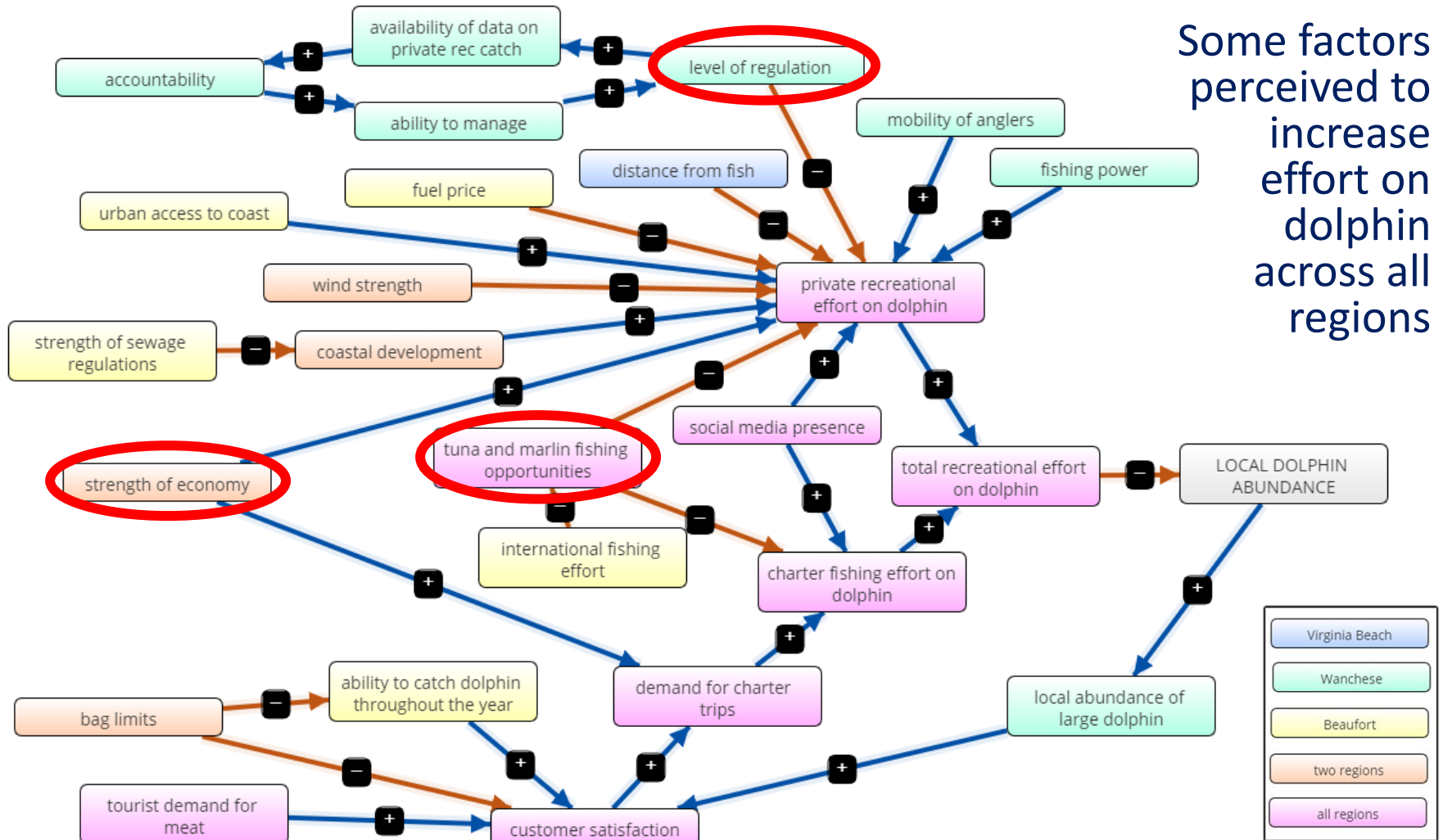
Recreational conceptual model

*shown are all first- and second-order linkages to recreational fishery components, for all 3 workshops combined

Recreational conceptual model

Access to coast and fishing grounds perceived to increase effort

Recreational conceptual model

Value and use of species differs regionally

Recreational conceptual model

Some factors perceived to increase effort on dolphin across all regions

Analysis of social media photos

- How representative are the perspectives of the workshop participants?

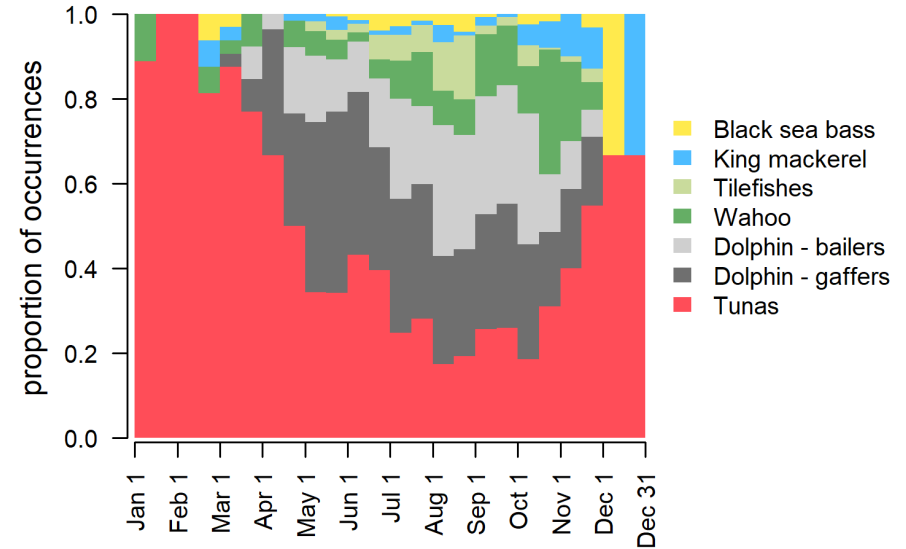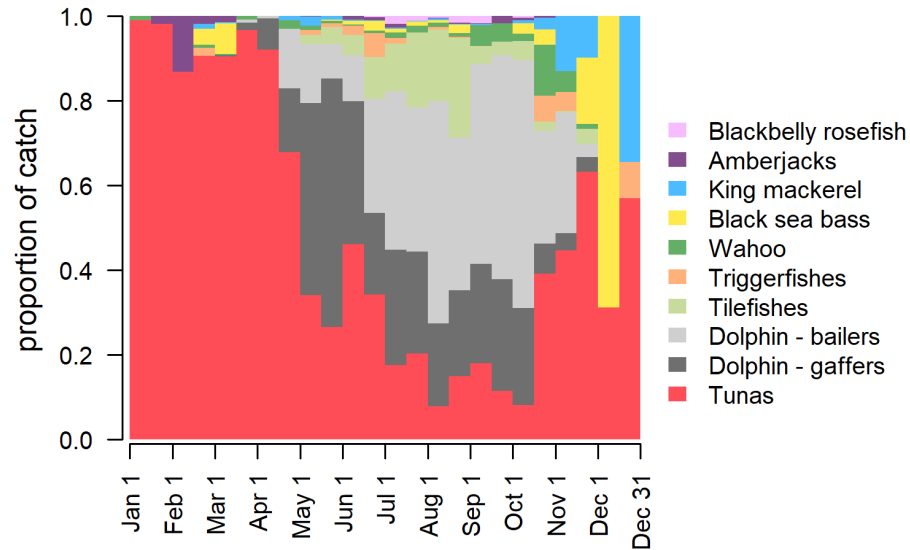- How do charter operations vary across the region?
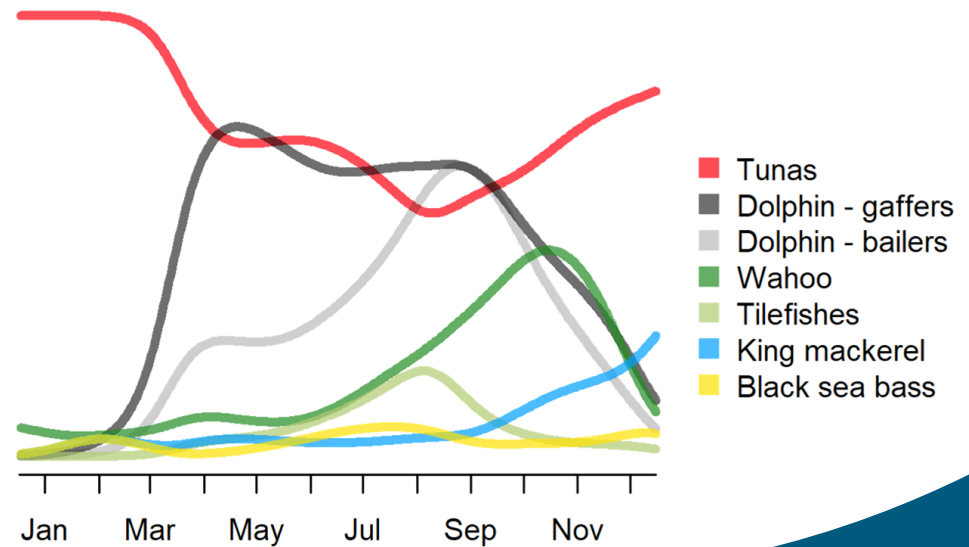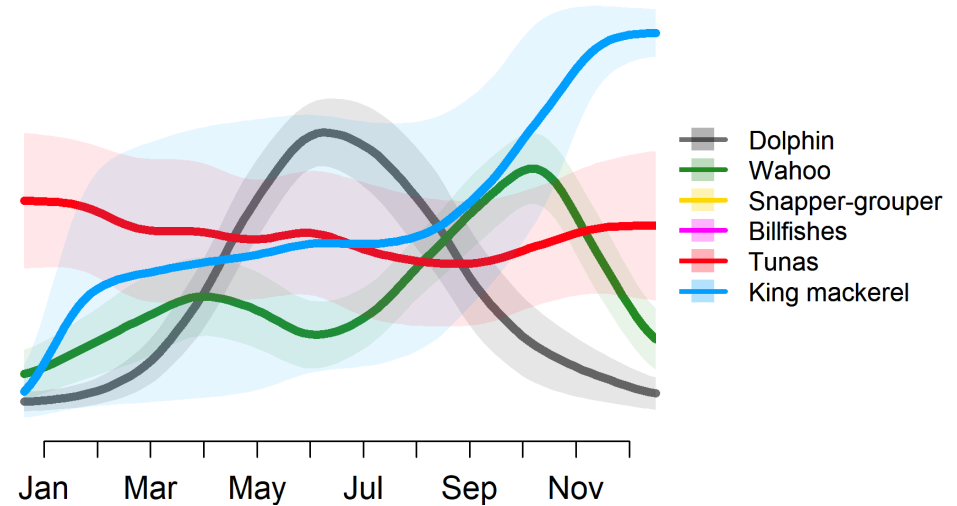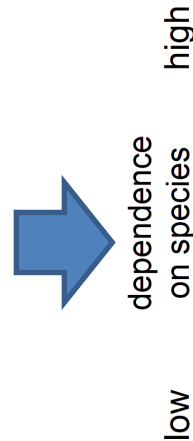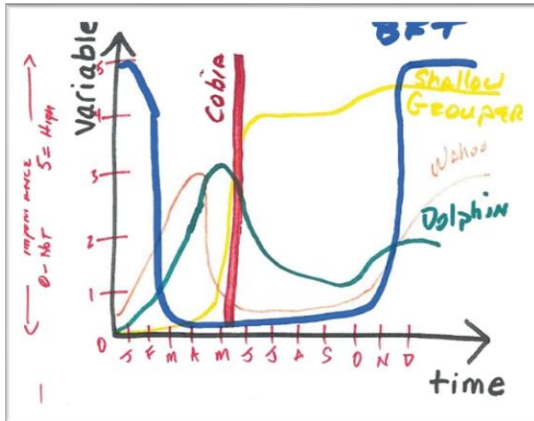
Analysis of social media photos

1,864 photos
- Morehead (39)
- Hatteras (419)
- Wanchese (1,133)
- Virginia Beach (273)

38,936 fish

19 species or species groups
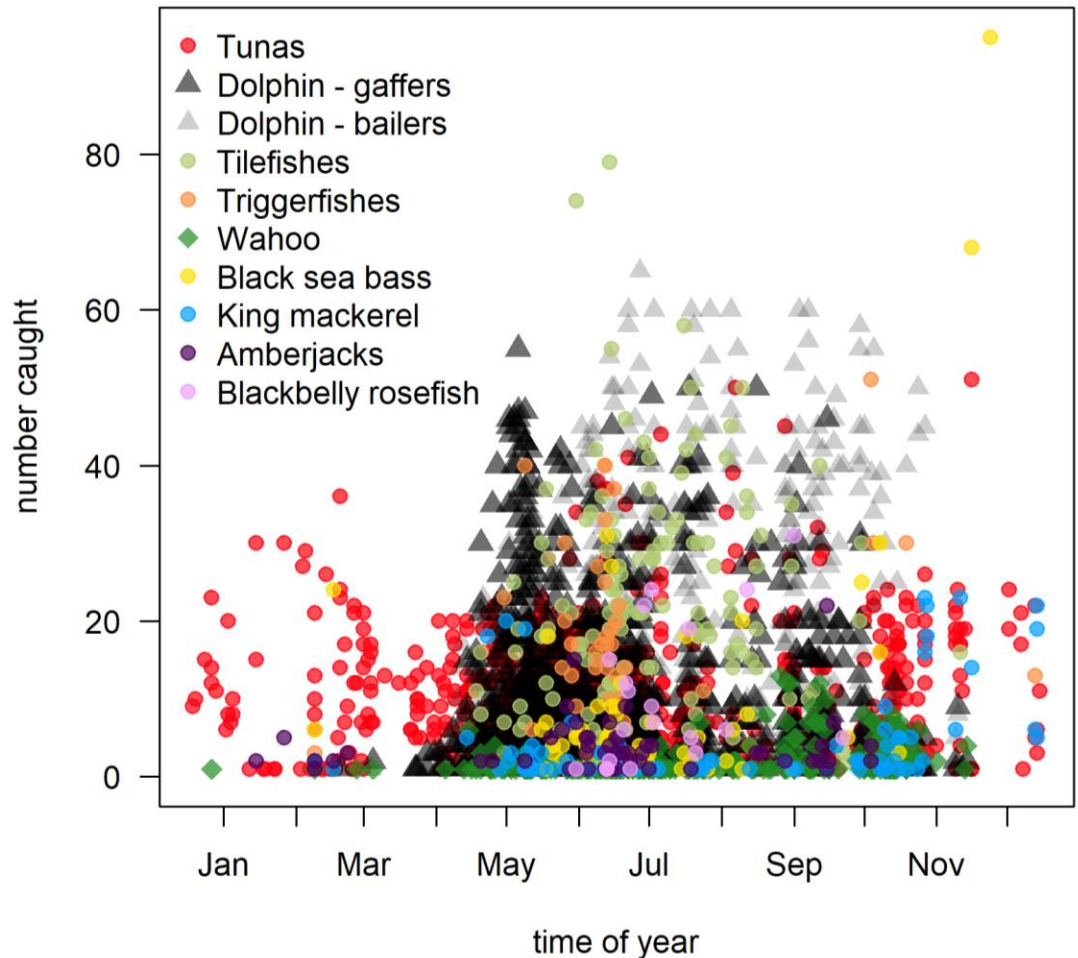
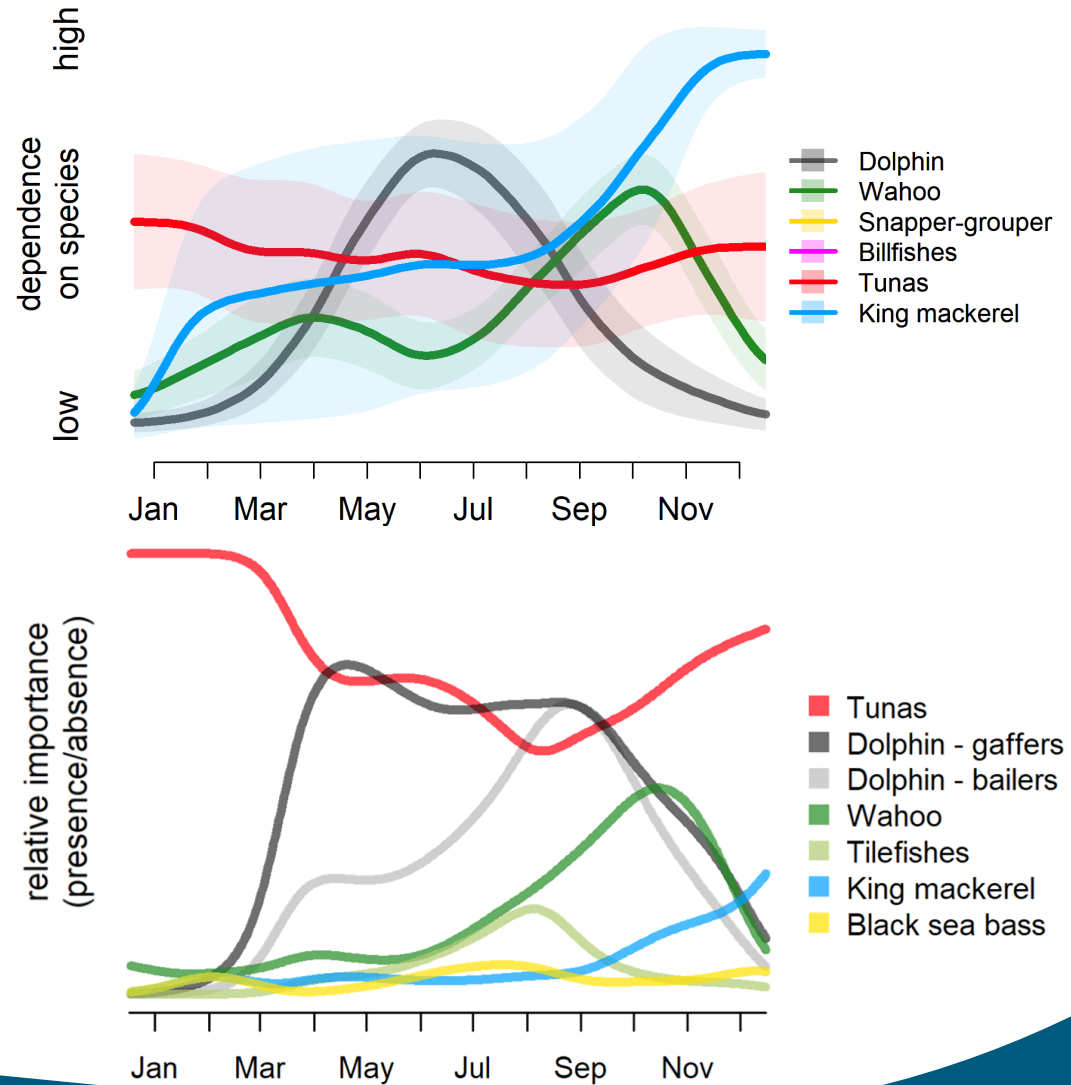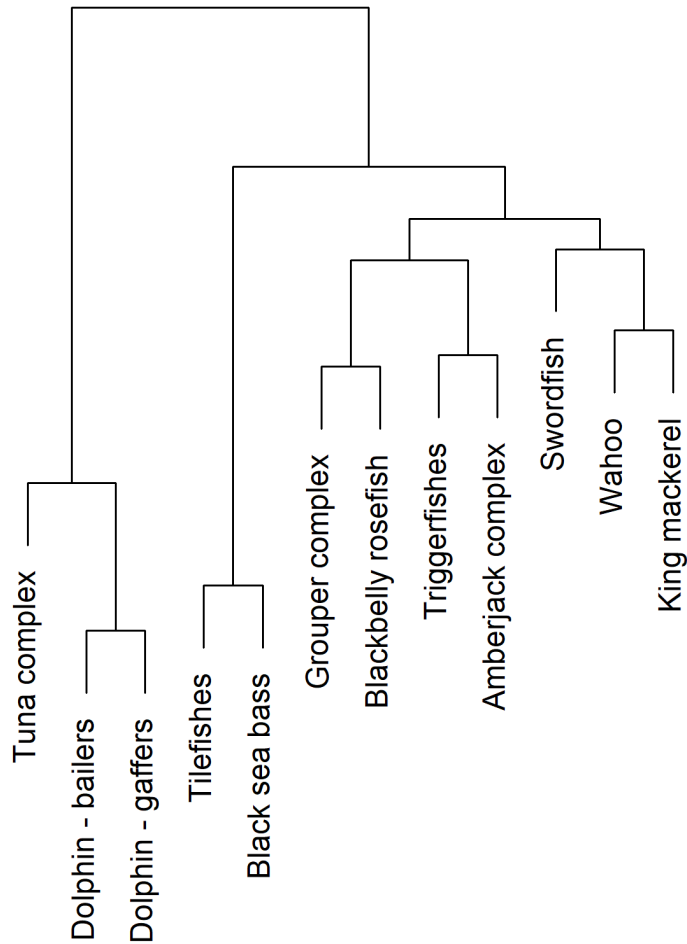# Seasonal trends - social media
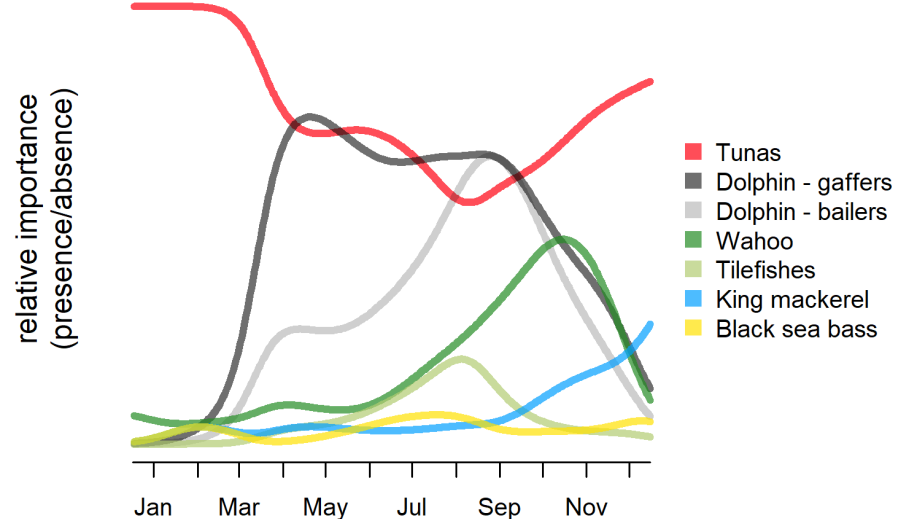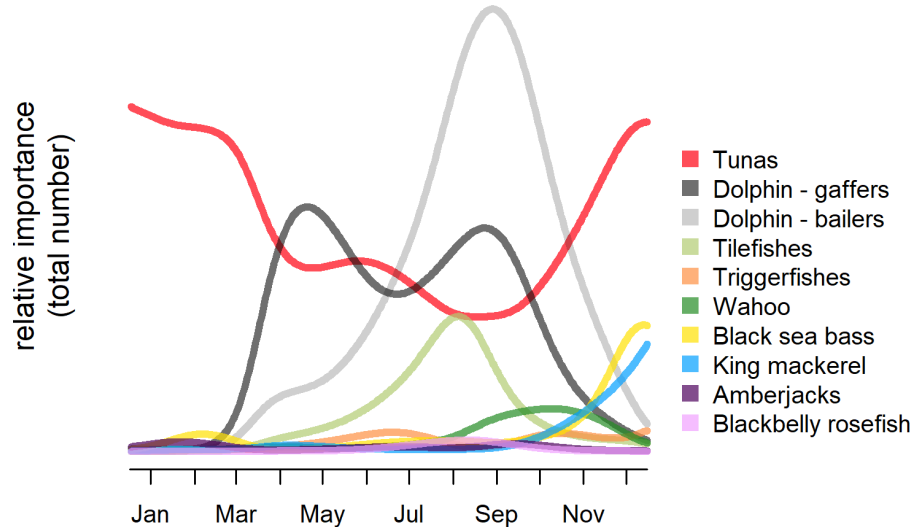
Workshop input vs. social media

Workshop input vs. social media

Summary

Factors influencing usage of dolphin and wahoo:

Recreational	Commercial
Accessibility of fishing grounds	Shark abundance
Seasonal importance, value of particular size classes	Cost/difficulty of entry into fishery
Availability of other target species	Availability of other target species
Strength of economy	

- Most factors are highly variable in space and time
- Factors may act synergistically and can lead to high concentration of effort and local depletion at small scales, even if overall effort or catch has not increased

Emerging Themes

- Dolphin vs. wahoo: same fishery participants but large differences between species

- Overall, relatively little discussion of wahoo

- No clear hypotheses regarding overall stock drivers and abundance patterns

- Importance of social and economic considerations for management

- Concerns about accountability, particularly regarding overall recreational effort, in all areas

Emerging Themes - Dolphin

– Within small geographic range there is large variation in role of species in the fishery

– Impact of dolphin bag limits on consumer satisfaction (meat vs. sport fishing)

– Dependence of different size classes (gaffers vs. bailers) variable across area and sector

– Perception of localized depletion at small scales

– Perception of increased private recreational effort on dolphin, accountability concerns

Next Steps

- Conceptual modeling in South Florida when travel restrictions are lifted
  (How do folks feel about workshops at this time?)

- More in-depth analysis forthcoming

- Final report for Council