

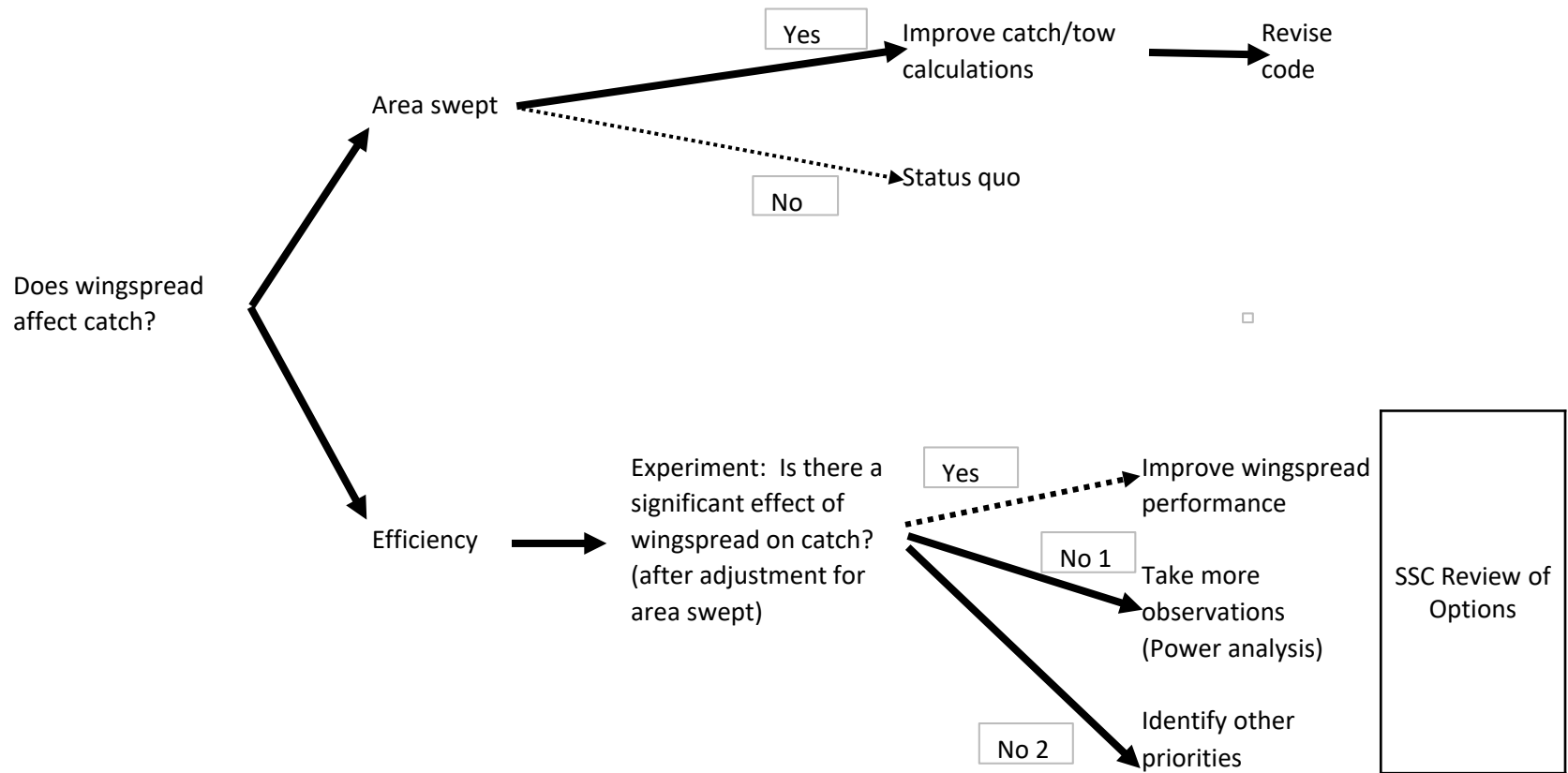
NTAP 2020 Research Plans

Goal: Discuss research options and vote on priorities

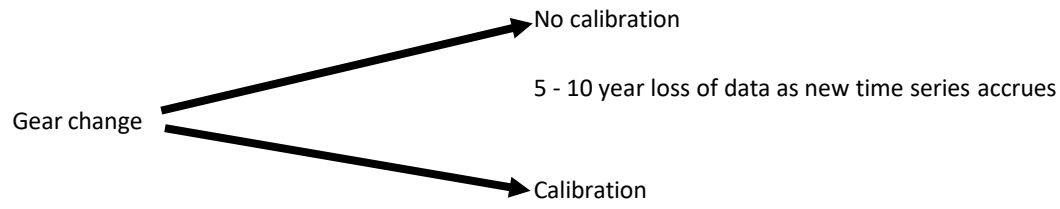
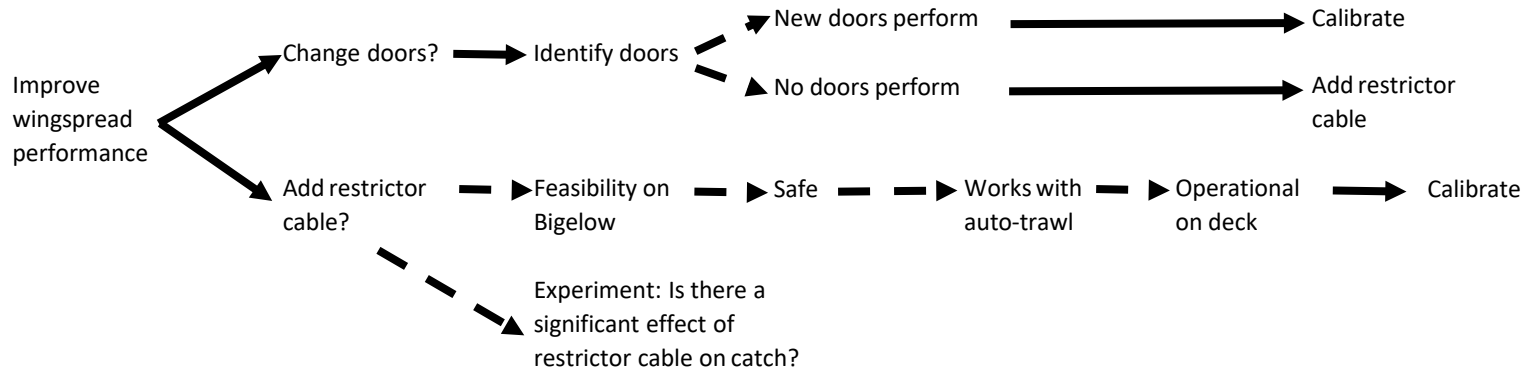
Outcome: The research topic identified as #1 priority by majority will be pursued by NTAP in 2020



Decision Tree



Decision Tree



Increased industry confidence in data
 Increased consistency in gear performance
 Unknown change in gear efficiency

Decreased variance due to increased consistency
 Increased variance due to calibration estimation

Research Topics Identified by NTAP

- 1) Explore/calibrate additional sweep types/efficiencies
- 2) Pursue additional with wing spread efficiency research
- 3) Impact of restrictor cable on roundfish (and other spp.) catch
- 4) Scope/explore alternative survey approaches
 - i. Fixed gear
 - ii. Stereo video
 - iii. Beam trawl
 - iv. Bottom trawl – commercial F/V, smaller scale
- 5) Explore 20/30 minute tow impacts (predatory species)
- 6) Explore impact of small mesh liners
- 7) Conduct survey calibrations (NEAMAP, Bigelow, states)
- 8) Explore effect of twin trawl approach (net geometry, flume tank?)
- 9) Expansion of inshore survey to Nantucket Shoals (pilot?)
- 10) Scope supplemental surveys (shoulder seasons)

Mouton Task Force Research Topics

- Initiated in 2015, report completed late 2019
- Focus on New England groundfish
- Three broad goals
 - Review statistical strengths and weaknesses of BTSs
 - Identify alternative data sources and sampling
 - Build collaboration between industry and research scientists
- About 26 research recommendations
- Center staff met with Task Force members 23 January

Mouton Task Force Research Topics

Major categories of recommendations:

- Calibration and gear efficiency
- Stock assessment/statistical/analytic
- Habitat usage, fish density and joint influence
- Environmental shifts and influence on behavior / catchability
- Alternative data sources

Mouton Task Force Research Topics

Calibration/efficiency

- 11.) Split Bigelow and Albatross time series (AP)
- 12.) Continue efficiency studies: Chain sweep estimates
- 13.) Include catchability estimates in stock assessments (summer flounder)
- 14.) Estimate herding effects: bridle length effects
- 15.) Estimate escapement under footrope: underbag
- 16.) Determine effect of tow direction – current interaction
- 17.) Do side-by-side comparisons of Bigelow and industry vessel (context: topic 16.) above)
- 18.) Document and evaluate frequency of moved or excluded stations due to hard bottom and fixed gear
- 19.) Evaluate relative density in areas of fixed gear or hard bottom vs. adjacent areas sampled by BTS

Mouton Task Force Research Topics

Sampling effort/error measurement

- 20.) Increase number of samples
- 21.) Redefine strata
- 22.) Consider alternative survey designs
- 23.) Alternative sampling methods
 - a.) Acoustics
 - b.) Open-cod end video
 - c.) Tagging
- 24.) Environmental effects on fish behavior; incorporation into stock assessments
- 25.) Use bootstrapped CVs rather than lognormal assumption
- 26.) Explore targeted sampling for species with high CVs

Mouton Task Force Research Topics

Habitat usage, density dependence and joint influences on catch efficiency

27.) Continue Gulf of Maine longline survey

28.) Consider commercial gill net survey

29.) Evaluate how catchability changes with habitat (BT, LL)

30.) Identify habitat presence by life stage

31.) Identify how density affects habitat use

32.) Examine how habitat affects growth and survival

Mouton Task Force Research Topics

Environmental shifts and influence on behavior/catchability

- 33.) Effect of environment (e.g., bottom temperature) on survey CPUE using GAMS or through stock assessment
- 34.) Effect of temperature-dependent changes in distribution and seasonal migration on survey observations; determine proportion of thermal habitat surveyed; habitat suitability models
- 35.) Use other techniques (acoustic, video) to pair with BTS or sample at higher spatial or temporal resolution

Mouton Task Force Research Topics

Alternative data sources and options: Improve interpretation of existing data

Improve efficiency

36.) Evaluate strata with respect to spatial distribution of groundfish to improve accuracy, precision

37.) Define “footprints” for species, how they change with season and environmental conditions, and scope for dynamic strata set definition.

Improve application of existing data

38.) Develop more flexible models incorporating environmental conditions

39.) Develop models that can incorporate non-stationarity

Alternative data sources and options: Develop/improve prioritization for more sampling

40.) Prioritize based on survey CV and likelihood for habitat effects, socio economic impacts

41.) Sampling in structured habitats with fixed gear

Mouton Task Force Research Topics

42.) Alternative data sources and options: Use additional data sources

- a.) UMass Dartmouth video trawl survey
- b.) MADMF Industry-based Survey
- c.) NEFSC longline
- d.) Fishery-dependent CPUE

Vote on 2020 NTAP Research Priorities

- **All NTAP Members:** Email your top 3 NTAP research priorities for 2020 to Matt Seeley (MAFMC)
- **Email:** mseeley@mafmc.org
- **Due Date:** Friday, February 7th
- **Outcome:** Prioritized list of 2020 research for NTAP