Stock Assessment of Georges Bank Yellowtail Flounder for 2021

Results of TRAC 12-14 July 2021

meeting held virtually

Presentation for NEFMC SSC

24 August 2021, meeting held virtually

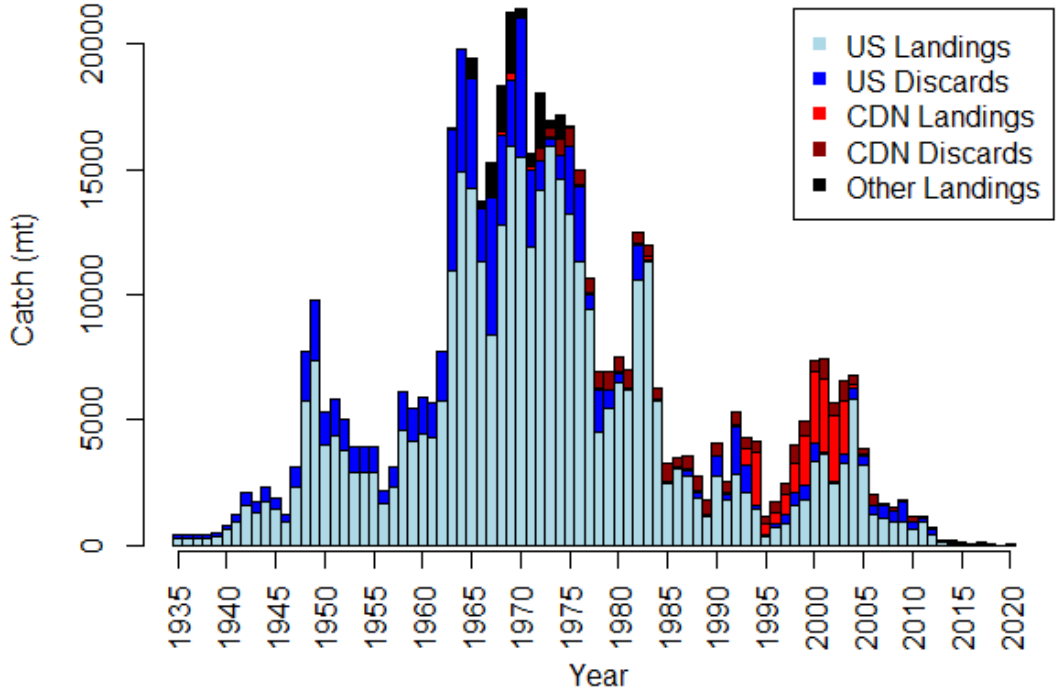
What happened last year?

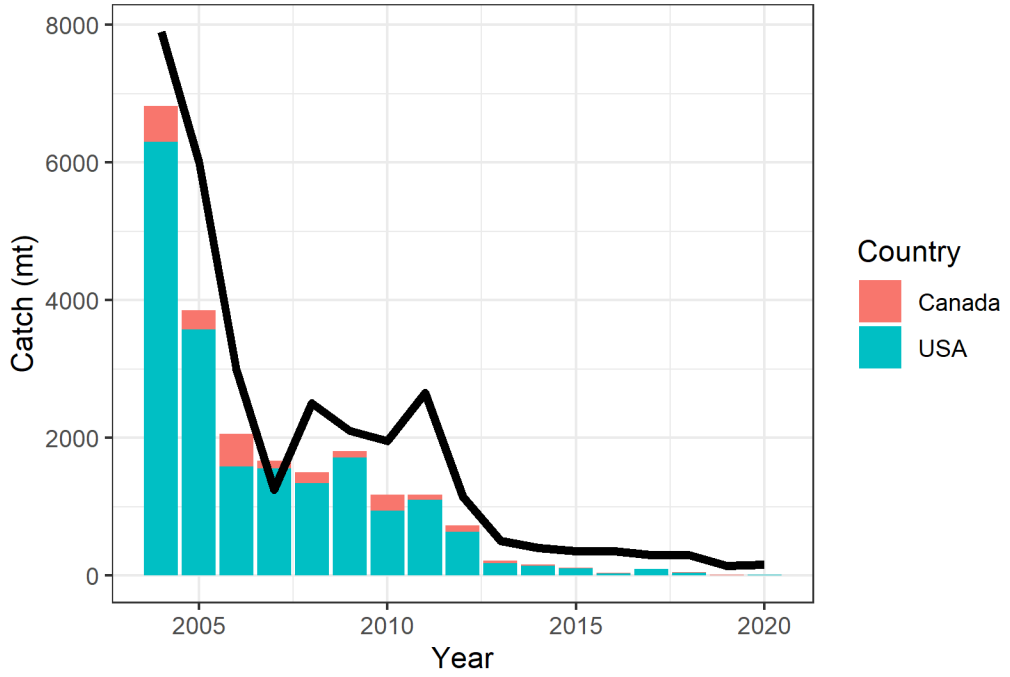
- TRAC and SSC recommended 125 mt quota
  - NEFSC Spring 2020 survey not conducted
  - Empirical Approach used remaining two surveys and 6% exploitation rate
- TMGC set 125 mt quota for 2021

Catch

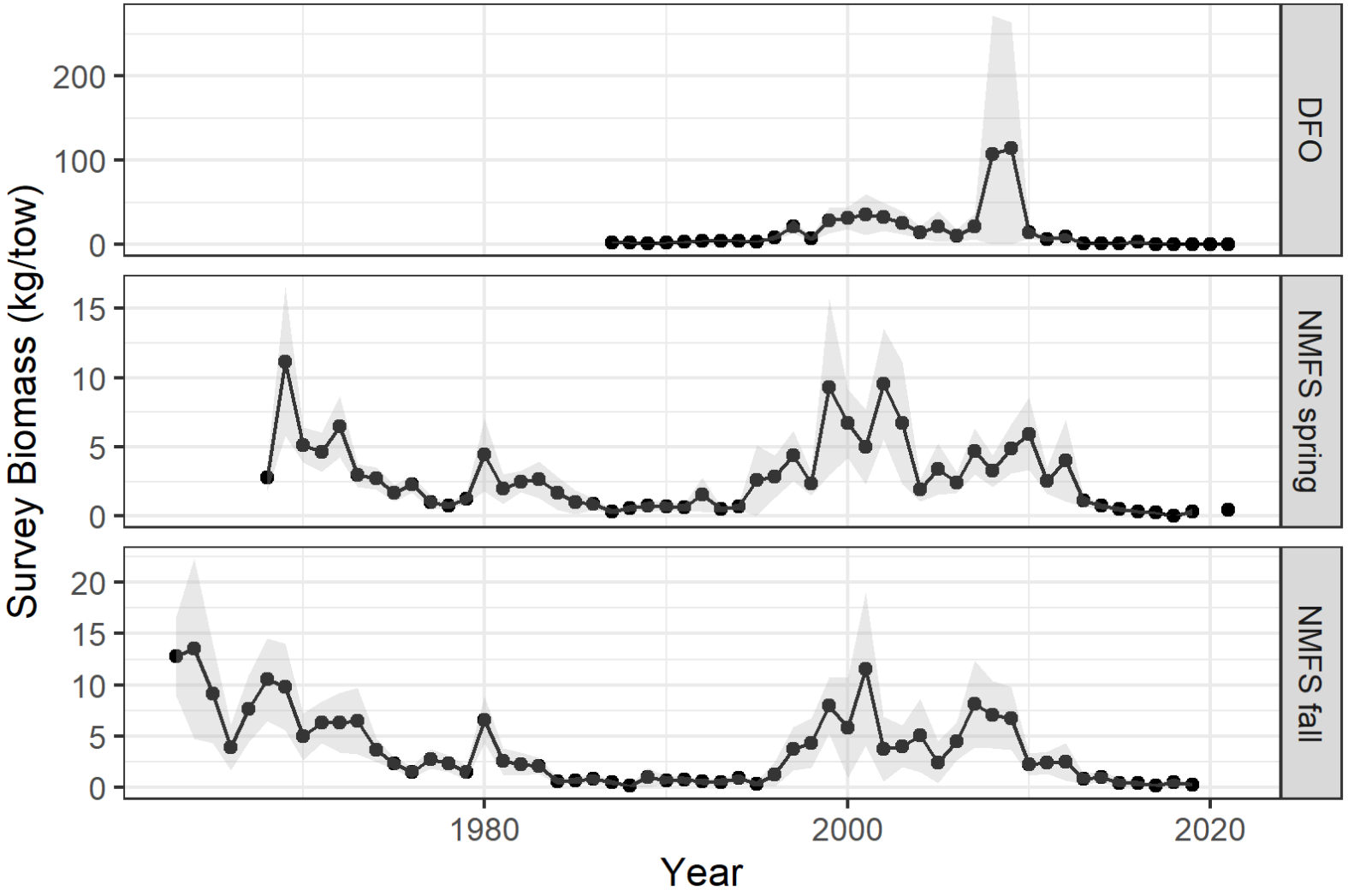
	note units!						
	kilograms						
	Landings	Discards	Catch			Landings	Discards	Catch
US	5181	2496	7677		US	37%	18%	54%
Canada	99	6340	6439		Canada	1%	45%	46%
Sum	5280	8836	14116		Sum	37%	63%	100%

2020 Catch 2nd lowest in 86 years
Discards > Landings
2020 quota was 162 mt





Survey Time Series

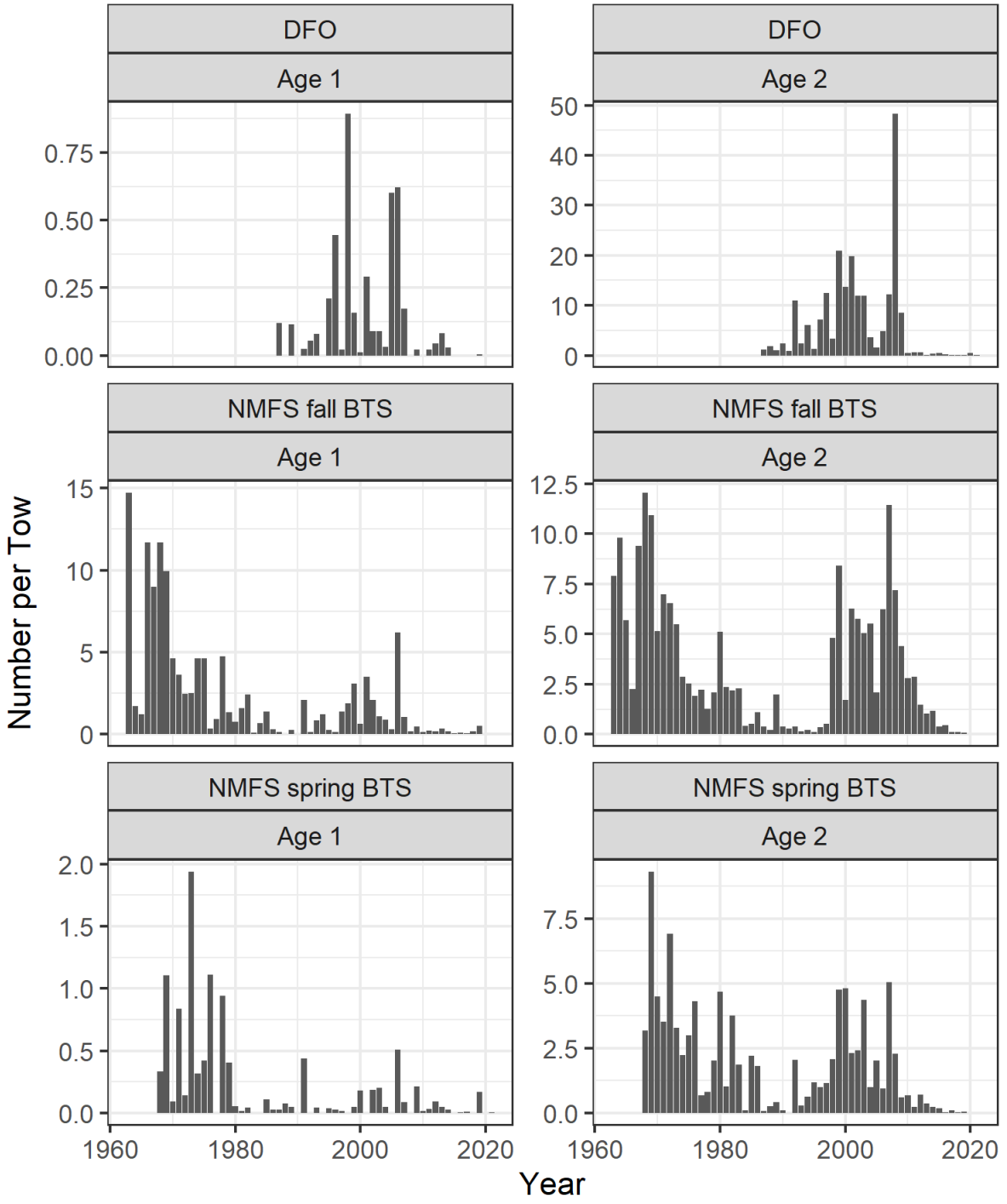


DFO 2021 3rd lowest in 35 years

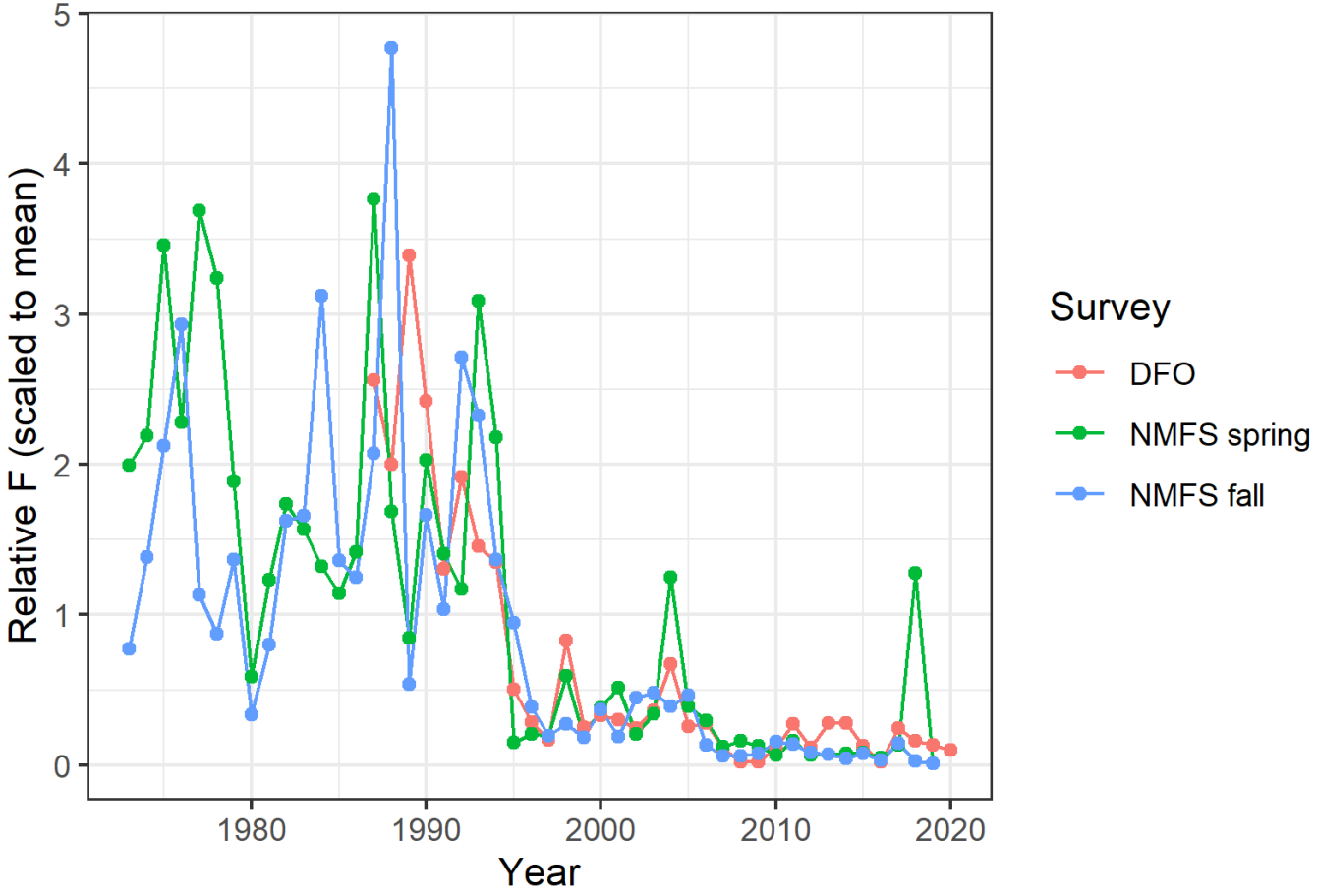
NMFS spring 2021 6th lowest in 54 years

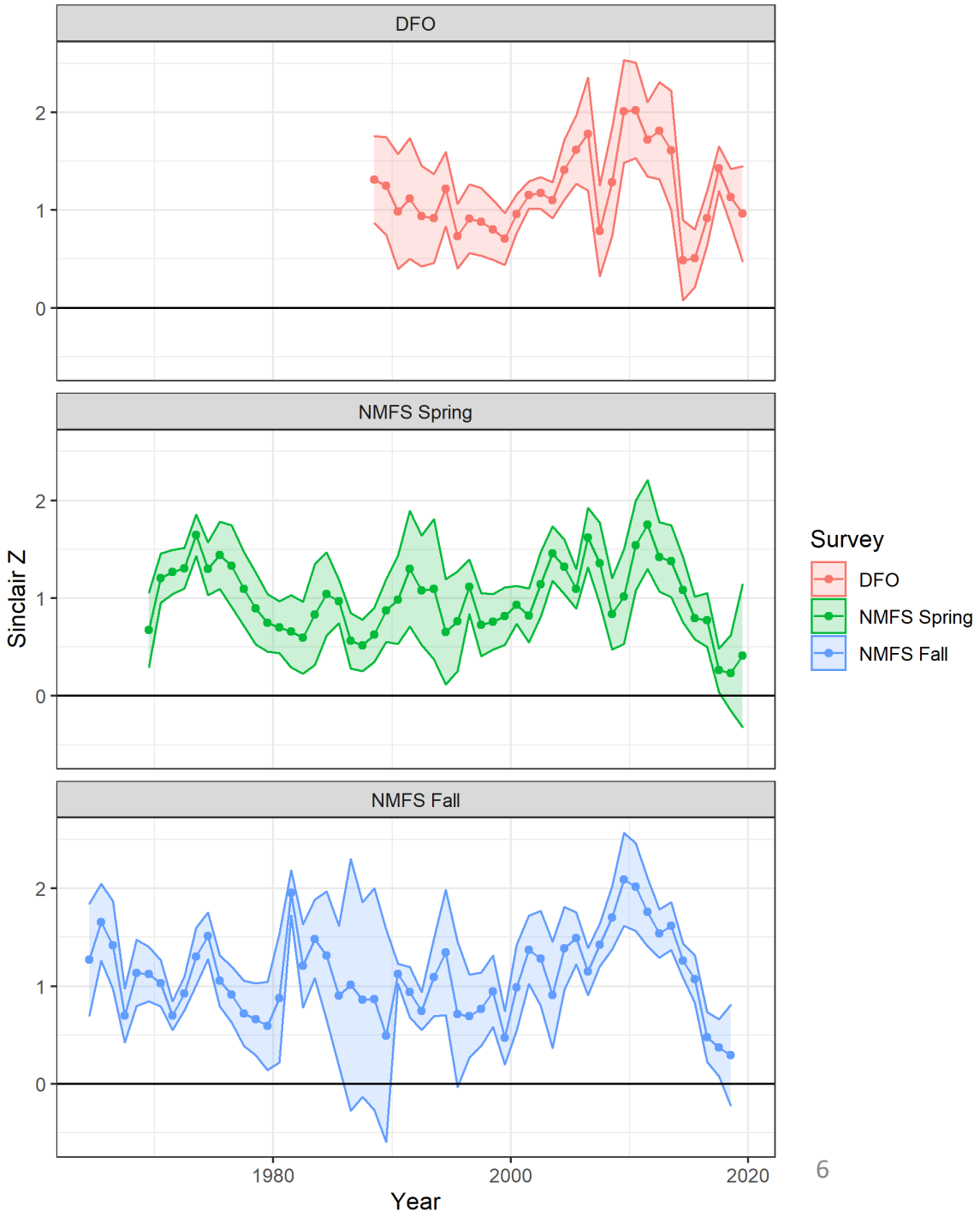
NMFS fall 2020 not conducted due to Covid-19

Survey Recruitment



Relative F and Survey Z

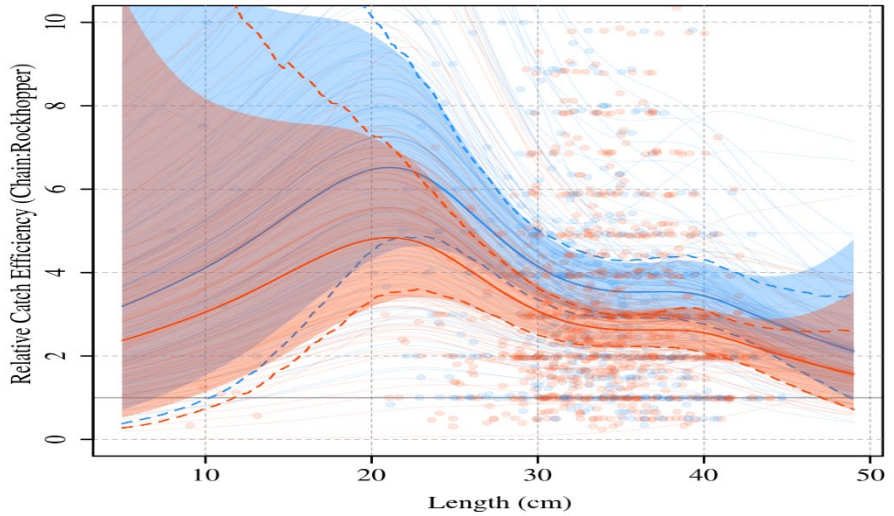


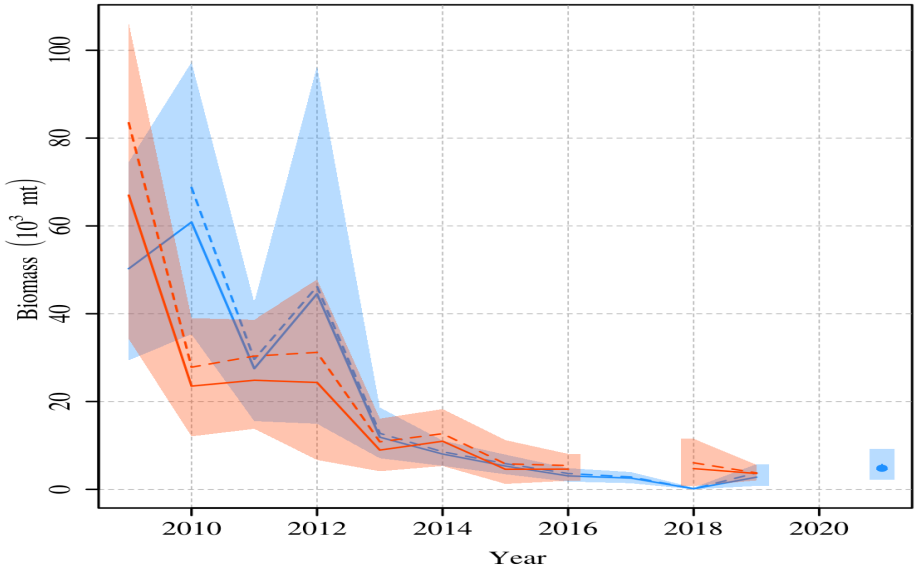


Miller et al. Working Paper

- Estimated survey catchability from local experiments
  - Best model had yellowtail length and day/night effects
- Applied to NEFSC spring and fall surveys (not DFO)
- TRAC accepted new approach
- Lowered expanded survey biomass
- Increased historical exploitation rate (6% to 7%)
- Changed Empirical Approach 2022 catch advice from 161 to 184 mt

Relative efficiency of a chain sweep and the rockhopper sweep used for the NEFSC bottom trawl survey and biomass estimates for Georges Bank yellowtail flounder





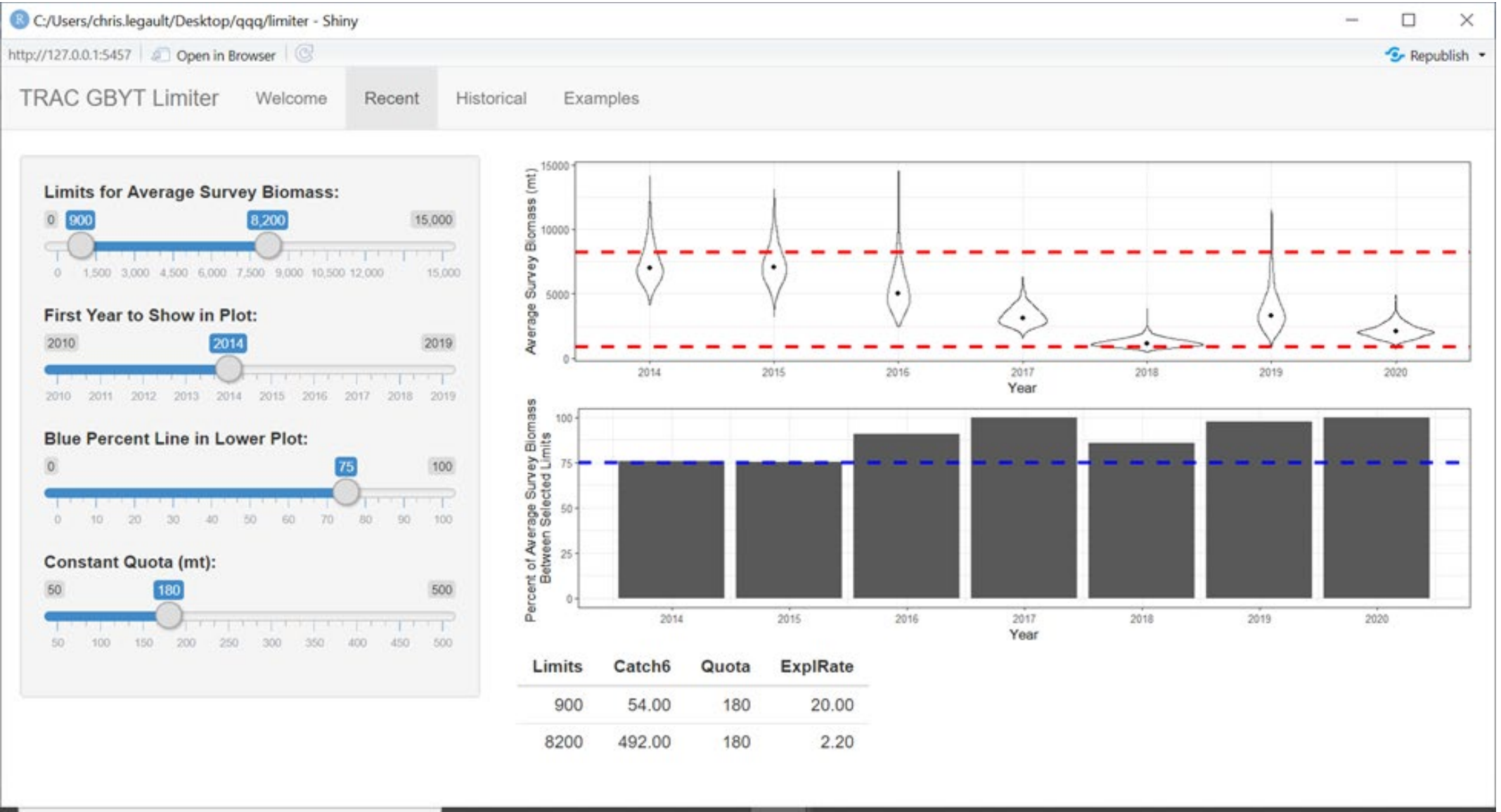
Missing 2020 NEFSC Fall Survey

- Historical impact of missing NEFSC fall survey was large
  - Unlike last year when missing 2020 NEFSC spring survey did not affect average biomass
- Adjusting for missing survey increased Empirical Approach 2022 catch advice from 184 to 243 mt

Empirical Approach not recommended by TRAC

GBYT Limiter

https://cmlegault.shinyapps.io/limiter/



Consequences

C:/Users/chris.legault/Desktop/qqq/limiter - Shiny

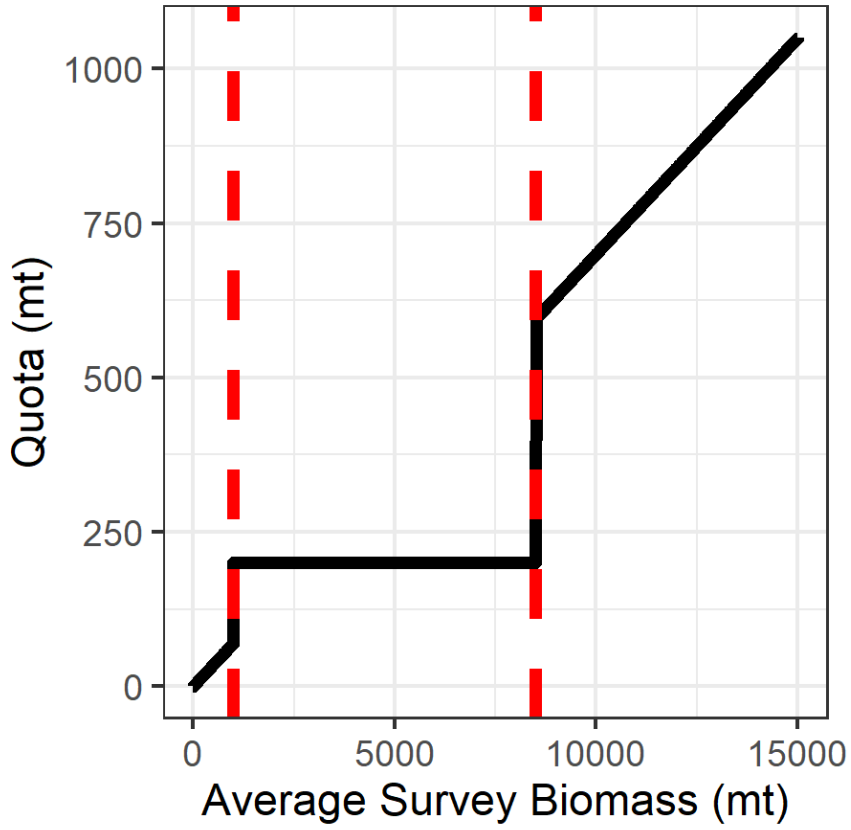
http://127.0.0.1:5457 | Open in Browser | Republish

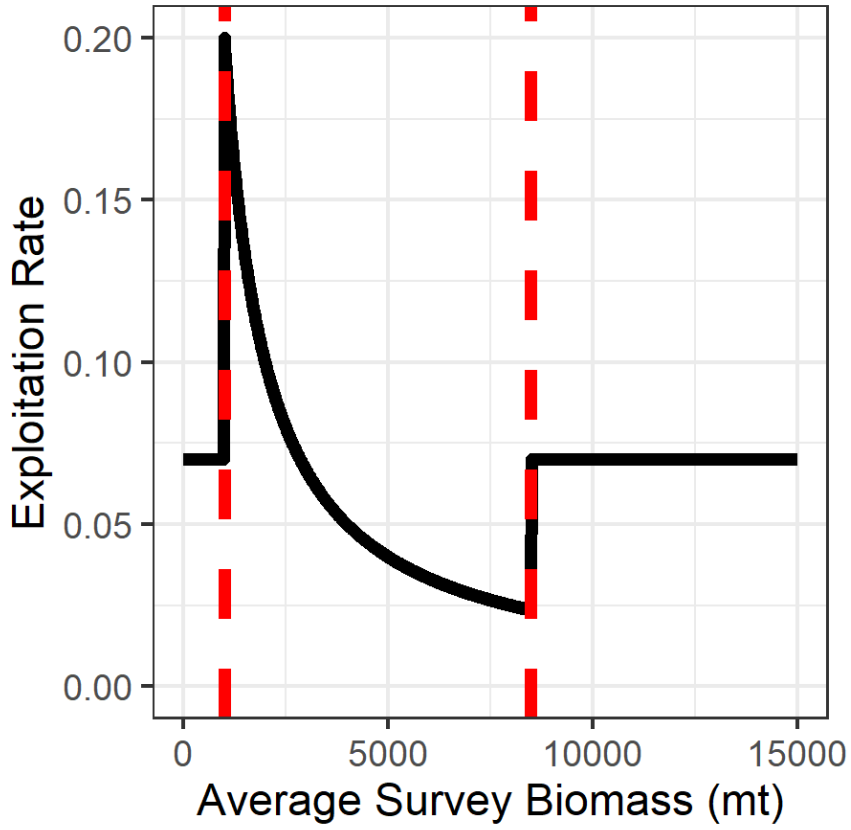
TRAC GBYT Limiter | Welcome | Recent | Historical | Examples

Scenario

- Empirical
- Initial
- Limits First
- Quota First
- Ref Points
- Recent Tab Values

Figures show 7% exploitation rate outside limits





the other two sliders in the Recent tab (First Year to Show in Plot and Blue Percent Line in Lower Plot) have no effect on the plots shown here.

TMGC Intersessional Meetings

- April 22, 2021 full TMGC
- May 13, 2021 TMGC sub-group
- Research Track 2024 – would replace this approach then
- Used reference period of 2014-2020
- Considered 75% and 90% bounds
- Lower Bound: 900 – 1,000 mt
- Upper Bound: 8,200 – 9,500 mt
- Exploitation rate: 20% or 27.5%
- Quota = 180 – 200 mt (Option A) or 247.5 - 275 mt (Option B)

TRAC Limiter Recommendations

- 200 mt catch advice
- Lower limit survey biomass of 1,000 mt
- Upper limit survey biomass between 7,300 and 8,500 mt

- 2021 average survey biomass was
  - 2,625 mt based on the two available surveys using Miller et al. estimates
  - 3,471 mt adjusted for missing NEFSC fall survey
- Thus, 200 mt catch advice is recommended
  - Allocation Sharing Agreement: US 61% (122 mt) Canada 39% (78 mt)

Special Considerations

- CAMS, Dan Caless
- Surveys valid
- Miller et al., NTAP, workflow
- 3 scallop RSA projects
- DFO survey adjustment

Questions?

Special thanks to Monica Finley (DFO) for this picture