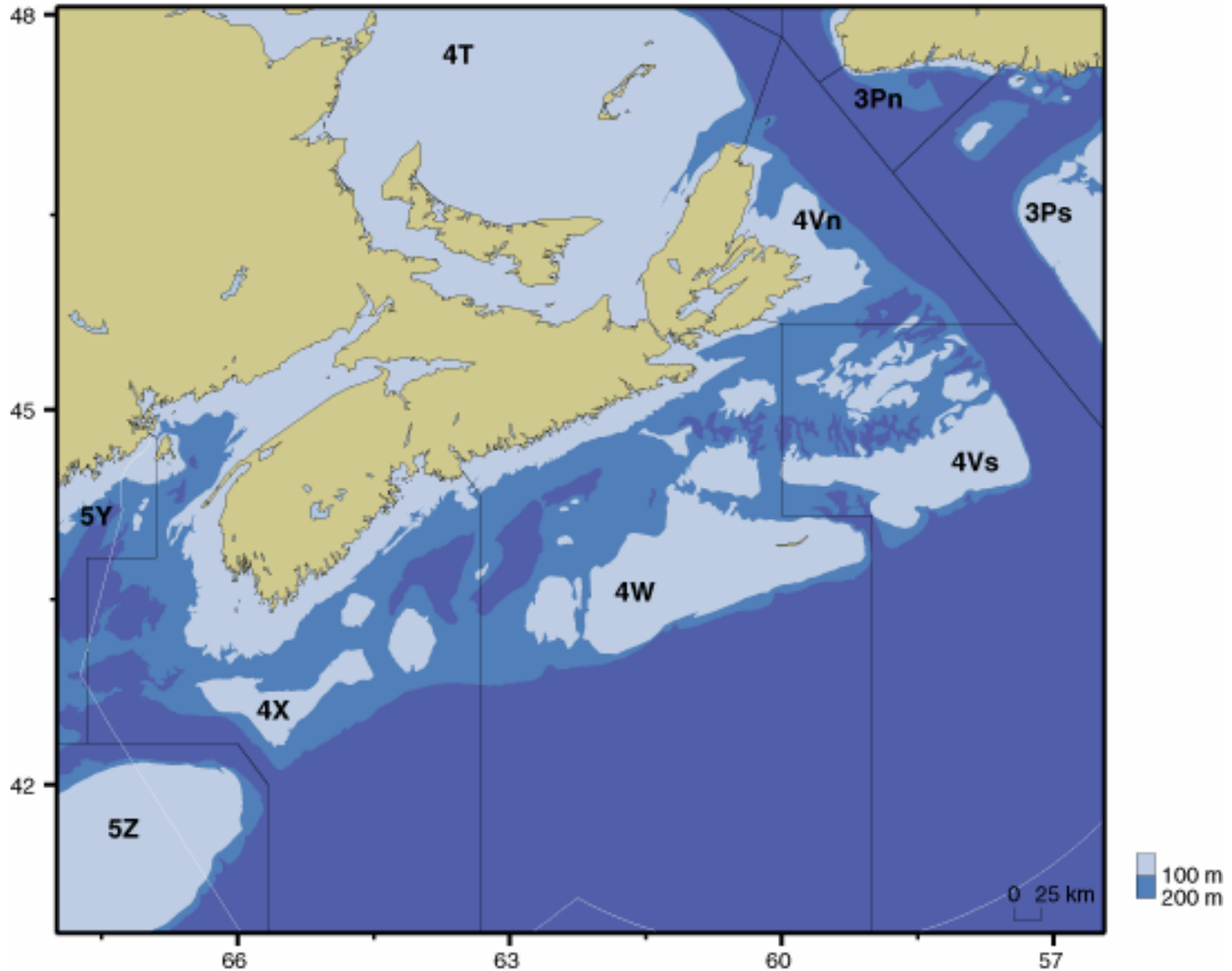


Maritimes Region Scotia-Fundy Sector

Presentation to FRCC

February 18, 2010

Location of the Fishery



Fleet Sectors

- Fixed Gear <45'
- Fixed Gear 45'-65'
- Mobile Gear <65'
- Aboriginal MG<65'
- Mobile Gear 65'-100'
- Fixed Gear 65'-100'
- Offshore (FG & MG)
>100'
- Community Quotas
- ITQ
- ITQ
- Enterprise Allocation
- Enterprise Allocation
- Enterprise Allocation
- Enterprise Allocation

Licences

Fleet	Number of Licences	Number Active (2009)
Fixed Gear <45'	2405	460
Fixed Gear 45'-65'	56	30
Mobile Gear <65'	305	59
Aboriginal MG <65'	11	5
Mobile Gear 65'-100'	3	2
Fixed Gear 65'-100'	7	5
Offshore >100'	13	10

Management Regime

- Groundfish is a mixed species fishery, with catch of each species managed under either TACs or quota limits (% and/or cap).
- The season in 4VWX+5 is April 1st – March 31st, with the exception of three transboundary stocks (cod, haddock and yellowtail flounder) for which the season is January 1st – December 31st.

General Objectives

- The IFMP for Maritimes Region sets out the objectives and associated strategies for the fishery. Although it is still applicable, the end date on the plan is March 2007.
- Three general objectives:
 - Ensure fishing does not cause a) reductions in the productivity of the resources or b) modifications to ecosystem structure or function, that are difficult or impossible to reverse, by adopting a precautionary approach to management and by taking ecosystem effects of fishing into account.
 - Manage the resource in a manner consistent with legal obligations by meeting aboriginal treaty rights, making provision for recreational uses, and creating conditions that allow the commercial industry to be economically self-reliant and to provide positive contributions to the Canadian economy.
 - Create a management regime based on shared decision making, ultimately evolving to the point where the industry is essentially self-regulating within broad policy guidelines established by government.

Governance Structure

- The Scotia-Fundy Groundfish Advisory Committee (SFGAC) is the main consultative process.
- The Gulf of Maine Advisory Committee (GOMAC) is the forum wherein matters pertaining to Gulf of Maine fisheries issues are addressed.
- Both advisory groups are comprised of representatives of fishing industry, processing sector, aboriginal groups, provinces of NB and NS and DFO.

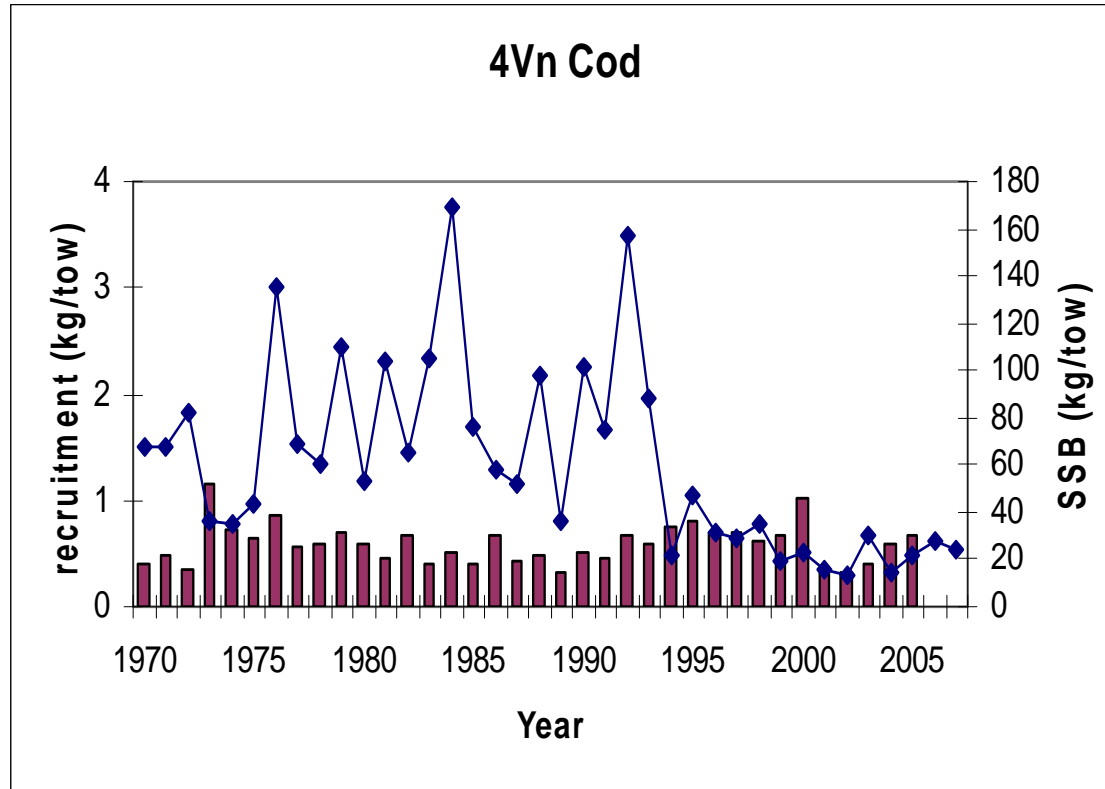
Governance Structure

- For the inshore, there are two subsidiary advisory bodies:
 - Fixed Gear Advisory Committee consisting of industry representatives drawn from the community management boards
 - ITQ Advisory Committee which consists of FG and MG representatives
- Consultations occur on an Atlantic-wide basis with the midshore and offshore fleet sectors.

4Vn Cod (M-O)

- Resident stock in Sydney Bight.
- Before extended jurisdiction in 1977, this fishery was traditionally a summer inshore longline fishery which exploited the banks south of the Laurentian Channel. Large foreign trawlers fished along the Channel edge in deeper water, mainly during the winter months.
- Landings between 1970-1979 averaged 5120 mt, which increased to 8593 mt between 1980-1989 and fell to 1293 mt between 1990-1993.
- A moratorium was imposed in 1993 which is still in effect.
- Bycatch only permitted – directed fisheries in the area include Atlantic halibut, redfish and flounder. Haddock is also under moratorium in the area.
- Landings for 2007, 2008 and 2009 were 32 mt, 15 mt and 32 mt, respectively.

4Vn Cod (M-O)

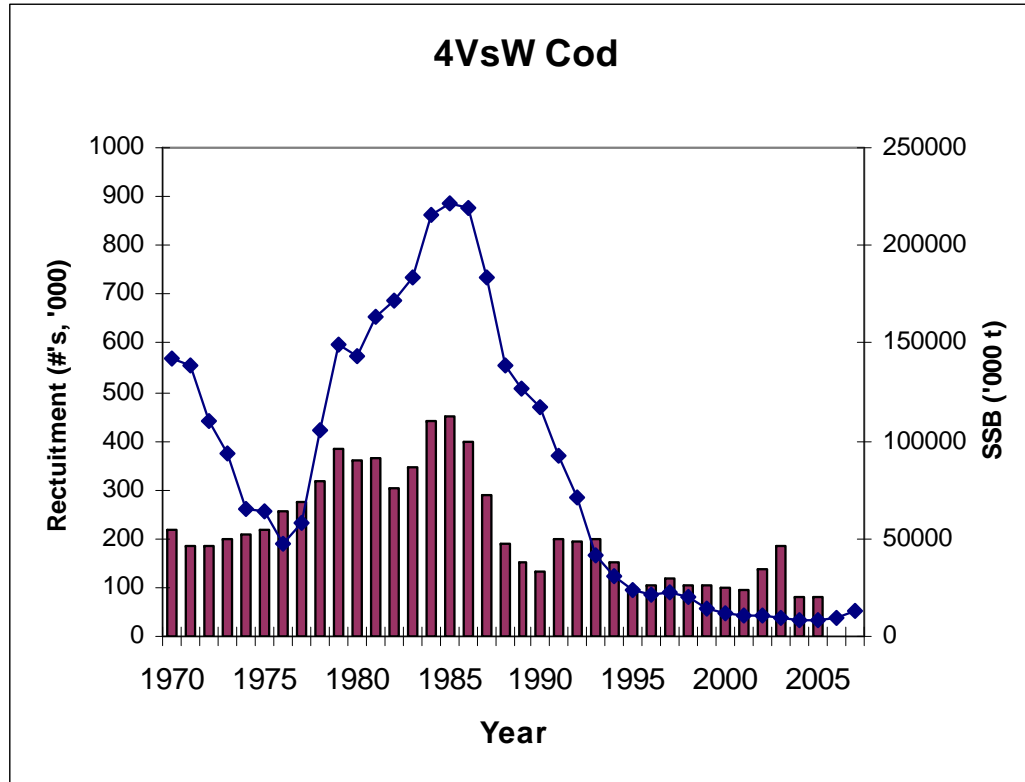


- Fishery closed in 1993.
- Sentinel survey program provides additional information on abundance, and shows good correspondence with the DFO summer survey.
- Seal predation may be significant portion of recent natural mortality

4VsW Cod

- Landings in this area were in the range of 50-80,000 mt in the 1960s and early 1970s, with Canada taking about 10-25,000 mt and Spain taking most of the rest.
- After extension of jurisdiction in 1977, the fishery was almost exclusively Canadian, with catches ranging between 40-50,000 mt in the 1980s.
- A moratorium was imposed in 1993 which is still in effect.
- Bycatch only permitted; directed fisheries in the area include Atlantic halibut, pollock, flounder and redfish. Haddock in the area is also under moratorium.
- Landings for 2007, 2008 and 2009 were 48 mt, 61 mt and 65 mt, respectively.

4VsW Cod

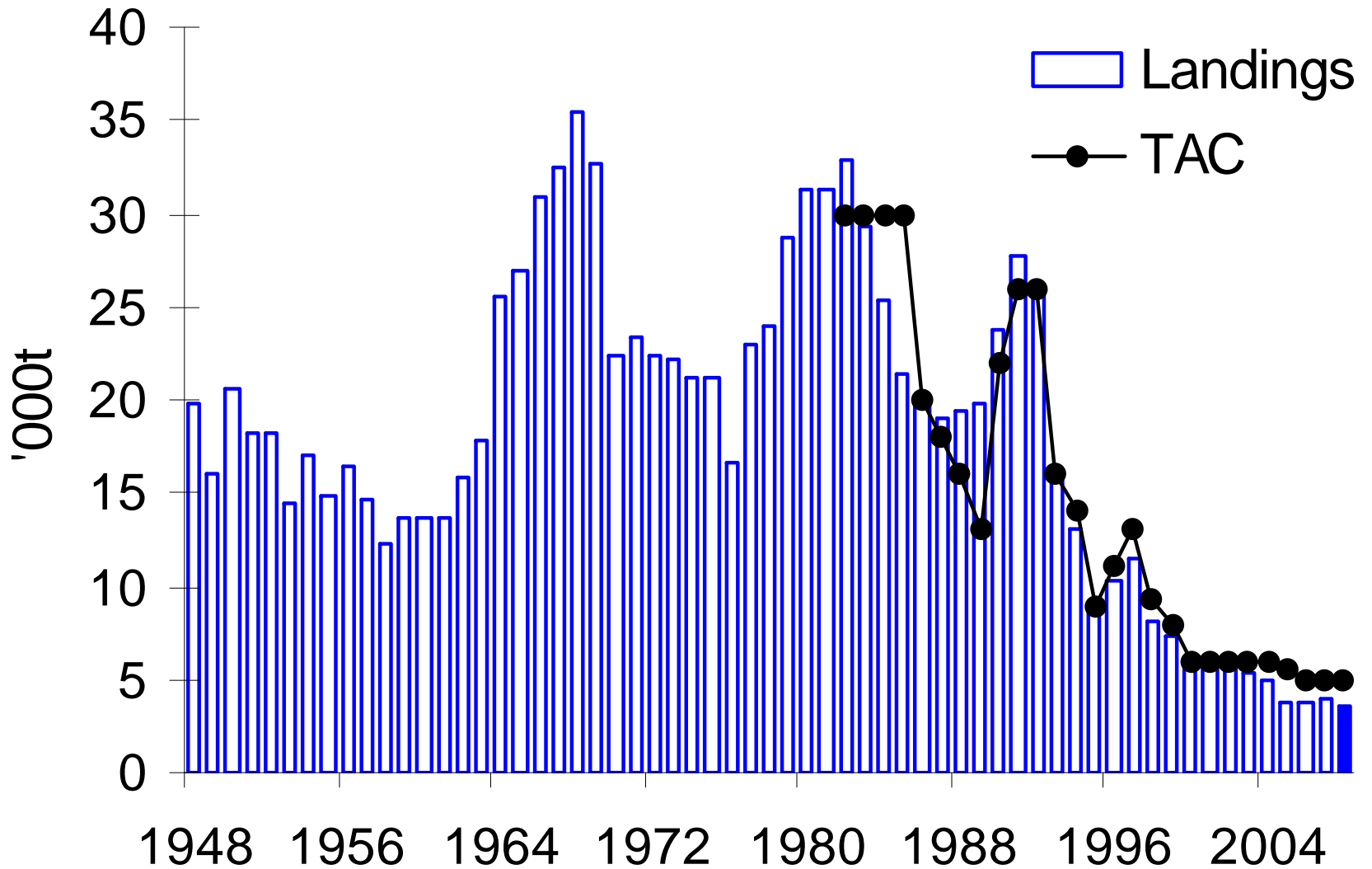


- Fishery closed in 1993
- Seal predation may be significant portion of recent natural mortality

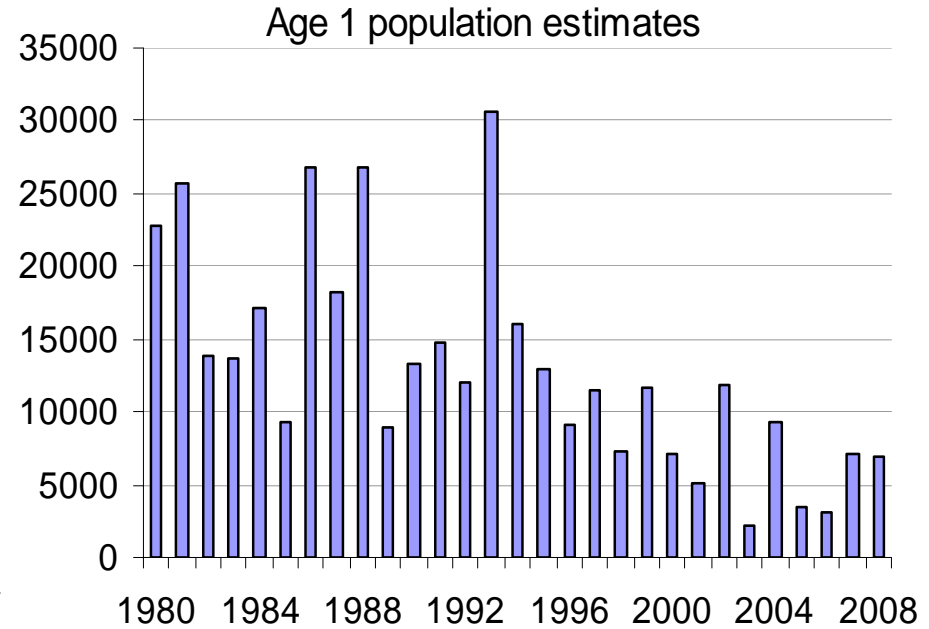
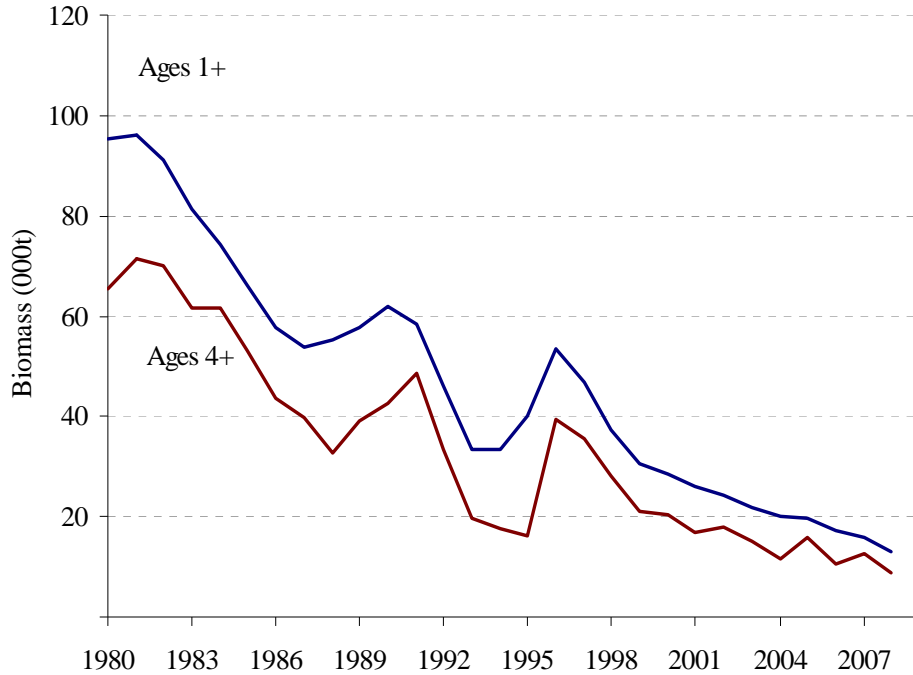
4X5Y Cod

- Landings in this area increased in the 1960s as domestic and foreign otter trawl fleets joined the predominately hook and line fishery, and then dropped in the 1970s as effort declined due to restrictions on haddock.
- Fixed gear fleets hold approximately 60% of the quota.
- Reductions in TAC and fishing effort have not resulted in a decline in either fishing mortality or overall mortality. Seal predation is expected to be high.

4X5Y Cod



4X5Y Cod



- Natural mortality estimated at 0.7 from VPA; this is very high and will inhibit biomass increase
- Cod and haddock are harvested in a mixed fishery. Harvesting of 4X haddock may constrain the rebuilding objectives for cod in this area

5Zjm Cod

- Guidance for this Georges Bank stock is provided by the Canada/U.S. Transboundary Management Guidance Committee (TMGC).
- Both countries reached agreement on a harvesting strategy for the stock, which is to maintain a low to neutral risk of exceeding the fishing mortality reference limit (0.18). When stock conditions are poor, fishing mortality should be further reduced to promote rebuilding.
- Agreement on a sharing proposal which incorporates elements of resource distribution and historical usage with weighting shifting to favour resource distribution (90% in 2010) over time.

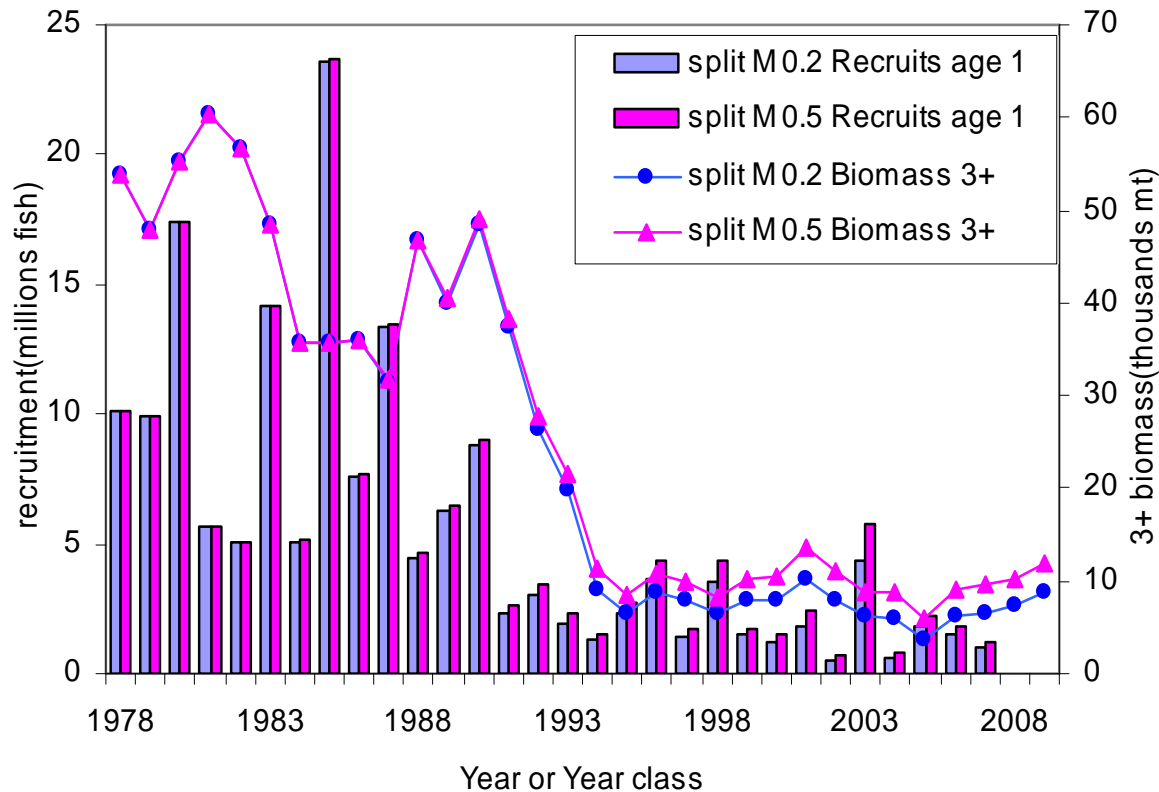
5Zjm Cod

Values in thousands mt

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Avg ¹	Min ¹	Max ¹
Quota	1.6	2.1	1.2	1.3	1.0	0.7	1.3	1.4	1.6	1.2			
Landed	1.6	2.1	1.3	1.3	1.1	0.6	1.1	1.1	1.4		6.2	0.6	17.8
Discard	0.1	0.1	0.1	0.2	0.1	0.2	0.3	0.1	0.1		0.1	0.0	0.5

¹ 1978 - 2008

5Zjm Cod



- Both models show 3+ biomass declined significantly since mid 1990's.
- 2003 strongest year class after 1994, still below before 1994 average level
- 2002, 2004 and 2007 year class weakest on record

5Zjm Haddock

- Process similar to 5Zjm Cod (i.e. TMGC).
- Mutually-acceptable harvest strategy and fishing mortality reference limit ($F_{ref} = 0.26$).
- Biomass at the beginning of 2009 was the highest in the timeseries and is mainly attributable to the exceptional 2003 year class.
- MSC certification is being sought for 5Zjm Haddock for all gear types.

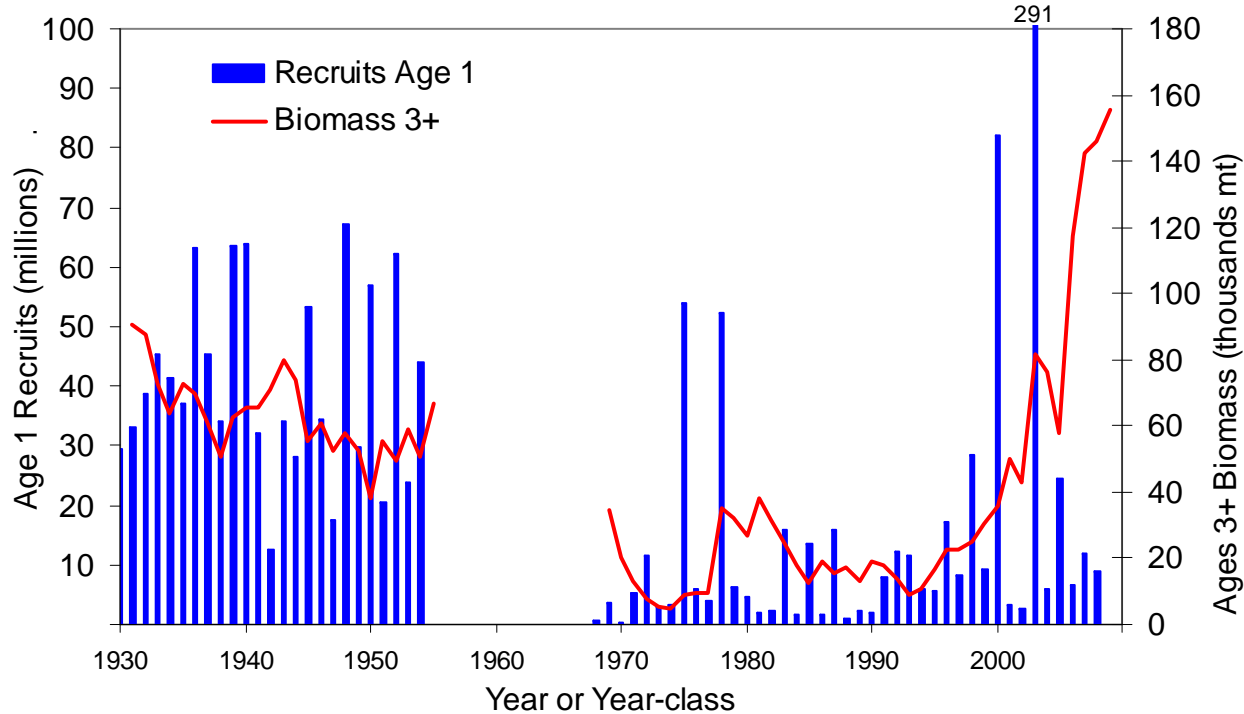
5Zjm Haddock

Values in thousands mt

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Avg ¹	Min ¹	Max ¹
Quota	5.4	7.0	6.7	6.9	9.9	15.4	14.5	12.7	15.0	18.9			
Landed	5.4	6.8	6.5	6.8	9.7	14.5	12.0	11.9	14.8		4.9	0.5	14.8
Discard	<0.1	<0.1	<0.1	0.1	0.1	<0.1	0.1	0.1	<0.1		0.1	<0.1	0.2

¹ 1969 - 2008

5Zjm Haddock

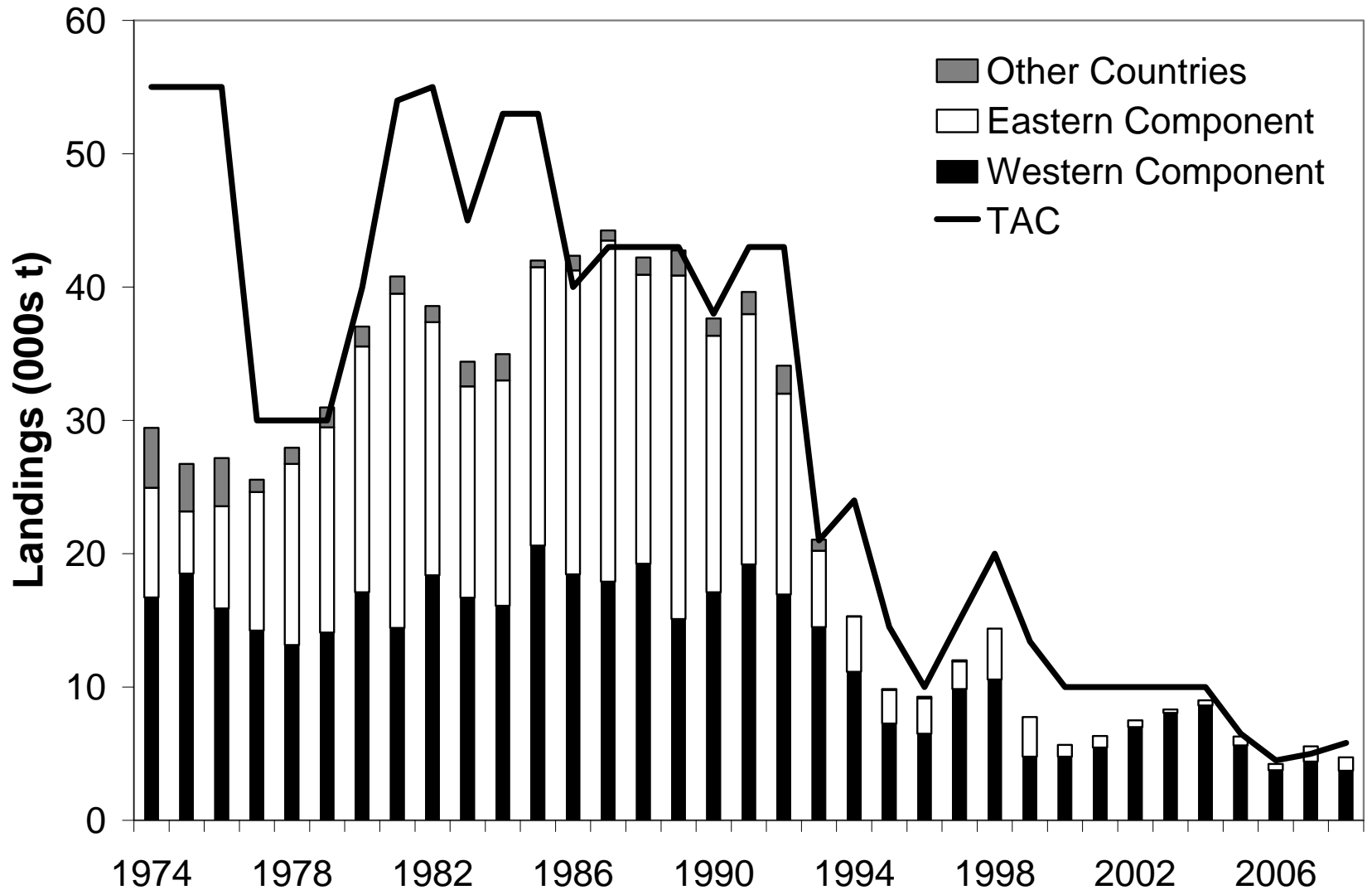


- Catches for several years into the future will be dependent on the 2003 year class.
- Current resource productivity is high, hindered only by recent reductions in fish weight at age.
- Cod and haddock are often caught together. Harvesting of 5Z haddock may constrain the rebuilding objectives for cod in this area, although modifications to fishing gear and practices may help.

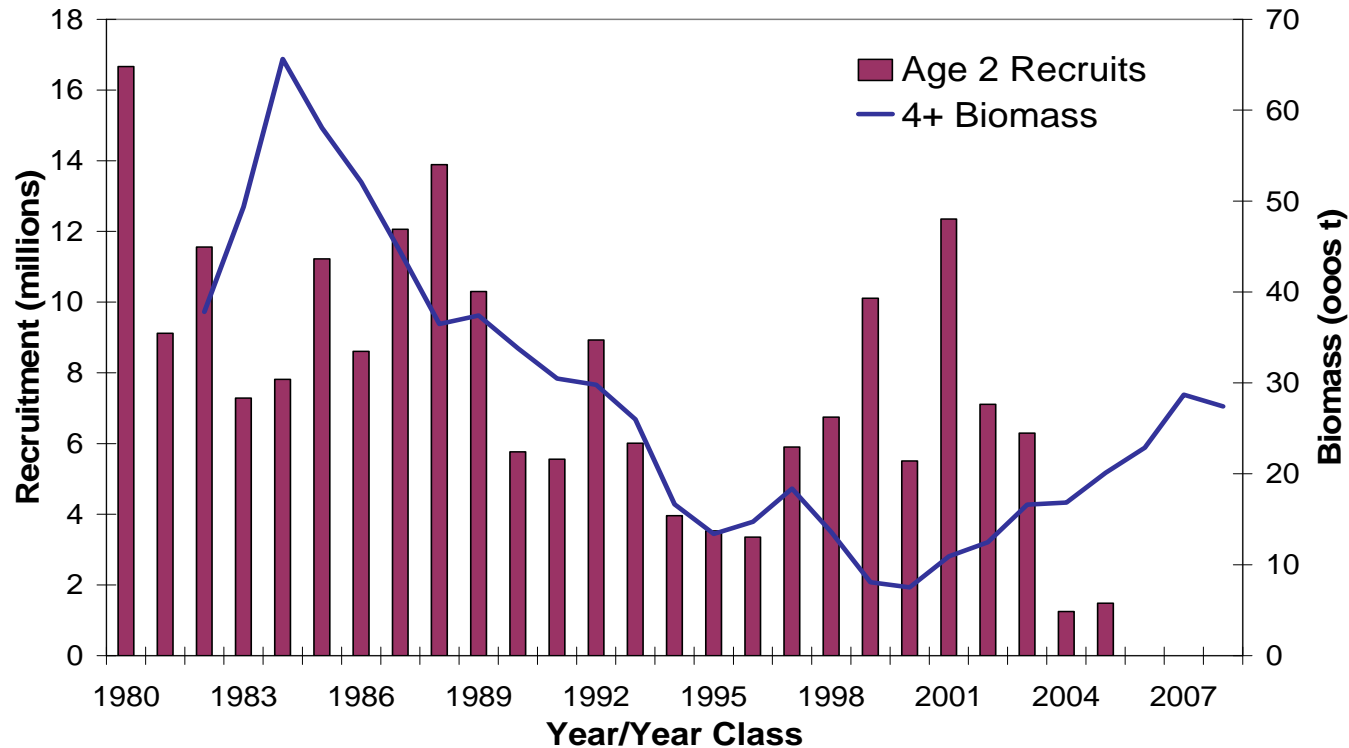
4VWX+5 Pollock

- Significant Canadian fisheries for pollock occur on the Scotian Shelf, eastern Georges Bank, and the Bay of Fundy using primarily otter trawl and gillnets.
- A detailed evaluation of stock structure in 2003 indicated that the management unit is represented by two population components: a slower-growing Eastern Component including divisions 4V and 4W, as well as Unit Areas 4Xm and 4Xn, and a faster-growing Western Component including 4Xopqrs as well as Canadian portions of Subarea 5. For management purposes, DFO manages the Western Component as all of NAFO Area 4X+5
- Approximately 70% of the TAC in 4X+5 is held by mobile gear fleets, and many participants reserve this quota as a bycatch to pursue other fisheries.
- Activity in 4VW is limited to a small-scale directed fishery by FG and an exploratory fishery for mobile gear.

4VWX+5 Pollock



4VWX+5 Pollock



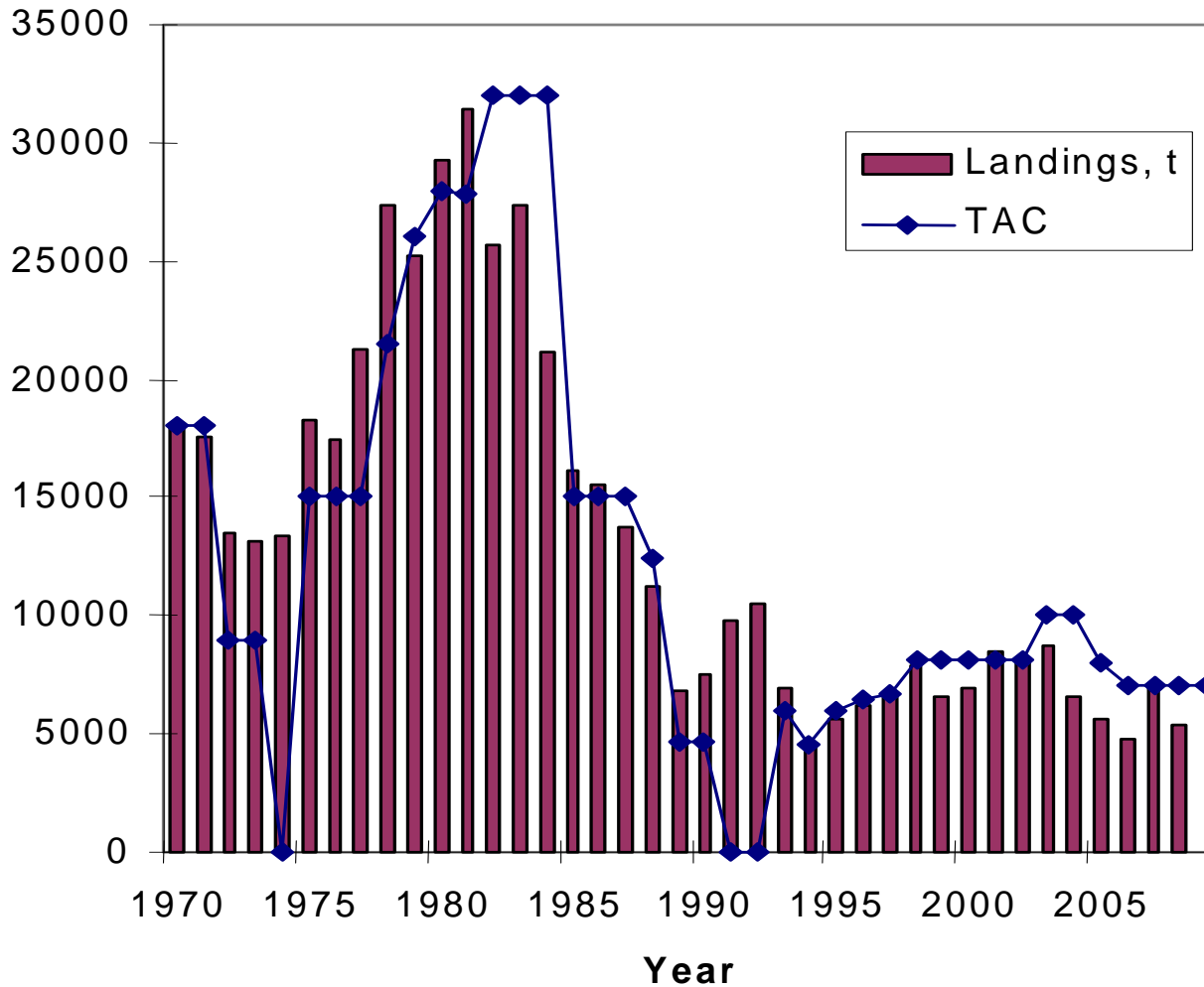
- The summer survey does not cover the Canadian portion of Georges Bank. Excluding this area from the survey indices may affect assessment results if the pollock biomass on Georges Bank was increasing or decreasing more than the biomass in 4X.
- Pollock, being a semi-pelagic, schooling species, are less well sampled by the summer RV survey than other gadids. This creates high variability in the RV abundance index from year to year.
- Advice on the Western Stock Component is based on 4Xopqrs5, however, the harvest strategies is applied to all of 4X+5. So there is a mis-match between the assessed area and the management unit. (4X+5).

4X5Y Haddock

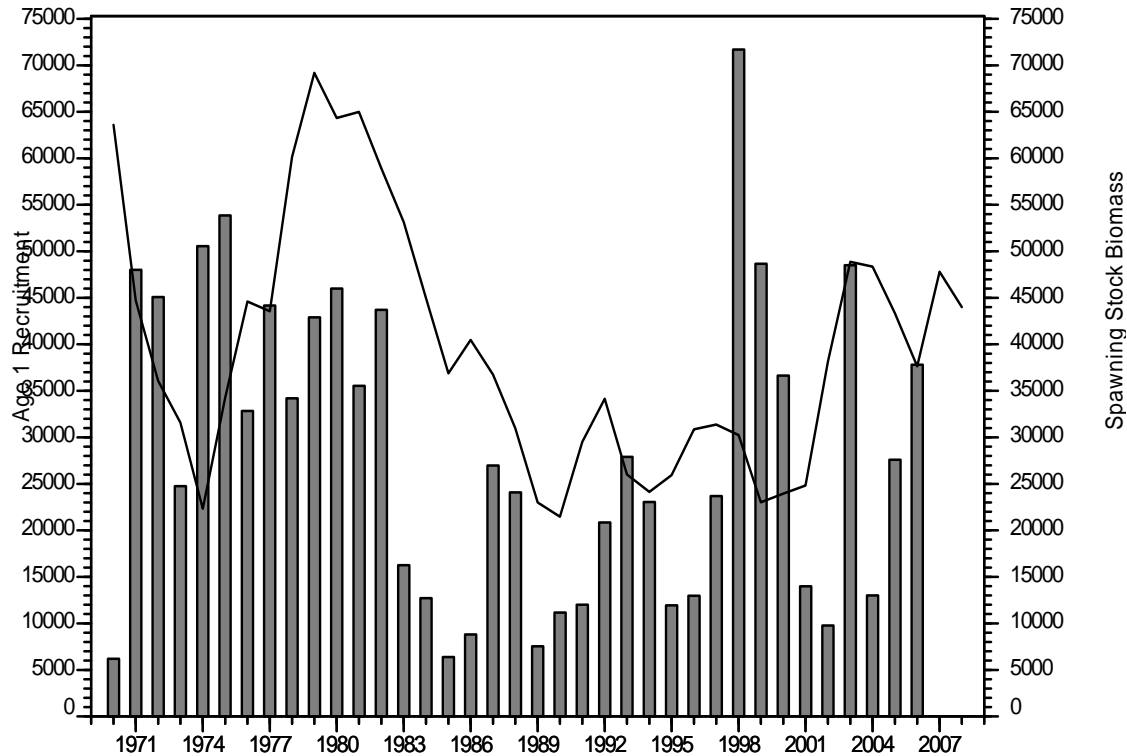
- TAC levels averaged 14,700 mt in the 1970s, while landing exceeded the established TAC, averaging 18,600 mt.
- Historically, this fishery has been dominated by mobile gear, and those fleets hold approximately 65% of the quota.
- MSC certification is being sought for 4X5Y Haddock for all gear types.

4X5Y Haddock

Landings and TAC



4X5Y Haddock

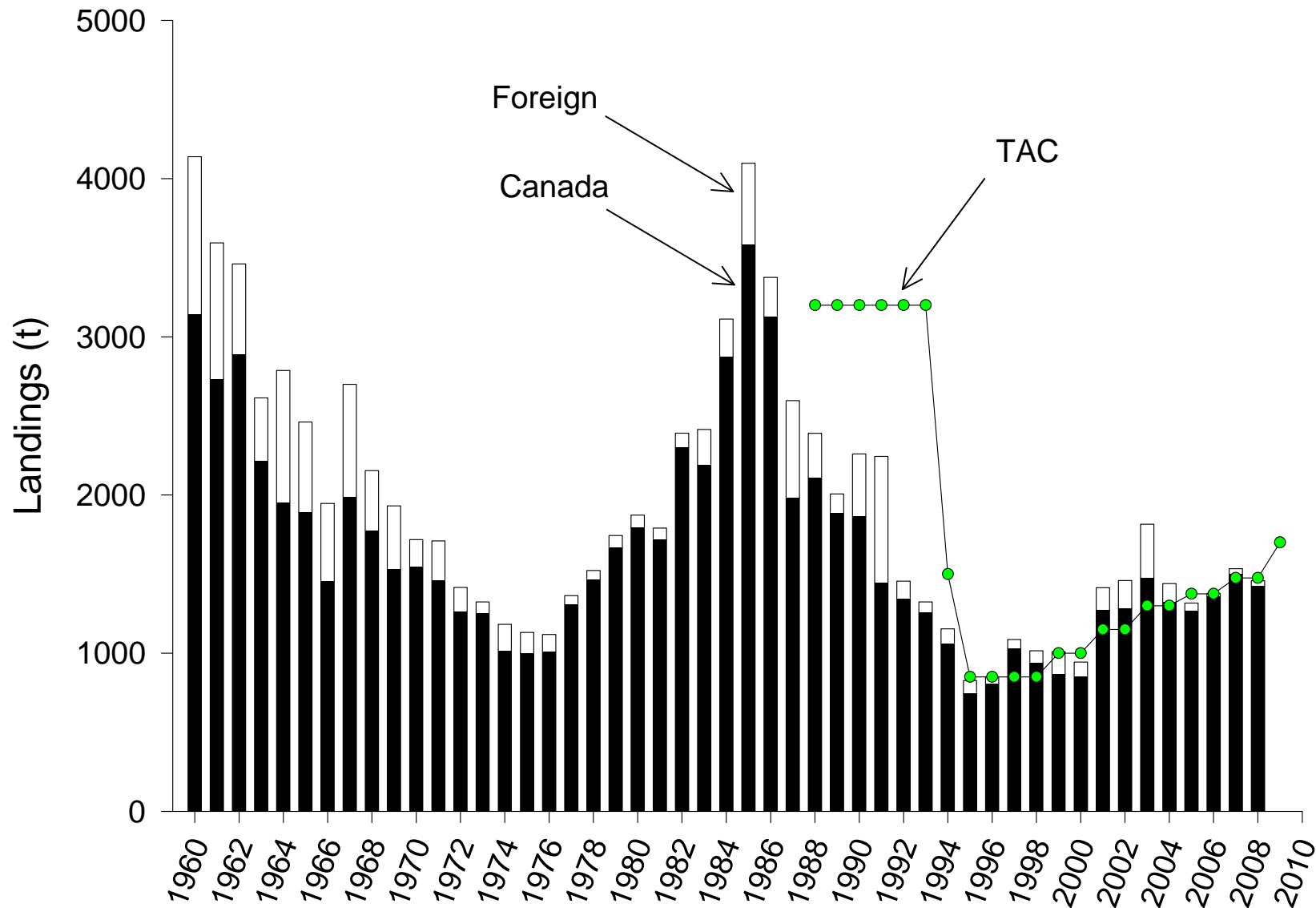


- Cod and haddock are often caught together. Harvesting of 4X haddock may constrain the rebuilding objectives for cod in this area, although modifications to fishing gear and practices may help.
- PA reference points are not currently available, but can be developed in the near term.

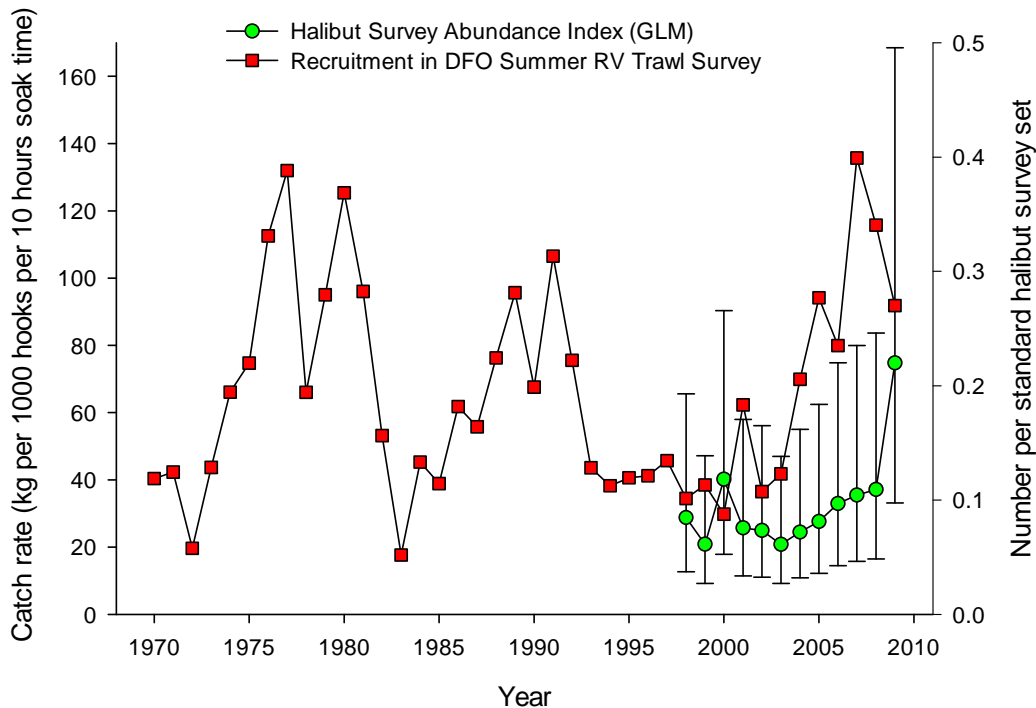
3NOPs4VWX+5Zc Atlantic Halibut

- Landings of Atlantic halibut have been recorded since 1883, and until 1988 the Atlantic halibut fishery was not regulated by TAC.
- Within the management unit, halibut is fished mostly along the edges of the continental shelf and mainly by longliners using bottom hook-and-line gear. Licence holders are not permitted to direct for halibut using mobile gear.
- Since 1994, management plans and licence conditions require the release of halibut less than 81cm.

3NOPs4VWX+5Zc



3NOPs4VWX5Zc Halibut



- Recruitment has increased over the past five years in the Industry survey and is starting to show up as exploitable biomass.
- The 2008 exploitation rate of the exploitable biomass (>81cm) was estimated to be 15.0% based on tagging results. This exploitation rate is higher than natural mortality (10%) and F0.1 (9%), and it is not known whether this rate is sustainable.
- An exercise to develop a framework assessment for this species has been recently completed, and should allow PA reference points to be calculated.

Landed Value

Stock	2007 Value (\$ 000)	2008 Value (\$ 000)
4X5Y Cod	8,213	8,431
5Zjm Cod	2,302	2,891
4X5Y Haddock	9,812	8,234
5Zjm Haddock	17,237	21,432
4VWX+5 Pollock	4,454	4,342
3NOPs4VWX+5 Atlantic Halibut	15,747	15,569

Management Challenges & Issues

- Decreasing TACs have made it difficult to harvest all groundfish quotas efficiently, leading to possible discarding.
- There remains many unanswered questions about high mortality on adult cod.
- Current management regime is not addressing the general objectives of the IFMP.