



Newfoundland and Labrador Region

Presentation to

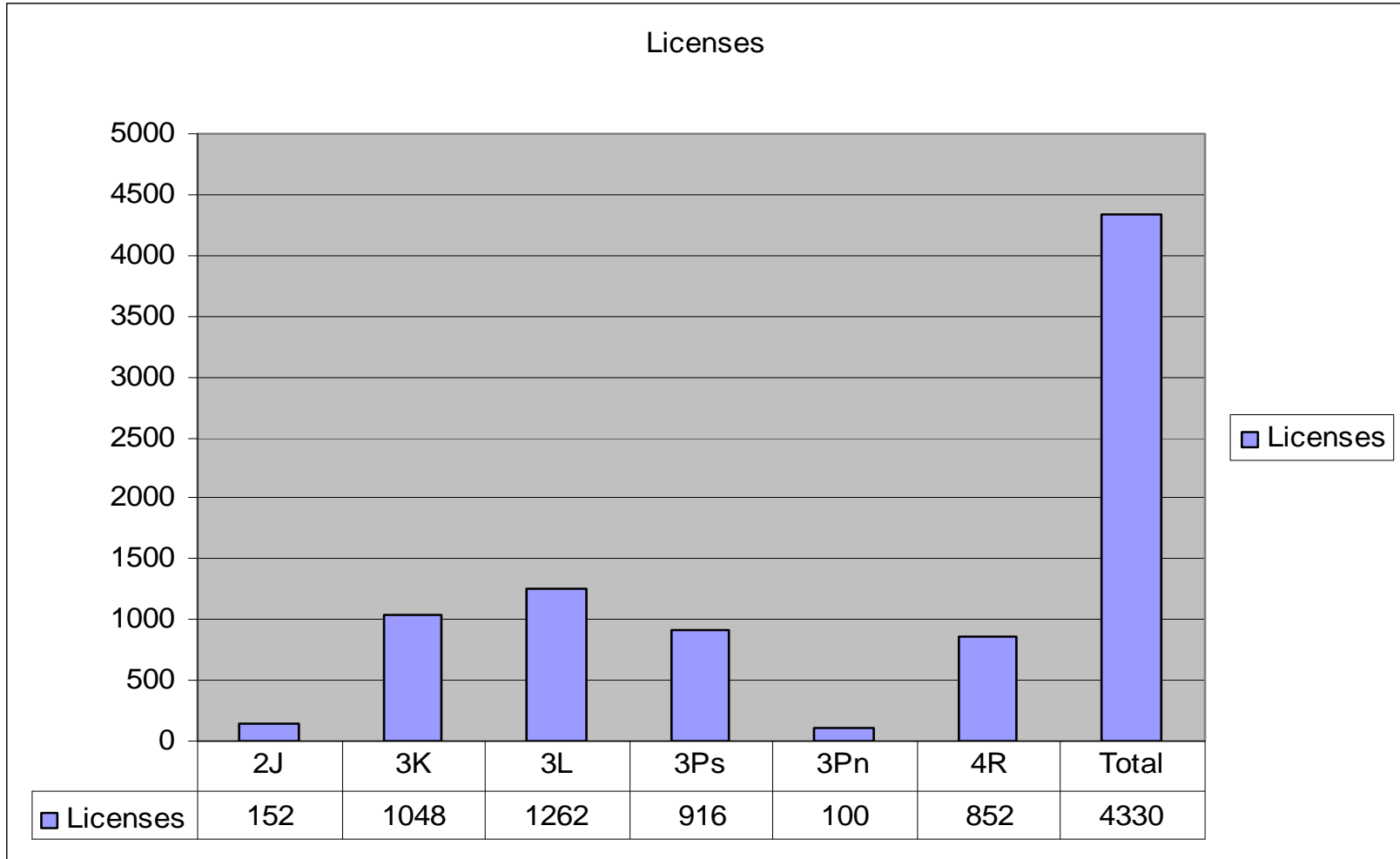
Fisheries Resource Conservation Council

February 17-18, 2010





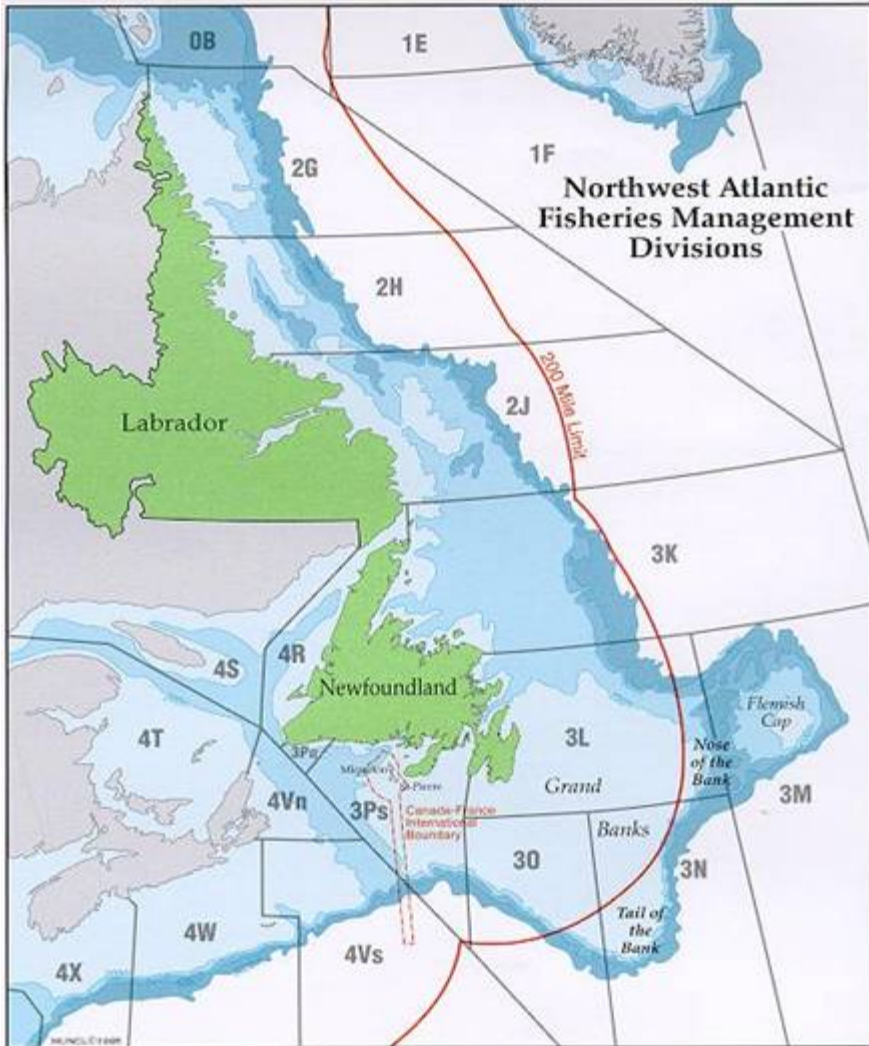
NL Region – Groundfish Licenses





NL Region Managed Stocks

Species	Stock Area					
American Plaice	2+3K	3LNO	3M	3Ps	4R	
Atlantic Halibut	3NOPs (4VWX,5Zc)	3Pn	4RST			
Cod	2GH	2J3KL	3NO	3Ps	4RS,3Pn	
Greenland Halibut	2+3K	3LMNO	3Ps	4RST		
Grenadier	0, 2, 3					
Haddock	3LNO + 3Ps					
Lumpfish	2GHJ	3KL	3Ps	3Pn	4R	
Monkfish	3LNO	3Ps				
Pollock	3Ps					
Redfish	2+3K	3LN	3M	3O	Unit 2	Unit 1
Skate	3LNO	3Ps	3Pn	4R		
White Hake	3NO	3Ps	4R3Pn			
Winter Flounder	3KL	3Ps	4R			
Witch Flounder	2J3KL	3NO	3Ps	4RST		
Yellowtail	3LNO					



Stocks for Review:

Cod:, 2GH, 2J3KL, 3NO , 3Ps

Groundfish:

Yellowtail, 3LNO

American Plaice, 3LNO

Turbot, 2+3KLMNO

Skate, 3Ps



Management Measures

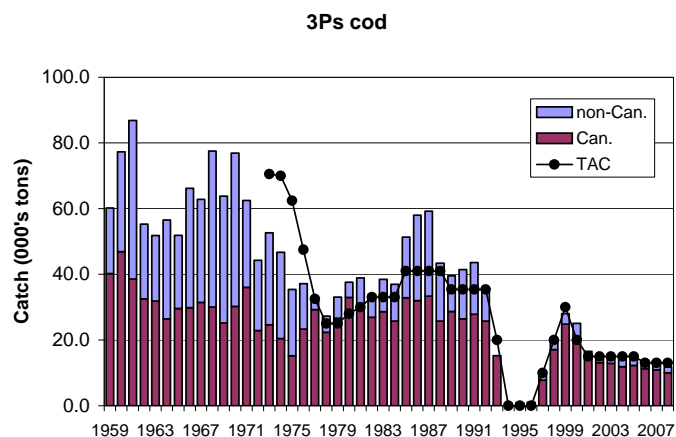
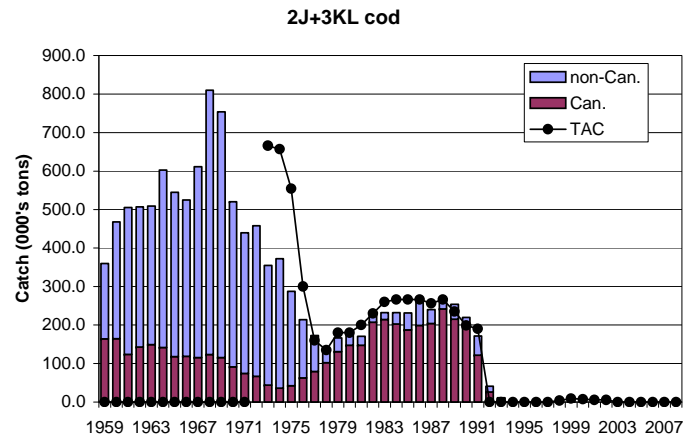
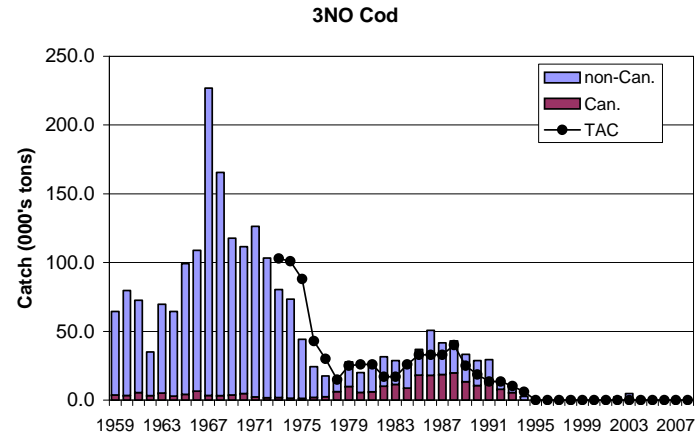
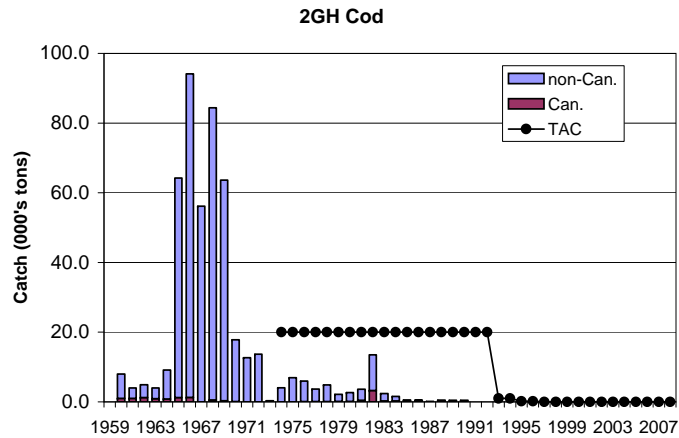
The following measures generally apply to all groundfish fisheries when directed fishing activity is permitted:

- DMP
- At-Sea-Observer Coverage
- VMS (Vessels >35")
- Hail-out / Hail-in / At-sea hails
- License Conditions, gear amounts and specifications
- Seasons/closed areas
- Conservation Harvesting Plans (CHP's)
- Small Fish Protocols





History of Landings and TACs - NL Region Cod Stocks





2GH collapsed first – no landings for many years. Little Science activity

2J3KL reopened in 1998 – Currently an IQ fishery inside 12 miles.

- 2006 Stewardship fishery enabling fishers to test their perceptions of stock abundance with “on the water” activity
- IQ range from 2,500-3,750 lbs. depending on the year.
- Limited economic importance relative to crab and shrimp.

3Ps recovered relatively quickly and was re-opened in 1997

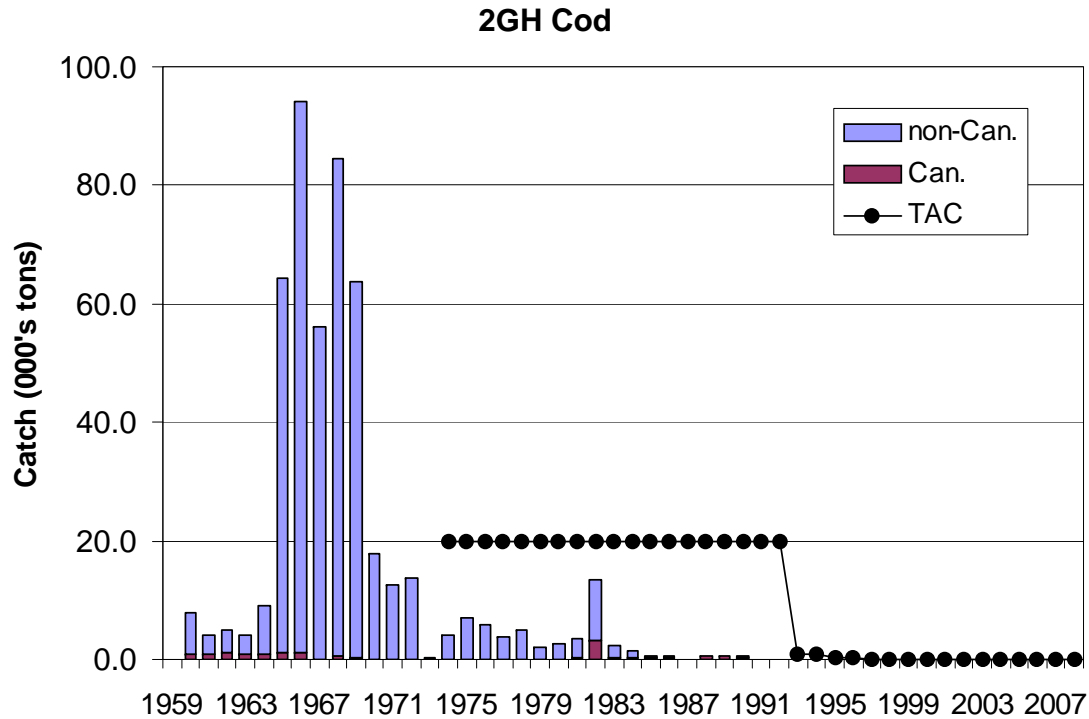
- currently the largest cod fishery in Atlantic Canada
- TACs reduced from 20,000t to 11,500t in recent years.
- ~1000 eligible harvesters with 70-80% participation rate.
- All gear types and vessel groups have access.

3NO Moratorium,

- Subject to 2007 NAFO rebuilding Plan.

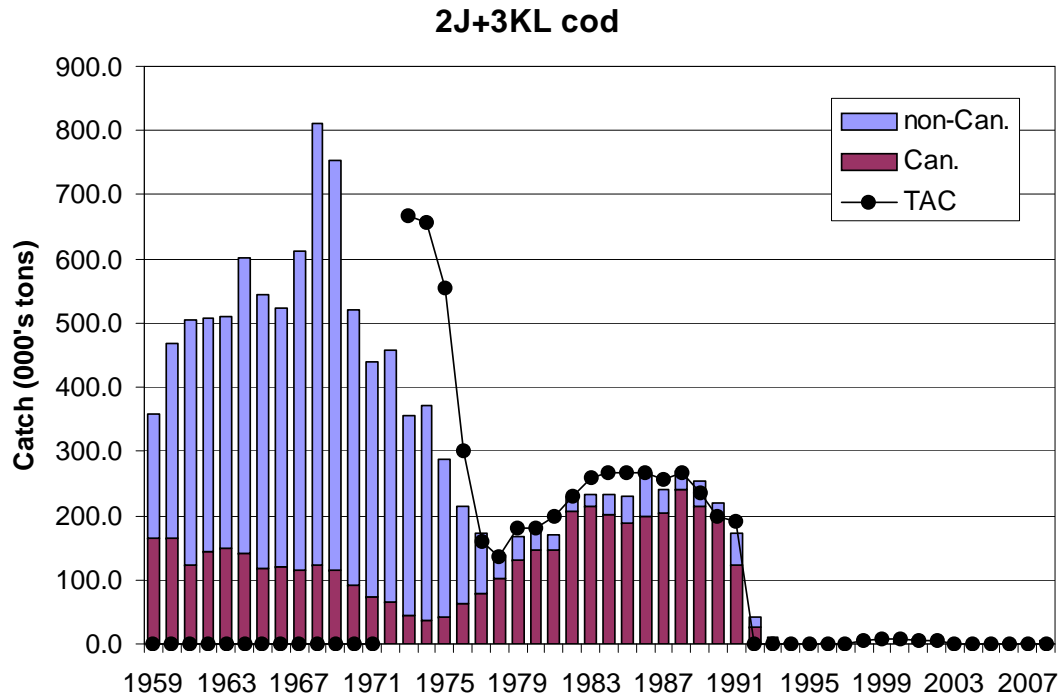


History of Landings and TACs – 2GH Cod



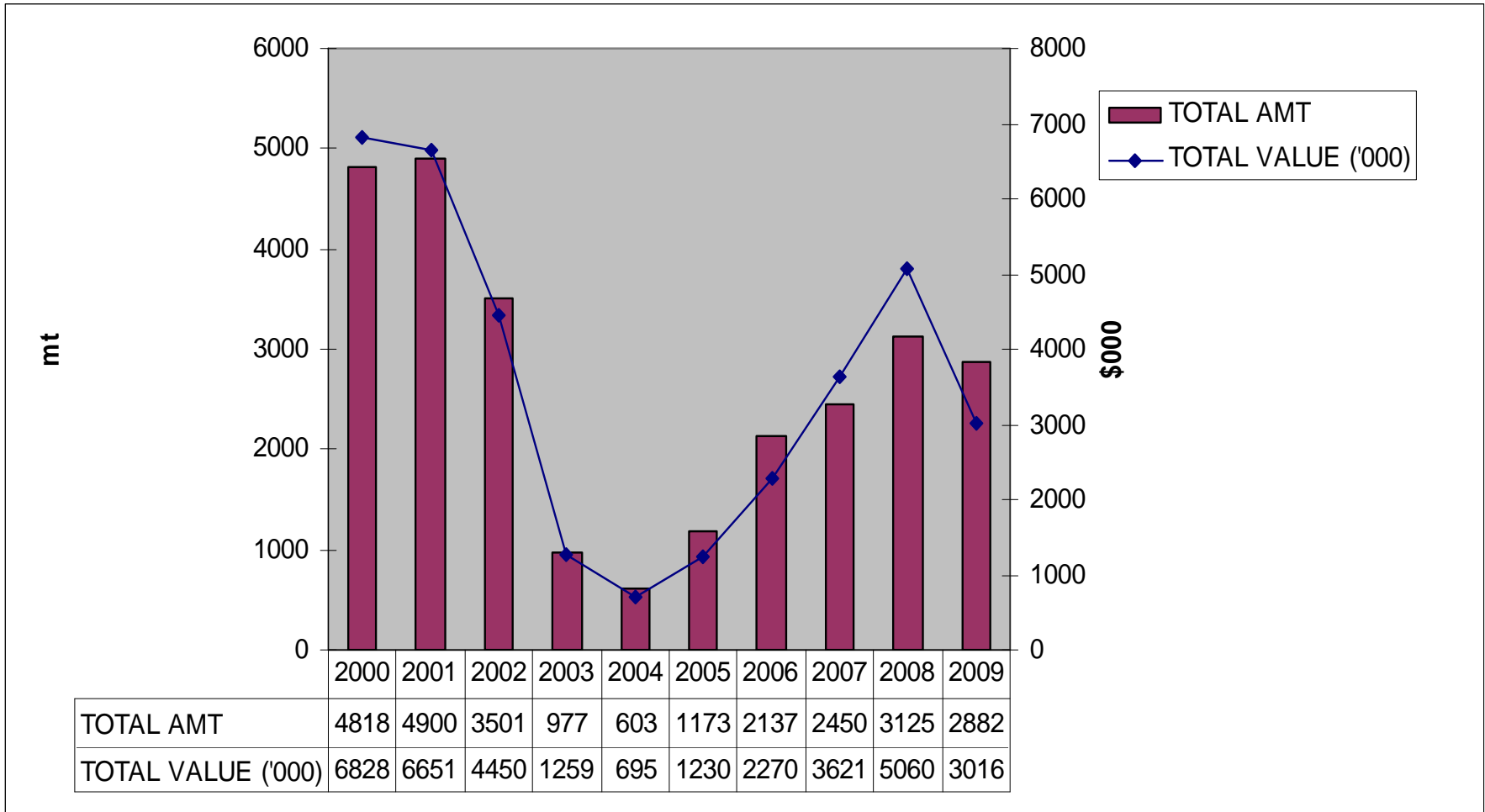


History of Landings and TACs – 2J+3KL Cod





2J3KL Cod - Value





Stewardship Fishery

- NAFO Divisions 2J3KL
- IQ Fishery
- Bay-by-bay fishery
- Inside 12 miles
- Restricted to boats <45' LOA
- 2009: Harvesters provided option of 2 week season in summer or 4 weeks in fall
 - voted for a fall fishery in all areas



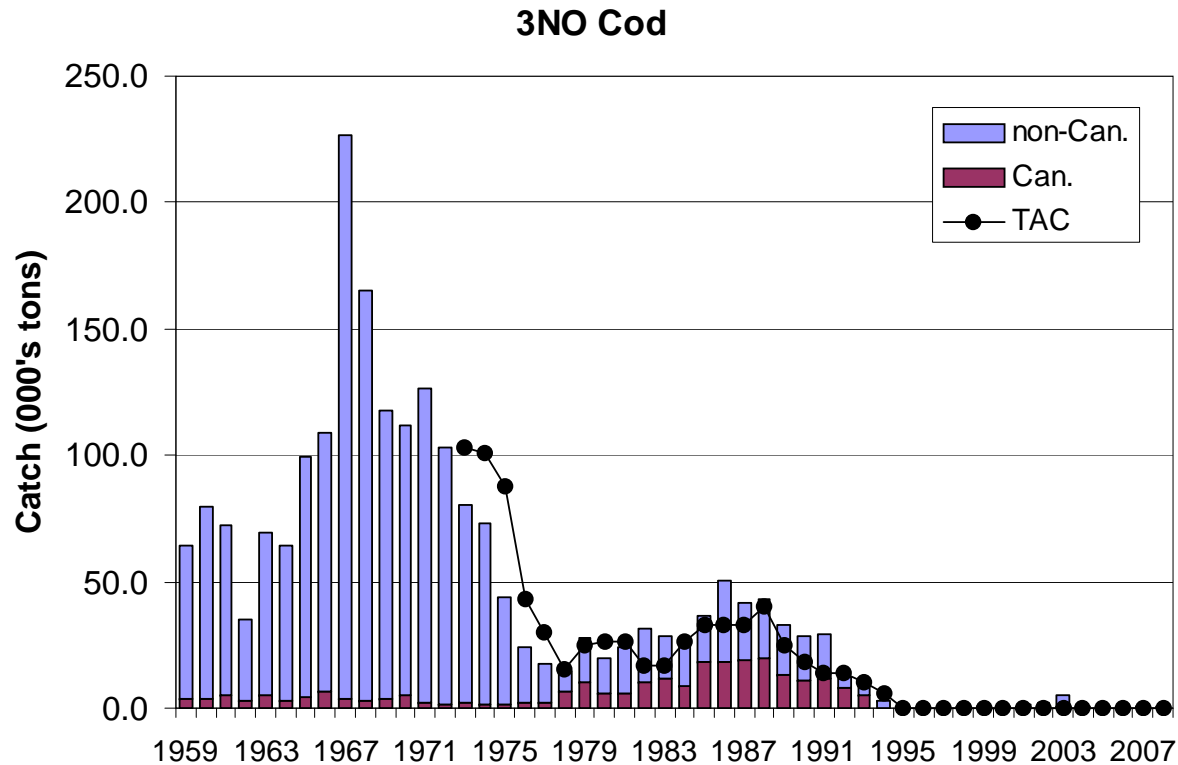
Management Regime – Process/ Structure

- CHP negotiated with industry before season, followed by enhanced post-season consultative process to obtain stewardship feedback.
- The fishery is managed through licence conditions, seasons and other measures outlined in the CHP.
- 2009 IQ = 3,750lbs (1,700kgs) (rd)
- All landings subject to DMP
- Fishing Gear
 - 6 nets (5 ½" - 6 ½") or 2000 hooks
 - handlines – max of 6 hooks, single baited or feather (no jiggers)



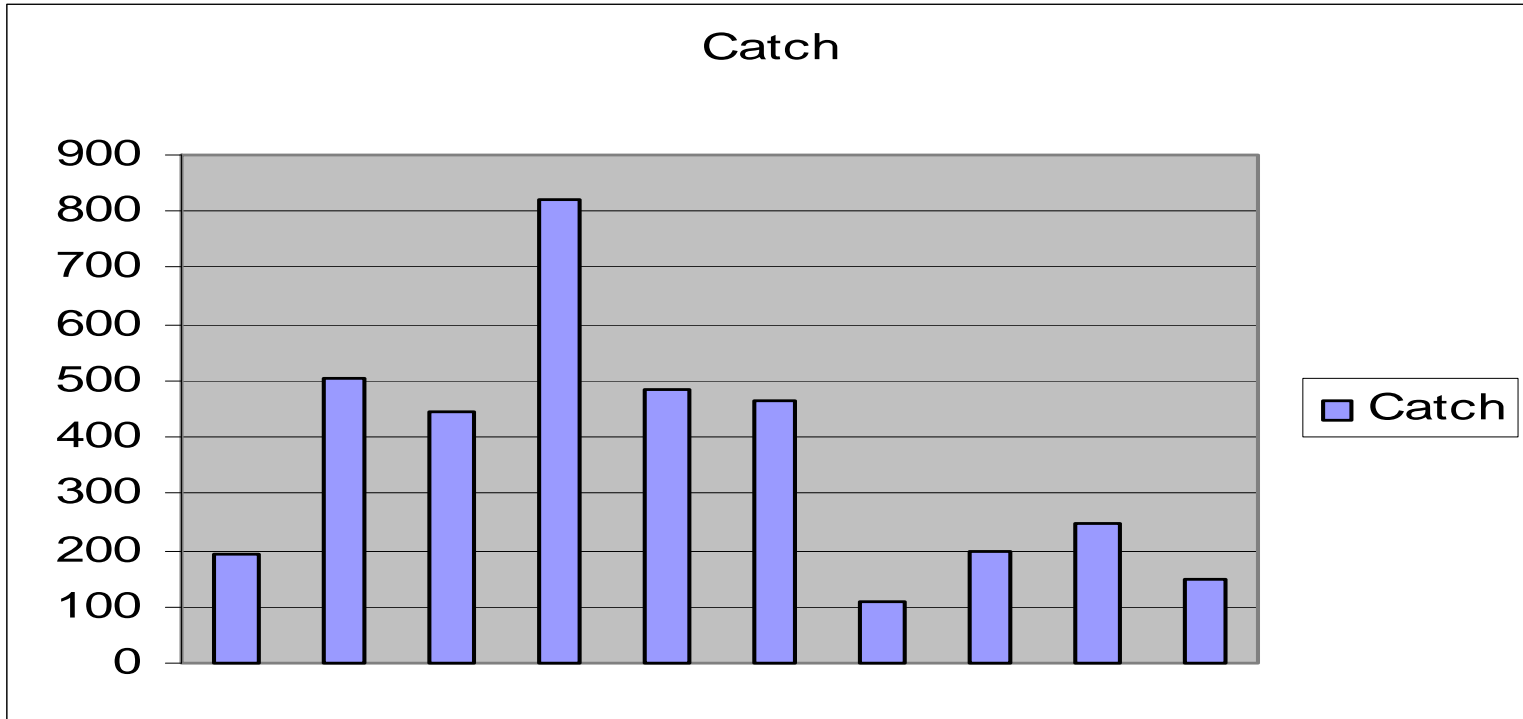


History of Landings and TACs – 3NO Cod





3NO - Landings



Year	00	01	02	03	04	05	06	07	08	09
Catch	191	506	447	821	484	465	109	200	249	147





- Canada's share of moratorium stock under NAFO is 47.8%
- 94% of Offshore Canadian quota held by two companies
- 6 companies hold the remaining 6%

Prior to closure the Canadian allocation was divided as follows:

Fleet Sector	% Share
FG <65"	4.2
FG 65-100	8.4
FG >100	2.3
MG 65-99	1.5
Offshore	83.6





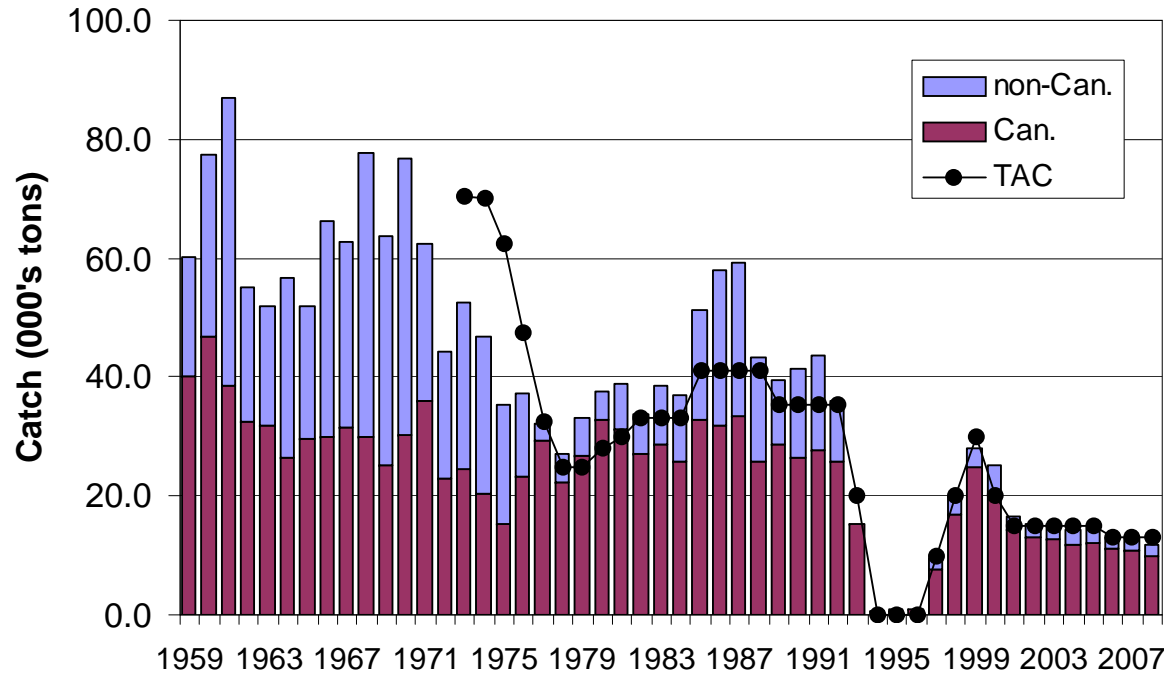
- The 3NO cod stock has been under moratorium since 1994.
- Taken as by-catch in most groundfish fisheries.
- The 3LNO yellowtail fishery takes the highest volume.
- By-catch was limited to 5% in all fisheries
- Annual CAP's have been identified for all Canadian groundfish fisheries to reduce removals.
- Daily hails / VMS / At-sea observers / DMP





History of Landings and TACs – 3Ps Cod

3Ps cod





3Ps Cod -History

Quota Year	# Participating Enterprises	# Vessels < 65'	# Vessels > 65'	Landings (mt)	Landed Value \$000
2005	1,019	1,091	12	10,557	11,074
2006	981	1,042	9	10,757	12,992
2007	990	1,063	9	10,406	15,809
2008	927	1,005	9	10,295	15,372
2009	760	812	7	6,553	6,782
AVE	935	1003	9	9714	12,406





3Ps Cod - Structure

Canada managed stock

15.6 % share to France as per 1994 Agreement

- Directed Fishery since reopening in 1997
- IQ fishery
- Fixed and Mobile gear participants





3Ps Cod - Structure

TAC	11,500t
France	15.60%
Sentinel	1.33%
Cdn Quota	83.07%
FG <55	78.00%
MG <65	49.00%
MG <65	2.00%
>100	14.70%





3Ps Cod- Management Regime

- 3Ps Groundfish Advisory Committee process.
 - All fleets, processors, province involved.
 - Fleets negotiate CHP's individually with DFO. Since 1999 an IQ fishery for 3Ps based on size of enterprise EA shares for license holders >65 feet
- Seasons and closed areas are established on the basis of previous FRCC recommendations
- 3Ps(a) limited to resident fishers from Nov 15 to the end of season (mixing closure)
- 3Ps(d,e,g) closed Nov 15 to end of season (mixing closure)
- Spawning closure for all of 3Ps from March 1 to June 1





Challenges & Issues - Cod

In addition to Science-based concerns for all stocks:

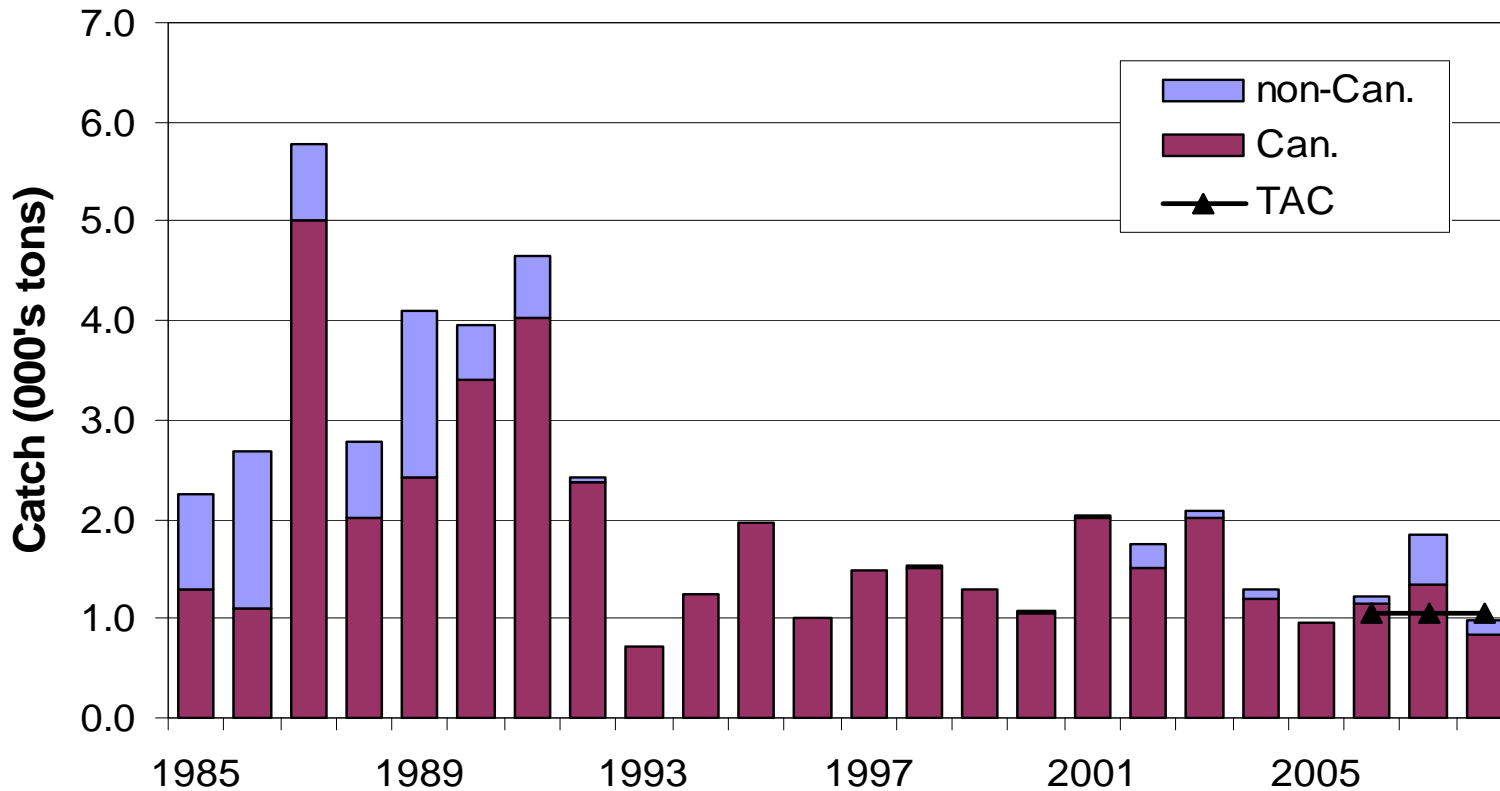
- 2J3KL
 - Managing expectations (industry and recreational)
 - Impacts on crab from increasing population
- 3NO
- Managing fleets to stay within caps
- 3Ps
 - Canada France relationship presents ongoing challenges
 - Maintaining efficacy of mixing and spawning closures





3Ps Skate – Landings and TAC

3Ps skate





Structure

- 3Ps skate TAC of 1,050t is held entirely by Canada:

FG <35'	24%
FG 35-65'	24%
FG >65'	10%
MG	43%



3Ps - Skate

Quota Year	Landings (mt)	Landed Value \$000	# Active Enterprises	# Active Vessels < 65'	# Active Vessels > 65'
2005	802	187	440	438	12
2006	867	250	444	455	5
2007	1,169	445	397	400	7
2008	722	267	340	353	6
2009	622	246	225	223	9
5 Yr. Ave	836	279	369	374	8



Management Regime

- 3Ps Groundfish Advisory Committee process includes skate.
 - All fleets, processors, province involved.
 - Fleets negotiate CHP's individually with DFO.
- All fleets fish skate competitively within their fleet sector
- Licence conditions, DMP, VMS>35', etc.





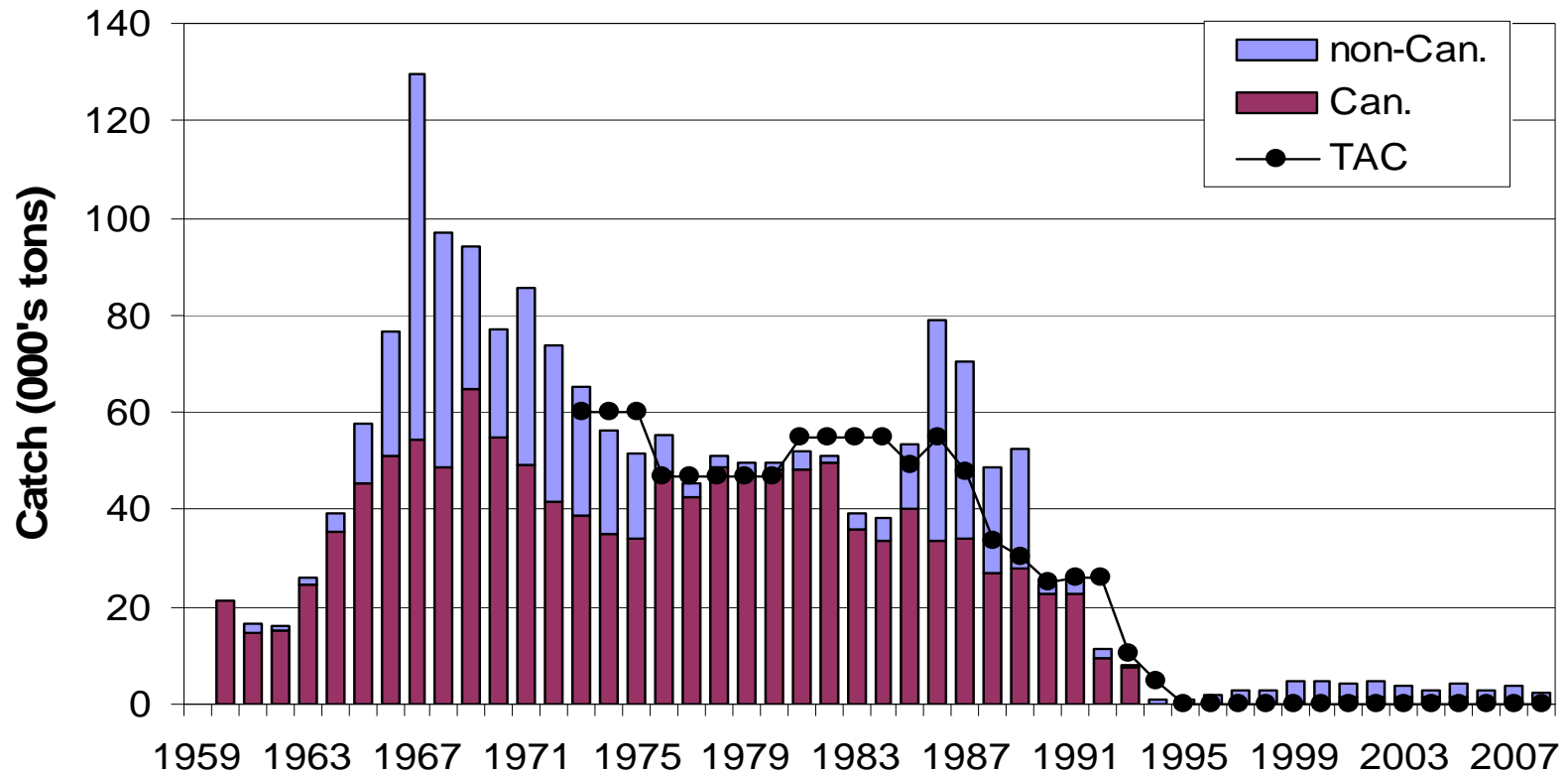
- 4 year average for skate by France = ~400t. This above and beyond established TAC.





3LNO American Plaice-Landings and TAC

3LNO American plaice





- Canada's share of 3LNO plaice TAC is 98.5%
- Prior to moratorium in 1994 it was divided as follows:
 - MG <65' 0.204%
 - FG <65' 9.006%
 - FG 65-100' 0.204%
 - MG 65-100' 0.611%
 - Offshore 89.975%
- 89.975% of Canadian plaice quota fished by mobile gear vessels >100'
- 91% of Offshore Canadian quota held by one company
- 5 companies hold the remaining 9%



- The 3LNO plaice stock is primarily taken as by-catch in the yellowtail fishery.
- By-catch limited to 5% until 2009 when it was increased to 13%. It is set at 15% for 2010.
- Daily hails/VMS/At sea observers/DMP

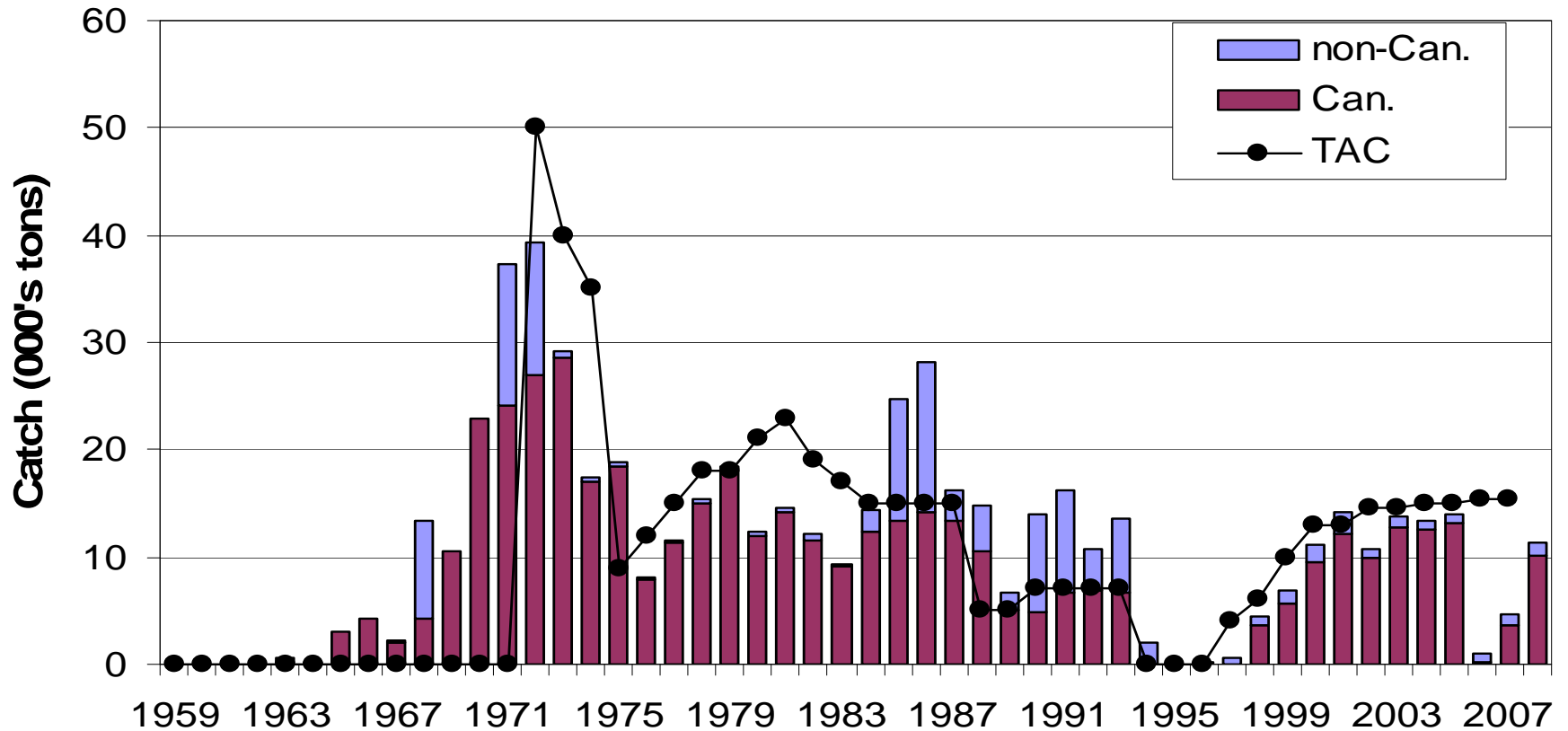


- 3LNO American Plaice
 - Keeping plaice by-catch in the yellowtail fishery within acceptable limits
 - Potential for increased 3NO Cod by catch
 - Managing expectations of this rebuilding stock



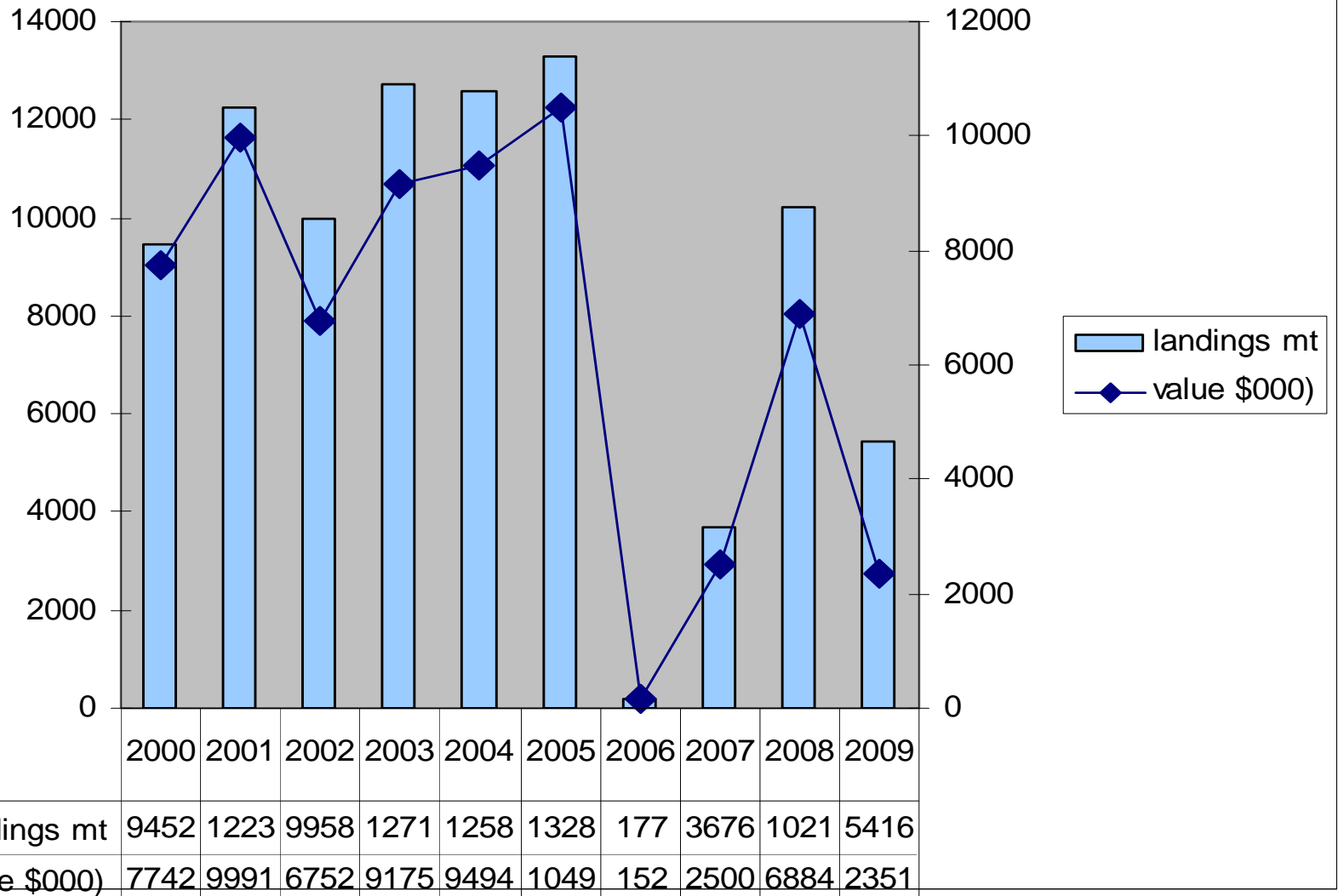


3LNO Yellowtail flounder





Yellowtail - History





- 3LNO yellowtail is a NAFO-managed Stock
- 97.5% = CDN share
- 100% of CDN quota fished by mobile gear vessels >100'
- 91% of CDN quota held by one company
- 5 companies hold the remaining 9%
- Open year round with the exception of a spawning closure from June 15 – July 31.





Economic Value

- The 2009 yellowtail fishery:
 - Effort down significantly
 - Total landings: 5400t
 - Down from 10,200t in 2008
 - Low activity due to limited markets in current economic environment
- Recorded landed value in 2009 of \$2.3M down from \$6.4M in 2008.
- Numbers do not reflect importance of fishery to community of Marystown.





- The yellowtail fishery is managed through licence conditions and a Conservation Harvesting Plan
- Quotas are assigned using an Enterprise Allocation regime with quota reconciliation in place to address inadvertent overruns
- Vessels are required to have a vessel monitoring system
- Daily hails are required
- 25% at sea observer coverage
- All landings subject to Dockside Monitoring
- Small fish protocol in place



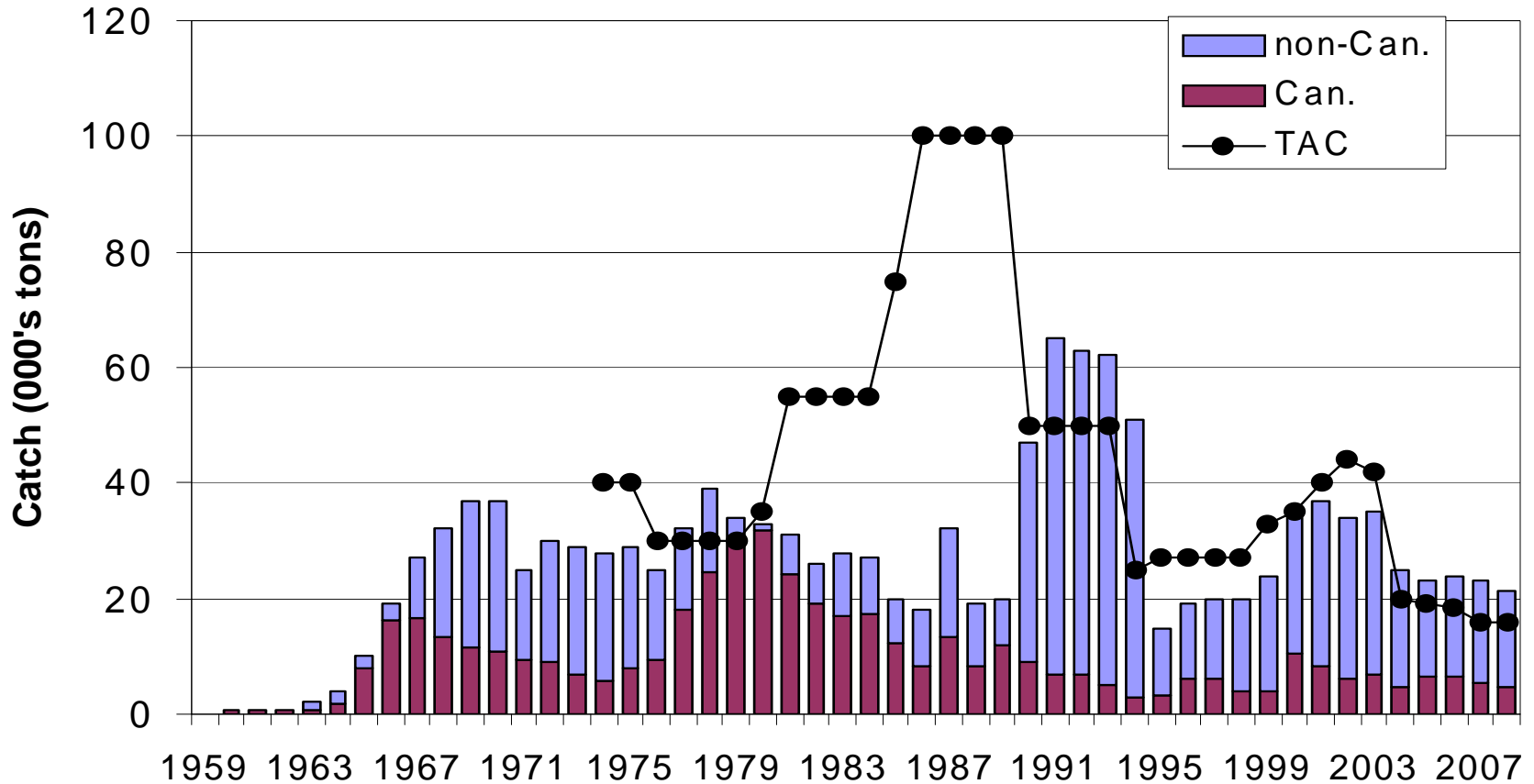
- With an increasing plaice stock the challenge is to keep by-catch in the yellowtail fishery within acceptable limits.
- Inter-relationship between plaice and yellowtail will become more important as plaice recovers.
 - Historically, plaice was predominant species (roughly 5/1 ratio), while currently the reverse is the case.





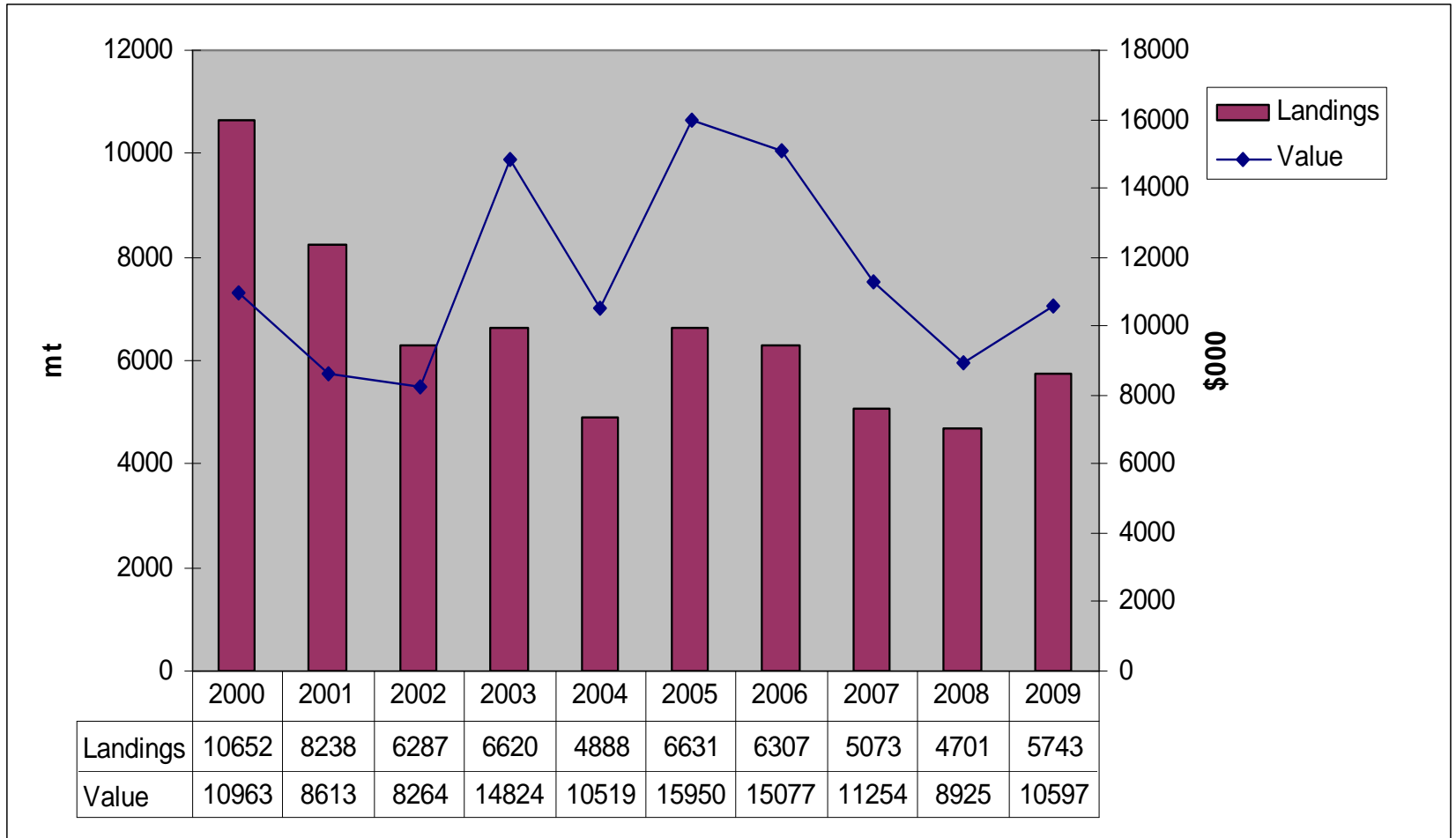
2+3KLMNO Turbot Landings and TAC

2+3KLMNO Turbot





2+3KLMNO Turbot Landings and Value





2+3KLMNO Turbot

Calendar Year	Landings (mt)	Landed Value \$000	# Participating Enterprises	Number of Vessels < 65'	Number of Vessels > 65'
2005	6,695	15,906	145	125	27
2006	6,391	15,077	221	212	11
2007	5,121	11,253	188	177	9
2008	4,732	8,907	113	105	8
2009	5,760	10,584	121	109	8
5 Yr Ave	5739	12,345	157.6	145.6	12.6



- NAFO turbot TAC of 16,000t is distributed between:
 - 2+3K = 25.9 % = 4,144t of which Canada has 97%
 - 3LMNO = 74.1% = 11,856t of which Canada has 15%
- Canada's overall share of 2+3KLMNO turbot is 36.2%:
 - MG <65' 1.8%
 - FG <65' 55.6%
 - FG 65-100' 5.5%
 - MG 65-100' 0.2%
 - Offshore >100 37.0%



- Turbot Advisory Committee process
 - All fleets, processors, province involved.
 - In <65' fleet sector separate working groups in 2+3K and 3LMNO to deal with Conservation Harvesting Plan development.
- EA's in >65' fleets
- <65' fleets fish competitively
- Licence conditions, CHP's





- 2+3KLMNO Turbot
 - Establishing seasons in 2+3K
 - By-catch of cod – especially in inshore areas of 3L
 - Limiting Snow Crab by-catch
 - Quota management in a competitive fishery with the amount of gear permitted.



Sustainable Fisheries Framework

	PA Framework	Sensitive Benthic Areas Policy	Forage Species Policy	By-catch Policy	Checklist	IFMP
2GH Cod						
2J3KL Cod					2009	
3NO Cod						
3Ps Cod					2009	2009-2010



Sustainable Fisheries Framework

	PA Framework	Sensitive Benthic Areas Policy	Forage Species Policy	By-catch Policy	Checklist	IFMP
3LNO Yellowtail					2009	2010-2011
3LNO American Plaice						
2+3KLMNO Greenland Halibut					2009	
3Ps Skate						



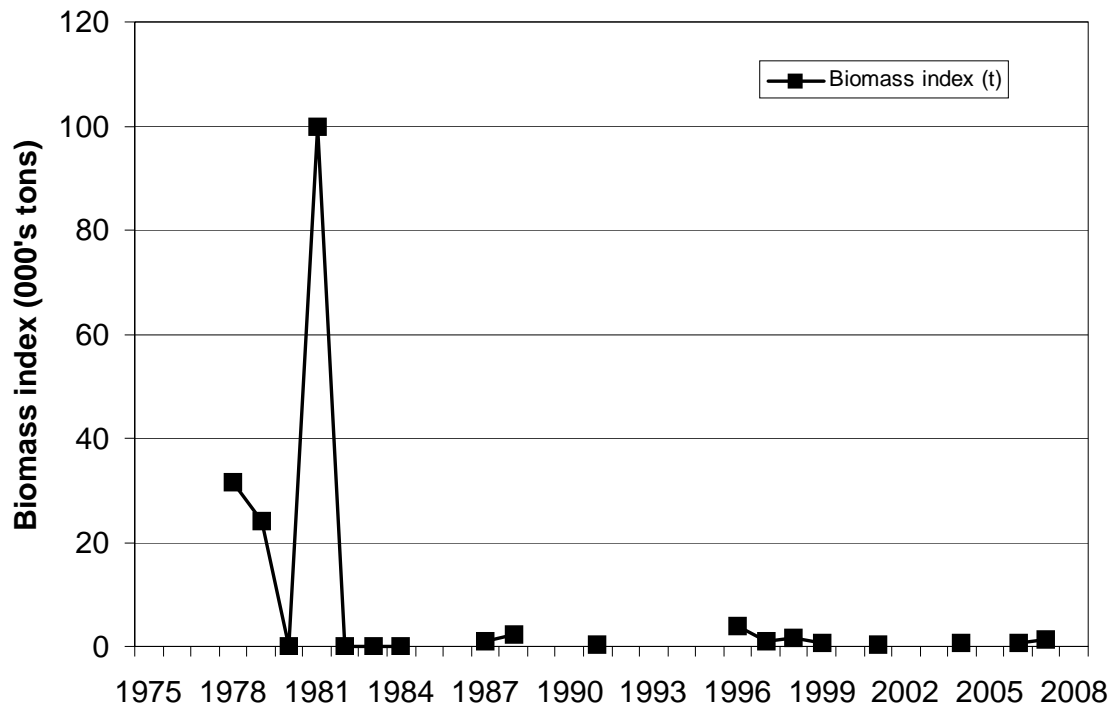
Challenges !! ???





Science Overview – Status of 2GH Cod

2GH cod Biomass index

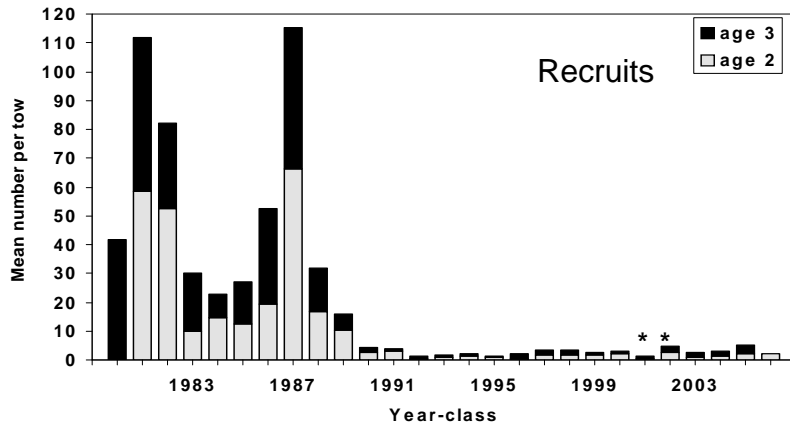
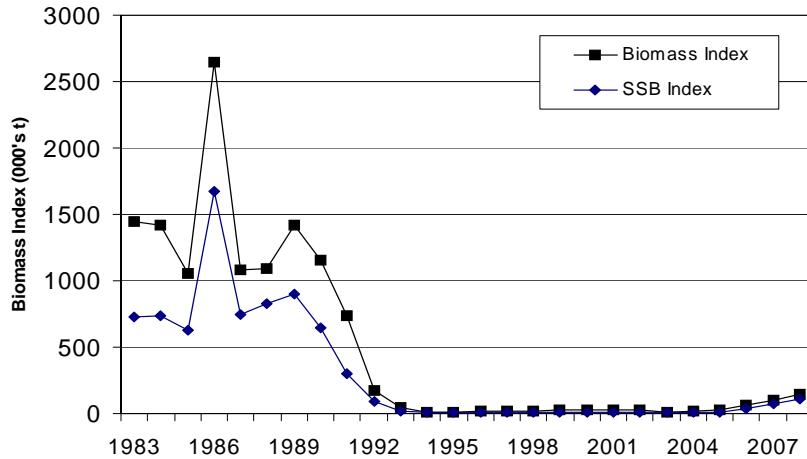


- Northern limit of commercial exploitation.
- Data sparse, surveyed intermittently, inconsistent coverage, esp recently.
- Survey biomass index low since 1970s.
- no sign of recovery.



Science Overview – Status of 2J+3KL Cod (offshore)

2J3KL cod Biomass index and SSB index

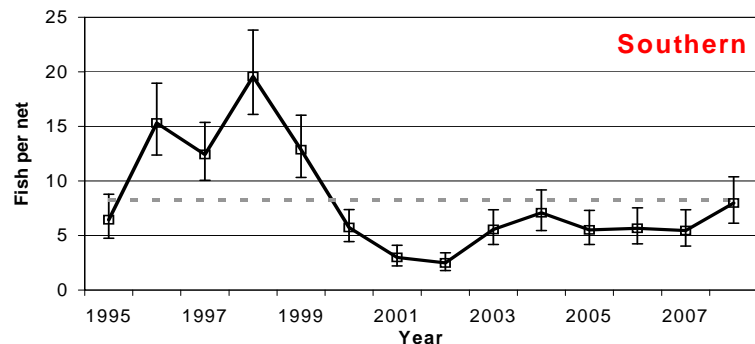
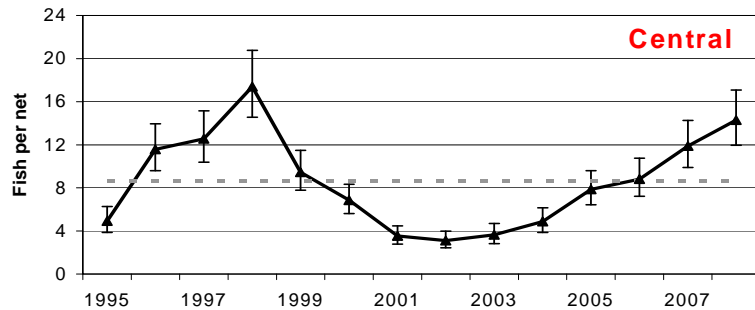
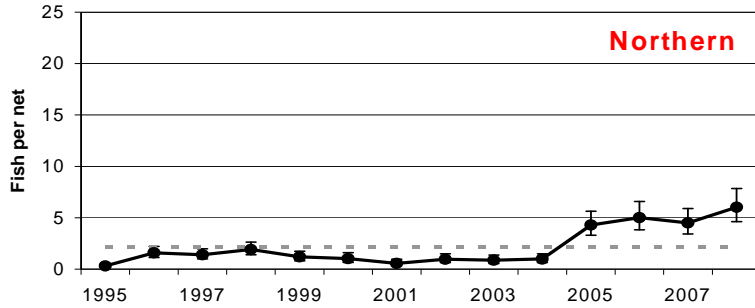


- Survey biomass and SSB remained low after moratorium. Stock in critical zone – well below any reasonable limit reference point.
- Total mortality rate high (60% yr) after early 1990s – few survive to age 6.
- Recent improvement in biomass index and SSB index from <2% to 8% of 1980s values. Age structure expanding.
- Improvement spatially restricted (3KL border).
- Mostly due to improved survival, not recruitment.



Science Overview –

Status of 2J+3KL Cod (inshore, 1995-)

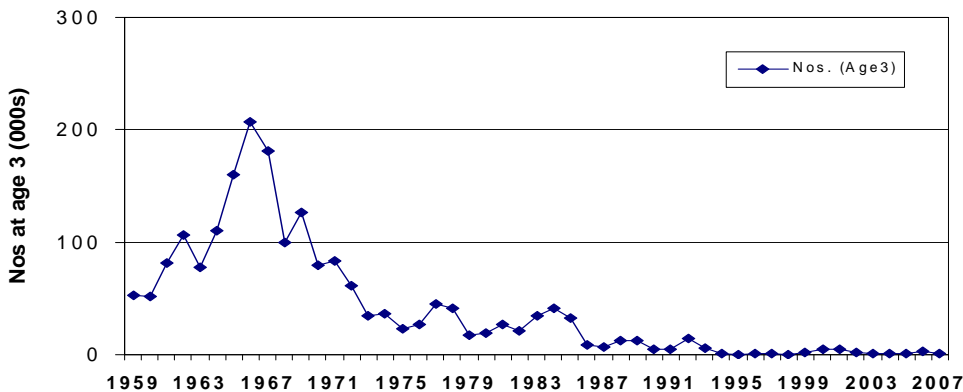
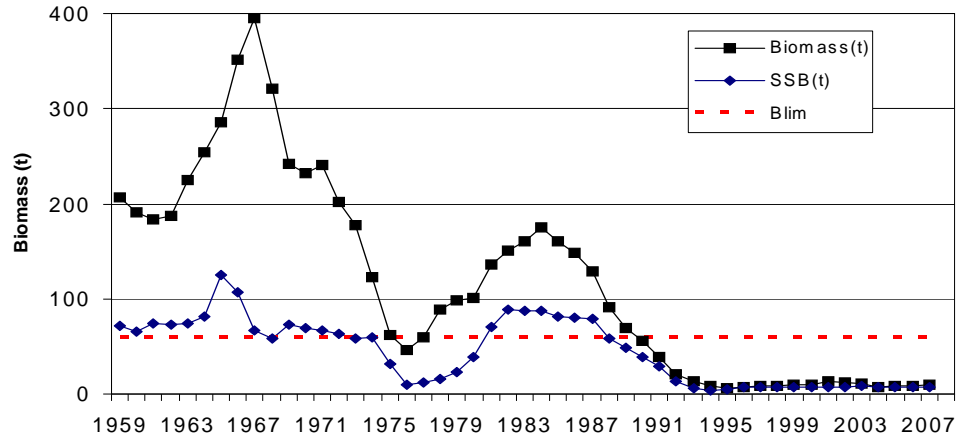


- Sentinel fishery catch rate trends – 3 regions
- Declined rapidly '98-'02 when inshore fishery opened. Offshore showed no improvement.
- Fishery exploited small coastal sub-stocks.
- Catch rates stable or improving in spite of inshore fishery reopening (2006-2009).
- Offshore stock improving adjacent to central area, migrating inshore, and mixing with coastal components. High catch rates in central area.
- Southern area influenced by offshore 3KL and by migrant cod from 3Ps where stock is declining.



Science Overview - Status of 3NO Cod

3NO cod biomass and SSB (VPA)

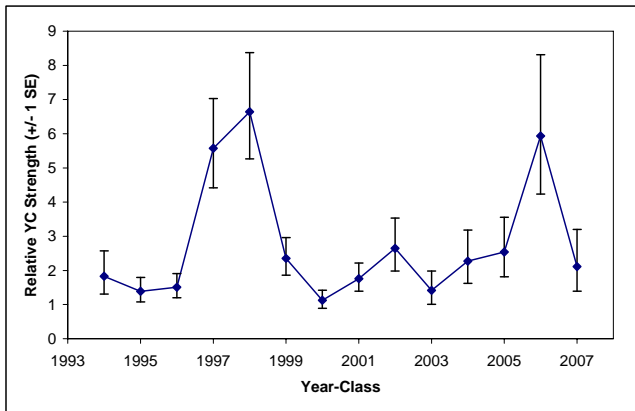
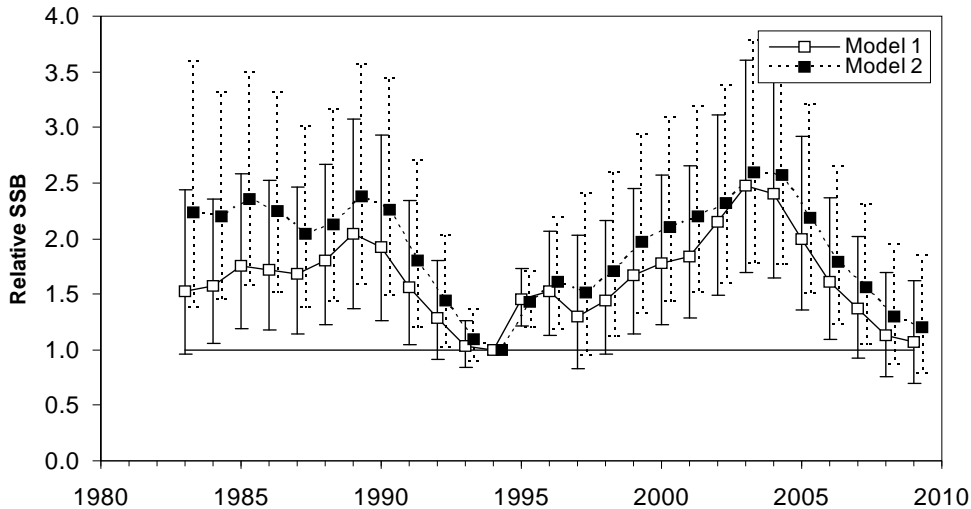


- Stock declined in mid-1980s
- Currently at low level (below B_{lim})
- Under moratorium, but by-catch impeding recovery.
- No indication of increased level of natural mortality.
- Medium term prospects poor
- Recent survey catches give a hint of improved recruitment (but not in VPA yet).



Science Overview - Status of 3Ps Cod

3Ps cod - SSB relative to 1993 level

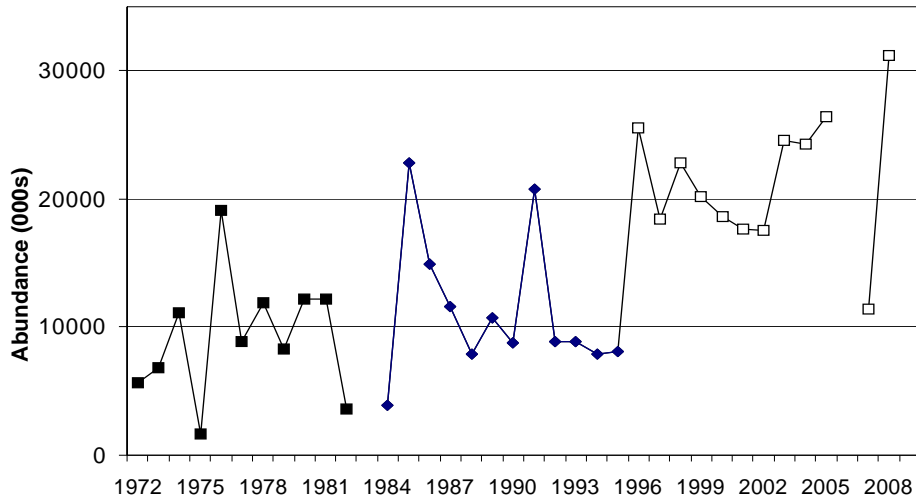


- Unlike other cod stocks, 3Ps rebuilt during moratorium.
- Two strong year classes (1997 and 1998) resulted in SSB increasing in early 2000's.
- No indication of increased level of natural mortality.
- Several weak year classes now supporting fishery, stock declining.
- SSB slightly above B_{rec} (1993 level) but declining.
- Stronger 2006 year class coming.



Science Overview - Status of 3Ps Skate

3Ps skate (Survey abundance)

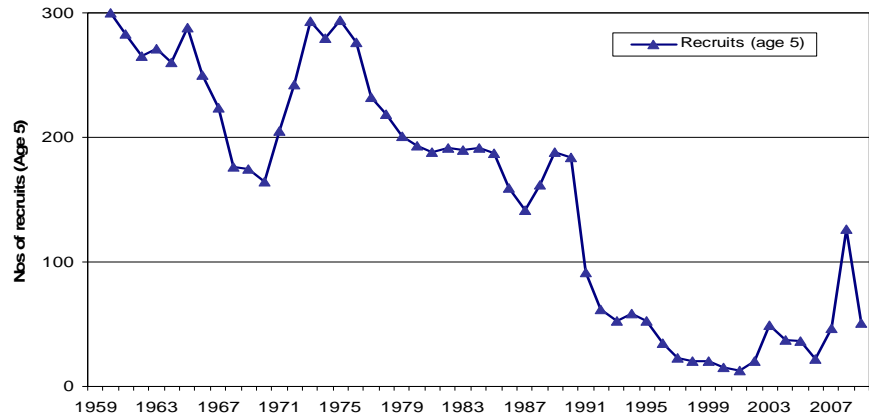
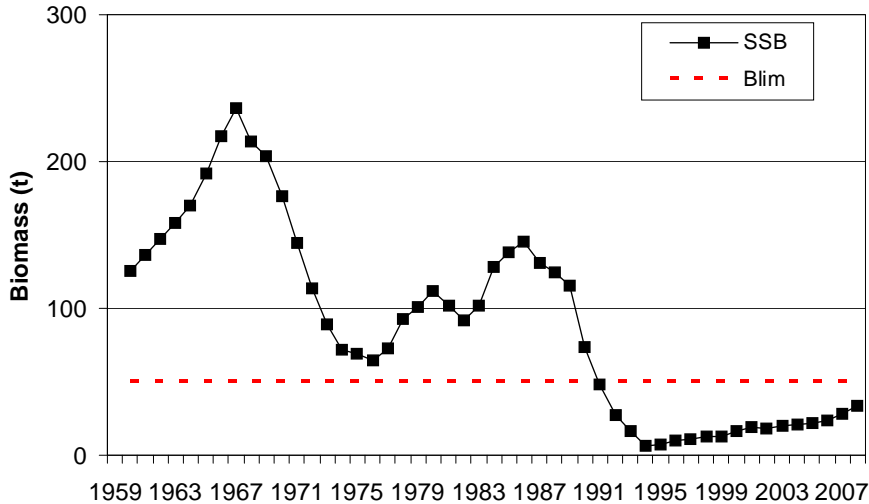


- Abundance index from spring survey - gear has changed 3 times – creates impression of increasing trend.
- Skate discarded by Can. vessels prior to 1980s.
- Survey biomass averages around 21,000 t past 2 yrs.
- TAC in 3Ps at 1,050 t during 2005-2007.



Science Overview - Status of 3LNO American plaice

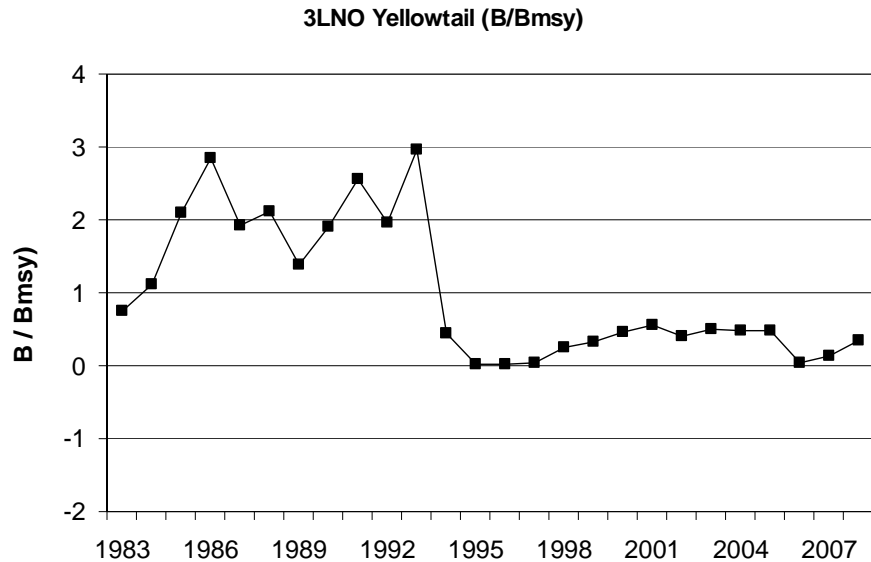
3LNO American plaice - SSB from VPA



- Biomass and SSB low, but increasing gradually since mid-1990s.
- Under moratorium, but significant by-catch in YT fishery slowed recovery.
- Currently in critical zone, but approaching B_{lim} (50,000 t).
- Recruitment also improving, esp 2003 yr class.



Science Overview - Status of 3LNO Yellowtail

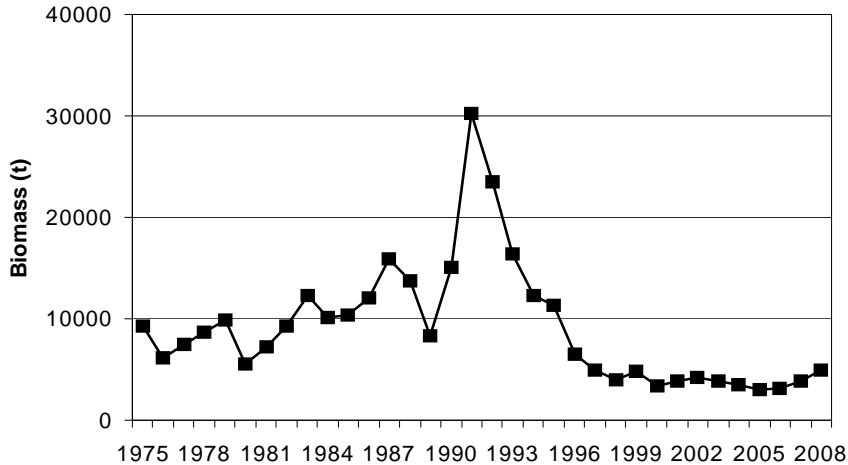


- Improved since moratorium and surpassed B_{msy} in 1999.
- Currently in safe zone under PA at 1.6 times B_{msy} .
- Recent recruitment slightly below average.
- catches below TAC in recent years due to internal problems within industry.



Science Overview - Status of 2+3KLMNO Turbot

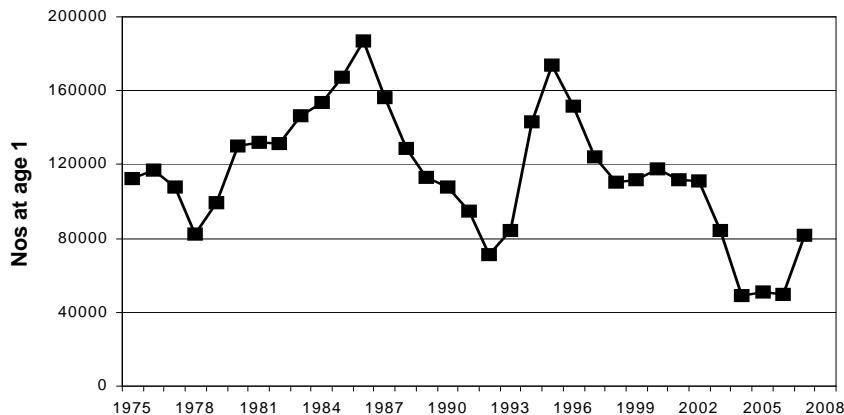
2+3KLMNO Turbot - Biomass (XSA)



- Uncertain assessment – most recent one based on projection (survey in 2008 not completed).

- Exploitable biomass declining 2004-2008 estimates are among lowest.

2+3KLMNO Turbot - recruitment



- Recent recruitment estimates also low and fishing mortality high.

- Poor prospects for stock rebuilding