

ICCAT 101

# ICCAT 101 - Course Content

- What is ICCAT?
- U.S. representation & implementation
- Major species
  - Biology
  - Stock status
  - Management measures

# What is ICCAT?

- International Commission for the Conservation of Atlantic Tunas
- Established 1969
- Regional fisheries management organization (RFMO)
- Other tuna RFMOs: IATTC, WCPFC, IOTC, & CCSBT

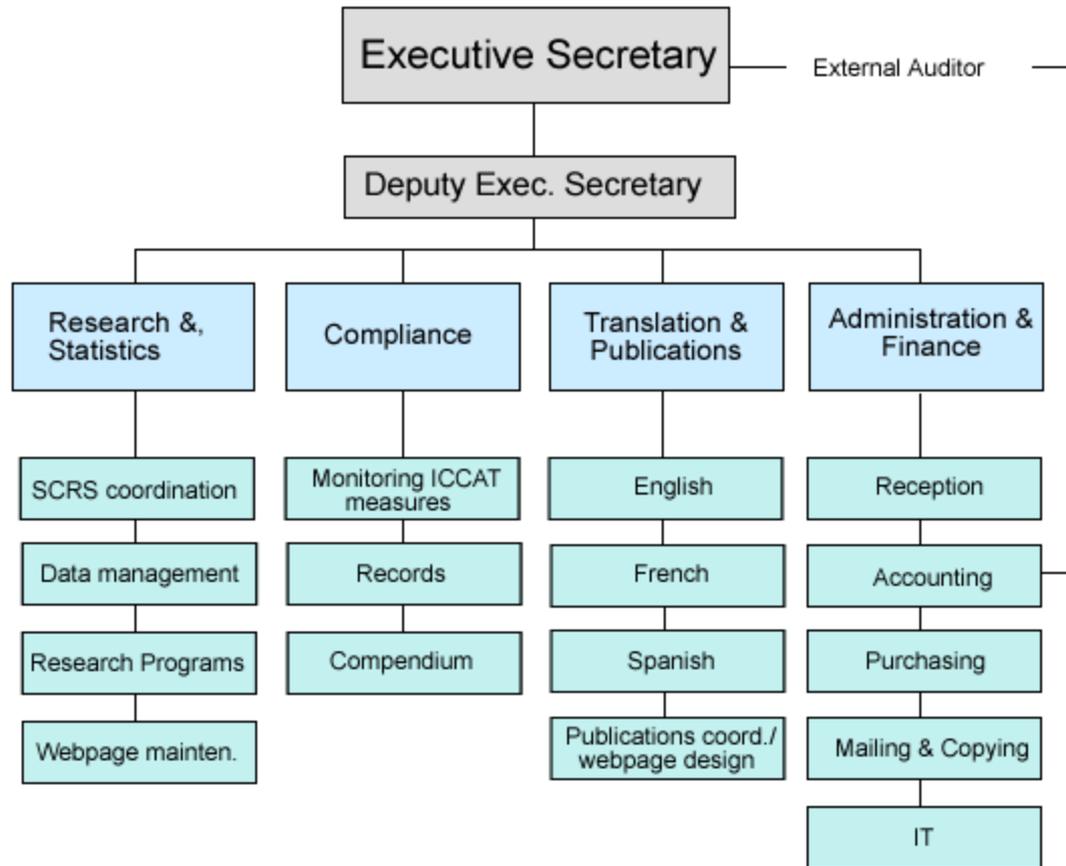
# ICCAT - The Convention

- *Member Nations:* 50 (includes EU)
- *Convention Area:* Atlantic Ocean and adjacent seas
- *Convention Resources:* Tunas and tuna-like species
- *Function:*
  - Collection and analysis of statistical information
  - Joint planning of research, evaluation of results
  - Joint formulation of management recommendations

# The Commission

- Standing Committee for Research and Statistics (SCRS)
- Standing Committee for Finance and Administration (STACFAD)
- Species Panels 1 - 4
- Conservation and Management Measures Compliance Committee (COC)
- Permanent Working Group for the Improvement of ICCAT Statistics and Conservation Measures (PWG)
- Standing Working Group Dedicated to the Dialogue btw Fisheries Scientists and Managers

# ICCAT Secretariat



# The Panels

- Panel 1: tropical tunas (bigeye, yellowfin and skipjack)
- Panel 2: northern temperate tunas (W & E bluefin tuna and N. albacore)
- Panel 3: southern temperate tunas (S. bluefin [CCSBT] and S. albacore)
- Panel 4: other species (N. & S. swordfish, blue marlin, white marlin, sailfish, spearfish, sharks, small tunas, seabirds, and turtles)

# Chairpersons\*

- Commission - Stefaan Depypere (EU)
- SCRS - Dr. David Die (USA)
- STACFAD - Ms. Sylvie Lapointe (Canada)
- Compliance - Mr. Derek Campbell (USA)
- PWG - Mr. Taoufik El Ktiri (Morocco)
- Panel 1 - Cote d'Ivoire
- Panel 2 - Japan
- Panel 3 - South Africa
- Panel 4 - Brazil

\*Elections in odd years (at regular meetings);  
SCRS Chair was elected in 2014

# The Commission (continued)

- Membership
  - Contracting parties
- Other Participants
  - Cooperating non-contracting parties
  - Non-contracting parties
  - Observers, including NGOs and IGOs
- Regular vs. special meetings
- Intersessional meetings
- Recommendations vs.  
Resolutions/Other decisions

# The United States and ICCAT

- Implementing legislation = Atlantic Tunas Convention Act (ATCA)
- NOAA's National Marine Fisheries Service is responsible for implementing ICCAT management measures

# U.S. Representation at ICCAT (Atlantic Tunas Convention Act)

- U.S. Commissioners (Presidential appointments--3 year terms)
  - Federal: Russell Smith
  - Commercial: Geño Piñeiro-Soler
  - Recreational: Ellen Peel (through May 2015)
- U.S. ICCAT Advisory Committee
  - 20 members (appointed by Commissioners for 2 year terms, represent constituencies)
  - 1 member from each of the five Fishery Management Councils in the Convention Area
  - Up to 4 Technical Advisors per Species Working Group appointed by the Commissioners

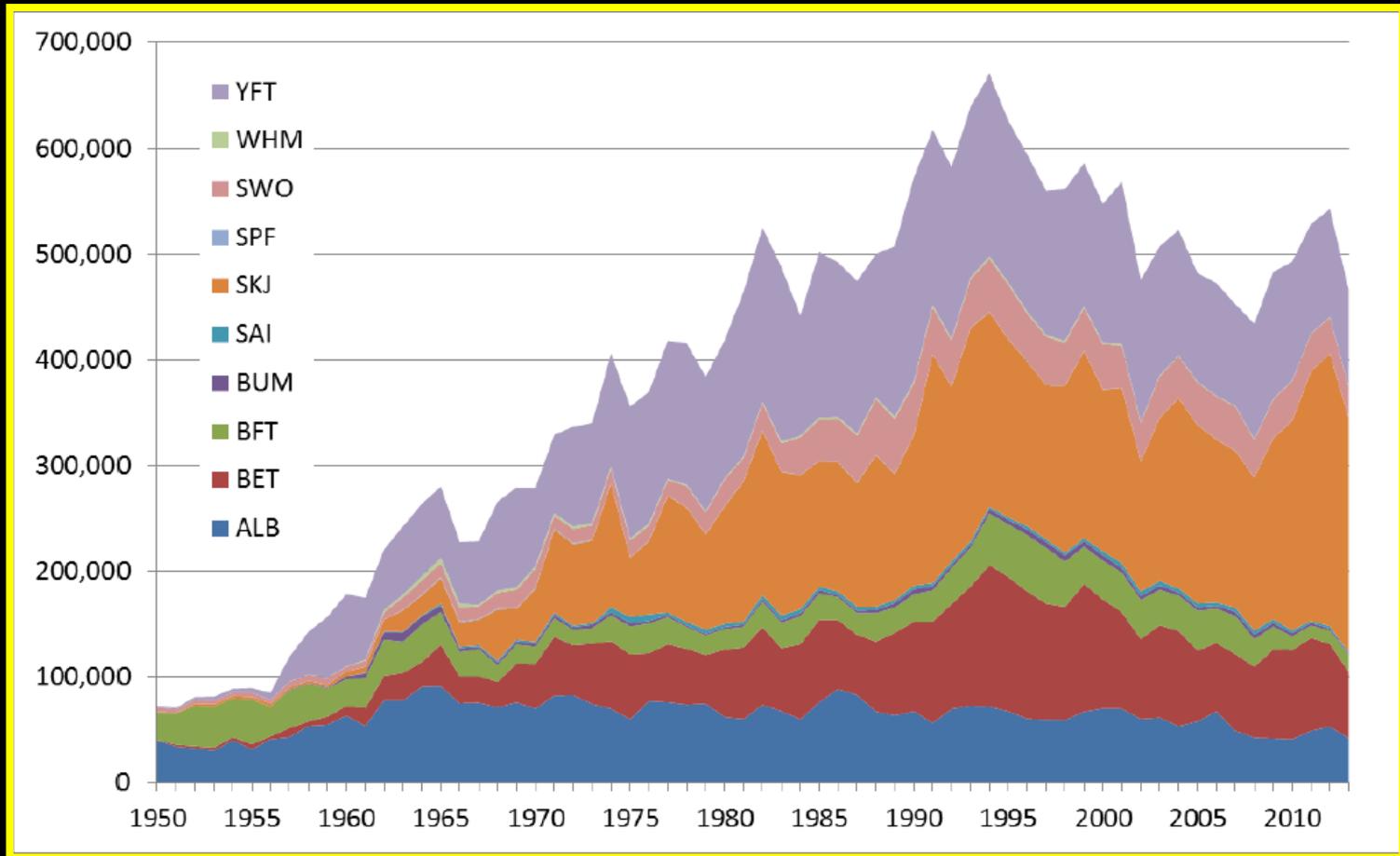
# U.S. ICCAT Advisory Committee

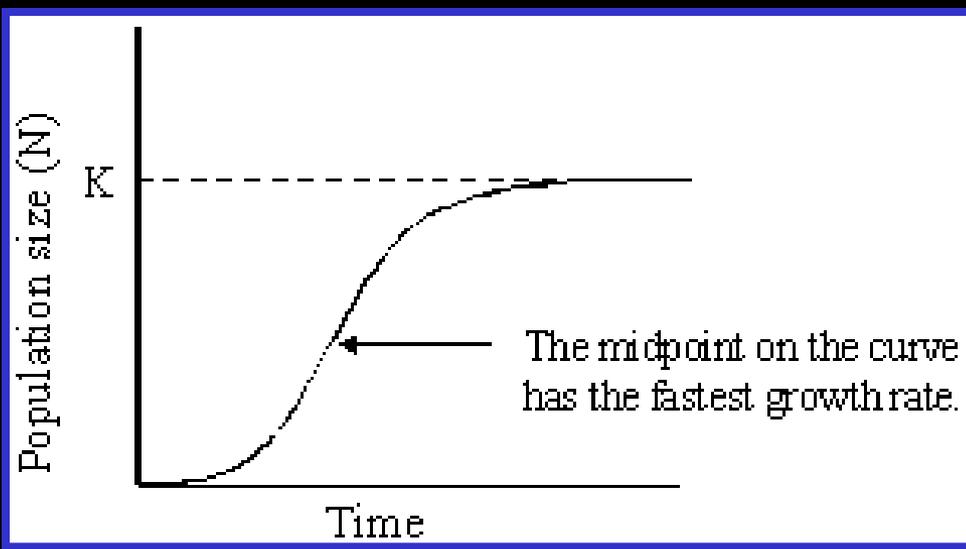
- Spring Species Working Group Meeting (w/ Technical Advisors)
- Fall Advisory Committee Meeting(s)
- Special ad hoc Workshops/Meetings
- ICCAT Commission Meeting/Intersessionals
- Relationship to NMFS Highly Migratory Species Advisory Panel

# Major Species/Fisheries

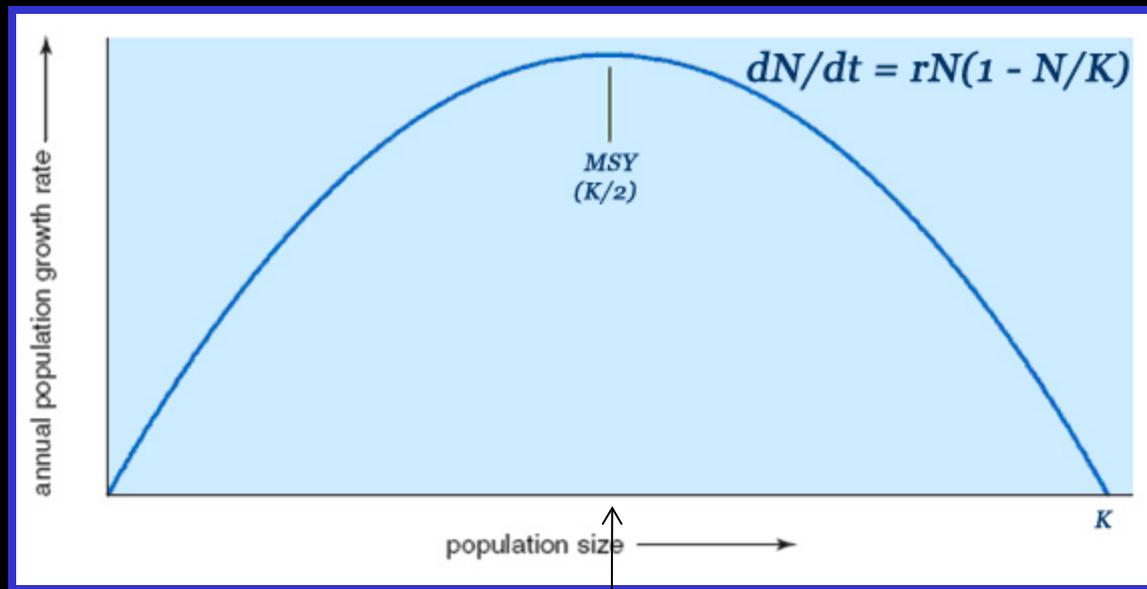


# Historical Catch by Species





## Maximum Sustainable Yield (MSY)



$B_{MSY}$

$F/F_{MSY}$

1.0



1.0

$B/B_{MSY}$

Overfished:  $B/B_{MSY} < 1.0$

Overfishing:  $F/F_{MSY} > 1.0$

# Panel 1: Tropical Tunas

Yellowfin tuna, bigeye tuna, and  
skipjack

# Yellowfin Tuna



# Yellowfin Tuna Biology

- Atlantic-wide stock
- Relatively rapid growth
- Mature 2 - 3 years
- Spawning throughout tropical Atlantic, concentrated in Gulf of Guinea
- Trans-Atlantic movements

# Yellowfin Tuna Fisheries

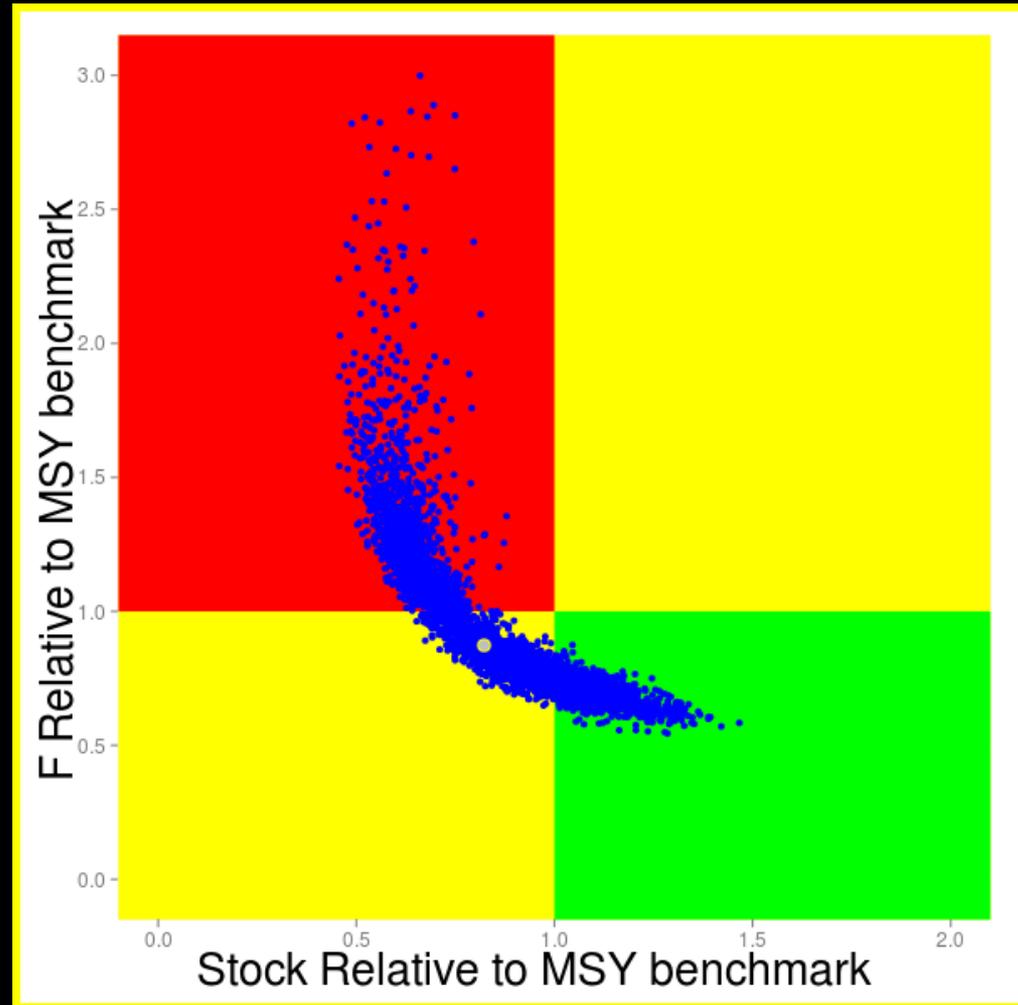
- Juveniles taken in surface fisheries
  - Purse seine
  - Bait boat
  - Association with fish aggregating devices (FADs)
- Adults taken in longline fishery

# Yellowfin Tuna Stock Status (2011 Assessment)

- MSY: 144,600 mt
- Current yield:
  - 92,615 mt ('13)
- $B_{2010}/B_{MSY}$ : 0.85



# 2011 Yellowfin Stock Assessment



# Yellowfin Tuna Management Measures

- Yellowfin TAC set at 110K mt/year; if exceeded, Commission will review
- Under Rec. 11-01, many BET measures also apply to YFT (mixed fishery)
- Time/area closure on FAD fishing in the Gulf of Guinea

# U.S. Yellowfin Tuna Fisheries

- Mainly longline fishery (Gulf of Mexico) and recreational catch; (recreational catch can be 50% of total U.S. YFT catch)
- 2011 catch = 3010 mt
- 2012 catch = 4100 mt
- 2013 catch = 2332 mt

# Bigeye Tuna

- Atlantic-wide stock
- Deeper distribution than YFT
- Relatively rapid growth (>100 cm lower jaw fork length (LJFL) by age 3, live > 7 years)
- Mature about 3.5 years

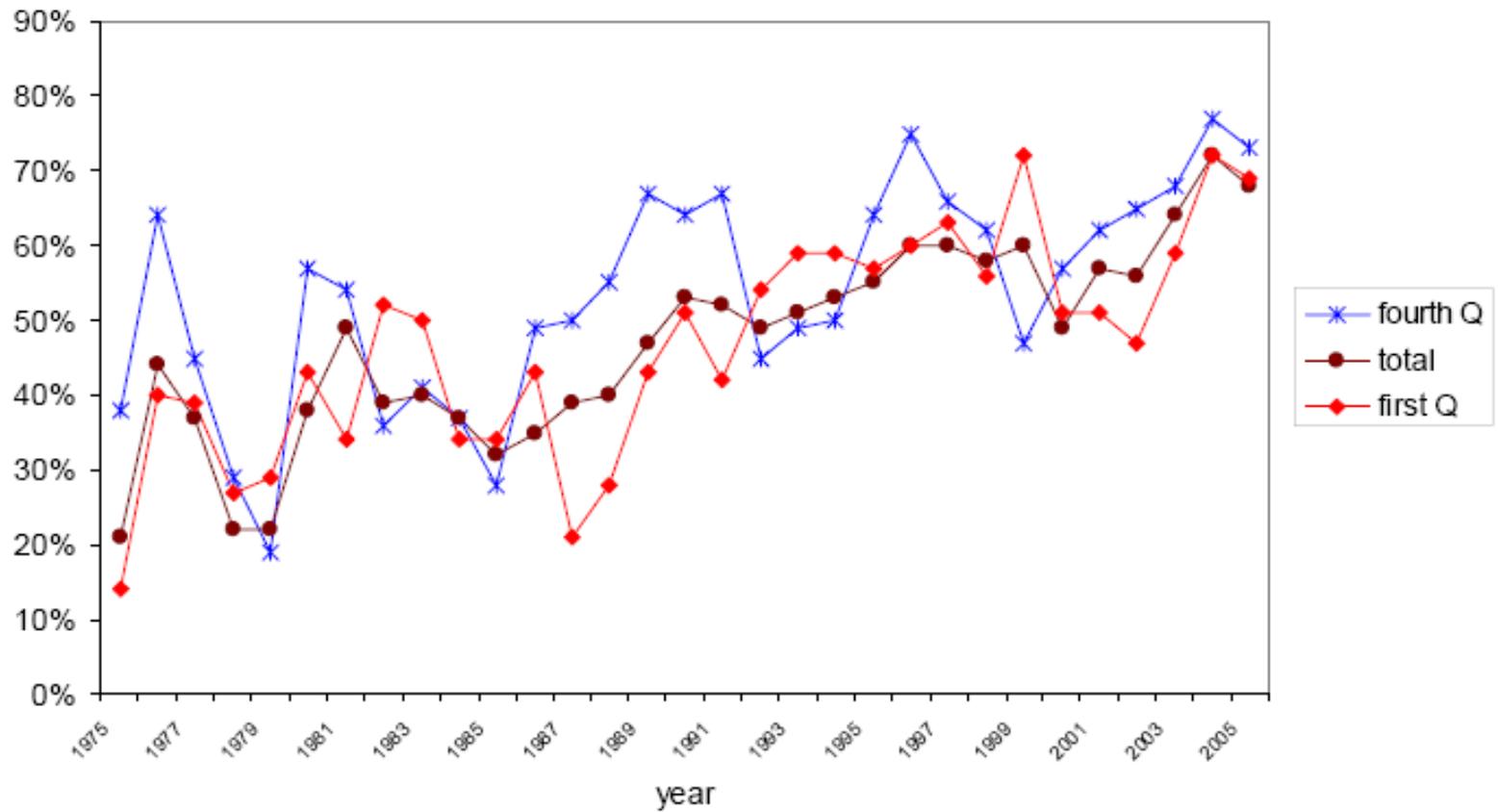
- Gulf of Guinea is a major spawning area
- Fisheries similar to YFT (deeper longline sets)
- 60 - 70% of bigeye caught are less than 3.2 kg (bycatch in skipjack fishery)

# Bigeye Tuna Stock Status (2010 Assessment)

- MSY: ~92,000 mt
- Current yield  
- 63,066 mt ('13)
- $B_{2009}/B_{MSY}$ : 1.01
- New assessment in July 2015



% of BET less 3.2 Kg.



# Bigeye Tuna Management Measures

- TAC set at 85,000 mt
- Catch limits for major players
- Minor harvesters: developed states to maintain < 2100 mt; developing states to maintain < 3500 mt
- Some parties have limits on # of vessels
- Time/area closure on FAD fishing in the Gulf of Guinea

# U.S. Bigeye Fisheries

- Mainly longline with some recreational catch
- 2011 catch = 722 mt
- 2012 catch = 867 mt
- 2013 catch = 880 mt

# Skipjack



- Short-lived
- Reproduces early (and often)
- Western & eastern Atlantic mgmt units
- Surface fishery (purse seine, bait boat), often associated with FADs
- Total Atl. landings in 2013 = 249,845 mt of which 27,086 mt were from the western Atlantic
- Minor U.S. fishery - 2013 catch = 75 mt

# Temperate Tunas

Bluefin tuna and albacore

Panel 2: bluefin and northern albacore

Panel 3: southern albacore

# Bluefin Tuna



# Atlantic Bluefin Tuna Biology

- Occur throughout N. Atlantic, changes in distribution over time
- Can tolerate cold waters
- Two management units: W & E/Med
- Spawning in Gulf of Mexico and Mediterranean Sea
- Movement of tagged fish across Atlantic
- Relatively late age of maturity (which differs depending on stock); can live more than 20 years

# Bluefin Tuna Fisheries

- Surface fisheries
  - Purse seine
  - Bait boat
  - Harpoon
- Longline fishery
- Trap fishery
- Caging operations
- Recreational/Sport
- Research



# Bluefin Tuna Stock Status (2014 Assessment)

|                        | <u>West</u>                 | <u>East/Med</u>                                     |
|------------------------|-----------------------------|---|
| • MSY:                 | 3,050 (low)<br>5,316 (high) | 23,256 (low)<br>55,860 (high)                       |
| • 2013 Yield:          | 1,484 mt                    | 13,333 mt   |
| • $B_{2013}/B_{msy}$ : | 2.25 (low)<br>0.48 (high)   | $SSB_{2013}/SSB_{F0.1}$ : 1.60 (low)<br>0.67 (high) |

# Bluefin Tuna Management Measures (West)

- TAC increased from 1750 mt (in 2011-14) to 2000 mt for 2015 and 2016
- Country-specific catch limits
- Quota transfer for coop. research
- 30 kg minimum size (<115 cm LJFL); catches of small ("school") fish limited to <10% by weight
- Absolute min size of 67cm

# U.S. BFT Fisheries

- Most constituent and political interest (along with SWO)
  - Various gears: longline (mainly NE), purse seine (mid-Atlantic/NE), harpoon (NE), recreational (NC to ME)
  - Bycatch in SWO and YFT longline
  - Annual base quota for 2011-13: 949 mt
  - 2011 catch\* = 904 mt
  - 2012 catch\* = 919 mt
  - 2013 catch\* = 659 mt
- \* Landings + dead discards

# Bluefin Tuna Management Measures (East/Med)

- TAC increased from 13,400 mt to 16,142 (2015), 19,296 mt (2016), and 23,155 mt (2017)
- Country-specific catch limits
- Capacity limits and individual vessel quotas
- 30 kg min size with (many) exceptions
- 1-month purse seine season in the Med
- Many monitoring, control and surveillance measures

# Albacore Biology

- Temperate tuna
- Two management units in Atlantic (N&S; also a Mediterranean stock)
- Mature ~ age 5, subtropical spawning areas (seasonally displaced across equator)
- Juveniles in surface waters, adults deeper

# Albacore Fisheries

- Surface fisheries (Bay of Biscay, South Africa, Namibia)
  - Bait boat
  - Troll
  - Trawl
- Longline fishery (Chinese Taipei, Brazil, and now Japan!)
- Northern and southern stocks with country-specific quotas



# Albacore Stock Status

(2013 Assessment for North & South)

|                           | <u>North</u> | <u>South</u> | <u>Med</u> |
|---------------------------|--------------|--------------|------------|
| • MSY:                    | 31,680 mt    | 25,228 mt    | ?          |
| • Yield ('12):<br>mt      | 20,948 mt    | 19,148 mt    | 1,675      |
| • $B_{2012}/B_{MSY}$ :    | ----         | 0.92         | ?          |
| • $SSB_{CUR}/SSB_{MSY}$ : | 0.94         | ----         |            |

# U.S. NALB Fisheries

- Longline (minor component) and recreational catch
- U.S. Quota = 538 mt
- 2011 catch = 422 mt
- 2012 catch = 418 mt
- 2013 catch = 599 mt
- U.S. canning constituency interested in N & S albacore fisheries (not just U.S. quota for NALB)

## Panel 4: Other Species

Swordfish, blue marlin, white marlin, sailfish/spearfish, sharks, small tunas, turtles and seabirds

# Swordfish



# Swordfish Biology

- Three stocks (N. Atl., S. Atl. & Med.)
- Relatively rapid growth (130 cm LJFL by age 2)
- Females spawn age 5, males earlier
- Spawning throughout the year in the tropics

# Swordfish Fisheries

- Directed longline fishery throughout the Atlantic
- Incidental catch in bigeye tuna fishery (primarily deepset longline fisheries)
- Dead discards reported by United States and a few others
- ~80% of undersized swordfish are dead at haulback

# Swordfish Stock Status

(2012 stock assessment)

|                           | <u>North</u> | <u>South</u>           |
|---------------------------|--------------|------------------------|
| • MSY:                    | 13,660 mt    | ~15,000 m<br>(unknown) |
| • Current<br>yield ('13): | 11,980 mt    | 7,787 mt               |
| • $B_{2009}/B_{MSY}$ :    | 1.14*        | likely > 1.0           |

\*rebuilt

# Swordfish Management Measures

- North Stock: TAC=13,700 mt since 2010; Country-specific quotas
- South Stock: TAC=15,000 mt since 2010; Country-specific quotas
- Min size of 125 cm (w/tolerance) or 119 cm (w/o tolerance) LJFL; alternative CK measurement adopted in 2011

# U.S. SWO Fishery

- Longline (mainly Gulf and NE) and recreational (mainly FL)
- Closures to protect sea turtles and juvenile swordfish/ "Revitalization"
- 2011 catch = 2774 mt; 2012 catch = 3610 mt; 2013 catch = 2955 mt; (U.S. baseline quota 3907 mt)
- Imports impact price for U.S. caught fish

# Blue Marlin



# White Marlin



# Blue Marlin and White Marlin Biology

- Atlantic-wide stocks
- Spawning in tropics
- Rapid growth (blue marlin to 70+ lbs by year 1)
- Males mature 2 - 3 years, females at 3 - 4 years (aging is uncertain)

# Blue Marlin and White Marlin Fisheries

- Bycatch in pelagic longline fisheries throughout the tropical and temperate Atlantic
- Directed recreational fisheries in many locations
- Large artisanal fishery in West Africa; artisanal fisheries in Latin America and Caribbean as well

# Blue Marlin ('11) and White Marlin ('12) Assessments

|  | <u>Blue</u> | <u>White</u>  |
|--|-------------|---------------|
| • MSY:   | ~2,837 mt   | 874 - 1604 mt |
| • Current yield ('13):                         | 1,098 mt    | 344 mt        |
| • SSB/SSB <sub>MSY</sub> :                     | ~0.67       | ~0.32         |
| • Magnitude of roundscale spearfish landings?? |             |               |

# Blue Marlin and White Marlin Management Measures

- In 2000: purse seine and longline landings limited to 33% (WHM) or 50% (BUM) of 1996/1999 levels
- In 2011: landings limits set at 30% of new reference years; 2000 mt TAC set for BUM; WHM/spearfish complex established
- In 2012: WHM TAC set at 400 mt; first country-specific quotas set for BUM and WHM (through 2015); limited carry forward of underharvest

# Additional Marlin Measures

- Atlantic-wide recreational minimum sizes established (equivalent to U.S.)
- U.S. recreational fishery limited to a total of 250 fish landed annually (BUM and WHM combined)
- Discard estimation methods to be reported in 2013
- SCRS to present plan to improve data collection in artisanal fisheries

# U.S. Marlins Fishery

- Taken as bycatch in commercial fisheries (retention prohibited)
- Large recreational fishery (primarily catch and release; tournaments, charter)

# Pelagic Sharks

- Blue shark assessed in 2008; porbeagle in 2009; shortfin mako in 2012
- Ecological Risk Assessment (ERA) conducted for these and many other shark species
- Assessment results
  - Blue shark (N & S):  $B > B_{MSY}$
  - Shortfin mako:  $B \sim B_{MSY}$
  - Porbeagle: NE, NW, SE stock:  $B < B_{MSY}$ ; SW stock status unknown
- Incidental catches in pelagic longline fishery and some directed effort, esp for blue sharks (EU)

# Shark Measures

- Ban on finning ('04)
- No retention of bigeye thresher ('09)
- No retention of oceanic whitetip ('10)
- No retention of hammerhead sharks except bonnethead ('10)
- No retention of silky sharks ('11)
- All recs. applicable to sharks caught in association with ICCAT fisheries

# ICCAT Challenges

- Science-based management measures
- Illegal, unreported and unregulated (IUU) fishing
- Member compliance problems (incl data reporting)
- Allocation issues
- Overcapacity
- Convention amendment

# Science-Based Management

- Conservation and management measures do not always follow the scientific advice or use the precautionary approach
- The scientific advice is often intensely debated during negotiations
- Short-term economic considerations often end up outweighing more conservative management approaches

# Compliance

- Many parties do not submit data, especially catch at size, catch by area, etc.
- Lack of timely reporting to support stock assessments
- Science data versus compliance
- Poor implementation of quotas and other management measures by some parties due to lack of capacity and other reasons; improvements seen recently

# Allocation Decisions: A Major Issue

- Who gets what?
- Historical fisheries vs. developing nations
- Who is responsible for overfished stocks?
- Should responsible fishing (compliance with rules; implementation of ecosystem approaches) be rewarded and irresponsible fishing penalized?

# IUU Fishing

- Significant levels of IUU fishing in certain fisheries; EBFT situation has improved substantially
- Flags of convenience
- Closing the markets to IUU catch
- Problem with "fish laundering" during transshipment

# Overcapacity

- Many ICCAT fisheries overcapitalized
- Contributes to overharvest of quotas, TACs set too high
- Some developing states seeking to expand (whether or not they can control their fleet)
- Efforts to limit capacity in some fisheries (e.g., EBFT and BET)

# ICCAT Convention

- ICCAT treaty is out of step with more recent international fisheries instruments (e.g., UN Straddling Stocks Agreement)
- Scope of treaty with regard to management of some species (e.g. sharks, bycatch species) at issue; can impact negotiations
- Groundwork by Future of ICCAT WG
- Convention WG created in 2012; "final" meeting in 2015 to develop amendments on key issues (e.g., scope, decision making, and non-party participation)



Thank you!