ICCAT 101

Presentation to the U.S. Advisory Committee Spring 2011

ICCAT 101 – Course Content

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

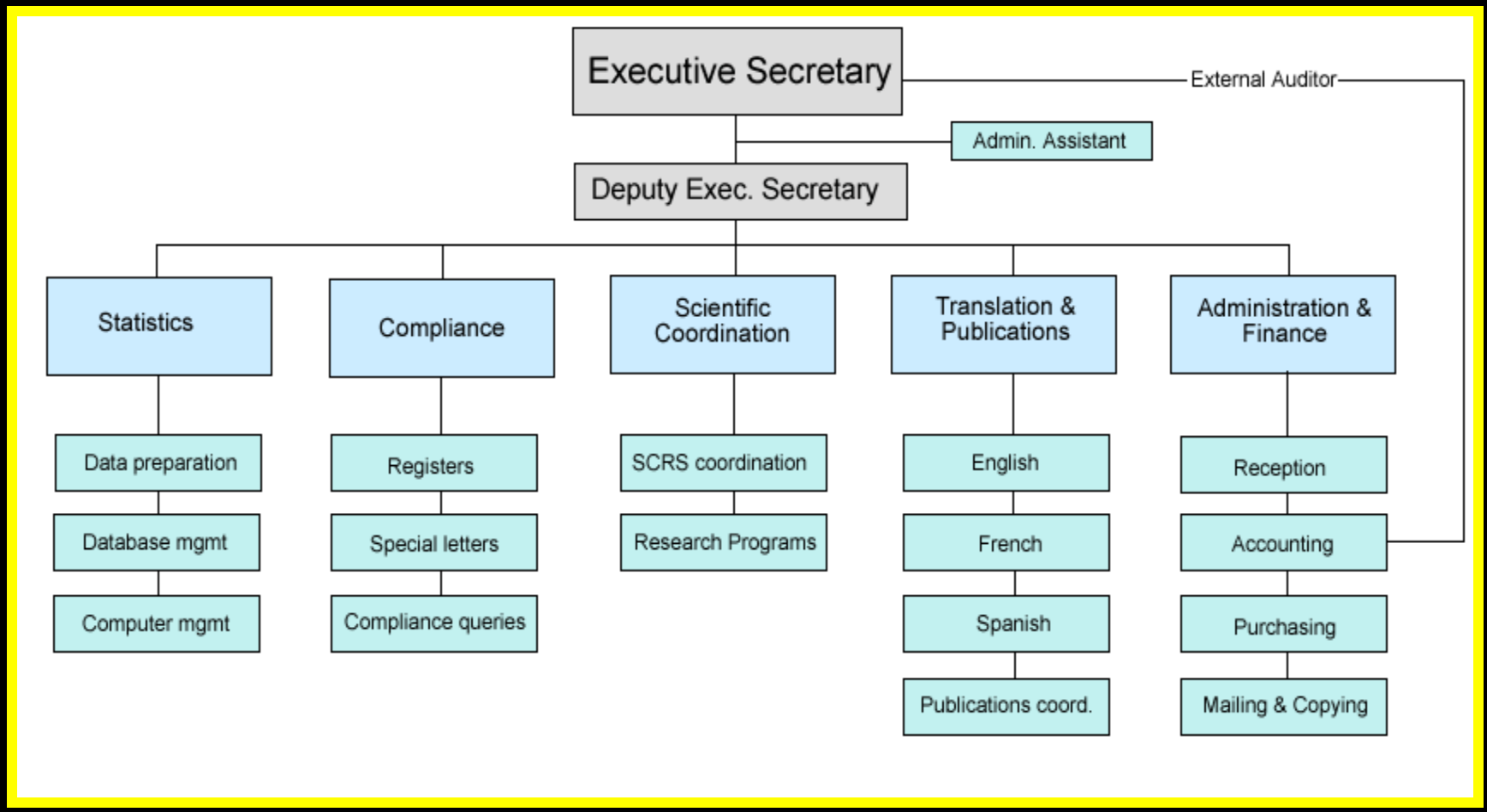
What is ICCAT?

- 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*: 48 (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

ICCAT Secretariat



The Commission

- Standing Committee for Research and Statistics (SCRS)
- Standing Committee for Finance and Administration (STACFAD)
- Panels 1 – 4
- Conservation and Management Measures (Compliance Committee)
- Permanent Working Group for the Improvement of ICCAT Statistics and Conservation Measures (PWG)

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)

The Commission

- 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)
- The 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: Randi Parks Thomas
  - Recreational: Ellen Peel

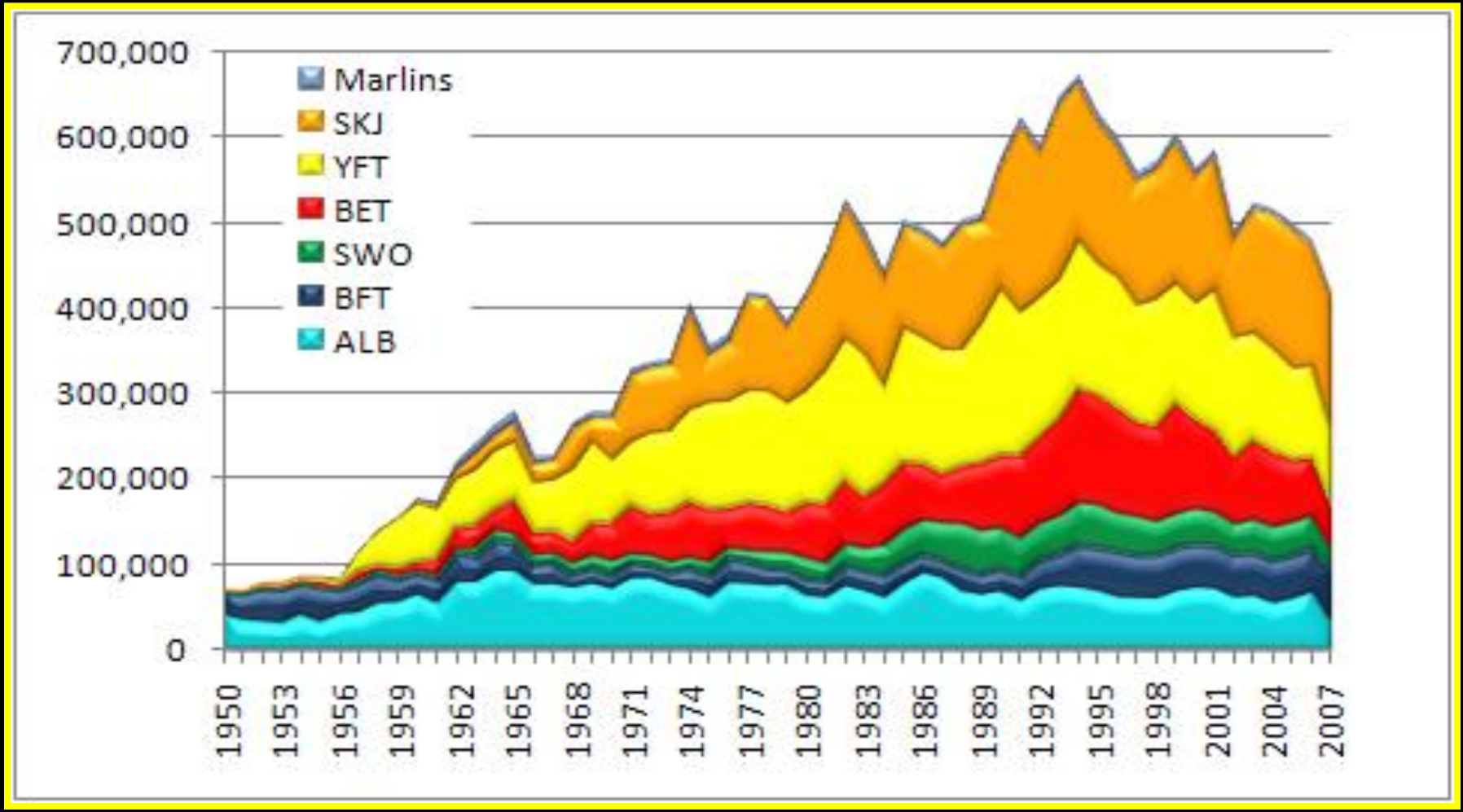
- U.S. ICCAT Advisory Committee
  - 20 members (appointed by Commissioners for 2 year terms, represent constituencies)
  - 1 member from each of the five Atlantic Fishery Management Councils
  - 20 Technical Advisors (Commissioner appointed)

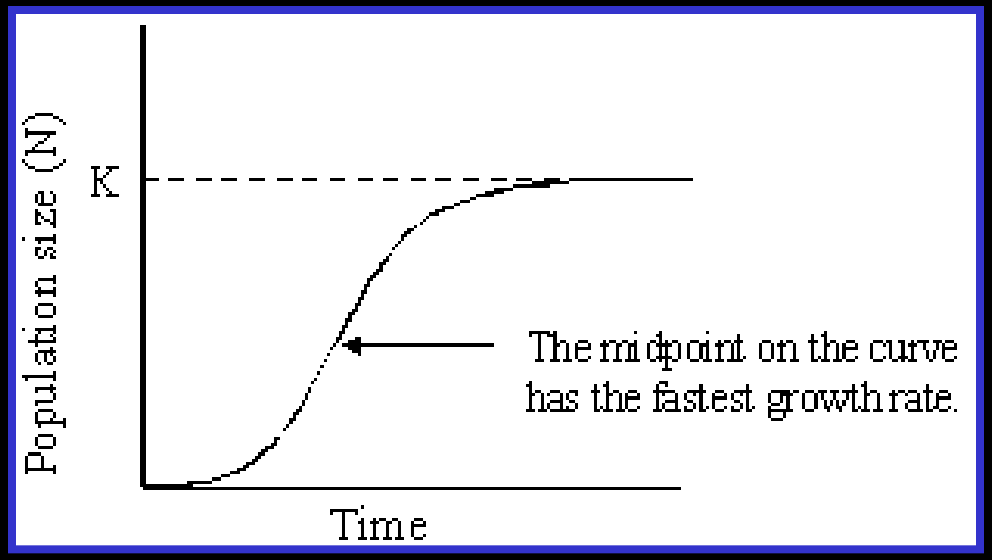
U.S. ICCAT Advisory Committee

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

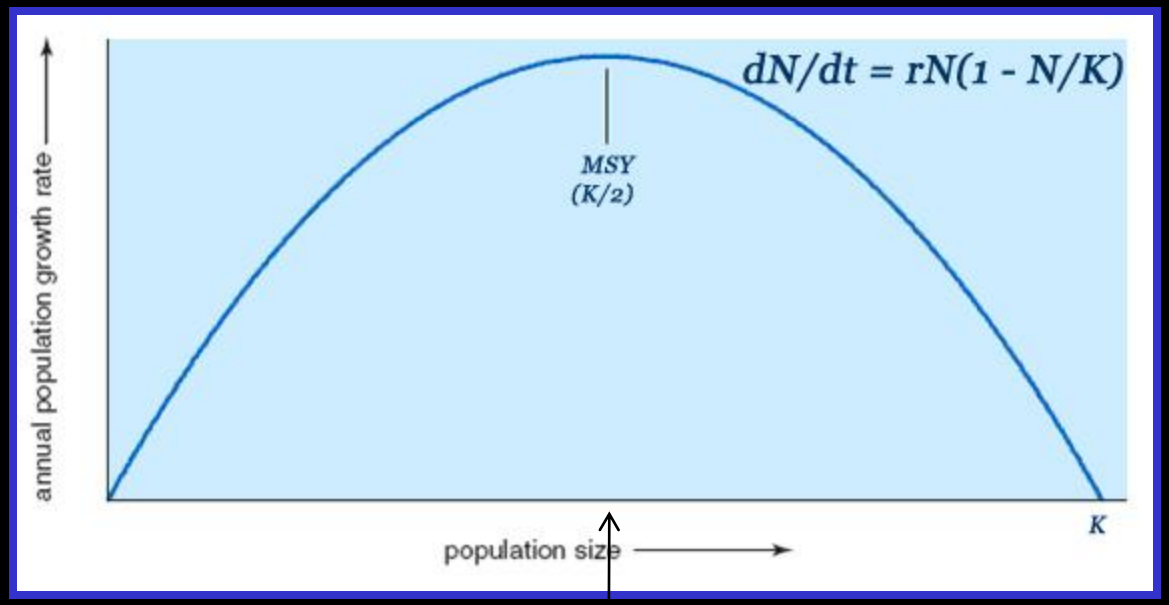
Major Species/Fisheries

Historical Catch by Species





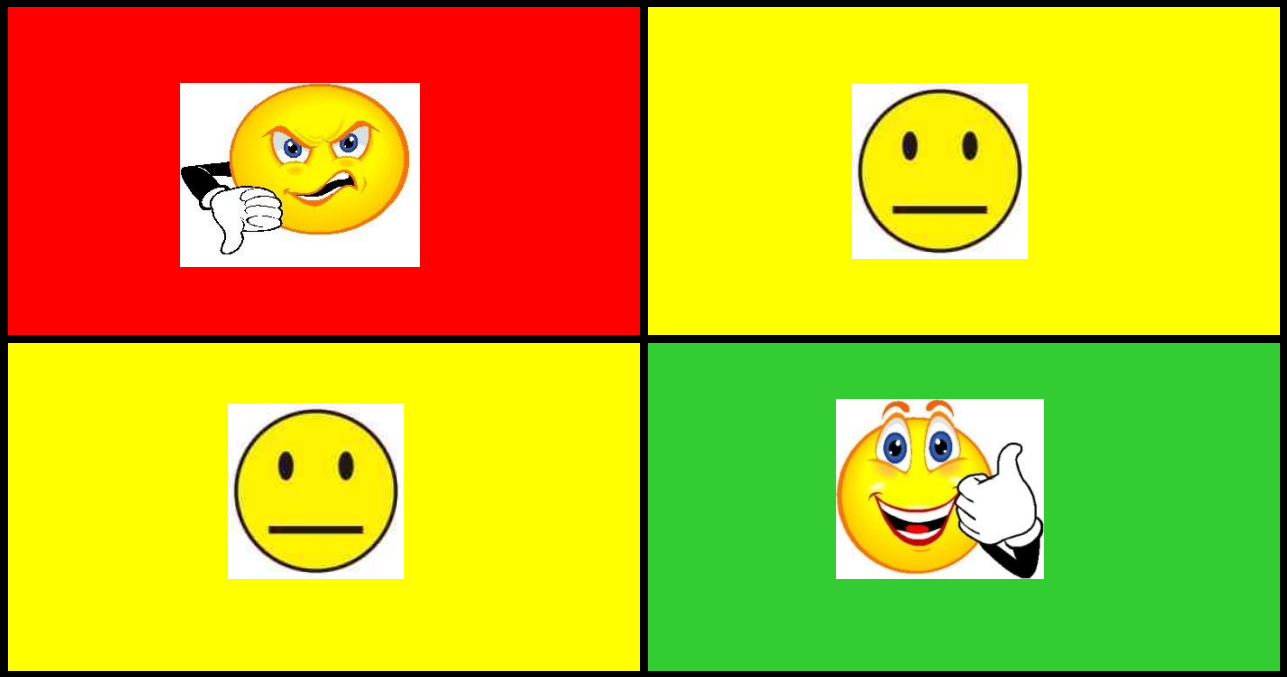
Maximum Sustainable Yield (MSY)



B_{MSY}

F/F_{MSY}

1.0



1.0

B/B_{MSY}

Overfished: $B/B_{MSY} < 1.0$
Overfishing: $F/F_{MSY} > 1.0$

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

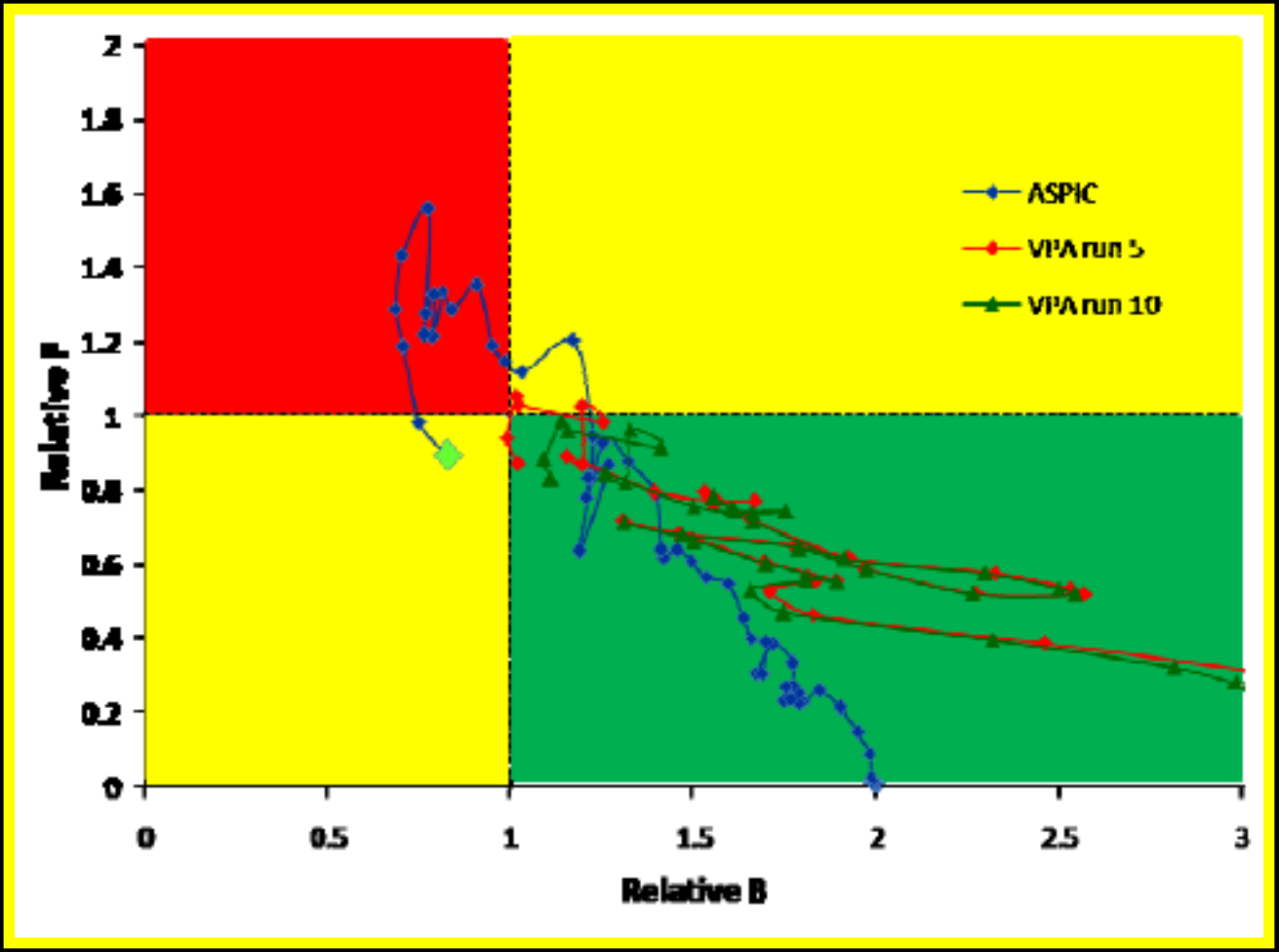
Yellowfin Tuna Fisheries

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

Yellowfin Tuna Stock Status
(2008 Assessment)

- MSY: 130,600 mt
- Current yield:
  - 118,871 mt ('09)
- B_{2006}/B_{MSY}: 0.96

Yellowfin Tuna Stock Trajectories



YFT. Stock status trajectories of B/BMSY and F/FMSY from age structured (VPA runs 5 and 10) and production model (ASPIC) analyses.

Yellowfin Tuna Management Measures

- 3.2 kg minimum size repealed
- Effective fishing effort not to exceed 1992 level
- 3 month closure for fishing on FADs in Gulf of Guinea (through '04)
- Smaller, one-month closed area for purse seine and bait boats ('05 +); FADs allowed to stay in area

U.S. Yellowfin Tuna Fisheries

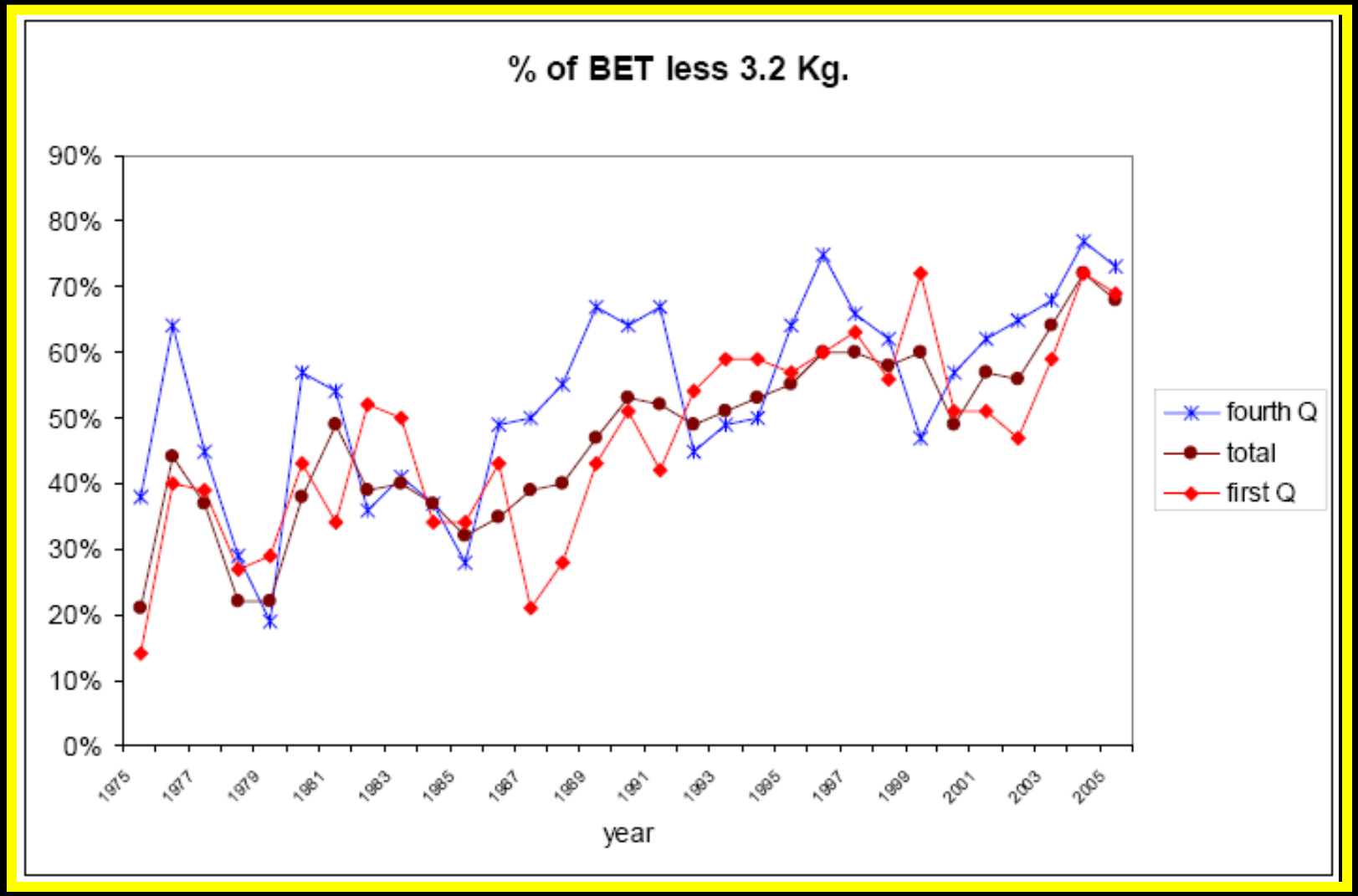
- Mainly longline fishery (Gulf of Mexico) and recreational catch (recreational catch can be 50% of total)
- 2006 catch = 7090 mt
- 2007 catch = 5529 mt
- 2008 catch = 2407 mt
- 2009 catch = 2802 mt

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)

Bigeye Tuna Stock Status (2007 Assessment; 2010 results expected this fall)

- MSY: ~92,000 mt
- Current yield
  - 86,011 mt ('09)
- B_{2009}/B_{MSY}: 1.01


% of BET less 3.2 Kg.
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
1975
1977
1979
1981
1983
1985
1987
1989
1991
1993
1995
1997
1999
2001
2003
2005
year
fourth Q
total
first Q

Bigeye Tuna Management Measures

- TAC set at 85,000 mt
- Catch limits for major players, catch caps for smaller harvesters
- Some parties have limits on number of vessels allowed in fishery
- One month moratorium on purse seine and bait boats in Gulf of Guinea; FADs allowed to stay in area

U.S. Bigeye Fisheries

- Mainly longline with some recreational catch
- 2006 catch = 991 mt
- 2007 catch = 527 mt
- 2008 catch = 488 mt
- 2009 catch = 516 mt

Skipjack

- Short-lived
- Reproduces early (and often)
- Western and eastern Atlantic management units
- Surface fishery (purse seine, bait boat), often associated with FADs
- 2008 landings = 148,872 mt of which 22,011 mt were from the western Atlantic
- Very minor U.S. fishery – 2009 catch = 119 mt

Temperate Tunas

Bluefin tuna and albacore

Bluefin Tuna

Atlantic Bluefin Tuna Biology

- Two management units
- Occur throughout N. Atlantic, changes in distribution over time
- Can tolerate cold waters
- 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

Bluefin Tuna Stock Status
(2010 Assessment)

	West	East/M
• MSY:	2,585 (low) 6,329 (high)	~50,000 mt
• yield 2009:	1,935 mt	~19,701 mt (est)
• SSB_{2009}/SSB_{max}:	1.1 (low) 0.15 (high)	0.51 0.19

Bluefin Tuna Management Measures (West)

- TAC of 1900 mt in 2009; 1800 mt in 2010
- Country-specific catch limits
- 30 kg minimum size (<115 cm LJFL) and catches of small ("school") fish limited to no more than 10% by weight with a two year management period

U.S. BFT Fisheries

- Most constituent (along with SWO) and political interest
- Various gears: longline (mainly NE), purse seine (mid-Atlantic/NE), harpoon (NE), recreational (NC to ME)
- Bycatch in SWO and YFT longline
- Take of BFT <30 kg recreationally
- 2009 catch = 1228 mt; 2008 catch = 937 mt; 2007 catch = 849 mt (U.S. baseline quota = ~1035 mt in 2009)

Bluefin Tuna Management Measures (East/Med)

- TAC = 12,900 mt for 2011; 13,500mt for 2010; 19,950 mt for 2008);
- Country-specific catch limits*
- 30 kg minimum size with (many) exceptions
- Only 1 month of purse seine fishing allowed in the Med

Albacore Biology

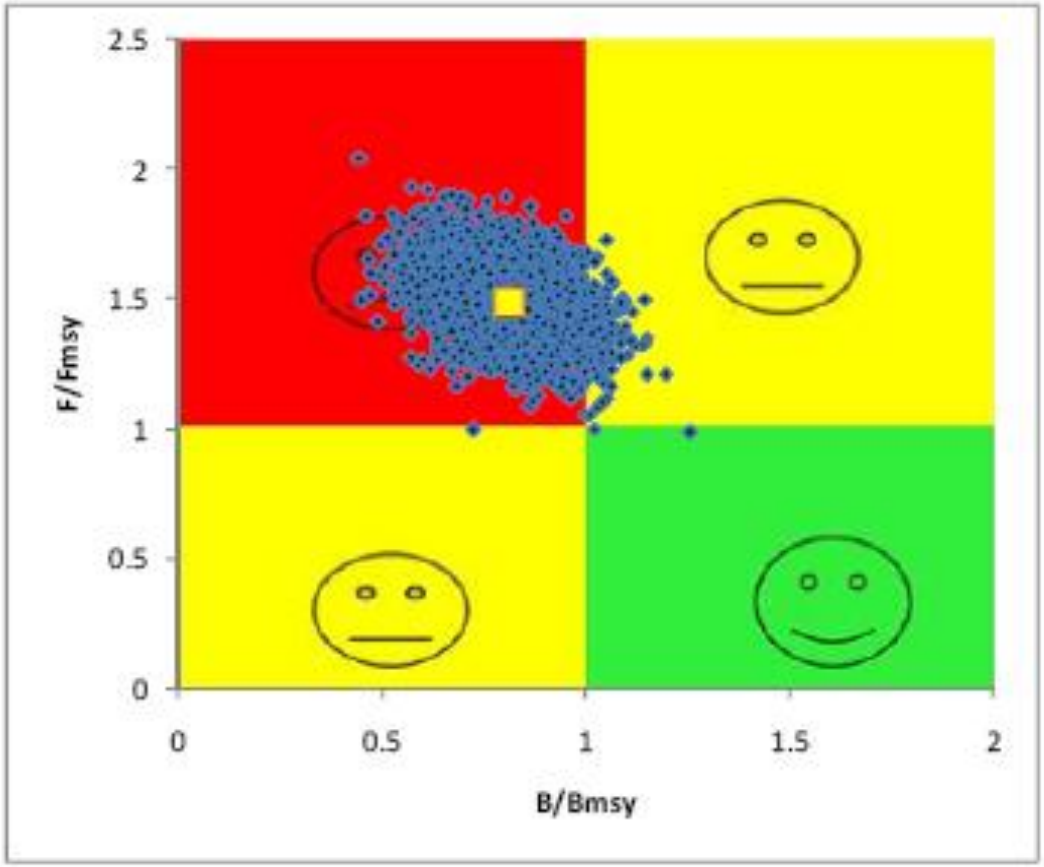
- Two management units in Atlantic (also a Mediterranean stock)
- Temperate tuna
- Mature ~ age 5, subtropical spawning areas (seasonally displaced across equator)
- Juveniles in surface waters, adults deeper

Albacore Fisheries

- Surface fisheries (Bay of Biscay, South Africa, Namibia)
  - Bait boat
  - Trolling
  - Driftnet fishery (banned starting in 2004)
- Longline fishery (Chinese Taipei, Brazil)
- North stock: TAC 28,000 mt; Country-specific quotas
- South stock: Shared TAC of 29,900 mt

Albacore Stock Status
(2009 Assessment)

	North	South
• MSY:	29,000 mt	33,300 mt
• Current yield ('09):	15,364 mt	22,856 mt
• B/B_{MSY}:	0.62	0.91



ALB-Figure 7. The distribution of stock status determination for North Atlantic albacore en 2005 indicating the uncertainty in this evaluation.

U.S. ALB Fisheries

- Longline (minor component) and recreational catch
- U.S. Quota = 538 mt
- 2007 catch = 532 mt
- 2008 catch = 248 mt
- 2009 catch = 188 mt
- U.S. canning constituency very interested in this fishery (not just U.S. quota)

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 (esp Japan)
- Dead discards reported by United States, Canada, and Japan (none from Spain)
- ~80% of undersized swordfish are dead at haulback

Swordfish Stock Status
(2009 stock assessment)

	North	South
• MSY:	13,730 mt	~15,000 mt
• Current yield ('09):	12,655 mt	12,448 mt
• B_{2008}/B_{MSY}:	1.05	likely >1

Swordfish Management Measures

- North Stock: TAC=13,700 mt for 2010, 2011; Country-specific quotas
- South Stock: TAC=15,000 mt (2010-12); Country-specific quotas
- Minimum size of 125 cm (w/tolerance) or 119 cm (w/o tolerance) LJFL

U.S. SWO Fishery

- Longline (Gulf and NE mainly) and recreational (mainly FL)
- Closures to protect sea turtles and juvenile swordfish/ "Revitalization"
- 2009 catch = 2838 mt; 2008 catch = 2530 mt; 2007 catch = 2683 mt (U.S. baseline quota 3907 mt)
- Imports from Canada impact price for U.S. caught fish

Blue Marlin

White Marlin

Blue Marlin and White Marlin Biology

- Both species represent 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 fishery throughout the tropical and temperate Atlantic
- Directed recreational fishery in many locations
- Large artisanal fishery in West Africa; artisanal fisheries in Latin America as well

Blue Marlin and White Marlin Stock Status

	Blue	White
• MSY:	~2,000 mt	600 – 1320 mt
• Current yield:	2,863 ('09)	406 ('04)
• B/B_{MSY}:	~0.4	~0.12

Blue Marlin and White Marlin Management Measures

- Purse seine and longline landings limited to 33% (white marlin) or 50% (blue marlin) of 1996 or 1999 landings
- Live release of all blue marlin and white marlin from longline and purse seine gear
- U.S. recreational fishery limited to a total of 250 fish (combined)
- Note: Sailfish assessment completed in 2009; no management on books yet

U.S. Marlins Fishery

- Taken as bycatch in commercial fisheries (retention prohibited)
- Large recreational fishery (catch and release tournaments)
- Activities in Caribbean are question though enforcement has improved recently

Pelagic Sharks

- Blue shark, shortfin mako assessed in 2008; porbeagle in 2009
- Ecosystem Risk Assessments (ERAs) conducted for many other species
- Assessed in 2008
  - 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 catch of pelagic longline fishery and some directed effort, esp for porbeagle and blue
- Ban on finning ('04)
- No retention of bigeye thresher*('09)

U.S. Shark Fisheries

- Targeted commercial shark fisheries for different species
- Sharks also taken as bycatch in other HMS fisheries (e.g., longline)
- Recreational fishery
- Domestically, U.S. has different shark fin regulations in the Atlantic (fins attached) vs. Pacific

ICCAT Challenges

- Science-based management measures
- IUU, member compliance problems (incl data reporting) and non-member fishing issues
- Allocation issues
- Overcapacity
- Convention scope

Science-Based Management

- Conservation and management measures often do not 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 for assessments
- Science data versus compliance
- Poor implementation of quotas and other management measures due to lack of capacity and other reasons

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 improving substantially
- Flags of convenience
- Closing the markets to IUU catch
- Problem with "fish laundering" during transshipment

Overcapacity

- Several ICCAT nations are big ship builders
- Where do the used vessels go?
  - Japan to Taiwan, Libya, others
  - Taiwan to China, developing states,
  - Some become IUU (who controls the companies?)

Convention Scope

- 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.
- Future of ICCAT Working Group looking at possible Convention amendments; other ways to strengthen ICCAT