

# SELF-PORTRAIT:

## AMERICAN SAMOA'S *ALIA* LONGLINE FISHERY

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# PART 1: CHARACTERIZE ALIA LONGLINE FISHERY

- WHY?

- LOGBOOK REPORTING POOR
- PORT SAMPLING MISSES DISCARDS
- LINGERING QUESTIONS ABOUT "BYCATCH"
- *ALIA* TOO CRAMPED FOR OBSERVERS
- LOGBOOK ENTRIES ARE RECONSTRUCTIONS

- HOW?

- DETAILED PROFILE OF HIGHLINER

# HOW TO CHARACTERIZE FISHERY?

- CREW ACTIVELY INVOLVED:
  - TO RECORD LOCATIONS OF GEAR SET, HAUL
  - TO LAND ALL CATCHES EXCEPT SHARKS AND PROTECTED SPECIES
  - TO MARK FISH HAULED ALIVE
  - TO RECORD RELEASES (WITH PHOTOS TO I.D.)

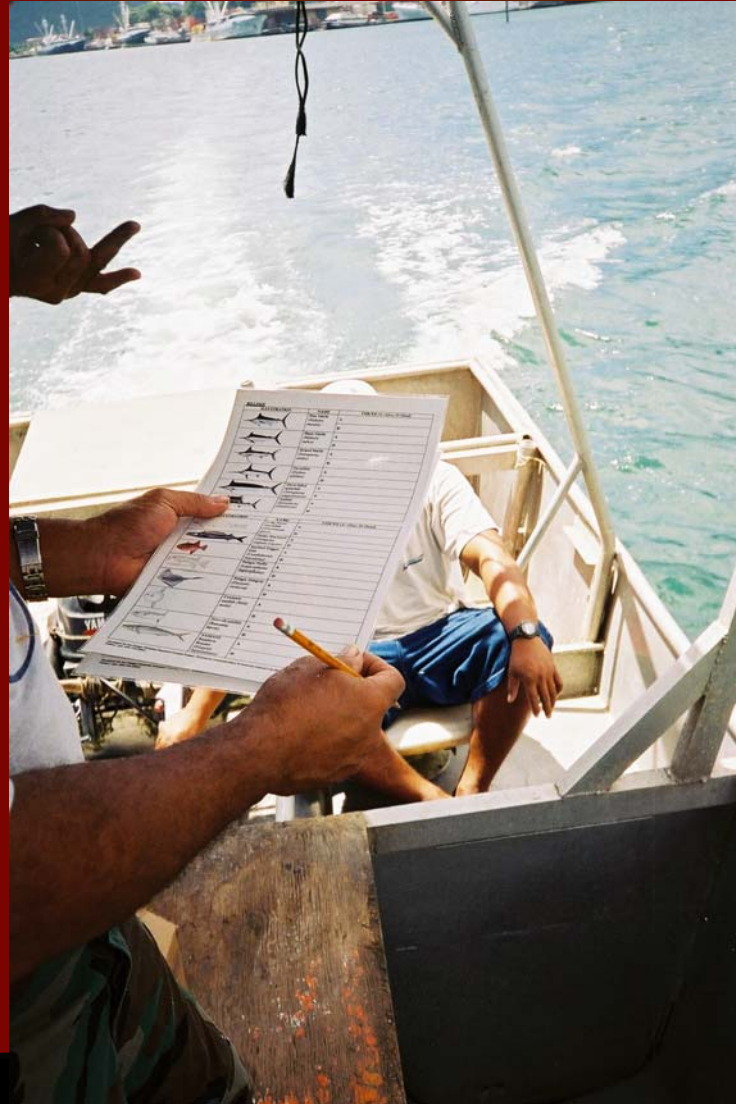
# CHARTER HIGHLINE ALIA – SOUTHWIND IV, 150 SETS



# TRAIN CREW -- GPS



# TRAIN CREW – RECORD RELEASES



# TRAIN CREW – LAND ALL CATCHES BUT SHARKS, PROTECTED SPECIES



# TRAIN CREW – MARK LIVE FISH



# DATA TRANSFER TO SHORE COLLECTORS

- 2 SHORE COLLECTORS
  - RECRUITED FROM PAGO PAGO VILLAGE *AUMAGA* (UNTITLED YOUNG MEN)
- FULLY EQUIPPED AND TRAINED BY P.I.s, VILLAGE LEADERS

# SHORE TRAINING



# FISH WEIGHTS








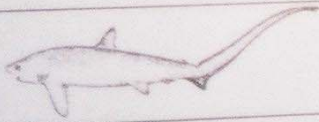
# FISH LENGTHS (Live/Dead)




# GPS SET/HAUL LOCATIONS



# SHARK, PROTECTED SPECIES RELEASES

ILLUSTRATION	NAME	UNINJURED	INJURED	DEAD
	Oceanic white tip ( <i>Carcharhinus longimanus</i> )			
	Blue shark ( <i>Prionace glauca</i> )	1		
	Silky shark ( <i>Carcharhinus falciformis</i> )			
	Short-finned Mako ( <i>Isurus oxyrinchus</i> )			
	Long finned Mako ( <i>Isurus paucus</i> )			
	Thresher shark ( <i>Alopias vulpinus</i> )			
	Other sharks			

## SEA TURTLES

ILLUSTRATION	NAME	UNINJURED	INJURED	DEAD
	Hawksbill ( <i>Eretmochelys imbricata</i> )			



# DATA BEING COLLECTED

- 34 SETS TO DATE (~22% OF DATA)
- DATE, TIME AND LOCATION OF SET AND HAUL
- LENGTH OF GEAR AND NUMBER OF HOOKS SET
- SPECIES CAUGHT
- LIVE OR DEAD
- LENGTH AND WEIGHT OF RETAINED CATCH
- SPECIES AND NUMBERS OF DISCARDS OR INTERACTIONS

# DATA ENTRY AND ANALYSIS

- PER-TRIP SHEETS COMPLETED
- PER-TRIP DATA ENTERED INTO SPREADSHEET IN A. SAMOA
- SPREADSHEET AND ANY PHOTOS SENT TO P.I.s FOR ANALYSIS

# ANALYSES TO BE PERFORMED

- CPUE FOR ALBACORE AND SECONDARY MARKET SPECIES.
- BPUE FOR NON-MARKET OR FOOD SPECIES
- BPUE FOR SHARK
- BPUE FOR PROTECTED SPECIES (if any)
- % LIVE AND DEAD UPON RETRIEVAL

# HOW REPRESENTATIVE OF ACTIVE *ALIA* FLEET?

- ALIA, 28-ft CLASS
- MONOFILAMENT LONGLINE GEAR
- MAKES 1 DAY/1 SET TRIPS
- SETS 10 MILES OF GEAR AND 400 HOOKS
- USES 15/0 CIRCLE HOOKS w/ SARDINE BAIT
- OWNER PIONEERED THE AMERICAN SAMOA  
ALIA FISHERY

# AMERICAN SAMOA ALIA LONGLINE FLEET: VESSEL LENGTH CLASSES

- $\leq$  28-ft      19 BOATS (61% OF FLEET)
- $\leq$  28 – 41-ft   11 BOATS (35% OF FLEET)
- $>$  41-ft      1 BOAT      (3% OF FLEET)

Source: DMWR, 2003

# AMERICAN SAMOA ALIA LONGLINE FLEET: LENGTH OF MAINLINE

- $\leq$  28-ft                      6.1 MILES\* (MIN 3, MAX 12)
- $\leq$  28 – 41-ft                8.8 MILES (MIN 5, MAX 18)
- $>$  41-ft                        NA

Source: Aitaoto, 2001

\*Note: The contracted alia currently fishes 10 miles of gear. Thought to be more typical of the fishery in 2003.

# AMERICAN SAMOA ALIA LONGLINE FLEET: NUMBER OF HOOKS SET

- $\leq$  28-ft            310 HOOKS (200 to 400)
- $\leq$  28 – 41-ft    361 HOOKS (275 to 450)
- $>$  41-ft            NA

Source: Aitaoto, 2001 and DMWR 2003.



# PART 2: APPLY FISHERMEN'S KNOWLEDGE

- **LONGLINE ALBACORE TYPICALLY LANDED DEAD OR DYING**
- **SWIM BLADDER FRAGILE, EASILY RUPTURED<sup>1</sup>**
- **MODIFY FISHING METHODS TO IMPROVE ALBACORE VIABILITY FOR TAG-RELEASE**

Note: F.X. Bard and E. Josse. 1996. Peculiarity of swimming bladder of large albacore (*Thunnus alalunga*) caught by longline. South Pacific Albacore Research, 6<sup>th</sup> meeting.

# TEST STRATEGIES TO IMPROVE ALBACORE SURVIVABILITY

- EXPERIMENTAL LONGLINE SETS.
- SET LINE MORE SHALLOW
  - LESS THAN 30-35 HOOKS BETWEEN FLOATS
- SET AROUND FULL MOON
  - ALBACORE SHALLOWER AT THAT TIME
- HAUL SLOWLY
  - REDUCE PRESSURE ON SWIM BLADDER?