DISCARD MORTALITY WORKSHOP
August 7-8, 2006
W. Alton Jones, Whispering Pines Conference Center

DISCUSSION

Ideas for Afternoon Discussion

- Summarize the workshop for publication
- How should research go in future? What is discard mortality now based on current practices?
- What is used for control? How to figure out adequate controls
- Brainstorming session – what are the sources of mortality, possible solutions for each source, benefit of understanding that source, research methodology for addressing that source
- How are people analyzing discard mortality data?
- Ideas on how we can work as a unit – prioritize ideas and work on one subject throughout the region (RAMP idea), select priority research issues, conduct study throughout the region, i.e., one species.
- Identify sensitive species

Sources of Mortality

Gear
Fishing method
Run over by gear
Crushing by gear
Crushing on deck
Sediment cloud
Depth
Pressure change
Temperature caught
Time on deck
Tow time/soak time
Tow speed
Sun exposure
Sea state
Bottom type
Vessel size/design
Twine material and size
Mesh shape/size
Knotless twine
Color of net material
Chafing gear
Bycatch reduction devices (BRD's)
Escapement
Exhaustion
Species composition
Size of catch
Handling/fishermen behavior
Predation
Infection
Stress
Repetitive stress (cumulative encounter)
Wounding
Regulations

How to Quantify Mortality?

Immediate mortality

- On board
- In gear
- Screen using Reflex Action Mortality Predictor (RAMP)
- Simply represented as % dead and % alive

Delayed mortality

- Tag-recapture studies
- Cage studies
    - Alleviate pressure
    - Predation
    - Cage abrasion
    - Temperature/depth/season

Short/long term

- Prioritize sources
    - Environmental factors
    - Wounding
    - Incidental
    - On deck
    - Highgrading – regulatory/economics

Example of the Sources of Mortality and Possible Solutions

SCALLOP DREDGE

Source	**Solution**
Sublegal market size	Regulatory Higher CPUE
Crushing in Gear Sediment Cloud Non-catch mortality (crushing)	Time/area closures Gear solution

TRAWL

Source	
Size Material Speed Knot	Shape Light Temperature Depth

Strengths and Weakness of Each Type of Discard Mortality Study

	Strengths	Weakness
Cage (field)	Real world Simple Inexpensive No predation	Control Cage effects No predation Predation (sand fleas, seals) Difficult for flatfish Feeding Weather
Tag Recapture	Realistic	Expensive Short term mortality Rely on recaptures Not good for sensitive species Tag related mortality
Lab	Environment control Clear outcomes (dead is dead) No barfing	Doesn't work for all species Facility needed Lab effect Not realistic Not easy Expensive Time consuming
RAMP	Lot of measurements quickly Long term mortality Doesn't stand alone Method of comparison - links	Dependent on other methods Initial study is costly

Expanding on the RAMP Concept

- Representative sample of fleet
- Sub-sample random/haul "flex response"
- Season/gear/other factors
- Holding experiment to establish baseline
- Control – less stress as possible (weir, fish traps, hook and line, aquaculture)
- Response preserved

Is it important to spend money to study discard mortality?

- Discard mortality – (1) used in stock assessments, (2) reducing bycatch to the extent practicable as mandated in National Standard 9 (selectivity can do this)
- Will discard mortality numbers be used in stock assessments?
- Stock assessments need some input parameters

- As we move into the SCA (statistical catch-at-age) we will need selectivity (and discard mortality) parameters/inputs
- Need to identify what species are important to study (sensitive species) – this also needs to come down from the stock assessment recommendations

****Action Item****

An action item was put forward to create a datasheet to catalog exploratory indicators for each species. The datasheet would be used throughout the region and can be applied on sea sampling trips already being conducted. Basically it would take a closer look at the species we already study and utilize the expertise that already exists to catalog species indicators. A database would then be created based on the recorded indicators. It would be an important first step to understanding the discard mortality for species of interest.

We will be mailing out the datasheet. Make as many copies of the datasheet as you would like and when you go out sea sampling, please fill out the datasheet and send them to us (Laura Skrobe, University of Rhode Island, Fisheries Center, East Farm – Building 83, Kingston, RI 02881). We will then create a database from the datasheets which will be posted on the Gear Conservation Engineering Website.