

EM in the BC Hook-and-line groundfish  
monitoring but:

- it is not the issue

# Outline

- Background (fishery, monitoring)
- Stress the interrelated nature of the design and components (not just EM, not 100%)
- Performance aspects
  - Expected
  - Unexpected
- Ingredients of success
- - but not the issue

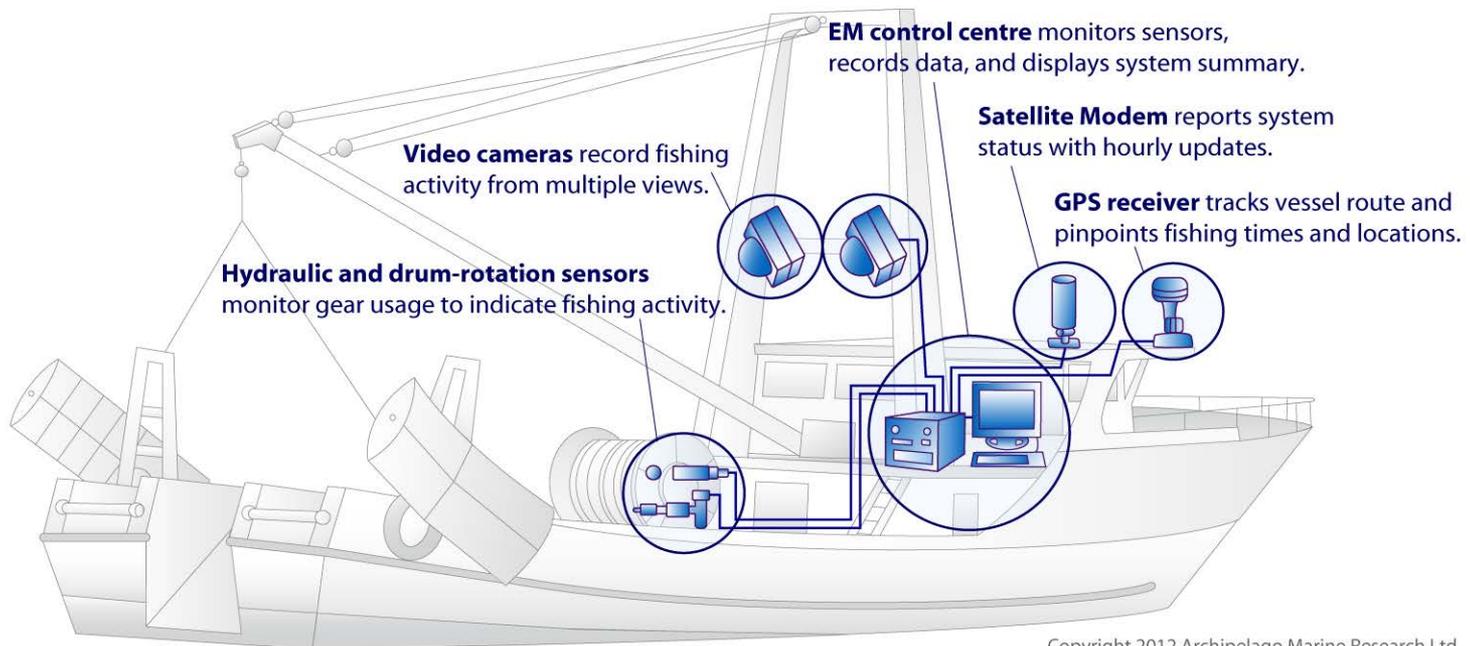
Prior to 2006



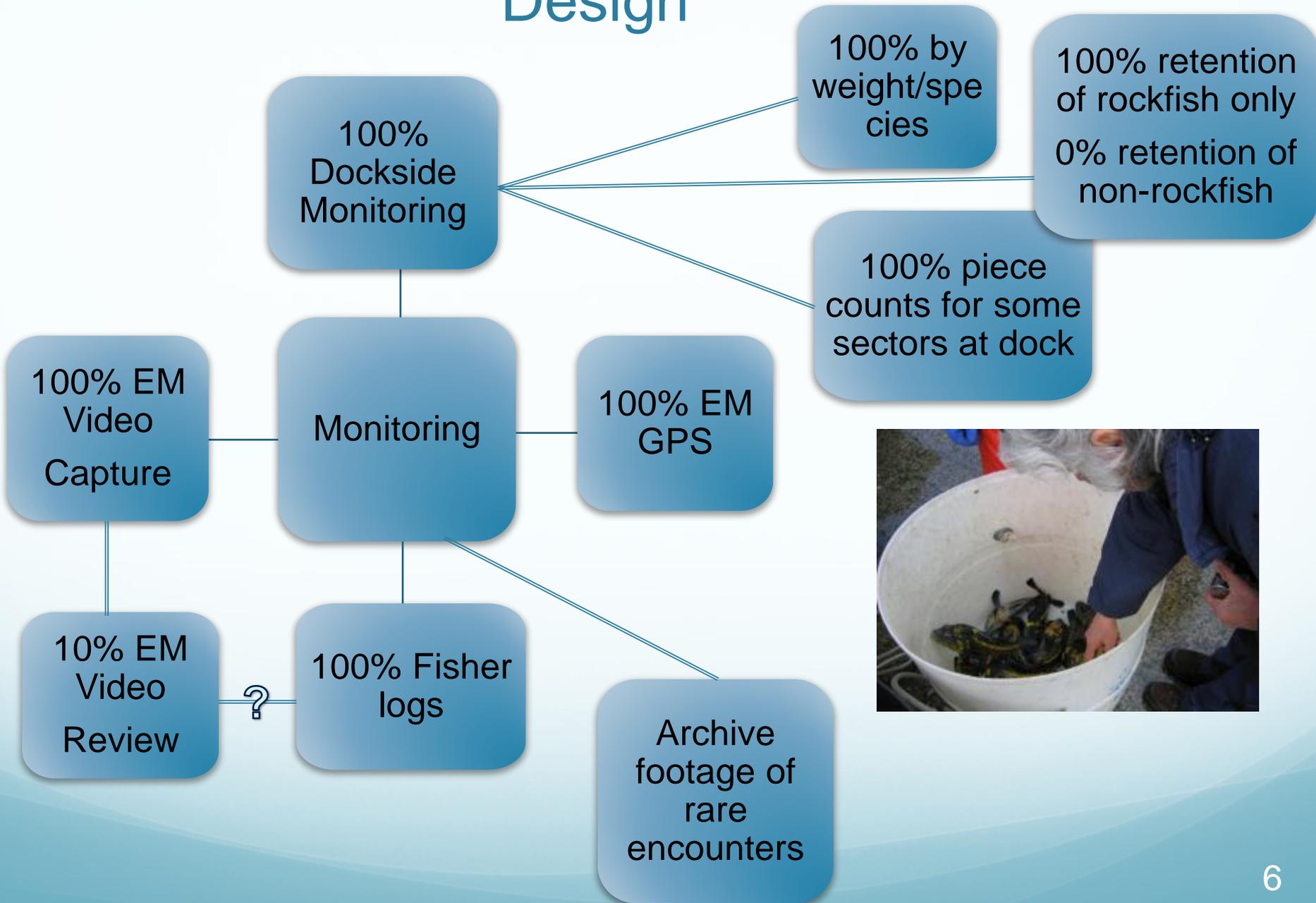
# Overall

- Two Key Objectives
  - Conservation
  - Industry Sustainability/Viability
- With two key elements
  - Effective monitoring
  - Transferable quotas (quota shares)
    - Cope with bycatch
    - Retain all species
    - Grandfather shares-based asset

# Design



# Design



# Overall Performance (2006-present)

- The Monitoring has met:
  - Conservation needs (Quota management and assessment)
  - Operational Needs for IVQ = accurate to trip/vessel

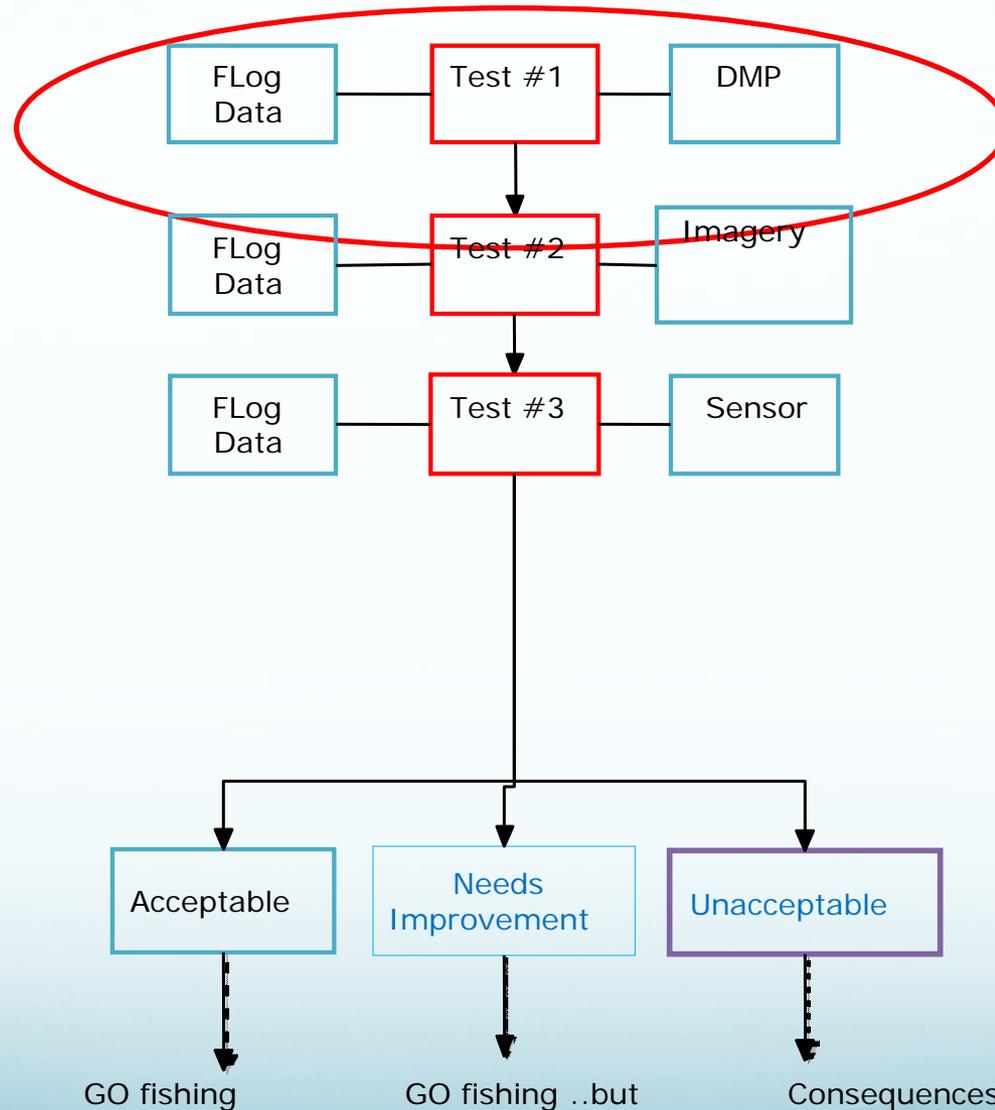
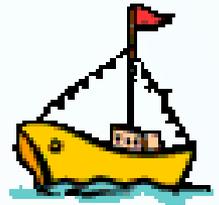
# Problems: Catch estimation

- **Best** for Rockfish (~40 species)
  - Fisher logs verified by random audit
  - 100 % retention and sorted/counted at dockside
- **Better** for non-rockfish species that are under quota
  - Fisher logs verified by random audit
  - DMP for landings
  - Cryptic species grouped
- **“Improved”** for discarded bycatch species
  - but non-verified fisher logs
  - can extrapolate from the “10%”
  - Cryptic species grouped

# Problems: Costs

- Costly IT System (don't wait until last minute)
  - Merging data sources
  - Scoring
  - Fast turnaround
    - VMS – input and checked for fishing in closed areas
    - 48 hour turnaround to update IVQs and go fishing
    - 2 weeks for video review and scoring

# Problems: Complicated



# Problems: Lots of design time

- 2 years of internal arguing within industry
- 2 Years of design by Industry reps, DFO, consultants
  - Experiments
    - Tests of observers vs. video review on same trip
    - Test of video reviewers to estimate size
    - Making EM more robust and more power friendly (less draw on batteries)

# Key Contextual Ingredients for BC success

- “Carrot” (IVQs, retention of all species)
- “Stick” (Fix it or lose it)
- Long History of failure
  - Limited entry
  - Voluntary logbooks → Mandatory logbooks
  - Sales slips → Dockside Monitoring
  - No observers → Partial observer
  - “Shiny bauble” exhaustion

# Key Contextual Ingredients

- Some elements in place (DMP, Logbooks)
- Leadership in place
  - Government leadership (reduction in top-down, command/control attitude)
  - Service provider and IT leadership
  - Industry Leadership

# Key Process Ingredients

- Focus on principles not shiny baubles

# Government Principles

- Account for all rockfish catches
- Rockfish catches will be managed to area
- Fishermen will be individually accountable for their catch
- Monitoring standards will be established to meet the above three objectives
- Species of concern will be closely examined ...

# Industry Principles

- Conservation with improved research and assessments.
- Improved catch utilization.
- Sector and individual accountability.
- Increased industry responsibility and cost recovery.
- Security of access and a "year-round" fishery.
- Economic viability and efficiency.
- Improved social benefits.
- Comprehensive management with administrative and operational simplicity.

# Key Process Ingredients

- Keep our eye on principles not shiny baubles
- Focus on Information not Data
- Risk manage the needs (adequacy not perfection)
- Learn from the results
- Accepted complexity in the monitoring
- Worked from hypothetical and/or real budgets
  - Audit + 10%
- Everyone at the table, everyone responsible

# Everyone at the Table

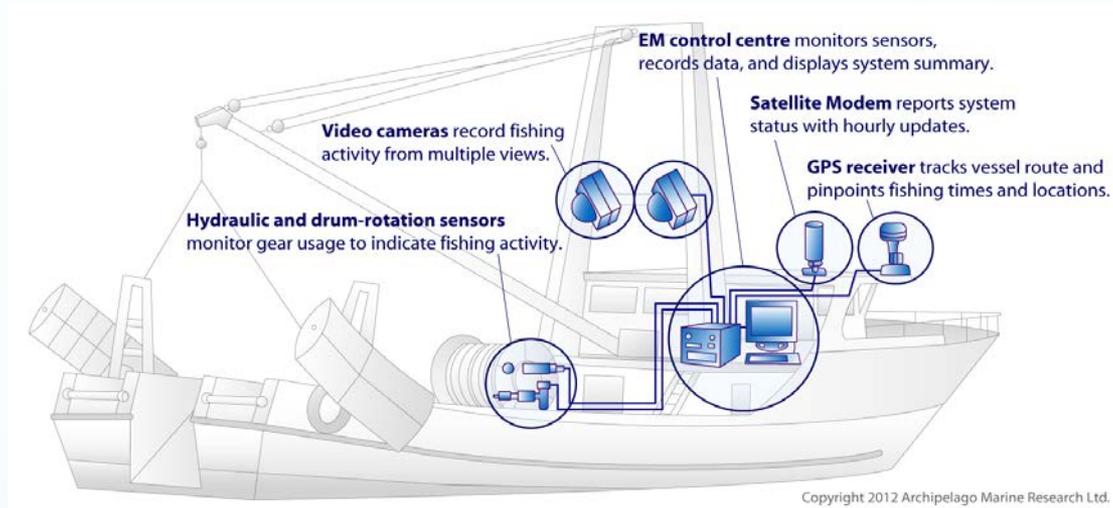
- Industry (1/sector)
- Government
  - Managers
  - Enforcement
  - Science
  - Service Provider
  - IT??



- Same People 5-6 years
- Everyone “owned” the decisions
  - Positively supporting consensus agreements once they have been reached (CIC Code of conduct). “



# - EM ? it is not the issue



# Summary

- Clarity of purpose
- Everyone at the table, everyone responsible

