
The Weather Wise
and
the Otherwise
Benjamin Franklin

Anchoring

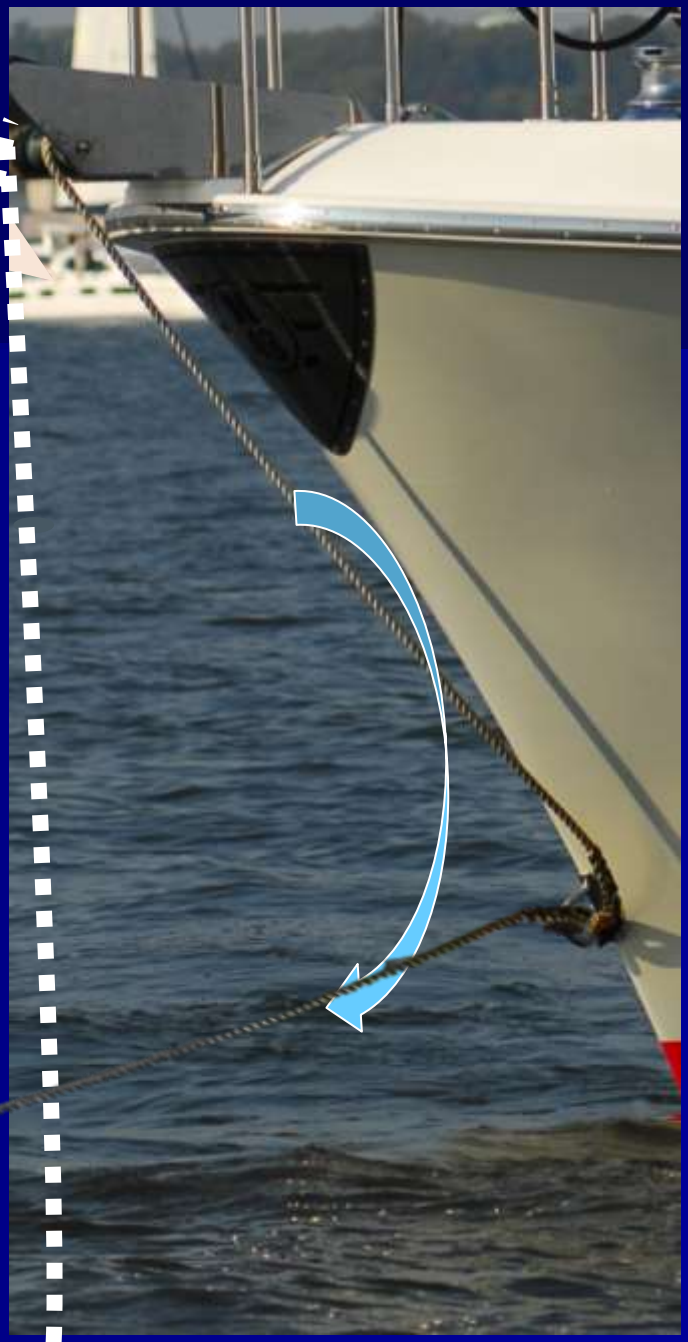
"The Art of Staying Put"

driven by weather awareness

- How much time will you spend at anchor?
- Changing weather system

Power cruiser priorities

Lessens pitching moment



Windlass anatomy

- Capstan
- Chain gypsy
- Chain brake
- Warping bitt
- Recessed switch

- The lure of the lunch hook
  - Undersized anchors
    - Light wind
    - Protected anchorage
    - Good holding ground

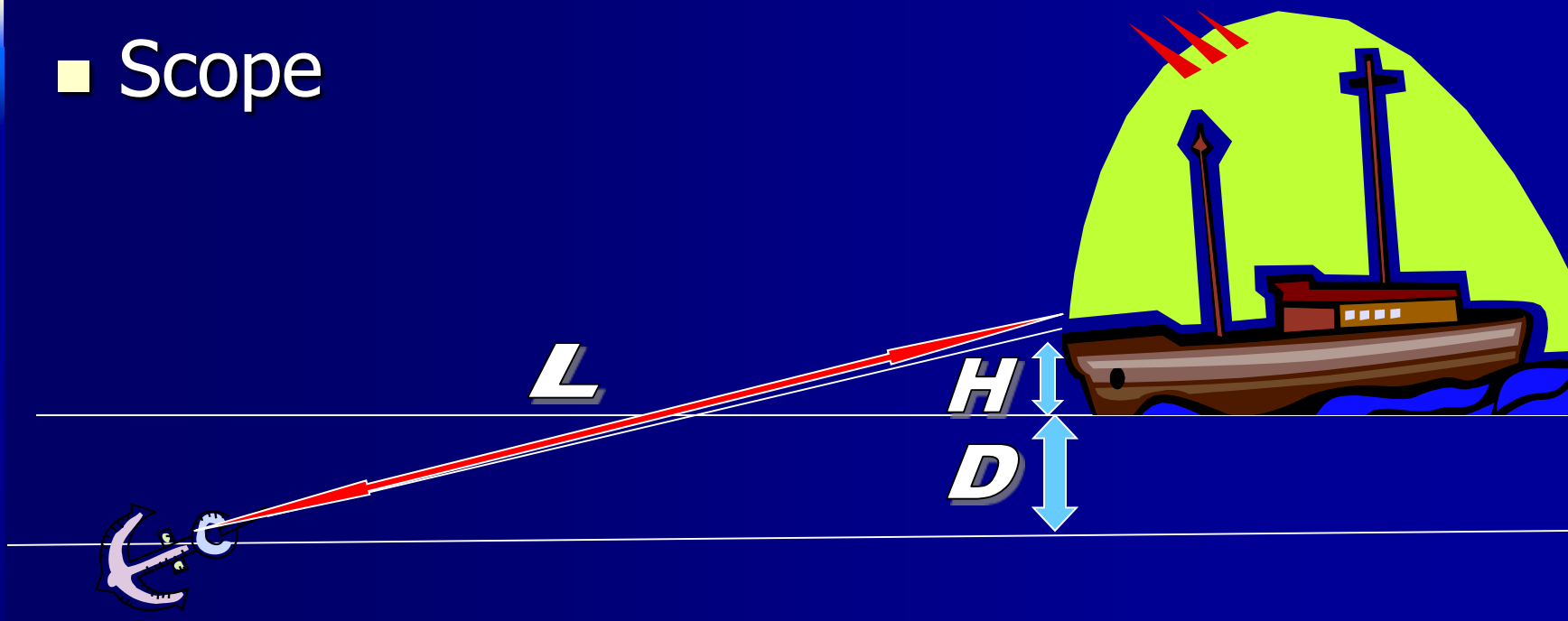
When will conditions change?

Rules of the Rode

- Challenges with every anchorage
- Nylon v. polyester/polyethylene
- Types of chain

don't forget about the tidal range

- Scope



L ÷ H + D = scope ratio

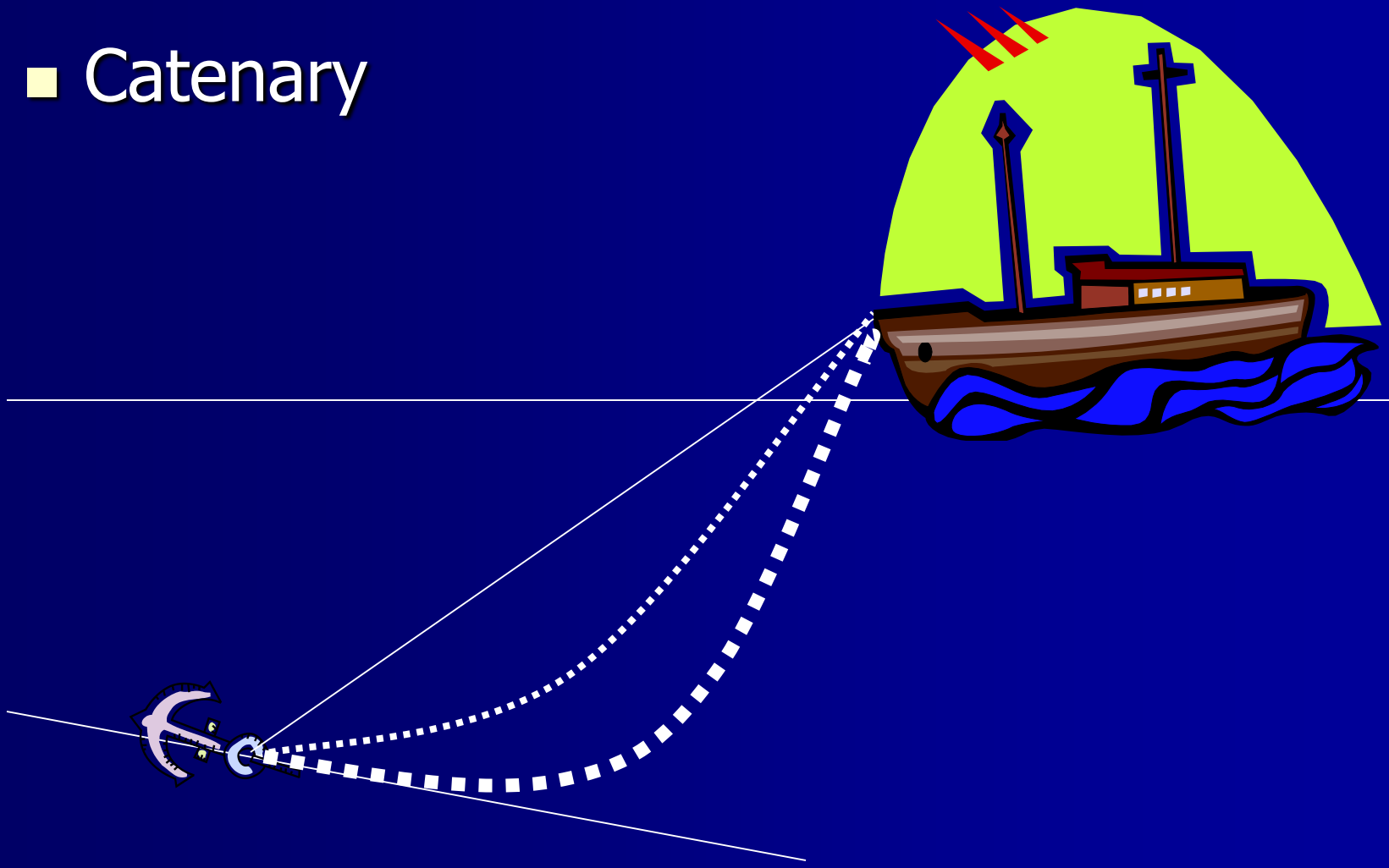
The right ratio?

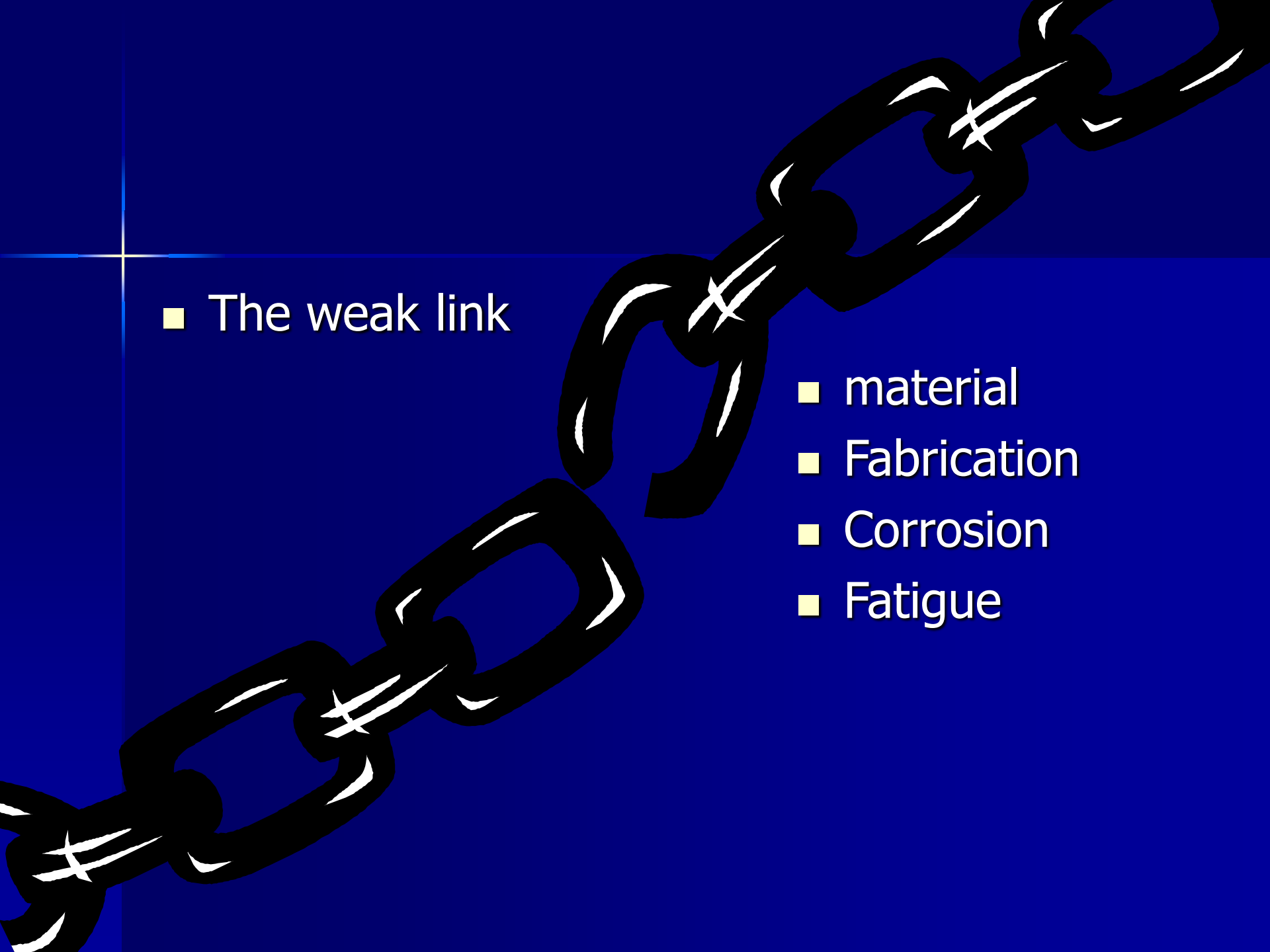
- 3 to 1
- 5 to 1
- 7 to 1
- 10 to 1

It all depends


Final Victory

- Catenary





- The weak link
  - material
  - Fabrication
  - Corrosion
  - Fatigue

ACCO G43 Domestic High Test ISO Chain

A high tensile strength carbon steel anchor (windlass) chain with an ISO short link. The short link makes it more flexible and ideally suited as a windlass chain.

ACCO G70

- Hot-Dip Galvanized High-Test Chain
- Hot dip galvanizing coupled with superior strength-to-weight-ratios (compared to Grade 43 chain) make Grade 70 chain the choice for some but not all boaters.

- Roller and sprit design
- Fairlead to windlass
- A good lead for a “snubber” line

Chain termination

- A rope tail allows the chain rode to be released in an emergency

Rope Rodes

- STRETCH
- CHAFE
- STRESS

Nylon Yarn

Filament - yarn – strand - rope

Destructive testing

Friction caused melting

Thimbles

- Shackle lore

- To swivel or NOT

The spare-man

a-k-a bow roller

- Shape of the stem
- Side plates and structure
- One or two rollers

Stem shape, roller, anchor implications

- Fabrication and foredeck structure
- Adaptable sprit for foil-less roller fitting

Anchor Windlass

- Vertical v. Horizontal windlasses
- Mechanical structure and backing plate

- Placement and control location
  - Chain stripping
  - Chain castling
  - Twisting chain

Repairability

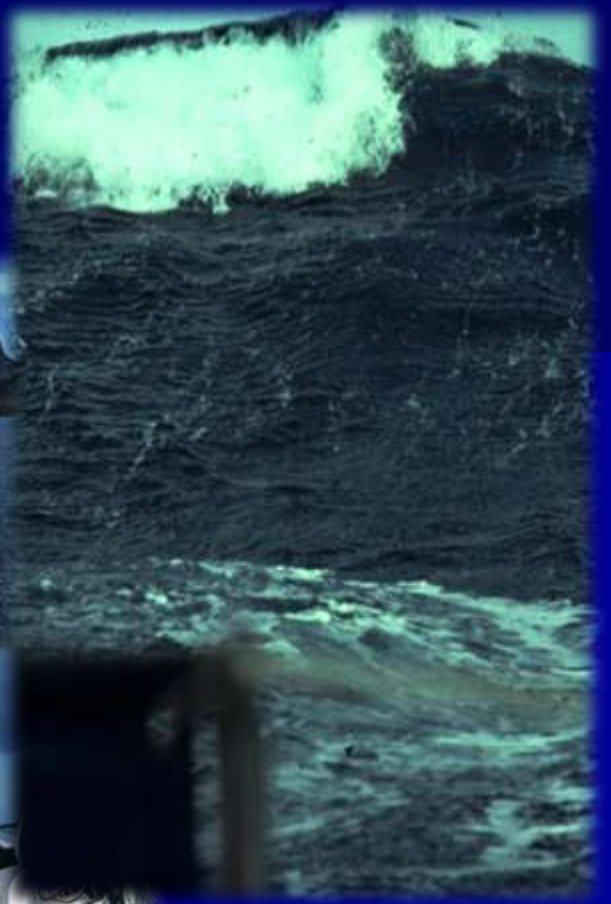
- Clutch v. electric up and down

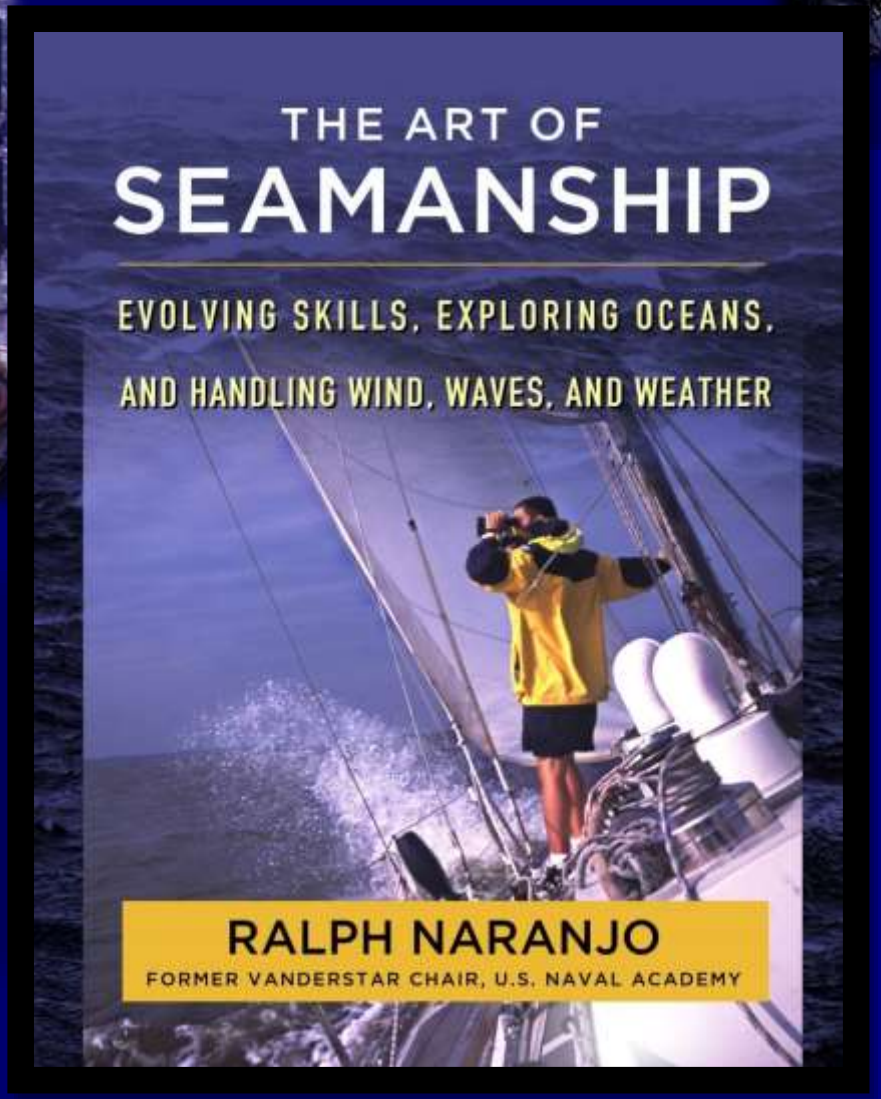
Parts availability

Metallurgy

Anchor Overkill?

A five year voyage around the world




THE ART OF
SEAMANSHIP
EVOLVING SKILLS, EXPLORING OCEANS,
AND HANDLING WIND, WAVES, AND WEATHER
RALPH NARANJO
FORMER VANDERSTAR CHAIR, U.S. NAVAL ACADEMY

Anchor Selection –

No perfect anchor for all conditions—some better than others

Stock

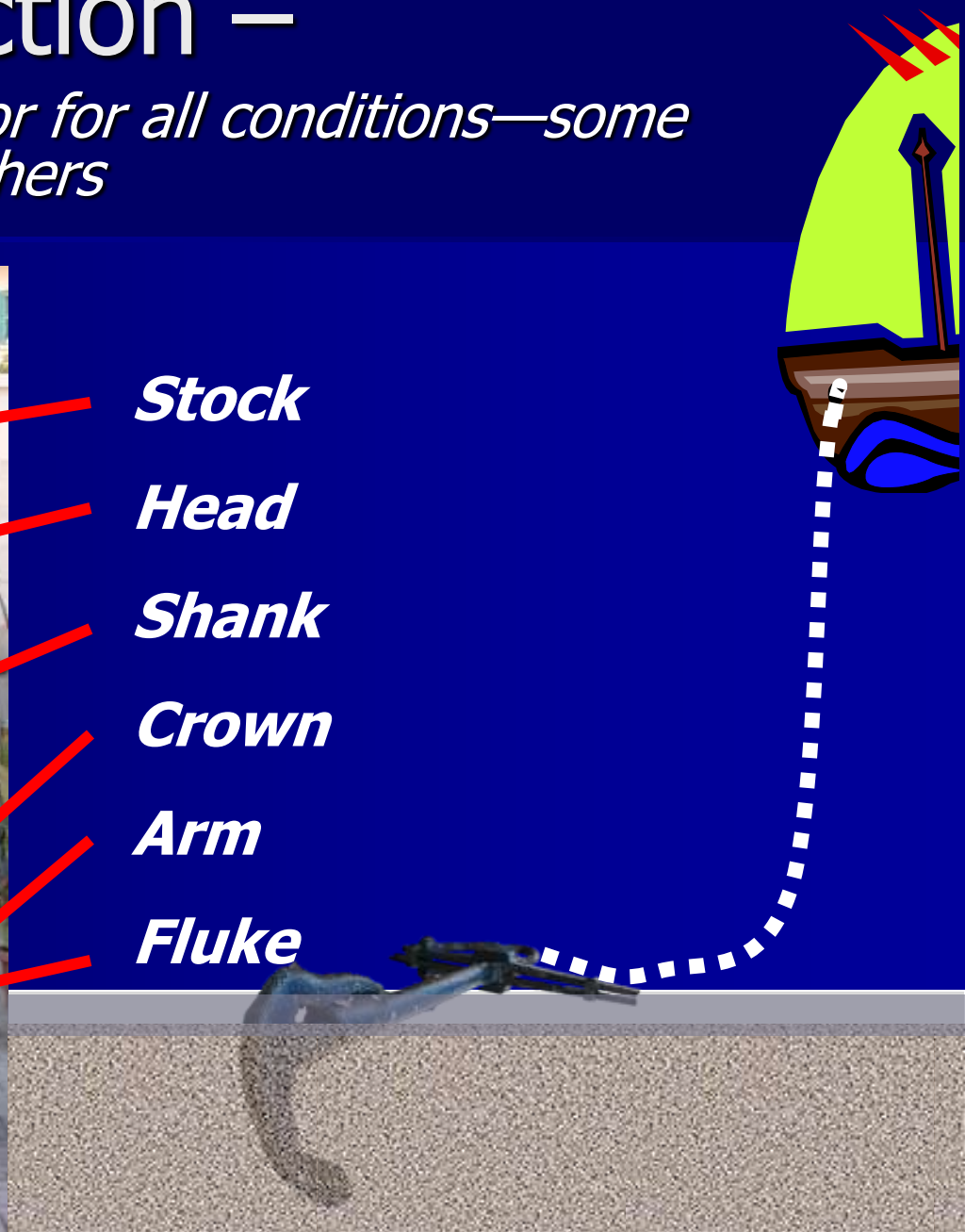
Head

Shank

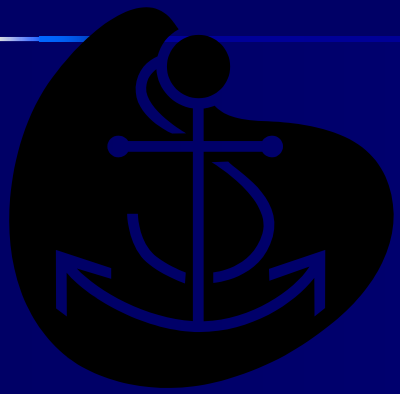
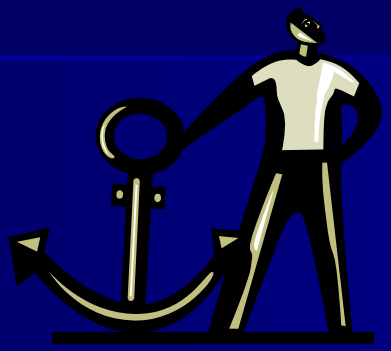
Crown

Arm

Fluke



Snake oil and anchor spin

- Never drags
- Ultra light
- Needs no chain
- Holds like an anchor twice its size

In your mind

- Pattern and purpose
- Materials used
- Method of construction

How easy is it to bend or break?

Plow pattern

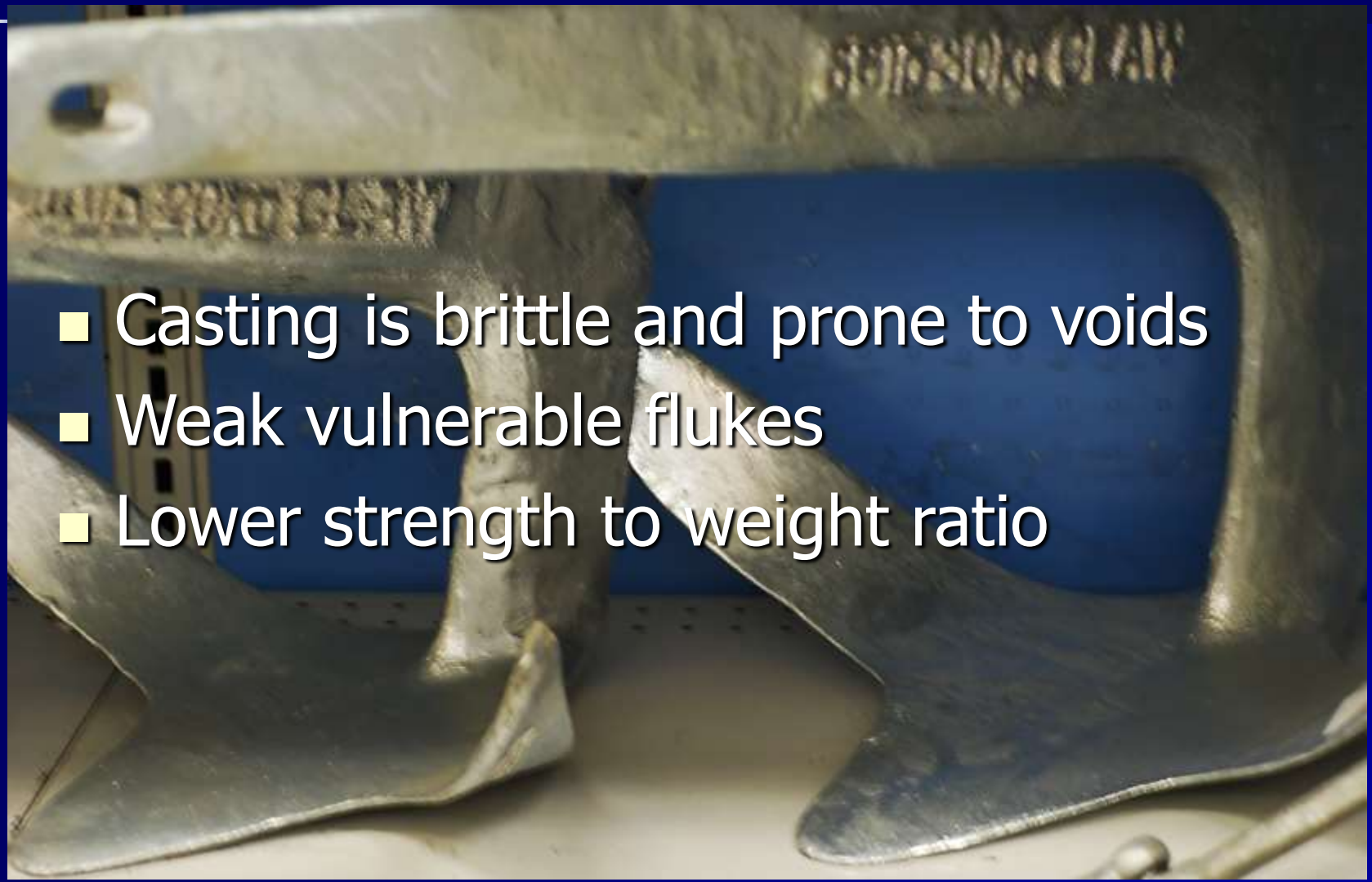
- Versatile
- Relies upon weight and shape
- Good reset characteristics
- Behaves as named---PLOW

Hook and claw pattern

- Quick to set
- Versatile
- Weld and metallurgy dependent

Check the welds

Forging versus casting



- Casting is brittle and prone to voids
- Weak vulnerable flukes
- Lower strength to weight ratio

Older Danforth H - series

Excellent Craftsmanship

- Quality welds
- Effective design
- Functional fluke area to weight ratio

Fortress
understanding aluminum

- High holding power to weight ratio
- Vulnerable to snagging
- Stows in pieces
- Stainless and aluminum


Stainless steel ? ? ?

Anchoring

- A push button experience run from the pilot house?

- Electrical requirements
- battery location issues
  - Forward battery location
  - HD cables and long run

Power source

Ohm's Law and wire gauge

- Lead angles
  - Does the layout improve the anchoring process or does it complicate the routine?

- Wash down pump
- Scrub brush and bucket
- Short tow and drag clean

Test limitations

- Setting and resetting
- Single line hold
- Cold front passage

Luck and a lunch hook

- Certain patterns are better suited to certain substrates
  - Danforth
  - Plow
  - Claw
  - Hook
  - Yachtsman
  - Yard art

Setting an anchor

- Power through and check soundings
- Note stage of tide and range
- Evaluate swinging room
- Gather stern way
- Deploy rode
- Set anchor (s)

Four alternatives

- The single anchor solution
- Double up
- Bow and stern
- Tandem

Dragging anchor

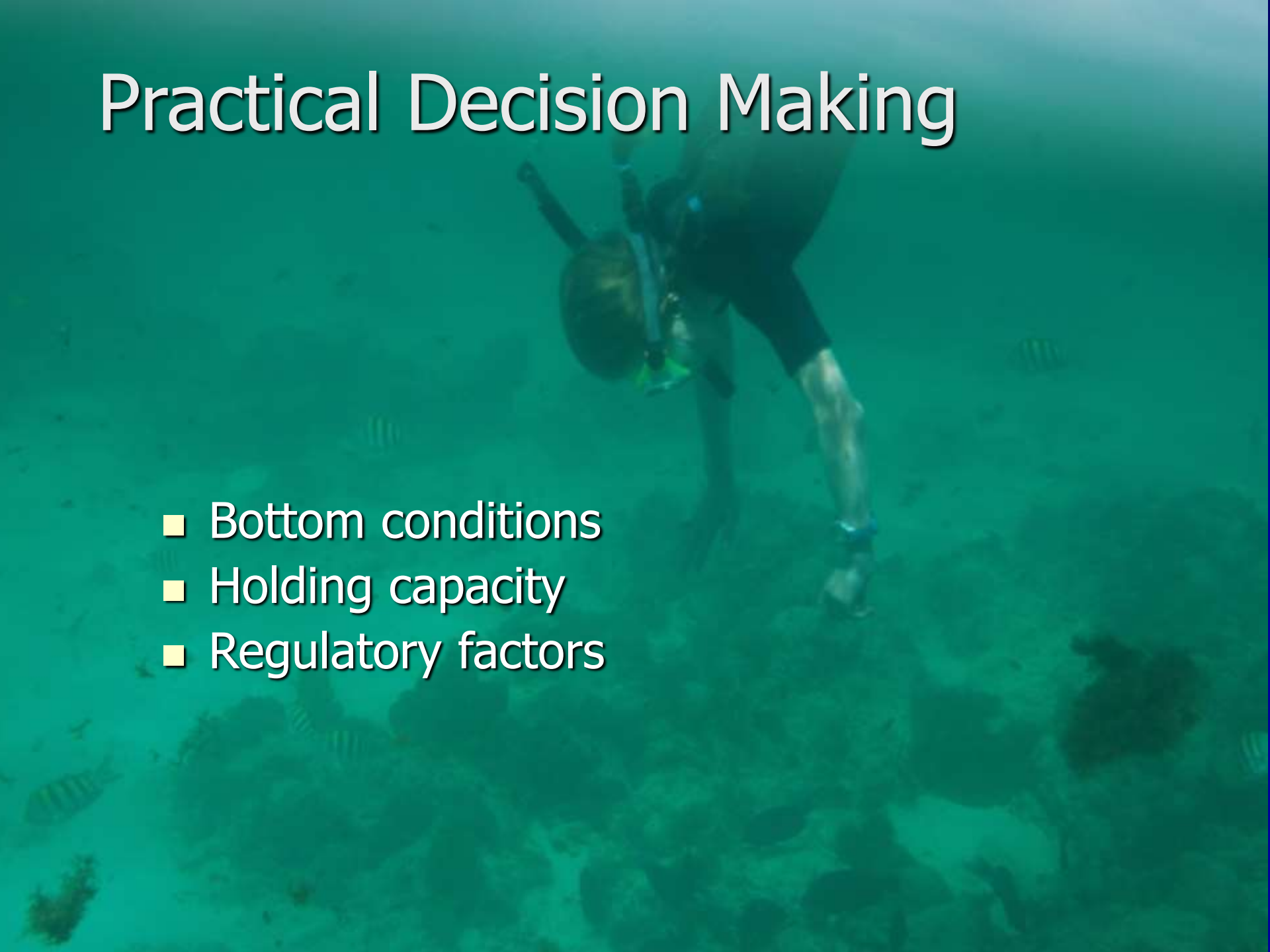
- More scope
- Power yaw and set second anchor
- Retrieve and reset

Storms seem worse at night!

- Improve the chance of reset– balance the fluke area/weight ratio
- Plowing (a controlled drag)….good or bad
- Large fluke anchors can be reluctant to reset

ocean passage making

Practical Decision Making



- Bottom conditions
- Holding capacity
- Regulatory factors

- Shelter

- Weather conditions

Vessel Constraints

- Design factors
  - Windage
  - Underbody configuration
  - Displacement

Anchoring Scenarios

- Swinging room

Poor holding

grass, dredge spoil, hard slab

Tranquility at anchor


The weather wise…
know what to look for