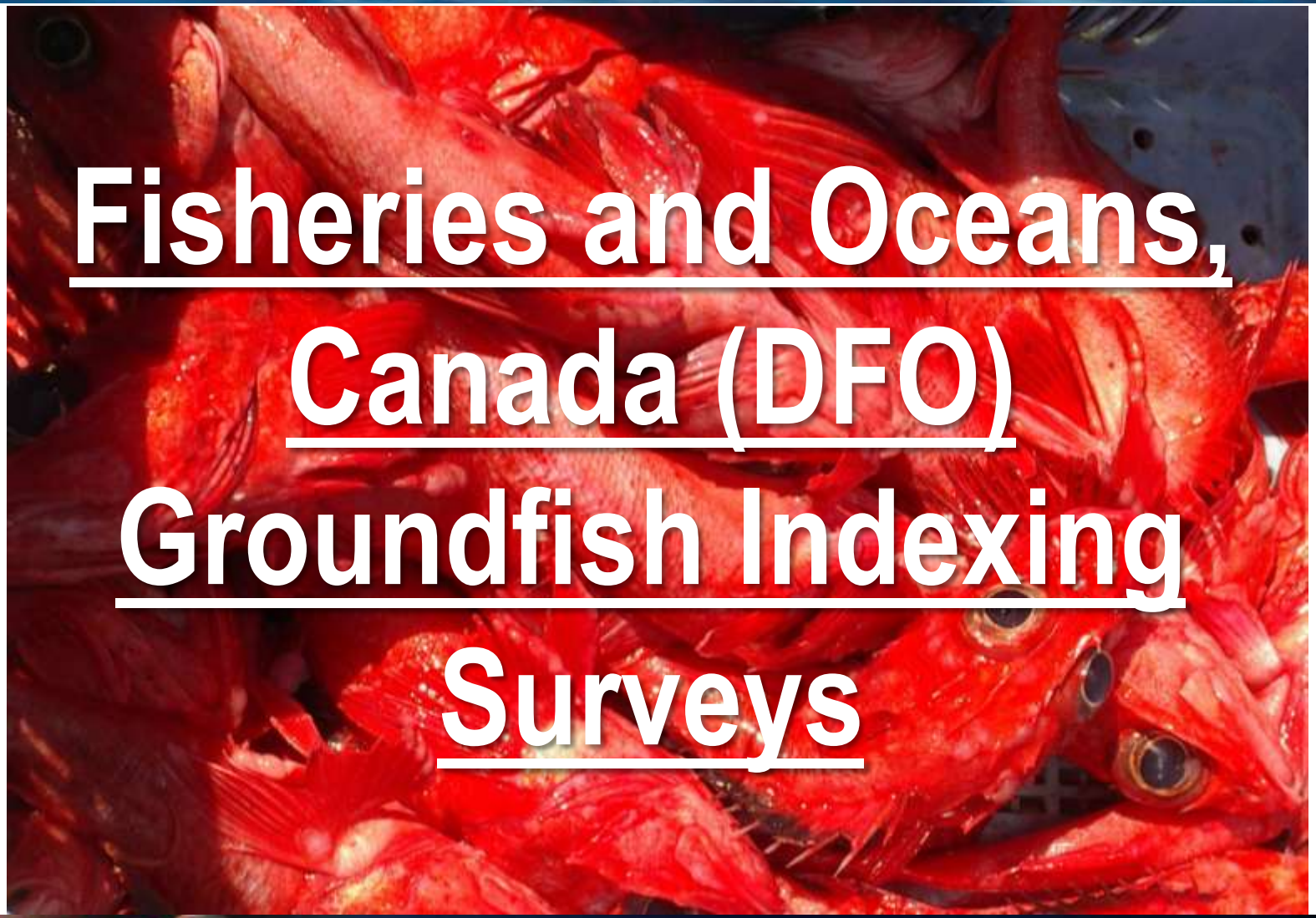
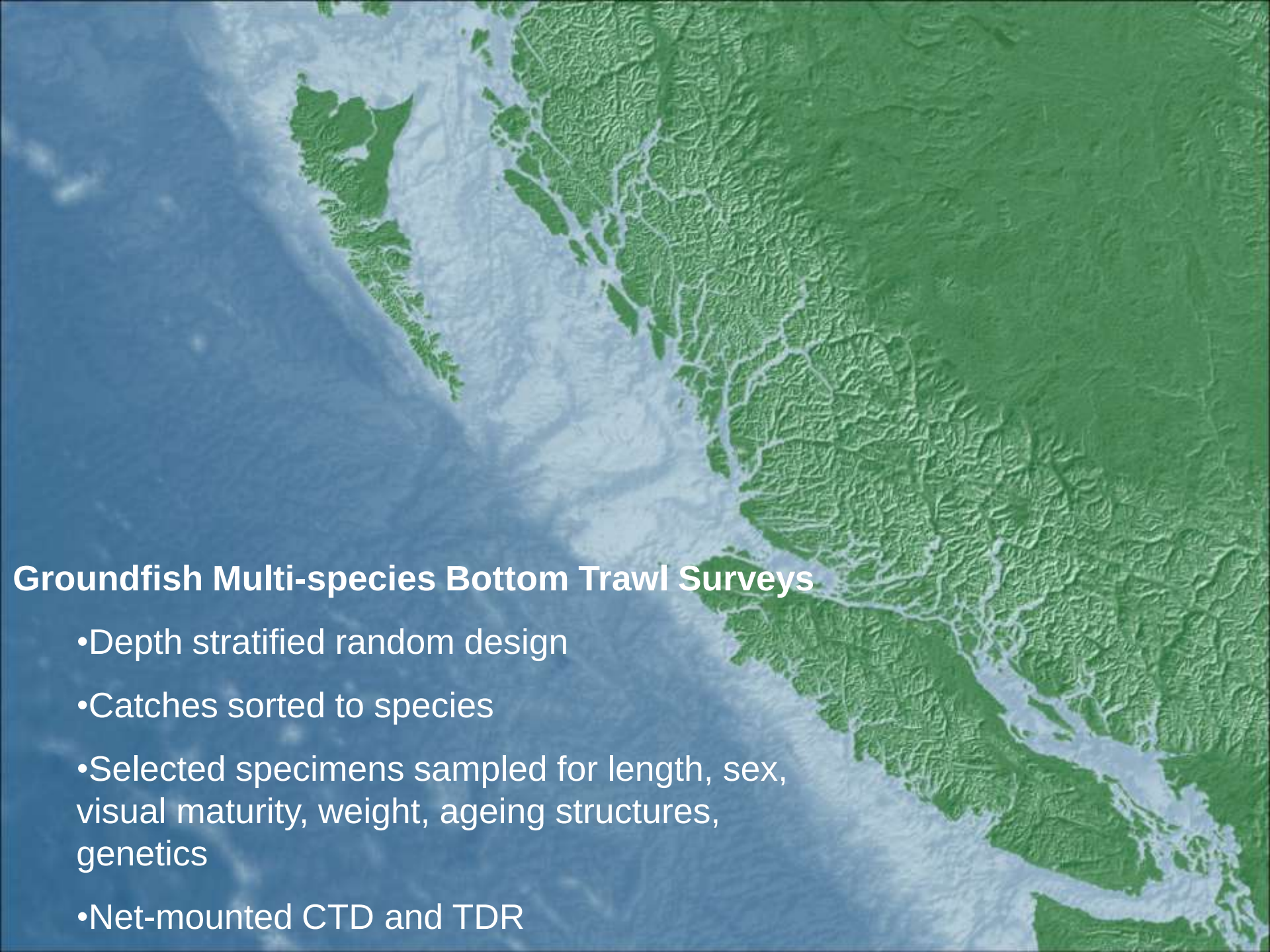


Fisheries and Oceans, Canada (DFO) Groundfish Indexing Surveys

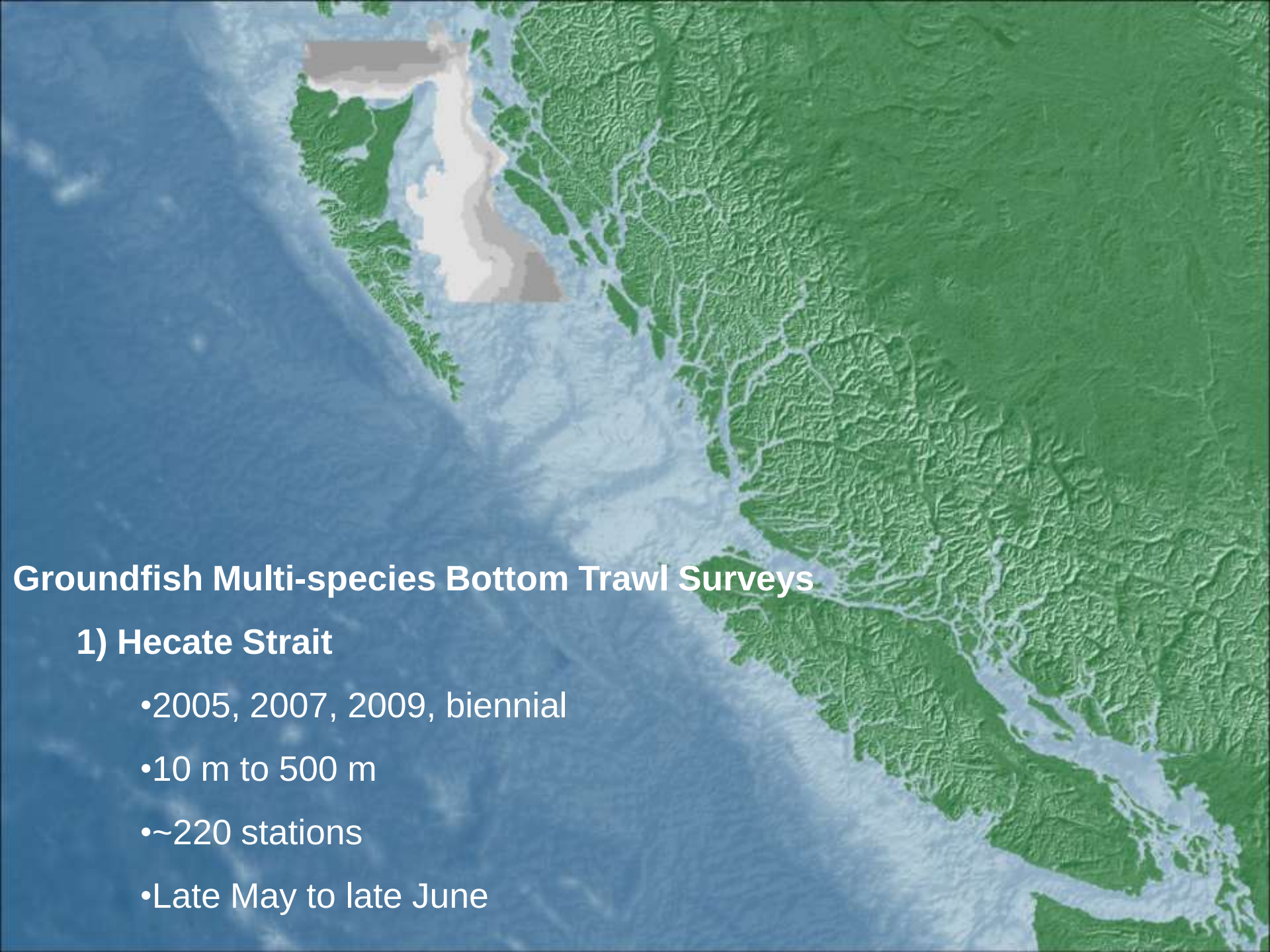
DFO Groundfish Indexing Surveys

1) Groundfish Multi-species Bottom Trawl
2) Multi-species Small Mesh Bottom Trawl (shrimp)
3) Sablefish Longline Trap
4) Inshore Rockfish Longline Hook
5) Hake Hydro-acoustic
6) Strait of Georgia Dogfish Longline Hook



Groundfish Multi-species Bottom Trawl Surveys

- Depth stratified random design
- Catches sorted to species
- Selected specimens sampled for length, sex, visual maturity, weight, ageing structures, genetics
- Net-mounted CTD and TDR



Groundfish Multi-species Bottom Trawl Surveys

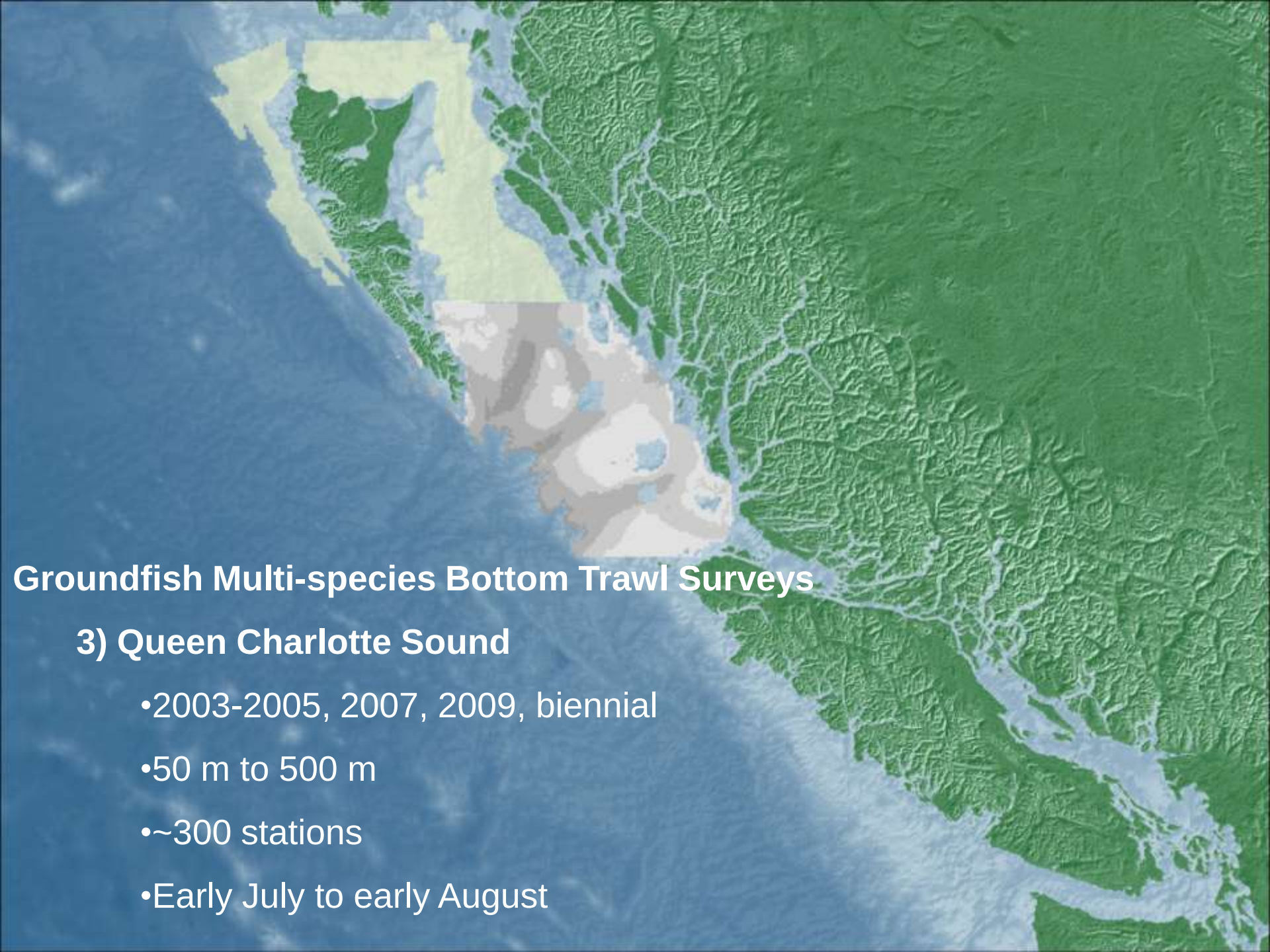
1) Hecate Strait

- 2005, 2007, 2009, biennial
- 10 m to 500 m
- ~220 stations
- Late May to late June

Groundfish Multi-species Bottom Trawl Surveys

2) West Coast Haida Gwaii

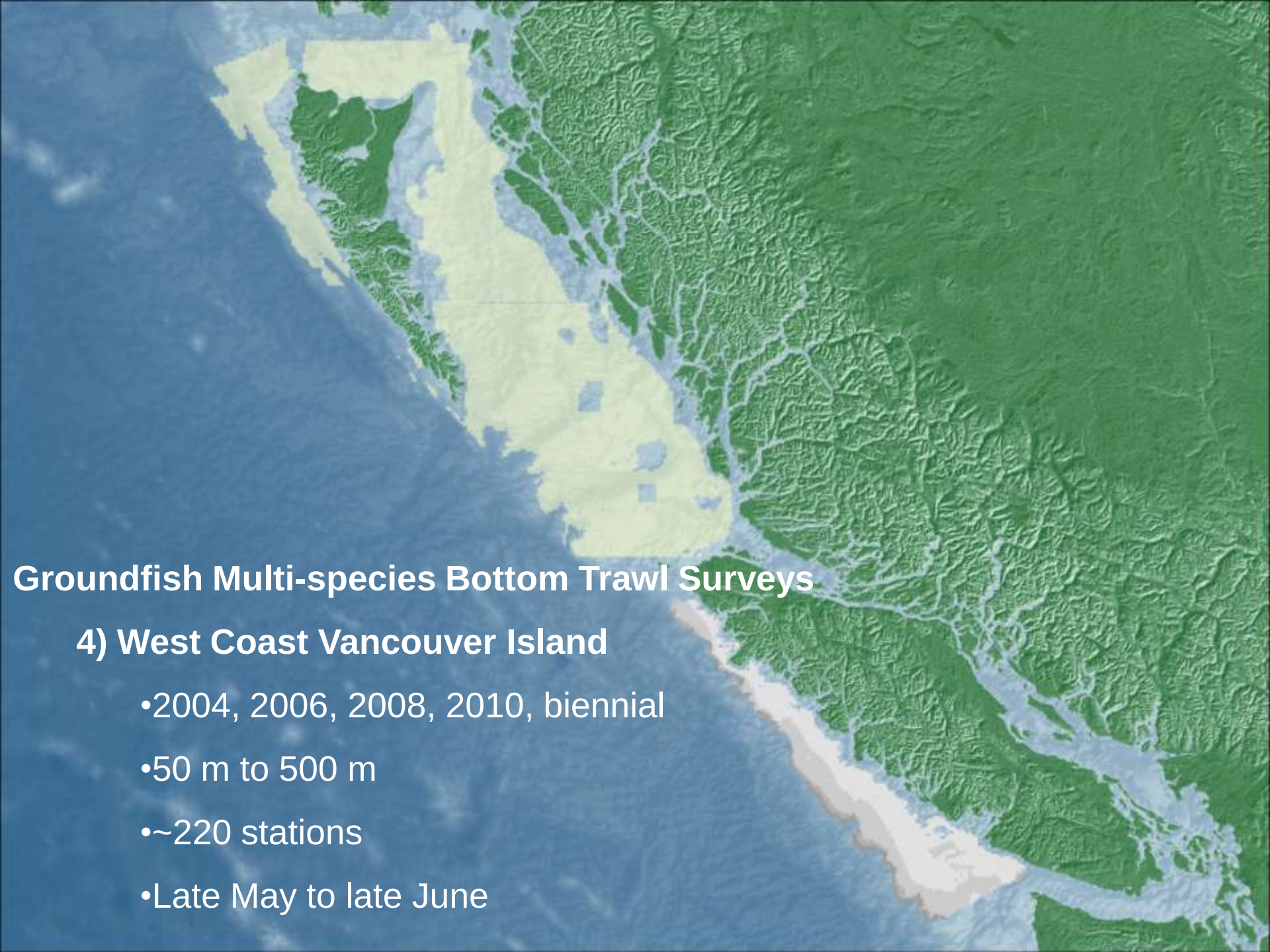
- 2006, 2007, 2008, 2010, biennial
- 180 m to 1300 m
- ~150 stations
- Late August to late September



Groundfish Multi-species Bottom Trawl Surveys

3) Queen Charlotte Sound

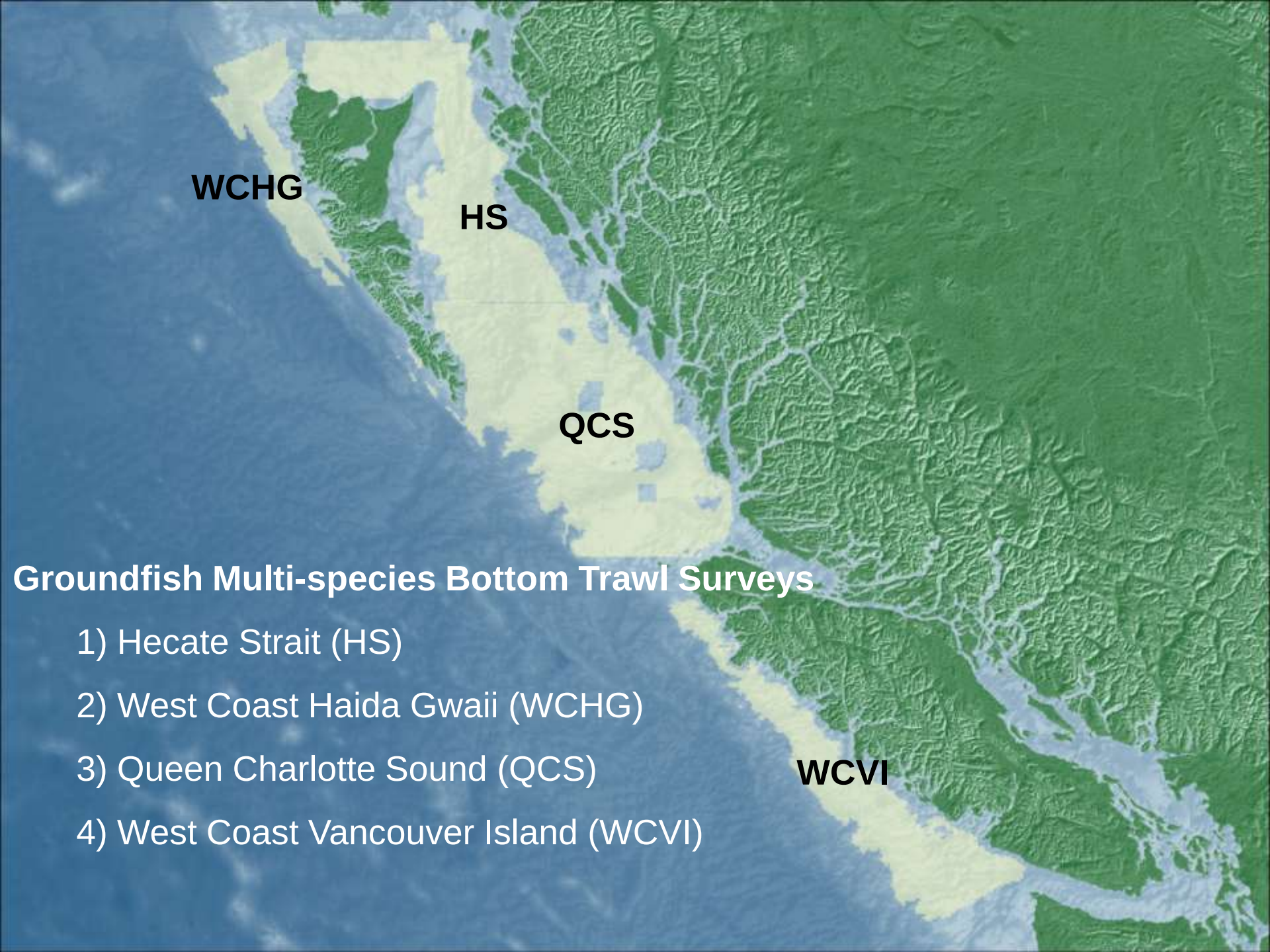
- 2003-2005, 2007, 2009, biennial
- 50 m to 500 m
- ~300 stations
- Early July to early August



Groundfish Multi-species Bottom Trawl Surveys

4) West Coast Vancouver Island

- 2004, 2006, 2008, 2010, biennial
- 50 m to 500 m
- ~220 stations
- Late May to late June



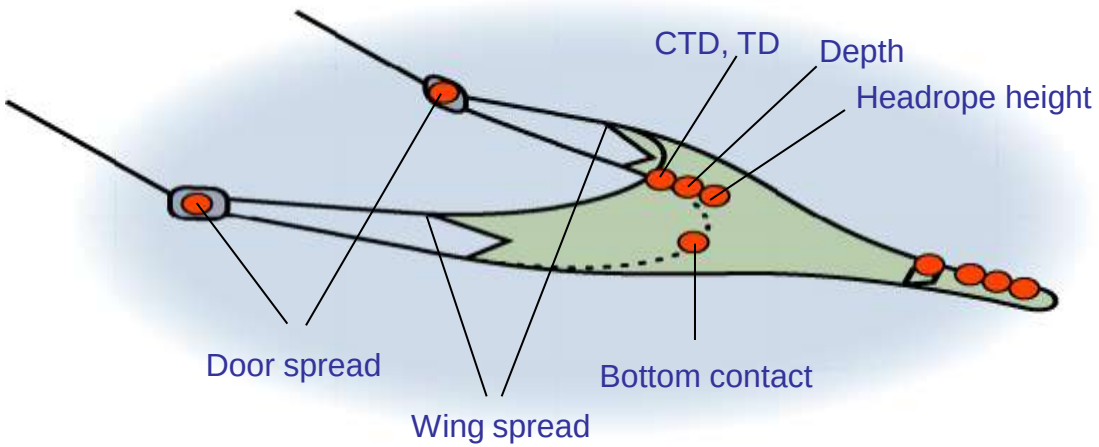
Groundfish Multi-species Bottom Trawl Surveys

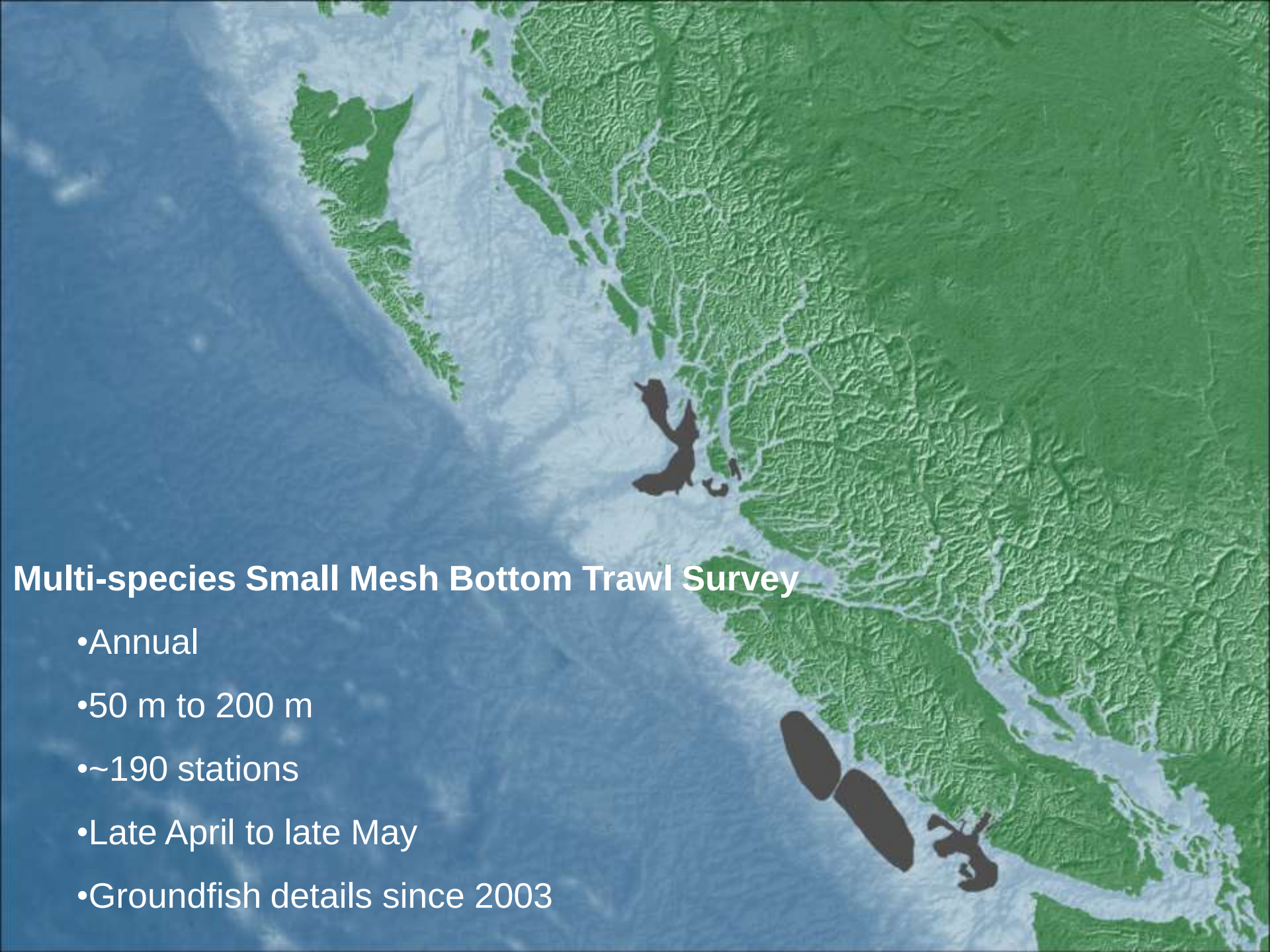
1) Hecate Strait (HS)
2) West Coast Haida Gwaii (WCHG)
3) Queen Charlotte Sound (QCS)
4) West Coast Vancouver Island (WCVI)

Groundfish Multi-species Bottom Trawl Surveys

Vessel, net, and environmental monitoring

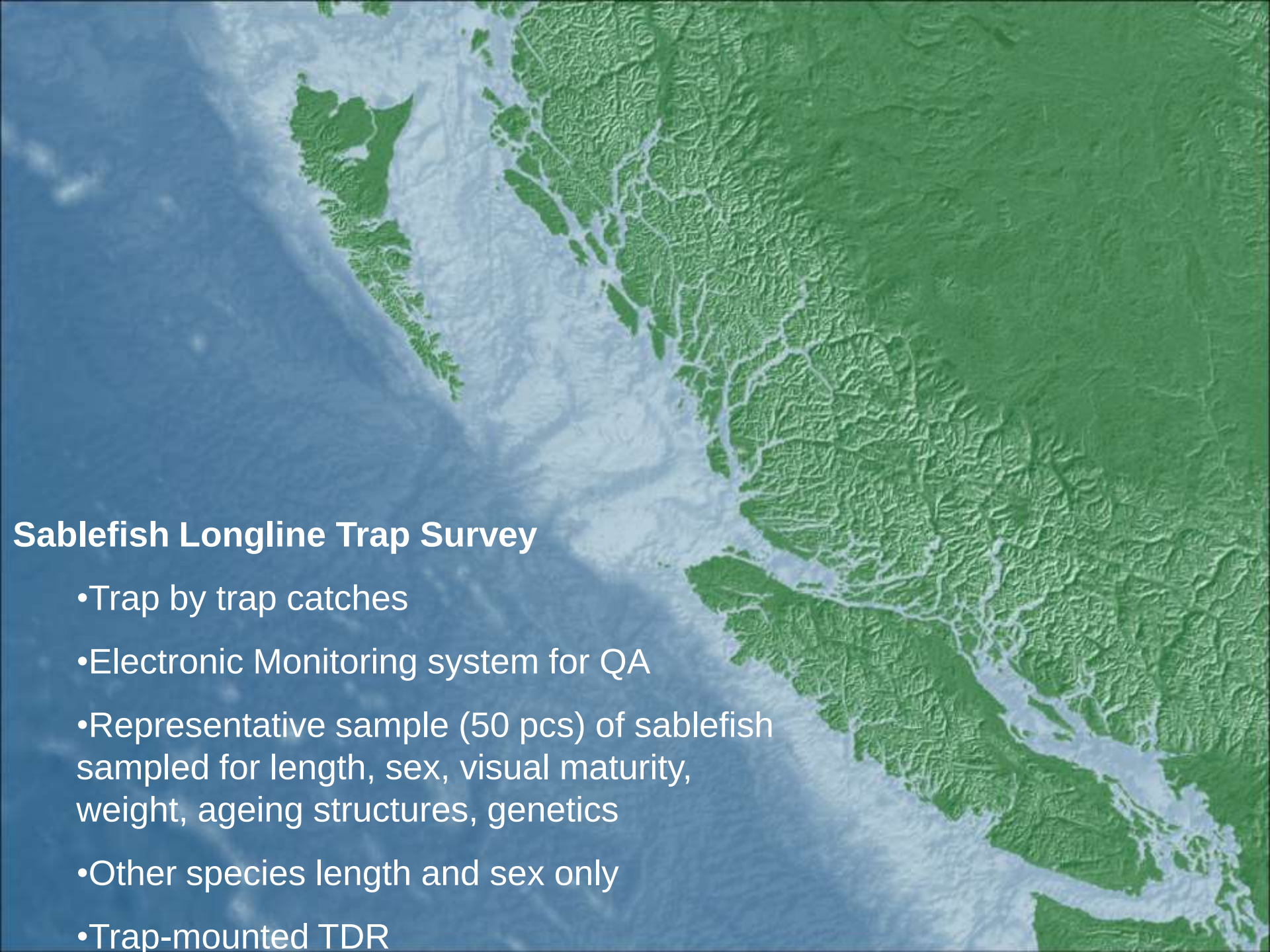
- GPS, speed, course, vessel weather station
- Net mensuration
  - Net depth
  - Trawl geometry
    - Door spread, wing spread
    - Headrope height
  - Bottom contact sensor
- Net mounted CTD
  - DO, pH
  - Continue with pH?
  - Mounting location?





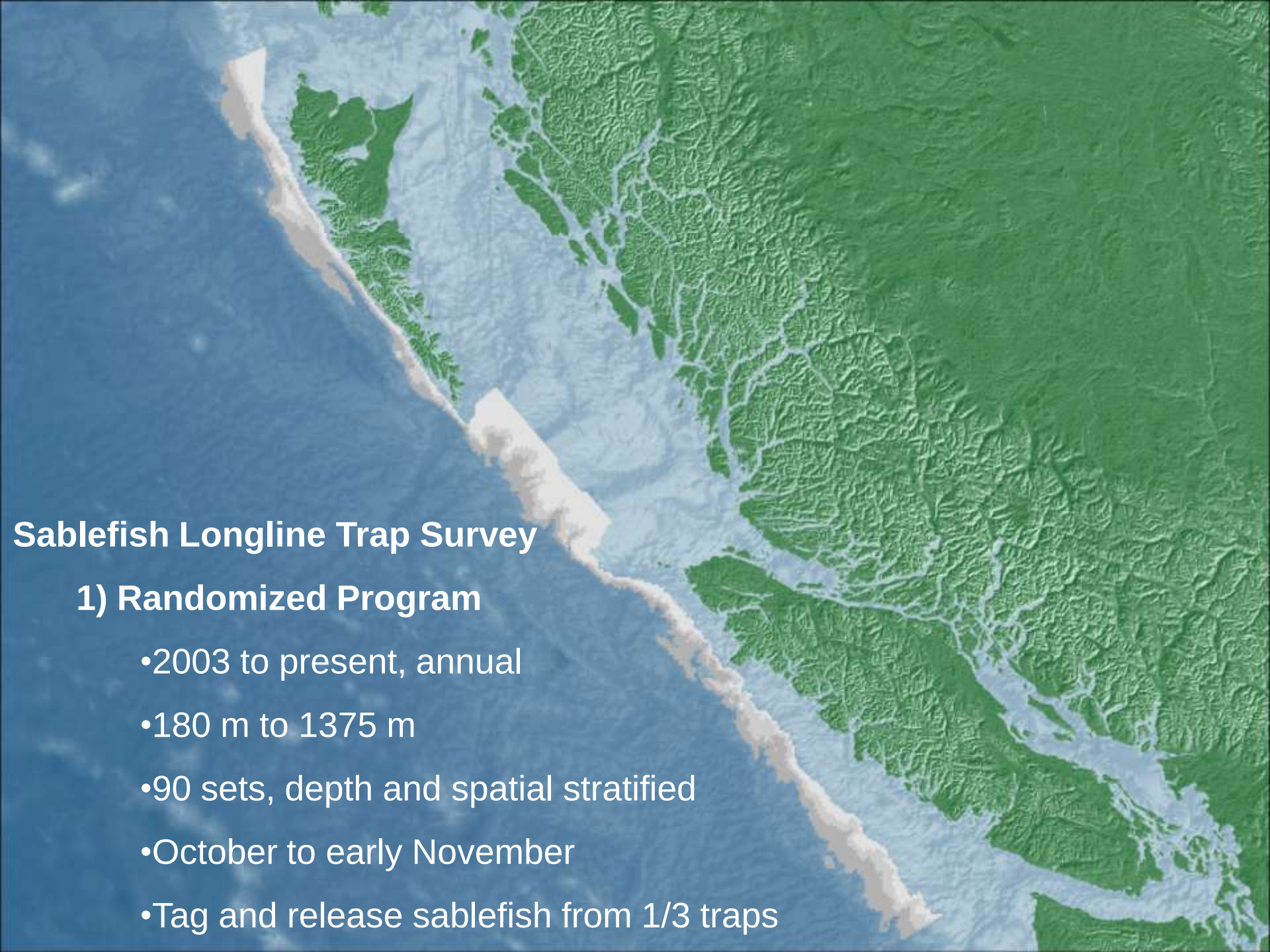
Multi-species Small Mesh Bottom Trawl Survey

- Annual
- 50 m to 200 m
- ~190 stations
- Late April to late May
- Groundfish details since 2003



Sablefish Longline Trap Survey

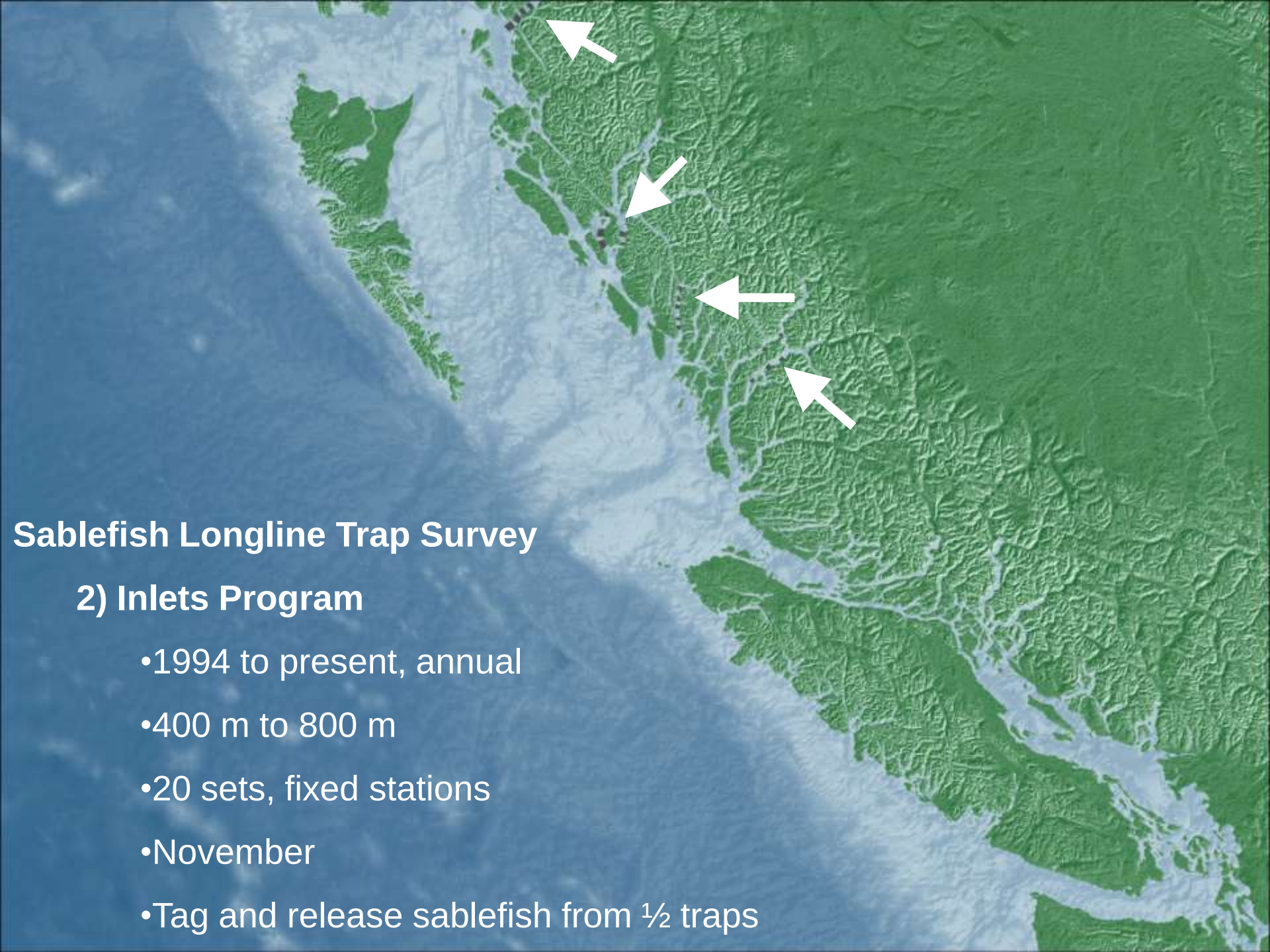
- Trap by trap catches
- Electronic Monitoring system for QA
- Representative sample (50 pcs) of sablefish sampled for length, sex, visual maturity, weight, ageing structures, genetics
- Other species length and sex only
- Trap-mounted TDR



Sablefish Longline Trap Survey

1) Randomized Program

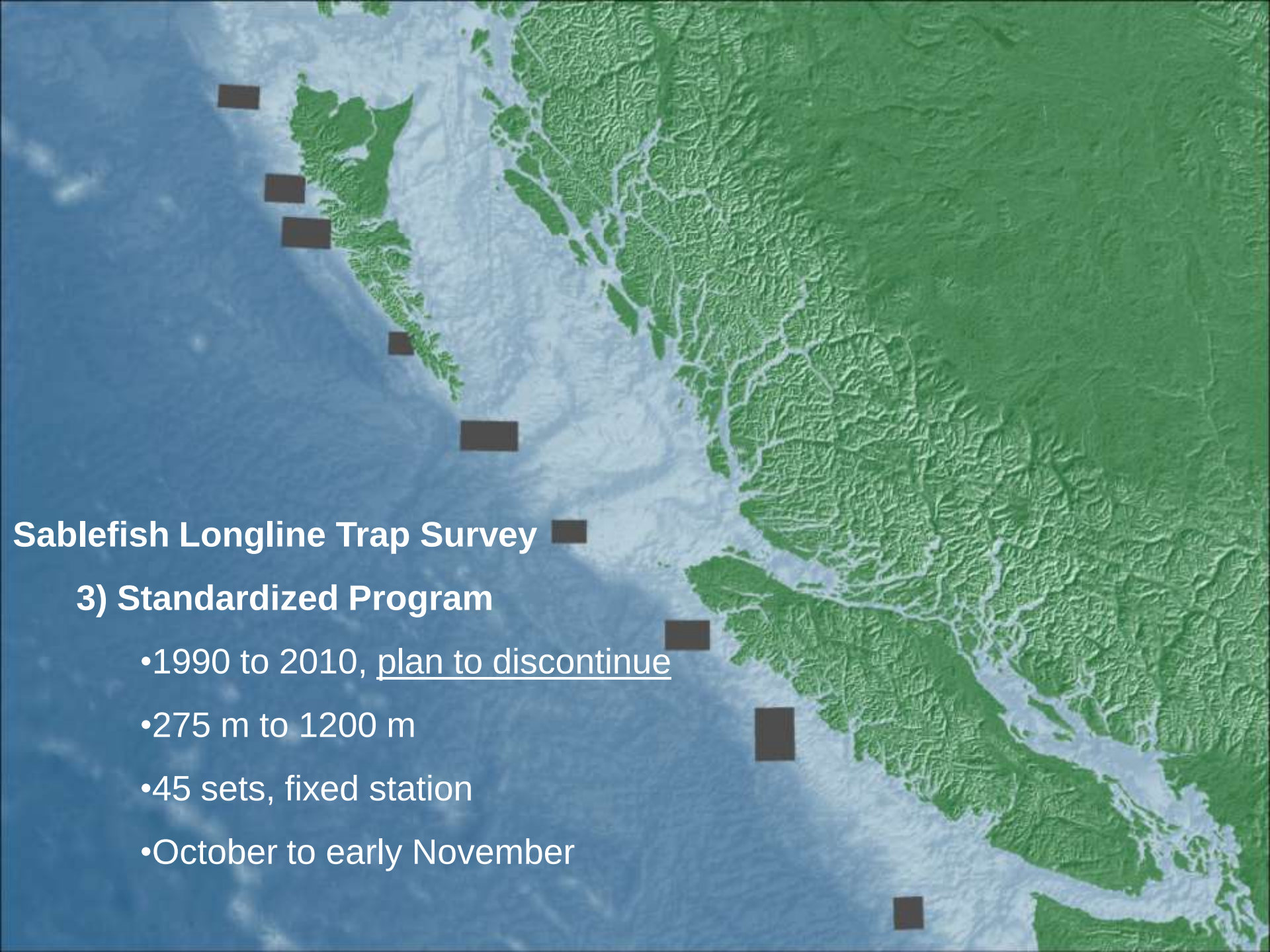
- 2003 to present, annual
- 180 m to 1375 m
- 90 sets, depth and spatial stratified
- October to early November
- Tag and release sablefish from 1/3 traps



Sablefish Longline Trap Survey

2) Inlets Program

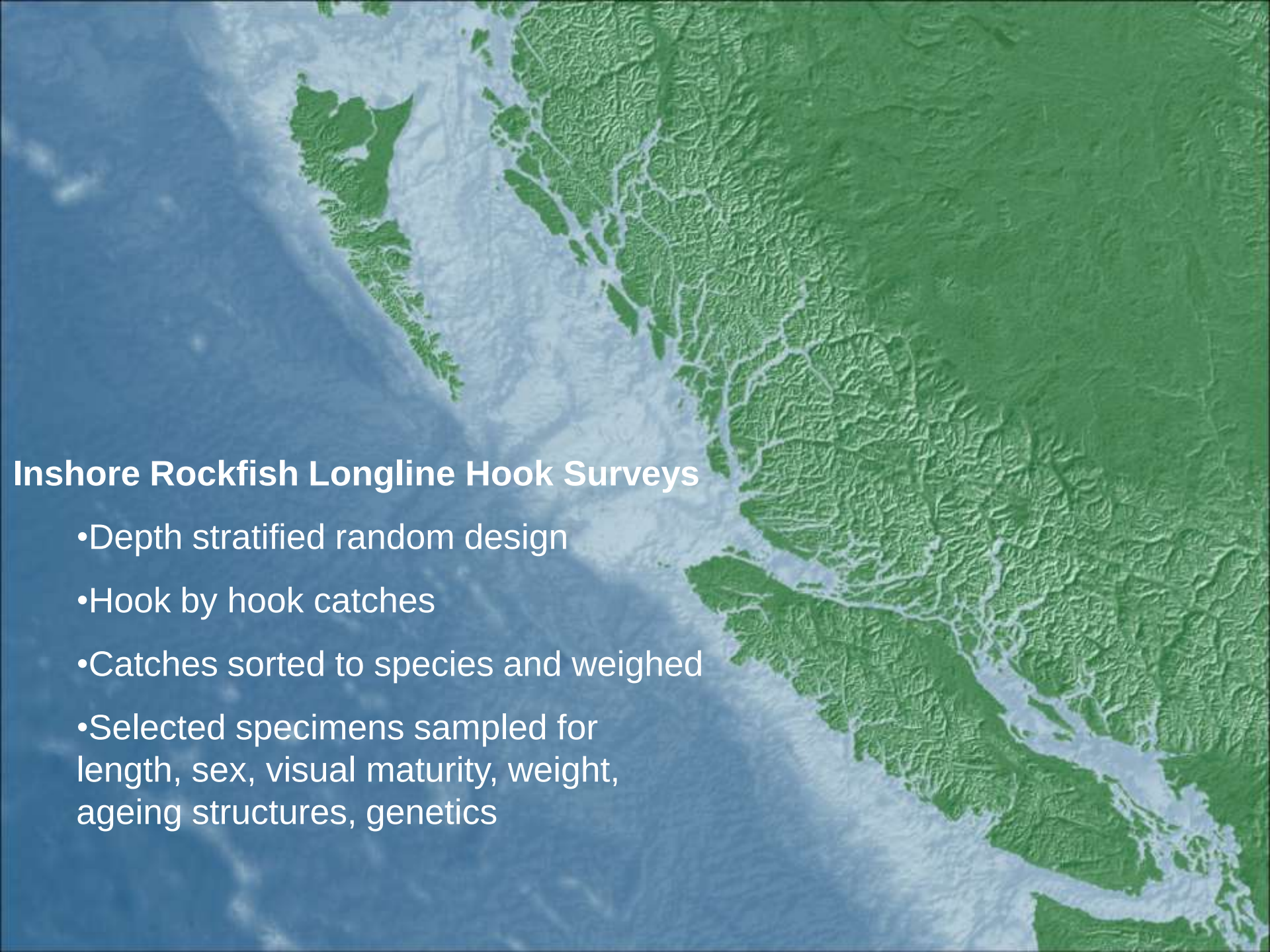
- 1994 to present, annual
- 400 m to 800 m
- 20 sets, fixed stations
- November
- Tag and release sablefish from ½ traps



Sablefish Longline Trap Survey

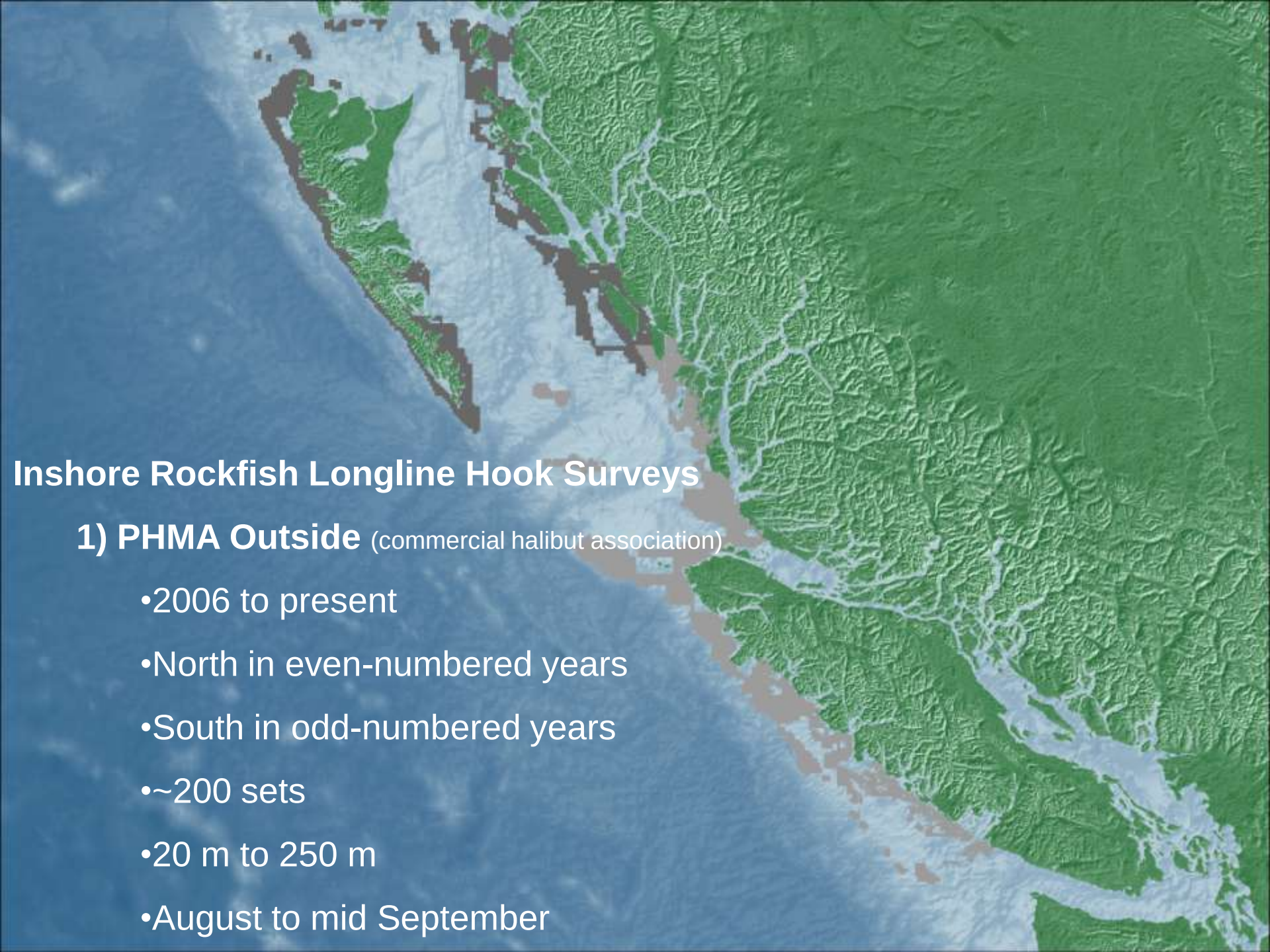
3) Standardized Program

- 1990 to 2010, plan to discontinue
- 275 m to 1200 m
- 45 sets, fixed station
- October to early November



Inshore Rockfish Longline Hook Surveys

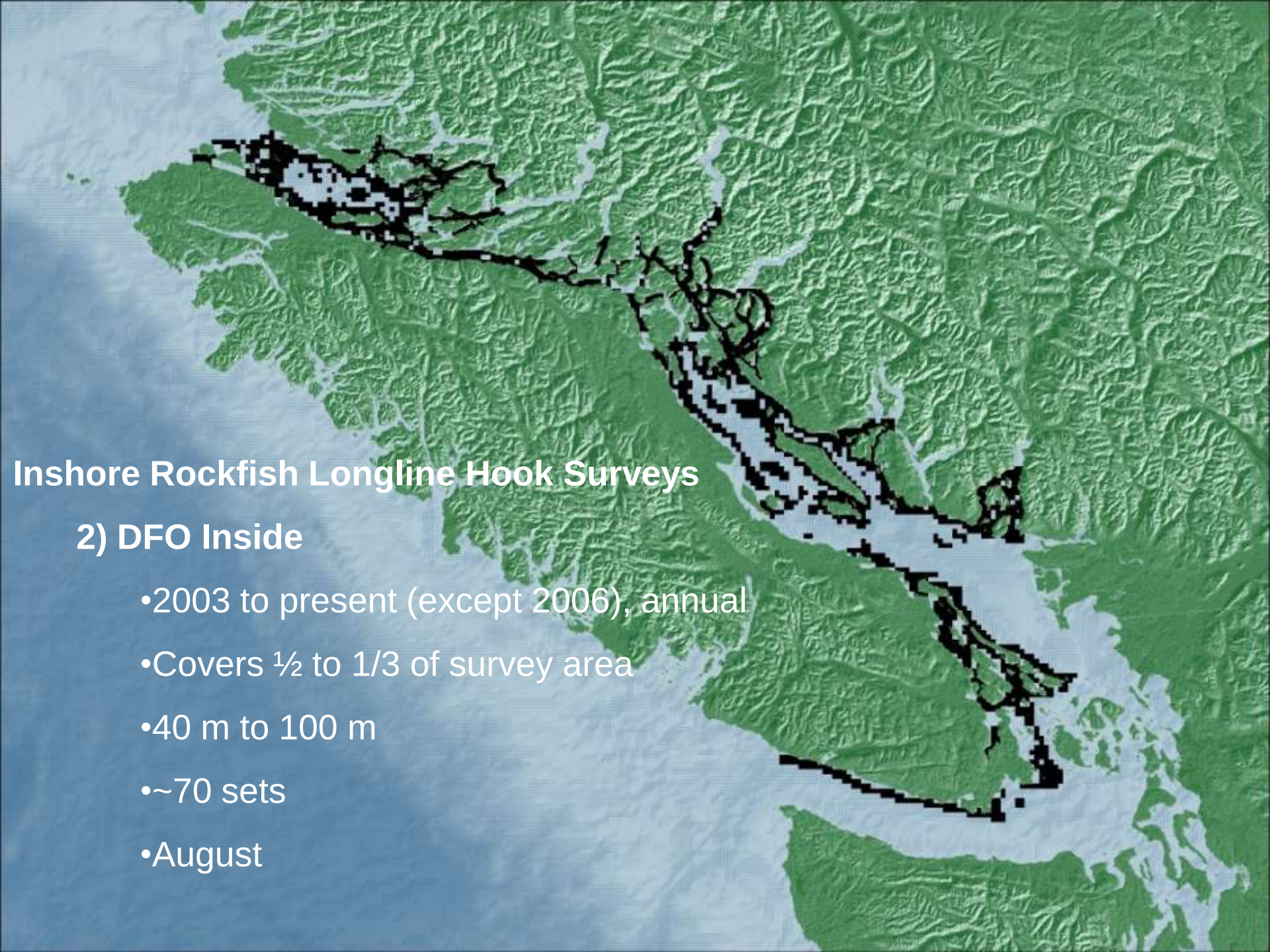
- Depth stratified random design
- Hook by hook catches
- Catches sorted to species and weighed
- Selected specimens sampled for length, sex, visual maturity, weight, ageing structures, genetics



Inshore Rockfish Longline Hook Surveys

1) PHMA Outside (commercial halibut association)

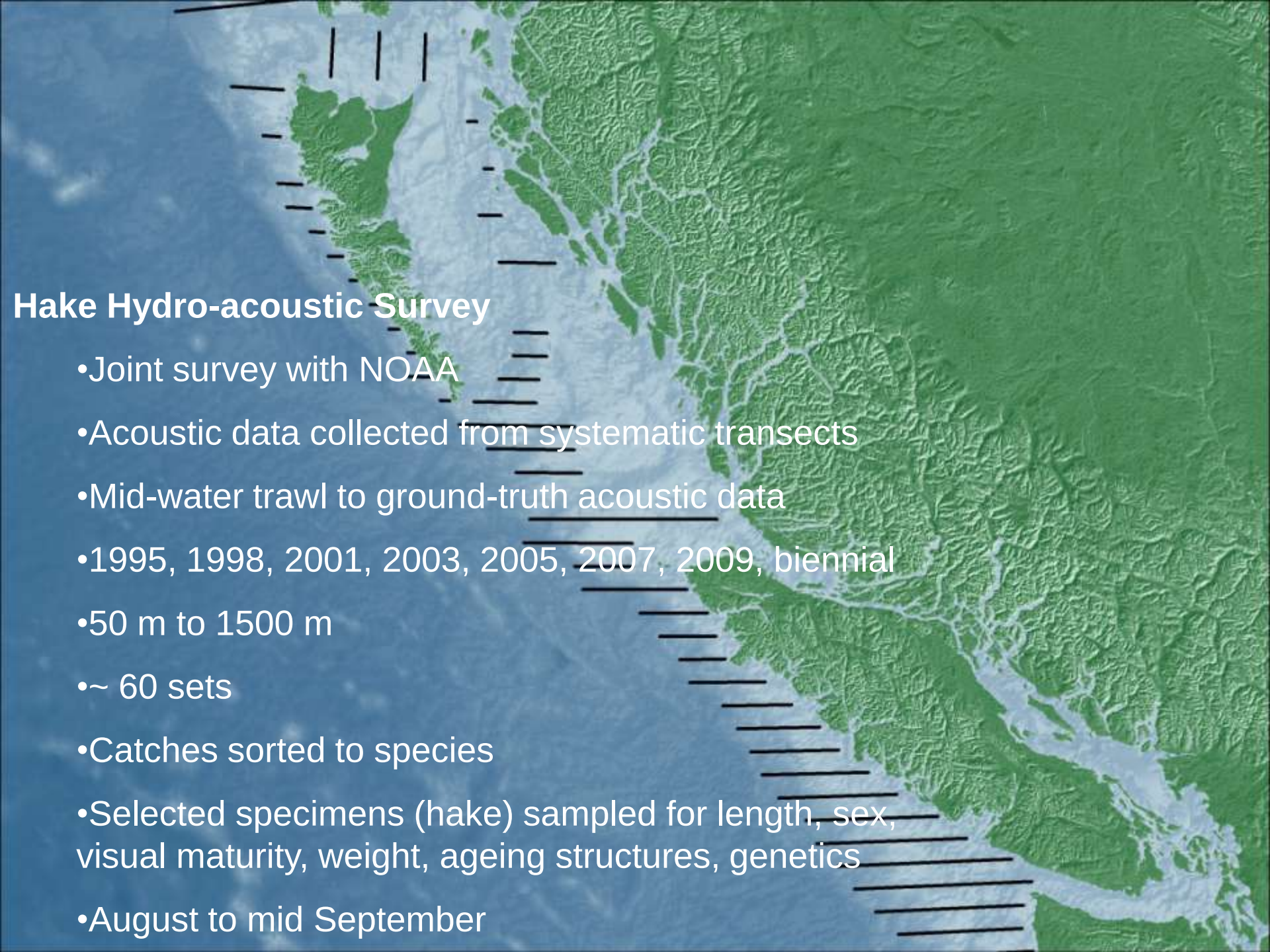
- 2006 to present
- North in even-numbered years
- South in odd-numbered years
- ~200 sets
- 20 m to 250 m
- August to mid September



Inshore Rockfish Longline Hook Surveys

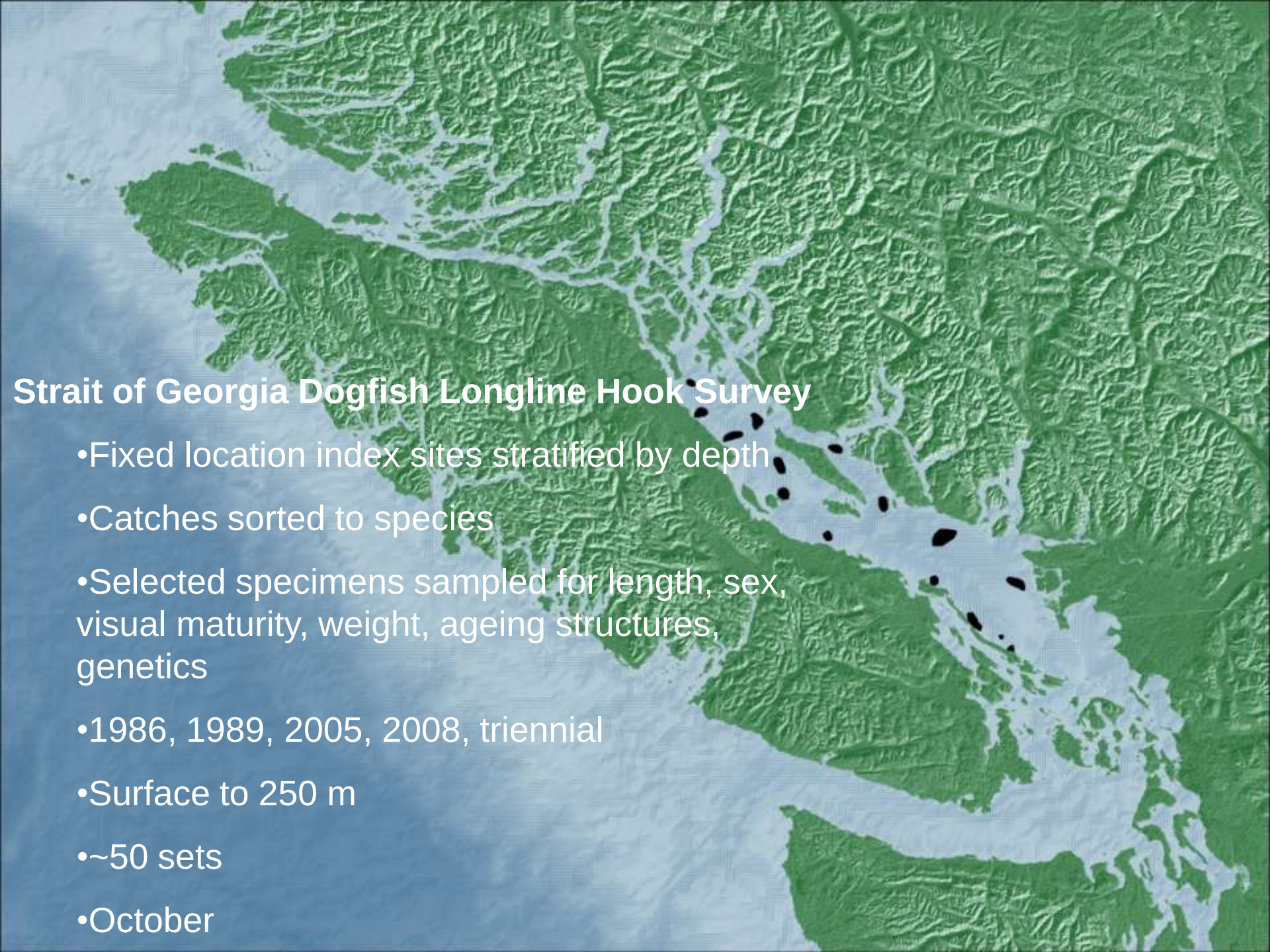
2) DFO Inside

- 2003 to present (except 2006), annual
- Covers ½ to 1/3 of survey area
- 40 m to 100 m
- ~70 sets
- August



Hake Hydro-acoustic Survey

- Joint survey with NOAA
- Acoustic data collected from systematic transects
- Mid-water trawl to ground-truth acoustic data
- 1995, 1998, 2001, 2003, 2005, 2007, 2009, biennial
- 50 m to 1500 m
- ~ 60 sets
- Catches sorted to species
- Selected specimens (hake) sampled for length, sex, visual maturity, weight, ageing structures, genetics
- August to mid September



Strait of Georgia Dogfish Longline Hook Survey

- Fixed location index sites stratified by depth
- Catches sorted to species
- Selected specimens sampled for length, sex, visual maturity, weight, ageing structures, genetics
- 1986, 1989, 2005, 2008, triennial
- Surface to 250 m
- ~50 sets
- October

The End


Stratified Random
Survey Design