Fishery Bulletin Index
Volume 101(1–4), 2003
List ot titles

101(1)

1 The use of parasites in discriminating stocks of Pacific halibut \textit{(Hippoglossus stenolepis)} in the northeast Pacific, by Reginald B. Blaylock, Leo Margolis, and John C. Holmes

10 Small-scale spatial and temporal variability in growth and mortality of fish larvae in the subtropical northcentral Gulf of Mexico: implications for assessing recruitment success, by Bruce H. Comyns, Richard F. Shaw, and Joanne Lyczkowski-Shultz

22 Temporal changes in population density, fecundity, and egg size of the Hawaiian spiny lobster \textit{(Panulirus marginatus)} at Necker Bank, Northwestern Hawaiian Islands, by Edward E. DeMartini, Gerard T. DiNardo, and Happy A. Williams

32 Impact of hatchery releases on the recreational fishery for Pacific threadfin \textit{(Polydactylus sexfilis)} in Hawaii, by Alan M. Friedlander and David A. Ziemann

44 Yield- and biomass-per-recruit analysis for rotational fisheries, with an application to the Atlantic sea scallop \textit{(Placopecten magellanicus)}, by Deborah R. Hart

58 Estimating long-term growth-rate changes of southern bluefin tuna \textit{(Thunnus maccocyii)} from two periods of tag-return data, by William S. Hearn and Thomas Polacheck

75 Life history of the Atlantic sharpnose shark \textit{(Rhi­zp Orionodon terraenovae)} (Richardson, 1836) off the southeastern United States, by Joshua K. Loefer and George R. Sedberry

89 A general framework for integrating environmental time series into stock assessment models: model description, simulation testing, and example, by Mark N. Maunder and George M. Watters

100 Seasonal distribution, abundance, and growth of young-of-the-year Atlantic croaker \textit{(Micropogonias undulatus)} in Delaware Bay and adjacent marshes, by Michael J. Miller, David M. Nemerson, and Kenneth W. Able

116 Age validation, growth, mortality, and additional population parameters of the goldband snapper \textit{(Pristipomoides multidens)} off the Kimberley coast of northwestern Australia, by Stephen J. Newman and Iain J. Dunk


147 Prey consumption of Steller sea lions \textit{(Eumetopias jubatus)} off Alaska: How much prey do they require? by Arlias J. Winship and Andrew W. Trites

168 A Monte Carlo demographic analysis of the silky shark \textit{(Carcharhinus falciformis)}: implications of gear selectivity, by Lawrence Beerkircher, Mahmood Shivji, and Enric Cortés

175 Indirect estimates of natural mortality rate for arrowtooth flounder \textit{(Atheresthes stomias)} and dark-blotched rockfish \textit{(Sebastes crameri)}, by Donald R. Gunderson, Mark Zimmermann, Daniel G. Nichol, and Katherine Pearson

183 Use of parasites in stock identification of the deepwater redfish \textit{(Sebastes mentella)} in the Northwest Atlantic, by David J. Marcogliese, Elaine Albert, Pierre Gagnon, and Jean-Marie Sévigny

189 Dive-depth distribution of loggerhead \textit{(Caretta caretta)} and olive ridley \textit{(Lepidochelys olivacea)} sea turtles in the central North Pacific: Might deep longline sets catch fewer turtles? by Jeffrey J. Polovina, Evan Howell, Denise M. Parker, and George H. Balazs

194 Age-validation of a leopard shark \textit{(Triakis semifasciata)} recaptured after 20 years, by Susan E. Smith, Robert A. Mitchell, and Dan Fuller

101(2)

201 Use of ocean and estuarine habitats by young-of-year bluefish \textit{(Pomatomus saltatrix)} in the New York Bight, by Kenneth W. Able, Peter Rowe, Mark Burlas, and Don Byrne

215 Dynamics of bigeye \textit{(Thunnus obesus)} and yellowfin \textit{(T. albacares)} tuna in Hawaii’s pelagic fisheries: analysis of tagging data with a bulk transfer model incorporating size-specific attrition, by M. Shiham Adam, John Sibert, David Itano, and Kim Holland

229 The geographic basis for population structure in Fraser River chinook salmon \textit{(Oncorhynchus tschaw­ytscha)}, by Terry D. Beacham, K. Janine Supernault, Michael Wettklo, Bruce Deagle, Karen Laberee, James R. Irvine, John R. Candy, Kristina M. Miller, R. John Nelson, and Ruth E. Withler
Evaluation and application of microsatellites for population identification of Fraser River chinook salmon (*Oncorhynchus tshawytscha*), by Terry D. Beacham, John R. Candy, K. Janine Supernault, Michael Wetklo, Bruce Deagle, Karen Labaree, James R. Irvine, Kristina M. Miller, R. John Nelson, and Ruth E. Withler

Biology and population dynamics of cowcod (*Sebastes levis*) in the southern California Bight, by John L. Butler, Larry D. Jacobson, J. Thomas Barnes, and H. Geoffrey Moser

Life history and population dynamics of the finetooth shark (*Carcharhinus isodon*) in the northeastern Gulf of Mexico, by John K. Carlson, Enric Cortés, and Dana M. Bethea

Quantifying annual variation in catchability for commercial and research fishing, by R. I. C. Chris Francis, Rosemary J. Hurst, and James A. Renwick

The effect of intensive line fishing on the virgin biomass of a tropical deepwater snapper, the crimson jobfish (*Pristipomoides filamentosus*), by Edwin M. Grandcourt

Demographic assessment of the blue crab (*Callinectes sapidus*) in Chesapeake Bay using extractable lipofuscins as age markers, by Se-Jong Ju, David H. Secor, and H. Rodger Harvey

Modeling the effect of striped bass (*Morone saxatilis*) on the population viability of Sacramento River winter-run chinook salmon (*Oncorhynchus tshawytscha*), by Steven T. Lindley and Michael S. Mohr

Seasonal egg production of whitemouth croaker (*Micropogonias furnieri*) in the Río de la Plata estuary, Argentina-Uruguay, by Gustavo J. Macchi, Eduardo M. Acha, and María I. Militelli

Growth, recruitment, and abundance of juvenile striped mullet (*Mugil cephalus*) in South Carolina estuaries, by Christopher J. McDonough and Charles A. Wenner

Migration patterns of spiny dogfish (*Squalus acanthias*) in the North Pacific Ocean, by Gordon A. McFarlane and Jacquelyne R. King

Larval development of the southern sea garfish (*Hyporhamphus melanochir*) and the river garfish (*H. regularis*) (Beloniformes: Hemiramphidae) from South Australian waters, by Craig J. Noell

Age and growth of the estuarine dolphin (*Sotalia guianensis*) (Cetacea, Delphinidae) on the Paraná Coast, southern Brazil, by Fernando César Weber Rosas, André Silva Barreto, and Emygdio Leite de Araujo Monteiro-Filho

The relative value of different estuarine nursery areas in North Carolina for transient juvenile marine fishes, by Steve W. Ross

Age and growth estimates of the winter skate (*Leucoraja ocellata*) in the western Gulf of Maine, by James A. Sulikowski, Michael D. Morin, Seung H. Suk, and W. Huntington Howell

Diet composition of large striped bass (*Morone saxatilis*) in Chesapeake Bay, by John F. Walter III and Herbert M. Austin

Reproductive seasonality, fecundity, and spawning frequency of tautog (*Tautoga onitis*) in the lower Chesapeake Bay and coastal waters of Virginia, by Geoffrey G. White, Thomas A. Munroe, and Herbert M. Austin

Investigation of congeneric hybridization in and stock structure of weakfish (*Cynoscion regalis*) inferred from analyses of nuclear and mitochondrial DNA loci, by Jan F. Cordes and John E. Graves

Dynamic age-length keys, by Are Salthaug

Reproduction in the protogynous black grouper (*Mycteroperca bonaci* (Poey)) from the southern Gulf of Mexico, by Thierry Brulé, Ximena Renán, Teresa Colás-Marrufo, Yasmin Hauyon, Armin N. Tuz-Sulub, and Christian Déniel

The effect of timing of tagging on streamer-tag recapture rates for American lobster (*Homarus americanus*), by Michel Comeau and Manon Mallet

Estimation of bycatch in shrimp trawl fisheries: a comparison of estimation methods using field data and simulated data, by Sandra L. Diamond

Applications in adaptive cluster sampling of Gulf of Alaska rockfish, by Dana H. Hanselman, Terrance J. Quinn II, Chris Lunsford, Jonathan Heifetz, and David Clausen

Migration patterns of young Pacific bluefin tuna (*Thunnus orientalis*) determined with archival tags, by Tomoyuki Itoh, Sachiko Tsuji, and Akira Nitta

Swimming depth, ambient water temperature preference, and feeding frequency of young Pacific bluefin tuna (*Thunnus orientalis*) determined with archival tags, by Tomoyuki Itoh, Sachiko Tsuji, and Akira Nitta
<table>
<thead>
<tr>
<th>Page</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>545</td>
<td>Demersal groundfish densities in trawlable and untrawlable habitats off Washington: implications for the estimation of habitat bias in trawl surveys</td>
<td>Thomas Jaggieo, Annette Hoffmann, Jack Tagart, and Mark Zimmermann</td>
</tr>
<tr>
<td>583</td>
<td>Spawning cycles and habitats for ballyhoo (Hemiramphus brasiliensis) and balao (H. balao) in south Florida</td>
<td>Richard S. McBride, Justin R. Styer, and Rob Hudson</td>
</tr>
<tr>
<td>590</td>
<td>Diets of thornback ray (Raja clavata) and tope shark (Galeorhinus galeus) in the bottom longline fishery of the Azores, northeastern Atlantic</td>
<td>Telmo Morato, Encarnacion Solà, Maria P. Grós, and Gui Menezes</td>
</tr>
<tr>
<td>603</td>
<td>Abundance of cetaceans in the southern U.S. North Atlantic Ocean during summer 1998</td>
<td>Keith D. Mullin and Gregory L. Fulling</td>
</tr>
<tr>
<td>614</td>
<td>Modeling red sea urchin (Strongylocentrotus franciscanus) growth using six growth functions</td>
<td>Laura Rogers-Bennett, Donald W. Rogers, William A. Bennett, and Thomas A. Ebert</td>
</tr>
<tr>
<td>627</td>
<td>Age and growth of the blue shark (Prionace glauca) in the North Atlantic Ocean</td>
<td>Gregory B. Skomal and Lisa J. Natanson</td>
</tr>
<tr>
<td>640</td>
<td>Genetic analysis of juvenile coho salmon (Oncorhynchus kisutch) off Oregon and Washington reveals few Columbia River wild fish</td>
<td>David J. Teel, Donald M. Van Doornik, David R. Kuligowski, and W. Stewart Grant</td>
</tr>
<tr>
<td>653</td>
<td>The statistical properties of recreational catch rate data for some fish stocks off the northeast U.S. coast</td>
<td>Mark Terceiro</td>
</tr>
<tr>
<td>673</td>
<td>Scales of spatial variation in demography of a large coral-reef fish—an exception to the typical model?</td>
<td>Ashley J. Williams, Campbell R. Davies, Bruce D. Mapstone, and Garry R. Russ</td>
</tr>
<tr>
<td>684</td>
<td>The occurrence of yellowfin tuna (Thunnus albacares) at Espiritu Santo Seamount in the Gulf of California</td>
<td>Peter Klimley, Salvador J. Jorgensen, Arturo Muhlia-Melo, and Sallie C. Beavers</td>
</tr>
<tr>
<td>693</td>
<td>Larvae of Dactylopsaron dimorphic (Perciformes: Percophidae) from oceanic islands in the southeast Pacific</td>
<td>Mauricio F. Landaeta, Francisco J. Neira, and Leonardo R. Castro</td>
</tr>
<tr>
<td>698</td>
<td>Assessment of sampling methods to estimate horseshoe crab (Limulus polyphemus L.) egg density in Delaware Bay</td>
<td>Penelope S. Pooler, David R. Smith, Robert E. Loveland, Mark L. Botton, and Stewart F. Michels</td>
</tr>
<tr>
<td>704</td>
<td>Larval abundance, distribution, and spawning habits of spotted seatrout (Cynoscion nebulosus) in Florida Bay</td>
<td>Allyn B. Powell</td>
</tr>
<tr>
<td>712</td>
<td>Effect of analytical conditions in wavelength dispersive electron microprobe analysis on the measurement of strontium-to-calcium (Sr/Ca) ratios in otoliths of anadromous salmonids</td>
<td>Christian E. Zimmerman and Roger L. Nielsen</td>
</tr>
<tr>
<td>721</td>
<td>Bycatch of lined seahorses (Hippocampus erectus) in a Gulf of Mexico shrimp trawl fishery</td>
<td>Julia K. Baum, Jessica J. Meeuwig, and Amanda C. J. Vincent</td>
</tr>
<tr>
<td>732</td>
<td>Estimates of survival probabilities for oceanic-stage loggerhead sea turtles (Caretta caretta)</td>
<td>Karen A. Bjorndal, Alan B. Bolten, and Helen R. Martins</td>
</tr>
<tr>
<td>737</td>
<td>Developing a growth-transition matrix for the stock assessment of the green sea urchin (Strongylocentrotus droebachiensis) off Maine</td>
<td>Yong Chen, Margaret Hunter, Robert Vadas, and Brian Beal</td>
</tr>
<tr>
<td>745</td>
<td>Reproductive biology of the blue swimmer crab (Portunus pelagicus, Decapoda: Portunidae) in five bodies of water on the west coast of Australia</td>
<td>Simon de Lestang, Norman G. Hall, and Ian C. Potter</td>
</tr>
<tr>
<td>758</td>
<td>A model for assessing the likelihood of self-sustaining populations resulting from commercial production of triploid Suminoe oysters (Crassostrea ariakensis) in Chesapeake Bay</td>
<td>Jodi R. Dew, Jim Berkson, Eric M. Hallerman, and Standish K. Allen Jr.</td>
</tr>
<tr>
<td>769</td>
<td>Allozyme and RAPD variation in the eastern Pacific yellowfin tuna (Thunnus albacares)</td>
<td>Pindaro Díaz-Jaimes and Manuel Uribe-Alcocer</td>
</tr>
<tr>
<td>778</td>
<td>The early life history of swordfish (Xiphias gladius) in the western North Atlantic</td>
<td>J. Jeffrey Govoni, Elisabeth H. Laban, and Jonathan A. Hare</td>
</tr>
<tr>
<td>790</td>
<td>Does the size of subsamples taken from multispecies trawl catches affect estimates of catch composition and abundance?</td>
<td>Donald S. Heales, David T. Brewer, You-Gan Wang, and Peter N. Jones</td>
</tr>
<tr>
<td>800</td>
<td>Age and growth of blue rockfish (Sebastes mystinus) from central and northern California</td>
<td>Thomas E. Laidig, Donald E. Pearson, and Lorraine L. Sinclair</td>
</tr>
</tbody>
</table>
Reproduction and recruitment of white mullet (*Mugil curema*) to a tropical lagoon (Margarita Island, Venezuela) as revealed by otolith microstructure, by Baumar J. Marin E., Antonio Quintero, Dany Bussière, and Julian J. Dodson

Fecundity and spawning season of striped mullet (*Mugil cephalus* L.) in South Carolina estuaries, by Christopher J. McDonough, William A. Roumillat, and Charles A. Wenner

Marine fish assemblages associated with fish aggregating devices (FADs): effects of fish removal, FAD size, fouling communities, and prior recruits, by Peter A. Nelson

Age and growth of the bastard grunt (*Pomadasys incisus*: Haemulidae) inhabiting the Canarian archipelago, Northwest Africa, by José G. Pajuelo, José M. Lorenzo, and Muriel Gregoire

Evaluating the efficacy of managing West Coast groundfish resources through simulations, by André E. Punt

Distribution, demography, and discard mortality of crabs caught as bycatch in an experimental pot fishery for toothfish (*Dissostichus eleginoides*) in the South Atlantic, by Martin G. Purves, David J. Agnew, Guillermo Moreno, Tim Daw, Cynthia Yau, and Graham Pilling

The physiological effects of multiple forced submergences in loggerhead sea turtles (*Caretta caretta*), by Erich K. Stabenaau and Kimberly R. N. Vietti

Quantitative determination of the timing of otolith ring formation from marginal increments in four marine teleost species from northwestern Australia, by Peter C. Stephenson and Norm G. Hall

Application of DNA-based techniques for the identification of whaler sharks (*Carcharhinus* spp.) caught in protective beach meshing and by recreational fisheries off the coast of New South Wales, by Ricky W. K. Chan, Patricia I. Dixon, Julian G. Pepperell, and Dennis D. Reid

Red sea urchins (*Strongylocentrotus franciscanus*) can live over 100 years: confirmation with A-bomb 14C carbon, by Thomas A. Ebert and John R. Southon

Abundance and distribution of cetaceans in outer continental shelf waters of the U.S. Gulf of Mexico, by Gregory L. Fulling, Keith D. Mullin, and Carrie W. Hubard

Abundance of horseshoe crabs (*Limulus polyphemus*) in the Delaware Bay area, by David Hata and Jim Berkson

Use of pop-up satellite archival tags to demonstrate survival of blue marlin (*Makaira nigricans*) released from pelagic longline gear, by David W. Kerstetter, Brian E. Luckhurst, Eric D. Prince, and John E. Graves
Fishery Bulletin Index
Volume 101(1–4), 2003
List of authors

Able, Kenneth W. 100, 201
Acha, Eduardo M. 332
Adam, M. Shiham 215
Agnew, D. J. 874
Albert, Elaine 183
Allen, Standish K., Jr. 758
Austin, Herbert M. 414, 424
Able, Kenneth W. 100, 201
Díaz-Jaimes, Pindaro 769
DíNardo, Gerard T. 22
DiNardo, Gerard T. 22
Dixon, Patricia L. 910
Dodson, Julian J. 809
Dunk, Iain J. 129
Ebert, Thomas A. 614, 915
Eldridge, Maxwell B. 129
Francis, R. I. C. Chris 293
Friedlander, Alan M. 32
Fuller, Dan 194
Fulling, Gregory L. 603, 923
Gagnon, Pierre 183
Govoni, J. Jeffrey 778
Grandcourt, Edwin M. 305
Grant, W. Stewart 640
Graves, John E. 443, 939
Gregoire, Muriel 851
Grós, Maria P. 590
Gunderson, Donald R. 175
Hall, Norman G. 745, 900
Hallerman, Eric M. 758
Hanselman, Dana H. 501
Hare, Jonathan A. 778
Hart, Deborah R. 44
Harvey, H. Rodger 312
Hata, David 933
Hauyon, Yazmin 463
Heales, Donald S. 790
Hearn, William S. 58
Heifetz, Jonathan 501
Hoffmann, Annette 545
Holland, Kim 215
Holmes, John C. 1
Howell, Evan 189
Howell, W. Huntington 405
Hubbard, Carrie W. 923
Hudson, Rob 583
Hunter, Margaret 737
Hurst, Rosemary J. 293
Irvine, James R. 229, 243
Itoh, Tomoyuki 514, 535
Jacobson, Larry D. 260
Jagiello, Thomas 545
Jones, Peter N. 790
Jorgensen, Salvador J. 684
Ju, Se-Jong 312
Kerstetter, David W. 939
King, Jacquelyne R. 358
Klimley, A. Peter 684
Kuligowski, David R. 640
Laban, Elisabeth H. 778
Labaree, Karen 229, 243
Laidig, Thomas E. 800
Landaeta, Mauricio F. 693
Lenarz, William H. 129
Lindley, Steven R. 321
Lofers, Joshua K. 75
Lorenzo, José M. 851
Loughlin, Thomas R. 566
Loveland, Robert E. 698
Luckhurst, Brian E. 939
Lunsford, Chris 501
Lyczkowski-Shultz, Joanne 10
Macchi, Gustavo J. 332
Mallet, Manon 476
Mapstone, Bruce D. 673
Marcogliese, David J. 183
Margolis, Leo 1
Marin E., Baumar J. 809
Martins, Helen R. 732
Maund, Mark N. 89
McBride, Richard S. 583
McDonough, Christopher J. 343, 822
McFarlane, Gordon A. 358
Meeuwis, Jessica J. 721
Menezes, Gui 590
Merrick, Richard L. 566
Michels, Stewart F. 698
Millett, Maria I. 332
Miller, Kristina M. 229, 243
Miller, Michael J. 100
Mitchell, Robert A. 189
Mohr, Michael S. 321
Monteiro-Filho, Emgyno Leite de Araujo 377
Morato, Telmo 590
Moreno, G. 874
Morin, Michael D. 405
Moser, H. Geoffrey 260
Muhlia-Melo, Arturo 684
Mullin, Keith D. 603, 923
Munroe, Thomas A. 424
Natanson, Lisa J. 627
Neira, Francisco J. 693
Nelson, Peter A. 835
Nelson, R. John 229, 243
Nemerson, David M. 100
Newman, Stephen J. 116
Nichol, Daniel G. 175

955
Nielsen, Roger L. 712
Nitta, Akira 514, 535
Noell, Craig J. 368

Pajuelo, José G. 851
Parker, Denise M. 189
Pearson, Donald E. 800
Pearson, Katherine 175
Pepperell, Julian G. 910
Pilling, G. 874
Polacheck, Thomas 58
Polovina, Jeffrey H. 189
Pooler, Penelope S. 698
Potter, Ian C. 745
Powell, Allyn B. 704
Prince, Eric D. 939
Punt, André E. 860
Purves, Martin G. 874
Quinn II, Terrance J. 501
Quintero, Antonio 809

Ralston, Stephen 129
Reid, Dennis D. 910
Renán, Ximena 463
Renwick, James A. 293
Rogers, Donald W. 614
Rogers-Bennett, Laura 614
Rosas, Fernando César Weber 377
Ross, Steve W. 384

Roumillat, William A. 822
Rowe, Peter 201
Russ, Garry R. 673

Salthaug, Are 451
Sease, John L. 566
Secor, David H. 312
Sedberry, George R. 75
Sévigny, Jean-Marie 183
Shaw, Richard F. 10
Shivji, Mahmood 168
Sibert, John 215
Sinclair, Lorraine L. 800
Skomal, Gregory G. 627
Smith, David R. 698
Smith, Susan E. 194
Solà, Encarnacion 590
Southon, John R. 915
Stabenau, Erich K. 889
Stephenson, Peter C. 900
Sterling, Jeremy T. 566
Styer, Justin R. 583
Suk, Seung H. 405
Sulikowski, James A. 405
Supernault, K. Janine 229, 243
Tagart, Jack 545
Teel, David J. 640
Terceiro, Mark 653
Trites, Andrew W. 147

Tsuij, Sachiko 514, 535
Tuz-Sulub, Armin N. 463

Urabei-Alcocer, Manuel 769

Vadas, Robert 737
Van Doornik, Donald M. 640
Vieiti, Kimberly R. N. 889
Vincent, Amanda C. J. 721

Walls, Elizabeth A. 457
Walter III, John F. 414
Wang, You-Gan 790
Watters, George M. 89

Wenner, Charles A. 343, 822
Wettko, Michael 229, 243
White, Geoffrey G. 424
Williams, Ashley J. 673
Williams, Happy A. 22
Winship, Arliss J. 147
Withler, Ruth E. 229, 243

Yau, C. 874
York, Anne E. 566

Ziemann, David A. 32
Zimmerman, Christian E. 712
Zimmermann, Mark 175, 545
Fishery Bulletin Index
Volume 101(1–4), 2003
List of subjects

Abundance
cetaceans 603, 923
crab, horseshoe 933
indices 653
mullet 343
salmon 640

Acid-base status (sea turtles, loggerhead) 889
Adaptive cluster sampling 501
Africa, Northwest 851

Age
and growth
dolphin 377
grunt, bastard 851
rockfish, blue 800
shark
blue 627
finetooth 281
sharpsnout 75
skate, winter 405
snapper, goldband 116
determination
crab, blue 312
sea urchin, red 915
estimates
of demographic parameters
( emperor, red-throat) 673
using teeth 377
using vertebral bands 405, 627
-length keys 451
-marginal increments 405
-pigments 312
validation
mullet 343
rockfish, blue 800
shark, blue 627
shark, leopard 194
snapper, goldband 116
Aggregation 684
Alaska 147, 501, 566
Allozymes 769
Aquaculture 758
Argentina 332
Atheresthes stomias — see flounder, arrowtooth
Atlantic Ocean
-north 603, 627, 732, 778
-northeastern 590
-northwest 44, 183, 653, 778
-southern 603, 874
Australia 116, 368, 673, 745, 790, 900, 910
Azores 590
Balao 583
Ballyhoo 583
Bass
-striped 321, 414
Bayesian statistics 321
Biological monitoring 698
Biomass
-rockfish 129
-sea scallop, Atlantic 44
-snapper, crimson jobfish 305
-virgin 305
Bleeding (crab, horseshoe) 457
Blood 457, 889
Bluefish 201
Brazil 377
Brood size, lobster 22
Bycatch
-estimation 484
-in shrimp fishery 484, 721, 790
-of marlin, blue 939
-of crab, lithodid 874
-of seahorses 721
-of sea turtles 189
Callinectes sapidus — see crab, blue
California 614, 800
Campeche Bank 463
Canary Islands 851
Carbon-14 915
Cape Fear 384
Carcharhinidae 75
Characanthus spp. 910
Carcharhinus falciformis — see shark, silky
Carcharhinus isodon — see shark, finetooth
Careta caretta — see sea turtles, loggerhead
Catchability 293
-Catch-curve analysis 732
-Catch per unit of effort 293, 653, 721
Cetaceans 603, 923
Chesapeake Bay 305, 414, 424, 758
Cluster sampling 501
Cod, Atlantic 451
Cogenetic hybridization 443
Columbia River 640
CPUE (catch per unit of effort) 293, 653, 721
Crab
-blue 312
-blue swimmer 745
-horseshoe 457, 698, 933
lithodid 874
Crassostrea ariakensis — see oysters, Suminoe
Croaker
-Atlantic 100, 384
-juvenile settlement 384
-whitemouth 332
Cynoscion nebulosus — see seatrout, spotted regalis — see weakfish
Dactyloparsan dimorphicum — see percophid
Daily growth increments 343, 384
Delaware Bay 100, 698, 933
Demersal ground fish densities 545
Demographic assessment 312, 673
Diet
-bass, striped 414
-ray, thornback 590
-sea lion 147
-shark, tope 590
Discard mortality 874
Dissostichus eleginoides — see toothfish
Distribution
-and abundance
-cetaceans 923
-croaker, Atlantic 100
-sea trout, spotted 704
-crab, lithodid 874
Dive-depth (sea turtles) 189
Diving behavior (sea lions, Steller) 566
DNA 910
mitochondrial (weakfish) 443
Dogfish, spiny 358
Dolphin
-abundance 603
-estuarine 377
Early life history 704, 778
Easter Island 693
Egg
-counts 822
density 698
-production 332
-size 22
Elasmobranch 75, 168, 194, 281, 590, 627, 910
Elasticity (of vital rates) 281
Electron microprobe analysis 712
Emporer, red throat 673
Environmental variation 293
Error distribution 653
Espiritu Santo Seamount 684
Estimation methods (bycatch) 484
Estuaries 201, 332, 822
-as nurseries 384, 822
**Eumetopias jubatus** — see sea lions, Steller Everglades 704

FADs (fish aggregating devices) 835

Fecundity
- crab, blue swimmer 745
- croaker 332
- lobster, Hawaiian spiny 22
- mullet, striped 822
- tautog 424

Feeding habits 535, 590

Fish aggregating devices 835

Fish assemblages 835

Floating objects 835

Florida 583, 704

Flotsam 835

Flounder, arrowtooth 175

Fraser River 229, 243

Fouling communities 835

**Gadus morhua** — see cod, Atlantic

**Galeorhinus galeus** — see shark, tope

Garfish
- river 368
- sea 368

Gear selectivity 168

Genetic identification 640, 910

Genetic mixed stock analysis 640

Gonadosomatic index 175, 583, 822

Great Barrier Reef 673

Groundfish 860

Grouper, black 463

Growth
- croaker, Atlantic 100
- sea urchin, green 937
- larval fish 10
- mullet 343
- sea urchin, red 614
- tuna, southern bluefin 58
- transition matrix 737
- zones 900

Gulf of Alaska 501

Gulf of California 684

Gulf of Maine 405

Gulf of Mexico cetaceans 923

- grouper 463
- larval fish 10
- seahorses 721
- shark, finetooth 281

Grunt, bastard 851

Habitat
- balao 583
- ballyhoo 583
- Halibut, Pacific 1
- Hatching date frequency 809
- Hatchery releases 32, 640
- Hawaiian Islands 22, 32, 215
- Hemiramphus
  - balao — see balao
  - brasiliensis — see ballyhoo
- *Hippocampus erectus* — see seahorses
- *Hippoglossus stenolepis* — see halibut, Pacific

Histology 332, 463

**Homarus americanus** — see lobster, American

Hook-and-line fishery 305

Hybridization, weakfish 443

**Hyporhamphus**
- *melanochir* — see garfish, sea
- *regularis* — see garfish, river

Ichthyoplankton 778

Identification (shark, whaler) 910

Incidental catch 189

Indian Ocean 305

Jobfish, crimson

Juvenile
- fish settlement 384
- salmon 640
- sea urchin, Steller 566

Kimberly coast 116

Larval fish 10, 778

- abundance 704
- biomass 129
- development 368, 693
- diet 778
- distribution 778
- growth 10, 778
- mortality 10
- rockfish 129

Leiostomus xanthurus — see spot

Length frequency 627

*Lepidochelys olivacea* — see sea turtles, olive ridley

*Lethrinus sp.* 900

- *miniatus* — see emperor, red throat

*Leucoraja ocellata* — see skate, winter

*Leucoraja ataxia* — see skate, winter

Life history (sea urchin, red) 915

Life span (sea urchin, red) 915

Limulus amoebocyte lysate 915

Limulus polyphemus — see crab, horseshoe

- Line fishing 305
- Lipofuscin 312
- Lobster
  - Hawaiian spiny 22
  - American 476
  - Longevity (sea urchin, red) 915

Longline fishery 168, 189, 939

**Lutjanus** spp. 900

Maine 737

*Makaira nigricans* — see marlin, blue

Margarita Island (mullet, white) 809

Marginal increment (in otolith ring formation) 900

Marine fish assemblages (with FADs) 835

Marine protected areas (California Bight) 260

Marlin, blue 939

Marshes (Delaware Bay) 100

Maturity
- crab, blue swimmer 745
- grouper 463

**Micropropogonias**
- *furnieri* — see croaker, whitemouth
- *undulatus* — see croaker, Atlantic

Microsatellite
- salmon 229, 243

Migration
- dogfish, spiny 358
- tuna, Pacific bluefin 535

Modal analysis 312

Models
- Bayesian 321
- bioenergetic 147
- biomass-per-recruit 44
- bulk transfer 215
- demographic 168
- deterministic 614
- environmental 89
- Gaussian 614
- growth 614
- logistic dose response 614
- Monte Carlo 168
- population 28, 321, 737
- Richards 614
- Ricker 614
- risk assessment 758
- stock assessment 89, 260
- Tanaka 614
- von Bertalanffy 58, 116, 614
- yield-per-recruit 44
- Monte Carlo simulation 860

**Morone saxatilis** — see bass, striped

Mortality
- crab, horseshoe 457
- croaker, Atlantic 384
- instantaneous natural 175
- juvenile fish 484
- rockfish, darkblotched 175
- sea turtles 732
- shark, finetooth 281
- snapper, goldband 116
- spot 384

**MRFSS** (Marine Recreational Fishery Statistics Survey) 653
Mugil cephalus — see mullet, striped
curema — see mullet, white
Mullet, white 343, 809, 822
Mycteroperca bonaci — see grouper, black

Nemipterus sp. 900
New South Wales 910
New York Bight 201
Normal distribution 451
North Carolina 384
Nursery quality (for marine fishes) 384
Oceanic-stage (sea turtles, loggerhead) 732
Oncorhynchus kisutch — see salmon, coho
tshawytscha — see salmon, chinook
Oocyte maturation (see also egg) 822
Otolith 800, 809, 900
Otolith microchemistry 712
Overfishing 260
Oxycetracycline marking 194
Oyster, Suminoe 758
Pacific Ocean 860
central north 189
eastern 769
north 358
northeast 1
southeast 693
Pagrus auratus — see snapper
Panlico Sound 384
Panama 835
Panulirus marginatus — see lobster, Hawaiian spiny
Paralomis spp. — see crab, lithodid
Paraná Coast 377
Parasites
Helminthes 1
stock discrimination 1, 183
tags 1
PCR (polymerase chain reaction) 910
Pelagic fishery 215, 939
Percophid larvae 693
Placopesten magellanicus — see sea scallop, Atlantic
Polydactylus sexfilis — see threadfin, Pacific
Pomadasys incisus — see grunt, bastard
Pomatomus saltatrix — see bluefish
Population
density 22
dynamics 215, 260, 281, 451
identification 229, 243
transfer rates 215
structure 229, 243, 769
viability 321
Pop-up satellite tags 939
Postrelease survival 939
Portunus pelagicus — see crab, blue swimmer
Pot fishery 874
Prawn fishery — see shrimp fishery
Predation (by sea lions) 147
Prionace glauca — see shark, blue
Pristipomoides filamentosus — see snapper, crimson
jobfish
multidens — see snapper, goldband
Protective beach meshing 910
Radiocarbon 915
Raja clavata — see ray, thornback
RAPD (random amplified polymorphic DNA) 769
Ray, thornback 590
Ratio estimators 484
Recreational fishery 653, 910
Pacific threadfin 32
Recruitment
larval fish 10
mullet
striped 343
white 809
snapper 89
tuna, yellowfin 89
Redfish 183
Reef fish 673
Reproduction
balao 584
ballyhoo 584
crab, blue swimmer 745
grouper 463
mullet, white 809
shark, sharpnose 75
tautog 424
Rhizoprionodon terraenovae — see shark, sharpnose
Río de la Plata 332
Rockfish 501
abundance 260
blue 800
biomass 129
cowcod 260
darkblotched 17
mortality 260
reproduction 260
shortbelly 129
Rotational fisheries 44
Sacramento River 321
Salmon 712
coho 640
chinook 229, 243, 321
population
structure 229, 243
identification 229, 243
Salmonids 712
Satellite transmitters 566, 939
Seahorses 721
Sea lions, Steller 147, 566
Seamounts 590, 684
Sea scallop, Atlantic 44
Sea surface temperature 89
Seatrout, spotted 704
Sea turtles
dive-depth distribution 189
loggerhead 189, 732, 889
olive ridley 189
Sea urchin
green 737
red 614, 915
Sebastes spp. 501
crameri — see rockfish, darkbotched
jordani — see rockfish, shortbelly
levis — see rockfish, cowcod
mentella — see redfish
mystinus — see rockfish, blue
Settlement
croaker, Atlantic 384
juvenile fish 384
spot 384
Shark
blue 627
coastal 75, 281
finetooth 281
leopard 194
sharpnose 75
silky 168
tope 590
whaler 910
Shrimp fishery 484, 721, 790, 889
Simulation (Monte Carlo) 860
Size-specific attrition (population dynamics) 215
Size
of subsamples 790
structure 451
Skate, winter 405
Snapper 89
jobfish, crimson 305
goldband 116
Sotalia guianensis — see dolphin, estuarine
South Carolina 75, 343, 822
Southern California Bight 260
Spatial variation (demographic parameter) 673
Spawning habits (demographic parameter) 673
Spawning
balao 583
ballyhoo 583
crab 745
croaker 332