

References

- 5 USC § 603. Initial regulatory flexibility analysis.
- 15 USC § 632. Definitions in: Title 15 - Commerce and Trade 14A - Aid to Small Business Sec. 632 - Small- business concern.
- 16 USC § 1532. Definitions in: Title 16 Chapter 35 - Endangered Species.
- 33 USC § 1344. Permits for Dredged or Fill Material.
- 33 USC §§ 401 et seq. 1938. Protection of Navigable Waters and of Harbor and River Improvements Generally.
- 50 CFR 424.02. Definitions: Designating critical habitat.
- 50 CFR 424.12. Criteria for designating critical habitat. U.S. Government Publishing Office.
- 50 CFR 424.19. Impact Analysis and Exclusion from Critical Habitat. U.S. Government Publishing Office.
- 81 FR 42268. Endangered and threatened wildlife and plants: final listing determination on the proposal to list the Nassau grouper as threatened under the Endangered Species Act. Federal Register 81:42268-42285.
- Aguilar-Perera A., and Aguilar-Davila W. 1996. A spawning aggregation of Nassau grouper *Epinephelus striatus* (Pisces: Serranidae) in the Mexican Caribbean. Environmental Biology of Fishes 45:351-361.
- Aguilar-Perera, A., M. Schärer, and M. Nemeth. 2006. Occurrence of juvenile Nassau grouper, *Epinephelus striatus* (Teleostei: Serranidae), off Mona Island, Puerto Rico: considerations of recruitment potential. Caribbean Journal of Science, 42(2): 261-265.
- Aguilar-Perera, A. 1994. Preliminary observations of the spawning aggregation of Nassau grouper, *Epinephelus striatus*, at Majahual, Quintana Roo, Mexico. Proceedings of the Gulf and Caribbean Fisheries Institute, 43:112-122.
- Almany, G., and M.S. Webster. 2006. The predation gauntlet: Early post-settlement mortality in reef fishes. Coral Reefs 25(1):19-22
- Archer, S.K., S.A. Heppell, B.X. Semmens, C.V. Pattengell-Semmens, P.G. Bush, C. McCoy, and B.C. Johnson. 2012. Patterns of color phase indicate spawn timing at a Nassau grouper *Epinephelus striatus* spawning aggregation. *Current Zoology* 58 (1): 73-83.
- Armstrong, R.A., H. Singh, J. Torres, R.S. Nemeth, A. Can, C. Roman, R. Eustice, L. Riggs, and G.

- Garcia-Moliner. 2006. Characterizing the deep insular shelf coral reef habitat of the Hing Bank marine conservation district (US Virgin Islands) using the Seabed autonomous underwater vehicle. *Continental Shelf Research* 26: 194-205.
- Asciotti, F. A., and authors. 2022. The sanitation service of seagrasses – dependencies and implications for the estimation of avoided costs. *Ecosystem services* 54:101418.
- Barbier, E. B. 2017. Marine ecosystem services. *Current Biology* 27(11):R507-R510.
- Bardach, J.E. 1958. On the movements of certain Bermuda reef fishes. *Ecology* 39(1):139-146.
- Beets, J., and M.A. Hixon. 1994. Distribution, persistence, and growth of groupers (Pisces: Serranidae) on artificial and natural patch reefs in the Virgin Islands. *Bulletin of Marine Science*, 55:470- 483.
- Bernard, A., K. Feldheim, R.S. Nemeth, and E. Kadison. 2015. The ups and downs of coral reef fishes: the genetic characteristics of a formerly severely overfished but currently recovering Nassau grouper fish spawning aggregation. *Coral Reefs* 35(1)
- Bernard, A., K. Feldheim, R.S. Nemeth, E. Kadison, J. Blondeau, B. X. Semmens, and M. S. Shivji. 2016. The ups and downs of coral reef fishes: the genetic characteristics of a formerly severely overfished but currently recovering Nassau grouper fish spawning aggregation. *Coral Reefs* 35
- BOEM personnel G. Boland. 2015a. Email communication. Industrial Economics, editor.
- Böhlke, J.E., and C.G. Chaplin. 1968. *Fishes of the Bahamas and Adjacent Tropical Waters*. Livingston Publ. Co., Wynnewood, PA, 771 pp.
- Bolden, S. 2000. Long-distance movement of a Nassau grouper (*Epinephelus striatus*) to a spawning aggregation in the central Bahamas Fish. Bull. 98:642-645
- Bolden, S.K. 2001. Using Ultrasonic Telemetry to Determine Home Range of a Coral-Reef Fish. in: J.R. Sibert and J.L. Nielsen (eds.), *Proceedings of the Symposium on Tagging and Tracking Marine Fish with Electronic Devices*, February 2000, Hawaii, (Springer Publishing). *Reviews: Methods and Technologies in Fish Biology and Fisheries* 1:167-188.
- Brander, L., and P. van Beukering. 2013. *The Total Economic Value of U.S. Coral Reefs: A Review of the Literature*. NOAA Coral Reef Conservation Program.
- Brownell, W.N., and W.E. Rainey. 1971. Research and development of deep water commercial and sport fisheries around the Virgin Islands plateau. *Virgin Islands Ecological Research Station Contrib. No. 3*, 88 pp.
- Bureau of Ocean Energy Management. 2021. 2017-2022 Outer Continental Shelf Oil and Gas Lease Sale Schedule.
- Bureau of Ocean Energy Management. 2022. Florida Renewable Energy Activities.
- Burke, L., and J. Maidens. 2004. *Reefs at Risk in the Caribbean*. Pages 80 in. World Resources Institute,

Washington, D.C.

- Bush, P.G., D.E. Lane, G.C. Ebanks-Petrie, K. Luke, B. Johnson, C. McCoy, J. Bothwell, and, E. Parsons. 2006. The Nassau grouper spawning aggregation fishery of the Cayman Islands – an historical and management perspective. *Proceedings of the Gulf and Caribbean Fisheries Institute*, 57:515-524.
- CH2MHill. 2011. Addendum No. 2— Underwater Intrusive Investigation Work Plan to Conduct Phase I RCRA Facility Investigation. Prepared for Department of the Navy.
- Caddy, J. F. 1986. Size frequency analysis in stock assessment - some perspectives, approaches and problems. *Proc. Gulf and Caribb. Fish. Insti* 39:212-238.
- Caddy, J.F. 2008. The importance of ‘cover’ in the life histories of demersal and benthic marine resources: A neglected issue in fisheries assessment and management. *Bulletin of Maine Science* 83(1): 7-52.
- Camp, E.R., K.E. Lohr, S.C Barry, P.G. Bush, C.A. Jacoby and C. Manfrio. 2013. Microhabitat associations of late juvenile Nassau grouper (*Epinephelus striatus*) off Little Cayman, BWI. *Bulletin of Marine Science* 89: 571-581.
- Carter, J. 1986. Moonlight mating of the multitudes. *Animal Kingdom Magazine* 89(6):63-71.
- Carter, J. 1988. Grouper mating ritual on a Caribbean reef. *Underwater Naturalist* 17:8-11.
- Carter, J. 1989. Grouper sex in Belize. *Natural History*, Oct: 60- 69.
- Carter, J., G.J. Marrow, and V. Pryor. 1994. Aspects of the ecology and reproduction of Nassau grouper, *Epinephelus striatus*, off the coast of Belize, Central America. *Proceedings of the Gulf and Caribbean Fisheries Institute*, 43:65–111.
- Cervigón, F. 1966. Los Peces Marinas de Venezuela. Vols. I and II. *Fund. La Salle Cienc. Nat.*, 951 p.
- Claydon, J.A.B., and A.M. Kroetz. 2007. The distribution of early juvenile groupers around South Caicos, Turks and Caicos Islands. *Proceedings of the Gulf and Caribbean Fisheries Institute*, 60:345-350.
- Claydon, J.A.B., M.C. Calosso, and S.E. Jacob. 2010. Large-scale deployment of discarded conch shells enhances juvenile habitat for spiny lobster, Nassau grouper and red hind. *Proceedings of the Gulf and Caribbean Fisheries Institute*, 63:457-461.
- Colin P.L. 1992. Reproduction of the Nassau grouper, *Epinephelus striatus* (Pisces: Serranidae) and its relationship to environmental conditions. *Environmental Biology of Fishes*, 34:357-377.
- Colin, P.L., W.A. Laroche, and E.B. Brothers. 1997. Ingress and settlement in the Nassau grouper, *Epinephelus striatus* (Pisces: Serranidae), with relationship to spawning occurrence. *Bulletin of Marine Science*, 60(3):656-667.
- Collette, B. B., and F. H. Talbot. 1972. Activity patterns of coral reef fishes with emphasis on

nocturnal-diurnal changeover p. 98-124, in B. B. Collette and S. A. Earle (eds.), Results of the Tektite Program: ecology of coral reef fishes. Bulletin of Natural History of the Museum of Los Angeles County 14.

Conservation International. 2008. Economic Values of Coral Reefs, Mangroves, and Seagrasses: A Global Compilation. Center for Applied Biodiversity Science, Arlington, VA, US.

Cowen RK, Paris CB, Srinivasan A (2006) Scaling of connectivity in marine populations. *Science* 311:522–527.

Craig, A.K. 1966. Geography of fishing in British Honduras and adjacent coastal areas. Technical Report no. 28 Coastal Studies Institute Louisiana State University, Louisiana. Cont. No. 66-2. 143 pp.

CSA International, Inc. 2009. Ecological functions of nearshore hardbottom habitat in east Florida: A literature synthesis. Prepared for the Florida Department of Environment Protection Bureau of Beaches and Coastal Systems, Tallahassee, FL, 186 pp + apps.

Dahlgren C.P., and D.B. Eggleston. 2000. Ecological Processes Underlying Ontogenetic Habitat Shifts in a Coral Reef Fish. *Ecology* 81(8):2227-2240.

Dahlgren C.P., and D.B. Eggleston. 2001. Spatio-temporal variability in abundance, size and microhabitat associations of early juvenile Nassau grouper *Epinephelus striatus* in an off-reef nursery system. *Marine Ecology Progress Series*, 217:145-156

Dahlgren C.P., and Marr. 2004. Back Reef Systems: Important But Overlooked Components of Tropical Marine Ecosystems. *Bulletin of Marine Science*, 75(2): 145-152

Dewsbury, B. M., M. Bhat, and J. W. Fourqurean. 2016. A review of seagrass economic valuations: gaps and progress in valuation approaches. *Ecosystem services* 18:68-77.

Eggleston D.B. 1995. Recruitment in Nassau grouper *Epinephelus striatus*: post-settlement abundance, microhabitat features and ontogenetic habitat shifts. *Marine Ecology Progress Series*, 124:9-22.

Eggleston D.B., J.J. Grover, and R.N. Lipcius. 1998. Ontogenetic diet shifts in Nassau grouper: trophic linkages and predatory impact. *Bulletin of Marine Science* 63: 111-126.

Eggleston, D.B., C.P. Dahlgren, and E.G. Johnson. 2004. Fish density, diversity, and size structure within multiple back reef habitats of Key West National Wildlife Refuge. *Bulletin of Marine Science*, Volume 75, Number 2. Pp. 175-204.

Florida Department of Environmental Protection. 2019. Triennial Review of State Surface Water Quality Standards - presentation.

Florida Department of Environmental Protection. 2020. Strategic Beach Management Plan.

Florida Department of Environmental Protection. 2021. Surface Water Quality Standards website.

Florida Department of State. 2021. Florida Administrative Code: Surface Water Quality Standards.

Florida Department of State, editor. Florida Administrative Code.

Foley, K.A., C. Caldow, E. Hickerson. 2007. *Gulf of Mexico Science*. First confirmed record of Nassau grouper *Epinephelus striatus* (Pisces: Serranidae) in the Flower Garden Banks National Marine Sanctuary. Pp. 162-165.

Friedlander, A., Beets, J. 1992. Fisheries enhancement using artificial habitats in the U.S. Virgin Islands. Proceedings of the Gulf and Caribbean Fisheries Institute, 41

Gallegos, C. L., and W. J. Kenworthy. 1996. Seagrass depth limits in the Indian River Lagoon (Florida, U.S.A.): Application of an optical water quality model. Estuarine, Coastal and Shelf Science 42:267-288.

Ganguly, D., and coauthors. 2018. Valuing the carbon sequestration regulation service provided by seagrass ecosystems of Palk Bay and Chilika, India. Ocean & Coastal Management 159:26-33.

García-Sais, J.R., R.L. Castro-Gomez, J. Sabater-Clavell, M. Carlo and R. Esteves. 2007 Characterization of benthic habitats and associated reef communities at Bajo de Sico Seamount, Mona Passage, Puerto Rico. Final Report submitted to Caribbean Fishery Management Council, 98 pp.

Gill, D. A., P. W. Schuhmann, and H. A. Oxenford. 2015. Recreational diver preferences for reef fish attributes: Economic implications of future change. Ecological Economics 111:48-57.

Goldman, B. and Talbot, F.H. 1976. Aspects of the ecology of coral reef fishes. In 'Biology and Geology of Coral Reefs volume 3: Biology 2.' Eds Jones, O.A. and Endean, R. Elsevier. 125-154

Gracia, A., and authors. 2018. Use of ecosystems in coastal erosion management. Ocean & Coastal Management 156:277-289.

Gramlich, E. M. 1990. A Guide to Benefit-Cost Analysis, 2nd edition. Waveland Press, Inc., Prospect Heights, Illinois.

Greenwood, C.B. 1991. Distribution and feeding habits of larval Epinepheline groupers in Exuma Sound, Bahamas. MS thesis, Florida Institute of Technology, Melbourne, FL, 61 pp.

Grover, J.J., D.B. Eggleston, and J.M. Shenker. 1998. Transition from pelagic to demersal phase in early-juvenile Nassau grouper, *Epinephelus striatus*: Pigmentation, squamation, and ontogeny of diet. Bulletin of Marine Science, 62(1):97-113.

Guitart-Manday, D., and F. Juárez-Fernandez. 1966. Desarrollo embrionario y primeros estudios larvales de la cherna criolla, *Epinephelus striatus* (Bloch) (Perciformes: Serranidae). Academia Ciencias de Cuba, Instituto de Oceanologica. La Habana 1:35-45.

- Heck, K.L., Jr., and M.P. Weinstein. 1989. Feeding Habits of Juvenile Reef Fishes Associated with Panamanian Seagrass Meadows. [Bulletin of Marine Science -Miami-](#) 45(3):629-636
- Heemstra, P.C., and J.E. Randall. 1993. FAO species catalogue. Vol. 16. Groupers of the world (Family Serranidae, Subfamily Epinephelinae). An annotated and illustrated catalogue of the grouper, rockcod, hind, coral grouper and lyretail species known to date. FAO Fisheries Synopsis. No. 125, Vol. 16. Rome, FAO.
- Hoese, H. D., and R. H. Moore. 1998. Fishes of the Gulf of Mexico: Texas, Louisiana, and adjacent waters. Texas A&M Univ. Press, College Station. 422 pp.
- Jackson, E. L., and authors. 2015. Seagrass contributions to fishery value. *Conservation Biology* 29(3):899-909.
- Johns, G. M., V. R. Leeworthy, F. W. Bell, and M. A. Bonn. 2003. Socioeconomic study of reefs in southeast Florida October 19, 2001 as revised April 18, 2003. NOAA, Silver Spring, Maryland.
- Kadison, E., R.S. Nemeth, J. Blondeau, T. Smith, and J. Calnan. 2010. Nassau Grouper (*Epinephelus striatus*) in St. Thomas, US Virgin Islands, with Evidence for a Spawning Aggregation Site Recovery Proceedings of the 62nd Gulf and Caribbean Fisheries Institute November 2 - 6, 2009 Cumana, Venezuela
- Kao, T., T. K. Wetterer and N. G. Hairston Jr. 1985. Fish size, visual resolution and prey selectivity. *Ecology* 66: 1729–1735.
- Leis, J.M.1987. Review of the early life history of tropical groupers (Serranidae) and snappers (Lutjanidae), p. 189- 238, in: J.J. Polovina and S. Ralston (eds.), *Tropical Snappers and Groupers: Biology and Fisheries Management*. Westview Press. Boulder.
- Lindeman KC, Pugliese R, Waugh GT, Ault JS. 2000. Developmental patterns within a multispecies reef fishery: management applications for essential fish habitats and protected areas. *Bull Mar Sci.* 66:929–956.
- Moran, D.P., and M. Reaka. 1988. Bioerosion and availability of shelter for benthic reef organisms. *Marine Ecology Progress Series.* 44(3):249-263.
- National Marine Fisheries Service. 2008. Final Endangered Species Act Section 4(b)(2) Report Impact Analysis for Critical Habitat Designation for Threatened Elkhorn & Staghorn Corals.
- National Marine Fisheries Service. 2011. Continued Authorization of Reef Fish Fishing Managed under the Reef Fish Fishery Management Plan (FMP) of Puerto Rico and the U.S. Virgin Islands (CRFFMP), Consultation Number F/SERI2O1O/06680.
- National Marine Fisheries Service. 2015a. Authorization of Minor In-Water Activities throughout the Geographic Area of Jurisdiction of the U.S. Army Corps of Engineers Jacksonville District, including Florida and the U.S. Caribbean.
- National Marine Fisheries Service. 2015b. Essential fish habitat and Critical habitat: A comparison.

National Marine Fisheries Service. 2015c. Reinitiation of Endangered Species Act (ESA) Section 7 Consultation on the Continued Authorization of the Fishery Management Plan (FMP) for Coastal Migratory Pelagic (CMP) Resources in the Atlantic and Gulf of Mexico under the Magnuson-Stevens Fishery Management and Conservation Act (MSFMCA).

National Marine Fisheries Service. 2017a. Biological Opinion on the Approval of Florida Estuary Specific Numeric Nutrient Criteria under section 303(c) of the Clean Water Act for Total Phosphorus, Total Nitrogen, and Chlorophyll-a in 42 Estuary Segments.

National Marine Fisheries Service. 2017b. Biological and Conference Opinion on the Issuance of Scientific Research Permit No. 21043 to Florida Fish and Wildlife Conservation Commission for research on smalltooth sawfish.

National Marine Fisheries Service. 2018a. Endangered Species Act Section 7 Biological and Conference Opinion and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Consultation on United States Coast Guard Federal Aids to Navigation Program.

National Marine Fisheries Service. 2018b. Biological and Conference Opinion on U.S. Navy Atlantic Fleet Training and Testing and the National Marine Fisheries Service's Promulgation of Regulations Pursuant to the Marine Mammal Protection Act for the Navy to "Take" Marine Mammals Incidental to Atlantic Fleet Training and Testing.

National Marine Fisheries Service. 2019. Biological and Conference Opinion for the Issuance of the 5-Year MultiSector General Permit for Stormwater Discharges Associated with Industrial Activity, Pursuant to the National Pollution Discharge Elimination System.

National Marine Fisheries Service. 2020a. Endangered Species Act (ESA) Section 7 Consultation on the authorization and management of the Puerto Rico fishery under the Puerto Rico Fishery Management Plan (FMP), the St. Thomas/St. John fishery under the St. Thomas/St. John FMP, and the St. Croix fishery under the St. Croix FMP. Consultation number SERO-2019-04047.

National Marine Fisheries Service. 2020b. Programmatic Biological Opinion on the Underwater Investigation and Removal/Remedial Activities in UXO 16, Vieques, Puerto Rico.

National Marine Fisheries Service. 2021. Reissuance of the Pesticide General Permit for Discharge of Pesticide Pollutants into Waters of the United States.

National Oceanic and Atmospheric Administration. 2011. Marine Aquaculture Policy. Silver Spring, MD.

Nemeth, R.S. 2012. Chapter 2. Ecosystem aspects of species that aggregate to spawn, p. 21-55, in: Y. Sadovy de Mitcheson and P.L. Colin (eds.) Reef Fish Spawning Aggregations: Biology, Research, and Management, Fish & Fisheries Series 35. Springer Science, pp. 644.

Nemeth, R.S., E. Kadison, S. Herzlieb, J. Blondeau, and E.A. Whiteman. 2006. Status of a yellowfin (*Mycteroperca venenosa*) grouper spawning aggregation in the US Virgin

Islands with notes on other species. Proceedings of the Gulf and Caribbean Fisheries Institute, 57:543-558.

Nemeth, R.S., N.J. Blondeau and E. Kadison. 2009. Defining marine protected areas for yellowfin and Nassau grouper spawning aggregation sites. Proceedings 61st GCFI 329 – Nemeth, R.S., and E. Kadison .2020. [A Grouper Moon" Rises Over The GrammanikBank](https://viepscor.org/news/2018/2/6/grouper-moon-part-1).
<https://viepscor.org/news/2018/2/6/grouper-moon-part-1>.

Fisheries. 2021. Annual commercial landings statistics.

NOAA Fisheries and BOEM. 2022. Draft Federal Survey Mitigation Implementation Strategy – Northeast U.S. Region.

NOAA Office of Response and Restoration. 2019. Abandoned and Derelict Vessels.

NOAA Office of Response and Restoration, Marine Debris Program. 2019. 2021-2026 U.S. Virgin Islands (USVI) Marine Debris Action Plan.

Ojeda-Serrano, E., Appeldoorn, R. and Ruiz-Valentín, I. (2006) Reef Fish Spawning Aggregations of the Puerto Rican Shelf. CCRI Final Report. Reguero, B. G., and authors. 2021. The value of US coral reefs for flood risk reduction. Nature Sustainability 4:688-698.

Olsen, D.A. and J.A. LaPlace. 1979. A study of the Virgin Island grouper fishery based on breeding aggregations. Proceedings of the Gulf and Caribbean Fisheries Institute, 31:130-144.

Parrish, J.D. 1987. The trophic biology of snappers and groupers. In 'Tropical Snappers and Groupers: Biology and Fisheries Management.' Eds Polovina, J.J. and Ralston, S. Westview Press. 405-463

Parrish, J. D. 1989. Fish communities of interacting shallow-water habitats in tropical oceanic regions. Mar. Ecol. Prog. Ser. 58: 143–160. Rudd, M. A., and M. H. Tupper. 2002. The impact of Nassau grouper size and abundance on scuba diver site selection and MPA economics. Coastal Management 30(2):133-151.

Powell, A.B., and J.W. Tucker Jr. 1992. Egg and larval development of laboratory-reared Nassau grouper, *Epinephelus striatus* (Pisces: Serranidae). Bulletin of Marine Science, 50(1):171-185.

Radakov, D. V., A.D. Motchek, Y.N. Sbikin, R. Claro Madruga, and A. Silva Lee. 1975. Acerca de la longitud de los peces comerciales en capturas de la zona noroccidental de Cuba. Serie Oceanologica. No. 28. Academia de Ciencias de Cuba. Instituto de Oceanologia. Habana. Cuba, 9 pp.

Randall, J.E., and V.E. Brock. 1960. Observations on the ecology of epinepheline and lutjanid fishes of the Society Islands with emphasis on food habits. Transactions of the American Fisheries Society 89(1):9-16.

Randall, J.E. 1962. Tagging reef fishes in the Virgin Islands. Proceedings of the Gulf and Caribbean Fisheries Institute 14:201–241.

- Randall, J.E. 1963. Additional recoveries of tagged reef fishes from the Virgin Islands. *Proceedings of the Gulf and Caribbean Fisheries Institute* 15:155-157.
- Randall, J. E. 1965. Food habits of the Nassau grouper (*Epinephelus striatus*). *Assoc. Island Mar.Lab. Caribbean*. 6: 13–16.
- Randall, J.E. 1983. *Caribbean Reef Fishes*. Second edition. T.F.H. Publications, Neptune City. NJ. 350 p
- Randall, J.E. 1967. Food habits of reef fishes of the West Indies. *Studies in Tropical Oceanography*, Miami 5:665– 847.
- Richards, W.J., C.C. Baldwin, and A. Röpke. 2006. Chapter 119. Serranidae: Sea basses, p. 1225-1332 in: W.J. Richards (ed.), *Early Stages of Atlantic Fishes: An Identification Guide for the Western Central North Atlantic*, Vol. I. CRC Press, Boca Raton, FL, 1335 p.
- Rowell, T.J., M.T. Scharer, R.S. Nemeth, and R.S. Appeldoorn. 2015. Fish sound production and acoustic telemetry reveal behaviors and spatial patterns associated with spawning aggregations of two Caribbean groupers. *Marine Ecology Progress Series* 518:239-254
- Ryer, C. H. 1988. Pipefish foraging: effects of fish size, prey size and altered habitat complexity. *J.Exp. Mar. Biol. Ecol.* 48: 37–45.
- Sadovy, Y. and Eklund, A.-M. 1999. Synopsis of biological information on the Nassau Grouper, *Epinephelus striatus* (Bloch, 1792), and the Jewfish, *E. itajara* (Lichtenstein, 1822). NOAA Technical Report NMFS 146. Technical Report of the Fishery Bulletin. FAO Fisheries Synopsis 157. US Department of Commerce, Seattle, WA USA, 65 pp
- Sadovy de Mitcheson, Y., A. Cornish, M. Domeier, P. Colin, M. Russell, and K. Lindeman. 2008. A Global Baseline for Spawning Aggregations of Reef Fishes. *Conservation Biology* 22(5):1233-1244.
- Semmens, B.X., K.E. Luke, P.G. Bush, C. Pattengill-Semmens, B. Johnson, C. McCoy, and S. Heppell. 2007. Investigating the reproductive migration and spatial ecology of Nassau grouper (*Epinephelus striatus*) on Little Cayman Island using acoustic tags – an overview. *Proceedings of the Gulf and Caribbean Fisheries Institute*, 58:191-198.
- Scharer M, E Tuohy, R Nemeth and R Appeldoorn. 2017. Nassau grouper (*Epinephelus striatus*) spawning aggregation research at Bajo de Sico and Grammanik Bank. Final report, 19 pp.
- Shenker, J.M., E.D. Maddox, E. Wishinski, A. Pearl, S.R. Thorrold, and N. Smith. 1993. Onshore transport of settlement-stage Nassau grouper (*Epinephelus striatus*) and other fishes in Exuma Sound, Bahamas. *Marine Ecology Progress Series*, 98:31-43.
- Shideler, G. S., and B. Pierce. 2016. Recreational diver willingness to pay for goliath grouper encounters during the months of their spawning aggregation off eastern Florida, USA. *Ocean & Coastal Management* 129:36-43.
- Silva Lee, A.F. 1974. Hábitos alimentarios de la cherna criolla *Epinephelus striatus* Bloch y algunos

datos sobre su biología. Serie Oceanologica Academia de Ciencias de Cuba 25:3-14.

Sluka, R., M. Chiappone, K.M. Sullivan, T. Potts, J.M. Levy, E.F. Schmitt, and G. Meester. 1998. Density, species and size distribution of groupers (Serranidae) in three habitats at Elbow Reef, Florida Keys. *Bulletin Marine Science*, 62:219-228.

Smith, C.L. 1961. Synopsis of biological data on groupers (*Epinephelus* and allied genera) of the western North Atlantic. *FAO Fish. Biol. Synop.* No. 23, 61 pp.

Smith, C.L. 1971. A revision of the American groupers: *Epinephelus* and allied genera. *Bulletin of the American Museum of Natural History*. 146:69-241.

Smith, C. L. 1972. A spawning aggregation of Nassau grouper, *Epinephelus striatus* (Bloch). *Transactions of the American Fisheries Society*, 101:257-261

Smith, T.B., R.S. Nemeth, J. Blondeau, J.M. Calnan, E. Kadison, and S. Herzlieb. 2008. Assessing coral reef health across onshore to offshore stress gradients in the US Virgin Islands. *Marine Pollution Bulletin* 56:1983-1991.

Sogard, S.M. 1997. Size-Selective Mortality in the Juvenile Stage of Teleost Fishes: A Review. *Bulletin of Marine Science*, Volume 60, Number 3, pp. 1129-1157.

South Atlantic Fishery Management Council. 2018. Socio-Economic Profile of the Snapper Grouper Commercial Fishery in the South Atlantic Region.

South Atlantic Fishery Management Council. 2022. Spiny lobster regulations.

Starck, W.A., II, and W.P. Davis. 1966. Night habits of fishes at Alligator Reef, Florida. *Ichthyologica* 38(4):313- 356.

Thompson, R., and J.L. Munro. 1978. Aspects of the biology and ecology of Caribbean reef fishes: Serranidae (hinds and groupers). *Journal of Fish Biology*, 12:115-146.

Tucker, J.W., Jr., and P.N. Woodward. 1994. Growth and development of domestic juvenile Nassau groupers. *Proceedings of the Gulf and Caribbean Fisheries Institute*, 43:389-391.

Tucker, J.W., Jr., and P.N. Woodward. 1993. Nassau grouper aquaculture, p. 363-377, in: F. Arreguin-Sanchez, J. L. Munro, M.C. Balgos, and D. Pauly (eds.), *Biology, Fisheries, and Culture of Tropical Groupers and Snappers*, ICLARM Conf. Proc. 48, 449 p.

Tuohy, E., M. Nemeth, I. Bejarano, M. Schärer, R.S. Appeldoorn. 2015. In situ Tagging of Nassau Grouper *Epinephelus striatus* Using Closed-Circuit Rebreathers at a Spawning Aggregation in Puerto Rico. *Marine Technology Society Journal* 49.

Tuohy, E., Schärer-Umpierre, M. & Appeldoorn, R. 2017. Spatio-temporal Dynamics of a Nassau Grouper Spawning Aggregation in Puerto Rico. *Proceedings of the Gulf and Caribbean Fisheries Institute* 69: 319-321.

Tucker, J.W., P.G. Bush, and S.T. Slaybaugh. 1993. Reproductive patterns of Cayman Islands

- Nassau grouper(*Epinephelus striatus*) populations. Bulletin of Marine Science, 52:961–969.
- Tupper M., and R.G. Boutilier. 1997. Effects of habitat on settlement, growth, predation risk and survival of a temperate reef fish MEPS 151:225-236
- U.S. Army Corps of Engineers. USACE Jurisdictional Determinations and Permit Decisions. 2022.
- U.S. Energy Information Administration. 2021. Puerto Rico Territory Profile and Energy Estimates.
- U.S. Energy Information Administration. 2022. U.S. Virgin Islands Territory Profile and Energy Estimates.
- U.S. Environmental Protection Agency. 2019. Hazardous Waste Cleanup: Naval Activity Puerto Rico in Ceiba, Puerto Rico.
- U.S. Environmental Protection Agency, National Response Team. 2014. Abandoned Vessel Authorities and Best Practices Guidance.
- U.S. Navy. 2014. Integrated Natural Resources Management Plan for Naval Air Station Key West Florida.
- U.S. Office of Management and Budget. 2003. Circular A-4.
- U.S. Office of Personnel Management. 2022. Federal Government Schedule Rates: 2022.
- U.S. Small Business Administration. 2019. Table of Small Business Size Standards Matched to North American Classification System Codes.
- U.S. Virgin Islands Department of Planning and Natural Resources. 2016. Revisions to U.S. Virgin Islands Water Quality Standards.
- U.S. Virgin Islands Department of Planning and Natural Resources. 2019. Amended Water Quality Standards.
- United States Environmental Protection Agency. 2015. Dredged Material Management Program website for Puerto Rico and U.S. Virgin Islands.
- United States Environmental Protection Agency. 2019. Puerto Rico Water Quality Standards Regulations.
- Vassallo, P., and authors. 2013. The value of the seagrass *Posidonia oceanica*: a natural capital assessment. Marine Pollution Bulletin 75(1-2):157-167.
- Walker, B.K. and Klug, K. 2014. Southeast Florida shallow-water habitat mapping & coral reef community characterization. Florida DEP Coral Reef Conservation Program report. Miami Beach, FL. Pp. 83.
- Whaylen, L., P. Bush, B. Johnson, K. Luke, C. McCroy, S. Heppell, B. Semmens, M.R. Boardman. 2007.

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