

Catcher Processor	2013	0	0	1439	77906.3	98.6
Catcher Processor	2014	0	0	1683	103171.6	99.2
Catcher Processor	2015	0	0	1503	68435.2	98.9
Catcher Processor	2016	0	0	2188	108780.6	99.2
Catcher Processor	2017	0	0	2143	137104.5	99.3
Catcher Processor	2018	0	0	1954	116005.5	99.1
Catcher Processor	2019	0	0	1936	116352.4	99.4
Catcher Processor	2020	0	0	1496	111014.6	99.4
Catcher Processor	2021	0	0	1477	103260.9	97
Tribal and Non-tribal Mothership	2002	0	0	1198	48106.2	99.3
Tribal and Non-tribal Mothership	2003	0	0	1059	44746.2	98.4
Tribal and Non-tribal Mothership	2004	0	0	1201	47508.6	99.8
Tribal and Non-tribal Mothership	2005	1	1	1670	72091.8	99.8
Tribal and Non-tribal Mothership	2006	2	2	1397	59429.5	96.8
Tribal and Non-tribal Mothership	2007	0	0	1291	52335	99.1
Tribal and Non-tribal Mothership	2008	0	0	1726	72726.2	99.7
Tribal and Non-tribal Mothership	2009	0	0	1000	37482.4	99.6
Tribal and Non-tribal Mothership	2010	0	0	1424	51926.4	100
Tribal and Non-tribal Mothership	2011	0	0	1474	56074.5	99.9
Tribal and Non-tribal Mothership	2012	0	0	934	38018.5	98
Tribal and Non-tribal Mothership	2013	0	0	1249	52305	99.4

Tribal and Non-tribal Mothership	2014	0	0	1288	61793.8	98.5
Tribal and Non-tribal Mothership	2015	0	0	625	27548.8	97.7
Tribal and Non-tribal Mothership	2016	0	0	1550	64597.5	99
Tribal and Non-tribal Mothership	2017	0	0	1287	65358.5	98.3
Tribal and Non-tribal Mothership	2018	0	0	1509	65979.1	98.3
Tribal and Non-tribal Mothership	2019	0	0	1220	51829.1	99
Tribal and Non-tribal Mothership	2020	0	0	765	37260.7	99.5
Tribal and Non-tribal Mothership	2021	0	0	701	35506.8	97.9

References

- Adams, P. B., C. Grimes, J. E. Hightower, S. T. Lindley, M. L. Moser, and M. J. Parsley. 2007. Population status of North American green sturgeon, *Acipenser medirostris*. *Environmental Biology of Fishes* 79:339–356.
- Babcock, E. A., E. K. Pikitch, and C. G. Hudson. 2003. How much observer coverage is enough to adequately estimate bycatch? Pew Institute of Ocean Science.
- Doukakis, P., Mora, E.A., Wang, S., Reilly, P., Bellmer, R., Lesyna, K., Tanaka, T., Hamda, N., Moser, M.L., Erickson, D.L. Postrelease survival of green sturgeon (*Acipenser medirostris*) encountered as bycatch in the trawl fishery that targets California halibut (*Paralichthys californicus*), estimated by using pop-up satellite archival tags. *Fishery Bulletin*. 118:63-83; 2020
- Erickson, D. L., and J. E. Hightower. 2007. Oceanic distribution and behavior of green sturgeon. Page 197 American Fisheries Society Symposium. American Fisheries Society.
- Huff, D.D., Lindley, S.T., Rankin, P.S., Mora, E.A. Green sturgeon physical habitat use in the coastal Pacific Ocean. *PLoS One*. 6:e25156; 2011
- Israel, J. A., K. J. Bando, E. C. Anderson, and B. May. 2009. Polyploid microsatellite data reveal stock complexity among estuarine North American green sturgeon (*Acipenser medirostris*). *Canadian Journal of Fisheries and Aquatic Sciences* 66:1491–1504.
- Lee, Y.-W., R. Gustafson, J. Jannot, J. McVeigh, N. Riley, K. Somers, V. Tuttle, S. Wang, and E. Ward. 2015. Observed and estimated bycatch of green sturgeon in 2002–2013 US west coast groundfish fisheries. West Coast Groundfish Observer Program, National Marine Fisheries Service, Northwest Fisheries Science Center, Seattle.
- Lee, Y.-W., R. Gustafson, J. Jannot, J. McVeigh, N. Riley, K. Somers, V. Tuttle, S. Wang, and E. Ward. 2017. Observed and estimated bycatch of green sturgeon in 2002–2015 US west coast groundfish fisheries. West Coast Groundfish Observer Program, National Marine Fisheries Service, Northwest Fisheries Science Center, Seattle.
- Lindley, S. T., M. L. Moser, D. L. Erickson, M. Belchik, D. W. Welch, E. L. Rechisky, J. T. Kelly, J. Heublein, and A. P. Klimley. 2008. Marine migration of North American green sturgeon. *Transactions of the American Fisheries Society* 137:182–194.
- Mora, E. A., R. D. Battleson, S. T. Lindley, M. J. Thomas, R. Bellmer, L. J. Zarri, and A. P. Klimley. 2018. Estimating the annual spawning run size and population size of the southern distinct population segment of green sturgeon. *Transactions of the American Fisheries Society* 147:195–203.

- National Marine Fisheries Service (NMFS). 2001. Fisheries off West Coast States and in the Western Pacific; Pacific Coast Groundfish Fishery; Groundfish Observer Program. Federal Register 66:20609–20614.
- National Marine Fisheries Service (NMFS). 2009. Endangered and Threatened Wildlife and Plants: Final Rulemaking To Designate Critical Habitat for the Threatened Southern Distinct Population Segment of North American Green Sturgeon. Federal Register 74:52299–52351.
- National Marine Fisheries Service (NMFS). 2012. Continuing Operation of the Pacific Coast Groundfish Fishery - Endangered Species Act (ESA) Section 7(a)(2) Biological Opinion and Section 7(a)(2) “Not Likely to Adversely Affect” Determination. PCTS Number: NWR-2012-876.
- Northwest Fisheries Science Center (NWFSC). 2020. At-Sea Hake Observer Program, 2020 Sampling Manual. Fishery Resource Analysis and Monitoring, At-Sea Hake Observer Program. NWFSC, 2725 Montlake Blvd. East, Seattle, Washington 98112.
- Northwest Fisheries Science Center (NWFSC). 2021. 2021 Training Manual. West Coast Groundfish Observer Program. NWFSC, 2725 Montlake Blvd. East, Seattle, Washington, 98112.
- Pacific Fisheries Management Council (PFMC). 2016. Pacific Groundfish Fishery Management Plan for the California, Oregon, and Washington Groundfish Fishery. Pacific Fishery Management Council, Portland, OR.
- Richerson, K., Jannot, J.E., McVeigh, J., Somers, K.A., Tuttle, V.J., Wang, S. 2022. Observed and Estimated Bycatch of Green Sturgeon in 2002-19 US West Coast Groundfish Fisheries. NOAA Technical Memorandum.
- Somers, K.A., Richerson, K., Tuttle, V.J., McVeigh, J. 2022a. Fisheries Observation Science Program Coverage Rates, 2002-21. NOAA Data Report. <https://doi.org/10.25923/ky3a-g655>.
- Somers, K.A., Jannot, J.E., Richerson, K., Tuttle, V.J., Riley, N.B., McVeigh, J. 2022b. Estimated discard and catch of groundfish species in the 2020 US west coast fisheries. NOAA Technical Memorandum. <https://doi.org/10.25923/e6es-0r06>.