## INDEX

Pan

5		Page		
	UNITED STATES:			NTERNATIONAL (Contd.):
	U. S. Groundfish Industry Hurt by Imports	46		Japanese Longliners Asked Not to Fish Off
١.	Secretary Hickel Aids New England Haddock			New Zealand
	Fishery			Soviet Whaling Flotilla Calls at Las Palmas
	BCF Estimates Sustained Yield & Use of Pa-	47		Research Vessel Visits Cape Town
Ш	cific Hake	47		Adriatic Fisheries Agreement Signed
ŀ	U.S. Atlantic Coast Sea Scallop Fishery De-	47		Southeast Asia Fisheries Development Center
Ш	clines Further Incidental Catch Lowered for Yellowfin Tuna		T	Operations FOREIGN:
ľ	Purse Seining for Winter Industrial Fishery		OD L	Canada:
'n	Deemed Impractical	48		
П	Shrimp-Separator Trawl Tests Continue	10		Baselines Drawn
ľ	Certain Sounds Attract Sharks	48		First-Quarter Landings in Maritime Prov-
	National Water Commission to Consult with			inces Were at 1968 Level
li	Governors	48		Fisheries Minister Warns of Overfishing
U.	. BCF Lists Wrecks on Georges Bank & Nan-			Queen Crab Stocks
	tucket Shoals.	48		Government Buys Frozen Groundfish
١,	. Conferences Scheduled	49		Salt Fish Advisory Committee Formed
١.	. U.S. Fishery Products to be Promoted at	49		Investigates Discolored Newfoundland Her-
	Overseas Trade Shows	There		ring
	. Certified Shellfish, by J. David Clem	49		Conference on Fish Inspection and Quality
	Oceanography:			Control
	New Ocean-Current Tracking System Tested			Europe:
П	Successfully			USSR:
	New Nautical Chart Issued for New England	50		May Join International Maritime Com-
	Coast New Bethametric Man of Boning Son Alagka	50		Cooperates in International Baltic Sea Re-
	Chart Established Weterway	30		search
	Elikala Mignetions And Doing Tracked	50		New Ichthyology Laboratory Opens
	Foreign Fishing Off U.S. in May 1969		::	Fishermen Asked to Aid Academy of
	States:	00		Sciences
	Alaska	51		Polyethylene Bags Used for Freezing Fish
	Gov. Miller Signs 'COAST' Commission			New Bottom Trawl Designed
	Bill			To Exploit Northeast Atlantic Snipefish
	. BCF Method Spurs Kodiak's Seafood Waste			for Fish Meal
	Management	52		Plans to Fish Hake Off Cape Town
١.	. Pan Alaska Orders 5 Multipurpose Ves-	52		'Vitiaz' Is on 45th Scientific Cruise
Н	sels			United Kingdom:
ı	Oregon:	52		Merger Creates Fishing Fleet of 120 Ves-
	. Tuna Scouts Sail Aboard 'Sunrise'			sels
ı	Record Salmon Run to Flood-Control	E 0		Norway: Frozen Fillet Exports to U.S. Increase
Н	Reservoir	52		Denmark:
П	. Last Part of Willamette Falls Fish Lad-	53		More Stern Trawlers for Faroe Islands
	der Being Built Maine:			Exports of Frozen Fillets
u	Mechanized Sardine-Processing Equip-	00		Greenland:
ľ	ment to Be Tested	53		Dachlama Continue in Fisheries
ı	Florida:	0.0		West Germany:
1,	. University Plants 'Artificial Sea Grass'	54		Builds 3 Tuna Vessels for Portugal
П	California:			Iceland:
	. Fees Virtually Pay for Fish & Wildlife	55		Changing Icelandic Fisheries, by David K.
	Conservation			Sabock
h	· Commercial Landings & Tuna Shipments			Latin America:
	Declined in 1968			Chile: Pacific Salmon Introduced into Southern
ı.	ARTICLES:	58		Pacific Salmon Introduced into Southern
-	Fishery Oceanography, by Felix Favorite			Streams, by John W. DeWitt
1	Searching for Tuna, by Thomas Potthoff	50		Surinam: Shrimp Industry Is Growing
1	· Economic Effects of Regulations in Maryland	59		Mexico:
	Oyster Fishery, by Richard E. Suttor and	60		Shrimp Production Declines
1	Thomas D. Corrigan .BOOKS	00	9 0	Peril:
	INTERNATIONAL:	60		Fish Meal Output & Exports Decline Slight-
1.	. Super-Seiners Slated for West African Waters	00		ly in JanApr. 1969
1	· Atlantic Albacore Fishery Developments			Brazil:
1	· FAO & USSR Sponsor Caribbean Fishery	60		Territorial Sea Extended to 12 Miles
ı	Study Tour			
3,	. Japan and Mauritania Reopen Negotiations			

## INDEX (CONTINUED)

Page		Page		
FOREIG	N (Contd.):		F	OREIGN (Contd.):
Asia:				Asia (Contd.):
Japan				India:
	nery Catch Set Record in 1968	65		Shrimp Trends
	non Prices Set for 1969			Mid East:
	ned Tuna Production Dropped in 1968			South Yemen:
62 Seek	Cause for Poor Tuna Seining in E.	66		Offers Potential Fisheries Investment ( portunities
62 Atla	intic-Caught Albacore Export Prices			South Pacific:
	ose in May			American Samoa:
	rganizes Eastern Atlantic Purse-Seine	66		Tuna Prices up in June
	eet			Africa:
63 Sum	mer Albacore Fishery Improves,			South & South-West Africa:
	ices High	67		Fishing Industry Developments
64 Sout	hern Bluefin Fishery Developments			Senegal:
64 King	Crabbing in Bering Sea	68		New Seafood Plant Opens
64 Seek	Saury in Eastern Pacific			Zambia:
64 Mor	e Shellfish Culture Seabed Areas Are	68		Lake Tanganyika Fisheries to Be Devel
De	veloped			oped
65 May	Build Tuna Seine/Pole Fishing Vessel	70	F	'ood Fish Facts (Maine Sardines)
	mp Venture in Indonesia Planned	73	I	NDEX
	9			



## WHAT COMMERCIAL PRODUCTS OTHER THAN FISH ARE OBTAINED FROM THE SEA

Products obtained commercially from sea water include common salt, bromine, and magnesium. All of the United States' supply of magnesium is taken from sea water, because extraction is cheaper than obtaining it from mines on land. About 75 percent of our supply of bromine is extracted from the sea.

In recent years interest has developed in exploiting the seemingly inexhaustible suppl of manganese and phosphate-rich nodules on the sea floor. The American Institute of Mining, Metallurgical, and Petroleum Engineers (AIME) has estimated that there are 1. trillion tons of manganese nodules on the bottom of the Pacific Ocean. These nodule contain as much as 50 percent manganese plus smaller amounts of nickel, copper, coball and other metals. Nodules on the sea floor appear to be forming faster than the rate a which the United States is now using manganese, nickel, and cobalt; thus it seems that ou reserve of these metals is assured for many years. Phosphorite nodules off the Californi coast could satisfy California's phosphate fertilizer needs for many years.

Other materials obtained from the sea floor or beaches include diamonds, pearls, sand gravel, shell, and ores of tin, thorium, and titanium.

Oil is being recovered from beneath the ocean floor in increasing amounts. In 1960 about 8 percent of the free world's oil supply was obtained from this source; by 1965, it has increased to 16 percent. Undersea deposits of sulfur are also being tapped by drilling from platforms in the Gulf of Mexico, as the supply on land dwindles. ("Questions About The Oceans," U.S. Naval Oceanographic Office.)