

U.S. Commercial Fish Landings Jump in 1976

United States commercial fishery landings for 1976 are forecast to be 5.2 billion pounds—the largest in 10 years, according to the National Oceanic and Atmospheric Administration's National Marine Fisheries Service. This represents a 7 percent increase over 1975. "Fishery landings" is the amount of fish brought to docks by fishermen.

The record dockside value—exceeding \$1 billion—is due to a steady increase in foodfish catches and to generally rising prices. The Commerce Department agency says that total quantities of domestic tuna processed by California canneries are running at least 10 percent ahead of 1975, as are

those of domestic fish at canneries in Puerto Rico (Puerto Rico data are not included in the 5.2 billion-pound total catch).

Total production of shrimp in the Gulf of Mexico is up by a third, according to NOAA figures, and Alaska shrimp is expected to be up 20 percent or more. Alaska snow crab should set a new record. Pacific salmon are up about 40 percent over 1975, after two successive poor years. Landings of Maine sea herring, American lobster, and sea scallops are expected to be up, as are those for cod and flounders.

Landings of fish used for processing into meal and oil also appear to be above the 1975 levels. Increased production of Atlan-

tic and Gulf of Mexico menhaden will offset a decline in California anchovy. Heavier-than-expected production of menhaden and anchovies in December could make 1976 the best year for such industrial fish since the record year of 1962.

The chief declines will be in clams and blue crabs. Resource problems with the surf clam now restrict Atlantic clam landings, which are expected to be down by a third from last year. Total Atlantic and Gulf of Mexico blue crab production will be off by about 25 percent, but fairly large resource fluctuations are normal in this fishery.

The first comprehensive report on U.S. commercial fishery landings for 1976 will be contained in "Fisheries of the United States, 1976" scheduled for publication in April 1977. Copies may be ordered by writing to: Director, National Marine Fisheries Service, NOAA, Washington, DC 20235.

NOAA Funds Maryland Oyster Industry Study

The University of Maryland has received a Sea Grant of \$441,200 from the National Oceanic and Atmospheric Administration (NOAA) to be used in part to study the threatened Maryland oyster industry and to assess the water quality of the 2,000-square-mile Chesapeake Bay area. The grant will be augmented by almost \$300,000 in matching funds from the University.

Although the University of Maryland has received support from the Office of Sea Grant in the past for its Marine Advisory Service program and for individual marine research projects, this marks the first time the College Park institution has received funds for a coherent program of marine research and advisory services. The Sea Grant Office is an element of the Commerce Department.

Under the current grant, a number of projects devoted to Maryland's oyster resource will be undertaken. During the late 1960's, the state accounted for more than one quarter of the nation's oyster production, nurturing a fishery that had a dockside value of almost \$10 million annually. Recently, however, the Chesapeake Bay oyster population has not been reproducing at its previous rates and, as a result, has not been able to keep pace with harvesting and natural mortality.

Scientists will collect and analyze historical information on harvesting, fishing effort, and natural repopulation in an attempt to predict harvests in future years. Other Sea Grant-supported researchers will try to determine why some areas of the Chesapeake are highly oyster productive and others poor. The scientists also will evaluate a method called "sprinkle planting"—the depositing of male oysters on natural oyster beds comprised primarily of larger, female oysters to stimulate spawning. According to the Maryland Sea Grant scientists, the method could aid in rehabilitating oyster bars in the Chesapeake that are now dominated by female oysters.

Work on bacterial contamination of

shellfish in the Bay, begun last year, will continue under the current grant. A team of microbiologists will attempt to determine both the natural and human-related microbial levels in shellfish harvesting areas. The information, now being stored in a special computer data bank, is expected to be of help to the Maryland Department of Natural Resources in its management planning.

In related work, researchers will monitor the levels of certain hydrocarbons in water, sediments, and shellfish from oil-polluted and unpolluted areas of the Bay to assist the state in its resource management. The study will be especially valuable with respect to dredge spoil disposal and the siting of oyster beds, according to the researchers.

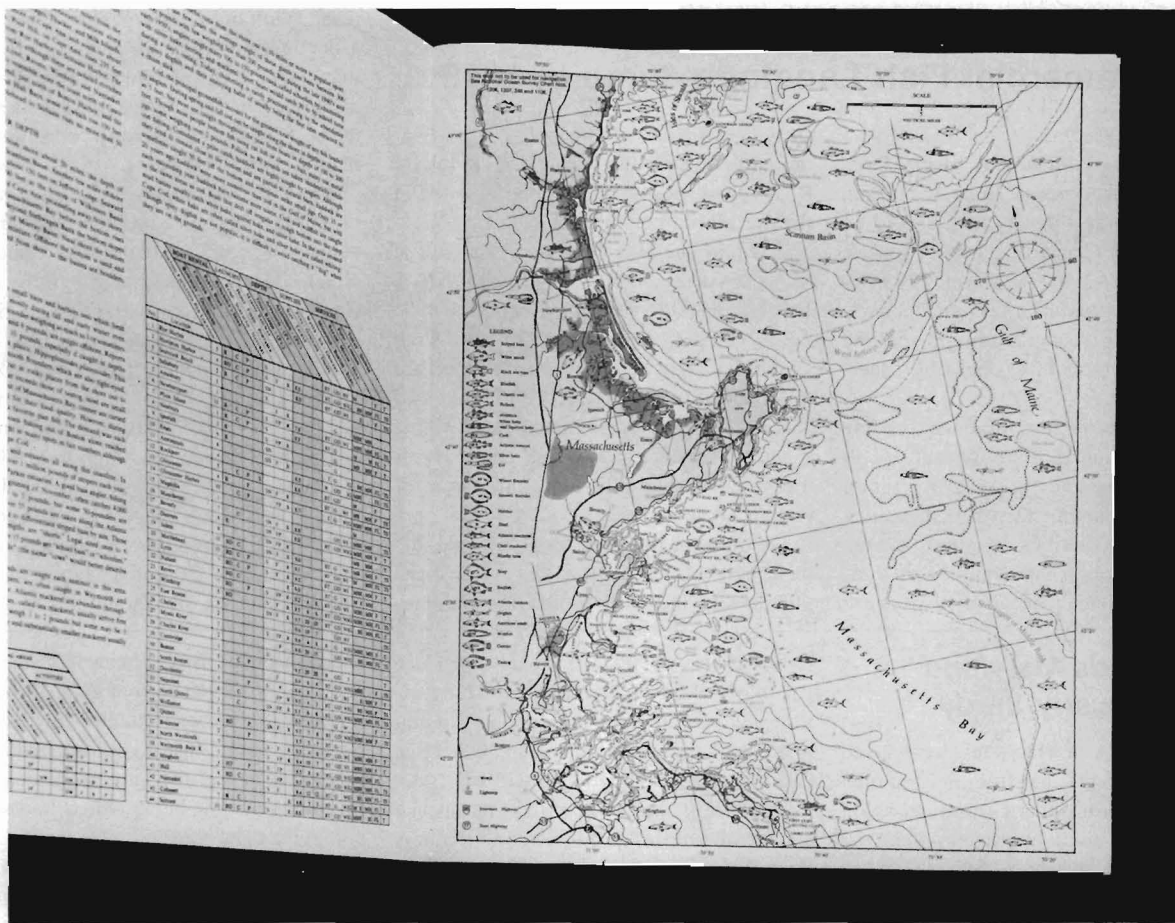
U.S. Atlantic Coast Angler's Guide Printed

The four final sections of one of the most extensive and detailed marine sport fishing guides, "The Anglers' Guide to the United States Atlantic Coast," has been published by the Commerce Department's National Oceanic and Atmospheric Administration (NOAA). Subtitled "Fish, Fishing Grounds, and Fishing Facilities," the 14- \times 16½-inch guide thoroughly covers marine angling from Maine to Florida in eight separate sections.

The Anglers' Guide was authored by Bruce L. Freeman and Lionel A. Walford of NOAA's National Marine Fisheries Service

laboratory at Sandy Hook, N.J. Freeman and Walford consulted extensively with commercial and sport fishermen, coastal wardens, outdoor writers, State and Federal fisheries biologists, and operators of marinas, bait and tackle shops, and boat liveries. Other important information was supplied by state park, forest, and recreation agencies as well as the National Park Service, and the U.S. Fish and Wildlife Service.

The most common and popular sport fish in each coastal section are described, including common and scientific names, and sizes:



average; "unusually large"; largest; and the tackle record. Each species' preference for bottom type and depth, temperature, and information on the season caught and best fishing conditions are listed. Tips on the best fishing methods and the most popular and productive baits and lures are also given.

General arrival times of migrant sport fish are told as are other seasonal movements and the habits of year-round resident species. Ocean floor configuration is described along with general tide and weather conditions. Other items of interest include the effects that pollution, estuarine development, and overfishing have had on fish stocks and the marine sport fishery. Marine fishing is traced from earliest European exploration and colonization for most coastal sections and the decline of some of the fish stocks is noted.

Detailed descriptions of the fish, fishing areas, and techniques are complemented by colorful, chart-sized maps which indicate the best fishing grounds and other informa-

tion. Map features of interest to anglers include shoals, gullies, ledges, banks, wrecks, lightships, jettys, bars, reefs, channels, canyons, whistle buoys, and the like. On land, national and state parks, forests, wildlife areas, campsites, principal roads and towns, wetlands, etc. are shown. Though the maps are not intended for navigational use, numbers of corresponding National Ocean Survey charts are listed for reference.

Tables keyed to each map provide extensive data on sport fishing facilities, supplies, and services. The number of boating facilities per location is given and available rentals are classed as rowboats, outboards, charter boats, party boats, runabouts, or skiffs. Launching ramps (surfaced or natural), and hoists (fixed or portable) are listed if available, as are marine railways. Tidal ranges, and approach and alongside depths are given in feet. Supplies and services mentioned include bait, tackle, gasoline or diesel fuel, water, ice, groceries, moorings, berths, electricity,

motor or hull repairs, food, lodging, toilets, and showers. A 72-word glossary in each section defines words ranging from "Anadromous" to "Wet Fly."

The recently-published sections (V-VIII) are the second half of the eight-section Atlantic coast study. Section V (\$1.60) covers the Chesapeake Bay; Section VI (\$1.70), False Cape, Va., to Altamaha Sound, Ga.; Section VII (\$1.70), Altamaha Sound, Ga., to Fort Pierce Inlet, Fla.; Section VIII (\$1.80), St. Lucie Inlet Fla., to the Dry Tortugas.

The first four sections, published in 1974, covered the area from Maine to Virginia: Section I, Passamaquoddy, Maine, to Cape Cod (\$1.60); Section II, Nantucket Shoals to Long Island Sound (\$1.60); Section III, Block Island to Cape May, N.J. (\$1.70); Section IV, Delaware Bay to False Cape, VA. (\$1.60). All sections can be ordered from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.

Operation Fish Watch Keeps Tabs on Fish Prices

The retail price index for fish rose 0.9 percent in November 1976 from October 1976, states "Operation Fish Watch," a monthly statistical analysis by the National Marine Fisheries Service (NMFS).

Of the 17 fishery items surveyed, nine advanced, six declined, and two were unchanged. Prices decreased slightly for canned red salmon, cod fillets, and fish portions. On the other hand, prices increased for halibut steak and canned shrimp.

Surveyed in the frozen category: ocean cod, flounder, haddock, whiting,

and turbot fillets; halibut steak, raw headless, peeled and deveined, and (canned) shrimp; and king crab meat. In the canned category: solid white and chunk light tuna; pink and red salmon; and Maine and Norway sardines.

In comparison to the increase in fish prices, the November retail price index for meat rose 1.2, and for poultry dropped 6.4 percent a pound to 50 cents — turkeys declined 5.6 percent.

Ten cities are surveyed every month by officials of NMFS, a part of the National Oceanic and Atmospheric Administration under the Department of

Commerce. These officials report prices of selected items of fish, meat, and poultry for "Operation Fish Watch," a service that was started in April 1973. The officials visit three different chain stores in each city and check the prices for the same representative brand names and types of products to ascertain any changes from the previous month.

The cities surveyed are Atlanta, Ga.; Boston, Mass.; Chicago, Ill.; Galveston, Tex.; San Francisco and Los Angeles, Calif.; Pascagoula, Miss.; St. Petersburg, Fla.; Seattle, Wash.; and Washington, D.C.

Sapelo Island Is Second U. S. Estuarine Sanctuary

Wetlands of a barrier island on Georgia's coast have become the Nation's second estuarine sanctuary, Robert M. White, Administrator of the National Oceanic and Atmospheric Administration, and Georgia Governor George Busbee announced late last year.

As such, a portion of Sapelo Island and the immediate vicinity will be preserved in their natural state, free from modern development, and serve as a model for measuring human impacts on similar estuarine areas.

The sanctuary was established at a ceremony in the State Capitol, Atlanta, early in December. Participating were Governor Busbee, Lt. Governor Zell Miller and Department of Natural Resources Commissioner Joe Tanner from the State of Georgia, Alfred Jones of the Sapelo Island Research Foundation (SIRF), Robert Knecht of the National Oceanic and Atmospheric Administration (NOAA), and other State and Federal officials.

"The Sapelo Island National Estuarine Sanctuary is a Christmas present to the people of the Nation from the State of Georgia, the Sapelo Island Research Foundation, and NOAA" said Knecht, NOAA's Associate Administrator for Coastal Zone Management. "Its 7400 acres will remain a permanently protected, unspoiled area—a

natural laboratory for scientific research and education."

To establish the sanctuary, the State of Georgia and SIRF contributed a total of \$4.2 million in funding and land value, and NOAA granted \$1.5 million.

The sanctuary includes the southern portion of Sapelo Island, the entire Duplin River, adjacent wetlands, and surrounding areas. It borders the R.J. Reynolds Wildlife Management Area (named after the last private owner of Sapelo Island), the Sapelo Island Natural Area, and the tiny community of Hog Hammock (pop. 300), a traditional settlement rich with black cultural heritage. Located within the sanctuary is the University of Georgia Marine Institute, which has conducted extensive research on Sapelo for more than 20 years.

The Duplin River estuary is ecologically typical of estuaries along the South Atlantic coast. Such estuaries, located from Cape Hatteras, N.C., to Cape Kennedy, Fla., are typified by extensive marshes and swamps, turbid and productive waters, and a range of plant and animal life generally found in temperate climates, with seasonal tropical elements.

Research in the sanctuary will include: 1) Acquisition of baseline data, including a full description of the natural biophysical characteristics of the estuarine ecosystem; 2) systems analysis and related studies to permit construction of models showing the

function and interaction of components of the ecosystem; 3) long-term monitoring to measure the character and extent of natural and of man-induced changes in the area; 4) assessment of the impact of management policies and uses of the natural resources of the estuarine systems, including socioeconomic impacts, and basic studies in such areas as physiology, microbiology, and biochemistry.

While not intended as a recreational area, the sanctuary will be available for "low intensity" recreation use by the general public, so long as the level and kind of use do not detract from or alter the natural environment. Such activities as fishing, crabbing, and hunting will be permitted.

Camping will also be allowed, but no special facilities such as improved roads or campsites may be constructed or provided within the sanctuary. The use or discharge of pollutants, including pesticides, herbicides, and fertilizers within the sanctuary will be prohibited.

Ownership of the sanctuary is with the Georgia Department of Natural Resources. The State Office of Planning and Budget will coordinate the estuarine sanctuary program within the state's coastal management program. Federal funds for the sanctuary were provided by NOAA under the Coastal Zone Management Act of 1972. The nation's first estuarine sanctuary was established in 1976, in Coos Bay, Oreg.

U.S. Fishermen Allowed Limited Access in Mexico's 200-Mile Zone

An agreement between United States and Mexico provides limited U.S. fishing activities within Mexico's 200-mile economic zone, according to the National Oceanic and Atmospheric Administration's National Marine Fisheries Service. The agreement was signed last year by Ambassador John Jova for the United States and by Foreign Minister Alfonso Garcia Robles for Mexico, and now is in effect.

The agreement authorizes limited access for U.S. fishermen to traditional fisheries within 12 miles of the west coast of Mexico. The U.S. vessels are also authorized to harvest surplus portions of the total allowable catch, determined by Mexico, of snapper and grouper, shrimp, and associated incidental fishes within the 12-to 200-mile zone off Mexico's Gulf coast. Moreover, continuation of the U.S. fishery for highly migratory species in that zone is permitted.

The United States has accepted the concept of phase down-phase out regarding its shrimp fishery within the Mexican 12- to 200-mile zone. The schedule is as follows:

Period	Metric tons	No. of vessels	Percent reduction
1 Aug. 1976- 31 July 1977	2,750	318	40 percent from previous levels
1 Aug 1977- 31 July 1978	1,925	223	30 percent from 1st year of agreement
1 Aug 1978- 31 July 1979	1,100	127	60 percent from 1st year of agreement
1 Aug 1979- 31 Dec. 1979 (5 months)	344	95	70 percent from 1st year of agreement

The U.S. vessels will fish only on the Contoy and Tampico grounds, with no more than 80 percent of the catch being taken off Tampico. Each vessel participating in the fishery will pay annually a permit fee of \$80 and a charge of \$2,006 for its yearly catch, calculated on the basis of 5 percent of the official price for shrimp (as established by Mexico) of \$4,640 per ton.

Vessels that intend to fish off Contoy will pay a yearly catch charge of \$1,538, since the fishery in this area has yielded, on the average, 35 percent rock shrimp. The official price for rock shrimp is \$1,540 per ton.

The agreement provides for 52 U.S. ves-

sels to participate in the hook and line fisheries within the Mexican zone until the annual allocation of 450 metric tons is taken. Each vessel will pay an annual permit fee of \$80 and a charge of \$433 for its yearly catch (determined by dividing the number of authorized vessels into the total charge for the amount of agreed capture which is 5 percent of the fishery's official price of \$1,000 per ton times 450 metric tons).

Owners of vessels participating in either of the above fisheries will be required to make a cash deposit of performance guarantee or post a performance bond with a Mexican bonding company to guarantee compliance with the obligations. The amount of the cash deposit or bond will be \$1,600 for individual vessels, or \$160 for vessels applying in association with others, with joint liability for loss of the cash guarantee or bond.

Vessels authorized to fish in the shrimp or hook and line fisheries may take associated incidental fishes that do not exceed, on the average, 5 percent of the total catch.

To determine the actual harvest, the master of each U.S. vessel with a permit to fish in the shrimp or hook and line fisheries will maintain a current vessel fishing log while in the Mexican economic zone, and at the end of each trip, deliver a notarized fishing trip report to the nearest Mexican Consular office, sending a second copy of the report

to the National Marine Fisheries Service, St. Petersburg, Fla.

A limited number of U.S. fishing vessels that have traditionally fished within 12 miles of the Pacific coast of Mexico will be permitted to continue fishing for the same species, generally in accordance with past practices. Mexico has authorized a list of 141 vessels that may apply for permits to fish within the 12-mile zone. Vessels that are on the list, if removed from the fishery, may not be replaced; nor can vessels remain on the list if there is a change in ownership, except in the case of transfer by inheritance of the vessel from parent to child and so long as the child operates the vessel. A vessel may be removed from the list of vessels authorized to apply for permits if it fails to fish during a period of 12 consecutive months.

Each vessel will pay an annual permit fee of \$80 and a charge before each trip based on a percentage of the fishery's official price of \$464 per net registered ton. The charge for vessels whose net registered tonnage is not greater than 150 tons will be 5 percent of \$464, or \$23.20 per net registered ton; for vessels over 150 tons, 10 percent of \$464, or \$46.40 per net registered ton.

Regarding highly migratory species, the U.S. Government will provide to the Government of Mexico the names of U.S. vessels which intend to fish highly migratory

Sealskin Import Permit Granted

A permit to import 13,000 Cape fur sealskins from the Republic of South Africa was issued earlier this year to the Fouke Fur Company, Greenville, S.C., by the National Oceanic and Atmospheric Administration's National Marine Fisheries Service.

The importation will be permitted under the following conditions:

1) The skins must have been taken within the Republic of South Africa, in accordance with its laws, and by, or under, the auspices of that nation.

2) The Republic must certify that none of the skins was taken from Namibia.

3) The skins must be from an annual kill not exceeding 70,000 cape fur seals and is subject to continuing evaluation of the management program by the U.S. If more than 70,000 are killed in any one year, no skins from that kill can be imported into the United States.

4) No skins can be imported from animals that were nursing, pregnant, or

less than 8 months old at the time of the taking.

5) The skins must be taken in a manner not deemed inhumane by the Director of NMFS.

Importation of marine mammals or marine mammal parts is prohibited by the Marine Mammal Protection Act of 1972. However, the Act authorizes a waiver of the moratorium when it is determined on the basis of the best scientific evidence available that the taking of the marine mammals is in accord with sound principles of resource protection and conservation.

This is the first permit granted by the Department of Commerce Agency to import South African skins under a 1975 waiver of the moratorium placed on the importation of all marine mammals and marine mammal products by the Marine Mammal Protection Act.

species in the 12- to 200-mile zone in accord with the present IATTC regime, and will transmit to the Government of Mexico on behalf of those vessels, the fees charged for issuance of certificates (\$20 per vessel) indicating the status of those vessels fishing in the Mexican economic zone.

Enforcement of the agreement is the responsibility of Mexico which, under the agreement's provisions, may stop, board, and inspect any U.S. fishing vessel fishing in the Mexican economic zone when there is

reason to believe such vessel is not fishing in accordance with the terms and conditions of the agreement. They may also seize and arrest U.S. fishing vessels that violate the agreement, and impose penalties, as provided by Mexican law, on U.S. fishing vessels that violate the agreement.

Vessels and their crews arrested for violation of the agreement will be promptly released upon posting of a security reasonably related to the amount of the penalty.

Agreement between the two countries

was also reached to take appropriate measures to reduce incidental catches of any marine mammal and to protect endangered species.

Regulations governing recreational fishing in the Mexican economic zone are not a subject of the agreement. Licenses and permits for recreational fishing within the Mexican territorial sea and the 12- to 200-mile economic zone may be purchased at Mexican Consulates in the United States and Canada.

Outstanding 1975 NMFS Publications Selected

The outstanding papers authored by National Marine Fisheries Service scientists and published in the *Fishery Bulletin* and the *Marine Fisheries Review* in 1975 have been selected by the NMFS Publications Policy Board.

William E. Schaaf received a Special Achievement Award for his paper "Status of the Gulf and Atlantic Menhaden Fisheries and Implications for Resource Management." It was published in the September issue (Vol. 37, No. 9) of *Marine Fisheries Review*. Schaaf is with the Atlantic Estuarine Fisheries Center, Beaufort, N.C.

Selected as the best publication in a 1975 issue of the *Fishery Bulletin* was "Systematics and Morphology of the Bonitos (*Sarda*) and Their Relatives (Scombridae, Sardini)," (Vol. 73, No. 3). It was authored by Bruce B. Collette and Labbish N. Chao. Collette is with the NMFS' National Systematics Laboratory, Washington, D.C. Chao, with the Virginia Institute of Marine Science, Gloucester Point, Va., is now at the National Museum of Natural Sciences, Ottawa, Ontario, Canada.

Two papers in *Marine Fisheries Review* were selected for honorable mention. They were: "Development of a Program to Rehabilitate the Oyster Industry of Prince Edward Island" by Clyde L. MacKenzie (Vol. 37, No. 3, March 1975); and "Japan's Fisheries, 1975" by Tamio Otsu, in Vol. 37, No. 11, October 1975. MacKenzie is with the Sandy Hook Laboratory, Northeast Fisheries Center, Highlands, N.J., and Otsu is with the Honolulu Laboratory, Southwest Fisheries Center, Honolulu, Hawaii.

Reuben Lasker's *Fishery Bulletin* (Vol. 73, No. 3) paper, "Field Criteria for Survi-

val of Anchovy Larvae: The Relation Between Inshore Chlorophyll Maximum Layers and Successful First Feeding," was also selected for honorable mention. Lasker is with the Southwest Fisheries Center, La Jolla, Calif.

Developed in 1975, the annual publication awards program recognizes NMFS employees who have made outstanding contributions to the knowledge and understanding of the resources, processes, and organisms studied as part of the NMFS mission.

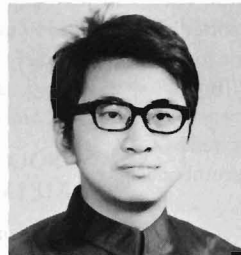
Fishery Bulletin papers must document outstanding original scientific work while

Marine Fisheries Review papers must be effective and interpretive contributions to the understanding and knowledge of NMFS mission-related studies.

Any NMFS employee may recommend publications of the appropriate calendar years to the Publications Policy Board for award consideration. Authors must have been employed by the NMFS at the time the paper was published. Nominations, solicited by 1 April each year, must include the author's name, paper title and number of pages, series name and/or volume, justification to support the nomination, and the name and office affiliation of the nominator.



Collette



Chao



Lasker



MacKenzie



Otsu



Schaaf