

# American Fisheries Society

## WESTERN DIVISION NEWSLETTER

Volume 3

June, 1978

Number 3

### San Diego Meeting Promises Fireworks

The time is here to plan your trip to San Diego. And if you haven't seen the schedule, a warning is called for. Beware! Some sensitive issues will be aired. For example, a session on the current energy dilemma is entitled "Energy and the Environment - Are they Compatible?" Other sessions will handle the pros and cons of environmental protection, the social value of fish and wildlife, resource allocation and other topics. In one general session, the media will conduct a no-holds-barred critique of current management of fish and wildlife in the West. Setting the theme of the conference will be the Keynote Address by Charles Warren, a member of the President's Council on Environmental Quality.

If anyone is left standing after the General and Technical Sessions, they will enjoy the planned entertainment. There will be cruises of San Diego Harbor, a Cioppino Dinner, a special Sea World program, and a Banquet finale featuring Bob Crosby and the Bobcats, one of only four big dance bands still on tour. A half-day deep sea fishing trip is \$10.00 per person. Pools, tennis courts and beaches are at the Conference hotel. The San Diego Zoo is world famous. Tijuana, Mexico is only 15 miles from downtown San Diego.

The registration desk will be open on Sunday, July 16 for those attending Committee meetings. The AFS Executive Committee (elected officers, Chapter presidents, Committee Chairman) will be meeting at 1:00 on Monday, July 17. EXCOM meetings are open to anyone. Arrive early and take part. The Annual meeting of the Division will be held Thursday, July 20 at 1:00 PM. Arrange your departure to allow attendance at this meeting.

Students. Lodging is available in dorms at San Diego State University (5300 Campanile Drive, San Diego, Calif. 92115), 8 miles from the conference hotel. Contact the University to reserve a dorm room on a guest basis. Rates are \$10.00 per night for a room with two beds. Reservations at the Conference hotel, the Sheraton Harbor Island (1380 Harbor Island Drive, San Diego, Calif. 97101) should be made as soon as possible for accommodations in San Diego will be difficult to find in July.

Do it in San Diego !!



### Western Division Voting Conducted By Mail Ballot Again This Year

This is the second year in which the Western Division has elected officers by mail ballot. But, this year, a new wrinkle has been added. You don't have to buy a stamp or address an envelope. Just mark the enclosed ballot card and drop it in the mail. Find the list of candidates inside the Newsletter (Page 2). With this quick and easy method of voting, there should be 90%+ participation this year. A first for any Division of the Society. VOTE!!!



#### WESTERN DIVISION AFS ELECTED OFFICERS

President: Kirk T. Beiningen, Oregon  
President-Elect: John Skinner, California  
Past-President: Gerald R. Bouck, Washington  
Secretary Treasurer: Robert Wiley, Wyoming

NEWSLETTER Editor: Charles Berry, Utah

# Candidates For Division Offices 1978-1979

The Nominations Committee has presented the 1978-79 slate of candidates for Division offices. A brief biographical sketch of each candidate is included below. Vote by marking an "X" in the appropriate box on the enclosed, stamped and addressed post card. Simply drop the card in the mail. VOTE!!!

## For President-Elect:

Ron Marcoux

Mr. Marcoux is presently Regional Fisheries Manager with Montana Fish and Game after being with the organization since 1969. He received BS and MS degrees from Univ. of Montana and Montana State Univ. respectively. He has served the Society at the Chapter level (Sec-Treas. and Pres., Montana Chapt.), the Division level (Time and Place Comm.), and the National level (Arrangements Comm.).

Robert Wiley

Mr. Wiley is Supervisor of Fishery Research with Wyoming Game and Fish Dept. after being with the organization since 1963. He received BS and MS degrees from Humboldt State Univ. and Univ. of Wyoming respectively. He has served the Society at the Chapter level (Pres., Bonneville Chapt.; Sec-Treas., Vice Pres. and Pres., Colorado-Wyoming Chapter), the Division level (Newsletter Editor, Sec-Treas., Nominations, Time and Place, Resolutions Committees), and the National level (Resolutions, Membership Concerns Comm.).

## For Secretary-Treasurer:

Clare Carlson

Dr. Carlson is presently Professor of Fishery Biology at Colorado State Univ. He has attended Augustana College and Iowa State and has been a faculty member at Augustana and Cornell Univ. where he was Assistant Leader of the New York Cooperative Fishery Research Unit. He has served the Society at the Chapt. level (Sec-Treas., Vice Pres., Colorado-Wyoming Chapt.), the Division level (co-chaired the International Symposium on River Ecology, Northeast Division), and the National level (Student Affairs Comm.).

Bernie Leman

Mr. Leman is presently a Fish and Wildlife Biologist for Public Utility District No. 1 of Chelan County, Washington after being with the organization for 20 years. He has also worked for fish and game agencies in Nebraska, Oregon and Idaho. He received BS and MS degrees from Oregon State Univ. He is a member of the Wildlife Society, Society for Range Management, Pacific Fishery Biologists, American Fisheries Society, and Association of Power Biologists.

## For National Nominating Committee:

John Peters

Dr. Peters has been an Environmental Specialist with the Bureau of Reclamation since 1971. He administers Bureau environmental plans and programs in 17 Western States. He worked for Montana Game and Fish Dept. for 12 years. He attended Michigan State and Colorado State Universities. He has served the Division as chairman of the Membership Committee.

Robert White

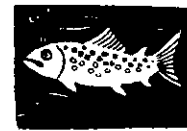
Dr. White has been Assistant Leader of the Idaho Cooperative Fishery Unit, University of Idaho since 1974. He attended Northeast Missouri State and Utah State University. He has served the Society at the Chapter level (Sec-Treas. and Pres., Idaho Chapt.), the Division level (Executive Committee), and the National level (Student Affairs, Membership and Best Student Paper Committees).

## WHY YOU SAY IT

- Sardine - waters off the island of Sardinia are thick with this fish.
- Trout - ancient Greeks dubbed this fish a "gnawer"; gnawer is trutta or tructa in latin.
- Menhaden - Algonquin Indians planted one with each corn seed; munnohquohtau means "he enriches the land", shortened by English settlers.
- Gar - body shaped like the gar or spear of the fifteenth century English.
- Halibut - butt or large pan fish was eaten by early Dutch and German christians on holy days; Holy butt = holibut = halibut.



# COWS & FISH



Western rangeland has traditionally been exploited for livestock production. Recently public actions and legislation have required that other uses of public lands be considered in range management plans. The need to consider fish and wildlife habitat in range management has presented problems and incited controversy. For example, based on "widespread experience", one group of authors has written the following: "Livestock grazing is being managed and integrated with other uses of federal lands. There is no evidence to indicate that well managed grazing of domestic livestock is incompatible with a high quality environment" (Heady et al 1974). Another author, based on "long years of observation" has written: "Fish and wildlife habitat in Western rangeland is undergoing steady, chronic deterioration under existing patterns of multiple use. Livestock grazing in particular may be having cumulative ecological ill effects on productivity of both lands and water" (Leopold 1974). One reason for the lack of unanimity is the lack of data in the hands of the range scientists on management goals and methods for the aquatic and riparian zones of the range. Fishery biologists have also been at a loss to provide information on range management impacts on aquatic resources when asked. They found that they had little data to substantiate their suspicions that present grazing practices were having a deleterious impact on fishery resources. They also found that their methods for measuring the impact were not very precise. Fishery biologists began to discuss the situation and no less than 3 workshops or symposia were held on the topic of livestock interactions with fish, aquatic environment and riparian zones in 1977. These were:

1. Symposium on the Importance, Preservation and Management of Riparian Habitat. USDA Forest Service, Gen. Tech. Rept. RM-43, Research Support Services, 240 W. Prospect Street, Fort Collins, Colorado 80521.
2. Livestock Interactions with Wildlife, Fish and Their Environments, USDA Forest Service, Berkley, California (in press), Pac. SW Station, Research Support Services, 1960 Addison Street, Box 245, Berkley, CA 94701.
3. Improving Fish and Wildlife Benefits in Range Management. Fish and Wildlife Service, Pub. FWS/OBS-77-1. U.S. Fish & Wildlife Service, Office of Biological Services, Washington, D.C. 20240.

Information on ecology and management on one of the most important rangeland plants, sagebrush, was summarized in a recent Sagebrush Symposium (Range Science Dept., Utah State University, Logan, Utah 84322). The Symposium included several papers on the impact of sagebrush management and grazing on fish and wildlife resources. Now in the planning stages is a Symposium on the impacts of grazing on riparian and stream biota to be held in the fall. The Symposium is being planned by Federal, State, private and public groups representing the interests of wildlife, range, and livestock (more about this meeting as plans develop).

Although progress in range rehabilitation has been made, grazing is still thought to be a major deleterious impact on aquatic resources in the West. At a recent symposium the condition of riparian and aquatic habitat in areas under eight different grazing systems was summarized (Platts 1978). A poor aquatic habitat was usually found in areas of year-long or season long grazing. Deferred, rotation, deferred-rotation, rest-rotation, and short duration-high intensity grazing systems resulted in poor to fair ratings of the aquatic system, depending on location, topography and other land features. Only in areas where there was no grazing were aquatic resources found in good to excellent condition. The main impacts of grazing appear to be a reduction of upland and riparian vegetation cover which cause increased soil erosion, bank instability, stream temperature, stream bottom siltation and water turbidity. Each of these changes has potential secondary effects on a fishery by reducing cover and decreasing primary and secondary productivity. Minor potential impacts of grazing are bacterial contamination and organic enrichment of water, increased peak flows, physical disturbance of spawning areas and fish behavioral alterations.

Consumer demand for beef is increasing. It is projected that an additional 70 million acres of forage producing range will be needed in the next 24 years. In the West, mining, agriculture and other developments are reducing grazing land at a rate of 1.4 million acres per year. The increased demand for recreation areas and protection of watersheds for water quality may be yet another drain on the rangeland available for red meat produc-

(See Cows & Fish, Page 4)

tion. Hopefully, this drain can be minimized through an interdisciplinary approach to management. The grazing issue is definitely one all Western Division members should keep abreast of for the opinions and data of Western fishery biologists will certainly be called for in the future.

#### Literature Cited

- Heady, H. et al. 1974. J. Range Manage 27:174.  
Leopold, S. 1974. Proc. Wild Trout Manage. Symp. pp. 96-98.  
Platts, W. 1978. Trans. Cal-Neva Chapt. (in press).

#### STREAM CHANNELIZATION GUIDELINES

The Soil Conservation Service and the Fish and Wildlife Service have issued guidelines that are intended to minimize the impacts of small watershed projects on fish and wildlife. The guidelines will affect federally assisted watershed protection and flood prevention projects. They are aimed at helping personnel of the SCS and FWS determine when and where to channelize. The guidelines consider potential effects on wetlands, streamside vegetation and wildlife habitat, they consider alternatives to channelization and establish an appeal procedure to resolve disputes between field personnel of the two agencies. Copies are available from the National Stream Alteration Team, Federal Bldg., Room 200, 608 East Cherry Street, Columbia, MISS. 65201.

The Fish and Wildlife Service, in cooperation with Colorado, Nevada, Utah and Wyoming, will soon publish an atlas of stream values in each state. The four criteria used in the study for determining the value of a stream were 1) the status of endangered species in the stream reach, 2) the status of threatened species in the stream reach, 3) the importance of the stream to species of high interest to a State, and 4) a stream's potential for restoration and reclamation following a development activity. The information in the atlas is intended to optimize State, local and Federal decisions about how and where development programs will be carried out. The knowledge of the location of highly valued stream reaches will be very useful early in any planning process. The series of maps will soon be available at FWS Area Offices or State Government Offices.

## In-stream Flows: A Current Study

A study of in-stream flows has recently been completed in Montana. The entire paper will appear in Transactions later, but due to the timely nature of this topic, the author Fred Nelson, Fishery Biologist, Montana Fish and Game, has permitted the Newsletter to publish a summary of the work.

The Montana Department of Fish and Game completed a 10-year study of trout-flow relationships in a 6455 foot section of the Beaverhead River below Clark Canyon Reservoir. The numbers and biomass of brown and rainbow trout were estimated by age groups in the fall and spring of each year using electrofishing techniques. Average daily flows were obtained at a U.S.G.S. gage. The survival of age III and older rainbow trout was directly related to the magnitude of flow releases during the nonirrigation season (approximately October 15 - April 15). During this period, Clark Canyon Reservoir stores water for irrigation and releases into the Beaverhead River are minimal. Results of the study suggest that flow releases greater than approximately 200 cfs are needed to maintain a high quality, trophy rainbow trout fishery in the upper river. Flows were not sufficiently reduced during the study to adversely affect the survival of brown trout. Reproductive success, which was inadequate for providing sufficient numbers of trout to fill all available living space, was the major factor limiting the total numbers and biomass of trout throughout much of the study. Violent fluctuations of the flow releases at Clark Canyon Dam during the brown and rainbow trout spawning periods appear to be the major factor hindering reproduction. The upper Beaverhead River would support greater numbers and biomass of trout of all age groups than those which existed throughout much of the study if flow releases favorable to both trout reproduction and the survival of older rainbow trout were provided.

The in-stream flow issue is creeping into the popular literature. An article recently appeared in the June-July issue of National Wildlife (16:4-11).

RESEARCH DEFINITIONS: "It has long been known" Translation - I haven't bothered to look up the original reference. "of great importance" Translation - interesting to me. "typical results are shown" Translation - best results are shown.

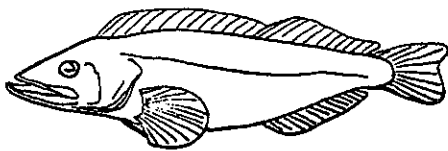
# Washington's Lingcod Culture Program Beginning

The Washington State Department of Fisheries Marine Fish Enhancement Unit under the Direction of Ray Buckley, Unit Leader, and Jim Walton, fisheries biologist, is developing a program for the enhancement of lingcod (*Ophiodon elongatus*) in the waters of Puget Sound and Hood Canal. This project was necessitated by recent declines in commercial and recreational harvest in inshore waters and a significant decline in egg mass sitings on lingcod spawning surveys.

To facilitate the enhancement efforts and ensure stock preservation at present levels, the Washington Department of Fisheries has instituted a complete moratorium on the harvest of lingcod in inside waters beginning April 1, 1978 for a period of 2 years. Permanent closures have been adopted for the spawning season from December through March in the Strait of Juan de Fuca and all inside waters.

The lingcod enhancement program is being designed to ensure adequate stocks through the development of mass propagation techniques. Preliminary studies by the Enhancement Unit and the Seattle Aquarium have indicated a potential for success by rearing lingcod from eggs. These techniques, however, are still in the experimental stages and any advice or suggestions from anyone who has attempted to raise this species would be appreciated.

Juveniles will also be captured in the wild and raised in salt water rearing pens. After a short period of intensive feeding and rearing, these fish will be tagged and transplanted to depleted areas.



*The Lingcod is not related to the cod family (Gadidae) at all; its closest relatives are the sculpins. The ling (probably named by early Pacific fishermen from Europe who were familiar with the ling of the North Sea) occurs in the northeast Pacific. It reaches 1.5 m and 45 kg.*

The propagation of marine species of fish in the Pacific Northwest is still in the first developmental stages. A crisis such as the abrupt decline in an economically and recreationally valuable fish such as the lingcod can and should be used to promote the research necessary to cope with problems such as this in the future.



## MITIGATION SYMPOSIUM UPDATE

A year or so ago, the Western Division began to plan a regional workshop on strategies for fish and wildlife mitigation. The idea was so good that a national rather than regional Symposium is now being planned. A Steering Committee met at the Vancouver meeting and has met several times since. A Symposium Director, Dr. Gustav Swanson, has been recruited, a time and place, July 1979, Colorado State Univ., has been set, and funds are being solicited. The Symposium is still in the early planning stages but should you desire additional information, contact Gustav Swanson, Dept. of Fish and Wildlife Biology, Colorado State Univ., Ft. Collins, CO. 80523.



## ENDANGERED SPECIES: SOME HISTORY

U. S. endangered species legislation began in 1966 with the Endangered Species Preservation Act. The act authorized the listing of endangered species, research on their needs, and protection of them and their habitat. In 1969, the law was broadened to prohibit the importation of endangered species into the U.S. In 1973, the Endangered Species Act, put new teeth into early legislation by charging federal agencies to ensure that actions authorized, funded, or carried out by them does not jeopardize the existence of endangered or threatened species or destroy critical habitat. States are responsible for the protection and management of endangered and threatened species. Some important definitions are: 1) critical habitat is the water, land or air required for normal needs and survival of the species, 2) endangered means that a species is in danger of extinction throughout all or a significant portion of its range, and 3) threatened means that a species is likely to become endangered within the foreseeable future.

(See Endangered Species, Page 6)

(Endangered Species continued)

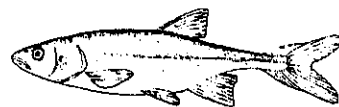
Some recent action on Western endangered fish is as follows:

Cui-ui sucker (Chasmistes cujus) - This sucker is found only in Pyramid Lake, Nevada and is endangered due to water diversion from the Truckee River. A recovery plan has been approved which includes determination of critical habitat, restoration of Truckee River habitat, artificial propagation and establishment of subpopulations at suitable sites.

Greenback cutthroat (Salmo clarki stomias) - This Colorado native has been removed from the endangered list. New populations have been located and certain former habitat areas have been restocked after elimination of stocked rainbow trout. The remaining habitat is on public land which is safe from habitat alteration.

California golden trout (Salmo aguabonito) - This brilliantly colored trout indigenous to the Little Kern River watershed, was recently listed as threatened (Federal Register, April 13). Hybridization with introduced rainbows and habitat modifications have made inroads into the population.

Bonytail chub (Gila elegans) - This Colorado River watershed native was recently listed as endangered (Federal Register, April 24). It has become extinct in the lower basin and is now rare in the upper Colorado. The largest



fish collected recently was just over 400 g. Dams have changed the habitat of the bonytail in the Colorado and competition from over 100 introduced species has probably caused further reductions in population size.

Razorback sucker (Xyrauchen texanus) - This Colorado River watershed native was recently listed as endangered (Federal Register, April



24). This large (5 kg maximum weight) fish is characterized by its prominent dorsal ridge, an adaptation which may promote stability in turbulent waters.

A small, simple line drawing of a fish, possibly a trout or similar species, shown in profile facing left.

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