# BOREGON STATE GAME COMMISSION DULLETIN

DECEMBER, 1958



### OREGON STATE GAME COMMISSION DULLETIN

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At the present time the Bulletin is circulated free of charge to anyone forwarding a written

#### the cover

Lake survey crew working in the Wallowa Mountains. While this looks like a winter scene, actually the picture was taken at Glacier Lake last September. (Photo by Milt Guymon.)

#### MURRAY RESERVOIR PROVIDED PARKING

Anglers will benefit from the parking lot being developed for their use at Murray Reservoir by the owner, Hardy Murray. His plans provide for a space large enough to make room for 20 to 30 cars. Two rest stations have previously been built by the Powder River Sportsmen's Club of Baker. The reservoir is located near the town of Unity in Baker County.

#### NOVEMBER MEETING OF THE GAME COMMISSION

The Oregon State Game Commission met November 12 and matters acted upon included the following:

Antelope Reservoir. Authorized \$6,800 for chemical treatment of Antelope Reservoir in Malheur County.

Dorena Reservoir. Closed this reservoir to angling until opening of 1959 trout season to protect trout released in reservoir following recent chemical treatment.

Shinglehouse Slough Access. Authorized appropriation for development of access site increased from \$4,000 to \$5,500.

Eel Lake Easements. Approved granting of two easements across Eel Lake property to Bonneville Power Administration.

Ladd Marsh. Authorized exercise of three options for the Ladd Marsh Management Area in Union County for acquisition of 442 acres at a total cost of \$77,600.

Fencing Contracts. Instructed staff to prepare revised policy in regard to fencing contracts with landowners for certain types of game damage.

Capital Outlay. Authorized up to \$3,000 for drilling of well at Alsea Hatchery for domestic water supply; \$12,250 for concrete ponds at Butte Falls Hatchery; and \$1,621.67 for storage cabinets, etc., at Central Region new headquarters office and warehouse; \$1,120 for incubator at Alsea Hatchery to be used in hatching steelhead eggs.

Next Meeting. Decided to meet next on Friday, January 9, 1959, the time set by statute to hold the hearing on angling regulations.

#### 1959 ANGLING REGULATION HEARING

The Game Commission will meet or Friday, January 9, at its Portland office to hold the statutory hearing on angling regulations. By law the Commission is authorized to regulate seasons, bag limits and methods of angling for game fish.

The public is invited to attend and submit recommendations.

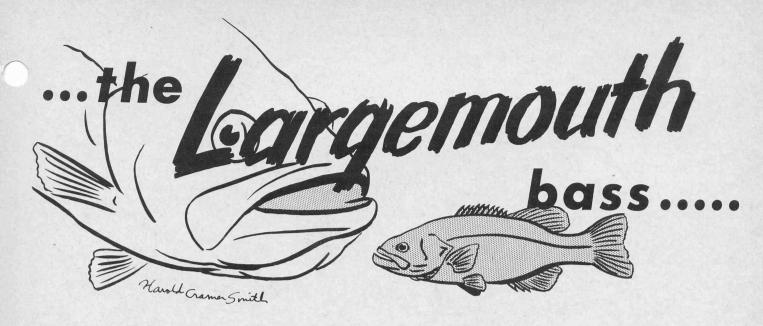
#### Federal Aid for Game Fish. Wildlife Totals \$21,000,000

Federal aid funds available for game and sport fish restoration in the United States will total \$21,000,000 for the 1958-59 fiscal year. Of this amount, \$16,400,000 is appropriated under the Pittman-Robertson Act for wildlife restoration. These funds are derived from the 11 per cent tax on hunting equipment. The balance, \$4,600,000 will be expended under the provisions of the Dingell-Johnson Act for game fish restoration projects. This money comes from a 10 per cent tax on fishing tackle.

Oregon's share amounts to \$512,146, about \$12,000 less than last year. This includes \$103,056 Dingell-Johnson funds and \$409,090 Pittman-Robertson funds. Formula for distribution of the fishery funds is based 40 per cent on the land and water area of the state and 60 per cent on the number of angling licenses sold. The game funds are distributed on basis of 50 per cent for land area and 50 per cent for number of hunting licenses issued.

This is the beginning of 21/2 mile road just completed by the Game Commission providing access to the South Jetty of the Columbia River in Clatsop County. Parking area is available at the end of the road and anglers have to walk only a short distance to reach the jetty.





By Fred Locke, Chief, Lake and Stream Management

 $T^{
m HE}$  FIRST largemouth bass in Oregon was reported to have been caught by Joseph Paquet on an August day in 1898.

Since that time, many anglers have enjoyed the pleasure of taking the large-mouth introduced into Oregon waters some seventy years ago by Gideon Steiner and Edward W. Bingham. Additional early plants were made in the Columbia and Willamette drainages by the U. S. Fish Commission.

Once this species began to reproduce, they were salvaged from flood waters of the lower Columbia River. The angler today catching four to eight-pound prize fish in such places as Siltcoos Lake and Owyhee Reservoir owes a debt of gratitude to these pioneers and the early activity of Fred Haldeman of the Oregon Game Commission. It was Fred and his recruitment of high school boys who salvaged largemouth from the mud flats of Sauvies Island and transported them to many lakes and reservoirs throughout the state.

Although recent plants have been made in new reservoirs or chemically treated areas, it is the successive generations of bass from those early plants that provide angling in most of the popular areas today.

Several characters are helpful in identifying the largemouth bass. The color is usually dark green on the back with a black lateral band extending along the side of the body. The belly is usually greenish-white. The large mouth of this species extends back of the eye. A dorsal fin is almost divided with the spiny rays to the front and soft rays to the rear.

The only other spiny-rayed fish with which the largemouth could be confused in Oregon is the smallmouth bass. This species has vertical bars in place of the lateral stripe and the mouth does not extend beyond the middle of the eye.

It is obvious that certain Oregon waters are suitable for bass reproduction; otherwise this species would not be found in the numbers and in the areas it is today.

One reason the bass is so successful in reproduction is its ability to utilize a great variety of submerged objects on which to spawn. Unlike trout and salmon, the largemouth does not require gravel or running water to reproduce. Roots of vegetation, gravel, submerged logs, etc., are accepted as suitable places for depositing eggs.

The largemouth also differs from salmonoids in that the male makes the nest in which eggs are deposited. When the water temperature approaches 65° F., nest building is begun. The depth of the water may range from a foot to six feet. Males, after selecting a suitable site for a nest, proceed to clean the area of silt and organic deposits. The nest may be from a foot to three feet in diameter. When an area is cleared, it is closely guarded by the male. An unwanted female or another male is vigorously driven away. Once the nest is completed and the water temperature nears 65°, the male moves out in search of a ripe female. When a mature female is found, she is driven to the nest by the male. This process may entail a form of courtship in which the female breaks away and returns to deeper water only to be pursued again and driven back by the male.

A color change usually takes place just before the fish are ready to spawn. During the egg-laying, the fish lie side by side usually facing in the same direction. The female vibrates her body at the time the eggs are emitted. The milt of the male is released at the same time or shortly afterward. This process may be continued at intervals of four to ten seconds. At the conclusion of the spawning period (from one to three hours) the female moves away from the nest. Both the male and female may spawn again with other ripe fish. The nest of a single male may, thus, contain the eggs of from one to four females.

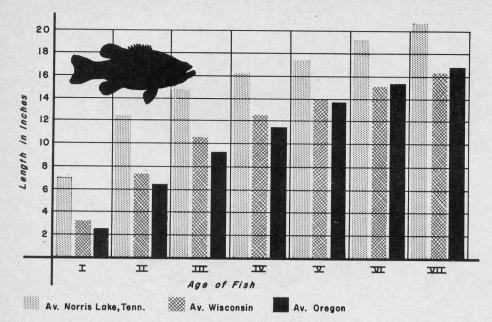
Once the female bass has spawned out, she proceeds to move to deeper water, leaving the care of the eggs and young

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Douglas Todd displays bass caught this season at Siltcoos Lake.



GAME BULLETIN



#### COMPARATIVE GROWTH OF LARGEMOUTH BASS

#### The Largemouth Bass

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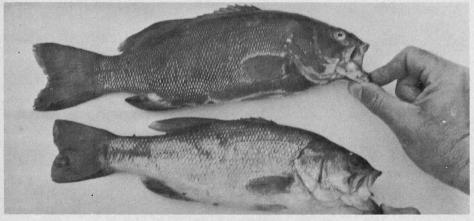
to the male. The male takes a position over the eggs and starts a fanning motion with his fins. The constant motion of the water not only prevents the eggs from being covered with silt but supplies a constant flow of water with which the eggs are aerated. Upon hatching (a period requiring about five to eight days) the small fish remain on or near the bottom of the nest. As they start to feed and increase in size, they move about in schools near the nest. The male is sure to be found within or near the school, keeping constantly on the alert for predators. A bright warm day will usually bring the school near the surface, especially when they reach an inch or more in size.

There is a tremendous variation in the number of eggs produced in largemouth bass. Roughly from two thousand to seven

thousand eggs are produced per pound of female, although upwards of 100,000 eggs have been recorded for a single female. The ability of the largemouth to reproduce successfullly is even more apparent when it is compared to a 20-inch rainbow that yields a total of about 2,200 eggs in one spawning season.

The young bass when hatched are nourished by food contained in the yolk sac much the same as small trout and salmon. Once they start taking small animal life such as water fleas, they grow rapidly. As they increase in size, more food is required and they begin taking small insects. Other organisms and larger insects are consumed as the fish continue to grow.

As in most other animals, some bass in a school grow more rapidly than do their brothers and sisters. When the spread in size between the largest and smallest becomes sufficiently great, cannibalism takes place and larger finger-



Upper: Smallmouth Bass — Lower: Largemouth Bass.

ling will consume the smaller bass. The male bass will also periodically take small bass from the school under his protection.

Schools of fingerling bass usually disperse when they reach one and one-half to two inches in length.

Although bass may continue to eat insects throughout life, their main diet eventually consists of fish, crayfish, and other larger organisms. Snakes, frogs, mice, and even small birds may be taken by large bass.

The growth of largemouth bass in Oregon is similar to that found in the Great Lakes states. Although 20-pound bass are occasionally taken in southern states, they reach about half that size in Oregon. A few 9-pound largemouth have been taken in Oregon within the past year. The long growing season in the southern states permits this fish to reach a tremendous size.

The growth of largemouth is not entirely determined by weather conditions as competition for food plays an important part in their growth and survival. Lakes and streams do not all produce the same quantity of fish food per surface acre. In addition to the quantity of food produced in lakes or streams, there is also a competition factor to consider. Too many bass in a lake will result in a stunted population. Other species of fish in competition with bass for food will also result in a slower growth rate.

Even the small bluegill, under certain conditions, will eliminate the entire reproduction of mature bass. In farm ponds, the number of bluegill may increase to the point that only a few large bass remain. Where this condition exists, bluegill surround the bass nests and proceed to eat the eggs and fry each time the male bass leaves the nest in pursuit of other bluegill.

The largemouth is one of the most temperamental of our game fishes. The capricious nature of the fish is undoubtedly one reason for the huge tackle boxes which invariably accompany the confirmed bass fishermen. Noyes E. Tyrrell, long an advocate of the black bass in Oregon, once said that one leaving for a bass fishing trip must look to the skies and pray that this is the day.

Even the most expert angler will be subjected periodically to the whims of the largemouth. There are days when this fish will hit almost any bait, lure or plug with abandon, but then again he will ignore any offering presented by even the most skilled angler.

Certain anglers maintain that the largemouth is a terrific fighting fish, but it is usually considered that the big thrill in catching largemouth is the vicious

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# A Day with Percy Southwick

#### ... Superintendent, Roaring River Hatchery

WHAT DOES a fish hatchery superintendent and his crew do on a typical day? This depends upon the season of the year. Right now, while you are reading this, I probably am standing in cold water four to six hours a day (wearing my red woolies) helping to spawn rainbows. Spawning starts in November and continues throughout the winter until April. The first fish to spawn are the fall rainbows followed by cutthroats and steelheads, and we obtain our spawn from brood stock reared at the hatchery as well as from wild fish. We trap steelhead, for instance, at Crystal Springs on Johnson Creek, spawn them there and take the eggs back to the hatchery. In our operations, we plan to take enough eggs to supply not only Roaring River but several other stations also.

Our day starts by moving the rainbow brood stock into a spawning pond divided into sections so we can separate the males, immature females and mature females. The mature fish are spawned and the eggs measured into baskets in the hatchery building. Later during the incubation period we spend many hours picking out the infertile eggs.

The Portland office sends me an order to ship 300,000 rainbow eggs to the Klamath hatchery. I call Dick Evans, the Klamath superintendent, and arrange to meet him at Oakridge with the shipment, this being a halfway point between the two stations. Another order of eggs is packed for shipment by railway express to Montana in exchange for eggs of some other species.

During the period that the fish are growing, our day may go something like this. I detail Ron, one of my assistants, to grind and prepare the fish food, which consists of meat and salmon viscera. Kenny and Ray will feed the fish.

Then there are the fish ponds. Like our homes they have to be cleaned every so often and this may be a good time to do it. We can use either of two methods. One is the suction pump powered with a gas motor and the other is a street broom. When we use the latter, the water level in the pond is drawn down to about two feet deep and then the debris is swept through racks or screens. While the men are working on this task, a Game Commission feed truck arrives with six or seven tons of fish food. They stop to help with the unloading.

Grading is another chore on the agenda. We do this to prevent cannibalism and secure the most efficient food use. The crew helps to install the necessary equipment consisting of grader, seine, live boxes and dip nets. It takes two to three men when the fish are being moved to another pond.

All hatchery fish are susceptible to disease and this is something I watch out for constantly. If there is trouble, I can often diagnose it with the use of a microscope and usually a formalin treatment solves the problem. If it is something more complicated, I call Dr. John Rayner, our chief of fisheries.

If anyone has any spare time, I start him mowing the lawns around the fish ponds. Many people visit the hatchery on weekends and it is our policy to keep the buildings and grounds neat and clean at all times.

The climax to our operations is reached when we have reared our fish to the point they are ready to release. Thus, at the peak of the liberation season, my day is very likely to begin with the roaring sound of one or more liberation trucks coming in to load up. This may happen anytime between 6:30 and 8:30 a.m., depending upon the distance of the trips to be made that day and the air temperatures.

As the first truck comes in, I meet the driver at the gas pump. "Fill her up" is the order and a discussion is held as to the species of fish to be liberated and the stream or lake to be stocked. The driver fills the liberation tank with water, while one of the hatchery crew pulls the stop logs in a pond to draw the water to a level suitable for seining. After a sample count is made, the fish are weighed, carried up the steps to the top of the liberation tank and poured in. I sign the liberation form and the truck is on its way.

The large liberation trucks do not stock the small local streams so this is our responsibility. We have a 260 gallon





portable tank with a power take-off. This will carry as many fish as would be feasible to stock a small stream at one time. Each stream will receive three or four plantings during the fishing season.

The local fishery field agent may telephone, advising that there are some summer steelhead in the trap on the Siletz River so I load the portable tank and go after them.

Sometime during the day or evening I have to get caught up on my record-keeping—which is no small chore. There are forms for reporting the number of eggs taken, fish hatched, reared and released, amount of fish food used, mileage travelled with each piece of equipment, time sheets, and so on. Then, also, I must make up purchase requests for supplies needed and see that I stay within the budget allotted me.

As you see, the duties of a fish hatchery superintendent are very diversified and never monotonous. A sudden storm could damage the water supply and jeopardize ponds full of fish. Many of the hatchery superintendents are gray-haired, not entirely from old age but from worrying about their responsibilities. So, as I go to bed at night, I may stay awake long enough to add a few more of those gray hairs if the day has not gone off as smoothly as I would wish.

An all-time high in poundage of fish production in any single year was reached this year. Fish released by the end of October totalled 715,000 pounds, 36 per cent increase over last year's total. This figure will be higher yet by the time November releases of chinook and silver salmon are included. In numbers, the total will reach approximately 20,000,000.

# Access for the Winter Steelhead Angler

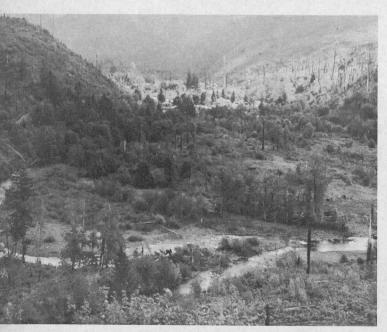
WITH THE winter steelhead season in full swing, anglers will be interested in the following list of Game Commission acquired access sites on the coastal

streams. This is only a partial list of the total so far acquired or developed but the sites mentioned are of particular benefit to steelhead fishermen.

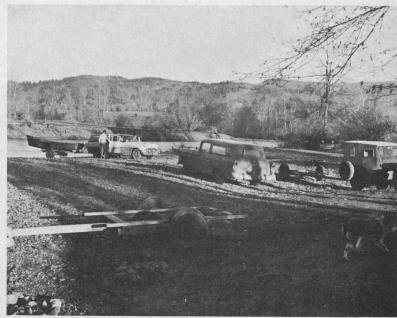
Place	Name	Access Areas			Frontage
		Boat	Bank	Combination	(miles)
Coquille River	Coquille Boat Ramp	х			
Nehalem River	Charnley Access Project		x		1.5
Nestucca River	Three Rivers Landing			x	.25
Rogue River	Lampman Boat Ramp				
Rogue River	Rogue River Landing	X			
Rogue River	Schroeder Park Landing	X			
Rogue River	Lathrop Landing			x	.25
Rogue River	Robertson Bridge Landing	X			
Rogue River	Almeda Bar Project			X	.5
Sandy River	Hossner Hole Project		X		.75
Sandy River	Gordon Creek Project		x		1.5
Sandy River	Cedar Creek Project		X		1.5
Siuslaw River	Blueback Landing	X			
Umpqua River	McHugill Landing			X	1.5
Willamette River	Clackamette Park			x	.25
Wilson River	Lee's Bridge Project		X		.5
Wilson River	Fall Creek Project		х		.5
Wilson River	Kansas Cr. Bridge Project		X		1.5
Wilson River	Zigzag Creek Project		х		.25
Wilson River	Herd Hole Project		X		.5
Wilson River	Siskeyville Landing			x	.25
Wilson River	Ming Creek Project		x		.25



Hossner Hole access site is located on Sandy River. Can be reached from Portland by going about 15 miles on Section Line Road to Hossner Road junction and then turn left on Hossner Road. Fishing available for rainbow trout and silver salmon as well as steelhead.



Lee's Bridge access project, located on Wilson River about 21 miles east of Tillamook on Highway 6. Jack salmon, rainbows, cutthroats available in addition to steelhead.



Three River Landing, located on Nestucca River, one-half mile west of Hebo at mouth of Three Rivers. Fishery available: Steelhead, rainbows, cutthroats, fall chinook and silver salmon. Cooperative project with Tillamook County.



Seining schools of bass minnows is one of the means the game department has for procuring stock for waters considered suitable for this species. No hatcheries are operated for rearing of warm-water species.

# The Largemouth Bass (Continued from Page 4)

strike. It is true that a four to six pound bass will provide plenty of action when hooked, but the performance is not as fast and acrobatic as a trout or salmon of similar size.

Mature bass prefer to remain in a restricted area. Test netting in lakes containing tagged largemouth indicates that this species is usually recovered in or near the area in which they were originally caught for marking.

Stumps, submerged logs, cut banks, boulders, and brush piles are usually

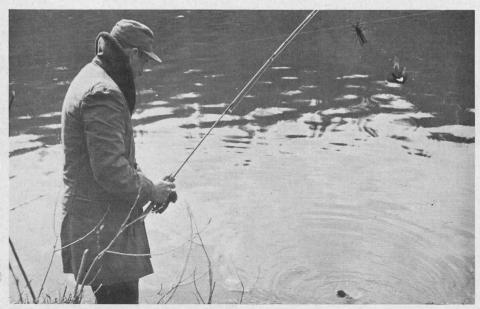
selected as suitable lairs. Largemouth either lost or released by the angler may be caught in the same spot at some later

Each bass fisherman usually has one favorite plug or fly which he prefers to cast. Artificial flies, at least the ones fished under water, contain some bright color. Floating flies are usually made of materials with more somber hues. A wide variety of plugs and lures are used to take largemouth. Plugs may ride entirely on the surface such as the poppers or submerge with the retrieve. Some are deep-running and designed to fish near the bottom. Spinning lures and wobblers are also effective. Most all good artificial baits have one thing in common and that is action. Pork rind baits should not be overlooked when assembling gear for the largemouth.

Natural baits such as night crawlers and cravfish are usually more effective in early spring, but should not be forgotten during the summer and fall months. The angler fishing for bass should not expect to take fish on every trip regardless of the tackle assembled. An empty creel is commonplace and something which apparently serves to spur the confirmed bass angler to try again.

The largemouth should not be confused with its cousin, the smallmouth. The latter is not as widely distributed as the largemouth in Oregon. Where the largemouth is found in many coast lakes and sloughs, lakes and streams of the Willamette and Columbia, the smallmouth is confined to a few restricted areas such as the Upper Willamette River near Eugene, the Snake River and the

(Continued on Page 8)



To the true bass fisherman, there is no better fish than a black bass.



We are glad to see that when a deer hunter gets as far away as Venezuela, he can still remember one of the conditions of his Oregon hunt and mail in his return card. Raymond C. Millan's card, reporting the kill of a three point buck in Baker County, attracted attention among the several thousand cards received because it was postmarked Lagunilla, Estado Zulia, Republica de Venezuela. Other deer hunters please take note-also elk hunters. We need your reports even if you killed nothing.

The Pilot Rock Lumber Company recently completed a new diversion dam and fish ladder on Birch Creek in Umatilla County. Before the dam was constructed, plans for a fish ladder were requested from the game department and adapted to fit the location. The local fishery agent feels the fish will easily negotiate the new structure.

Dry weather conditions hampered deer hunters this year so that they were not as successful as they might have wished. Upland bird hunters, however, enjoyed one of the best seasons in some time. Reports from eastern Oregon show best results were had in Malheur, Umatilla and Morrow counties. In many places hunters had their choice of pheasant, quail, huns and chukars in the same area. Chukars were very plentiful and this year for the first time many hunters acquired an enthusiasm for chukar hunting despite the hard work involved in going after them.

1957 duck stamp sales for Oregon totalled 68,285, reports the U.S. Fish and Wildlife Service. Of the total of 2,355,353 stamps sold last year, 427,799 were issued in the Pacific Flyway states. Sales by other flyways are as follows: Atlantic, 356,800; Mississippi, 1,004,555; and Central, 555,525.



The last session of Congress enacted, among several major conservation bills, a new Fish and Wildlife Coordination Act in the form of Public Law 85-624. This law requires equal consideration and coordination be given to fish and wildlife in federal water development projects or private projects operating under federal permit. It replaces the former Public Law 732, commonly referred to as the Coordination Act.

It is neither a panacea for solving the many problems confronting fish and wildlife in large land and water development projects nor does it grant a veto power over other developments in water resource programs. It does, however, provide a framework of procedure and an expression of federal policy in connection with such projects that will mean much in the way of obtaining greater recognition of the fish and wildlife values in such projects.

Among the several important features of the law, the following are of particular significance:

- 1. Enunciation of a federal policy that requires equal consideration and coordination of fish and wildlife with other features of water resource development programs.
- 2. Clear authorization for withdrawal of public lands for public fishing and hunting or for easements across public lands for public hunting and fishing.
- 3. Definite provision for planning by state and federal fish and game agencies for the enhancement and improvement of fish and wildlife resources on federal

water projects, as well as for the prevention of damages.

- 4. Clarification of authority of federal construction agencies to include fish and wildlife conservation measures in previously authorized water use projects.
- 5. Definite authorization for federal water project construction agencies to modify projects and project operations on behalf of fish and wildlife.
- 6. Federal construction agencies required, when recommending authorization of projects, to include in their reports to Congress an estimate of the effects of the project on fish and wildlife and the measures proposed for promoting wildlife conservation.
- 7. Express provision for the means whereby project lands may be acquired for fish and wildlife purposes by the project construction agency, along with acquisition of lands for other purposes.
- 8. Authorization for the Secretary of Interior to accept donations of land and contributions of funds to further the purposes of the Act.
- 9. Application of the procedures in the Act governing river basin studies to all kinds of projects undertaken by any federal agency or any other agency under federal permit or license. This includes, for example, such federal projects as those for the improvement of navigation through dredging.

There are several other major new provisions in this legislation. For example, post-authorization reports that may consider changes in plans for previously authorized projects must include recommendations on the wildlife aspects, and a simplified procedure for the assumption of management by state fish and game departments of project land valuable for migratory waterfowl management.

This legislation is of particular significance to us in the western states because of the extensive nature of federal or federal - authorized water development projects and their inevitable impact upon our fish and wildlife resources. The law at the same time imposes on the state and federal fish and wildlife agencies, as well as the construction agencies, greater obligations and opportunities for protecting and enhancing the fish and wildlife values inherent in such projects. With diligent application of the provisions of the Act, there should accrue a much better status for the fish and wildlife resources in the tremendous water development projects being planned, constructed, or operated in the region.

P. W. Schneider

## The Largemouth Bass (Continued from Page 7)

Columbia in the vicinity of Arlington and McNary Dam. A few smallmouth are also found in Tahkenitch Lake.

It was of the smallmouth that Dr. James A. Henshall made the famed state ment, "Inch for inch, and pound fo pound, the gamest fish that swims." There is little doubt in the minds of anglers who have caught both species that the fight of the smallmouth far surpasses that of the largemouth.

The choice of rod and reel will depend on the angler. The conventional bait casting rod and reel or a fly outfit are generally preferred by the seasoned bass fisherman. For those anglers using lighter lures, the spinning rod and reel is ideal. A long cane pole will be found satisfactory when fishing with night

Ask any confirmed bass angler why he prefers to fish for this species and you would undoubtedly receive a number of answers. It may be that he sees the largemouth as a challenge to his fishing skill, but back in the minds of all will be that recollection of a smashing strike at a surface lure. Once the angler experiences the thrill of having a largemouth explode the water beneath a surface plug or popping bug, he is likely to try another day.

#### **Oregon State Game Commission Bulletin**

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