

OREGON STATE  
GAME COMMISSION

# BULLETIN

FEBRUARY, 1962



# OREGON STATE GAME COMMISSION BULLETIN

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MIRIAM KAUTTU SUHL, Editor  
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Please report promptly any change of address. Send in address label from a recent issue with notice of change.

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

## the cover

Summer or winter, the field agents have their chores. Here a fishery agent takes water samples through the ice as part of a Cascade lake study. (Photo by Len Mathisen)

## BULLETIN HUNTER SAFETY TRAINING PROGRAM

### Instructors Approved

Month of December..... 121  
Total to Date..... 2,441

### Students Trained

Month of December..... 1,744  
Total to Date..... 17,200

### Firearms Accidents Reported 1961

(Not complete)

Fatal..... 13  
Nonfatal..... 41

## January Meeting of Game Commission

At its meeting on January 26 matters considered by the Game Commission included the following:

**New Chairman.** Joseph W. Smith of Klamath Falls was elected Commission Chairman for the current year.

**Hunter Safety Instruction.** Adopted a policy providing no fee may be charged for hunter safety instruction but that an instructor may assess students a sufficient amount to defray cost of supplies.

**Lint Slough Property.** Instructed the staff to take such action as necessary to quiet title to final parcel of property for the Lint Slough impoundment.

**Carlton Lake.** Heard a report by the staff on preliminary investigation of Carlton Lake from the standpoint of development for a waterfowl area and warm-water fishery. A major problem appeared to be the high cost of repairing or replacing the dam. No action was taken by the Commission at this time.

**Guide Licenses.** Ordered that if complaints are received about a guide's services, renewal of his license would be held up pending investigation by the staff and, if considered necessary, a hearing before the Commission.

**Game Bird Production.** Approved production for 1962 of 21,000 pheasants, 10,000 chukars and 300 bamboo partridge.

**Eel Lake.** Approved transfer of land for a park site at Eel Lake to state highway department.

**Bids.** Accepted low bid of \$3,200 by Donald W. Thompson for construction of weir at Munsel Lake.

**Capital Outlay.** Authorized call for bids for office and public rest room at Wizard Falls; new residence and extra bedroom to old house at Oak Springs; additional bedroom to Fall River house; and crawler type tractor. Also authorized preliminary engineering for pipeline at Rock Creek and purchase of microscope for research division.

## Boat License Ready

The new annual boat license for pleasure and commercial craft registered in Oregon can now be purchased, the State Marine Board announces. The color of the 1962 license will be lemon-yellow.

The 1961 Legislature amended the boating registration law whereby commercial boats are now on an equal basis with pleasure craft and no longer will be required to pay the ad valorem tax upon licensing the boat. However, to avoid the

(Continued on Page 8)



A television series of ten half-hour programs on hunter safety training has been scheduled over KOAP-Portland and KOAC-Corvallis at 8:30 p.m. on Thursdays. The series will start on February 1 but registrations for the course will be accepted up to February 14. Students will be required to demonstrate safe gun handling practices and to pass a written examination before successfully completing the course, which will be handled by Ron Shay and Cal Giesler of the Game Commission. This is somewhat of a pilot project to determine the feasibility of hunter safety training in this manner.

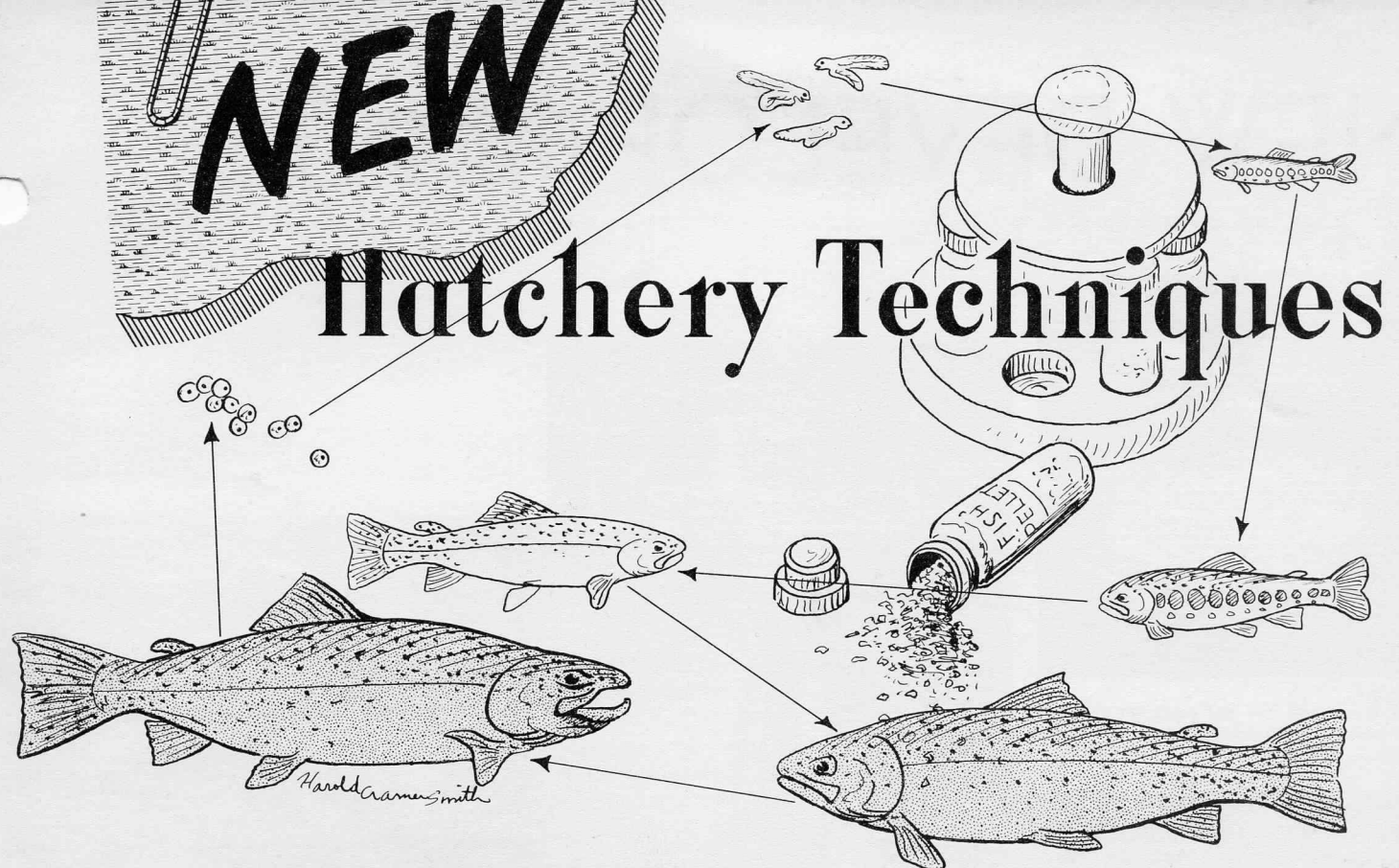
The hunter safety training law, which became effective the first of January, requires a person 17 years of age or younger, to take a training course in hunter safety and be issued a Certificate of Competency before hunting with a firearm for any wild bird or animal (except on his own land). The Commission has obtained some 2,000 volunteer instructors to handle the work load throughout the state and the number is increasing each month.

Did that fish you caught have a missing fin or two? If so, let the Game Commission office know where it was caught, what day, and the approximate size, not forgetting to report which fin was clipped.

Those salmon-steelhead punch cards for 1961 are now due. Drop your card in the collection box at the nearest license agency or mail it to the Portland office of the Game Commission.

NATIONAL WILDLIFE WEEK will be observed March 18-24 this year with the following theme announced by the National Wildlife Federation, sponsoring agency: "To Insure Waterfowl for the Future by Conservation of Wetlands which Benefit Man and Wildlife." The Oregon Wildlife Federation has arranged to have W. Henry Stewart of Milwaukie act as state chairman. National chairmen are Ding Darling and Walt Disney.





By C. C. Jensen, Fish Culture Supervisor

THOSE OF YOU who have visited the Oregon Game Commission's hatcheries from time to time may have noticed that many changes have taken place in the last few years. No longer may the visitor open the door to the feed room and find several of the hatcherymen knee-deep in thawing animal livers, pinkish-looking bovine lungs, stacks of tripe, and many other kinds of visceral products from the slaughter houses. The majority of the heavy meat grinders with their 20 to 40 horsepower motors and the dough mixers capable of mixing several hundred pounds of meat in each batch are seldom used except for the grinding and mixing of small amounts of feed for a few brood or other special groups of fish. Huge stacks of tacky feed buckets no longer clutter up the feed room waiting to be hand-scrubbed. In the cold storage room, in place of the many tons of meat and fish products that were once stored there, you see hundreds of sacks of dehydrated trout food. The neatly piled sacks contain the dried pellets that are the primary reason for many of the more recent developments in the Game Commission hatcheries.

Pellet feeding was started experimentally in 1957 utilizing a locally manufactured product. Now commercially produced pellets are fed to all of the fish in the hatcheries except for selected groups of

brood fish which are fed a meat diet. Dry pellets are used exclusively for trout, steelhead, and silver salmon while a special moist pellet developed by the Fish Commission is fed to spring chinook salmon.

The increased use of dry pelleted foods, ranging in size from coarse powder to a 6/32" pellet, brought about the immediate need for automatic feeders. A commercial fry feeder manufactured for use in feeding the first three or four sizes of fry food was first developed approximately two years ago. At the present time, the commercial feeders with some modification are being used successfully to feed fry in hatchery troughs, inside tanks, and in outside ponds. Electrical timers attached to the fry feeders enable the hatcheryman to feed the fry at any interval from 10 minutes to 1 hour for as many as 24 hours per day. The automatic machines are invaluable as they regularly disperse the food to the fry not only during the daylight hours when the hatcherymen are present, but for hours after the attendants have departed and before they again arrive in the morning.

At a few stations where troughs or small tanks and ponds are not available in which to start feeding fry, large live pens were constructed. Wood framed and covered with screen, the pens ranging in size from 10 to 20 feet in length by 30 inches square are floated in the pond and

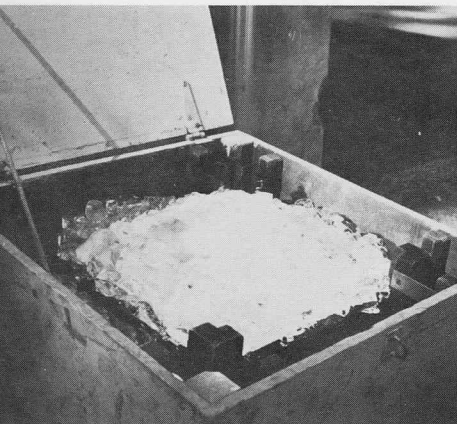
tied to a pond wall. As many as 250,000 fry have been started in the larger-sized pens when automatic feeders have been utilized.

For use on the outside ponds, Richard Evans, superintendent of the Klamath Hatchery, designed and developed a feeder which successfully fed the larger-sized pelleted foods. After many trials and numerous modifications, a second feeder was chosen for manufacture. The new, improved models are presently being installed at many of the Game Commission hatcheries. The feeders may be set to spread pellets automatically over the pond surface at selected intervals at any hour of the day or night. At stations where experimental models of the improved feeder have been tested, the fish have adapted readily to this type of feeding, and hatchery personnel consider the pellet feeder highly successful. The electrical timing device which operates the batteries of feeders at each station was developed and is manufactured by a Portland instrument company. Timers are wired to allow only a few feeders to operate at any one time, thus decreasing the need for heavy and expensive wiring at each station.

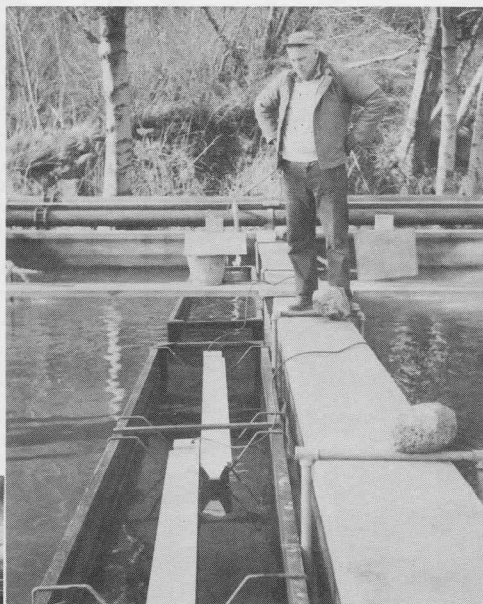
Another hatchery tool which has aided the Game Commission in producing fish for liberation of pre-selected size is the Morton fish grader. Developed a few

(Continued on Page 6)

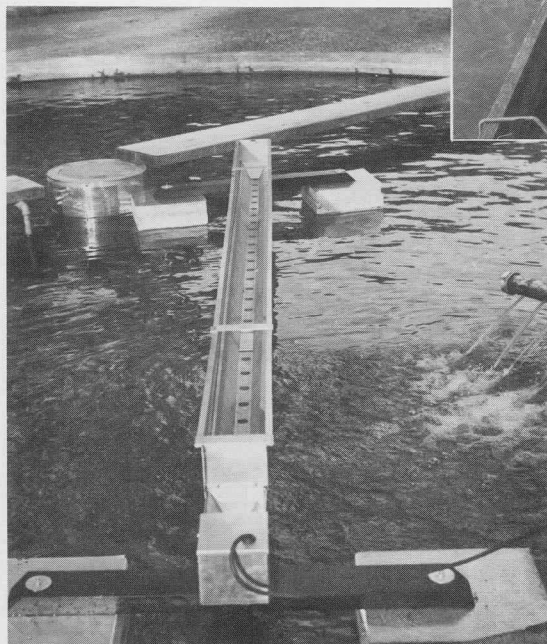
# NEW DEVELOPMENTS



Crate of trout eggs iced and ready for shipment to neighboring hatchery.



Small trout in live pens being fed pellets with the automatic fry feeder. ↑



Modified fry feeder held in feeding position by use of styrofoam floats. ←

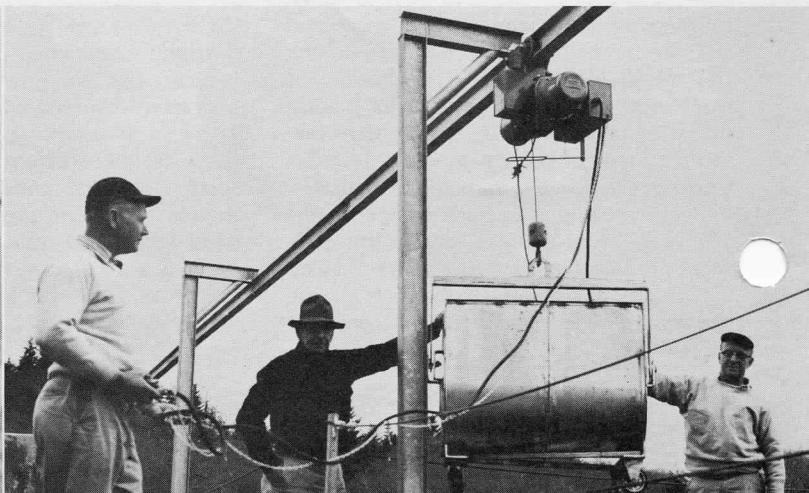


Fingerling trout being graded into two sizes by the "Vroman" fry grader.

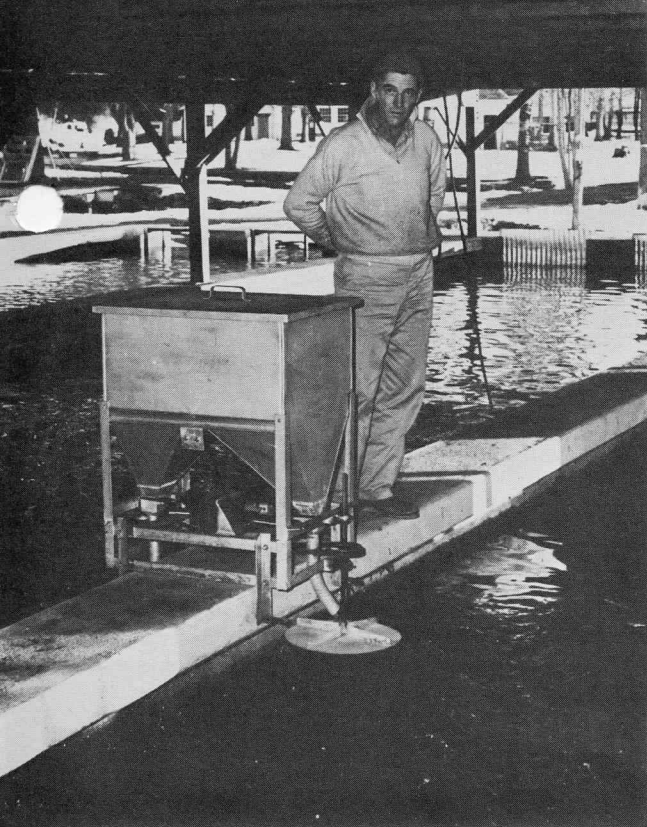
↓ A 40 horsepower heavy duty grinder for pulverizing raw meat and fish products.



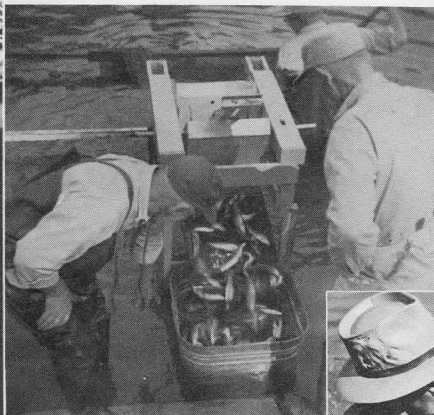
↓ Overhead trolley for lifting fish from hatchery pond to liberation truck at Gnat Creek.





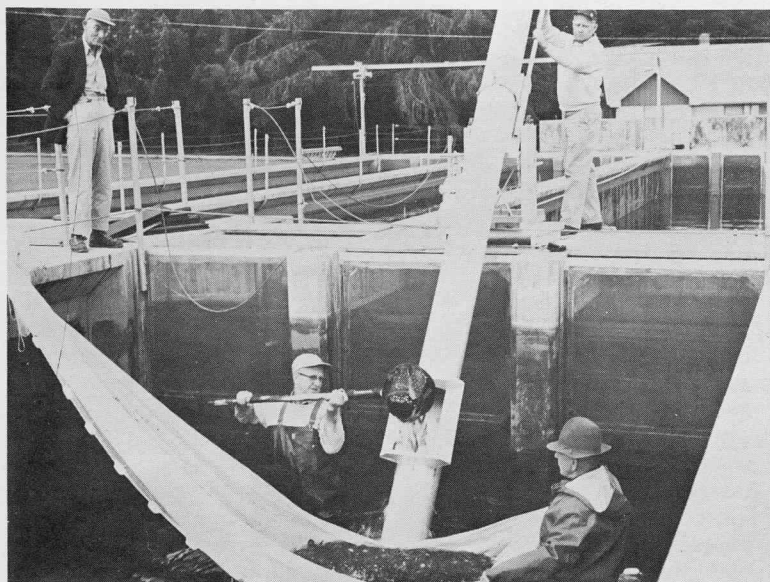


↓ Automatic weighing device being used to weigh yearling trout.



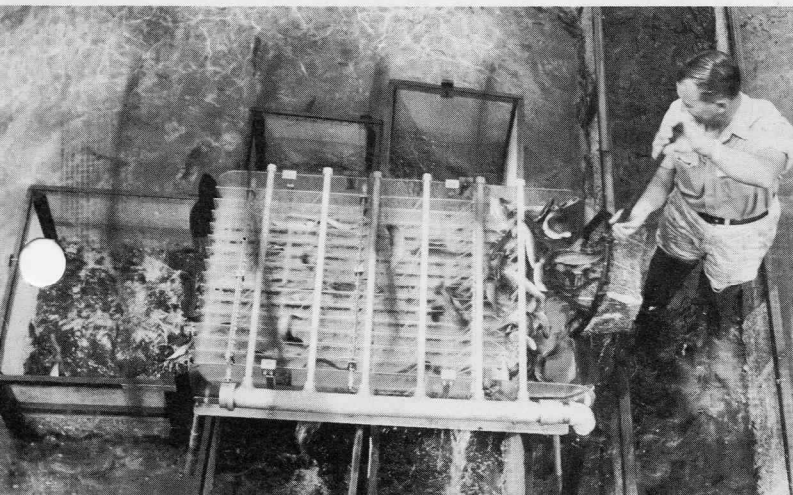
Weighing trout by the dry method at Wizard Falls.

↑ The Evans automatic pellet feeder positioned on pond wall for feeding yearling trout.



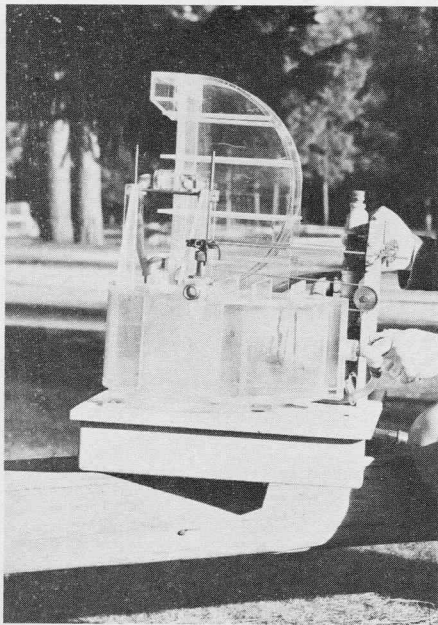
← Transferring fingerling steelhead from one pond to another using device known as "Slippery Joe."

Grading yearling fish through the Morton fish grader, which safely separates the fish into size groups desired.



↓ Transferring yearling trout into holding bins at Wizard Falls Hatchery for later planting.





An operating miniature model of the "Piscatorial Combine" from Wizard Falls Hatchery.

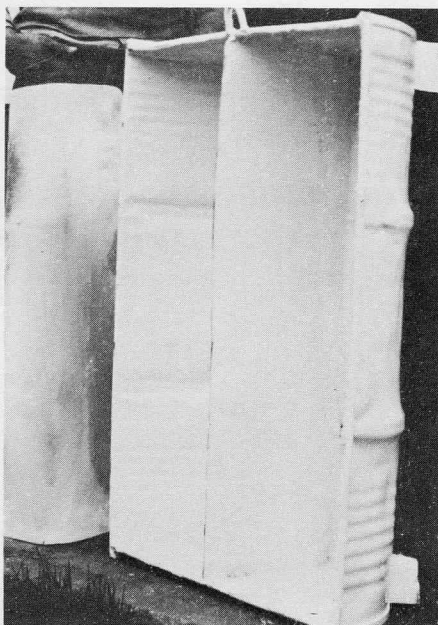
## NEW HATCHERY TECHNIQUES

(Continued from Page 3)

years ago at Wizard Falls Hatchery by K. E. Morton, this grader in one operation safely separates fish into two to five size groups for distribution to the ponds. Better growth among the smaller fish and a reduction in cannibalism are products of grading fish. The hatcheryman also has better growth control of the larger fish when they are separated.

One of the most recent developments in equipment for grading young fish is the "Vroman" fish grader. It was developed by Paul Vroman of the Alsea Hatchery and is designed to grade fry after they have been fed three or four weeks. Grading fish at that age promotes more even growth of all fish, decreases cannibalism, and may decrease by one time the need for later additional gradings. Further experimental use of this grader in the spring will undoubtedly demonstrate its anticipated adaptability and value to the hatchery program.

For the past two years, a machine has been undergoing development which will automatically move fish from one pond to another, grade fish into two or three sizes, weigh, record, and hold fish in aerated water compartments for liberation or later distribution. It has been called a loader-grader by some, but a more appropriate title might be "Piscatorial Combine." Preliminary experimentations with a proto-type at Wizard Falls Hatchery have indicated that fish may be moved from pond to pond in the hatchery or into liberation trucks safely, with great speed, and with little effort. It is anticipated that the "Piscatorial Combine" when



An economical ice making container developed at Bandon Hatchery.

perfected and built will mean a major contribution to automation in the hatcheries.

An overhead trolley recently installed at the Gnat Creek Hatchery has eased considerably the burden of lifting fish from the bottom of the seven-foot deep hatchery ponds to the liberation trucks. The overhead trolley operates on an "I" beam which traverses the lower end of five ponds. Fish are lifted up from the bottom of the pond in a large bucket which is attached to an electric hoist. From 100 to 200 pounds of fish plus a suitable amount of water may be transported in each trip of the bucket.

A unique method of transferring fish from pond to pond was developed at Gnat Creek by Arne V. Shannon. It consists of an aluminum irrigation pipe 20 feet long and 10 inches in diameter with a built-in hopper at one end and a counter-weight on the opposite end. The pipe is balanced on a sawhorse-type base positioned on the pond wall. When the hopper end is lowered into the pond and filled with fish plus a small amount of water, an operator tilts the pipe upward to a point past midway thus forcing the fish and water to flow out through the pipe into the next pond or other designated container. Approximately 20 to 30 pounds of fish may be transported in each operation through this apparatus nicknamed, "Slippery Joe."

At Leaburg Hatchery fish are transported from ponds and into trucks through the use of a lift truck. A boom and cable attached to the lift fork allow the operator of the machine to lift each time 100 pounds of fish, plus the necessary water

carrier, into the waiting liberation truck.

A weighing device not yet in production use has been undergoing development at Gnat Creek. It operates with a tripping mechanism and a counter-balance and eliminates the use of a scale when weighing fish in the hatchery pond.

In disease and parasite control, some of the newer techniques incorporate drugs and chemicals into the dry pellet for feeding to infected fish. By this method, the fish obtain the full benefit of the medication because very little, if any, of the drug leaches out into the water before it is eaten. Sulfas and antibiotics are the major drugs incorporated in pellets.

Several methods are used to dispense chemicals into the water supply for control of animal parasites and fungus infections. Malachite green, the dye used most commonly for fungus control, is usually dripped into the water supply at the head of the trough or pond through a drip can or other dispenser. Chemicals are also spread over the water surface of a pond with a pond pump. At Leaburg Hatchery selected chemicals may be injected into the main water flume supplying the entire hatchery, allowing all ponds to be treated in one operation.

At Bandon Hatchery a container for freezing ice quickly and cheaply was constructed from discarded oil drums. Willis Baker and crew, who conceived the practical idea, have made it possible to freeze

(Continued on Page 8)

## About The Author

Chris Jensen, presently fish culture supervisor for the Game Commission, started his career with the department with seasonal game farm jobs in 1939 and 1940. Following a two-year stint with the army, he returned to work for the Commission in 1946. He first participated in a special study of the Willamette River spring chinook salmon sports fishery and then was assigned to the McKenzie River study as aquatic biologist. In 1958 he was promoted to his present position and transferred to the Portland office.



He attended Salem High School and is a fish and game graduate from Oregon State University. Married and the father of two sons and a daughter, Chris and his family enjoy many forms of outdoor activities such as skiing plus, of course, fishing. Scandinavians and fish seem to go together and his early career includes several summers spent in Alaska working as a fish grader and sorter.



# ANGLING REGULATION CHANGES

**A**NGLING regulations for 1962 adopted by the Game Commission last month become effective on February 10.

The general trout season for all zones except steams in Zones 1, 3, and 4 is from April 21 to October 31. Streams in Zone 1 and lakes, reservoirs and their tributaries within national forest boundaries in the Cascades and Siskiyou will be open May 26 to October 31 with certain exceptions. The Umpqua and Rogue Rivers also will open on May 26.

The general bag limit for trout remains unchanged. Anglers still are allowed to take 40 in the aggregate of steelhead and salmon 20 inches or over but may not take more than 20 of either species. An angler hooking a steelhead or salmon must punch his own card even if he allows another person to land the fish.

An emergency closure is contemplated in the area below Savage Rapids dam if snagging endangers the salmon there.

Except in Zone 3, it will be unlawful to use fixed spool or spinning reels and/or monofilament lines (except for fly line backing) on water restricted to fly fishing.

Other changes are listed below by zones. For the complete regulations, consult the official synopsis of angling regulations.

## ZONE 1

**Coquille River (North Fork):** Laverne Falls closed to all angling from 200 feet above falls to 500 feet below from October 1 to 31. (Also winter season.)

**Devils Lake:** open entire year.

**Fall Creek (Alsea):** closed to all angling above a point 200 feet below the big falls about one mile above Hwy. 34.

## ZONE 2

**Clackamas River:** closure below Cazadero Dam changed to 300 feet.

**Crystal Springs Creek:** opened.

**Dexter Reservoir:** open entire year.

**Eagle Creek (Clackamas Co.):** open to trout angling May 26 to October 31.

**Fay Lake:** restricted to fly fishing.

**Fish Lake:** open April 21 to May 31.

**Indian Prairie Lake:** closed to angling from a motor propelled craft.

**Lookout Point Reservoir and M. F., Willamette River,** up to Southern Pacific railroad bridge at Hampton open entire year.

**Pamelia Lake:** open entire year.

**Sandy River:** closed to trout and steelhead fishing below Brightwood bridge from April 21 to October 31. Closed to salmon and jack salmon angling up to a point approximately 4,000 feet below Marmot Dam except from September 1 to October 31 and entire year above Marmot Dam.

## ZONE 3

**Umpqua River:** Not more than 10 salmon may be taken up to June 10, 1962.

## ZONE 5

**Crane Prairie Reservoir:** open April 21 to October 31.

GAME BULLETIN

**Deschutes River:** from Little Lava Lake to Cow Camp opened to bait angling.

**East Lake:** open May 26 to October 31.

**Mud Lake:** open only to fly fishing with barbless hook. May 26 to October 7. All fish must be carefully removed from the hook and returned to the water unharmed.

**Paulina Lake:** open May 26 to October 31. Closed to angling within 350 feet radius of the screen at the outlet.

**Prineville Reservoir:** open entire year.

**Squaw Creek and tributaries (Deschutes River):** closed from Camp Polk road bridge downstream to mouth.

**Sparks Lake and tributaries:** open May 26 to October 7.

## ZONE 6

**Bag limit for trout 20 inches** and over is 2 fish per day and 4 in possession or in 7 consecutive days, and is to be counted with regular trout bag limit.

**Cottonwood Meadows Lake:** closed to fishing from motor propelled craft.

**Crump and Hart Lakes:** Regular trout season applies.

**Klamath River:** open to trout angling except from June 16 to September 30.

**Thompson Valley Reservoir:** open entire year.

## ZONE 7

**Open to trout angling** entire year—Strawberry Lake, Slide Lake, Magone Lake, Olive Lake, Bull Prairie Lake, Rowe Creek Reservoir, and John Day dredge ponds.

**Bull Prairie Lake:** closed to angling from motor propelled craft.

**Walla Walla River (North Fork):** Regular trout season applies.

**Open to steelhead and salmon** angling except from March 15 to June 30:

**John Day River** below Indian Creek.

**John Day River (Middle Fork)** below Highway 395.

**John Day River (North Fork)** below Highway 395.

And except from March 15 to November 30:

**Umatilla River** below Mission Bridge.

**Walla Walla River** below confluence of north and south forks.

## ZONE 9

**Snake River:** open to trout angling entire year except that that portion between the marker 100 feet above the upstream bank of Pine Creek and Oxbow Dam is closed to all angling. Bag limit for trout is 15 fish 6 inches or over per day or in possession.

**Joseph Creek** below Crow Creek open to steelhead and salmon angling except from March 15 to June 1.

**Open to steelhead angling** except from March 15 to June 1 and salmon angling except from June 20 to August 31:

**Catherine Creek** below the City of Union water intake.

**Eagle Creek** below the bridge at Newbridge.

**Grande Ronde River** below Beaver Creek.

**Imnaha River** below Freezeout Bridge.

**Minam River** below Cougar Creek.

**Pine Creek** below the North Fork.

**Powder River** below Thief Valley Dam.

**Wallowa River** below Lostine River.

**Wenaha River** below Crooked Creek.

## ZONE 10

**Columbia River** deadline moved downstream to a line between Tongue Point, Oregon, and Grays Point, Washington.

## WINTER REGULATIONS

**Coos Bay:** Salmon angling open entire year—Kentuck Slough (Creek) up to Mettiam Creek; Larson Slough (Creek) up to Sullivan Creek; North Slough up to Bear Creek; Palouse Slough (Creek) up to bridge at Roundtree place approximately 2 miles from highway.

**Coquille River (North Fork):** open except Laverne Falls closure.

**Middle Creek (North Fork) Coquille River):** open up to Cherry Creek.

**Sixes River:** open up to South Fork.

**Clackamas River:** open up to a point 300 feet below Cazadero Dam.

**Winter season** closes February 28 for: **Columbia River tributaries.**

**Cook Creek.**

**Nehalem River (North Fork).**

**Rock Creek.**

**Salmonberry River.**

# 1961 Fish Stocking

*Watershed	Rainbow	Cutthroat	Eastern Brook	Steelhead	Kokanee	Brown Trout	Lake Trout	Golden Trout	Chinook Salmon	Silvers	Atlantic Salmon	TOTALS
1 .....	523 1,412.0	163,872 36,448.5		259,330 20,589.8						94,698 4,366.4		518,423 62,816.7
2 .....	3,467,522 229,818.4	11,014 2,519.8	511,604 2,838.9	3	469,436 160.6			2,176 48.5				4,461,755 235,386.2
3 .....	692,318 68,239.0	12,010 2,871.0	201,225 1,259.4	179,952 15,551.0	20,029 285.9				5,144 148.1			1,110,678 88,354.4
4 .....	78,885 22,374.0		54,496 353.0	63,047 6,833.7	74,430 122.0							270,858 29,682.7
5 .....	2,908,170 150,099.1		1,071,641 6,899.5		1,362,012 3,884.2	171,422 720.5	43,929 5,149.3	680 19.5			20,010 235.4	5,577,864 166,997.5
6 .....	121,871 22,686.5		40,114 228.9									161,985 22,915.4
7 .....	369,515 13,650.0											369,515 13,650.0
8 .....	185,751 27,463.4	7,990 25.8	30,800 154.0		13,260 39.9		32,620 679.6					270,421 28,362.7
9 .....	374,459 16,312.0	8,020 26.4	21,844 123.5									404,323 16,461.9
10 .....	299,262 12,838.8											299,262 12,838.8
11 .....	58,746 2,362.2											58,746 2,362.2
12 .....	37,990 10,974.6	83,970 147.4	1,100 10.0									123,060 11,132.0
13 .....	339,271 22,409.1		15,580 154.9									354,851 22,564.0
14 .....	1,010,800 24,975.4		64,648 449.9		49,020 14.0							1,124,468 25,439.3
15 .....	1,144,245 58,119.5		55,860 252.3	172,148 4,831.3	148,660 528.5				51,294 10,271.4			1,572,207 74,003.0
16 .....	1,484,567 59,395.2	4,992 1,783.7	40,085 211.0	272,391 8,538.3					123,986 12,274.9			1,926,021 82,203.1
17 .....	60,971 21,375.1	351,357 7,598.4		20,620 716.0	46,420 19.8							479,368 29,709.3
18 .....	27,050 3,612.0	488,085 36,494.5		101,826 11,866.0	241,353 65.3							858,314 52,037.8
TOTALS:	12,661,916 768,116.3	1,146,890 88,070.4	2,093,417 12,770.4	1,069,317 68,926.1	2,424,620 5,120.2	171,422 720.5	76,549 5,828.9	2,856 68.0	180,424 22,694.4	94,698 4,366.4	20,010 235.4	19,942,119 976,917.0

NOTE: Lower figures denote pounds of fish.

## \*WATERSHEDS

1. Clatsop, Columbia, Tillamook, Yamhill, Washington.
2. Washington, Yamhill, Benton, Linn, Marion, Clackamas, Polk, Lane, Douglas.
3. Multnomah, Columbia, Clackamas, Marion.
4. Hood River, Wasco.

5. Sherman, Jefferson, Deschutes, Crook, Klamath, Lake, Grant.
6. Sherman, Gilliam, Wheeler, Jefferson, Grant, Umatilla, Morrow.
7. Gilliam, Morrow, Umatilla.
8. Umatilla, Wallowa, Union.
9. Baker, Malheur, Union.
10. Malheur, Grant, Harney.

11. Malheur, Harney.
12. Harney, Lake, Crook, Grant.
13. Crook, Deschutes, Lake, Harney.
14. Klamath, Lake, Jackson.
15. Klamath, Jackson, Josephine, Curry.
16. Douglas, Lane.
17. Curry, Coos, Douglas.
18. Douglas, Lane, Benton, Lincoln, Tillamook.

## NEW HATCHERY TECHNIQUES

(Continued from Page 6)

limited quantities of ice at stations which lack ice-making machines.

The techniques discussed in the above paragraphs represent only a few of the ideas which are constantly being developed and experimented with by personnel in the hatcheries. In the not-too-distant future, many of the remaining menial tasks in the fish hatcheries will either be lessened or taken over by automation.

Perhaps we may never reach the push button era, but who knows what the hatcherymen will dream up.

## BOAT LICENSE READY

(Continued from Page 2)

tax, the owners must license their boats prior to April 1. Mail application directly to the Marine Board at Salem.

The license fees for 1962 are:

\$3.00 for manually propelled boats 12 ft. or longer (regardless of length over the basic 12 feet).

Motorboats less than 12 feet in length, which are propelled by motors of eight (8) or more horsepower—\$3.00.

Motorboats and sailboats 12 feet in length or longer but less than 16 feet—\$3.00.

Motorboats and sailboats 16 feet or longer but less than 20 feet—\$5.00.

Motorboats and sailboats 20 feet or longer—\$5.00 plus \$1.00 for each foot or part of a foot in excess of 20 feet.

## Oregon State Game Commission Bulletin

1634 S. W. ALDER STREET  
P. O. BOX 4136  
PORTLAND 8, OREGON

