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Oregon And Washington Fish Hatcheries Lined With Asphalt

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More than 30 fish hatchery ponds are operated by Oregon and Washington and many of them are lined with hot-mix asphalt (HMA). The states' fish and wildlife officials say the ponds are durable and produce good-quality fish.

HMA is one of the most commonly used liners for hatchery ponds, according to Ray Sheldon, hatchery operations coordinator for the Oregon Department of Fish and Wildlife. ' We've had good results rearing quality fish" in the ponds, says Sheldon.

One of Oregon's ponds, the Clackamas fish hatchery at McCiver State Park, releases more than 1.5 million chinook each spring into the Clackamas River. The hatchery houses the fish about 18 months before releasing them into the river.

In Washington, the State Department of Fisheries and the Department of Wildlife operate more than 25 hatcheries. At least two Indian tribes in the state also maintain hatchery ponds lined with HMA.

A typical Washington state fish hatchery pond is 5 to 7 feet deep and covers a one-half acre surface area. The liner is 2 or 3 inches of HMA on 8 inches of granular base. Liners consist of 3/8-inch nominal maximum-size aggregate with 6.5 percent asphalt cement. The higher volume of asphalt cement ensures a low-void, impermeable mix.

When the ponds are empty, pressure relief valves in the pond bottom relieve hydrostatic pressure under the liner. Some ponds are designed with pressure relief valves throughout the pond floor while others use valves only in the drain channel. All joints between the HMA liner and the headwalls and outlet gates are sealed with rubberized asphalt liners.

Many of the HMA ponds are sealed with an asphalt emulsion because a bacteria detrimental to fish life can find a habitat in the surface voids of the HMA. Current specifications require either a proprietary asphalt emulsion sealer, a CSS-1 or a CS-1h.

Both Washington and Oregon state agencies are pleased with the effectiveness of the HMA liners and plan to use them for additional fish hatcheries in the future.

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