

# WYOMING FISH PONDS

## How to build and stock them



By Sandra Frost

Many rural landowners would like to have their own private fishing pond but don't know what is involved. There are many things to consider, and the first is what type of pond captures your interest.

Wyoming regulations define types of fish ponds. A pond may be a simple private pond or a landowner can apply for a "landowner fishing pond" designation if the pond meets certain Wyoming Game and Fish Department (WGFD) criteria. The landowner, spouse, children, and grandchildren can fish a landowner fishing pond without a license. Fish may be taken by legal means only.

Fish facilities are either a commercial (private) fish hatchery or fishing preserve. A commercial fish hatchery is an operation that acquires, possesses, and raises fish for resale. Private hatcheries may have a "catch out" pond not to exceed 10 acres at which fishermen may pay a fee and fish without a license. Fishermen may also pay a fee to fish at fishing preserves on private land. Fishing preserves must be less than 100 acres, entirely on private land, and can only be man-made ponds or lakes (See Chapter 50 WGFD regulations for details. Links on page 6).

### To Get Started

Determine if you are willing to invest the time and money needed to create and maintain a pond. A landowner will be talking with the Wyoming State Engineer's Office (SEO) about building the pond and with the WGFD about stocking. "The time and effort to manage a successful fish pond is about the same as that to manage a successful garden," says Bill Nye, a pond management consultant (see story page 7).

- Assess soil type. Soils should be tested to determine if capable of holding water. Soils with clay, clay and loam, or sandy loam texture are best. Other textures may seep water.
- Assess the quality of the water source whether surface or well water. A high-quality, reliable water source is fundamental. Each fish species has particular requirements. Important factors include temperature, pH level, alkalinity, total dissolved solids, nutrient levels, turbidity, amount of dissolved gases such as oxygen, and heavy metal concentration.
- Determine the size of pond appropriate for your site and water supply. A fish pond should be no less than 1 acre with at least 24 percent of the surface area being more than 15 feet deep. This will help keep



Bill Nye with a solar-powered aerator. Aeration increases oxygen levels and speeds up the breakdown of organic material in a pond.

water levels stable and minimize winterkill and evaporation during summer. Ponds with constant flow-through generally provide better conditions for fish survival.

### **Building the Pond**

Creating and stocking a pond is regulated by the SEO and WGFD. The SEO regulates the use of ground and surface waters. Some guidance in building fish ponds is provided by WGFD in "Designing, Constructing and Stocking a Fish Pond." The Natural Resources Conservation Service

also offers technical assistance for ponds that meet specific criteria (see "For More Information" lower left).

### **Stocking the Pond**

WGFD regulations and permits ensure Wyoming waters remain disease-free and that fish compatible with other species are being stocked.

Fish must be purchased from a WGFD-approved commercial hatchery. Determine species, quantity, price, and timing in advance of filling out the free, private fish plant application (see sidebar). The application asks for the release date, location, species, number, and commercial hatchery source. It takes about 10 days to process the application. Fish release cannot take place until the application is authorized.

### **Which Fish is Best**

According to WGFD, trout are the best fish to stock in Wyoming. Trout need water temperatures below 70 degrees F. Of the trout family, rainbow is generally the best trout to stock due to its availability and adaptability to pond conditions and their ease for anglers to catch. It should be noted, however, that rainbow trout stocking in most native Yellowstone cutthroat waters is prohibited due to hybridization concerns by WGFD. A list of those waters is maintained by WGFD or the commercial hatcheries.

### **How Many to Stock**

The number of trout to stock depends upon the size of the fish and the size of the pond. Smaller trout are stocked at a higher rate than larger trout. Fish should not be released into a pond that has just been filled. Instead, wait a year for the pond to develop diverse ecological populations before stocking. Trout should be released in a pond before June 15 or after September 15. A spring release allows time for trout to adapt to summer water temperatures, food conditions, and prepare for winter onset stresses.

### **Ponds Over Time**

Some ponds may not have enough natural food coming in with the water or enough juvenile fish to support larger fish. Landowners may have to feed fish supplemental food. Be aware that bears are highly attracted to fish foods. Contact WGFD for proper food storage recommendations.

Fish are "poikilotherms" – cold-blooded organisms whose metabolisms are regulated by their environment. Unlike mammals, whose foods are fat soluble, fish foods are water soluble. Most fish foods for trout consist of other fish products. Herring and anchovy are ground into a meal, blended, and pelletized or flaked. Different species require different foods. For example, trout require more

## **FOR MORE INFORMATION**

### **Wyoming State Engineer's Office resources**

(307) 777-6150

<http://seo.state.wy.us/>

### **Wyoming Game and Fish Department resources**

Private fish planting process at

<http://gf.state.wy.us/fish/pvtplants/index.asp>

This website contains general comments and:

*Designing, Constructing, and Stocking a Fish Pond*

*Authorized commercial hatcheries*

*Private fish stocking application*

*Trout Farming, Habitat Extension Bulletin No. 19*

*Fish Farm and Stocking Permit Requirements,*

*Habitat Extension Bulletin No. 44*

### **Wyoming Game and Fish Department regulations**

<http://gf.state.wy.us/admin/Regs/index.asp>

Chapter 49 – Regulations governing private fish stocking

Chapter 50 – Regulations governing fishing preserves

Chapter 51 – Regulations governing private fish hatcheries

Chapter 53 – Regulations governing landowner fishing lakes or ponds

Chapter 62 – Regulations for aquatic species

Chapter 52 – Nongame wildlife

### **Natural Resources Conservation Service**

[www.wy.nrcs.usda.gov](http://www.wy.nrcs.usda.gov)

Contact your local county office to see if you qualify for technical assistance.



Bill Nye holds a pike.

## THE POND GUY

Bill Nye of the Cody and Powell area interviewed for this story has a fisheries career that includes a degree from Colorado State University in Fort Collins, Colorado, experience with the Alaska Department Game and Fish and Kansas Department of Wildlife, Parks and Tourism, and ownership of a private fisheries hatchery. Nye owned and operated the Wyoming Trout Ranch near Cody, the largest commercial specialty hatchery in the northern Rocky Mountains, for 25 years. He now has a fisheries consulting business. Nye may be contacted at (307) 250-1858.

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### Environmental conditions required by different categories of fish

| Category   | Species           | Temperature parameter | Water quality                 | Pollution tolerance    | Oxygen concentration (ppm)* | Is aeration required? |
|------------|-------------------|-----------------------|-------------------------------|------------------------|-----------------------------|-----------------------|
| Cold water | Trout             | 32 – 64 F             | Clear, consistent             | Intolerant             | Over 5 ppm                  | Yes                   |
| Cool water | Blue gill<br>Bass | 38 – 74 F             | Off-color,<br>Light siltation | Moderately<br>tolerant | 3.5 – 4 ppm                 | No                    |
| Warm water | Catfish           | Over 68 F             | Cloudy, murky,<br>silty       | Tolerant               | 2.5 ppm                     | No                    |

\* ppm = parts per million, an expression of concentration.

protein than catfish. Cool-water fish species eat each other and need live, feeder fish.

- Do not feed cat or dog food. They are for fat-based metabolic systems. Fish cannot digest them and will die of starvation.
- Regularly monitor ponds for damage. Rodents can dig holes through the pond berm. Mink and otter may eat your fish. Water may drain from the pond through channels of dead roots when a tree on the edge of a pond dies. Migratory waterfowl can quickly eat all your fish

Purchasing and releasing fish from an authorized hatchery ensures the health of fish in your pond. The pond may need restocked after several years. "Buy in-state – you know you are going to have good, clean fish," says Nye.

Aquatic weeds are part of normal plant succession in a pond. Accumulation of organic matter is part of the

natural life cycle; however, excessive organic matter can lower oxygen levels below that required by fish.

"A pond in crisis smells bad, looks bad, and shows no evidence of management," says Nye. "So much can be controlled by breaking the aging process cycle. I use aeration to increase oxygen levels and speed up organic matter breakdown. In addition, I use specific bacteria for specific tasks in ponds. I use them all year long in combination with an aerator."

Find more resources in the sidebar on page 6. Contact the SEO and WGFD to clarify requirements on your property for your purposes. Thorough research will help determine if a pond is for you.

"A pond will be one of the most enjoyable, interactive resources you will have in your life," says Nye. "Don't give up early. You can succeed. You can have a pond that will be the envy of the community."

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