

PAST, PRESENT AND FUTURE OF **COMMERCIAL FISHING** IN SOUTH DAKOTA

BY TODD ST. SAUVER, GFP FISHERIES PROGRAM SPECIALIST

If you have ever watched reality shows like *Deadliest Catch*, *Swamp Pawn*, *Bottom Feeders* or *Alaska: Battle on the Bay*, you are familiar with a few of the many types of commercial fishing practiced around the world. But did you know we have commercial fishing in South Dakota?

What is commercial fishing? Put simply, it is catching fish or other aquatic animals to sell for profit. Commercial fishing operations can be small, with one person running a few hoop nets for catfish, or large, with massive trawlers and factory ships on the oceans.

In the early 1800s, native game fish species were mainly valued as food sources and were commonly harvested by commercial fishermen. By the mid-1800s, these populations began to deplete, so additional sources of fish were considered. In an 1874 report by the newly-formed United States Fish Commission, Professor Spencer F. Baird suggested that the European carp (now called common carp) could solve the problem. Two years later, he again urged the Commission to consider introducing carp to the U.S. because of its ability to reproduce rapidly, grow fast, and live in waters native fish could not survive in.

In 1877, the Commission made what may be the greatest fish management mistake in U.S. history. They imported 345 carp from Europe to ponds in Baltimore, Maryland. It was not long until the progeny produced by these fish were stocked into eastern lakes and rivers. Within four years, commercial fishermen were catching carp in Lake Erie and in the Illinois, Missouri and Mississippi Rivers.

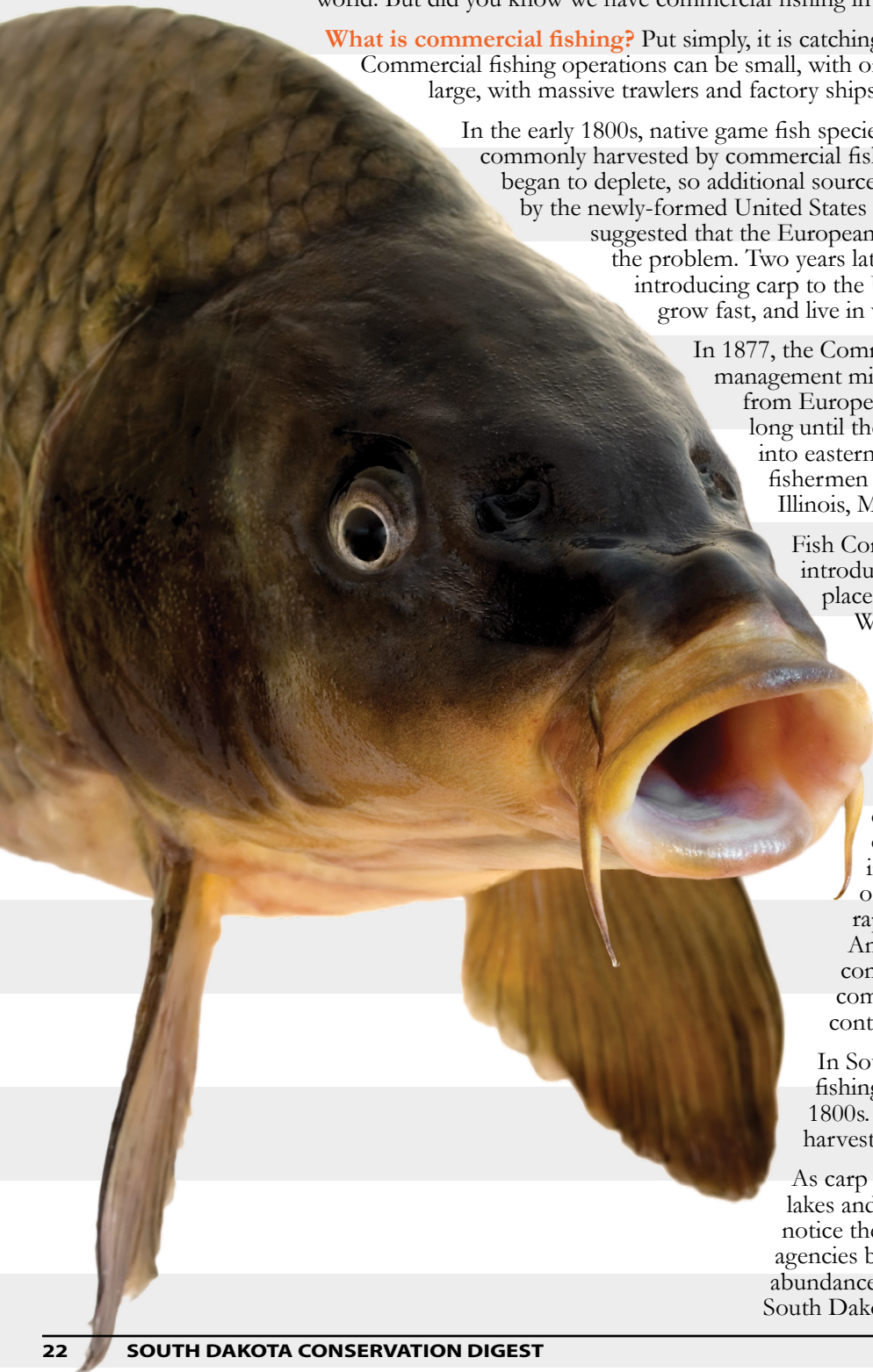
Fish Commission members were not the only ones to introduce carp to the U.S. In 1872, five small carp were placed in a pond near Sonoma Valley, California.

Within a few years, carp were supporting a booming business and spreading cross-country. It is believed carp spread across the entire U.S. by the early 1900s.

From the late 1800s to the early 1900s, carp were valued as food, resulting in the appearance of lucrative commercial fisheries. The boom caused many states to expedite the expansion of the carp's range with the development of intensive stocking programs. Millions of pounds of carp were harvested annually to supply the rapidly expanding population. However, by 1930 Americans no longer favored carp as food and commercial harvest declined rapidly. Only a few commercial fishing operations remain today in continually shrinking carp markets.

In South Dakota, the first records of commercial fishing on the Missouri River appeared in the late 1800s. At the time, carp were a small part of the harvest. Native fishes made up the majority of catches.

As carp declined in value as food, their abundance in lakes and rivers exploded and fish biologists began to notice the negative impact on aquatic environments. State agencies began using commercial fishing to reduce carp abundance and improve game fish populations. In 1939, the South Dakota State Legislature passed several statutes giving



South Dakota Game, Fish and Parks (GFP) the authority to control rough fish and bullhead populations for fish management purposes and the ability to contract with commercial fishermen to do the same. These statutes still guide commercial fishing operations today.

Overabundant rough fish and black bullhead populations have several negative impacts on aquatic ecosystems and native fish populations. Their bottom feeding behavior uproots valuable vegetation and suspends sediments. Suspended sediments decrease light penetration, causing remaining vegetation to die. They also contain nutrients that fuel large algae blooms, further clouding the water. There is direct competition with game species for food resources, as well as spawning and rearing habitats.

With so many negative impacts, it is easy to understand the common sense behind contracting with commercial fishermen to reduce carp populations. However, recent research, decades of evaluating past commercial fishing efforts and today's economic realities indicate commercial fishing is not a viable tool to create better sport fisheries, especially in lakes larger than 200-300 acres. Surrounding states have had some success improving sport fisheries in small lakes using subsidized commercial fishing combined with

techniques to reduce reproduction and movement between waters. GFP is planning similar efforts for select small waters.

Bigmouth buffalo and common carp are most frequently targeted by seining operations in South Dakota. White bass are sometimes added to contracts as well. Buffalo and white bass usually result in the best market prices, but carp can often be caught in large enough quantities to be profitable.

Seining operations can be conducted in open water or under ice. Both methods start by locating large schools of the target species. During winter, fishermen drill holes in the ice and use side-scan sonar to locate large schools of carp and buffalo. These fish are fairly inactive during the winter and are usually in the same location when fishermen return to collect them. In open water, fishermen scout for large schools from a boat.

In open water, the seine is attached to a boat and pulled around large schools of fish. An engine-powered winch drags it back to shore. Seines have a large bag in the middle where fish collect. When the bag reaches shore, fishermen attach a holding cage to the catch bag. The fish are transferred to the holding cage to await transport to the processor.

Ice seining operations are obviously different from open water. First, the crew cuts a hole the size of a pickup truck in the ice. Then a series of holes outlining the desired seining area is cut.

In the past, a long board was slid under the ice from hole to hole to thread the rope that pulled the seine. Today, a remote-controlled submarine runs the ropes. After the rope is threaded around the area, it is attached to the seine which is pulled back to the larger hole. There, the fish are loaded for transport.



IN 1877 THE UNITED STATES FISH COMMISSION
MADE WHAT MAY BE THE
GREATEST
FISH MANAGEMENT
MISTAKE
IN U.S. HISTORY.

Fishing is fishing whether it is commercial or recreational. Sometimes you catch them, sometimes you don't. Unsuccessful days are especially painful for commercial fishermen because it costs more than \$1,000 per day to run the operation. Fishermen have to pay for huge capital investments in nets, boats, vehicles, tractors, fish hauling tanks, sorting equipment, holding pens and other miscellaneous equipment. The work cannot be done alone, so several workers must be hired to help.

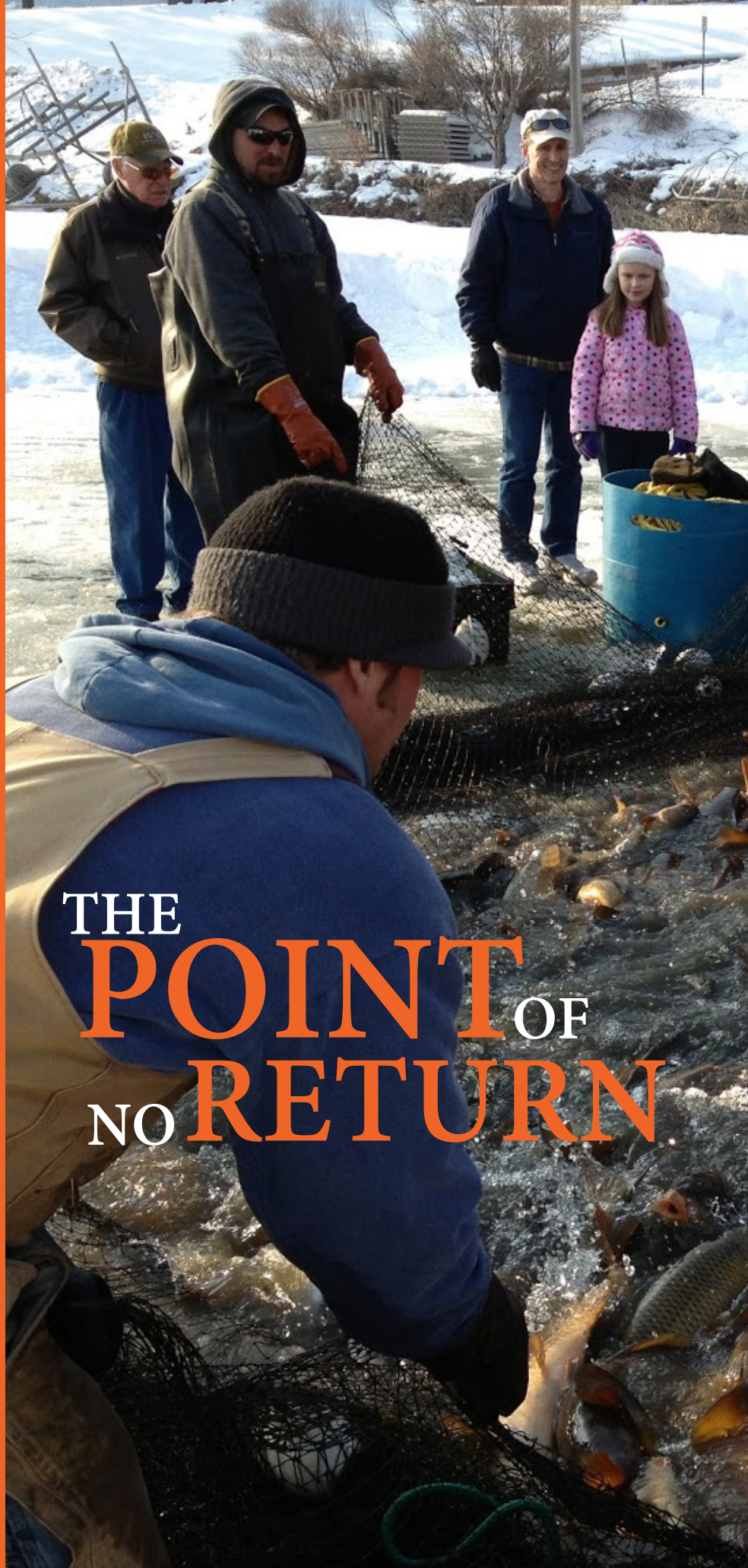
Many people have heard of Asian carp. You would think we would have learned our lesson about importing exotic species with the common carp incident, but sadly it was not so. In the 1980s, Asian carp were imported by the aquaculture industry. Asian carp are excellent filter feeders and can be useful to clean algae and phytoplankton from aquaculture ponds. However, they escaped from captivity, spread across the country and now compete with native species. One Asian carp species, silver carp, have a nasty habit of jumping high into the air when disturbed by loud noises. Countless boaters have been hit with these flying carp.

In South Dakota, Asian carp exist in the Missouri River below Gavins Point Dam, the Big Sioux River below the falls, the East Vermillion River below Lake Vermillion Dam and in the entire James River. Time will determine the impact of carp to state waters.

There is a ray of hope when it comes to commercial fishing for Asian carp; they taste much better than common carp, though very bony. Americans are slow to embrace them for food, but a few enterprising commercial fishermen and processors in the eastern U.S. are catching, processing and exporting fish, ironically, to several Asian countries where they are highly valued. These operations are heavily subsidized by state governments and other investors. It remains a mystery if commercial fishing for Asian carp can be profitable without subsidies.

Asian carp are more difficult to catch than common carp because of behavior. The most effective technique is to surround a school with gill or trammel nets then drive fish into the nets using loud noises. With silver carp, small numbers can be caught by simply driving in a boat and letting them jump in.

Common carp quickly spread across the nation and it is likely Asian carp will do the same despite efforts to stop them. With most Americans reluctant to eat carp, perhaps the future of commercial fishing for these species will rely on the development of other carp products such as animal food and organic fertilizers. History proves when a fish increases in market value (like tuna or salmon), commercial fishing and technology can quickly deplete their populations. Wouldn't it be great if South Dakota carp became just as valuable? ■



THE POINT OF NO RETURN

