Asian Carp

What are they?

The term “Asian Carp” refers to fish in the Cyprinid family such as goldfish, koi, and common carp. Don’t worry; your pet goldfish isn’t an outlaw...yet. In the aquatic nuisance species world, the term Asian carp specifically refers to four species of introduced carp that pose a significant threat to the freshwater aquatic environment: bighead carp (*Hypophthalmichthys nobilis*), silver carp (*H. molitrix*), black carp (*Mylopharyngodon piceus*), and grass carp (*Ctenopharyngodon idella*). Although they will inhabit lakes and ponds, Asian carp prefer large slow moving rivers with high turbidity, moderate to low oxygen levels and warmer water temperatures (up to 86°F).

**FACT:** In many Asian cultures, the carp is a symbol of prosperity and longevity.

What do they look like?

The **Bighead carp**, named after its large scaleless noggin, is identified by numerous dark blotches on its sides, large mouth, and lower jaw that extends past the upper jaw (think bulldog, but with more slime). Its eyes are situated very low on its head and generally look downward. Pharyngeal teeth (see *Side Note*) are long and rounded, and gill rakers are set very close together to facilitate water filtration. As an adult, this brute can grow up to 4 feet in length and weigh over 100 pounds.

*A Side Note:* Asian carp do not have traditional teeth on their jaws. They have what are called pharyngeal teeth – or “throat” teeth. Technically these teeth don’t grow out of the throat (that would be weird), they are attached to the gill arches – the same bony supports that serve as attachment points for gill filaments and gill rakers. Carp pharyngeal teeth come in many sizes and shapes, depending on the diet of the fish.
The **silver carp** has a very uniform coloration that changes from bright silver as a juvenile to a more greenish hue as an adult. The head of silver carp is also scaleless with a big upturned mouth and large eyes that are low on the head looking slightly downward. Gill rakers are thin and fused together into a sponge like structure for filtering plankton, and pharyngeal teeth have striated surfaces. Considered the “shrimp” of the bunch, this guy can grow up to 4 feet in length and can weigh 75-100 ponds.

The **grass carp** has an oblong body shape compared to the laterally compressed (flattened from side-to-side) bodies of the other carp species. Body coloration is dark silvery grey above with light gold sides and a white belly. Scales of grass carp are very large and are said to resemble the pattern of a chain link fence. The head of grass carp is broad with long serrated pharyngeal teeth specialized for eating aquatic vegetation. This whopper of a fish can grow up to 5 feet in length and can weigh an amazing 143 pounds.

The **black carp** looks very similar to the grass carp, but has an overall black brown coloration and blackish grey fins. The body of the black carp is laterally compressed and covered with large black tipped scales, giving the fish a cross-hatched appearance. Pharyngeal teeth of black carp resemble human molars and are used to crush the shells of snails and mollusks. This goliath can also grow up to 5 feet in length and weigh an unbelievable 150 pounds.

**FACT**: Asian carp can eat an astounding 5-40% of its body weight each day.

**Where are they from & Where are they now?**

Asian carp are native to - you guessed it, Asia, from southern china north into eastern Russia, and possibly northern Vietnam.

Asian carp were first introduced into the southern United States in the early 1960s and 70s. By the 1980s, three of the four species had escaped and/or spread into local water bodies. Today Asian carp have spread throughout the Mississippi, Ohio, Missouri, and Illinois rivers and their tributaries. Bighead carp are currently present in 23 states (including California), silver carp are present in 17 states, black carp have been reported along the lower Mississippi basin, but current distribution and abundance is unknown, and grass carp, the most widely distributed Asian carp species can now be found in 45 states including California, Oregon and Washington.

Currently there are no known breeding populations of invasive Asian Carp on the west coast – let’s keep it that way!
The maps below depict states with Asian carp presence as of 2011.

**FACT:** In some areas of the Mississippi basin Asian carp comprise up to 97% of fish biomass.

**How did they get here and how are they spread?**

Asian carp were brought into the United States intentionally by humans to capitalize on the carps dietary preferences. Bighead, silver and grass carp were first introduced to control nuisance algae blooms and aquatic vegetation in aquaculture facilities, farm ponds and sewage lagoons. Black carp were introduced to control a parasite hosting snail commonly found in aquaculture facilities. This relationship worked well until Mother Nature and a few unsuspecting humans got in the way. Flood events helped carp escape from private ponds and aquaculture facilities and human activities such as live bait releases, intentional stocking (to create a food source), and the construction of man-made canals helped these fishy fugitives on their path to freedom. Once loose, Asian carp spread quickly, reproduced rapidly, and became very VERY abundant.

**FACT:** Depending on its size, female Asian carp can produce up to a million eggs each year.
What are their impacts?

Asian carp are eating machines! Each fish can consume an astounding 5-40% of its body weight in food each day. Just imagine the impact this can have on the aquatic ecosystem! Bighead and silver carp primarily consume phytoplankton and zooplankton, the food base for a number of native invertebrates, freshwater mussels, snails, juvenile and adult fish species. The aptly named grass carp are strict herbivores capable of consuming all aquatic vegetation within a stream as well as vegetation along the stream bank. This aggressive feeding behavior may lead to stream bank erosion, increased water turbidity, siltation of fish spawning grounds, wide swings in water temperature and oxygen levels, a loss of important fish habitat, or a reduction in the food base for organisms such as waterfowl. The foraging habits of black carp can lead to a significant reduction in native freshwater mussel and snail populations, and may lead to a decline in those organisms that depend on mollusks as a food resource such as native fish, turtles, birds, and mammals. Besides their gluttonous dietary habits that damage habitats and deplete important food resources, Asian carp may transmit disease to native fish populations, threaten economically important commercial and sport fisheries, ruin the aesthetic and recreational value of a water body as well as pose a threat to unsuspecting water recreationalists. Silver carp spontaneously leap from the water when they feel threatened or hear loud noises such as a boat motor. Although it sounds funny, in reality, catching a 20+ pound carp in the face can lead to some pretty serious injuries. See a video of flying silver carp here: http://animal.discovery.com/tv-shows/river-monsters/videos/carp-have-panic-attack.htm

**FACT:** Bighead and silver carp lack a true stomach, which requires them to feed almost continuously.

Menace Management?

A lot of time, money, and effort has been spent by countless private, state, and federal organizations looking for the panacea of carp control. Unfortunately there is no single control method that is 100% effective at eliminating carp - short of poisoning an entire water body. Conventional control methods such as trapping, seining, explosives, herding with noise or light, electrical barriers, thermal barriers, bubble and noise walls, hydraulic modifications, oxygen deprivation, and sonic disruption, only serve to keep burgeoning populations from spreading further. Chemical treatments such as Rotenone and copper sulfate are very effective at eliminating carp, but kill native fish and other aquatic organisms in the process. Researchers are investigating the use of natural carp pheromones to coerce and control the behavior of carp to enhance capture rates or interfere with reproduction, but the success of these methods has not been sufficiently evaluated. Many states are encouraging the recreational and commercial
harvest of Asian Carp to reduce populations. Grass roots campaigns with catchy slogans such as “If you can’t beat ‘em, eat ‘em”, or “Eradication by mastication”, encourage the consumption of carp as a control method. While international markets are strong, ongoing efforts to develop Asian carp markets within the United States have met with more resistance likely due to society’s image of carp as a bottom feeding trash fish. With current economic uncertainties and an increasing global population, it may only be a matter of time before you see “silverfin” on the dinner menu. Current legislation (Lacey Act) prohibits the import and transport of Asian carp (specifically silver, bighead and black) in many states. However, these and other management efforts are continuously undermined by the illegal sale, shipping, and stocking of Asian carp. Public outreach and education remains the first line of defense against the spread of Asian carp. The more people who know about the environmental and economic problems Asian carp can cause, the easier it will be to slow or stop the spread of these foul fish.

FACT: In a blind taste test conducted by the University of Arkansas, consumers rated canned silver carp equal to or better than canned tuna and salmon.

How can YOU prevent the spread of Asian carp?

To minimize the potential spread of these carp, follow these simple steps.

- NEVER: move live organisms from one water body to another – it is illegal!
- Don’t: harvest bait or transport water from infested water bodies.
- Dispose of unwanted bait in the trash, NOT in water bodies.
- NEVER: release fish from one water body into another.
- DRAIN: all of the water from your boat (including the bilge, live well, motor), trailer, tackle, and gear, away from waterways and storm drains.
- Learn how to correctly identify Asian carp and other aquatic nuisance species.

What if I find an Asian carp?

If you think you have found a silver, bighead or black carp, contact the Aquatic Nuisance Species Task Force at 1-877-STOp-ANS.