

# Rudd

## FACT SHEET

Pennsylvania Sea Grant, as part of the National Sea Grant Program, promotes efforts to improve the environmental and economic health of Pennsylvania's coastlines.

Focusing on the Lake Erie and Delaware River watersheds, Pennsylvania Sea Grant works to increase public awareness of coastal environmental and economic issues through extension, communication, applied research, and education activities.

The National Oceanic and Atmospheric Administration (NOAA) administers the National Sea Grant College Program. Pennsylvania Sea Grant is also supported by the Pennsylvania State University and the Commonwealth of Pennsylvania.

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**Background** The rudd (*Scardinius erythrophthalmus*) belongs to the large cyprinidae family, which includes carp and minnows (Figure 1). Native to Eurasia, rudd range from Western Europe to the Caspian Sea and Aral Sea Basins, and were introduced to the United States in the late 19<sup>th</sup> century. The rudd is a somewhat stocky, deep-bodied fish with a forked tail, and the mouth is distinct with a steeply angled protruding lower lip. The scales are robustly marked, the back is dark greenish-brown, and the sides are brassy yellow tapering to a whitish belly. The pectoral, pelvic, and anal fins are bright reddish-orange, and the dorsal and tail fins are reddish-brown. Another identifying feature of the rudd is that the beginning of its dorsal fin is set well behind the front of the pelvic fins. The rudd can grow up to 19 inches in length. Young rudd consume macroinvertebrates, zooplankton, and occasionally small fish, while mature rudd feed mainly on submerged aquatic plant material and are inefficient processors of the available food supply. They inhabit weedy shoreline areas of lakes and rivers, and can adapt to a wide range of environmental conditions, including poor water quality.



Figure 1. Rudd caught in Presque Isle Bay

Since its introduction into the United States, the rudd has spread throughout much of the country, including 20 states as well as parts of the Great Lakes system (Figure 2).

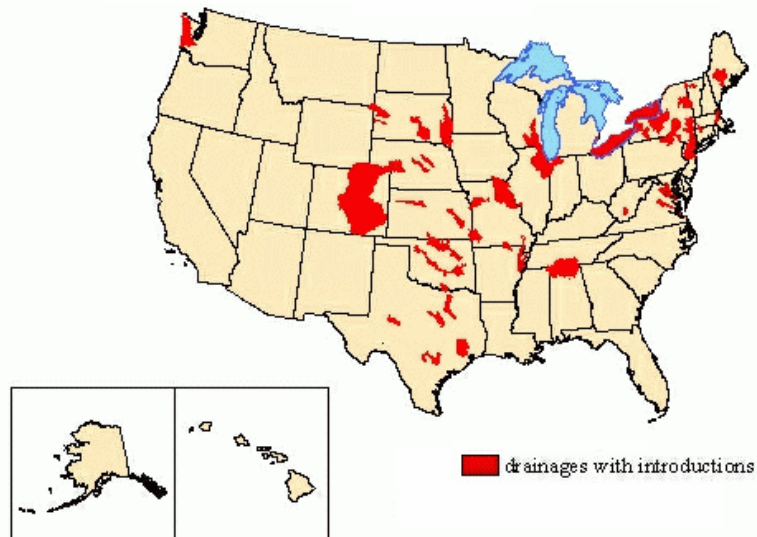


Figure 2. 2000 Rudd Distribution: Image from the USGS Nonindigenous Aquatic Species Web site: <http://nas.er.usgs.gov/queries/SpFactSheet.asp?speciesID=648>

**Impact** The impact of the rudd's introduction is relatively unknown. Laboratory studies have confirmed that rudd hybridize with the golden shiner, a primary forage species of many game fish, and the probability exists that rudd introduced to open waters will hybridize with golden shiners, with unknown consequences to wild populations of native species (Figure 3). Aside from hybridization, the rudd can be expected to compete with native fish for food. Also, being omnivorous, the rudd can change its diet from insects and minnow to plants, unlike most native fishes. Rudd could affect the inland waters it inhabits by: 1) increasing the nutrient loading due to its inefficient means of processing plant material; 2) depleting aquatic vegetation and potentially reducing the reproductive success of native fish species using near-shore areas for spawning and nursery sites; 3) competing with native fish species for food and habitat in juvenile stages; and 4) disrupting established predator/prey relationships.



Figure 3. Rudd X Golden Shiner hybrid: Image from the USGS Nonindigenous Aquatic Species Web site: <http://nas.er.usgs.gov/queries/SpFactSheet.asp?speciesID=648>

**How to stop the spread** Bait bucket release is the primary mechanism by which rudd have gained access into open waters. It is suspected that because of the rudd's similarity to golden shiners they likely become mixed in with shiner shipments to bait dealers and are therefore introduced into new environments by anglers.

Anglers, commercial fisherman, and fishery professionals should know how to identify the rudd. Your help is vital to report new sightings and to prevent their spread. You can do the following to prevent the spread of the rudd:

- ✓ Learn to identify the rudd (Figure 4)
- ✓ Dispose of your unwanted bait in the trash. Do not release into any water bodies or dispose on land.
- ✓ Always drain water from your boat, livewell, and bilge before leaving any water access
- ✓ Never dip your bait bucket into a lake or river if it contains water from another water source
- ✓ Never dump live fish from one body of water into another body of water

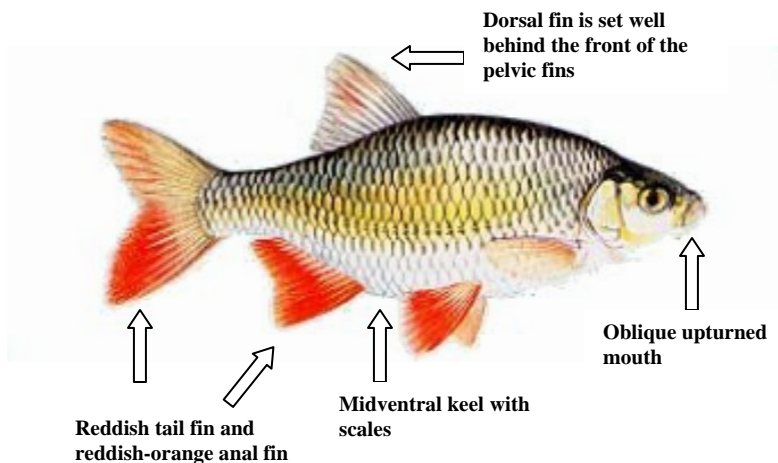


Figure 4. Rudd Identification

Information for this fact sheet was adapted from a variety of sources, including:

USGS Nonindigenous Aquatic Species Web site: <http://nas.er.usgs.gov/queries/SpFactSheet.asp?speciesID=648>

Page, M. and B. Burr. *Peterson Field Guides to Freshwater Fishes*. Houghton Mifflin Co., Boston, MA.