



RUSTY CRAYFISH (*Orconectes rusticus*) with dark rusty-colored spots on each side of their back, about where you would grab them to pick them up. They also have large, smooth claws that vary in color from grayish-green to reddish brown with black bands at the claw tips.



ORIENTAL WEATHERFISH (*Misgurnus anguillicaudatus*) Eel-like body, brown with greenish grey-brown marble markings dorsally, pale silver ventrum. **Mouth** is small, narrow and subinferior surrounded by six barbels. Has a stout spine on its pectoral fin. **Size:** Usually ~4" but up to 10" in Native range.



NEW ZEALAND MUD SNAIL (*Potamopyrgus antipodarum*) is a minute freshwater snail (1/8" long) with a gill and an operculum. Populations can reach phenomenal densities. Shells are cone-shaped with 5 – 6 whorls, fairly uniform in size, and vary in color from light-brown to black.

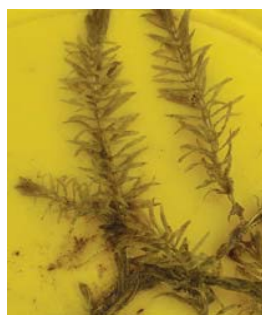


MYSTERY SNAILS (Chinese, *Cipangopaludina chinensis*, Japanese, *C. japonica*) A relatively large shell (up to 2.5" long) with concentrically marked opercula and 6 – 7 whorls; the inner coloration is white to pale blue. It has light coloration as a juvenile and olive green, greenish brown, brown or reddish brown pigmentation as an adult.

WAVERS be on the lookout for these aquatic animals and plants. While performing your site evaluations, specifically look for these taxa known to occur in stream habitats, mostly the slower-moving pool areas up or downstream from the target riffle (especially the plants).



FLOWERING RUSH (*Butomus umbellatus*) **Emergent, perennial herb** (can be submersed in deep water). **Emergent leaves** 3 feet tall, stiff, narrow, and triangular in cross-section. **Flowers** with 3 petals and 3 sepals, white or pink, in a distinctive flat-topped spray atop a tall stalk. **Spreads** by rhizomes and root pieces.



HYDRILLA (*Hydrilla verticillata*) **Submersed, perennial herb** rooted in saturated soil, in water up to 20 feet deep. **Stem** slender, branching, up to 25'. **Leaves** green, 0.6 inches long with pointed tips, in whorls of 4 - 6, 0.13 - 2 inches apart on stem. **Leaf edges** sawtoothed, rough to touch. Male and female **flowers** on separate plants. **Spreads** by plant fragments, buds (turions) and tubers.



WATER CHESTNUT (*Trapa natans*) **Rooted, annual herb** with a leafy rosette that floats on the surface. **Stems** up to 16', with 2 types of leaves. **Submersed leaves** feathery, whorled along the stem and up to 6 inches long. **Emergent leaves** triangular, 1 – 2" long, waxy with toothed edges. **Leaf stems** with bladder-like swelling. **Flowers** small, white with 4 petals. **Fruit** 1" wide, hard nut with 4 stout barbs. **Spreads** by seeds and plant fragments.



EUROPEAN FROGBIT (*Hydrocharis morsus-ranae*) **Free-floating herb**, similar to a miniature water lily. **Leaves** leathery, heart-shaped, 1 – 2" wide, smooth-edged with spongy, purplish-red undersides. **Flowers** 0.5" across appear singly with 3 white petals and yellow centers. **Roots** 3 – 8" long, unbranched, dangle from the underside of each rosette. **Spreads** by fragments and buds (turions).

GIANT KNOTWEED
(*Polygonum sachalinense*)

with stems 6 – 16', smooth, hollow, light green, resembling bamboo canes, sparingly branched. **Leaves** are 6 - 16" long, deeply heart-shaped base and a blunt leaf tip. Diagnostic **hairs on the leaf underside** are long, thin and wavy. The **flowers** are small, creamy white to greenish white, in short, branched clusters near the ends of the stems unlike the longer flower clusters found on Japanese knotweed.



JAPANESE STILT GRASS
(*Microstegium vimineum*)

Annual, sprawling grass, 12 - 24 inches tall, resembling miniature bamboo. **Leaves** wide, alternate, pale green, lance-shaped, 2 – 3" with a pale silvery stripe of reflective hairs along midrib of upper surface. **Flower** spikes 1 – 3". **Blooms** late summer into early fall. Threatens river and stream corridors, floodplains, moist woodlands and forested wetlands.

REED CANARY GRASS
(*Phalaris arundinacea*)

Perennial grass grows 2 - 6' high. Erect hairless stems. **Leaf blades** 1/4"-1/3" wide, up to 10" long. **Flowers** densely clustered single florets, green to purple changing to beige. Ligule entire, transparent. Blooms May to mid-June. Reproduces vegetatively through rhizomes. Threatens natural wetlands.



GIANT HOGWEED (*Heracleum mantegazzianum*)

Very tall perennial **herb** (up to 7-15' by YR 4). **Leaves** 3-part compound, 1-4' wide, deeply incised and pointed. **Flowers** white in multiple broad-domed umbels, up to 2.5' in diameter. **Flower stalk** hollow with coarse hairs and reddish purple splotching. Threatens river corridors and woodland edges. **Caution! Plant sap causes severe burns when sap on skin is exposed to sunlight.**

GIANT REED (*Phragmites australis*) 9-30' bamboo-like perennial **grass**. Multiple stems grow in clumps, forming large colonies. Gray to yellowish green **stems** tough, hollow, round 1" cross section, solid joints every 1 to 8". Alternate, lanceolate, hairless **leaves** grow 1.5-2.5' long and line stem with a conspicuous white, 1-4" base. Terminal, erect, cream to brown **flowerhead** grows to 3' long. Threatens forest margins and river valleys.



JAPANESE KNOTWEED
(*Polygonum cuspidatum*)

Perennial **herb** with shrub-like form grows 3-9'. **Stem** hollow, bamboo-like with swollen leaf joints. **Leaves** 6" long, 3-4" wide, leaf base straight across to bluntly right angled. **Flowers** white to pink and densely crowded on erect stalks. Threatens riparian corridors, fens, springs, ravines, forests, and streamsides.

WAVERS be on the lookout for these riparian plants. While performing your site evaluations, specifically look for these taxa on your way to the stream and along the stream margins as they are known to occur in riparian corridors.

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