

**2011**

# Yuba Watershed: Sensitive and Invasive Field Guide



Created by Kaitlyn Hacker

# **Yuba Watershed Sensitive and Invasive Species Watch Program**

## **Instructions**

### **Program Design:**

The Yuba Watershed Sensitive and Invasive Species Watch Program is designed to document sensitive and invasive species throughout the watershed. In addition to collecting water quality data, river monitors should also be on the look-out for these target species. The list includes ten invasive species and seven sensitive species. Data collected will then be used to generate distribution maps. These maps will be used to track the spread of invasive species, as well as to determine what areas need to be further protected and restored in order to boost populations of sensitive species.

### **How data are collected:**

An observation form will be printed on the back of field data sheets and will include space for the following information:

- Species observed
- Date of observation
- Location (should include site name and relative location at site)
- Name of all observers
- Description of habitat
- Abundance
- Evidence/Documentation

Two levels of documentation confidence are possible for detected species:

1. Species that are observed will be considered “reports.”
2. Species observations supported by verifiable evidence (photographs, specimens) will count as “verified records.”

If you encounter one of the target species please fill out the observation form and alert the office volunteer/river monitoring coordinator when you arrive back at SYRCL.

## Foothill Yellow Legged Frog

(*Rana boylei*)

Sensitive Native



### Description

- Rough Skin, with olive coloring
- Pale yellow triangle extending from tip of nose to between eyes
- No eardrum (circle) behind eye
- Yellow coloring on legs, abdomen
- Do not make clear audible noises

### Habitat

- Found in close association with water, but can utilize a variety of aquatic habitats including pools, riffles, runs, cascade pools, and step pools
- Prefer areas with exposed basking sites

### Tips for a confirmed sighting:

- Picture

### Don't confuse with....

**Bullfrog** (*Rana catesbeiana*) which has:

- Bright green mouth/throat, smooth shiny skin, large eyes relative to head and large eardrum behind eye, white belly, legs, and abdomen
- Non-Native

**Western Toad** (*Bufo boreas*) which has:

- Warty skin and thin white stripe behind center of back
- Native

**Pacific Treefrog** (*Hyla regilla*) which has:

- Distinct black eye strip, smaller legs, non-webbed feet
- Native

## Western Pond Turtle

(*Actinemys marmorata*)

Sensitive Native



### Description

- Only native freshwater turtle in California
- Contains radiating lines from center of shell plates
- No red stripe on face

### Habitat

- Use both land and aquatic habitat
- Needs hiding and basking sites, nesting habitat, permanent slow-moving water with deep and shallow areas

### Tips for a confirmed sighting:

- Picture; shell

### Don't confuse with....

**Red-Eared Slider** (*Trachemys scripta*) which has:

- Red on neck
- Non-native



## California Horned Lizard

(*Phrynosoma coronatum frontale*)

Sensitive Native



### Description

- Flattened body with backwardly projecting head spines
- Large shelf above each eye with a spine-like scale, small scales on forehead, and two parallel rows of pointed scales on each side of its body
- Variable coloration, but usually gray, tan, reddish-brown or whitish

### Habitat

- They can be found in various habitat types, including riparian habitats, grasslands, and oak woodlands
- Endemic to California

### Tips for a confirmed sighting:

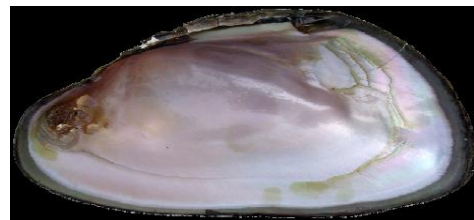
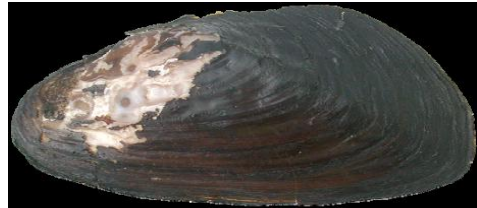
- Picture



## Western Ridged Mussel

(*Gonidea angulata*)

Sensitive Native



### Description

- Shell is yellowish-brown to black or brown and up to 5" in size
- Shell does not have rays or sculpturing
- Shell has angular ridge that runs along the posterior margin, while the anterior margin is generally straight

### Habitat

- Bottoms of streams and rivers with substrates that vary from gravel to firm mud, and some sand, silt or clay
- Rarely seen in reservoirs or lakes

### Tips for a confirmed sighting:

- Picture; shell

### Don't confuse with....

**California Floater (*Anodonta californiensis*)** which has:

- Elliptical or ovate shell; olive green, pale brown, reddish brown or black
- Has greenish rays on posterior slope; outside of shell is smooth with growth lines
- Native

## River Otter

(*Lontra canadensis*)

Sensitive Native



### Description

- Streamlined body adapted for aquatic life
- Short limbs with webbed, clawed paws and a broad muzzle
- Thick body with thick tapering tail
- Outer fur is brown to velvety black, underside paler grayish-brown to silver
- About the size of a medium dog; length of head and body about 26-30 inches

### Habitat

- Must live near permanent water, but can live in a variety of aquatic habitats
- Generally live along river banks in holts

### Tips for a confirmed sighting:

- Picture

#### Don't confuse with....

##### Mink (*Mustela vison*)

- Slightly smaller than a domestic cat; length of head and body about 12-17 inches
- Medium to dark brown with a white chin patch
- Native

##### Beaver (*Castor canadensis*)

- Built in a shorter and stockier manner
- Elongated tail, flattened tail
- Native

## Beaver

(*Castor canadensis*)

Sensitive Native



### Description

- Largest rodents in North America
- Waterproof reddish brown or blackish brown coat
- Hind legs are longer than front legs, flattened tail
- Disproportionally large head and teeth; length of head and body about 25-30 inches

### Habitat

- Often found in ponds and lakes
- Needs hiding and basking sites, nesting habitat, permanent slow-moving water with deep and shallow areas
- Live in lodges that they construct

### Tips for a confirmed sighting:

- Picture of beaver or lodge

#### Don't confuse with....

##### River Otter (*Lontra Canadensis*)

- Longer, thinner body
- Tail also long but tapered not flattened
- Native

##### Muskrat (*Ondatra zibethicus*)

- Thin, scaly tail, flattened on sides
- Length of head and body about 10-14 inches



## Osprey

(*Pandion haliaetus*)

Sensitive Native



### Description

- Large raptor with white breast and belly
- Black back and wings; crown and forehead white; dark eyestripe
- Long wings with wingtips angled slightly backwards.
- Larger than a hawk, smaller than a bald eagle

### Habitat

- Lives near water bodies as they eat almost exclusively fish

### Tips for confirmed sighting:

- Picture

### Don't confuse with....

#### Bald Eagle (*Haliaeetus leucocephalus*)

- White head and tail feathers, no eyestripe
- Native, CA Endangered Species

#### Red Tailed Hawk (*Buteo jamaicensis*)

- Red tail, but juveniles and some adults can be light in color
- Native

## Bullfrog

(*Rana catesbeiana*)

Invasive



### Description

- Large in size with large legs and large webbed feet; adults larger than any other frog
- Smooth dark green skin; white belly, legs, and abdomen
- Green mouth; large eyes; large eardrum
- Large tadpoles with a disproportionately large head relative to tail

### Habitat

- Often found at the edge of slow, flat water habitats in sand or silt or perched on cobble, rocks, or the shore

### Risk for Spread...

- Widely distributed in California
- Eats many native prey and has led to drastic population decreases in Foothill Yellow Legged Frogs and Western Pond Turtles

### Tips for confirmed sighting:

- Picture

### Don't confuse with...

#### Foothill Yellow Legged Frog (*Rana boylei*)

- Warty skin, smaller eyes, yellow underside
- Native Federal/State Species of Concern

## New Zealand Mudsail

(*Potamopyrgus antipodarum*)

Invasive



### Description

- Shell contains 7 or 8 whorls with deep grooves in between; shell color varies from gray and dark brown to light brown
- Extremely small in size

### Habitat

- Endemic to New Zealand, but now widely spread and naturalized
- Thrives in disturbed watersheds; benefits from nutrient pollution and algal growths
- Prefers shallower water, but can burrow into sediments in areas of high flow

### Risk for spread

- Mostly asexual females; one individual can rapidly start a new population
- Becoming very widespread in California

### Tips for confirmed sighting:

- Picture; shell



## Rock Snot

(*Didymosphenia geminata*)

Invasive



### Description

- Freshwater diatom (type of alga)
- Uses stalks to attach to streambed material
- Forms extensive mats on stream beds

### Habitat

- Found in rivers and streams throughout North America
- Native to cool temperate regions of the Northern Hemisphere

### Risk for spread

- Infection may only need a single cell
- Can spread via recreational equipment
- Can remain viable for several days if kept moist
- Ways to prevent spread: Check, Clean, and Dry all recreational equipment

### Tips for confirmed sighting:

- Picture; specimen

## **Giant Reed**

*(Arundo donax)*

**Invasive**



### **Description**

- Non-native member of the grass family
- Can grow to over 20 ft and has deep fibrous roots
- Blue-green alternate elongated leaves
- Long, dense, plumes of whorled stemmed flower in August and September
- Forms dense thickets that can choke riversides and stream channels

### **Habitat**

- Native to India and countries surrounding the Mediterranean Sea
- Grows in moist places, but grows best in well drained soils with lots of moisture

### **Risk for spread**

- Does not have viable seeds, spreads through rhizomes that root and sprout readily
- Its rapid growth rate and vegetative reproduction enables it to invade quickly into new areas and outcompete native vegetation

### **Tips for confirmed sighting:**

- Picture; specimen

## **Perennial Pepperweed**

*(Lepidium latifolium)*

**Invasive**



### **Description**

- Non-native plant in the mustard family
- Can form dense stands that outcompete native vegetation
- Smooth, fleshy stem
- White Flowers in dense clusters with four spoon shaped petals
- Leaves are alternate with prominent white veins and are tapered at base

### **Habitat**

- Native to Eurasia and northern Africa
- Likes disturbed areas
- Commonly found in roadside ditches, irrigation channels, riparian areas, wetlands, floodplains
- Prefers wet, saline or alkaline conditions

### **Risk for spread**

- Hardy plant that can tolerate high salinities, moderate drought conditions and a variety of soil types
- Can spread through seeds as well as rhizomes

### **Tips for confirmed sighting:**

- Picture; specimen



## Parrotfeather

(*Myriophyllum aquaticum*)

Invasive



### Description

- Feather like leaves arranged around the stem in whorls of four to six
- Has both submersed and emergent leaves
- Emergent leaves are stiffer and a darker green than submersed leaves and can grow up to a foot above water surface
- Flowers inconspicuous

### Habitat

- Native to South America
- Grows mostly in ponds, but can be found in reservoirs, gravel pits, streams, canals and ditches

### Risk for spread

- Spreads by asexual means, stems are brittle and can propagate itself from small fragments
- Sold by nurseries, so most introductions have been from escapes or discards

### Tips for confirmed sighting:

- Picture; specimen

## Eurasian Watermilfoil

(*Myriophyllum spicatum*)

Invasive



### Description

- Close relative of parrotfeather
- Submersed plant with feather like leaves arranged in whorls of four around stem
- Growing stem tips tassel like and typically red
- Can alter water quality by raising pH, decreasing DO, and increasing temperature

### Habitat

- Native to Europe, Asia, northern Africa, and parts of Greenland
- Extremely adaptable and can tolerate a variety of environmental conditions

### Risk for spread

- Can spread through seeds and asexual reproduction
- Mechanical control such as cutting, harvesting, or rotovation can enhance its spread due to fragmentation

### Tips for confirmed sighting:

- Picture; specimen

## Brazilian Waterweed

(*Egeria densa*)

Invasive



### Description

- Submersed plant
- Leaves and stems bright green with short internodes so has a leafy appearance
- Leaves in whorls of four to eight
- Stems are erect and grow until the surface, then form dense mats
- May restrict water movement, trap sediments, and decrease water quality

### Habitat

- Native to South America
- Thrives in streams, ponds, sloughs, and lakes

### Risk for spread

- Only male plants in the US so spreads via fragmentation

### Tips for confirmed sighting:

- Picture; specimen

## Wild Turkey

(*Meleagris gallopavo*)

Invasive



### Description

- Long reddish-yellow to grayish-green legs and a black body
- Males have a large, featherless, reddish head, red throat and red wattles on throat and neck
- Females have duller feathers
- Omnivorous; predated amphibians

### Habitat

- Native to North America, but introductions to California began in the late 1800s
- Like open areas for feeding, mating and habitat; use forested areas as cover from predation and for roosting

### Risk for spread

- Already widespread

### Tips for confirmed sighting:

- Picture

**Invasive Centrachids: Blue Gill,  
Crappie, Yellow Perch, Largemouth  
Bass, Smallmouth Bass, Striped Bass**

**Description**

- Exotic group of fish that impact native fauna (fish, insects, snails, and amphibians) through predation and competition
- Identifiable by a dorsal fin that is much longer and bonier than native fish

**Blue Gill (*Lepomis macrochirus*)**



- Key features: black spot on dorsal fin; flexible blue-black flap near gill

**Crappie (*Pomoxis nigromaculatus/angularis*)**



- Key feature: seven or eight spines on dorsal fin

**Yellow Perch (*Perca flavescens*)**



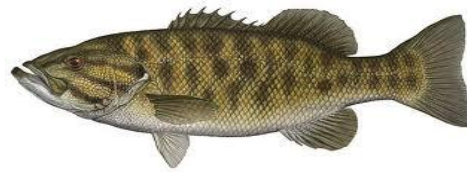
- Key feature: side yellow to yellow-green with 6-8 vertical bands

**Largemouth Bass (*Micropterus salmoides*)**



- Key features: narrow connection between front and back of dorsal fin; jaw that extends past the back of eye; horizontal stripe

**Smallmouth Bass (*Micropterus dolomieu*)**



- Key features: broad connection between front and back of dorsal fin; vertical bars; jaw extends to middle of eye

**Striped Bass (*Morone saxatilis*)**



- Key features: streamlined, silvery body with horizontal stripes from gills to base of tail