



WARNING! CARNIVEROUS PLANT!

Bladderwort (*Utricularia* sp.), is a common plant in freshwater wetlands like LaCenter Bottoms. When hungry, bladderworts secrete irresistible smells from the sac-like structures attached to their underwater mass of roots. When an excited prey comes to investigate the smell, the bladder swallows them up and digestion begins.

What kinds of animals do bladderworts eat?

Bladderworts are only big enough to eat small animals such as: **paramecium, amoeba, water fleas, aquatic worms and mosquito larvae**. Larger animals such as **newborn tadpoles and fish** are sometimes

found hanging half out of bladders. The sac digests whatever it can hold, but is not big enough to ingest an entire creature this large.

Does anything eat bladderwort?

Bladderworts provide excellent forage for a number of wetland species. Animals that eat bladderwort and can be seen at LaCenter Bottoms include: **mallards, wood ducks, muskrats, and turtles**. Bladderworts also produce nectar when they **bloom** from **May-September**. **Bees and flies** inadvertently act as pollinators when feasting upon this sweet drink.

Is there anything else I should know about bladderwort?

Bladderwort can also be used as shelter by many types of wildlife such as: **turtles, salamanders, bullfrogs** and even **potential prey**; as long as they can resist the sweet smell secreted by the plant when it is hungry!

A Good Native Grass

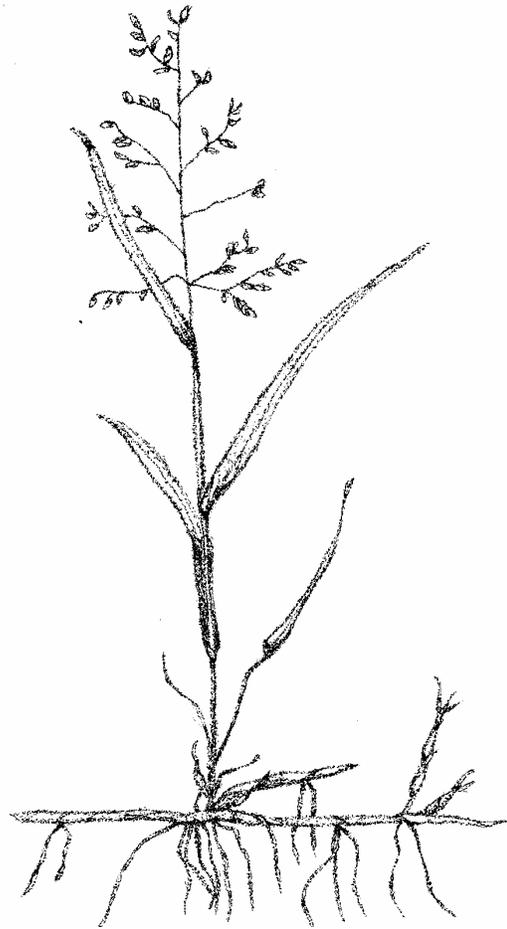
Rice Cut Grass

(*Leersia oryzoides*)

Rice cut grass can be found growing along the edges of freshwater wetlands. It is somewhat uncommon in Southwestern Washington, but a few good sized colonies exist at LaCenter Bottoms.

Rice cut grass blooms in the early summer. Its rice-like seed heads provide a nutritious snack for wetland animals such as waterfowl, small mammals and shorebirds.

The most distinguishing characteristic of this grass is the presence of many tiny teeth along the leaf margin. Beware when running your hands through the seemingly gentle grass. It is sharp enough to leave you with something similar to a papercut. Forage produced is reported to be highly palatable, but good luck eating around razor sharp leaves!



In addition to enhancing soil stability, rhizomes are an important food source for waterfowl. Ducks pull up and consume these starchy underground stems without discrimination.

Dense colonies of rice-cut grass provide good habitat and cover for fish, reptiles and amphibians. Rice cut grass is an important plant for wetland restoration and enhancement projects, like what is going on at LaCenter Bottoms.

A Grass of Controversy

The most common grass you see now at LaCenter Bottoms is **Reed Canary Grass**, (*Phalaris arundinacea*). It was planted here because it is a good food source for cattle. Reed Canary Grass is also very adaptable. In addition to being drought and frost tolerance, it does well in wet, poorly drained soils. Reed Canary Grass grows in large mats and does not permit other plants much space.

Native plants are not used to this competition and fare very poorly against Reed Canary Grass. When one species out competes all the others it is called a monoculture.

Monocultures are considered unhealthy because they provide less forage and habitat for native wildlife.



With the reconnection of LaCenter Bottoms to The East Fork of the Lewis River, additional water is expected to be too wet for Reed Canary Grass. Look out for a more diverse ecosystem with the re-emergence of native grasses such as **Rice Cut Grass** (*Leersia oryzoides*).



A field of Reed Canary Grass.

The Root of Sustenance

Wapato, Indian potato
(*Sagittaria latifolia*)

Look out over the very wet areas of LaCenter bottoms. You will see many arrow shaped leaves emerging from the marshes and drainage ditches. These are the leaves of wapato or Indian potato. If it is the right season, mainly June-October, you might see spikes of white flowers sticking up over the mass of leaves. Beetles feast heavily upon pollen producing flowers and aid in seed production.

Larger animals such as mammals and birds also incorporate wapato into their daily diets. Ducks eat the small, flat seeds that float and are easy to spot. Swans, geese, and muskrat are known to eat the seeds and fleshy underground stems, called tubers. Muskrats even store these tubers to eat all year round.

A potato is another kind of tuber you may be more familiar with. Wapato tubers were gathered and cultivated by First Peoples as a very important food source.



Tubers could be collected from a canoe, the roots being pulled from the kneeling position. An alternative method was to wade in shallower water and dislodge the roots with the toes. Tubers would rise up to the top of the water where they were gathered and tossed into floating baskets. The food was eaten by many different indigenous groups and proved to be a valuable trade item.

Similar species grow around the world and continue to be utilized for their starchy tubers. Indian potatoes are best harvested in fall when plants are dormant.

Western Painted Turtle *Chrysemys picta bellii*



Northwest Status: Native

Food: Snails, slugs, crayfish, insects, tadpoles, small fish, carrion, algae, and aquatic plants. Younger painteds tend to be carnivorous whereas the mature painteds tend to be herbivores.

Distribution: From Western Ontario to British Columbia, south to Missouri, northern Oklahoma, eastern Colorado, Wyoming, Idaho, and northern Oregon with isolated populations in Texas, New Mexico, Arizona, Utah, and Chihuahua, Mexico. And here at La Center Bottoms!

Size: There are four subspecies of Painted Turtle and the Western Painted Turtle is the largest. Adults are often 7 inches long, with a record of 9.8 inches.

Habitat: Prefers slow moving, shallow waters of ponds, marshes, creeks and lakes, with soft muddy bottoms and suitable basking sites, such as logs, and ample aquatic vegetation.

Reproduction: May to mid-July. The female prepares a flask-shaped nest in slightly moist loamy or sandy soil at a sunny site near water. Egg numbers vary from 2 to 20 per clutch, differing among subspecies. Incubation averages 76 days. Young turtles mature in five years time.

Notes: Wild hatchlings may over-winter in the birth nest and can even survive being frozen. Despite such resiliency, Western painted turtles have become more rare in the Northwest due to habitat loss. In addition, injuries sustained to the shell can be life threatening. Turtles take almost as long to heal as they do to develop.

Rough-skinned Newt *Taricha granulose*



Size: Averages 5-8.5 inches in length (12.7-21.6cm)

Northwest Status: Native

Habitat: Ponds, lakes, and slow moving streams with submerged vegetation and adjacent humid forests or grasslands.

Distribution: A likely inhabitant of La Center Bottoms, this guy also ranges from the Pacific coast, from Santa Cruz California to Southern Alaska; sea level to 9,000 (2,743m). Isolated populations even exist near Moscow and Idaho (most likely introduced).

Reproduction: December to July in quiet waters; October to November at higher elevations. Eggs are laid on aquatic plants or submerged twigs, hatching in 5-10 weeks.

Food: Found on cool humid days hunting on land for invertebrates, feeds on invertebrates both in water and on land.

Notes: These newts are the most aquatic of the Pacific newts. They are also **extremely poisonous**. Their skin secretions contain toxins similar to those found in pufferfish liver—one of the most powerful toxins discovered in an animal—a healthy adult can die from eating just one. So if you pick one up (they are very friendly) wash your hands!

Prickly Sculpin *Cottus asper*



Size: Averages 3-4 inches or less; maximum length recorded at 30cm

Northwest Status: Native

Habitat: Primarily a freshwater fish but can also be found in saltwater areas near river mouths. Prefers clear, cold streams and lakes where refuge is easily found beneath stones, large cobble, and flat rocks. Prickly Sculpin are quite adaptable and have been known to take refuge in beer cans, rusting car hulks, concrete blocks, or other forms of human rubbish carelessly tossed into streams and lakes.

Distribution: From Seward Alaska south along the Pacific coast (and into adjacent inland waters) to the Ventura River system in southern California. These fish are extremely common in the San Joaquin River system, and can also be found here at La Center Bottoms.

Reproduction: Winter-spring, lays eggs on or between rocks bearing 700-4,000 eggs per clutch. Males guard unhatched eggs. Young fish remain in upper estuary waters, in shallow areas, for their first year.

Food: Small aquatic invertebrates, insects, and snails. Prickly Sculpin have also been known to dine on the occasional Sockeye Salmon fry.

Notes: The Sculpin family is one of the most taxonomically complex fish, partially due to its highly adaptable nature. Sculpin have the ability to hybridize with other fish sharing similar traits both at and below the species level. In addition, Sculpin display a wide variety of color variation between and within populations

Threespined Stickleback *Gasterosteus aculeatus microcephatus*



Size: Average 56mm in length (short life-span of 3-4 years)

Northwest Status: Native

Habitat: Coastal waters, lakes, rivers, and estuaries.

Distribution: These fish hang around La Center Bottoms but can also be found along the North American Pacific Ocean and Atlantic Coasts, including freshwater inland, European coasts, including freshwater inland, North to the Arctic Circle, Northern Asia, the North Pacific Ocean, and Bering Straits to Korea.

Reproduction: Spring and summer, prefers flowing channels among reeds and rootlet debris. Only 50-100 eggs per clutch (varies according to females' size). 3 week incubation. Young fish live in small companies for their first year in still pools or gently flowing brooks.

Food: Voracious eaters (of other, smaller fish) in aquarium habitats; little is known of their eating habits in the wild.

Notes: The Threespined Stickleback is probably one of the more studied fish due to the males' dominant role in the reproductive processes. The males select a territory to defend from other fish, construct a nest among the reeds using grass, rootlets, and fibers, then proceed to attract females to the nest where they deposit a few eggs each until the nest is full. At which point the male guards the nest from all intruders, including previous mates. The male also fans the eggs with his fins to reduce sticking. After three weeks the eggs hatch and the male is free to leave, though some remain for the first few days of the new fishes' lives.

Redside Shiner *Richardsonius balteatus*
Name translation: after Sir John Richard; girdled



Size: Averages 4-5 inches in length, but can reach 6-7 inches

Northwest Status: Native

Habitat: Prefers ponds, lakes, ditches, springs, sloughs, or rivers with a slow or absent current. This makes La Center Bottoms a good home for these fish. Remains in shallower water by day then returns to deeper waters at night and during the winter.

Distribution: From Northern British Columbia to Southern Oregon, East (and inland) to the Rocky Mountains. Redside Shiner occur throughout the Columbia River drainage and Bonneville Basin.

Reproduction: May to early August (when males turn vibrant crimson and gold). Spawn in groups of 30-40; eggs number 800-3,600 per clutch. Young fish do not mature until their third year.

Food: Fry feed on diatoms, copepods, ostracods, and other small planktonic crustaceans. Mature fish prefer terrestrial and aquatic insects, algae, mollusks, fish eggs (including their own), and small fish.

Notes: A “new” species of shiner (*cheond cooperi*) discovered over 100 years ago was (much) later discovered to be a hybrid cross between the Redside Shiner and Peamouth Chub. Redside Shiners can also breed with Longnose Dace and Northern Pikeminnow.

Northern Pikeminnow *Ptychocheilus oregonensis*

Name translation: folded lip; of Oregon



Size: Averages 30-50 cm in length, 2-5lbs. Maximum recorded size (for lake fish) 25lbs.

Northwest Status: Native

Habitat: Freshwater river systems, interior lakes (only large individuals), and slow moving portions of streams. Small fish and young adults prefer smaller streams.

Distribution: This fish is only found in British Columbia and parts of Washington, which is why its so cool to have them here at La Center Bottoms. They occur in most British Columbia river systems as well as the Columbia and Snake Rivers.

Reproduction: May-July; spawn in shallow gravel riverbeds, along lakeshores or riverbanks. Tend to gather in large numbers. Females spawn with more than one male. Eggs hatch after one week.

Food: These fish are scavengers and eat anything from small insects to large shiners, plankton, and small fish (including salmon fry). Large sized Pikeminnows living off-shore eat *only* other fish.

Notes: The Northern Pikeminnow (also known as the Northern Squawfish) are highly persecuted because they prey fiercely upon small fish, such as young salmon and steelhead. One Northern Pikeminnow can guzzle down as much as 15 salmon smolts a day. Back when the Northwest was home to a larger, healthy salmon population the Pikeminnow—which has always been a voracious eater—was not a threat. However, salmon populations have dwindled to such a point that the loss in numbers to Pikeminnows has become significant. As a result, state organizations now offer a bounty each year of 4-8 dollars per fish caught in an effort to protect dwindling salmon populations.

