Detective Game Answer Sheet

A	Blueweed
B	Canada Thistle
C	Common Tansy
D	Himalayan Balsam
E	Knotweeds
F	Orange Hawkweed
G	Purple Loosestrife
H	Scotch Broom
I	Yellow Flag Iris
J	Spotted Knapweed
K	Zebra and Quagga Mussels
L	Nutria
M	American Bullfrog
N	European Starling
O	Collared Dove
P	White Cloud Mountain Minnow
Q	Yellow Perch
R	Nortehrn Pike
S	Goldfish

Prime Suspect Profile

Blueweed *(Echium vulgare)*

Identification:
- Several tall flower spikes arising from a rosette
- Rosette (leaves on ground) looks like a sun
- Flowers on upper sides of curving stems

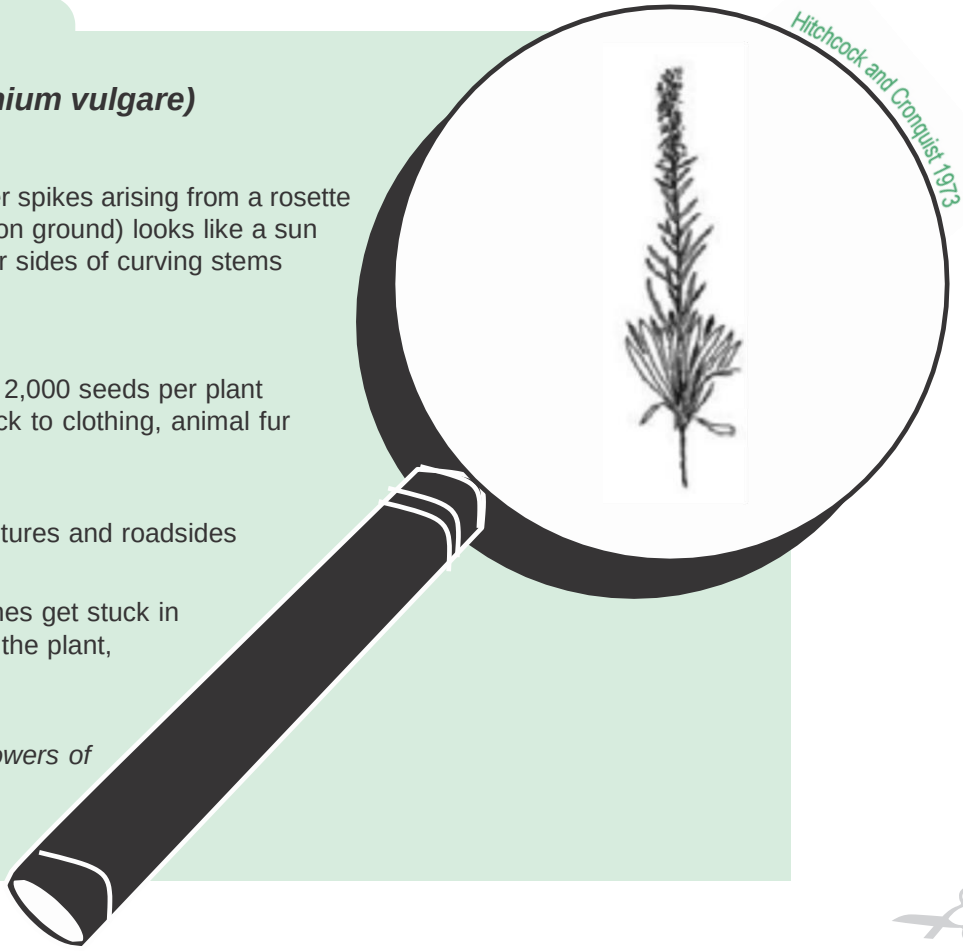
Origin: Europe

Bullying tactics:
- Produces 500 to 2,000 seeds per plant
- Rough seeds stick to clothing, animal fur and feathers

Usual hangouts:
- Rangelands, pastures and roadsides

Scary fact: Sharp spines get stuck in your hand if you touch the plant, just like a cactus

What colour are the flowers of your suspect?



Prime Suspect Mug Shot

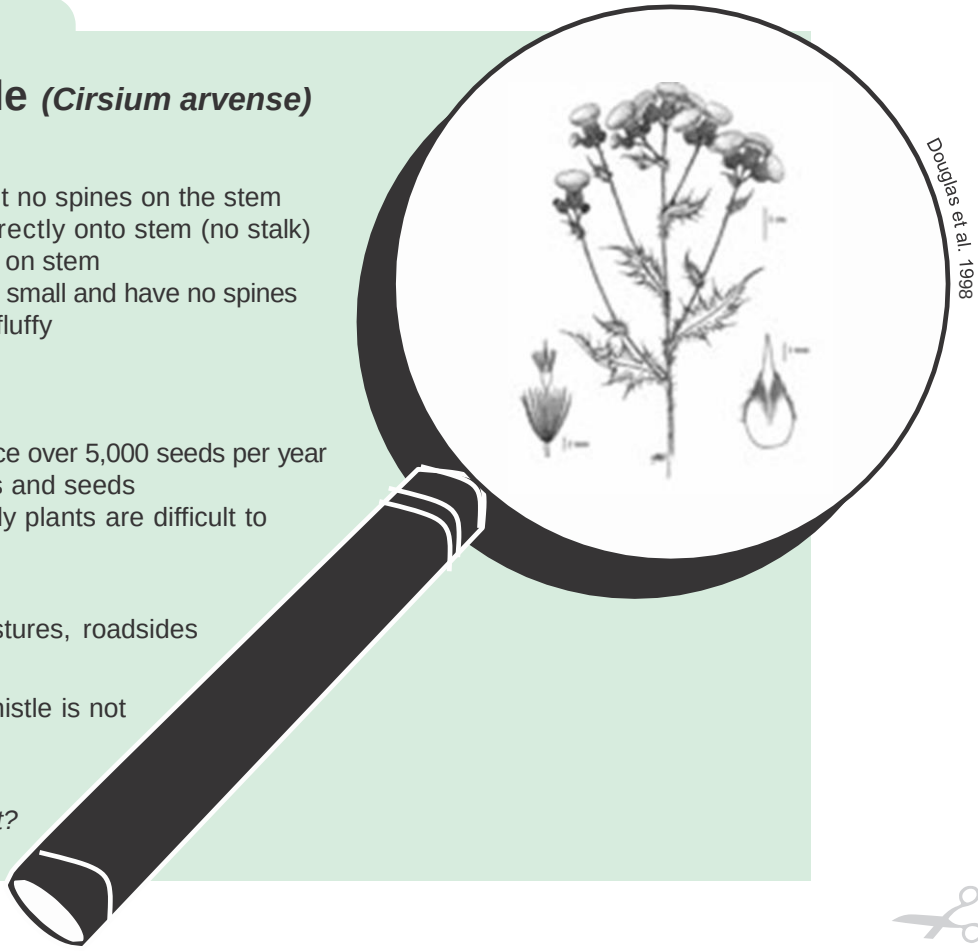
A

© Malcolm Storey

© B. Stewart

Prime Suspect Profile

Canada Thistle *(Cirsium arvense)*



Douglas et al. 1998

Identification:

- Prickly leaves but no spines on the stem
- Leaves attach directly onto stem (no stalk)
- Leaves alternate on stem
- Flower heads are small and have no spines
- Seed heads are fluffy

Origin: Eurasia

Bullying tactics:

- Plants can produce over 5,000 seeds per year
- Spreads by roots and seeds
- Thickets of prickly plants are difficult to walk through

Usual hangouts:

- Rangelands, pastures, roadsides and wetlands

Tricky fact: Canada thistle is not from Canada

What colour are the flowers of your suspect?

Prime Suspect Mug Shot

B

© Ministry of Agriculture and Lands

Prime Suspect Profile

Common Tansy *(Tanacetum vulgare)*

Identification:
- Button-like flowers in a flat-topped cluster at top of plant
- Feathery leaves (made up of leaflets) look fern-like

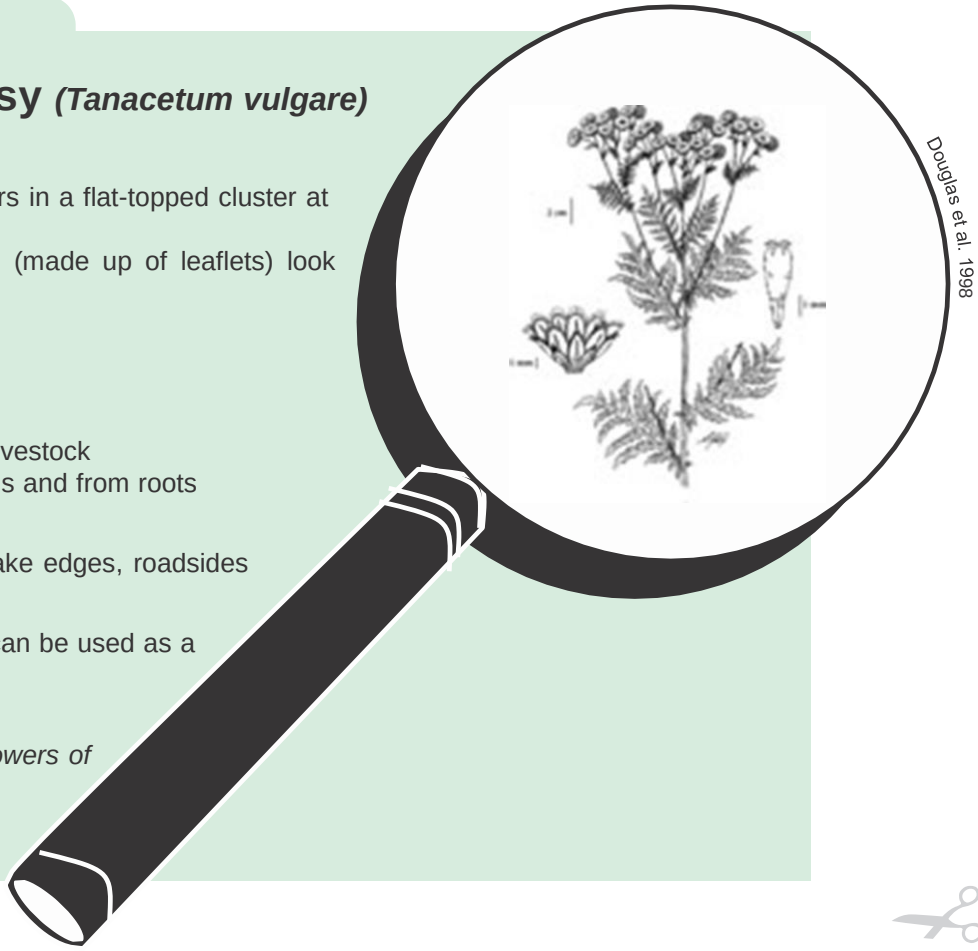
Origin: Europe

Bullying tactics:
- Can be toxic to livestock
- Spreads by seeds and from roots

Usual hangouts:
- Stream banks, lake edges, roadsides and pastures

Cool fact: This plant can be used as a medicine

What colour are the flowers of your suspect?



Douglas et al. 1998

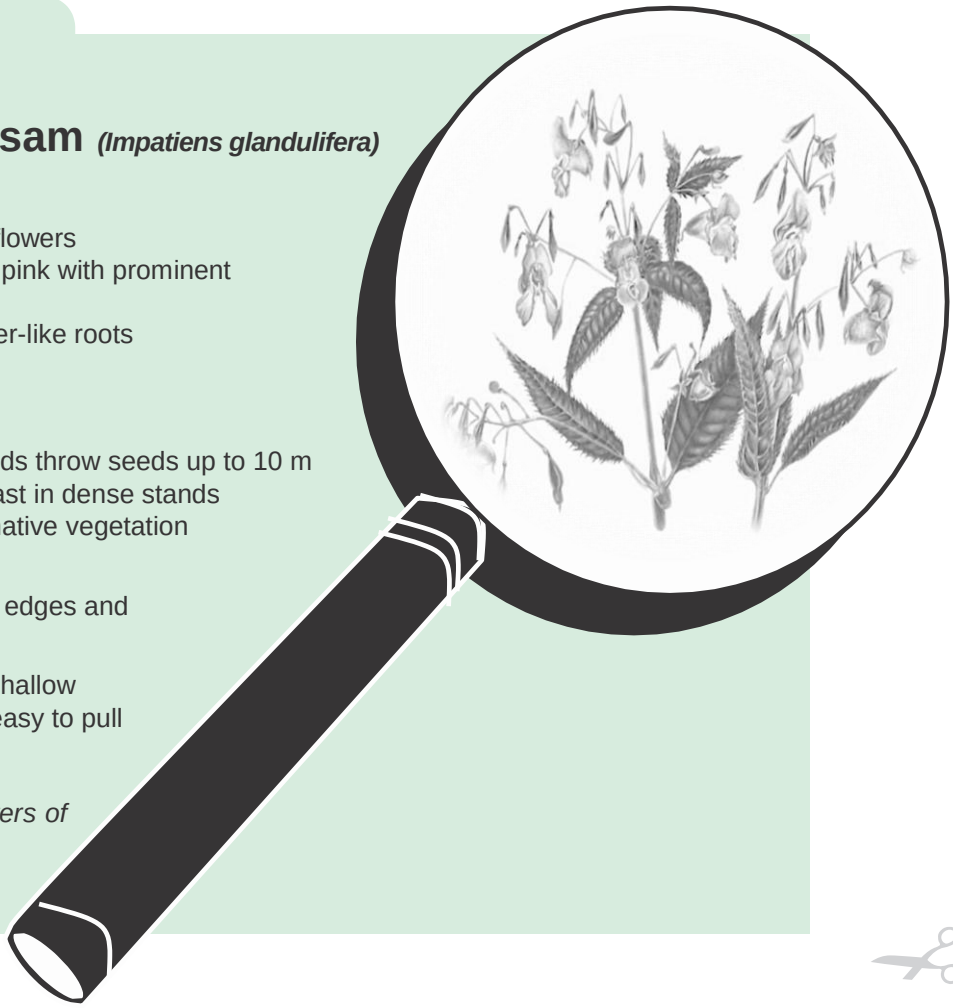
Prime Suspect Mug Shot

C

© Lisa Scott

Prime Suspect Profile

Himalayan Balsam *(Impatiens glandulifera)*



Identification:
- Pretty, orchid-like flowers
- Leaves outlined in pink with prominent pink veins
- Shallow, pink, finger-like roots

Origin: Eurasia

Bullying tactics:
- Exploding seed-pods throw seeds up to 10 m
- Plants grow very fast in dense stands and out compete native vegetation

Usual hangouts:
- Wet areas, stream edges and gardens

Cool fact: Having very shallow roots this plant is super easy to pull out!

What colour are the flowers of your suspect?

D

Prime Suspect Mug Shot

© www.First-Nature.com

Prime Suspect Profile

Knotweed *(Fallopia spp.)*

Identification:
- Very tall stems that look like bamboo (poles)
- Some kinds have very large leaves
- Forms a dense patches

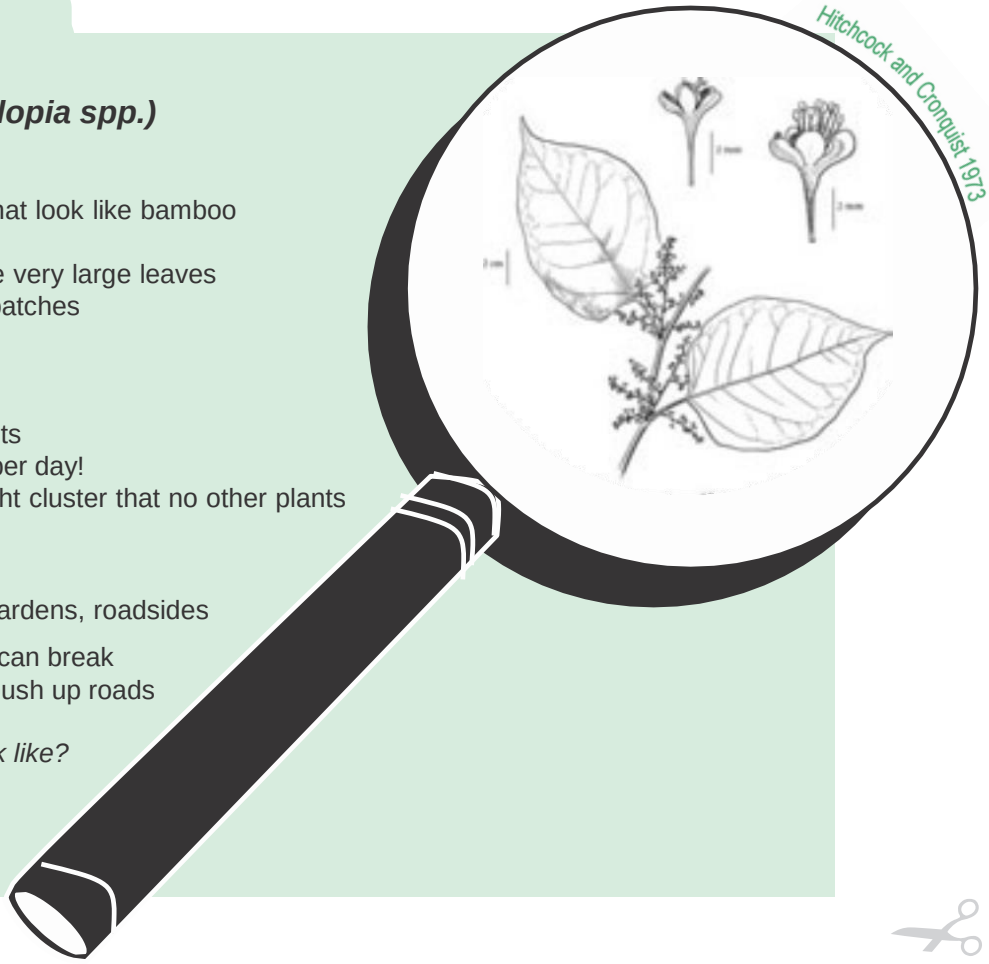
Origin: Eastern Asia

Bullying tactics:
- Spreads by shoots
- an grow at 8cm per day!
- Forms such a tight cluster that no other plants can grow in it

Usual hangouts:
- Stream edges, gardens, roadsides

Scary fact: This plant can break through concrete and push up roads

What do the stems look like?



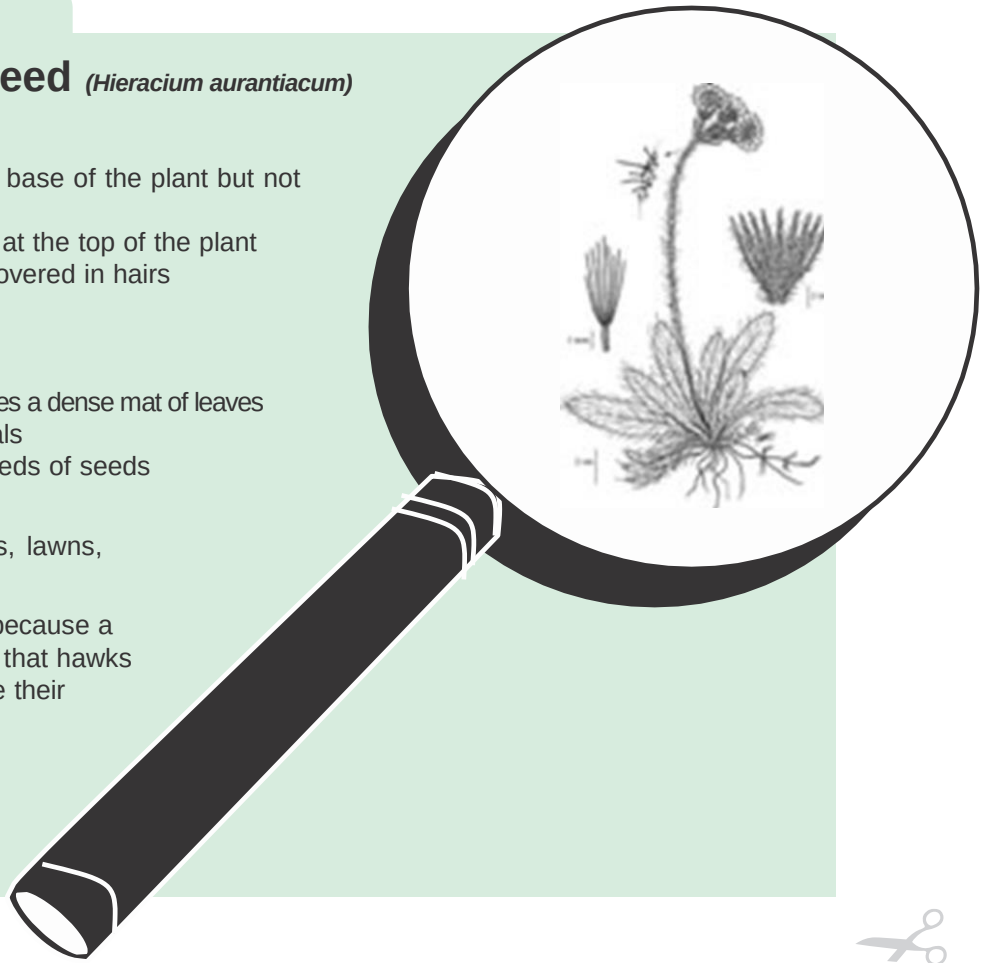
Prime Suspect Mug Shot

E

© Central Kootenay Invasive Plant Committee

Prime Suspect Profile

Orange Hawkweed *(Hieracium aurantiacum)*



Identification:

- Leaves grow at the base of the plant but not up the stem
- A cluster of flowers at the top of the plant
- Leaves and stem covered in hairs

Origin: Europe

Bullying tactics:

- Spreads quickly, makes a dense mat of leaves
- Not edible by animals
- Can produce hundreds of seeds

Usual hangouts:

- Meadows, clearings, lawns, roadsides

Cool fact: Got its name because a Roman naturalist thought that hawks feed on this plant to make their eyesight better

What colour are the flowers of your suspect?

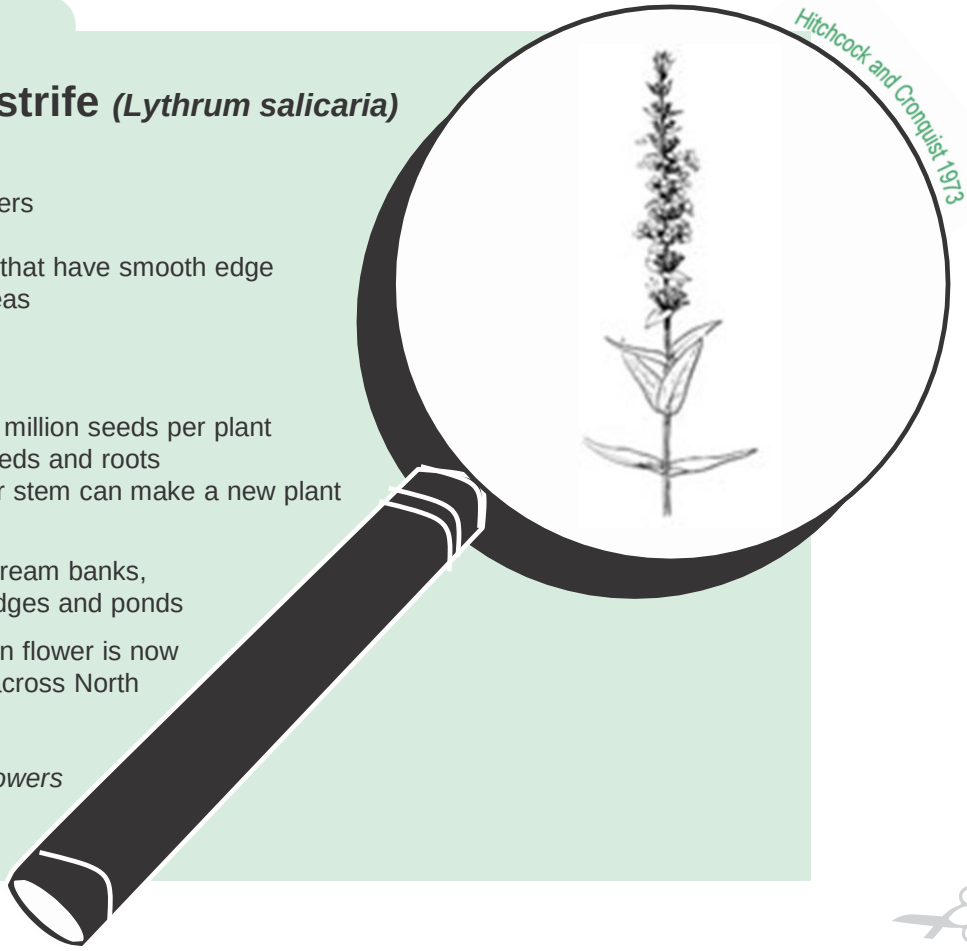
F

Prime Suspect Mug Shot

© Peter M Dziuk

Prime Suspect Profile

Purple Loosestrife *(Lythrum salicaria)*



Identification:
- Tall spike of flowers
- Square stem
- Opposite leaves that have smooth edge
- Grows in wet areas

Origin: Eurasia

Bullying tactics:
- Produces over 2 million seeds per plant
- Spreads from seeds and roots
- A piece of root or stem can make a new plant

Usual hangouts:
- Wet areas like stream banks, marshes, lake edges and ponds

Scary fact: This garden flower is now choking out wetlands across North America

What colour are the flowers of your suspect?

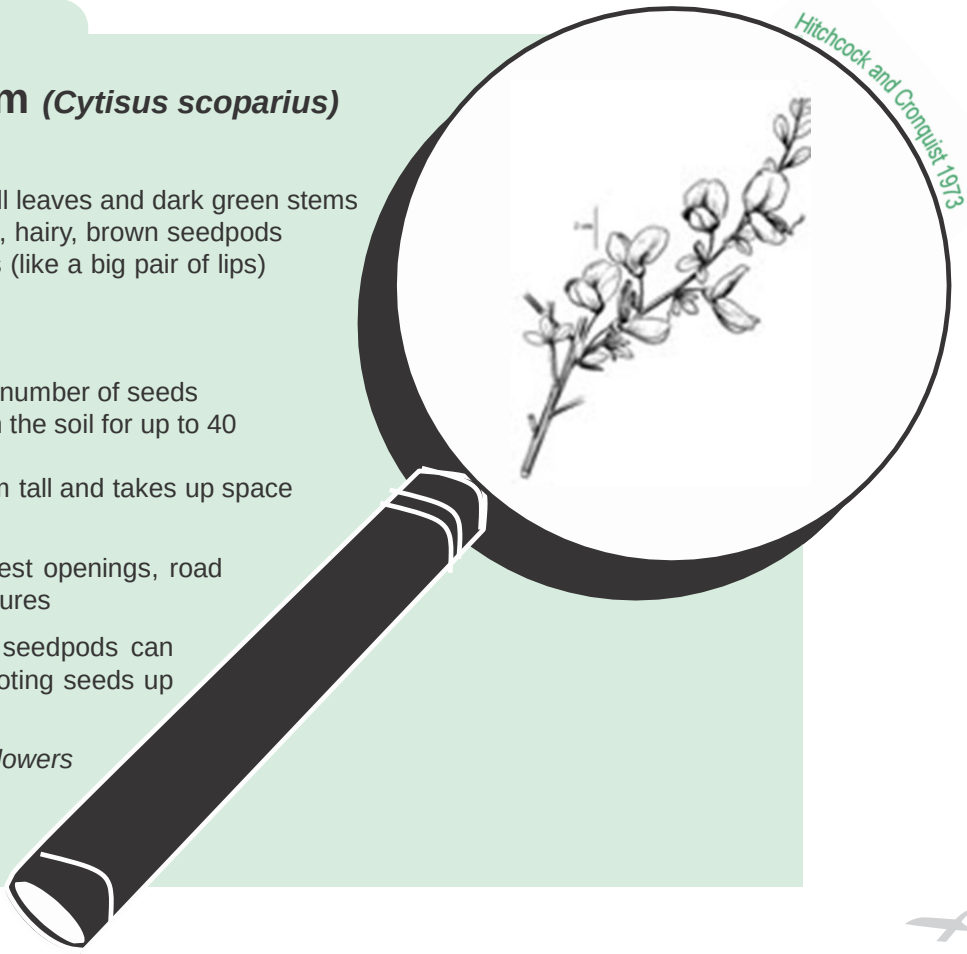
Prime Suspect Mug Shot

G

© Ministry of Agriculture and Lands

Prime Suspect Profile

Scotch Broom *(Cytisus scoparius)*



Identification:

- Shrub with small leaves and dark green stems
- Forms flattened, hairy, brown seedpods
- Pea-like flowers (like a big pair of lips)

Origin: Europe

Bullying tactics:

- Produces large number of seeds
- Seeds persist in the soil for up to 40 years!
- Grows up to 3 m tall and takes up space

Usual hangouts:

- Grasslands, forest openings, road edges and pastures

Scary fact: The dry seedpods can snap explosively, shooting seeds up to 5 m away

What colour are the flowers of your suspect?

Prime Suspect Mug Shot

H

© Ministry of Environment

© Central Kootenay Invasive Species Society

Prime Suspect Profile

Yellow Flag Iris *(Iris pseudacorus)*

Identification

- One big flower on each stalk
- Grows in dense cluster
- Long, blade-like leaves stick straight up
- Grows in water

Origin: Europe and North Africa

Bullying tactics:

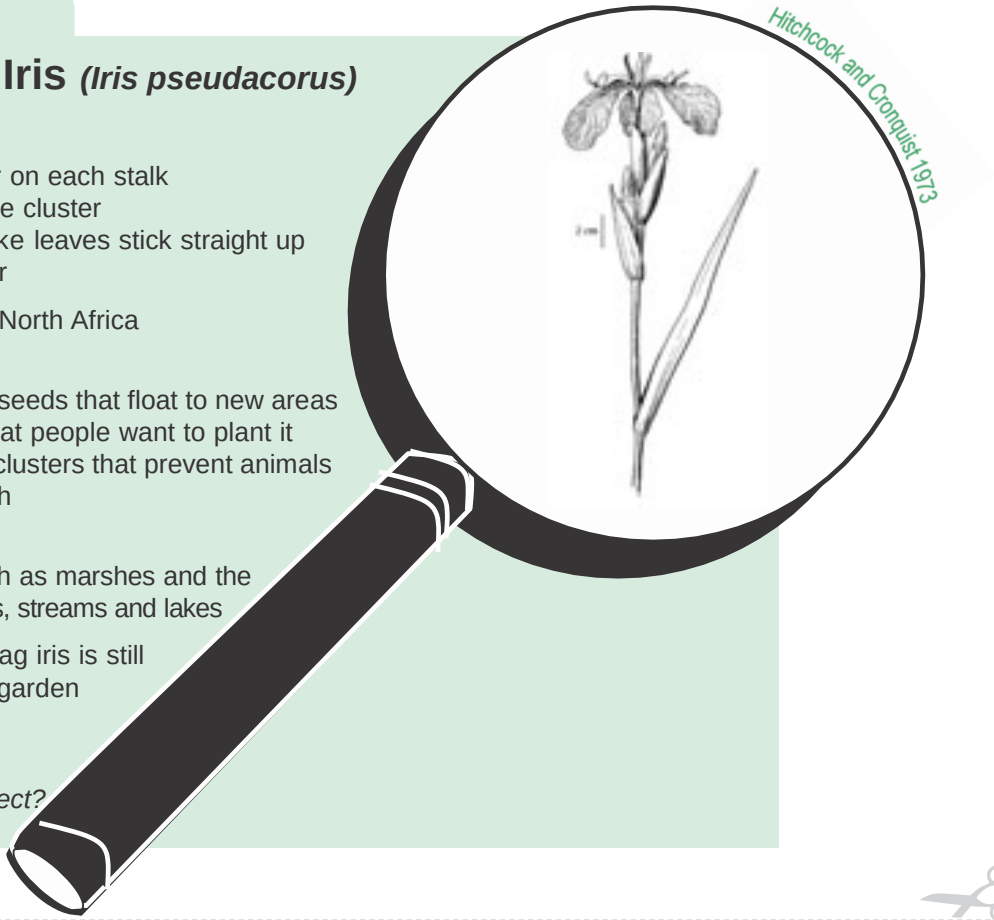
- Spreads from seeds that float to new areas
- So beautiful that people want to plant it
- Forms dense clusters that prevent animals moving through

Usual hangouts:

- Wet areas such as marshes and the edges of ponds, streams and lakes

Scary fact: Yellow flag iris is still being sold by some garden centres

What colour are the flowers of your suspect?



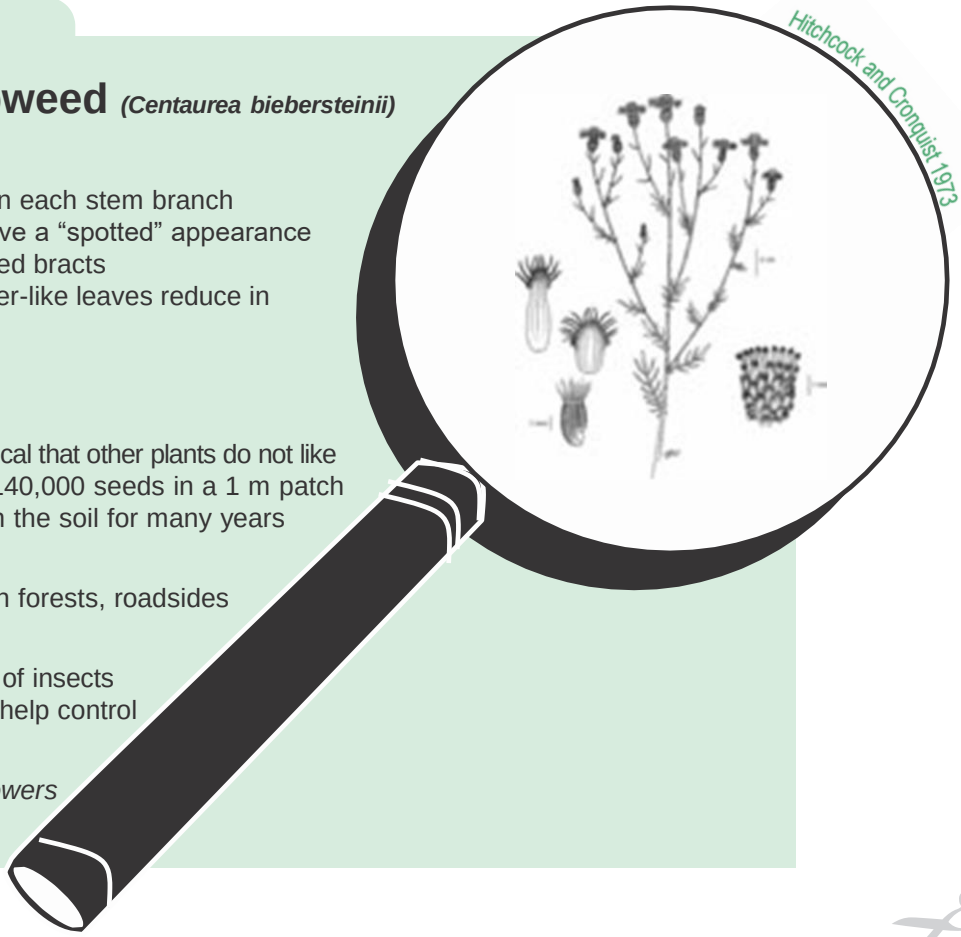
Prime Suspect Mug Shot

I

© Central Kootenay Invasive Species Society

Prime Suspect Profile

Spotted Knapweed *(Centaurea biebersteinii)*



Identification:

- A single flower on each stem branch
- Flower heads have a “spotted” appearance due to black tipped bracts
- Blue green feather-like leaves reduce in size up the stem

Origin: Europe

Bullying tactics:

- Produces a chemical that other plants do not like
- Produces up to 140,000 seeds in a 1 m patch
- Seeds can last in the soil for many years

Usual hangouts:

- Grasslands, open forests, roadsides and fields

Cool fact: Many kinds of insects have been released to help control this plant

What colour are the flowers of your suspect?

J

Prime Suspect Mug Shot

© Ministry of Agriculture and Lands

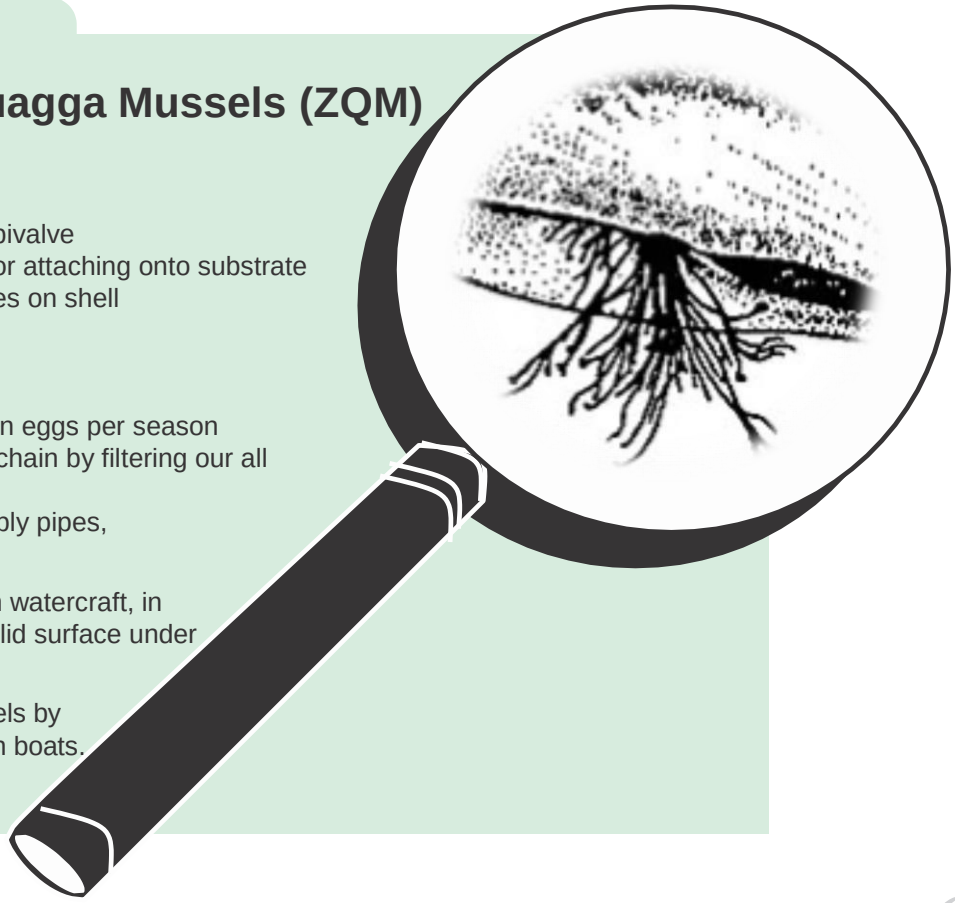
© Minnesota Department of Agriculture

© Gary Fewless

Prime Suspect Profile

Zebra and Quagga Mussels (ZQM)

(Dreissena Spp)



Identification:

- A small clinging bivalve
- Bissell threads for attaching onto substrate
- Often have stripes on shell

Origin: Europe

Bullying tactics:

- Produces 1 million eggs per season
- breaks the food chain by filtering our all available food
- Clogs water supply pipes,

Usual hangouts:

- In freshwater, on watercraft, in pipes, on any solid surface under the water

Scary fact: Often travels by road, as a hitchhiker on boats.

What do ZQM eat?

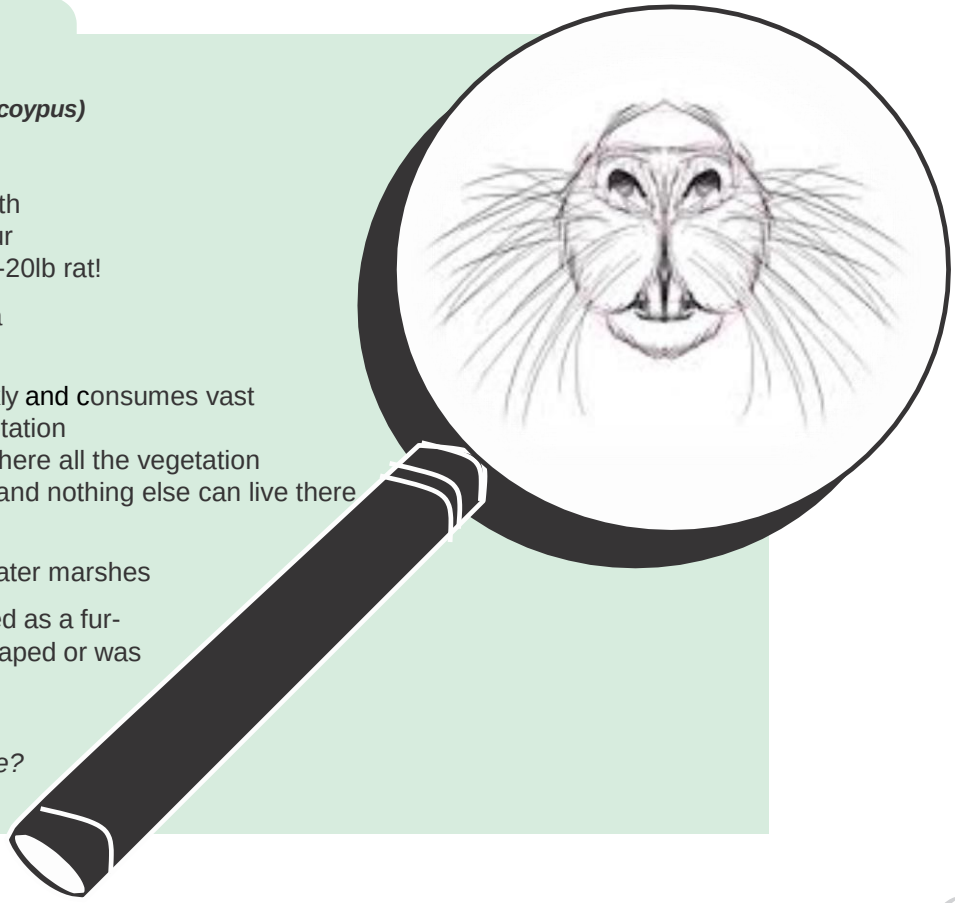
Prime Suspect Mug Shot

K

© Government of Alberta

Prime Suspect Profile

Nutria *(Myocastor coypus)*



Identification:

- Long orange teeth
- Shaggy brown fur
- Resembles a 15-20lb rat!

Origin: South America

Bullying tactics:

- Breeds very quickly and consumes vast amounts of vegetation
- Creates areas where all the vegetation has been eaten and nothing else can live there

Usual hangouts:

- Mainly in freshwater marshes

Sad fact: Was imported as a fur-bearing animal but escaped or was let loose.

Where are nutria native?

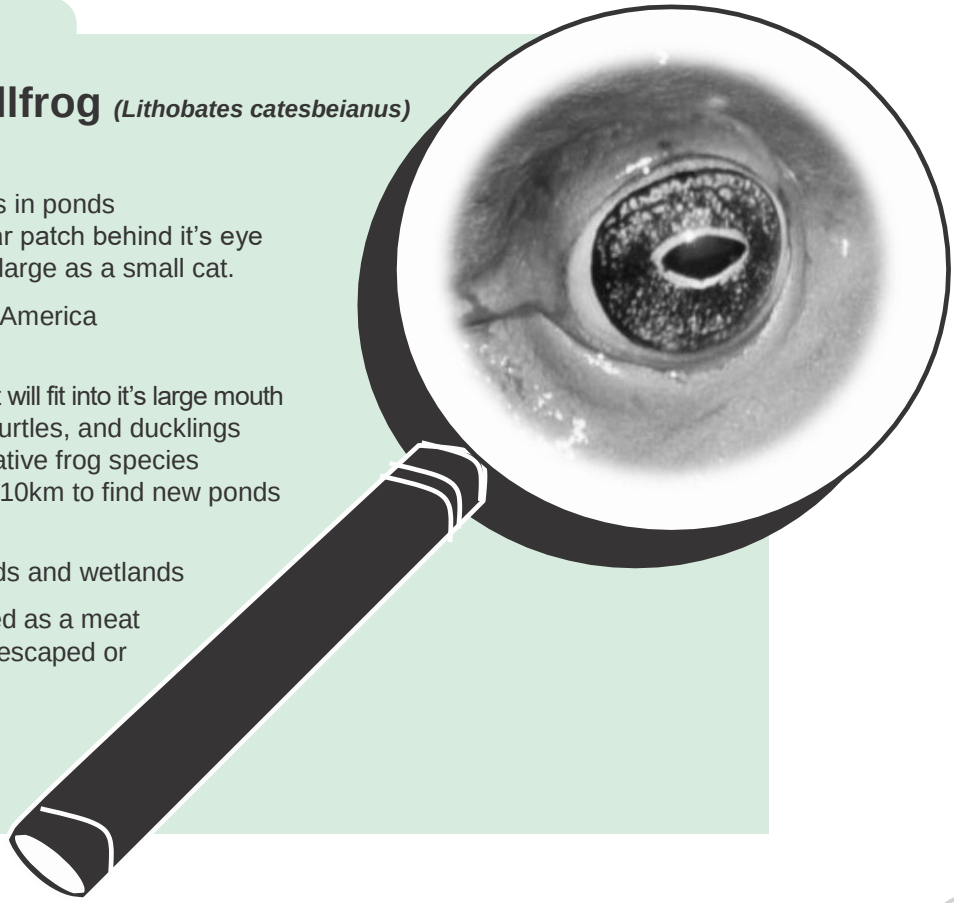
Prime Suspect Mug Shot

L

© Creative Commons

Prime Suspect Profile

American Bullfrog *(Lithobates catesbeianus)*



Identification:

- Lives and breeds in ponds
- Has a circular ear patch behind it's eye
- Can become as large as a small cat.

Origin: Eastern North America

Bullying tactics:

- Eats anything that will fit into it's large mouth including frogs, turtles, and ducklings
- Out competes native frog species
- Can travel up to 10km to find new ponds

Usual hangouts:

- Terrariums, ponds and wetlands

Sad fact: Was imported as a meat producing species but escaped or was let loose.

What do they eat?

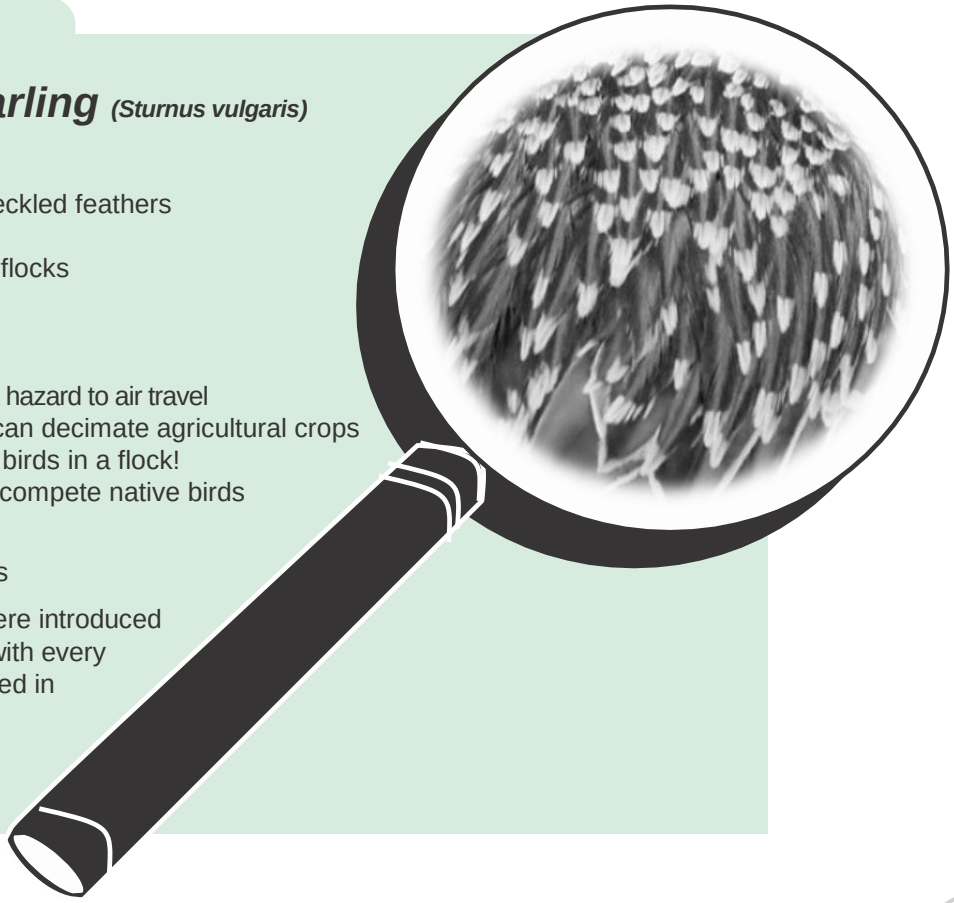
Prime Suspect Mug Shot

M

© Invasive Species Council of BC

Prime Suspect Profile

European Starling *(Sturnus vulgaris)*



Identification:

- Glossy black speckled feathers
- Yellow beak
- Gathers in huge flocks

Origin: Europe

Bullying tactics:

- Large flocks are a hazard to air travel
- Large numbers can decimate agricultural crops
- Up to 1.5 million birds in a flock!
- Aggressively outcompete native birds

Usual hangouts:

- Agricultural lands

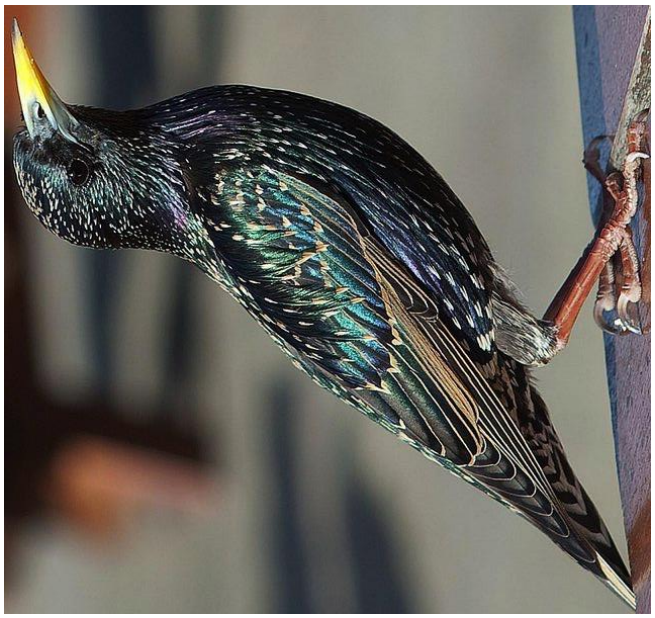
Cool fact: Starlings were introduced to Central Park along with every other creature mentioned in Shakespearean works!

How many in a flock?

Prime Suspect Mug Shot

N

© John Holms



© The Spruce

Prime Suspect Profile

Collared Dove *(Streptopelia decaocto)*

Identification:
- Black collar and beige plumage and red eyes
- Likes to hang out in a crowd
- Makes a pigeon-like cooing sound

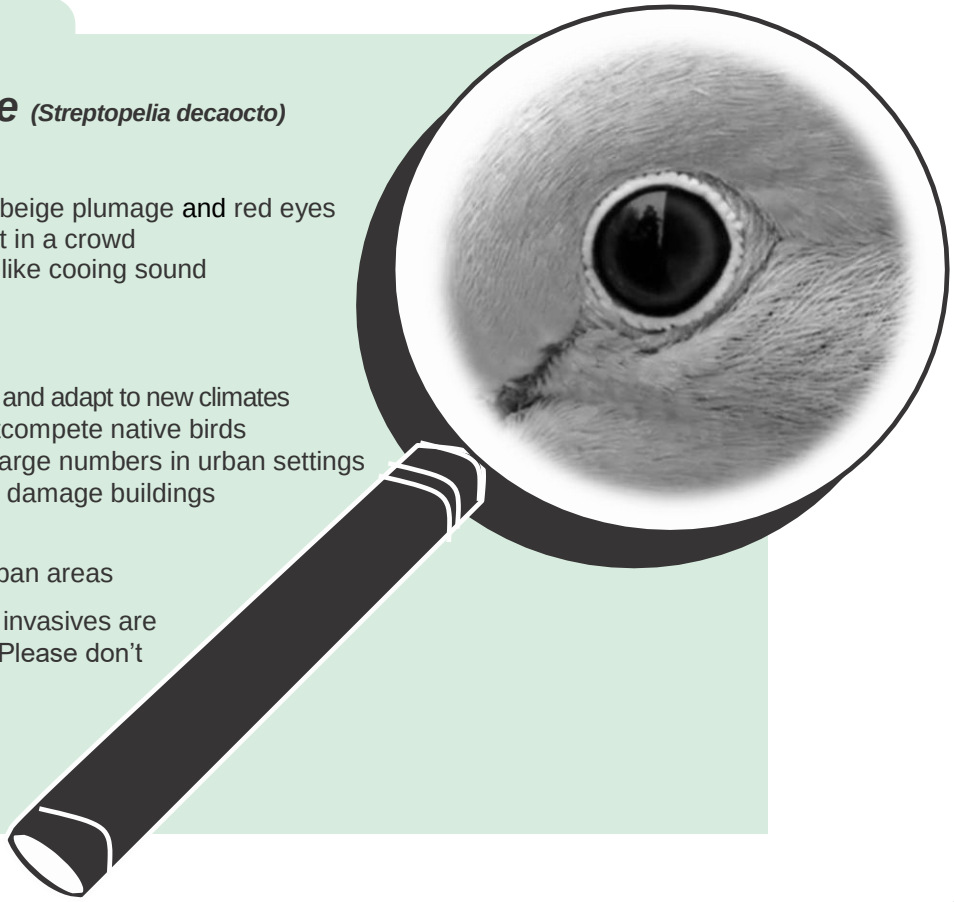
Origin: Europe

Bullying tactics:
- Able to breed fast and adapt to new climates
- May begin to outcompete native birds
- Congregates in large numbers in urban settings
- Acidic droppings damage buildings

Usual hangouts:
- Buildings and urban areas

Worrying fact: These invasives are still sold in pet shops! Please don't buy one!

How can they cause damage to buildings?



Prime Suspect Mug Shot

O

© Brian Sullivan

© Bird-B-Gone

Prime Suspect Profile

White Cloud Mountain Minnow

(Tanichthys albonubes)

Identification:

- Small size (3-4 cm)
- Iridescent with pink and black stripe on side and red patch on tail, nose and fins
- White tips on fins

Origin: China

Bullying tactics:

- May carry parasites and diseases
- Eats out food reserves so other species starve

Usual hangouts:

- Aquariums and cold water lakes

Worrying fact: These invasives are still sold in pet shops! Please don't buy, or dump them into the wild!

How do these get into our waterways?

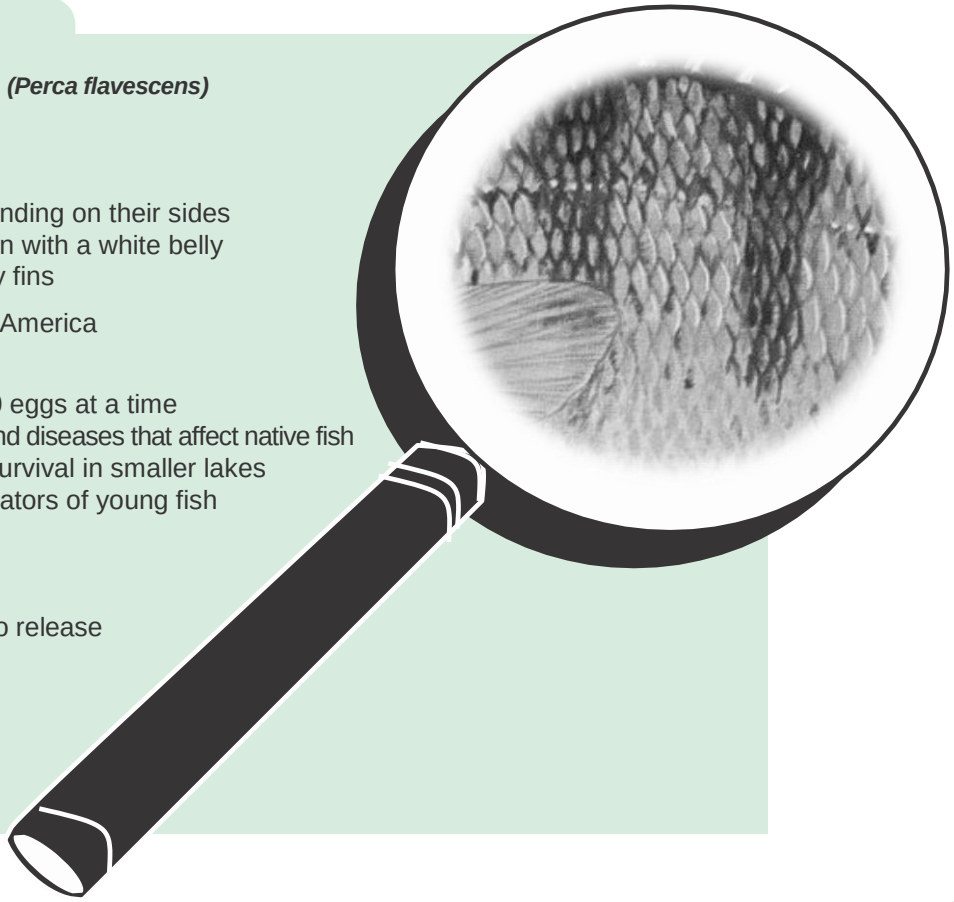
Prime Suspect Mug Shot

P

© Govt. W. Australia

Prime Suspect Profile

Yellow perch *(Perca flavescens)*



Identification:

- Two dorsal fins
- Strong colour banding on their sides
- Yellow and brown with a white belly
- Yellow front belly fins

Origin: Eastern North America

Bullying tactics:

- Lay up to 15,000 eggs at a time
- Carry parasites and diseases that affect native fish
- Impact salmon survival in smaller lakes
- Are serious predators of young fish

Usual hangouts:

- Lakes and rivers

Cool fact: It is illegal to release Yellow Perch in BC

How many eggs can a female lay?

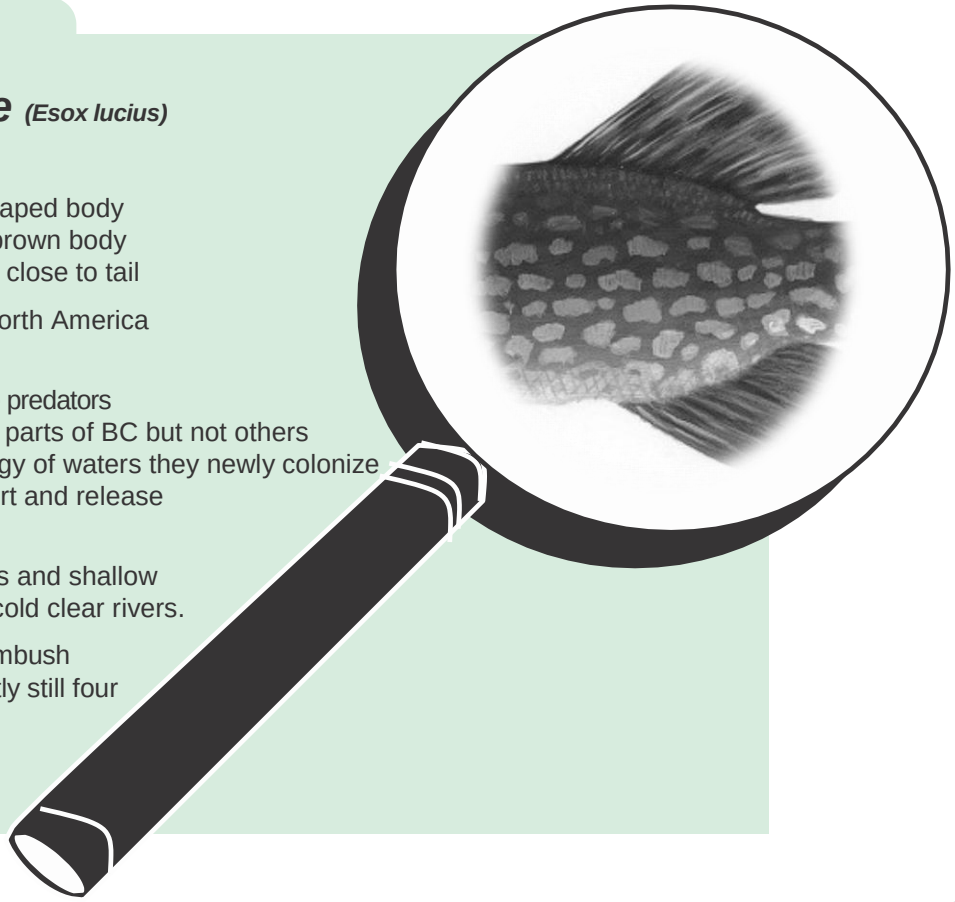
Prime Suspect Mug Shot

Q

© Wiki Commons

Prime Suspect Profile

Northern Pike *(Esox lucius)*



Identification:
- Long torpedo-shaped body
- White spots on brown body
- Dorsal (back) fin close to tail

Origin: Eurasia and North America

Bullying tactics:
- Large aggressive predators
- Present in some parts of BC but not others
- Can upset ecology of waters they newly colonize
- Illegal to transport and release

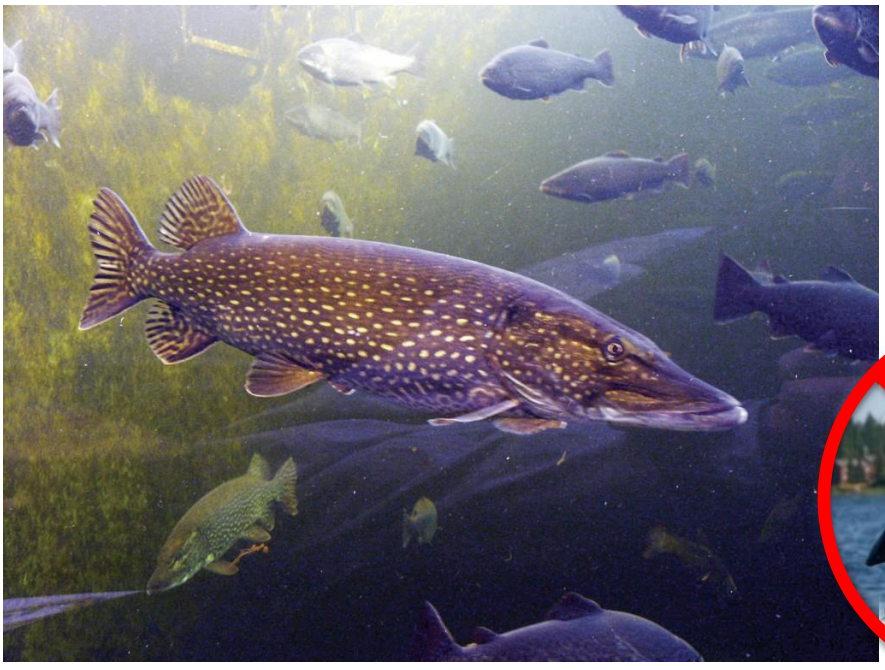
Usual hangouts:
- Sluggish streams and shallow weedy lakes to cold clear rivers.

Cool fact: They are ambush predators, lying perfectly still four hours waiting for prey.

Why should you not transport these fish?

Prime Suspect Mug Shot

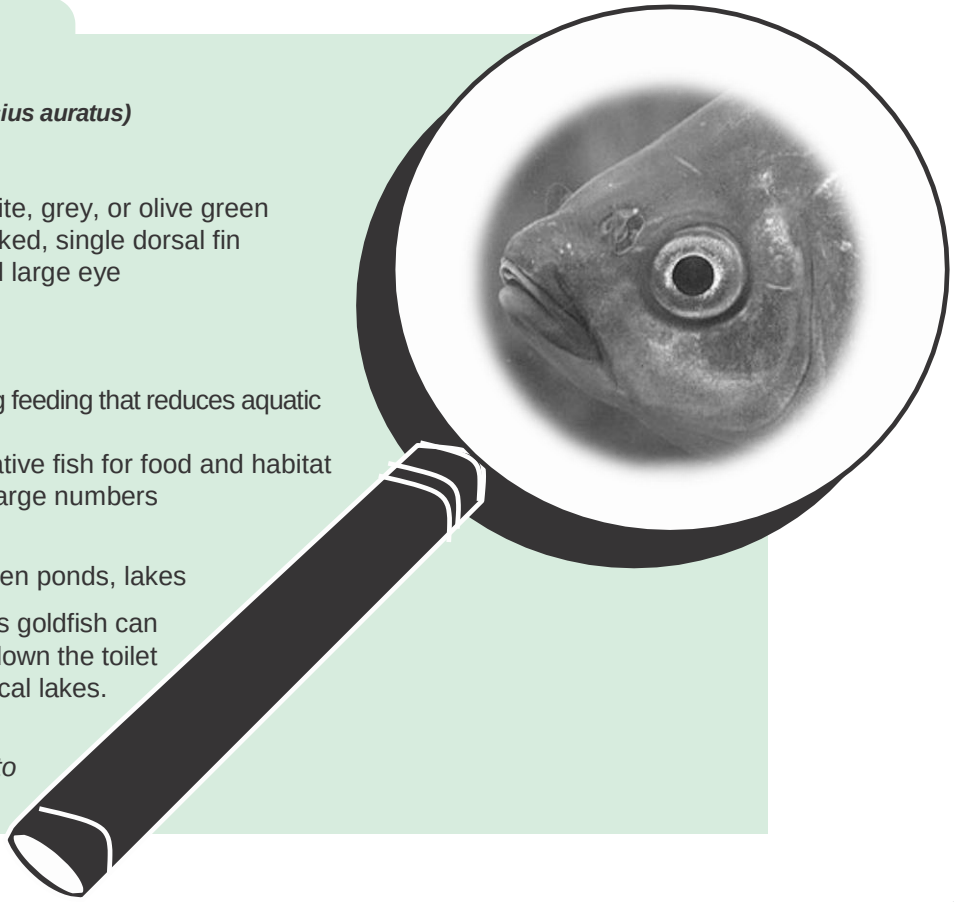
R



© Georg Mittenecker

Prime Suspect Profile

Goldfish *(Carassius auratus)*



Identification:

- May be gold, white, grey, or olive green
- Tail is deeply forked, single dorsal fin
- Small mouth and large eye

Origin: East Asia

Bullying tactics:

- Stir up mud during feeding that reduces aquatic plant productivity
- Compete with native fish for food and habitat
- Can multiply to large numbers

Usual hangouts:

- Aquariums, garden ponds, lakes

Scary fact: Sometimes goldfish can survive being flushed down the toilet and end up infesting local lakes.

How do goldfish get into lakes?

Prime Suspect Mug Shot

S

© B. Albert - USGS