

NAME: _____

YOU DON'T KNOW INVASIVES!!

2009

- 1 – The Delaware National Estuarine Research Reserve consists of reserves protecting two Delaware rivers' estuaries. Which ones?
 - a) St. Jones
 - b) Mispillion
 - c) Christiana
 - d) Broadkill
 - e) Blackbird Creek
- 2 – True or False: The Delaware National Estuarine Research Reserve is entirely publicly-owned land.
- 3 – True or False: The loss of diversity associated with invasive *Phragmites* affects both native plants and animals.
- 4 – Which three of the following are the chairs of the National Invasive Species Council?
 - a) Lisa Jackson – Administrator of the Environmental Protection Agency
 - b) Ken Salazar – Secretary of the Interior
 - c) Hillary Clinton – Secretary of State
 - d) Gary Locke – Secretary of Commerce
 - e) Tom Vilsack – Secretary of Agriculture
 - f) Kathleen Sebelius – Secretary of Health and Human Services
- 5 – Why are firefly populations declining?
- 6 – The water hyacinth in a one-acre infestation would weight:
 - a) 500 lbs
 - b) 10,000 lbs
 - c) 20 tons
 - d) over 100 tons
- 7 – Most (22%) non-native aquatic species in the U.S. came from which continent?
 - a) Europe
 - b) China
 - c) Africa
 - d) South America
 - e) Asia
- 8 – Which of the following can be introduced to new areas by movement of firewood?
 - a) Asian Longhorned Beetle
 - b) Beach Bark Disease
 - c) Emerald Ash Borer
 - d) Oak Wilt Disease
 - e) Sirex woodwasp
 - f) Gypsy Moth
- 9 – Stems of which two of the following provide shelter for cavity-nesting native bees (multiple answers)?
 - a) Aster
 - b) Phragmites
 - c) Joe Pye Weed
 - d) Maple

10 – USDA and state departments of agriculture use quarantines to restrict the movement of invasive plant pests (insects, diseases, and weeds) and their host plants from infested to non-infested areas of the country. Which statement(s) about quarantines is (are) true.

- a) Host plants can move out of quarantined areas if they have been inspected and found pest-free by a government inspector.
- b) Host plant movement is restricted year-round regardless of pest biology.
- c) Invasive pests/host plants may move freely since quarantines are an educational tool with no legal authority.
- d) Host plants can move out of quarantined areas if they have are shipped by a someone who has signed a USDA compliance agreement.
- e) Movement of host plants out of quarantined areas is completely prohibited.

11 – What is the name of the USDA’s sustainable landscape demonstration that surrounds the USDA headquarters in Washington, DC and includes organic crops, native ornamentals, pollinator and rain gardens, and reclaimed materials?

- a) The Sustainable Landscape Initiative
- b) Watch It Grow!
- c) The Peoples Garden
- d) Healthy Landscapes

12 – Which pesticide, currently being used to treat trees with woodboring beetle infestations, also may be a cause of honeybee colony die-offs, and has been banned by several European countries?

- a) Carbaryl – a carbamate
- b) Bifenthrin – a pyrethroid
- c) Diflubenzuron – an insect growth regulator
- d) Imidacloprid – a neonicotinoid

13 – According to the book, “*Tinkering with Eden*” (Kim Todd, 1970), farmers have fought European Starlings in their fields with helium balloons, roman candles, rockets, whirling shiny objects, explosions of propane gas, airplanes, and firecrackers blasted from 12-gauge shotguns. Why did Eugene Schieffelin bring starlings to the U.S. in 1890?

- a) He wanted to see the birds from Shakespeare’s works in Central Park.
- b) Their small size makes them challenging and exciting to hunt.
- c) He wanted to hear their song on evening walks.
- d) He thought their feathers would make great pillows.

14 – Many plants can inhibit the growth or seed germination of nearby plants. This is called:

- a) Phytocide
- b) Allelopathy
- c) Herbipathy
- d) Phytophanere

REVIEW SECTION

The next two questions are review questions from the 2007 and 2008 quizzes.

15 – Garlic mustard (*Alliaria petiolata*) was brought to the U.S. by mid-19th century immigrants because...

- a) It was a traditional remedy for colds.
- b) It grew quickly, providing feed for livestock in early spring.
- c) It provided an early source of vitamin C rich greens after the long winter.
- d) It was a prized garden plant that escaped cultivation.

16 – Of 235 woody plants known to invade natural areas in the United States, what percent were introduced for agricultural vs. ornamental uses?

Source: S. Reicherd & F. Campbell. "Invited but Unwanted", *American Nurseryman*, 1996.

- a) 3% agriculture / 95% ornamental
- b) 68% agriculture / 31% ornamental
- c) 14% agriculture / 85% ornamental
- d) 45% agriculture / 54% ornamental

MISTAKEN IDENTITIES

Many invasive plants look similar to related native plants. Proper identification is needed to distinguish these from their native counterparts in landscape and wild settings. From each pair, circle the native's set of characteristics.

		Characteristic Set A	Characteristic Set B
17	Invasive: Japanese Honeysuckle Native: <i>Native twining honeysuckles</i>	Leaves distinct. Flowers along length of stem. Ripe fruit black.	Last leaf pair fused. Flowers at end of vine. Ripe fruit red.
18	Invasive Phragmites Native <i>Phragmites</i>	Stem is shiny and smooth. Sheaths of overwintering plants pull away from stem easily.	Stem is dull and slightly ridged. Sheaths of overwintering plants not easily pulled from stem.
19	Invasive: Porcelain-Berry Native: Native Grape	Mature vine bark does not peel. Stem pith white. Fruit white, turning purple, with white flesh	Mature vine bark peels in narrow strips. Stem pith brown. Dark fruit with watery flesh.
20	Invasive: White Mulberry Native: Red Mulberry	Leaves usually shiny, undersides not hairy – except veins. Fruit white to black. Winter buds 3-4cm long.	Leaves usually dull, undersides hairy. Fruit purplish-black. Winter buds 5-8cm long.
21	Invasive: Norway Maple Native: Sugar Maple	Leaf has 3-5 major veins and rounded teeth. Clear or no sap where petiole is removed from stem. Samara wings bent down.	Leaf has 5-7 major veins and very pointed teeth. Milky sap where petiole is removed from stem. Samara wings spread 180°.

EXTRA CREDIT

Write a haiku about an invasive plant.

Reminder – a haiku is a poem in three lines with exactly 5 – 7 – 5 syllables. For example...

Tasty wineberry

Orange-red fruit, birds spread seeds.

Forest invader

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