



# Pond and Stream Mats: Enhancements for Aquatic Education Activities



**Description:** Two four-color drawings of a pond and stream with a set plastic fish that can be placed in their appropriate habitats. Dry erase markers can also be used on the mats. Each is approximately 3 x 6 feet so they are large enough for several students to gather round. PDF files for the mats can be downloaded and projected on a whiteboard or smart board. (<http://www.iowadnr.gov/Portals/idnr/uploads/education/pondmat.pdf>; <http://www.iowadnr.gov/Portals/idnr/uploads/education/streammat.pdf>)

**Locations:** Check with you local county conservation board. A set of 2 mats , including fish, is available for purchase at a cost of \$150 from the Aquatic Education Program.

**Activities:** Mats can be used to introduce, reinforce, or assess understanding of ecological concepts covered in other aquatic education activities including *Aquatic WILD* (AW), *Project WILD* (PW), *Fish Iowa!* (FI), and Growing Up WILD (GUW).

Topic	Related Activities	Mat		Suggested Use
		Stream	Lake	
Adaptations	General activity	X	X	Use mats to show how adaptaions help fish and other aquatic animals survive in their habitat.
	Fashion a Fish (AW)	X	X	Have students place the fish they designed on a mat while they describe it and its adaptations.
	<i>Fish Iowa!</i> Manual - Unit #2: Fish Senses and Characteristics (Narrative - General Characteristics)	X	X	Use mats to show where various fish species live in aquatic habitats based on their adaptations.
	Hiding in Plain Sight (GUW)	X	X	Use mats to adapt the activity to aquatic animals. Add "cover" to the mat and show where/how animals can hide in the water from predators.
	Which Niche? (PW)	X	X	Use a mat as the visual stimulus (step 3 of the activity). Have a variety of animals on the mat. Continue the acvitiy using these animals.
	Who Fits Here? (PW)	X	X	Use the mat as the ecosytem in the evaluation portion of this activity.
Biodiversity	General activity	X	X	Add a variety of species to a mat (both plant and animal) using pictures, toys or drawings to show the variety of animals that live in aquatic habitats.
	Edge of Home (AW)	X	X	Use mats to illustrate what an ecotone is. Have students draw bordering ecosystems on a mat or newsprint laid next to a mat. Draw/talk about what ecosystems might neighbor the waterbody and what the ecotones would be.
	<i>Fish Iowa!</i> Manual - Unit #4: Baits and Lures (Narrative - Aquatic Ecosystems)	X	X	Place aquatic species where they would be found in lakes and streams to illustrate the biodiversity of aquatic ecosystems.
	Pond Succession (AW)		X	Use the mat as a visual to introduce the idea of succession. Have students draw on the mat to illustrate pond succession.
	Water Canaries (AW)	X	X	Use mats to review data. Each aquatic species can be placed on the mat where it most likely would be found.
	Wildlife Water Safari (GUW)	X	X	Use mats to represent the water map to illustrate/record the water safari. Add animals, etc. to mats to show what you saw. Showcase the variety of animals that live in aquatic habitats.

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Fishing	Aqua Words (AW)	X	X	Have students write down words associated with fishing, fish, etc. and add them to a mat. Discuss the words.
	Fashion a Fish (AW)	X	X	Have students place the fish they designed on a mat while they describe it and its adaptations.
	Fishable Waters (AW)	X	X	Use the mats to represent the urban waterway in the game.
	Fishing Fun (GUW)	X	X	Place fish (drawings or toys) on the mats where each lives. Using velcro or magnets on fish pictures and "poles," have children "fish" in the pond or stream mat.
	<i>Fish Iowa!</i> Manual - Unit #1: Introduction to Fishing (Narrative - Aquatic Habitats)	X	X	Use mats to show various places to fish in a lake, pond, or stream. Draw in lake zones and stream regions and discuss how they relate to where fish are found.
	Fishy Who's Who (AW)	X	X	Use mats as a visual representations of local habitats. Add local habitat features. After they have done their research, have students place their species of fish on a mat in the appropriate location.
	Riparian Retreat (AW)	X		Once students have done the simulated field trip, use the mat and have then add what they saw (draw in plants, animals, etc.).
Habitat	Aqua Charades (GUW)	X	X	Use mats as a visual while talking about water and how wildlife use water. Add your own water pictures or poetry to the mats.
	Aqua Words (AW)	X	X	Have students write down words associated with aquatic habitats and species that live there. Add the words to the mat(s). Discuss the words and their meanings.
	Blue Ribbon Niche (AW)	X		Use a dry erase marker to add grasses, marsh/wetlands, and forests to the mat.
	Changing the Land (PW)	X		Use the mat to represent Wood Thrush Creek. Use dry erase markers to draw changes over time.
	Designing a Habitat (AW)	X	X	Students can use the mat as the artificial habitat. They can add things their animal would need to survive by using drawings, pictures, or models/toys.
	Dragonfly Pond (AW)		X	Use the mat as the "base map" for the activity.
	Edge of Home (AW)	X	X	Use mats to illustrate an ecotone. Have students draw bordering ecosystems on a mat or added newsprint. Draw/talk about what ecosystems might neighbor each waterbody and what the ecotones would be.

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<b>Habitat (continued)</b>	<i>Fish Iowa!</i> Manual - Unit #1: Introduction to Fishing (Narrative - Aquatic Habitats)	X	X	Draw in lake zones and stream regions to show the various habitats used by fish.
	Fishy Who's Who (AW)	X	X	Use mats as a visual representation of local habitats. Add local habitat features. After they have done their research have, students place their species of fish on the mat(s) in the appropriate location .
	Pond Succession (AW)		X	Use the mat as a visual as you introduce the idea of succession. Have students use the mat to draw pond succession.
	Riparian Retreat (AW)	X		Once students have done the simulated field trip, use the mat and have students add what they saw (draw in plants, animals, etc.).
	What's That Habitat (PW)	X	X	Draw what is needed to make a habitat for each animal. Identify what the animal needs to make this its home.
	Which Niche? (PW)	X	X	Use mats as the visual stimulus (step 3 of the activity). Have a variety of animals on a mat. Continue the activity using these animals.
	Wildlife Water Safari (GUW)	X	X	Use mats to represent the water map to illustrate/record your water safari. Add animals, etc. to mats to show what you saw.
<b>Identification</b>	<i>Fish Iowa!</i> Manual - Unit #2: Fish Senses and Characteristics (Narrative - General Characteristics and Fish Families) and Fish ID Posters	X	X	Laminate fish from ID posters and have students place fish species where they would be found in lakes or streams.
	Fishy Who's Who (AW)	X	X	After students have done their research, have them place their species of fish on the mat(s).
	Water Canaries (AW)	X	X	Use mats to review species identification. Each aquatic species can be placed on the mat(s) where they most likely would be found.
<b>Land Use</b>	Blue Ribbon Niche (AW)	X		Use a dry erase marker to add grasses, marsh/wetlands, and forests to the mat. Draw in possible changes (farms, exotic plant introduction, livestock, channelization) and their potential effects on the habitat.
	Changing the Land (PW)	X		Use the mat to represent Wood Thrush Creek. Use dry erase markers to draw changes over time.
	Dragonfly Pond (AW)	X	X	Use the mats as the "base map" for the activity.
	<i>Fish Iowa!</i> Manual - Unit #1: Introduction to Fishing (Narrative - Iowa's Fishery)	X	X	Use mats to illustrate different land use practices around fisheries in Iowa. Draw representations of fisheries management practices (such as habitat enhancement projects).

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Land Use (continued)	Riparian Retreat (AW)	X		Once you have completed the simulated field trip, have students add what they saw to the mat (draw in plants, animals, etc.). Discuss land use in riparian areas and draw in possible changes to the stream based on land uses.
	Riparian Zone (PW)	X		In the "Optional" procedure use the mat as the site map. On procedure step 6, use dry erase markers to illustrate the land use plan. In step 9, add photos or draw in plans for the riparian zone.
	Watered Down History (AW)	X	X	Use the mats as the "base map" for the activity. Add historical events and current events that may have affected, or currently affect the water body. Use mats to illustrate changes to a water body over time.
Water Quality	Aqua Charades (GUW)	X	X	Use mats as a visual while talking about water and how wildlife use water. Add your own water pictures or poetry to mats.
	Blue Ribbon Niche (AW)	X		Use a dry erase marker to add grasses, marsh/wetlands, and forests to the mat. Draw in possible pollution sources and their potential effects on habitats.
	Fishable Waters (AW)	X	X	The urban waterway in the game can be represented by the mat.
	<i>Fish Iowa!</i> Manual - Unit #1: Introduction to Fishing (Narrative - Fishery Problems)	X	X	Use mats to show effects of channelization and other practices that affect water quality. Draw these practices on the mat with dry erase markers. Use cocoa powder or powdered drink mix to illustrate pollution and run-off.
	Water Canaries (AW)	X	X	Use mats as a visual as you discuss water quality.