WETLANDS

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4th Period

03/24/14

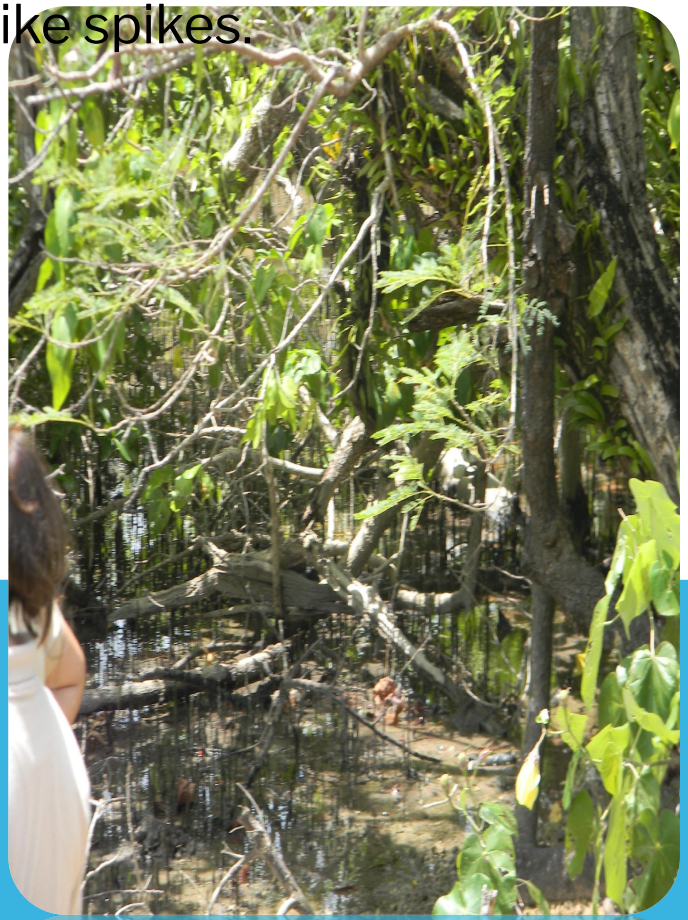
Since 1900, half of the world's wetlands have disappeared. Development is still one of the major threats to wetlands.

LAND FEATURES

1. One type of land feature that wetlands have is a swamp. A wetland swamp ecosystem is characterized by mineral soils with poor drainage and by plant life controlled by trees.
2. a bog is a type of wetland ecosystem characterized by wet, spongy, poorly drained peaty soil, influenced by the growth of bog mosses.
3. A marsh is a type of wetland ecosystem characterized by poorly drained mineral soils and by plant life controlled by grasses. Marshes are usually at the mouth of a river, especially where extensive deltas have been built.
4. Another type of wetland ecosystem is a fen. It is characterized by peaty soil, mostly mad of grass like plants, grasses, sedges, and reeds. Fens are rather than acid areas, receiving water mostly from surface and

Land Features

A lot of trees are growing around the trees. It looks like a fen, a bog and a swamp. It looks like a fen because it has little pieces of grass coming out of it. It looks like a bog because, similar to a fen, it has small shrubs near it. Wetlands are considered a swamps. There are different swamps, such as shrub swamps, mangrove swamps, and forested swamps. The picture looked like all of them. It had trees, shrubs and pneumatophores. Pneumatophores are straw-like spikes.



POPULATIONS OF ORGANISMS
COMMUNITY OF 9 POPULATIONS

Producers – 1. eat tall and other water pants 2. paper birch and other trees

Primary consumers - 1. mallard 2. muskrat

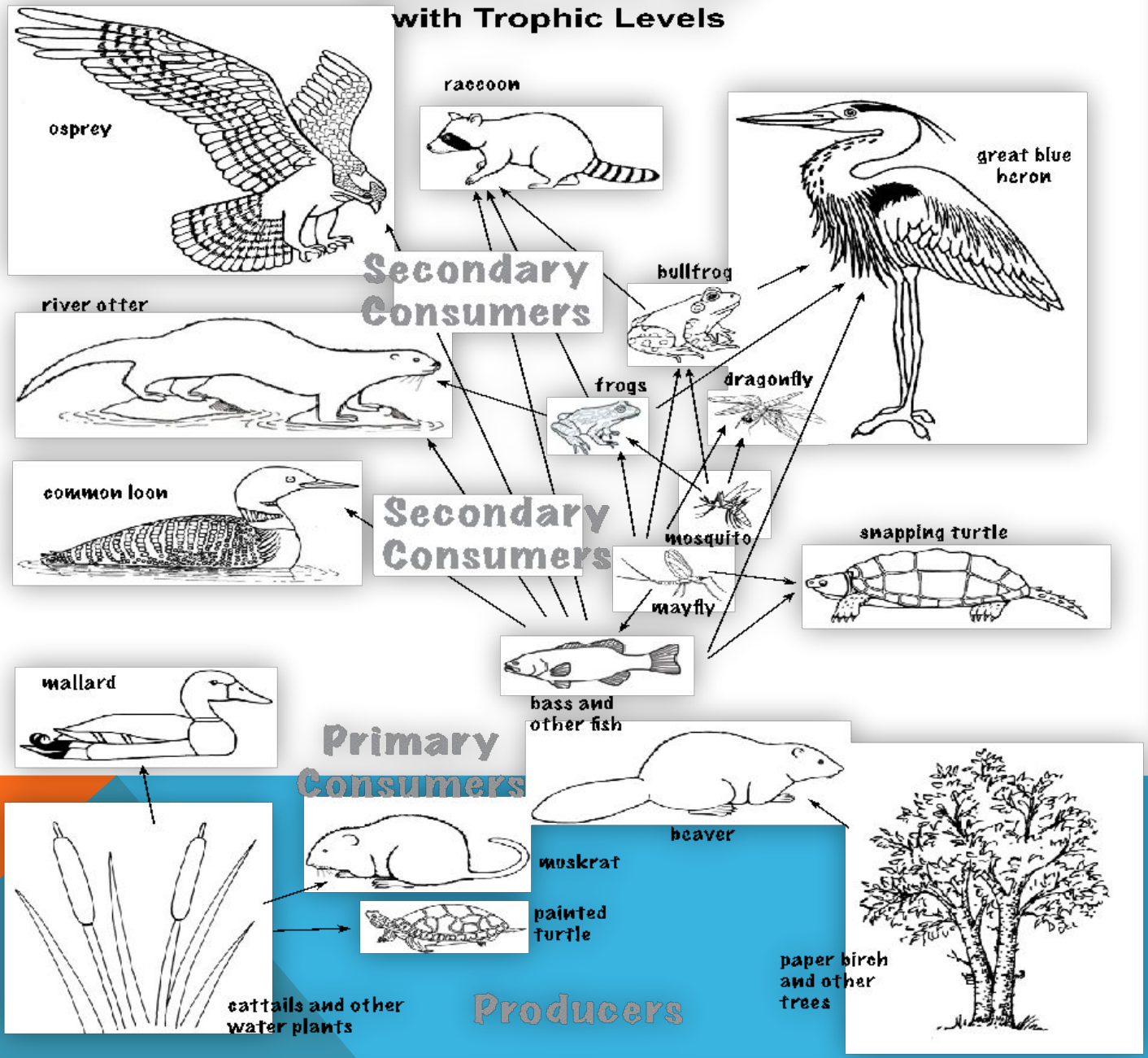
3. Painted turtle 4. beaver

Secondary Consumers– 1. ospre

2. Raccoon 3. great blue heron

4. River otter 5. frogs 6. bullfrog 7. dragonfly 8. mosquito 9. common loom 10. bass and other fish 11. mayfly 12. snapping turtle

Wetland Food Web
with Trophic Levels



PROBLEM

1. **Floodplain Development is one of the threats to wetlands. It removes vegetation, and fills or drains wetlands for building sites.**

2. **Many wetlands have been drained to make agricultural lands because they have flat areas of rich organic soil.**

OBSERVATION

It looked really dirty and really small. As you look along it, some of it is dried up. When I went on the field trip, I noticed a lot of agricultural lands and a few wetlands. So, I wondered if the agricultural lands were wetlands before. I also saw some that were

HYPOTHESIS

If development is a major threat since 1900, then majority of wetlands disappear because of development.

Bird population from 2011 to 2012

	SPECIES	2012	2011	% CHANGE FROM 2011	% CHANGE FROM LTA
	Mallard	10.602	9.183	+15	+40
	Gadwall	3.586	3.257	+10	+96
	American wigeon	2.145	2.084	+3	-17
	Green-winged teal	3.471	2.900	+20	+74
	Blue-winged teal	9.242	8.948	+3	+94
	Northern shoveler	5.018	4.641	+8	+111
	Northern pintail	3.473	4.429	-22	-14
	Redhead	1.270	1.356	-6	+89
	Canvasback	0.760	0.692	+10	+33
	Scaup	5.239	4.319	+21	+4
	Total Ducks	48.575	45.554	+7	+43
	May Ponds (U.S. & CAN)	5.544	8.132	-32	+9

Numbers in millions

FACTS

1. Wetlands are one of the most useful ecosystems on earth. They prevent flooding by holding water like sponges.
2. Wetlands are like filters because they purify or clean surface water
3. Wetlands keep rivers at normal levels. They release water into river if they need it.

4. Protecting Michigan's Wetlands

Michigan's wetland statute, Part 303, Wetlands Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, defines a wetland as "land characterized by the presence of water at a frequency and duration sufficient to support, and that under normal circumstances does support, wetland vegetation or aquatic life, and is commonly referred to as a bog, swamp, or marsh." The definition applies to public and private lands regardless of zoning or ownership.

State and Federal State Regulation

5. The Michigan legislature passed the Geomare-Anderson Wetlands Protection Act, 1979 PA 203. It is now Part 303, Wetlands Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA), in 1979.

In accordance with Part 303, wetlands are regulated if they are any of the following:

- ❑ **Connected to one of the Great Lakes or Lake St. Clair.**

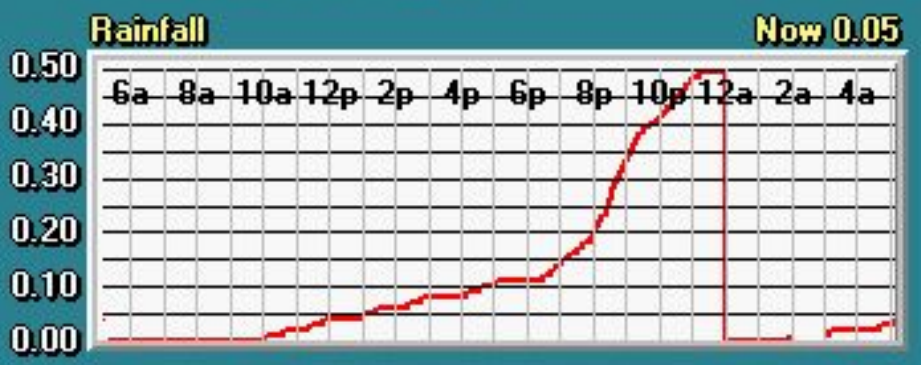
Located within 1,000 feet of one of the Great Lakes or Lake St. Clair.

- ❑ **Connected to an inland lake, pond, river, or stream.**
- ❑ **Located within 500 feet of an inland lake, pond, river or stream.**
- ❑ **Not connected to one of the Great Lakes or Lake St. Clair, or an inland lake, pond, stream, or river, but are more than 5 acres in size.**
- ❑ **Not connected to one of the Great Lakes or Lake St. Clair, or an inland lake, pond, stream, or river, and less than 5 acres in size, but the DEQ has determined that these wetlands are essential to the preservation of the state's natural resources and has notified the property owner.**

5.

Rainfall

Sunday, March 09, 2014 05:10 AM



Since midnight	0.05 In
Last 24 hours	0.54 In

This Month

This Month at the Preserve	2.77 In
Average Monthly Rain to Date	1.23 In *
Monthly Rainfall Surplus/Deficit	1.54 In

Current rainfall rate

0.08 In/Hr

Water Year

Our Water Year goes from Oct. 1 to Sep. 30

Water Year at the Preserve	14.96 In
Average Water Year to Date	27.06 In *
Water Year Surplus/Deficit	-12.10 In

Calendar Year

Calendar Year at the Preserve	10.83 In
Average Calendar Year to Date	11.88 In
Calendar Year Surplus/Deficit	-1.05 In

* Average rainfall values are based on rainfall data collected at Hillsboro Airport 1948-1998

CONCLUSION

Yes my data supported my hypothesis.

Wetlands loss from the mid-1950□s to the mid-1970□s was mostly from agricultural conversion (87%), urban development (8%), and other development (5%).

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