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Intro

Jerrin: Welcome to CAM 7 Special Report where the environment comes first. This Jerrin with my co-anchor Hannah.

Hannah: Hello

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J: Today we are here with a special report about The East Fork Lewis River at Lewisville Park. We will begin with a report by Maddy on the stream conditions.

H: We also have a report by Rahul on OWEB.

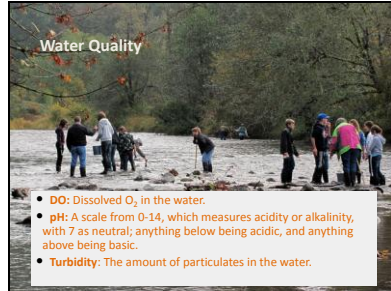
J: Then we will conclude with an interview by Lauren and she will be talking to Ben about the River Continuum and the Functional Feeding Groups.

H: Lewisville Park is located just north of Battle Ground and it is a county park.

J: Lewisville Park is popular for walking, picnics, swimming, sports, and fishing.

H: Don't forget macro collecting!

J: Now we will go to Maddy to fill us in about the stream conditions at The East Fork at Lewisville Park.



Maddy's Speech

M: Thank you Jerrin. Maddy here, with a special report on the stream conditions of the East Fork Lewis River.

Over the past 8 years our stream has been in great condition! First, let's start with the dissolved oxygen. The D.O. is the oxygen that macroinvertebrates and fish obtain underwater. They need oxygen to survive as most living things do! Over the past years, our D.O. has been on average 9.5 parts per million, which is very good.

Now let's cover pH. pH is the acidity or alkalinity of the stream. It is very important for the pH to be close to neutral, which is 7.0. If the water is too acidic or too alkaline, it can be harmful to macros and fish. The best range on the pH scale for most aquatic organisms is between 6.5 and 8.5. Our average over the past 8 years is 7.6, which is again excellent!

Turbidity, which is the clarity of the water, has always remained less than 5 NTU. This shows that the river has stayed clear.

As you can see, stream conditions at the East Fork of the Lewis River are doing great. The dissolved oxygen, pH and turbidity data all fit within the Washington State's 1998 Double-A classification -- the highest rating for surface water. And, we are prepared to help keep that up!

Now back to you Hannah!

Transition One

H: That was very interesting, Maddy. It is good to know that the stream conditions at the East Fork Lewis

River are doing great. Don't you think so, Jerrin?

J: Yes. Yes, it is!

H: Now we have another special report from Rahul about the OWEB test scores.

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Rahul's Speech

R: Thanks, Hannah.

What is the OWEB? Well, first of all, it stands for Oregon Watershed Enhancement Board. And, it's a helpful way for telling the health of a stream by looking at the macroinvertebrates that live there. The OWEB score comes from combining the following six factors:

Taxa Richness - the total number of macroinvertebrate families found in the sample

Mayfly Richness - the total number of mayfly families found in the sample

Stonefly Richness - the total number of stonefly families found in the sample

Caddisfly Richness - the total number of caddisfly families found in the sample

% Diptera - total number of true flies in the sample divided by the total number of macros

% Dominance - total number of the three most abundant organisms divided by the total number of macros

If we combine all the data, the average OWEB score for the East Fork Lewis River at Lewisville Park, as collected by CAM 7 students since 2006, is 24.5. Based on the OWEB scoring guide, that would mean the stream condition is: **No Impairment**. This isn't always the case, however. There have been a few times that the OWEB score has been below 23, which indicates **Moderate Impairment**. So, continued monitoring of the river is important to make sure the water quality doesn't get worse.

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Transition Two

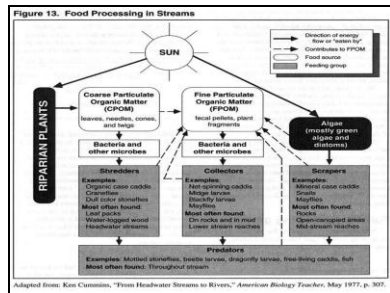
J: So Rahul, you are saying the water quality based on OWEB scores is good with no consistent impairments?

Rahul: Yes, that's right.

H: Well, that's good news for people who visit Lewisville Park – like the fisherman in the photo.

J: Now we will go to Lauren for a special interview with stream specialist Ben Howard about Functional Feeding Groups and his take on the River Continuum at Lewisville Park.

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Lauren/Ben's Speech

L: Thank you, Jerrin. I'm here live with Benjamin Howard, an esteemed scientist who specializes in the study of functional feeding groups and the river continuum, and frequently tests at the East Fork Lewis River. Tell me, Mr. Howard, what ARE functional feeding groups?

B: That's a good question! FFG's are a way of classifying macroinvertebrates based on what they eat. There are four main FFGs: shredders, collectors, scrapers, and predators.

L: So what do these groups eat?

B: Well, let's start with shredders. True to their name, these guys shred and eat organic matter, like leaves, wood, needles, and fruits. The shredder group consists mainly of stonefly and caddisfly larvae.

L: What do collectors eat then?

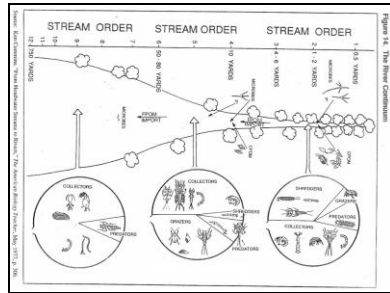
B: Collectors feed on particles of organic matter less than 1 millimeter in diameter. Collectors can be divided into two new groups: filterers and gatherers. Filterers include blackfly larvae and freshwater clams, while some examples of gatherers are mayfly nymphs and beetle and fly larvae.

Scrapers eat algae and other materials from rocks and other stream surfaces. This group consists of certain mayfly larvae, caddisflies, and snails.

L: Let me see... that just leaves predators, right?

B: Correct, indeed. Predators are the ones who capture other live organisms to eat. They too can be divided into two groups: piercers, which suck the body fluids from their prey, and engulfers, who eat their prey whole. Some predators are crane fly, dragonfly, damselfly, and stonefly larvae.

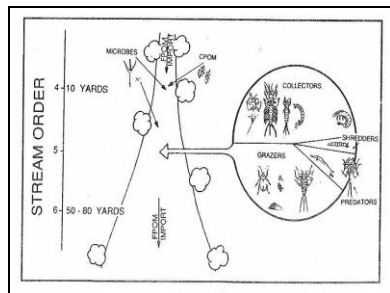
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L: Good to know. So, tell me about the river continuum.

B: Well, the river continuum describes biological communities in a stream that change in a somewhat predictable pattern. It splits rivers into three parts: headwaters, mid reaches, and large rivers. The stream width of the East Fork at our testing site is about 53 yards. That means we are testing on a mid reach section in the river continuum.

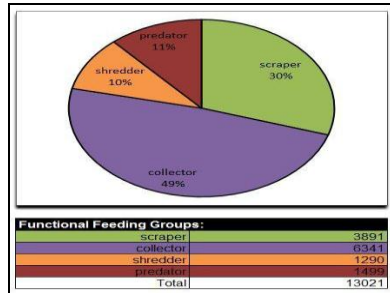
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L: So, Mr. Howard, how does the Functional Feeding Groups and River continuum match up for the East Fork Lewis River at Lewisville Park?

B: They match up very well, Lauren. A mid reach stream has an open canopy with enough sunlight and not too much depth. This permits more algae growth in the stream for scrapers and reduces the amount of leaf material for shredders.

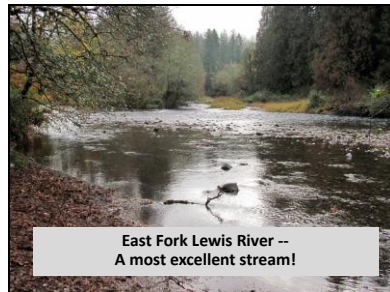
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B (continued): Our total results since 2006 shows the following distribution - collectors, scrapers, predators, and shredders. This is consistent with the model for the River Continuum. If the results didn't match, we need to ask the question, "Why?" As it is, everything looks fine and we find a look of interesting macros.

L: Well, there we have it. Thank you, Mr. Howard. Back to you, Hannah.

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Closing

J: Thank you, Lauren, for that insightful interview, and Mr. Howard, for taking time from your busy schedule to talk to us about the River Continuum and Functional Feeding Groups at Lewisville Park.

H: It appears that the stream conditions for the East Fork Lewis River at Lewisville Park are great, which is comforting news. Maddy's report shows the water quality for pH, DO, and water temperature were all in the State's AA standards. Rahul's report on OWEB shows that the stream is excellent with no consistent impairments, according to the macro's analysis. Lauren's interview with Ben Howard told us the functional feeding groups are consistent with the mid reaches of the river continuum.

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J: Thank you for tuning in; this has been CAM 7: Special Report -- where the environment comes first.