



## Fish finders

### Lesson 2: Smelt

#### Data Sheet (Key)

Use water temperature and discharge data and what you know about smelt --- to answer the following questions

You are planning a smelt dip-netting trip in the Salmon Trout River in Michigan's Upper Peninsula. Use what you know about the relationship between smelt spawning, weather and water temperatures to plan your trip.

1. The best time to dip-net smelt is when they move from lakes to tributaries to spawn. Smelt spawn in the spring when the water temperatures reach 5-7 °C (42-44 °F). When did water temperatures warm to 5-7 °C (42-44 °F) in the Salmon Trout River?

In 2006? April 11

In 2007? April 21

In 2008? April 23

2. Rain also influences smelt spawning. Smelt typically spawn after continued rains during or just after the spring thaw (when water temperatures reach 5-7°C (42-44 °F)). Using water discharge data, when did these spring rains occur during previous years?

\*Hint: Water discharge increases during spring thaw especially after rain\*

In 2006? April 11

In 2007? April 20

In 2008? April 16



3. Smelt move from lakes into tributaries in early spring when water temperatures reach 5-7 °C (42-44 °F). Spawning often begins after consistent warming rain showers. Using answers from #1 and #2 above, determine the day it was most likely smelt spawning began each year.

In 2006? Soon after April 11

In 2007? Soon after April 21

In 2008? Soon after April 23

**\*\*Answers may vary, the task is to defend their predictions using evidence from data and graphs\*\***

4. Spawning often occurs after a spring rain when water temperatures have reached 5-7 °C (42-44 °F). During which year were conditions most suitable for smelt spawning? Support your conclusion using evidence from water temperature and discharge data.

**The conditions were most suitable for smelt spawning during 2006. Temperatures reached 5 °C and remained warm for several days. Water discharge increased from 0.4 cubic meters to 1.0 cubic meters per second on April 11, suggesting thawing triggered by a warm spring rain.**

**\*\*Answers may vary, the task is to defend their predictions using evidence from data and graphs\*\***

5. Based on what you know about water temperature and precipitation trends on the Salmon Trout River between 2006 – 2008, when do you think smelt will spawn this year? Circle and explain your prediction.

April 1-7

April 8-15

April 16-22

April 23-30

May 1-7

May 8-15

May 16-22

May 23-31

**\*\*Answers may vary, the task is to defend their predictions using evidence from data and graphs\*\***