ISSUES AFFECTING YOUR ESTUARY
Level IIIB- BEST MANAGEMENT PRACTICES

Best Management Practices…are defined as practical and economically achievable practices for preventing or reducing non-point pollution

GOAL
Students will understand how a sustainable resolution to natural resource issues are based on solutions that balance resource protection and community needs.

OBJECTIVES, Students will…
1. Learn now to analyze and create an action plan for resolving issues impacting the estuary.

2. Test hypothesis for resolving issues against environmental and community criteria.

3. Determine the Best Management Practice (BMP) that will resolve an estuary issue and meet criteria for environmental and community economic/social needs.

SETTING
Classroom

MATERIALS
Large sheets of paper, like flip chart paper, and markers are useful tools for brainstorming activities

Best Management Practices For Water Quality, a field manual for loggers, landowners, and land managers, WDNR, 1995. For a copy call 608.267.7494 is a helpful guide to understand BMP's.

BACKGROUND
Solving environmental issues is not as simple process. It requires natural resource managers balance environmental protection with people's opinions and demands about how the environment should be used.

> **PLAN**
> *Level IIIB*
> Develop strategies to solve the issue and test them

Students will develop a goal for solving the environmental issue they identified in unit Level III-A and brainstorm different options to solve it. They will test feasibility of each

option against **Environmental** and **Community Criteria** to determine the Best Management Practice (BMP) for resolving the issue.

ACTIVITY
Recommend a BMP that will help resolve the estuary issue. The steps to develop a BMP include:

1. **Develop a Goal Statement**

   What is the goal for solving the issue identified in unit Level IIIA? Write this down as a goal statement for your group's **ESTUARY ISSUE RESULTS** form (Example: *"Our group's goal is to… ").*

2. **Brainstorm Options to Reach the Goal**

   What are the options for solving the issue? Grab a big sheet of paper and write down all possible solutions under your goal statement. Don't limit in your thinking- be creative and think of all options!
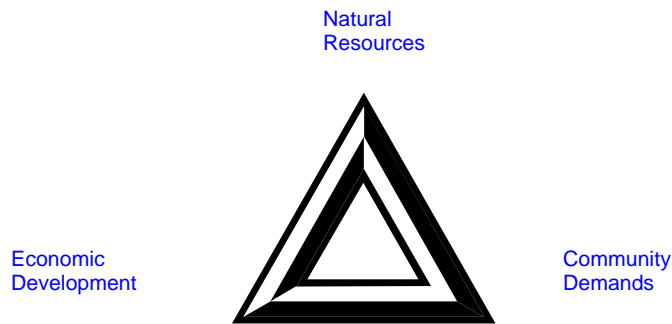
   > *Don't forget to think "upstream" when evaluating your issue. The solution to the problem may lie further upstream in the watershed. It may be caused by other land uses and affect more people.*

   When the list of options is complete, eliminate any that are duplicates. Combine options that are similar, but be careful not to "lump" too many solutions together so the recommendation is meaningless! Rewrite the final list of options on a separate sheet of paper.

3. **Develop Criteria for Judging Each Option**

   Now it is time to narrow these options down into workable solutions that will both protect the estuary environment and satisfy community concerns about how it is used.

   Best Management Practices (BMP's) are solutions to environmental problems that balance environmental protection and community needs. To find a BMP to solve the issue, you will need to judge each option against how well it meets **Environmental Criteria** and **Community Criteria.**

Natural
Resources

Economic
Development

Community
Demands

The Sustainability Triangle is one model to analyze the causes and solutions to environment issues. The model proposes that in order for use of a natural resource to be sustainable, there must be a balance between protection of the resource, the need to use the resource for economic development, and the interests and demands of the community (society) for that resource.

A. Environmental Criteria:
Given your goal for this issue, what are the most important <u>environmental</u> results should the solution to the problems achieve?

List these as **Environmental Criteria** on the **ESTUARY ISSUE RESULTS** form. You may choose to rank the criteria (example: #1 is the most important, etc.)

B. Community Criteria:
Based on the public comments you received in the **Community Issue Identification Process** (Level II-A) you know that estuaries are important to people. Think about the importance of the estuary to the local community for jobs, income, water quality, recreation, scenic beauty, etc.

Given your goal for this issue, what are the most important <u>community</u> results should the solution to the problem should achieve? You may choose to rank the criteria (example: #1 is the most important, etc.)

List these as **Community Criteria** on the **ESTUARY ISSUE RESULTS** form. You may choose to rank the criteria

EXAMPLE

Issue: Trash being dumped on the estuary's boat landing

Goal: *Our group's goal is to:* stop trash dumping at the Fish Creek Estuary boat landing

Environment Criteria (#1 is most important)
1. Clean old trash out of the water
2. Stop any new trash from getting in the water
3. Restore the fish spawning beds that were damaged by the trash to restore fish species
4. Improve water quality by removing trash

Community Criteria (#1 is most important)
1. Keep the boat landing open for people to use
2. Clean up trash because it is ugly
3. Restore fish spawning beds to improve the fishing
4. Clean up broken bottles to make the boat landing safe for swimming

(example: #1 is the most important, etc.)

4.   Evaluation Each Option
Go back to the list of options the class brainstormed as possible solutions for the issue. Test each option against both the **Environmental and Community Criteria** to find strategies to solve the problem that will satisfy both environmental concerns and community concerns about the issue.

Is there one option that meets both the environmental and community criteria? Do the results of your evaluation suggest that the solution must be a compromise between different options that will meet by environmental and community criteria?

5.   Best Management Practice Recommendation
Write down the solution you believe meets the Environmental Criteria that the class developed and interests of the community that were learned through the Community Involvement Process.

This will become your group's **Best Management Practice (BMP)** recommendation for this issue.

Write the BMP on the **ESTUARY ISSUE ANALAYSIS.** Developing an Action Plan to implement this BMP will be done in Level III-C.

Get a Second Opinion
If the class has the opportunity; collaborate with at least one natural resource professional familiar with the estuary and watershed, to review your issue analysis, BMP, and provide suggestions on your recommendations.