Collaborative Adaptive Management on Hinkson Creek

Fact sheet 3/2012

What is collaborative adaptive management?

Collaborative adaptive management is a science-driven, stakeholder-based process for decision-making while dealing with the scientific unknowns inherent in many physical and biological systems. It uses a continuing process to make changes and then to determine the effect of those changes. It has been used on a number of ecological/environmental issues such as the restoration of the Kissimmee River in Florida.

How will collaborative adaptive management evaluate the problems in Hinkson Creek?

The goal of the collaborative adaptive management process is to improve water quality in Hinkson Creek by using a science-based approach guided by a local stakeholder committee. It will assess the entire stream system, including the creek and other parts of the watershed. Improving the ecosystem should help support the return of the biological community to a fully functioning level as well as addressing other pollutants that may be contributing to water quality issues.

The collaborative adaptive management approach allows a wide range of actions to be investigated. Each of these actions is expected to contribute to reaching the water quality goals; some of these activities may reduce peak stormwater run-off, others may reduce the pollution in the run-off; under collaborative adaptive management both can contribute to the solution by improving the water quality and supporting the biological community. By learning as we implement actions, we hope to find the most effective approach(es) to address the water quality challenges in the watershed.

How will the collaborative adaptive management process work?

The collaborative adaptive management process for Hinkson Creek will be a facilitated process. Three groups have been formed to support the collaborative adaptive management process.

The **stakeholder committee** represents the broad range of public interests in the discussions and is responsible for suggesting actions to the city, county and university for implementation together with recommendations on monitoring. The 15 members were selected and formally approved by the City Council, County Commission and a representative from the University of Missouri to represent the breadth of interests in the Hinkson Creek watershed.

Two more technically-oriented teams will support the stakeholder committee. The **actions team** is responsible for putting together proposals for actions to improve water quality for consideration by the stakeholders. The **science team's** role is to propose monitoring and modeling necessary to

assess the health of the creek, to determine what causes may be contributing to water quality problems and to determine the effectiveness of actions taken to improve water quality.

How will the science and action teams work with the stakeholder committee?

Early in the collaborative adaptive management process, the two technical teams will work to help the stakeholders to understand the creek, actions, monitoring and process. Most of the early proposed actions will come from the action team. However, the stakeholder committee will also be able to request the teams to look into potential actions and/or monitoring and modeling.

Because these individuals on the science team and action team also have professional responsibilities, we are not expecting all members of the teams to attend all the stakeholder committee meetings. Additionally, to prevent multiple and/or duplicate requests of the teams, the stakeholder committee will submit all requests for additional information through a process developed by the stakeholder committee.

What is the role of the facilitator?

The facilitator's main role is to support the ability of the stakeholder committee to function well. His main task is to assure active participation by all the stakeholders. He will help the group set rules, work collaboratively, stay focused on the tasks and interact with each other and the supporting teams effectively. His role is to help organize the discussion to fit the needs of the stakeholders, not to lead it. During times of public comment, the facilitator will promote productive discussion.

What type of monitoring will be completed?

The monitoring might best be considered as a three tiered system. The first tier is the monitoring of the biological community in the stream following the Missouri Department of Natural Resources' protocols for sampling and analysis. Data from this type of monitoring is what indicated that Hinkson Creek was not meeting water quality standards. This monitoring will be completed, at least initially, by the department to ensure the continuity of measurements and analyses.

The second tier would be monitoring that is focused on learning more about potential causes of impacts to the stream and its biological community. The main purpose of this monitoring is to learn more about the overall health of the creek.

The third tier of monitoring is tied to specific actions recommended by the stakeholder committee. The purpose of this monitoring is to measure the impact of an action on water quality.

How does the adaptive management process end?

The process could reach a logical end through a number of ways. First, the biological community and other water quality indicators in Hinkson Creek could improve to the point where the stream is no longer considered impaired. That is the desired scenario. The process could also end if a specific pollutant were identified so that the normal water quality based regulatory process would occur.

How will the public be informed of the progress?

The adaptive management process is open to the public and will provide opportunities for the general public to provide input. Meetings will be publicly posted in advance and meeting minutes will be provided via the website or by request at www.helpthehinkson.org

Total Maximum Daily Load for Hinkson Creek

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Why is Hinkson Creek getting this attention?

Hinkson Creek did not meet water quality standards for aquatic life established by the U. S. Environmental Protection Agency and the Missouri Department of Natural Resources and was added to the list of streams that needed improvement in 1998. When a stream or lake fails to meet water quality standards, the Missouri Department of Natural Resources is required to start a process to improve the stream's water quality.

Because of the significant unknowns about what is causing lowered water quality, this process is going be conducted differently than similar processes on other creeks in Missouri. Collaborative Adaptive Management is a science-based approach to working in complex natural systems where the answers may not be obvious and there is an opportunity to learn more about the system and thus make better decisions over time.

What is a Total Maximum Daily Load, or TMDL?

A Total Maximum Daily Load, or TMDL is a document that describes the reason a stream does not meet water quality standards and spells out the reductions needed in the pollutant that is causing the impairment. Often a TMDL defines reductions in the pollutant from both point sources, which can be addressed through the permitting process, and nonpoint sources that are addressed through voluntary actions such as best management practices. In this case, a single pollutant was not discovered during previous sampling events.

The process for addressing water quality concerns is relatively straightforward when a pollutant or pollutants can be identified in a TMDL. This allows those in the watershed to focus their efforts on reducing the pollutant causing the impairment. The fact that a single pollutant could not be identified as the cause in Hinkson Creek made creating a TMDL and implementing a plan for improving water quality for this stream especially challenging.

What is wrong with the water in Hinkson Creek?

The biological community living in the creek, as measured by the numbers and diversity of invertebrates, showed that Hinkson Creek is not meeting all the water quality standards for a healthy warm water aquatic community. Additionally, the creek is listed for high levels of bacteria. The collaborative adaptive management approach being implemented for Hinkson Creek creates a mechanism to understand the watershed better in order to make wise decisions to improve water quality. This approach is clearly consistent with the section of EPA's TMDL that promotes the gathering of additional information and a scientifically based approach to watershed assessment. Such an approach was determined to be the best approach because of the significant unknowns in the watershed.

Expectations of Hinkson Creek Stakeholders

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What is the role of the Stakeholder Committee?

The committee's main role is to represent the community in the collaborative adaptive management process. The group will recommend actions, monitoring and modeling to the partners for implementation. It will both receive proposals from the action and science teams and request proposals from them for actions, monitoring and/or modeling.

How many meetings will be held?

The collaborative adaptive management process will require frequent meetings early in the process to get to a common understanding of Hinkson Creek and the collaborative adaptive management process. In this early phase, the stakeholder committee will also have to establish the rules by which it will operate. Once the first set of actions are recommended and implementation begins, the frequency of meetings will likely drop to about once per month.

How long will the process last?

The collaborative adaptive management process does not have a defined timeline. It is based upon achieving a result (or results). The goal for Hinkson Creek is to meet all the water quality standards and to learn enough so that the local partners are able to maintain water quality standards into the future. In this aspect, collaborative adaptive management is similar to the Total Maximum Daily Load, or TMDL, process itself in that attaining a goal is paramount, not meeting a pre-determined schedule.

How will discussions be held?

The stakeholder committee meeting will have a professional facilitator to organize and promote good discussion. Stakeholders are expected to actively participate in a positive way to ensure progress is made while being respectful of their peers and supporting staff. Any rules to codify this expectation will be left to the facilitator and the group.

How will decisions be made?

The stakeholder committee will determine its decision-making process together with other rules, as needed.

Who is responsible for translating all the technical terms?

At least one member of the action team and science team will be present for all stakeholder meetings. The partners have stressed the need for clarity to those who will be supporting the stakeholder committee.

What if a stakeholder can't make a meeting?

We will establish a contact for them to notify. However, consistent stakeholder attendance and participation are critical to the success of the collaborative adaptive management process and are strongly encouraged.

Who sets the meeting times?

To start the process, the partners established 4 to 5:30 p.m. as the meeting times to minimize disruption of the work day for participants. Once started, the stakeholders can change that time if the proposed change can be accommodated by those supporting this process.

Who will keep track of minutes, decisions, etc.?

The partners will supply administrative support to the stakeholder committee. Agendas and public notices of meetings will be handled and minutes of meetings prepared for the stakeholder committee. The website www.helpthehinkson.org will host all the information of the stakeholder process to make it easily accessible to the public.

What if a stakeholder gets a call from the press?

Each can choose to discuss the issues with the press as all business of the stakeholder group is public. Alternatively, the committee member can direct the reporter to the contacts listed in their packet.

What if a stakeholder needs to step out of the collaborative adaptive management process?

Advance notice of the need to leave the process would help us determine whether another stakeholder could be added or whether we would go forward with one fewer stakeholder.

What is the role of the general public?

All stakeholder committee meetings will be posted in advance and will be open to the public. However, the public will not be participating in the normal discussions of the stakeholder committee in order to allow the process to move forward at a reasonable pace.

The stakeholder committee will offer opportunities for public comment at their discretion throughout the process in order to promote public participation.

For More Information

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Hinkson Creek Watershed Restoration Project website - www.helpthehinkson.org.