



New Hanover County
Local Watershed Planning Group

MEETING SUMMARY

Wednesday, March 7, 2001 meeting held at the Cape Fear Riverwatch Educational Ctr.

Additional March Meeting! Wednesday, March 21, 2001

Next Regular Meeting scheduled for Wednesday, April 4, 2001

- ◆ Presentation by Joe Pfeiffer, KCI
 - Watershed characteristics of each of the subcatchments
 - Subcatchments ranked by restoration opportunities and by the group's watershed concerns
- ◆ The Group will discuss and choose subcatchments in the watershed for field study

The meeting will be held at the Cape Fear Riverwatch Educational Center from 6:30 p.m.- 8:30 p.m. The public is welcome to observe.

Group Members/alternates present:

Jim Bordeaux, Castle Hayne Steering Committee
Don Cooke, CP&L
Joe Blair, NC Department of Transportation
Curt Hensyl, Local watershed resident/ International Paper
David Mayes, City of Wilmington
Marian McPhaul, UNCW
Karen Moorefield, Carolina Heights Neighborhood
Chris O'Keefe, New Hanover Co. Planning
Michael Pope, Sierra Club, Wrightsboro Community
Bouty Baldrige, Cape Fear River Watch
Tommy Tew, Corbett Timber Co.

Group members not present:

Jabe Hardee, Cameron Company

Support staff & guests present:

Larry Hobbs, NCWRP
Della Dennis, City of Wilmington
Anne Deaton, NC Division of Marine Fisheries
Bonnie Duncan, NCWRP
Suzanne Klimek, NCWRP
Scott McLendon, USACE
Christy Perrin, WECO/NCSU
Sunny Snider, WECO/NCSU
Kevin Schneider, Cape Fear River Watch volunteer
Liesl Massey, Guest from McKim & Creed
Dick Loeffert, Guest from Northchase HOA

Revised Schedule for Choosing Subcatchments

The watershed characterization report will be completed by March 19th, 2001 and will be sent via overnight mail to the Cape Fear Riverwatch Educational Center. The prior to the March 21 meeting. The additional March meeting will allow time for group members to discuss the subcatchment rankings and other information provided in the watershed characterization report, so please be sure to review the report thoroughly before the meeting!

Using this information, the group will determine which subcatchments will undergo further investigation outlined in Major Task #2. Selecting subcatchments by the end of March will allow investigation of the subcatchments before the leaves come out. As discussed at the February meeting, when the leaves come out it is more difficult to access streams, and one might not be able to see as much (for example storm drain outfalls).

Explanation and Presentation of SubCatchment Rankings Based on Watershed Concerns

Presentation by Joe Pfeiffer, KCI

Joe Pfeiffer with KCI spoke to the group about the protocol used to rank subcatchments based on watershed concerns and the format for the Preliminary Findings Report. Joe also posed two questions regarding the protocol for determining subcatchments to the group. Group members made several recommendations for KCI's protocol for ranking subcatchments. Notes on Joe's presentation, questions and answers, and group recommendations are included in the following discussion.

Please note that the subcatchment rankings based on

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watershed concerns is being provided as an extra tool for the group to consider as they decide which subcatchments should undergo further study. This tool will be considered in conjunction with other information presented on the watersheds, and with local knowledge and concerns.

Evaluation

The evaluation of the watershed and subcatchment rankings is based on the group's concerns for the watershed. These concerns are:

- Water quality
- Habitat
- Growth and Development
- Flooding
- Quality of Life
- Education

At the February meeting the group decided to allow KCI to use their watershed concern prioritized list with the topics of "education" and "quality of life" removed. Joe explained that these issues are subjective concerns that are not easily measured or determined. The other four concerns are physical concerns that can be quantified and/or modeled. The information that Joe will use in evaluating subcatchments based on these four physical concerns are outlined below.

Water Quality

- ♦ Calculated as pounds/acre of Phosphorous exported from the basin (as an indicator of other potential water quality problems since the existence of high P levels may indicate the existence of other pollutants as well)
- ♦ Empirical data derived from Tom Schueler's work (Center for Watershed Protection)
- ♦ Potential P loading is determined using land Use/land cover information

Habitat

- ♦ Assess the frequency in which species occur based on land use/land cover information.
- ♦ Predicts the average number of species

based on usage determined with a land use/land cover maps.

- ♦ A contour map of species use is generated and results in a good regional estimation.
- ♦ Technique developed for regional biodiversity analysis and used in Environmental Impact Statements for highway projects. Has been reviewed and accepted by resource agencies.

Growth and Development

- ♦ Measure the potential for development in any given subcatchment.
- ♦ If all the land in a subcatchment is built up as currently zoned, the number of acres of available land for urban development can be calculated. The difference between this number and the amount of land already developed leads to the potential for development in any given area.
- ♦ Subcatchments may be ranked by exhibiting a *high potential* for development or a *low potential* for development.
 - 1) Areas with the lowest potentials for development (areas that are already significantly developed) may be a priority as they need the most work.
 - 2) Areas with the highest potentials for development (areas that are not already significantly developed) may be a priority as these areas could be preserved.

Joe asked the group to consider which method of ranking they would like to use in prioritizing subcatchments.

Flooding

- ♦ Consistent, detailed data is not available for the entire watershed.
- ♦ Using topographic maps and other information, the consulting firm will generate a rudimentary flood plain map.

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Joe asked the group to discuss how they would like to define flooding for this application.

Questions and Answers

Q: How do these estimations differentiate between different types of development?

A: The estimations do not differentiate between different types of development. "Urban development" is assessed as a whole.

Q: All permitted projects need to be included in the evaluation as they are already permitted.

A: Development is generally accounted for in zoning information and the potential for growth and development. Adding in specific permitted projects would only decrease the consistency of information in the models and therefore the comparability of subcatchment characterizations.

Q: Can you differentiate between industrial development and residential development?

A: Development is broken down into high percentage of imperviousness development (>20%) and low imperviousness development (<20%). Industrial is considered high percentage of imperviousness.

Q: Research from UNC-W illustrates that some of the waters in the watershed are contaminated by fecal coliform bacteria and suffer from low dissolved oxygen. If this is true, why is KCI using Phosphorous measurements to determine water quality?

A: Phosphorous is being used as an *indicator* of water quality. By comparing the potential for P loading across all subcatchments, we can compare potential water quality problems between subcatchments.

Q: Does the size of the subcatchment influence its weight in the ranking?

A: The size of a subcatchment will not influence its place in the rankings. Percentages will be used for a direct comparison of subcatchments.

Q: Does a negative value for growth and development potential mean that the area has been developed too much?

A: No, the negative number may occur due to

differences in map resolutions. It just means that the sub-watershed has been pretty much built-out already.

Q: Several group members had questions about zoning, and whether the zoning information being used is accurate.

A: Joe will verify zoning information with Chris.

Review of Preliminary Findings Report

Joe presented the group with an example of the Preliminary Findings Report. Joe noted that the final report will also contain a narrative. The group reviewed the format with Joe, and asked the following questions.

Q: Will there be any guidance for the group within the report to go along with the raw data?

A: There will be a physical description of each individual subcatchment analysis.

Q: Can thoroughfare plans and permitted highway projects be included in this analysis?

A: These projects can be overlaid into the land use maps, however, the data within the models need to remain consistent across each subcatchment for an accurate comparison and ranking. When you focus on development in one place, there may also be development in another place that was not taken into consideration, and thus the consistency is lost. Joe also reminded the group that the rankings and data that he is providing are for their discussion. If the group knows about significant development plans, they can take them into consideration when choosing subcatchments for more study.

Q: Are there any secondary or tertiary impact studies done with highway projects?

A: No, it is very difficult to predict long-term development and associated impacts.

Q: Can you look at the impact of the road only?

A: Yes

Member comment: Please take into account development over 5 acres and associated

hydrology.

A: Okay.

Q: *Do you differentiate between types of development—residential development vs. roads?*

A: No, just development. The zoning maps should account for increased development where roads are planned. (note by group member that the county is pretty much zoned for development).

Q: *Are there aerial photographs available for looking at flooding after hurricanes?*

A: International Paper may have some of this photography.

Q: *Do you want to use a catastrophic event to define flooding?*

A: Aerial photography from 1998, 1993, 1969, and 1930 is available and will be brought to the next meeting.

Q: *Can you explain about what different map layers means?*

A: Geographical Information Systems, GIS, is a computer program used to manage the data with maps. Different maps contain different information but have the same coordinates. Thus the maps can be layered and subcatchments cut out for comparison. Statistical analysis is then used to compare subcatchment to subcatchment.

Defining Flooding

The group discussed what definition they would like Joe to use for flooding in the subcatchment analysis. Flooding can be defined in terms of inches of rain or a return event. A return event is the probability of any storm reoccurring in any given year or time period. For example, the city standard is a 10-year return event.

The group wanted to know how to define a floodplain that they could actually do something about. At what level floodplain will their planning efforts be beneficial? The lower the return event level is set, the higher the potential for yielding a positive impact. Thus a 2-year storm event or a 5-year storm event would be manageable goals for flooding, however, the lower levels also result in greater error.

Based on this discussion, the group decided to define flooding as the **10-year storm**.

Growth and Development Ranking

Subcatchments may be prioritized because they exhibit a high potential for development or a low potential for development. The group discussed whether areas with the lowest potentials for development (areas that are already significantly developed) or areas with the highest potentials for development (areas that are not already significantly developed) should be prioritized within the model.

The group discussed that conservation of areas that have not been developed is very important and sets a good example. However, setting a “high profile” example by improving water quality in a disturbed area may significantly raise public awareness and motivate private landowners to adopt good management principals.

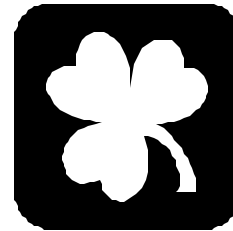
Finally, the group decided that they would like Joe calculate results using **both scenarios**. Thus, the group will be able to look at subcatchment rankings with areas of conservation importance (high growth potential) prioritized and areas of restoration importance (low growth potential) prioritized.

Decision and action steps:

- The group decided to meet once more this month, on **March 21**, to decide upon which subcatchments to ask for further study.
- Group members will need to pick up copies of KCI's Preliminary Findings Report from the Cape Fear Riverwatch Educational Center on Tuesday prior to the March 21 meeting. Please make sure to review this report prior to the meeting!
- Group members decided that KCI will define flooding as a 10 year storm event.
- Group members asked Joe to calculate the subcatchment rankings with both areas of high development potential and low development potential.

Earth Day Festival Display

The New Hanover County Local Watershed Group will have a display at the Earth Day festival that is staffed by volunteers from the Group. (WECO and the NCWRP have display materials that may be used for this festival). The festival date is Saturday, April 21 from 10:00 am to 6:00 pm. Group members will have an opportunity to sign up to volunteer for a shift at the next meeting on March 21.



*For more information about the New Hanover County Local Watershed Planning Group, contact Christy Perrin at (919) 515-4542
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