

Table 5.10. Summary of comments from experts during the Technical Wrap-Up Workshop.

Author of Comment/ Question	Comment/Question	Response
Steven McCutcheon, Hydrological Environmental Engineering	Has the current schedule changed since the original schedule was published?	Although individual components may have slipped, the overall schedule is mandated by law and has remained the same.
(Speaker did not identify himself)	Many public lands can still be developed and in irresponsible ways.	A vacant land study will serve as input data to assess the developability of lands. This will assist in defining realistic scenarios.
(Speaker did not identify himself)	What is the baseline year to define additional development? is this consistent with the legal mandate?	For terrestrial ecosystems, the baseline year is between 1991 and 1995. For marine ecosystems, 1994 or 1995. There is no constraint on this in the legal mandate.
(Speaker did not identify himself)	How are ecosystems defined as “healthy”?	Model parameters will provide a measurement of habitat integrity.
Carl Steinitz, Harvard University	Graph shows 2-3% PUV; how much is private upland developed?	Calculations are in progress.
	Will the development standards required to define carrying capacity be developed after the study is complete?	Yes, we will distribute our study to local governments so that they are able to make decisions.
	Is scenic beauty being considered?	Not at this time.
(Speaker did not identify himself)	Have there ever been any other studies conducted like this before?	Not that the Contractor is aware of.
Al Ripkin (NAS)	What about private underutilized land and, redevelopable land?	The final socio-economic module will consider it.
Scott Nixon (NAS)	What is the status of freshwater wetland development?	They are heavily protected in the Keys and are rather rare.
Debra Harrison, World Wildlife Fund	What about potential uses of land owned by Monroe County Land Authority for conservation, affordable housing, etc.	Yes, the model will consider that with the Vacant Land Study.
	Do the constraints under the current Monroe County Comp Plan still remain as constraints?	No, the model does not include predetermined notions of carrying capacity.
(Speaker did not identify himself)	What is the split in effort between the RPT and CCAM?	Bulk of the effort is for the CCAM.
Carl Steinitz, Harvard University	Is your objective to link RPT with CCAM? How will the planner know if a local permit will influence carrying capacity?	We will run a number of scenarios and local planners will make amendments to Comp Plan. The RPT will not be able to “run” scenarios.

<b>Author of Comment/ Question</b>	<b>Comment/Question</b>	<b>Response</b>
Steven McCutcheon, Hydrological Environmental Engineering	What about the coordination between marine and water circulation modules?	This draft model only includes certain modules; others will be added later.
Eric Livingston, FDEP	Can model distinguish between standard development and low-impact development, for example?	We intend to although all the details are not there yet.
Rich Weisskoff, University of Miami	How will you deal with factors that change every year (e.g., economic factors)? Have you found any “alarming” data?	Although the model will not be temporal, each module will be flexible enough to run on a temporal scale.
Dave Runin, SFWMD	How do you plan on dealing with species response to increased N or P in the environment?	Will be considered in the test model.
	Are you considering impacts of boats?	Yes, including prop scarring, discharge from liveboards.
Mark Peterson, NAS	Who will update inputs to the model once it is complete?	We will consider that after the workshop.

### **GIS Breakout Session**

(Speaker did not identify himself)	What was the degree of consensus on: (1) model as assessment tool (2) periodic running of model (3) continual updates?	(1) many agreed (2) outside of scope, no time to agree upon (3) strong consensus
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### **Terrestrial Ecosystems and Species**

(Speaker did not identify himself)	Does “professional judgment” stand up to litigation?	Yes, they have been favorable in the Keys. (Followed by a discussion with Richard Grosso about past litigation.)
(Speaker did not identify himself)	What will be generated as an output of the terrestrial module?	Allowable habitat loss will be an output. Some thresholds may be left to best professional judgment.
(Speaker did not identify himself)	Did you discuss how a reduction in threshold levels led to an increase in consensus?	Extensive discussions did not lead us to a consensus.
(Speaker did not identify himself)	What about other factors that lead to habitat loss (besides development) e.g. Mike Ross study of sea level rise?	Yes, we will consider it although we won’t model sea level rise per se.
Steven McCutcheon, Hydrological Environmental Engineering	Is the roseate spoonbill a good indicator species?	The group came to a consensus that it was not.
Carl Steinitz, Harvard University	Will secondary impacts of redevelopment be more important to the model than regular development directly on undeveloped land?	Yes, group agreed that secondary impacts are important.

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<b>Marine Ecosystems and Species</b>		
Rich Horner, University of Washington	What about the coordination between water and marine modules (regarding total N and P, TSS and BOD)? Are you set on water quality variables presented here?	We are using available data. More data is available with total N and P but will look for more information on other species of nutrients.
(Speaker did not identify himself)	How are the distinction between low, medium and high impacts made?	Best professional judgment
(Speaker did not identify himself)	Are species-specific breakpoints expected as an output of the module?	Local planners need to define what is unacceptable using best professional judgment.
(Speaker did not identify himself)	Are you considering nutrient dispersal to be conservative? If so, isn't it worst case?	Yes.
Mark Dortch, USCOE	Will the dispersion model be run to steady-state?	Yes.
Carl Steinitz, Harvard University	Are you confident that you can find sufficient data to populate the module?	Yes.
Mike McDaniel, FDCA	Do we have information on transport of nutrients through groundwater via deep-well injection?	Offshore nutrient loads need to be considered by the WW component.
(Speaker did not identify himself)	Why don't you consider boat groundings?	We are considering it.
<b>Water Modules</b>		
Randy Kautz, FFWCC	Where is the information from that will establish runoff concentrations?	Miami and Tampa (mostly) since it is the most applicable.
NAS Member	How do you incorporate non-point source pollution from runoff into equilibrium dispersion model? At steady-state?	They create sources to be distributed into the marine environment.
(Speaker did not identify himself)	Concerned about the peer review of the Florida Bay Circulation Model. Why did you decide to use it?	Simulation of currents and velocity was validated and this is the part of the model that we will use. <i>(Mark Dortch agrees and a discussion with Tom Lee (RSMAS) continues with a discussion of salinity modeling.)</i>
(Speaker did not identify herself)	How will you consider the inputs of rainfall and the aqueduct?	The aqueduct will be linked to the generation of WW and will be considered in the model.
<b>Socioeconomics</b>		
Carl Steinitz, Harvard University	Are the model allocations determined algorithmically or by design?	We will model distribution of demand (over space). An estimate of demand per planning unit will be an output of the module.

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Richard Grosso	How will you model the market trends and demands effects on levels of additional development?	We will forecast probability of demands for a certain number of acres of a certain land use type. That land use type will be translated into impervious surface, change in habitat, etc. and be used as input for other modules.
Tom Doyle, NAS	How will the module address carrying capacity and what will the outputs be?	No one number will be provided as the carrying capacity, many scenarios will be run. The module will provide a framework for different scenarios to fit within the framework.
<b>Open Discussion</b>		
Rich Horner, University of Washington	Concerned about the clarification of terminology, especially “threshold.”	Contractor agrees with the concern. Will continue to evaluate the use of the term.
Scott Nixon, NAS	Concerned about the ambiguous definitions of thresholds and carrying capacity.	We have a environmental carrying capacity that is a functional definition here to define the series of ranges and limits, etc. rather than a single number.
Carl Steinitz, Harvard University	Regarding the diagram, you are missing threshold boxes and the modules should be based on scenario implementation and not on existing data.	Comment noted.
Dave Runink	When will peer review take place?	NAS attended the January workshop and they will review the test model in June.
Unidentified Speaker	Will the model consider effects of technological advances (ex., improved methods of wastewater treatment)?	Yes, the model will consider that.
Alice Clarke, FIU	Asked about the status of scenario development	Working group (USCOE, FDCA and local governments) will determine the scenarios. They have developed an extensive list in addition to the scenarios that will be used solely to test the model.
Joanne Delane (marine ecosystems)	What about build-out of mangrove shorelines?	We will consider that in one of the model’s scenarios.
Joan Browder, NMFS	You should consider the nesting sites of all wading birds in general. I have data on it.	Comment noted.
Ty Symnroski, City of Key West	The output of the model should include stewardship roles and maintenance.	At this time, that issue is not incorporated in the model.

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Gary Machlis, University of Idaho	Recommendations: (1) spend time linking modules; list all inputs and outputs of each module (2) the model should include user-friendly output i.e., good-looking, easy to understand maps	Comment noted.
Mike McDaniel, FDCA	Comments: (1) data gathering is an on-going iterative process that is based on scenarios (2) assumes thresholds to be included in CCAM	Comment noted.
Marlene Conaway, Monroe County	What will the output of the model be? How can the scenarios be refined?	Model will not make recommendations; the local planners will still need to make decisions for land development regulations.
Steven McCutcheon, Hydrological Environmental Engineering	(1) Concerned about coordination between modules (2) trustworthiness of data is not acceptable (3) realistic potential scenarios	We need to use existing information and will do so while realizing time and budget constraints.
Tom Lee, University of Miami	Concerned about lack of circulation module. Wastewater in canals is very important in nutrient transport.	A crude-grid circulation component may be used now, but the module is flexible enough that it will be able to accept a new module later, if necessary. (Debbie) The COE and SFWMD will begin the Florida Bay/Florida Keys Feasibility Study later this month and is likely to include such a detailed water circulation module.
George Dalrymple, NAS	When are we going to have model runs that show impacts to wetlands?	We are including that in the study.
Steve Polasky, NAS	(1) Clarify links between modules esp. market module (2) how does market module fit into scenario development? (3) How does the economic module forecast fit into the ecological modules?	Comment noted.
Richard Weisskoff, University of Miami	Comments: (1) Restrictive land developments could lead to booming economy (2) Consider using a regional	Comment noted.

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	<p>economic model</p> <p>(3) Common language between modules</p>	
<p>Brian Scherff, Florida Biodiversity Project</p>	<p>There is a fundamental flaw with the thresholds of carrying capacity; we should be looking towards recovery and enhancement rather than development.</p>	<p>Scenarios may include restoration/enhancement scenarios.</p>
<p>Wayne Hubert, NAS</p>	<p>Please summarize your anticipated aquatic inputs and ecological indicators.</p>	<p>We intend to model habitats rather than species; #1 is seagrass; #2 coral reefs, #3 nutrients #4 all benthic communities (hardbottoms) and #5 water clarity in canals</p>
<p>NAS member</p>	<p>Wants to look at scenarios for testing developed by DCA and Monroe County.</p>	<p>Comment noted.</p>
<p>(Speaker did not identify himself)</p>	<p>No water circulation module is needed.</p>	<p>Comment noted.</p>
<p>Carl Steinitz, Harvard University</p>	<p>Do we have the complete components?</p> <p>(1) demand for development should be output NOT input to other scenarios</p> <p>(2) should model market places responses to policies</p> <p>(3) visual and scenic component is necessary</p>	<p>Comment noted.</p>
<b>Public Comment</b>		
<p>Richard Grosso</p>	<p>Study doesn't seem to actually determine carrying capacity; it needs to draw hard conclusions.</p>	<p>We are producing the best model with the best science that we have.</p>