# Summary Report: Local Mitigation Strategy Grant Program (2009–2010) Florida Division of Emergency Management and Florida Planning and Development Lab









Report authored by:

Brent C. Pesta

Florida Planning and Development Lab

Principal Investigators:

Dr. Tim Chapin

Mr. Peter Koeppel, AICP

Florida Planning and Development Lab

Florida State University



# **Executive Summary**

In 2010, the Florida Planning and Development Lab (FPDL) entered its second year of service to the Florida Division of Emergency Management (DEM) facilitating a two year grant program providing assistance to Florida counties with respect to completing and/or updating the counties' Local Mitigation Strategy plans per Federal Emergency Management Agency (FEMA) requirements. During this two-year evolution twenty graduate student interns provided assistance to seventeen Florida counties. By every recorded measure this endeavor has been very successful in meeting goals of DEM, the counties, and the interns' respective institutions of learning.

Participating counties now have LMS plans more closely aligned with local needs, increased plan utility and applicability, and increased local jurisdiction ability to update and utilize LMS planning documents and processes. Plans were organized by interns to reflect the political organization of the counties and individual jurisdictions within the counties now have greater ability to amend their respective plans and clarity with respect to how the plans apply to their jurisdictions. Supervisor evaluations of intern performance indicators describe well-trained, prepared individuals capable of substantive professional work. The survey responses of the county supervisory personnel indicate high levels of satisfaction and preference for intern assistance over funding for contracted consultants. Lastly, student interns received invaluable real-world experience, and many of these interns have expressed a desire to pursue a career in the field of emergency management. Taken as a whole, this evaluation indicates that a successful new LMS plan writing paradigm has been established for Florida, with this model being potentially useful for other states as well.

## **Introduction**

The purpose of the Florida Division of Emergency Management Grant is twofold: 1) provide assistance to Florida county efforts to update and submit their Local Mitigation Strategy plans in accordance with Federal Emergency Management Agency requirements and 2) provide formative real world experience to State of Florida graduate students in emergency management planning. The direct assistance of graduate student interns within participating Florida county planning and emergency management departments was intended to yield plans more closely aligned with local county level requirements, increase Local Mitigation Strategy (LMS) plan utility and applicability, and increase local jurisdiction ability to update and utilize Local Mitigation Planning documents and processes. Interns received specialized training from DEM and FSU prior to deployment to their respective counties focusing on LMS planning documents and materials, LMS development and process management, and specific FEMA guidelines and planning resources. Seventeen participating Florida counties were identified by DEM for participation in the grant program based on greatest need for additional staffing and technical assistance. Interns provided assistance to the selected counties during the summers of 2009 and 2010. The program was administered by the FPDL under the auspices of Dr. Tim Chapin and Mr. Peter Koeppel, AICP from Florida State University, with the assistance of Professor Harrison Higgins from UCLA, and formerly of Florida State University.

The project was broken into two iterative cycles of planning, implementation, and evaluation. During planning criteria for county inclusion in the program were made and a list of participating counties was generated. Similarly, graduate student candidates were selected for the internship. Identification of student knowledge gaps informed the necessity of a training program during planning and one was established as a means of increasing the probability of graduate student intern success. Planning also involved the selection and development of curriculum materials and the design of a one-week "LMS boot camp" for intern instruction prior to county assignment. During the planning phase methods for tracking intern progress and providing technical assistance to the interns were also devised and will be discussed.

Implementation included "LMS boot camp" instruction and student deployment to participating counties for a twelve week internship period. During this first deployment period interns employed the skills learned during "LMS boot camp" and participated in the tracking and support program devised by FPDL. The students coordinated with county officials, organized and led public meetings, analyzed pertinent data, and formulated and wrote LMS plans for their counties.

Evaluation was conducted upon plan completion and plan submittal to the counties by interview and survey of county supervisory personnel and graduate student interns. Findings were analyzed, collated and published in a mid-project review provided to FPDL and DEM.

Findings and recommendations were included in the plan refinement process and the cycle was repeated for the second year of the study. The reiterative cycle and mid-project review provided valuable insights that were subsequently incorporated into the second cycle.

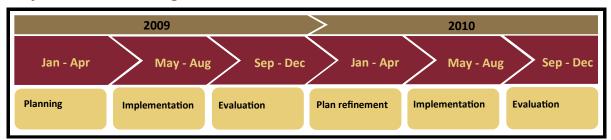
FPDL's methods produced favorable results with a high percentage of LMS plan completion and development of final products that better met the needs of participating counties. Students received invaluable real-world experience and a successful new LMS plan writing paradigm was established.

# **Grant-Life Workflow**

Beginning with the grant award in early 2009 program work was broken into six phases (Figure 1):

- Planning: program preparation, curriculum development, and cadre selection;
- **II. Implementation (2009):** training and deployment;
- **III. Evaluation (2009):** data collection, summary, and mid-project review;
- **IV. Plan refinement:** incorporation of mid-project review findings and cadre selection;
- V. Implementation (2010): training and deployment;
- VI. Evaluation (2010): data collection, summary, and final review.

Figure 1. Project Workflow Diagram



#### I. PLANNING

Project planning was accomplished by Dr. Tim Chapin , Mr. Peter Koeppel, AICP, and Harrison Higgins in coordination with Ms. Laura Herbert of DEM. Interns were chosen from a pool of interested applicants in accredited State of Florida Planning programs: Florida State University, University of Florida, and Florida Atlantic University. Participating counties were selected by DEM based on greatest need for additional staffing and technical assistance and FEMA plan submission date requirements. Student-county parings were determined by student interest and factors easing logistical requirements (selection of a student's home county) were given priority. The curriculum was developed by Mr. Harrison Higgins, University of California at Los Angeles and Mr. Peter Koeppel, FPDL. Mr. Higgins and Mr. Koeppel formulated the curriculum around a FEMA regional LMS training workshop, DEM materials, and professional knowledge of the local Florida context.

## II. IMPLEMENTATION (2009)

Training of the graduate student cadre in 2009 was coordinated and delivered by Mr. Higgins, Mr. Koeppel, and DEM personnel. Core curriculum documents included: FEMA Local Multi-hazard Mitigation Planning Guidance ("Blue-book"), FEMA Cross-walk tool, Hazard Mitigation Decision Tree, the FEMA 386 series, Combined Federal Regulations 44: 201 and 206, Disaster Mitigation Act 2000, and the Mitigation Planning Workshop power point. Florida county LMS plans from 2004 and 2005 calendar years were also provided and reviewed. Course materials were covered during a one-week "LMS Boot-camp" at FSU and focus was placed on process and time management, data collection methods and resources, and FEMA LMS requirements, regulations, and guidelines.

Students were provided a robust procedural and technical support network while deployed to their respective counties. Students provided weekly progress reports to FPDL personnel and county supervisors, participated in bi-weekly conference calls, and received some on-site visits from FPDL staff. Mr. Koeppel conducted site visits to eight of the eleven participating counties. Graduate student interns also maintained access to curriculum materials posted for retrieval and reference on a share-point site hosted by FSU's "Academic Blackboard" (Appendix 1).

Graduate student interns deployed to eleven Florida counties during the summer of 2009 (Figure 2). Interns typically lived in the counties they were assigned to. Those who didn't have family or a friend to stay with were assisted by a housing stipend. By summer's end all participating counties reported that their LMS plans were 70% - 100% complete (Figure 3).

Figure 2. DEM Local Mitigation Strategy Grant Participant Counties

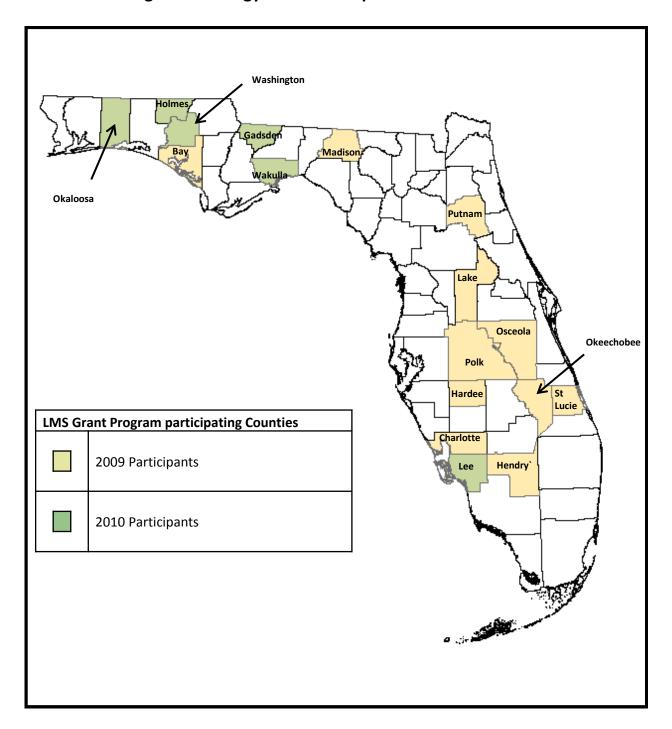


Figure 3. County Reported LMS Plan Completion Percentages After Twelve Weeks

County	Year	% Complete	Portions Incomplete		
<b>Holmes County</b>	2010	100%	NA		
Wakulla County	2010	100%	NA		
Washington County	2010	95%	Table of contents, some graphics and resolutions.		
Gadsden County	2010	90%	DEM and FEMA review		
Lee County	2010	90%	Final meeting, DEM, FEMA review		
Okaloosa County	2010	80%	Final public review		
Bay County	2009	100%	Formatting and cover design		
Hardee County	2009	100%	NA		
Okeechobee County	2009	100%	Final review by supervisor		
Putnam County	2009	100%	NA		
Hendry County	2009	95%	Risk assessment		
Lake County	2009	95%	Final review by supervisor		
<b>Charlotte County</b>	2009	90%	Some GIS-dependent data		
Madison County	2009	90%	Portion of risk assessment		
Osceola County	2009	90%	Portion of project rankings		
Polk County	2009	90%	Project rankings		
St. Lucie County	2009	70%	Sections 3, 5, and part of 6		

## III. EVALUATION (2009)

The mid-project review was conducted by April Roam, a graduate student, at Florida State University, Department of Urban and Regional Planning. The graduate student interns were polled via survey and interviewed. The interns' supervisors were also polled and interviewed. All participants reported a high degree of satisfaction with the experience and the final product. Areas in which improvement could occur were also identified:

- I. Availability of good LMS plan examples.
- II. Insufficient time provided for plan completion.
- III. HAZUS-MH data is out of date.

The first improvement area, plan examples, was easily addressed as FEMA began approving 2005-06 plans which were available to graduate student interns in 2010 and of higher quality. FPDL's review of supervisor and intern comments supported the finding that insufficient time was available to the interns for plan completion in twelve weeks and determined that two interns would be sent to each County in 2010. The time allotted could not be altered because the twelve weeks established for the internship are bounded by the school semesters of the participating university programs. HAZUS-MH data updates are recommended, but outside the scope of FPDL's responsibilities. Alternatively, Memphis and property appraisal data were recommended to replace or augment HAZUS-MH data for future plan completion. Lower than expected county resources were also cited as challenges in the mid-project review, particularly GIS information and processing and supervisor involvement.

It was clear from the interviews and survey data that the LMS grant program and FPDL were also doing some things particularly well. The time allocation chart or Gantt-chart and the share-point site were cited by students as being particularly helpful. The initial training "LMS boot camp" also scored well in student surveys.

#### IV. PLAN REFINEMENT

Both project successes and areas for improvement were considered and incorporated into or reinforced during plan refinement for the 2010 evolution and mid-project review recommendations were considered. Plan refinement occurred during the spring semester of 2010. The mid-project review was submitted to DEM and its findings were discussed in the FPDL and with DEM liaison personnel. The purpose of plan refinement was improvement on the 2009 effort with the goal of achieving a higher plan completion percentage while maintaining or improving the experience of participants and the final product.

In response to the program review in 2009, the FDPL team made some refinements to the instructional program for the 2010 iteration. LMS plan examples from participating Florida counties were incorporated into the curriculum and posted to the share point site "FSU Academic Blackboard" and 2005-06 plan updates were also provided addressing specific deficiencies and recommendations of the mid-project review. Curriculum further de-emphasized using HAZUS-MH and provided guidance on utilizing MEMPHIS and property appraisal data. Intern teams were chosen for each of six participating counties (Figure 2) selected by DEM. Excepting Washington and Holmes Counties which received single interns, teams were chosen for the counties composed of at least one student with proven GIS skills. County selection criteria remained unchanged from the previous year. Lastly, Mr. Josh Wickham, a previous

LMS intern, added a summary of his experiences to the "LMS boot-camp" and provided lesson's learned, mentorship, and guidance. Mr. Wickham remained available to students for consultation during 2010 project implementation. Lastly, the 2010 training and implementation phase included a student from Florida Atlantic University, reflecting the results of greater marketing and outreach efforts to Florida Atlantic University and University of Florida, Florida's other accredited planning programs.

## V. IMPLEMENTATION (2010)

Training of the 2010 graduate student cadre followed the model of the 2009 training session, a one-week "LMS boot camp" provided by Mr. Koeppel of the FPDL, Mr. Josh Wickham, and DEM personnel. Teaching focus remained on process and time management using the Gantt chart and FEMA cross walk tool, data collection methods and resources, and FEMA LMS requirements, regulations, and guidelines. However, HAZUS-MH was de-emphasized and MEMPHIS was introduced to the interns as supplemental material in order to address reported deficiencies in the HAZUS database and ensure that the interns would be able to conduct hazard vulnerability assessments. Mr. Wickham provided examples from personal experience and FEMA approved LMS plan updates were reviewed.

FSU's "Academic Blackboard" remained available to students as it had been in 2009. Students provided weekly progress reports to FPDL personnel and county supervisors and spoke with other student interns via phone when desired. Graduate student interns deployed to six Florida Counties during the summer of 2010 (see Figure 2). Similar to 2009, the interns typically lived in the counties they were assigned to. Those who didn't have family or a friend to stay with were assisted by a housing stipend. By summer's end all participating counties reported that their LMS plans were 80% - 100% complete (see Figure 3).

## VI. EVALUATION (2010)

Final data collection occurred following internship completion via survey and phone interviews. Intern supervisors were highly satisfied with the LMS plans created by the interns. The primary findings of the second evaluation period were:

- Counties are highly satisfied with LMS plans
- Counties are highly satisfied with DEM/FPDL Grant Program
- Counties are highly satisfied with graduate interns

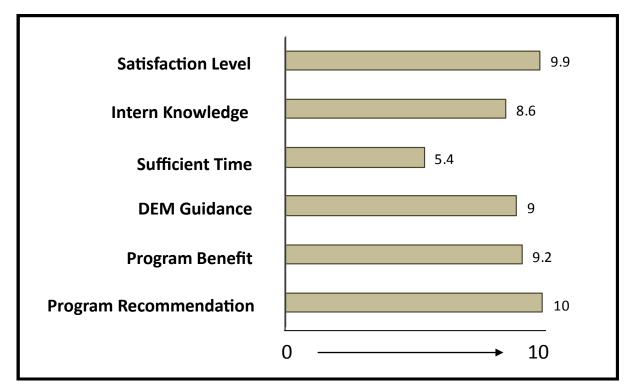
- Graduate interns were pleased with the professional training opportunities afforded by the internship program
- ♦ 12 weeks is insufficient time to prepare plan in some cases

#### **Satisfied Customers**

County supervisory personnel were highly satisfied with the quality of both their completed LMS plans and the performance of their graduate planning interns.

<u>County Plan Satisfaction</u>: All but one respondent rated their plan satisfaction at ten on a ten point scale (Figure 4) and the Counties felt strongly positive about the DEM LMS Grant program in general (Figure 4). DEM guidance was highly thought of and the only negative comment requested earlier and more thorough coordination between DEM and the participating county. The program benefits to the Counties were also readily recognized by the intern supervisors with 100% of respondents providing the strongest possible recommendation of the program to another County.





<u>County Intern Satisfaction</u>: Most of the participating counties' previous plans were prepared by an outside consulting agency during the 2005-06 planning cycle. Supervisors were asked if they would prefer grant funding to hire consultants or receive help from interns in order to determine county preferences between consultancy and graduate student interns. All six of the participating counties conveyed a preference for student interns regardless of the level of State/Federal funding supplied to hire a consultant up to and including a 100% funding level.

Intern knowledge of LMS plans and planning process rated highly (figure 4). Two interns were given a five rating, but the supervisor's explanation suggested that the score was heavily influenced by the interns' low knowledge level of the county in general and doesn't properly represent the information sought.

Graduate student interns scored very well across all performance indicators when rated by their supervisors (Figure 5) and nine of the 10 county assigned interns were described as someone who could be "hired without reservation".

Intern Goals: Informal interviews conducted with interns upon completion of their LMS plans provided equally positive feedback. While some interns reported experiencing difficulty and a range of challenges throughout the project, they universally accepted the LMS planning experience as a representative and formative experience. Many of the challenges were of a personal nature reflecting difficulties associated with distance from established social networks and the search for meaning in their work. Others were of a professional nature, but representative of real world challenges in decision making, networking, and interpersonal communication.

### Time well spent but insufficient

<u>County Perspective</u>: The twelve weeks provided by the internship remained a factor to the intern supervisors in more than half of the cases. One of those counties cited internal county business factors, namely a summer intersession, as causal, but another county claimed "The intern would need 3-4 months to undertake a complete re-write as we did." The existing plans were completely or substantially rewritten. Final LMS plans ranged from 120-500 pages.

<u>Student Perspective</u>: Students were equally divided with respect to the adequacy of time provided to complete the plans. Some of the students felt that the twelve weeks provided were adequate and others desired to tie up loose ends even after the internship was completed.

<u>The Plans</u>: It is important to note how different the final products were at this juncture. Not only were plans different with respect to final submitted length, they

Figure 5. Supervisor Ratings of Intern Performance Indicators\*

	Excellent	Very Good	Good/ Fair	Poor	Not Applicable
Quality of Work	7	3			
Quantity of Work	7	3			
Work Habits	7	3			
Relationship with People	8	1		1	
Initiative	7	3			
Dependability	7	3			
Acceptance of Supervision	8	1	1		
Research Design Skills	8	2			
Analytical Ability	7	3			
Graphic Abilities	4	6			
Political Acumen	5	4	1		
Communication Skills: Verbal	6	4			
Communication Skills: Written	7	3			
Administrative Ability	4	3	2		
Supervisory Ability	4	4		1	1
Overall performance	8	1	1		

<sup>\*</sup> Count data for 10 rated interns (2010)

also varied in complexity from a few jurisdictions to as many as nine. Not surprisingly the county with nine jurisdictions was also the plan with 500 pages and reported '1' values for the question "Was there sufficient time?" bringing down the average score to a value of 5.4 out of 10. These differences may make comparisons of time required to complete plans between counties irrelevant and suggest that if the average County has only a few jurisdictions that 12 weeks and two interns represents a sufficient number of person-hours to accomplish the task adequately.

#### **Lessons Learned**

<u>Training Program</u>: Students spoke positively about the "LMS boot-camp" and felt adequately prepared for the technical aspects of the assignment. In one case, the efforts of Mr. Wickham supporting the interns was described as "... very helpful. Josh is number one for success." Mr. Wickham's recent experience and specific insight were invaluable.

<u>HAZUS</u>: The hazard vulnerability assessment was almost universally reported as the most difficult plan section to complete. This was primarily due to the nature of hazard vulnerability assessment and the recognized deficiencies in HAZUS-HM. Interns cited numerous methodologies used to overcome these difficulties, including: MEMPHIS, county GIS files, and extrapolation from HAZUS data. The uncertainties regarding decision criteria posed as much difficulty as the poor or incomplete nature of data on which decisions were made.

<u>Plan Integration</u>: Integration of the LMS plans with county comprehensive planning, land-use planning, emergency response plans, etc. was largely beyond the ability of the graduate interns due to time-constraints. However, one student team interviewed expressed much better than average plan integration and details from the interview suggest that their planning department was particularly well integrated and that organizational synergies were working to advantage there. Strong cross references and mutually supporting documents should remain a future goal.

<u>Public Participation</u>: All of the interns described public participation and turnout as low. Most of the individuals in attendance at the public meetings were those involved in the process or emergency management in general. Public meetings were often held during inconvenient hours for public participation and advertised by low visibility means (small classified ad). Intern interviews indicated that a small number of jurisdictions recognized this and intend to reintroduce emergency management news letters or increase awareness through advertisement and promotion at events such as Sheriff's BBQ's and Watermelon Festivals.

<u>Grant Funding</u>: All of the students reported that plan goals were decided and ranked without contention, and nearly all of them emphasized goals and projects for funding as being very important to the counties and individual jurisdictions, emphasizing the perception that the primary purpose of the LMS plan is provision of access to federal funding for projects. This was further described by the student's frequently expressed desires to know more about grants and the granting process and interconnections between the National Flood Insurance Program, FEMA Hazard Mitigation Grant Program, etc. and the LMS process.

Summary Report: Local Mitigation Strategy Grant Program (2009-2010)
Florida Division of Emergency Management and Florida Planning and Development Lab

<u>Planning and Emergency Management</u>: Interns worked within county Emergency Management or Planning offices. In general, interns working with planners described more supportive work environments while those assigned to Emergency Management struggled more with "meaning of work" and "why" questions and the perception that the LMS plans weren't used: "Nobody looks at these, ever." This may be a reflection of actual perceptions of the LMS plan and planning process in the professional environment. Two interns remained exceptionally excited about LMS planning during the interview process. In both cases, the interns appeared to be excited about the synchronization of LMS with other county plans and planning documents. This may be a reflection of greater understanding on the part of the interns or an artifact of working with more informed and involved county personnel.

<u>Deepwater Horizon</u>: The 2010 season also presented a challenge that wasn't faced in 2009. The Deepwater Horizon disaster response efforts occurred concurrently with student efforts to update LMS plans and adversely affected the amount of time supervisors had available to assist the interns. Deepwater Horizon response was frequently cited by the interns as a negative factor with respect to planning efforts and was also referenced in survey responses by supervisors.

# **Conclusion**

Florida Planning and Development Lab (FPDL) and intern efforts to improve the Local Mitigation Strategy (LMS) plans and planning process in cooperation with planning and emergency management professionals of seventeen Florida counties successfully met the goals of the two-year DEM grant. The participating counties have plans more closely aligned with local county level requirements, increased LMS plan utility and applicability, and increased local jurisdiction ability to update and utilize LMS planning documents and processes. Each of the seventeen counties has an improved plan and greater ability to modify their plans. Plans were organized by the interns to reflect the political organization of the individual counties and individual jurisdictions within the participating counties now have greater ability to amend their respective plans and clarity with respect to how the plans apply to their jurisdictions. Supervisor evaluations of intern performance indicators describe well trained prepared individuals capable of substantive professional work. The survey responses of the county supervisory personnel indicate high levels of satisfaction and preference for intern assistance over funding for contracted consultants further reflecting the high caliber of work that was done and emphasizing the potential of the program for further county level assistance in LMS planning.

Intern interviews indicated that the experience was formative and worthwhile both professionally and personally. Interns described numerous events and experiences that facilitated or prompted learning throughout their experiences and it was clear that substantial learning and professional development took place. As a direct result of their participation, many of these interns have expressed a desire to pursue a career in the field of emergency management.

The FPDL strengthened its relationship with Florida Division of Emergency Management . The FPDL managed the \$600,000 grant program effectively over its two -year duration producing cost-effective quality LMS plans for seventeen Florida counties and provided quality training and experience to twenty graduate student interns.

# **Appendix 1.** Florida State University Academic Blackboard Screenshots

