

**FLORIDA KEYS
CARRYING CAPACITY STUDY**

APPENDIX E

SCHEDULE AND COST ESTIMATE

Keys Carrying Capacity Study
Government Time and Cost Estimate

Section refers to location of task within September 1998 scope of work.

Task	Cost	Total	DCA WIK Credit
Section 2			
Study Administration			
DCA	\$385,669		\$385,669
PD-P	\$275,000		
DP-I	\$168,000		
Subtotal		\$828,669	
Contract Procedure (EN-DC)		\$25,000	
Public Involvement (PD-PN)		\$276,000	
Section 2 Total Cost		\$1,129,669	
Section 3			
Scenario Development			
EN-HH	\$5,000		
PD-PN	\$20,000		
RE-A (Real Estate Costs for Land Buying/Land Conservation Options)	\$24,500		
Subtotal		\$49,500	
Geographic Information System			
IM-I			
Database Design	\$30,000		
Hardware/Software/Maintenance	\$90,000		
Database Setup/Initial Data Conversion & Integration/Metadata	\$60,000		
GIS Data Management and Administration	\$80,000		
Documentation	\$10,000		
GIS Mapping of Element Databases (Included in each element cost estimate)			
Subtotal		\$270,000	
Carrying Capacity Analysis Model			
Model Framework Workshop	\$40,547		\$13,447
IM-I (Build/Test Model)	\$359,000		
EN-HI (Coordination/Data Review/Model Support)	\$2,500		
Model Transition & Training Cost Estimate Located in Section 5			

	Subtotal		\$402,047	
	Section 3 Total Cost		\$721,547	
	Section 4			
	Natural Resources Category			
	Water Quality Element (PD-EE except where noted differently)			
	Literature Review	\$49,850		
	GIS Mapping of HTRW sites (IM-I)	\$7,150		
	Monroe County Sanitary Wastewater Master Plan	\$927,984		\$927,984
	Monroe County Stormwater Master Plan	\$299,750		
	Selection of Case Study Areas--case study areas from SWMP will be utilized.			
	Wastewater Evaluation			
	Identify "Hot Spots"			
	Data, analyses and cost included in Monroe County SWMP for DCA WIK credit			
	GIS Mapping of Wastewater Hot Spots	\$6,600		
	Wastewater-WQ-Land Development Activities Relationship	\$20,800		
	Workshop: Wastewater-WQ-Land Dev. Activities Relationship	\$78,594		\$26,894
	Stormwater Evaluation	\$50,000		\$50,000
	Workshop: Stormwater Runoff-WQ-Land Dev. Activities Relationship	\$78,594		\$26,894
	Water Quality Modeling			
	Mapping of Contributing Areas			
	PD-EE	\$91,670		
	IM-I	\$8,250		
	Travel for Installation of Groundwater Wells as needed	\$4,800		
	Water Quality Sampling & Analysis	\$62,970		
	Travel	\$7,200		
	Nearshore Transport Analysis/Nutrient Loading Model Calibration/Runs (WES)	\$145,000		
	Model Workshop	\$45,547		\$13,447
	EN-HI--Coordination, Date Review, Model Support	\$2,500		
	Land Use/Nutrient Loading Analysis	\$29,220		
	Live Aboards & Recreational Vessel Discharges	\$7,220		
	Report	\$34,720		
	Travel (Public Meetings)	\$3,200		
	Subtotal		\$1,961,619	
	Ecosystems Element (PD-ES unless otherwise noted)			
	Literature Review	\$15,000		
	Delineate and Map Marine, Upland and Wetland Ecosystems/Transition Zones			
	PD-ES	\$10,000		
	IM-I	\$6,600		
	Identify Ecosystem Indicators of Sustainability			

	Workshops	\$74,980		\$23,280
	PD-ES	\$7,000		
Develop Requirements/Responses/Limiting Factors/Tolerance Limits				
	Workshops	\$74,980		\$23,280
	PD-ES	\$7,000		
	Habitat Change Analysis			
	Identify Baseline Conditions	\$4,500		
	Current Conditions			
	Digital Aerial Orthophotos	\$400,000		
	Analysis			
	PD-ES	\$16,350		
	GIS Mapping	\$14,900		
	Future Trends/Relationship Between Each Study Element&Land Development Activities	\$37,500		
	Subtotal		\$668,810	
	Species of Concern Element			
	Literature Review	\$15,000		
	Identification of Species	\$15,000		
	GIS Mapping	\$13,800		
	Identification of Indicator Species, Keystone Species and Other Species of Concern	\$12,500		
Develop Requirements/Responses/Limiting Factors/Tolerance Limits				
	Workshops	\$74,980		\$23,280
	PD-ES	\$7,000		
	Subtotal		\$138,280	
Total Natural Resources Category			\$2,768,709	
Human Infrastructure Category				
	Population Forecast Element (PD-D)		\$69,800	
	Wastewater Element (PD-EE)			
Data, analyses and cost included in Monroe County Sanitary Wastewater Master Plan				
	Stormwater Element (PD-EE)			
	Quantify Significant Stormwater Flows	\$4,575		
	Estimate Current and Projected Stormwater	\$38,500		\$38,500
	Identify Future Stormwater Treatment Requirements	\$11,500		\$11,500
	Evaluate Alternatives to Meet Projected Stormwater Treatment	\$12,825		
	Subtotal Stormwater Element		\$67,400	
	Transportation Element			
	PD-D	\$141,000		
	PD-N	\$2,500		
	Subtotal Transportation Element		\$143,500	

Marinas, Heavily Traveled Channels, Ports Element			
PD-D	\$83,600		
IM-I	\$11,000		
Subtotal Marinas, Heavily Traveled Channels, Ports Element		\$94,600	
Hurricane Evacuation Element			
PD-PF	\$350,000		
IM-I	\$44,000		
Subtotal Hurricane Evacuation Element		\$394,000	
Other Infrastructure Services Element			
Estimate Current/Future/Shortfalls in Levels of Service (PD-D)	\$348,200		
EN-C (Human Infrastructure Cost Estimates)	\$16,000		
Subtotal Other Infrastructure Services Element		\$364,200	
Total Human Infrastructure Category		\$1,133,500	
Social Environment Category (PD-D)		\$97,400	
Section 4 Total Cost		\$3,999,609	
Section 5: Technology Transfer/Transition Plan (PD-PN) Total Cost		\$89,250	
Review Support (Required by Engineering Circular 1105-2-208)		\$50,000	
Subtotal Study Cost		\$5,990,075	
Study Contingency		\$9,925	
Total		\$6,000,000	\$1,564,175

Notes: \$64,175
SWMP = Sanitary Wastewater Master Plan \$1,500,000
WIK shown exceeds 25% of total study cost

STUDY SCHEDULE AVAILABLE ON KEYS CARRYING CAPACITY STUDY HOMEPAGE