

A Policy Tool for Evaluating Investments in Public Boat Ramps in Florida: A Random Utility Model Approach

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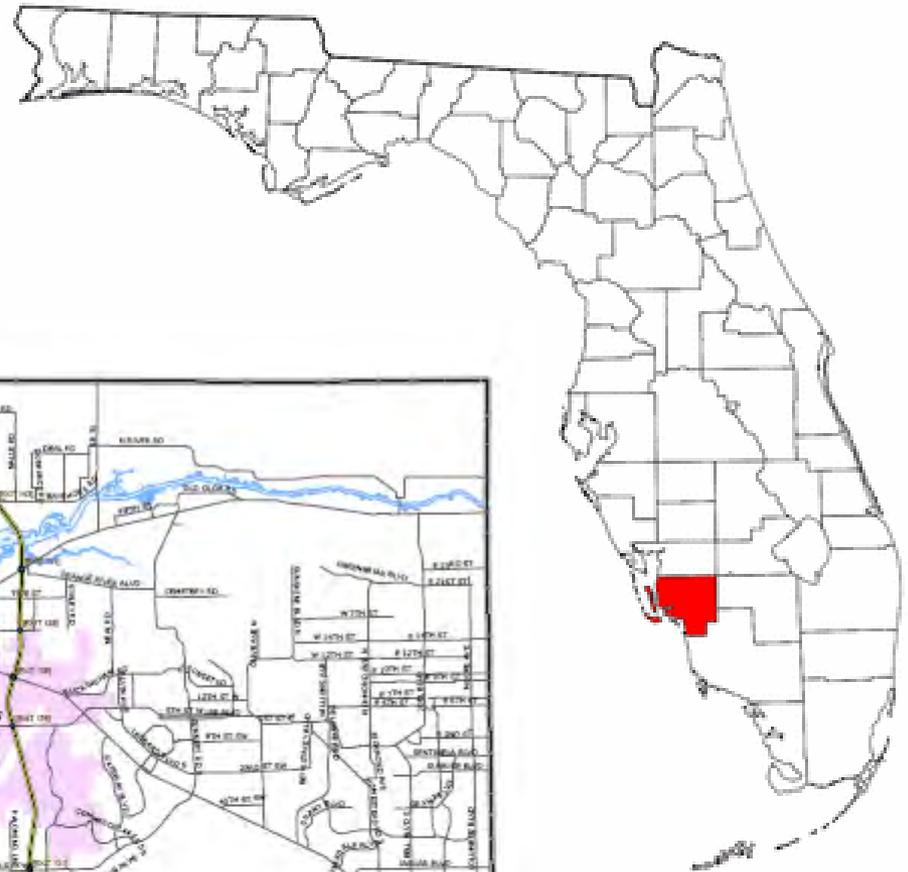
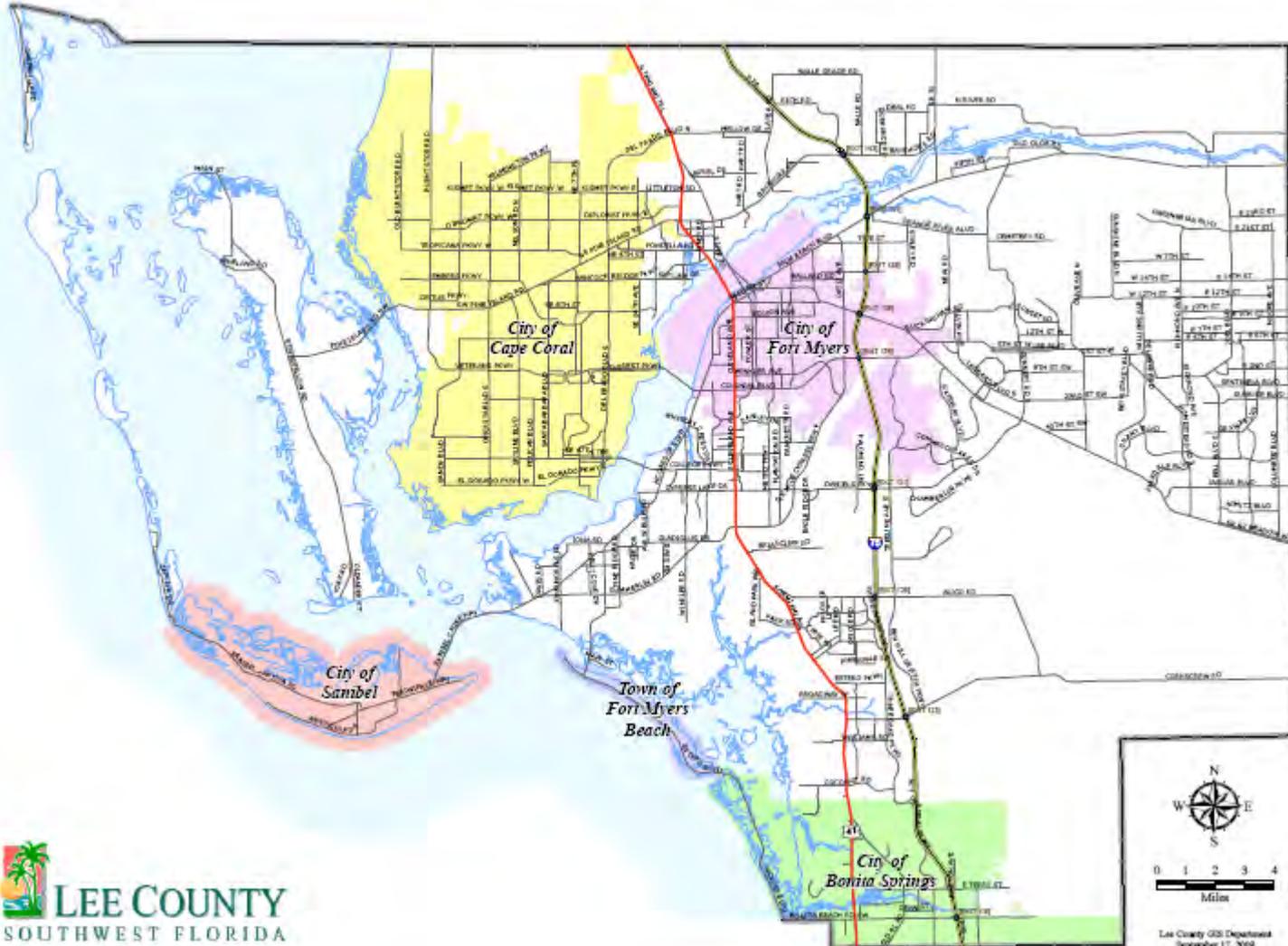
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Recreational Boating

- 12 million registered recreational boats in US
- Florida has about 932,000 (8% of US)
- 25% of Florida boat trips are trailered boats launched at publically accessible ramps
- 588,000 trailered boats launched at publically accessible ramps in Lee County in 2007

Lee County



Objectives

- Estimate demand for public boat ramps with marine access in Lee County, Florida
 - Link demand to ramp characteristics and
 - Link to characteristics of on-the-water sites
- Value ramp access & ramp characteristics
- Assess present value of social benefits of ramp investment opportunities facing planners

Parts

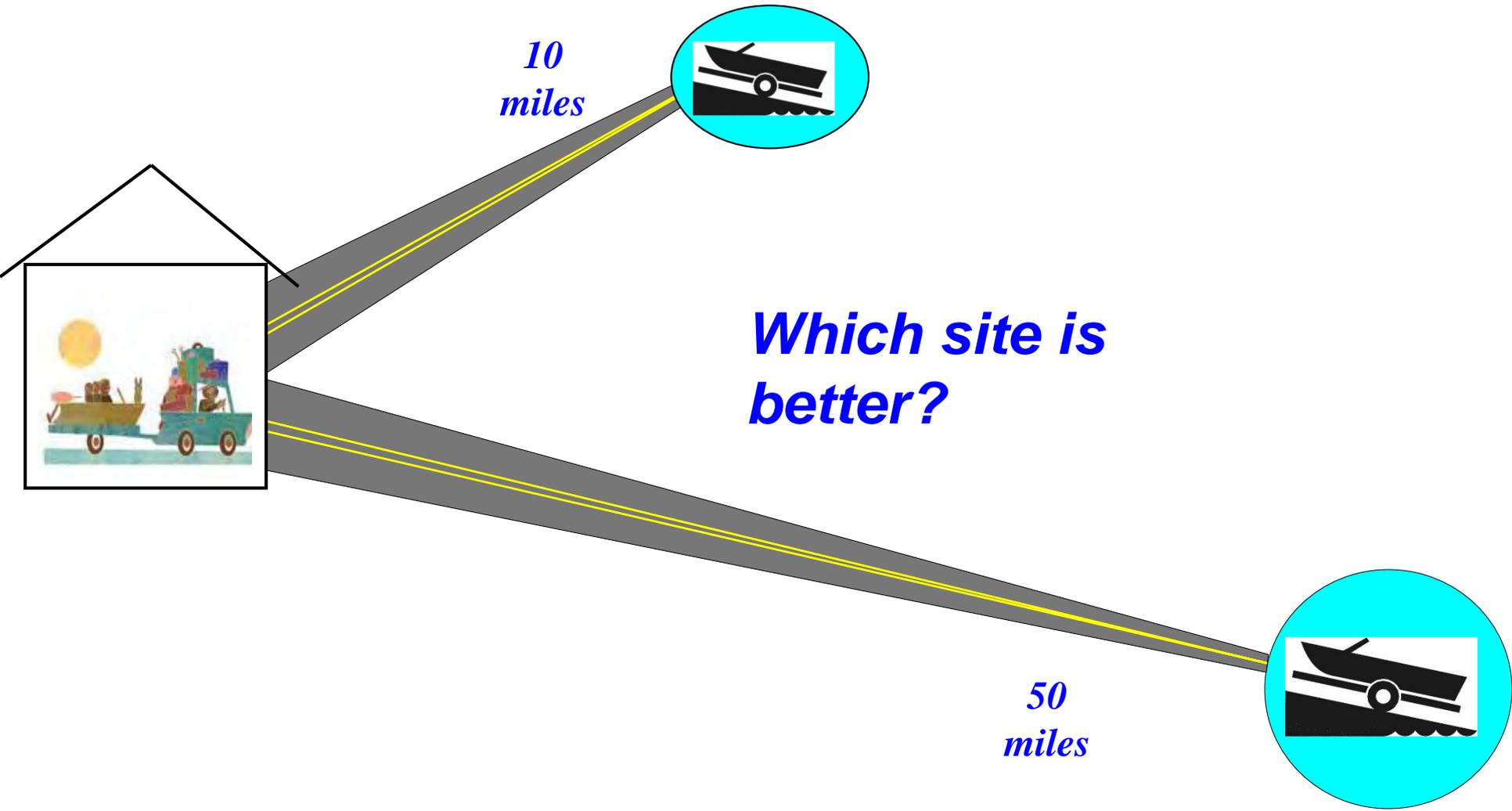
- Demand model for trailered boat sites
 - “RUM” Random Utility Model
 - Demand for sites and value of sites
- Using the models

Recreation Demand Model

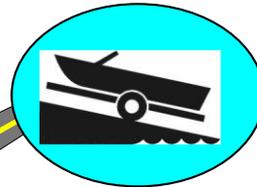
- Random Utility Model
- Travel Cost Model
- 2-level Nested Logit
 - 35 Ramps
 - 71 Water sites

“RUM” Travel Cost

Assume an economist goes boating...

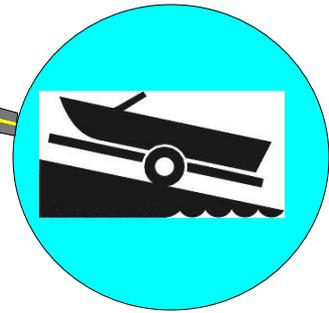


*10
miles*

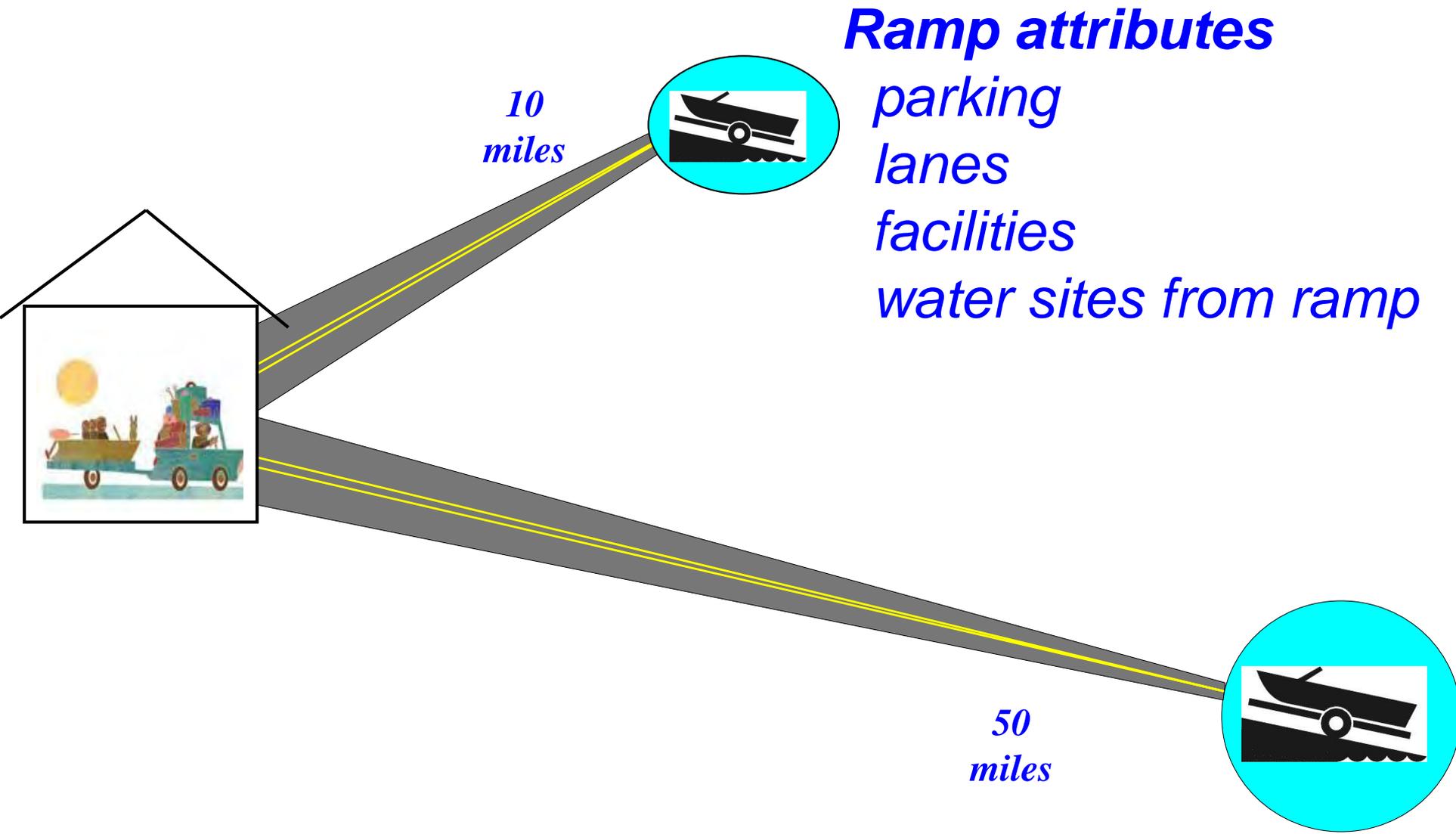


*Which site is
better?*

*50
miles*



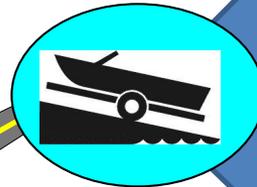
RUM Travel Cost



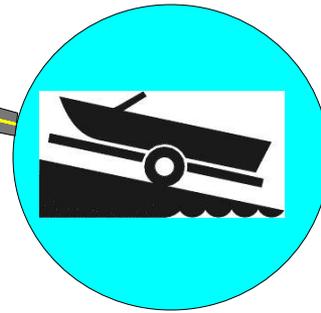
RUM Travel Cost



*10
miles*



*50
miles*



Trailered Boating Trip
to Lee County

Ramp 1

Ramp 2

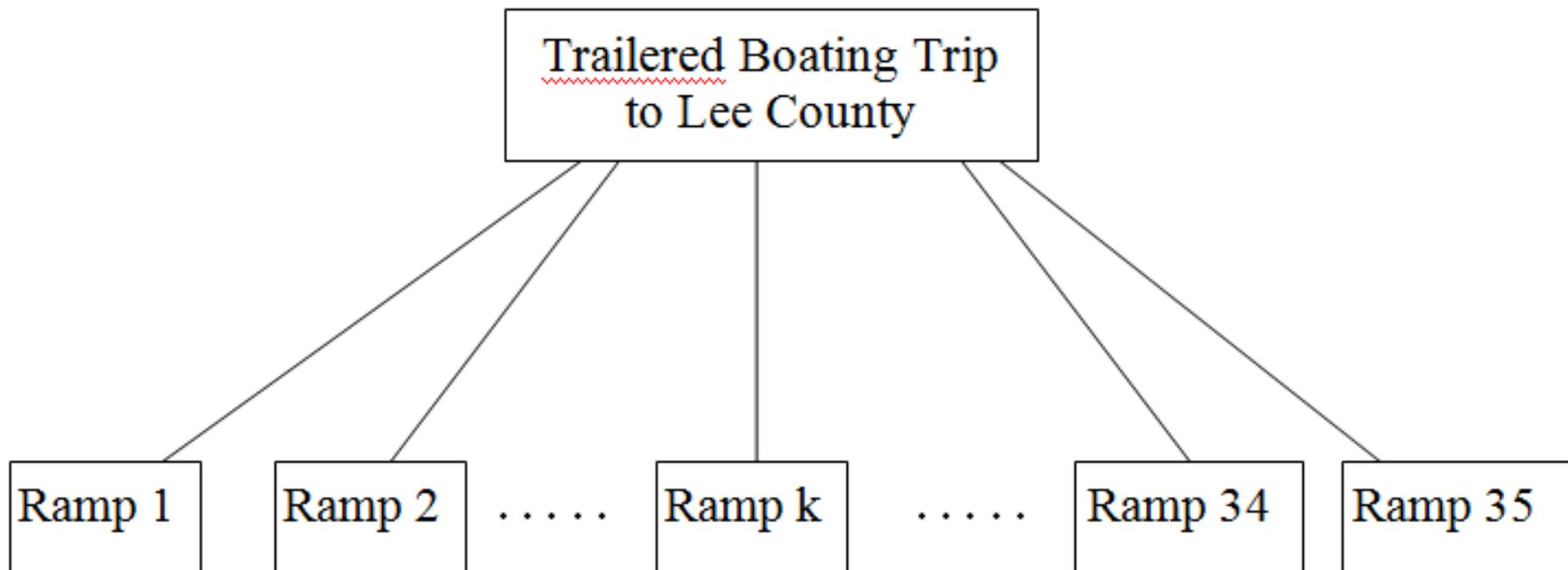
.....

Ramp k

.....

Ramp 34

Ramp 35



Trailered Boating Trip
to Lee County

Ramp 1

Ramp 2

.....

Ramp k

.....

Ramp 34

Ramp 35

Water Destinations from k

Survey and Trip Data

- Web panel survey of registered boaters
- 12 monthly interviews
 - Number of trips and location, etc.
- For model, use trips where boat was *trailer*ed to a *publically accessible, marine access, ramp in Lee County, FL*

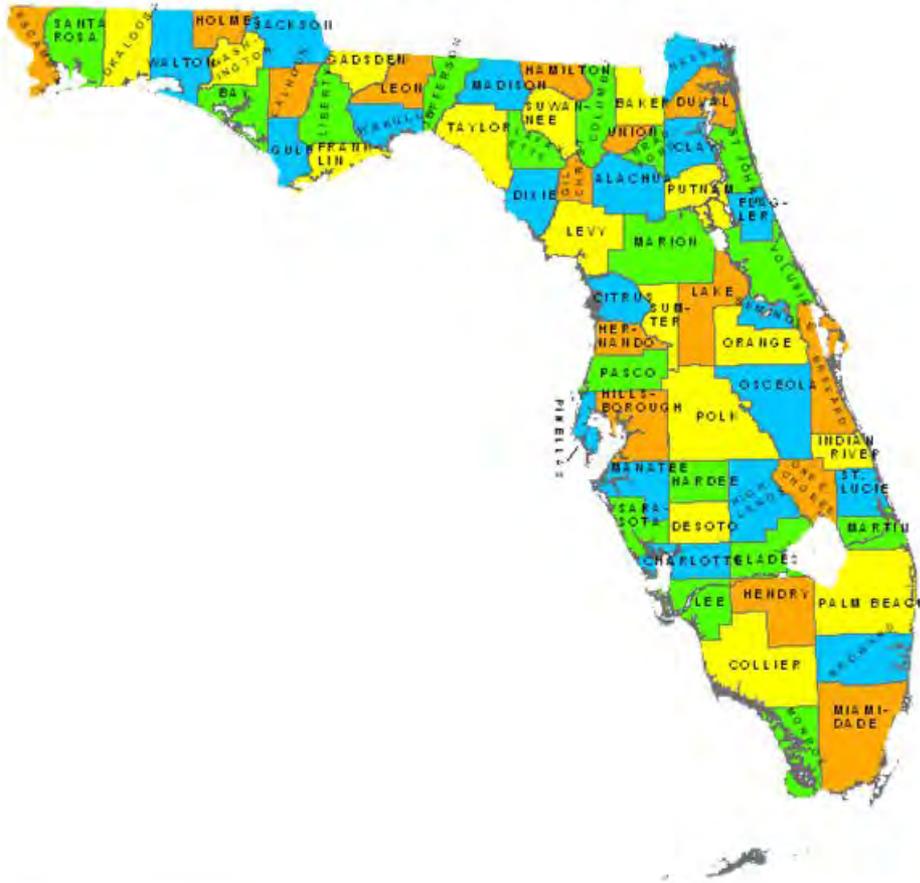
Ramp and Water Sites Chosen

- Clickable mapping system for ramp and water sites used on trip
 - Also text info on site name and some other ramp info (govt, privat ramp)
- Locate/correct/code sites
- Link to ramp inventory data



(Continued...)

2. In which county did you launch your boat on this last occasion on the water?



For “launch site”

- From state map,
 - Click a county
- From county map,
 - Click a quadrant
- From quadrant map,
 - Click spot where boat was launched (a ramp)

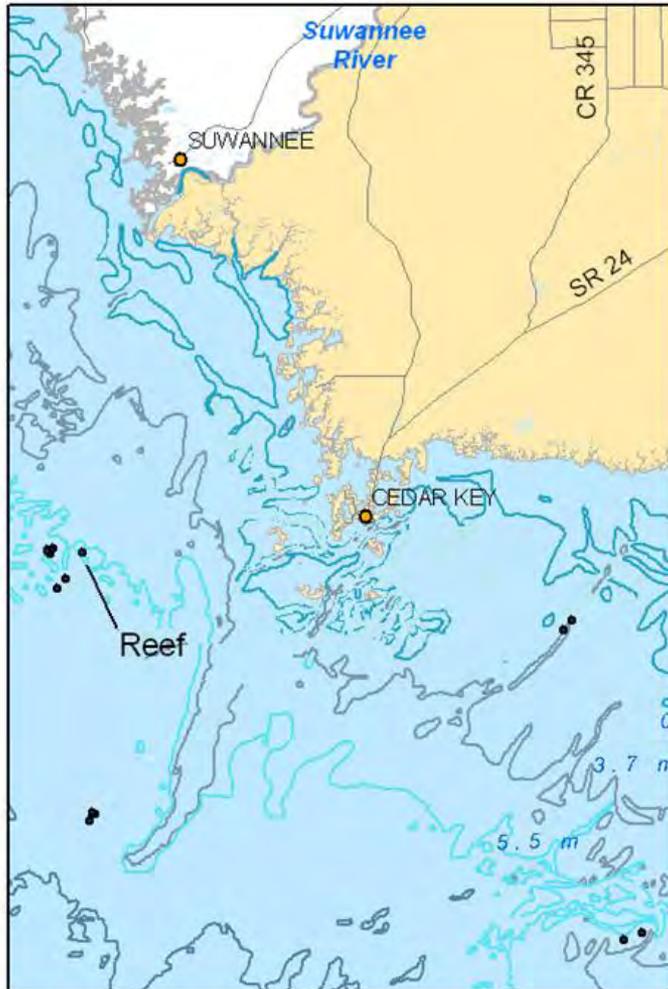
For “water site”

- From map of water grids near launch site,
 - Click area on water
- From water area,
 - Click location spent most time or was most important



(Continued...)

Please click on the map again, to show as close as possible where you spent the most time on the water, or you considered most important during this trip.



- End up with map like this that they selected a water site from
- Geo-referenced clicks

Travel Costs

- Travel costs = Driving cost per mile * miles + value of travel time + fees (bridges & entrance)
 - Time valued at household wage rate
 - Round trip distance computed using road network from home to kept location to ramp
 - Driving cost per mile for towing includes gas, maintenance & depreciation; excludes insurance
- Travel costs on water depend on boat size and distance

Other Data

- Water site data from FWC
- Ramp data from inventory

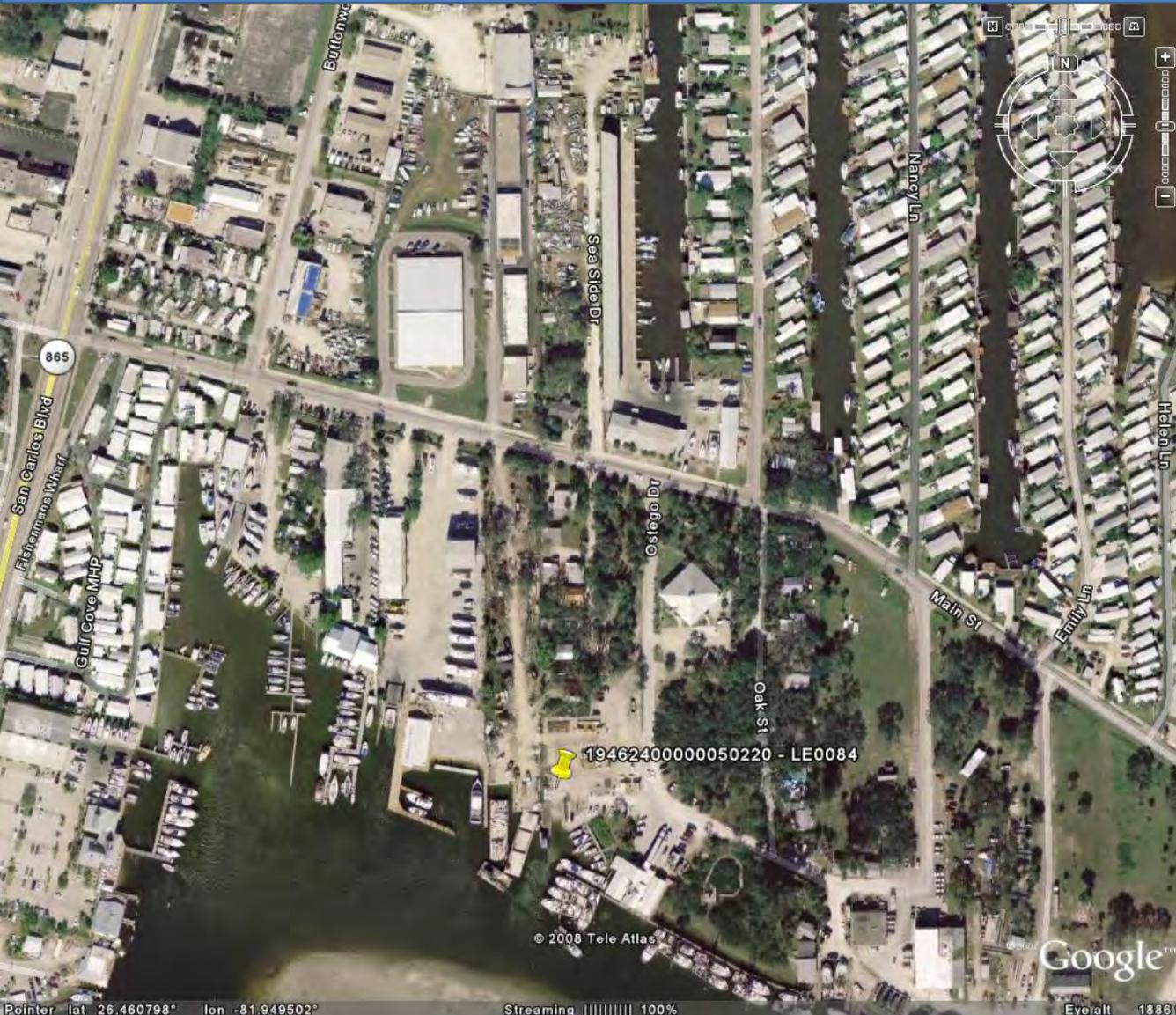
Marine <u>Water</u>-Site Characteristic	Beta	<i>p</i><0.01
Navigational Aids	-0.92	
Artificial Reefs	-5.13	
Marine Protection/Conservation Zone	2.13	*
Mean Depth	0.32	*
Nearest Boat Ramp	-0.44	*
Manatee Zone Present	-1.3	*
Travel Cost	-0.46	*

Marine Access, <u>Ramp</u> Characteristic	Beta	<i>p</i><0.01
Size of Parking Lot (1000's)	0.03	*
Condition of Parking Lot	0.83	
Number of Launch Lanes	0.87	*
Overall Ramp Development Index	4.47	*
Marina Presence	-1.47	*
Water Sites Inclusive Value Index	0.46	*
Travel Cost	-0.03	*

Illustrate Model Uses

- Some realistic examples from Lee County

Ostega Dr. Ramp

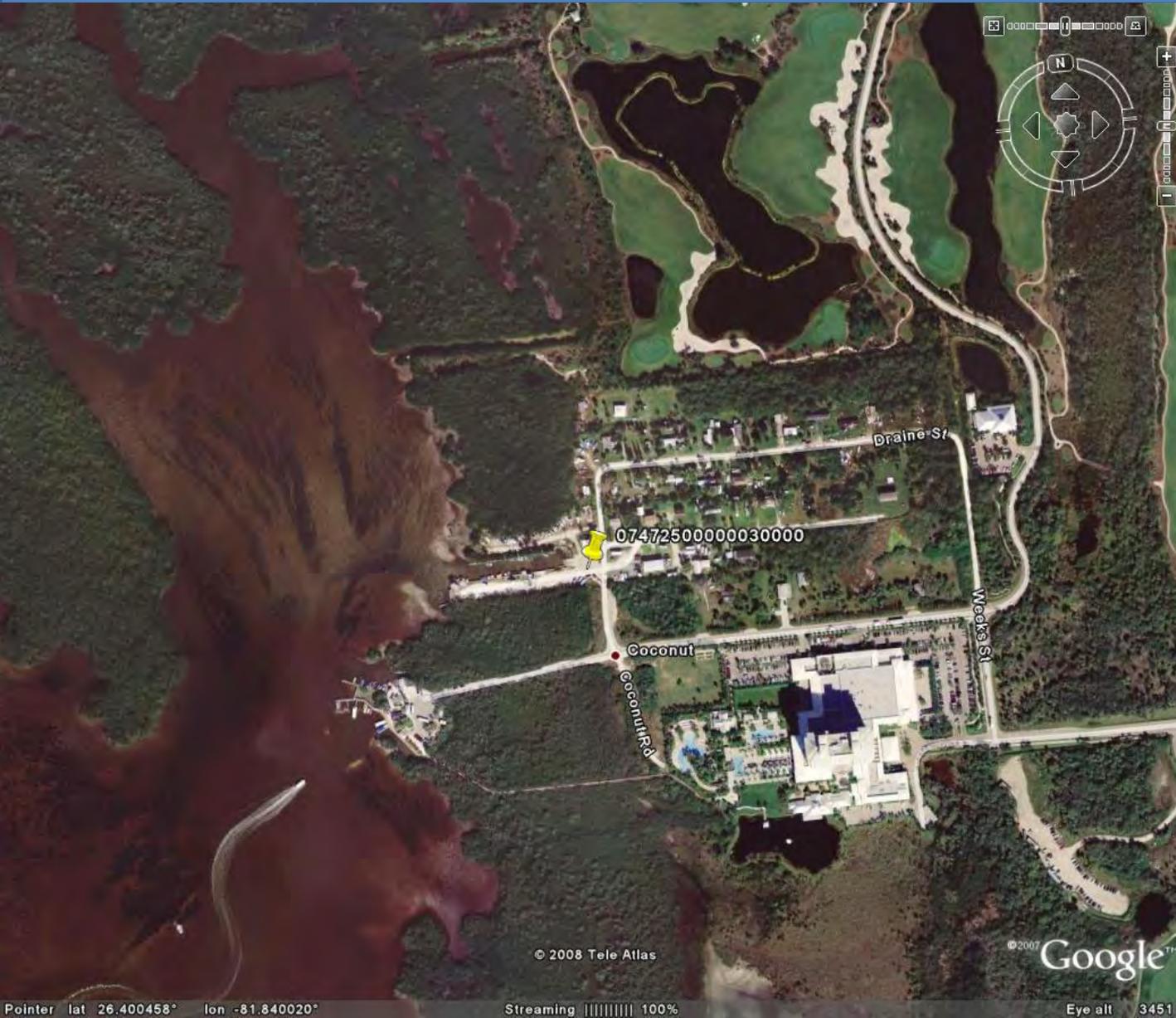


- Ramp exists next to existing public ramp
- Not open due to regulatory constraint
- Worth it to pursue?

Ostega Dr. Ramp

- Value of adding public access to Ostega Dr.
 - \$16,856,000 from:
 - CS per trip for this site = \$0.86 per trip
 - 588,000 countywide trailered boat trips to public access
 - Annual value = \$505,680
 - Perpetuity (3% discount rate): $PV = \$16,856,000$
- Cost of ramp (fiction)
 - \$3,100,000 from:
 - \$3,000,000 land (2 acres @ \$1,500,000/acre)
 - \$100,000 design, permitting and construction cost
- Net present value = \$13,756,000
- BC ratio = 5.44

Hickory Bait & Tackle at Weeks Landing



- Private ramp that has public access, but
- potential for public access to be closed
- What the loss?

Hickory Bait & Tackle at Weeks Landing

- Value of keeping public access at Week Landing
 - \$7,066,000 from:
 - CS per trip for this site = \$0.36 per trip
 - 588,000 countywide trailered boat trips to public access
 - Annual value = \$212,000
 - Perpetuity (3% discount rate): $PV = \$7,066,000$
- Cost of ramp (fiction)
 - \$1,225,000 from:
 - \$1,125,000 land (.75 acre @ \$1,500,000/acre)
 - \$100,000 design, permitting and construction cost
- Net present value = \$5,841,000
- BC ratio = 5.77

Outcomes

- Spatially explicit demand
 - Policy tool
 - Forecasting tool
 - Value of boating access and site features
- Can help planners evaluate investment opportunities

Acknowledgements

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Conservation Commission

myfwc.com

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