

# Lake Huron Technical Committee

## Proposal for “Pulsed” Stocking of Lake Trout in Lake Huron

July 2008



# **Options for Lake Trout Stocking Within Constraints of Consent Decree (Treaty of 1936):**

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- Spread each Mgt. Unit's allocation over all primary grids (status quo until 1999);
- Allocate all of each unit's stockings to the "best reef" in the unit each year (adopted since 1999);
- "Pulse" all stockings south of 1836 Treaty Line: all lake trout go to one reef in one Mgt Unit for three years, then move to next unit. Considering implementation in 2009.

# Objectives of Pulsed Stocking:

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- Enhance post-stocking survival: Assumes post-stocking survival declines over time
  - Predation
  - Competition
- Enhance survival of wild age-0 lake trout: also assumes density function (predation & competition);
- Build pulses of adult stock and egg deposition to compensate for:
  - Predation on eggs
  - Low spawning efficiency of hatchery broodstock.

## Objectives of pulsed stocking:

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- Simulate stocking densities accomplished at Parry Sound, Ontario, (4.5/ha) where lake trout have recovered.
- Usual stocking rate has been only 1.5/ha per year.)

# Stocking Strategy Recommendation:

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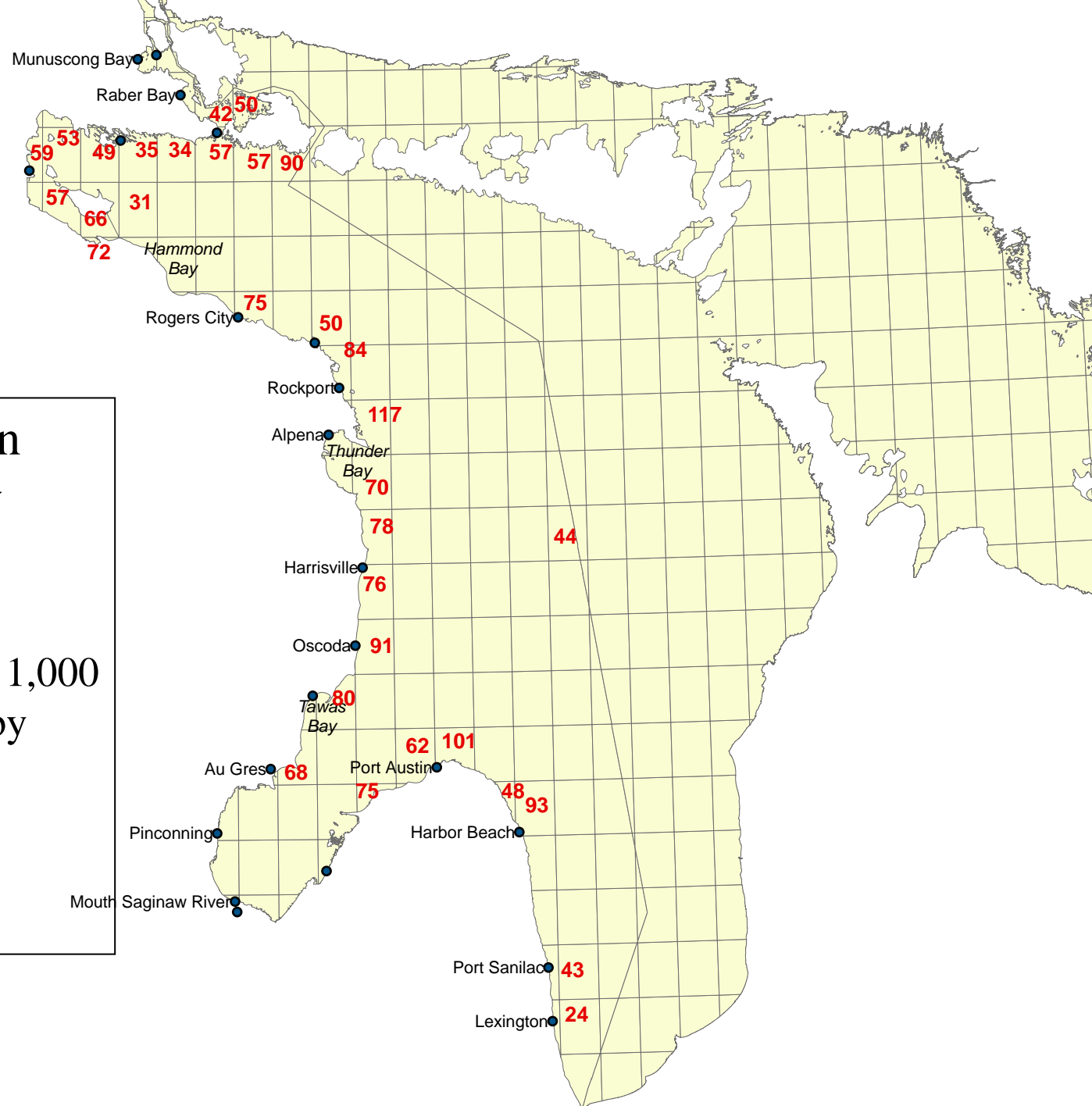
- Implement 3-yr pulsed stocking in 2009 south of MH-1
- Continue stocking MH-1 as per 2000 Consent Decree agreements;
- At least 4.5 yearling lake trout per hectare during pulses;
- 80/20 Seneca/Lewis strains (same as present);
- Help from Ontario with stocking Yankee Reef;

# Overview of Lake Huron's Past Stocking Strategies

# Spread 'em Thin Stocking Policy Of 1974-1989

Average number x 1,000  
Stocked per year, by  
Grid.

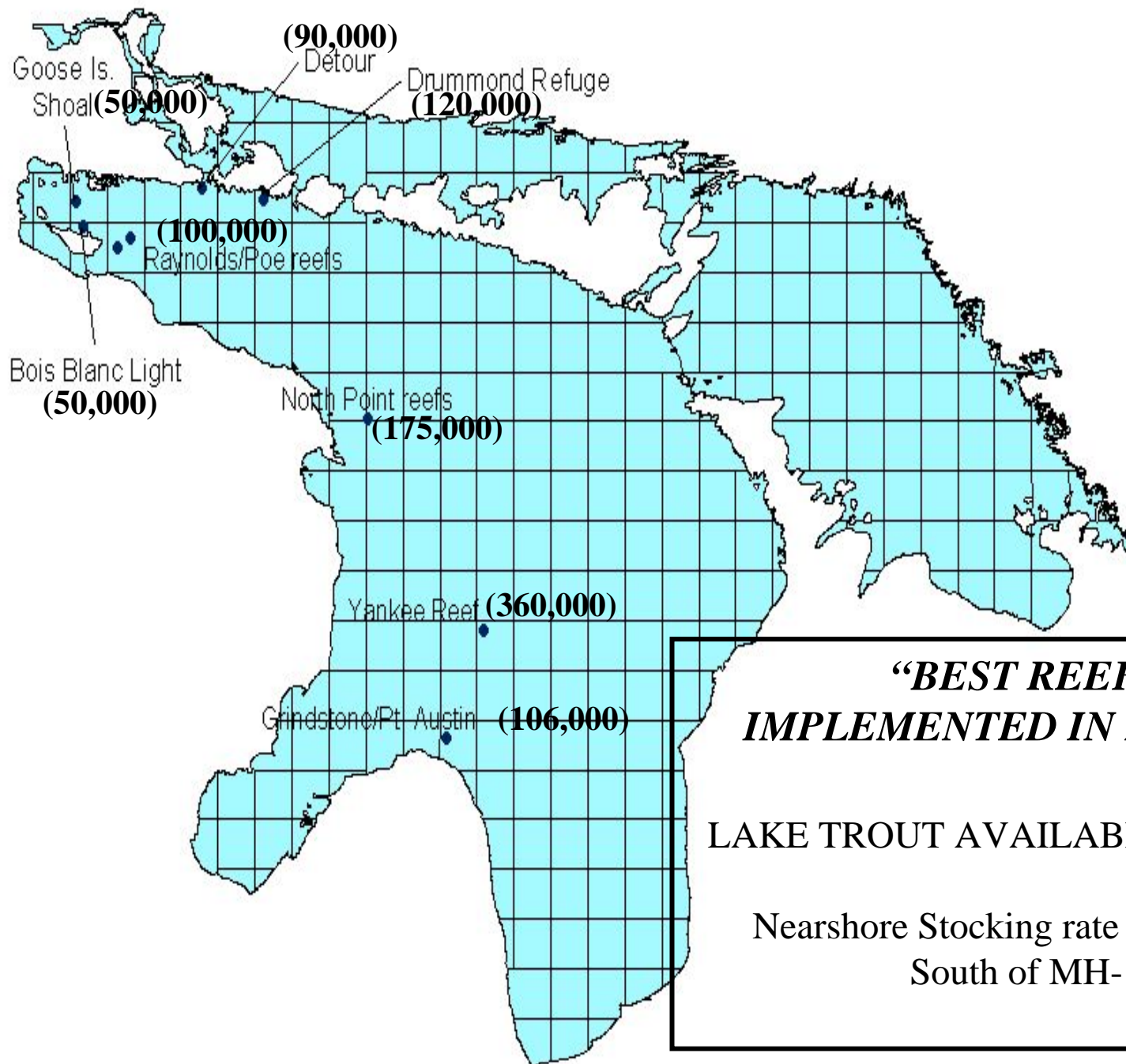
Most stocked from  
Shore.



“Best reef” option as implemented since 2000:

Lake Trout Deployment Plan for 2001:										
	% of historical spawner catch	Proposed number stocked in 2001	% of 2001 allotment	Number per acre nearshore primary habitat	Lat_deg.	Lat_min	Lat_hund.	Long_deg	Long_min	Long_hun
MH-1										
Drummond Island Refuge	19.0	120,000	11.9		45	54	2	83	37	5
Detour Reef	10.2	90,000	8.9		45	56	6	83	53	8
Goose Island Shoal	2.5	50,000	5.0		45	54	0	84	28	0
Bois Blanc Light	1.6	50,000	5.0		45	49	3	84	26	0
Poe Reef	2.6	50,000	5.0		45	44	8	84	17	0
Reynolds Reef	6.2	50,000	5.0		45	46	7	84	13	2
Subtotals:	42.1	410,000	40.6	0.60						
MH-2										
North Point reefs	7.2	370,000	36.6	0.35	45	10	0	83	9	0
MH-3										
Yankee Reef	6.7		0.0	NA	44	27	50	82	38	0
MH-4/5										
Grindstone/Pt. Austin reefs	1.9	230,000	22.8	0.35	44	6	0	82	48	0
Totals:	58.0	1,010,000	100.0							
Allocations for each management unit were determined as follows:										
MH-1. 0.6 per acre of primary habitat as per rehabilitation plan and Consent Decree.										
MH-3. 360,000 yearlings to complete Yankee Reef pulse stocking as per Lake Huron Technical Committee decision.										
MH-2 and MH-4/5. Number of yearlings based on number yearlings available after MH-1 and Yankee reef,										
in proportion to number of acres of primary habitat from rehabilitation plan.										

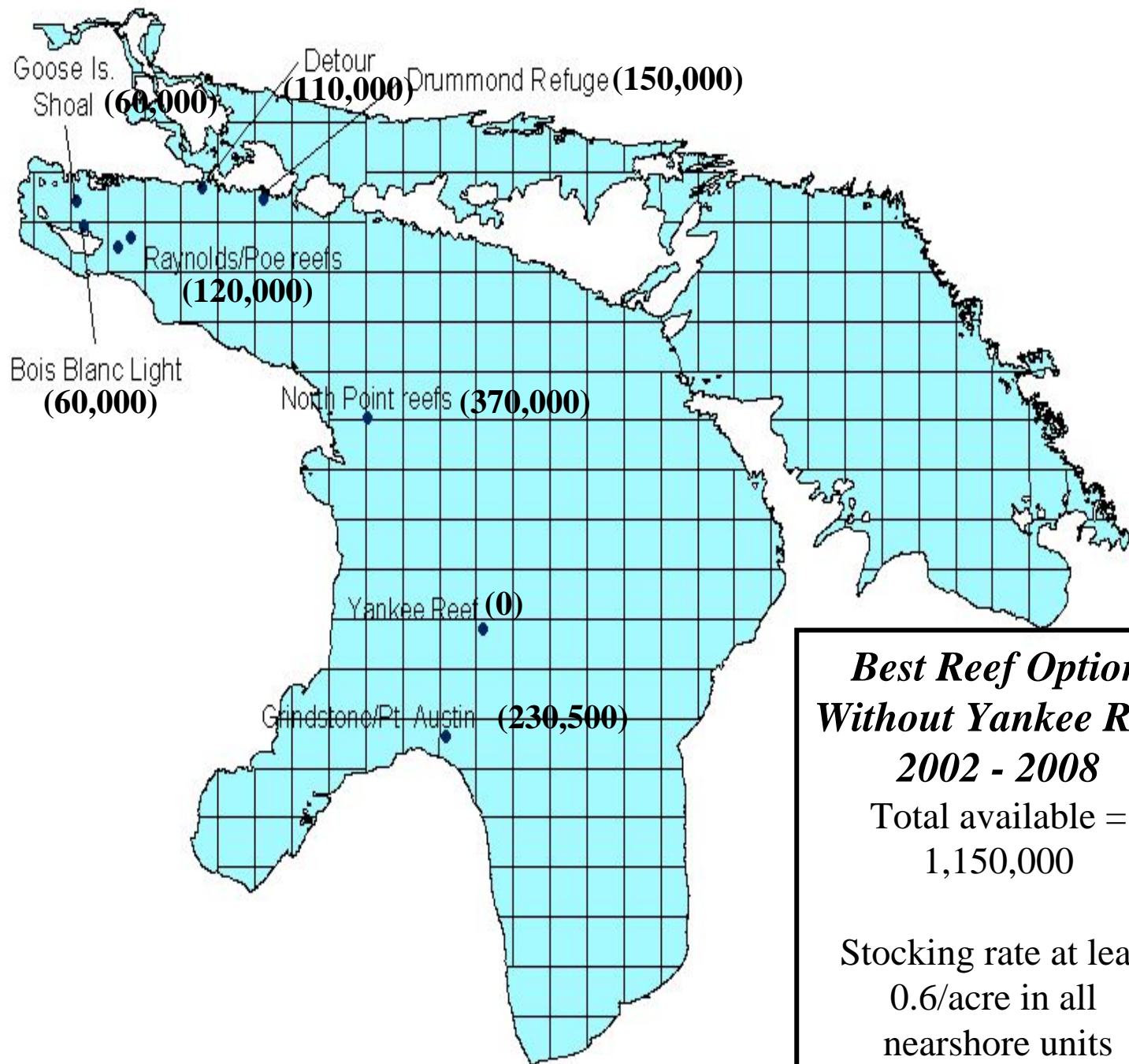




***“BEST REEF”  
IMPLEMENTED IN 2000-2001***

LAKE TROUT AVAILABLE=1,050,000

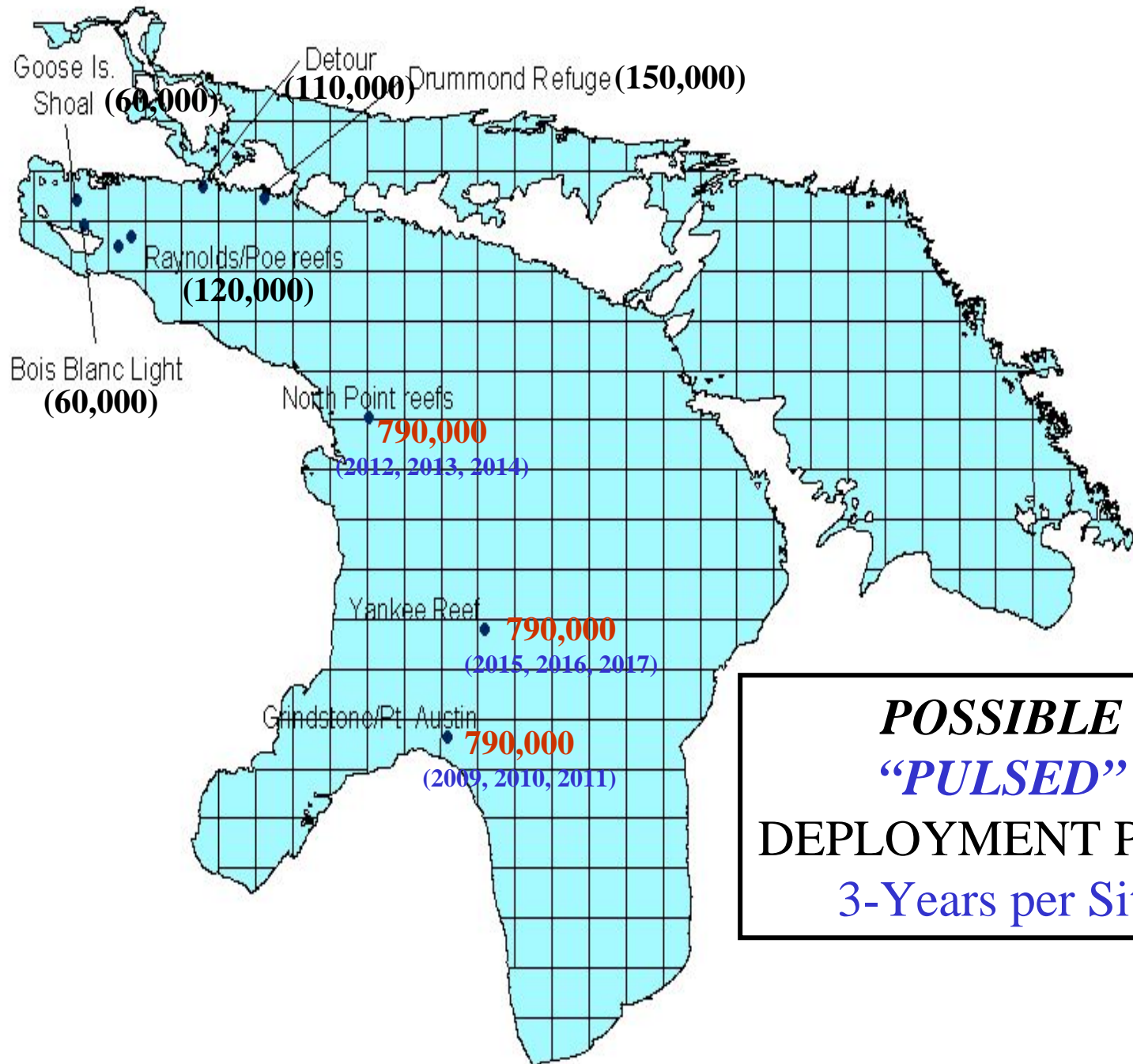
Nearshore Stocking rate = 0.36/acre  
South of MH-1



***Best Reef Option  
Without Yankee Reef  
2002 - 2008***

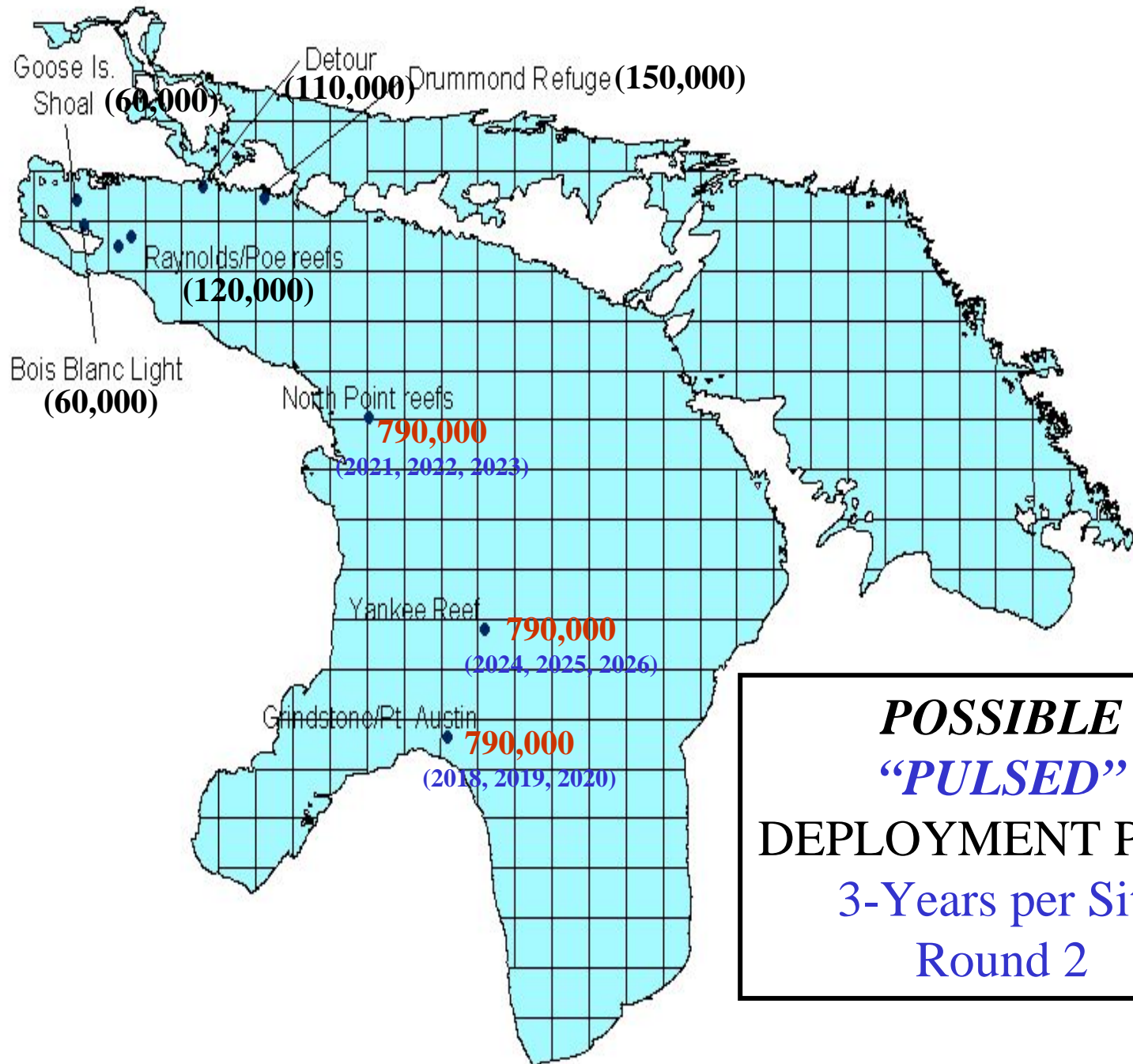
Total available =  
1,150,000

Stocking rate at least  
0.6/acre in all  
nearshore units



***POSSIBLE***  
***“PULSED”***  
**DEPLOYMENT PLAN**  
**3-Years per Site**





***POSSIBLE  
“PULSED”  
DEPLOYMENT PLAN  
3-Years per Site  
Round 2***

