

# *York Harbor & River Study*

## *Town of York, Maine*

October 2, 2019

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# Outline

1. Background
2. Recap work to date
3. Overarching Themes
4. Analysis and Recommendations
5. Next Steps



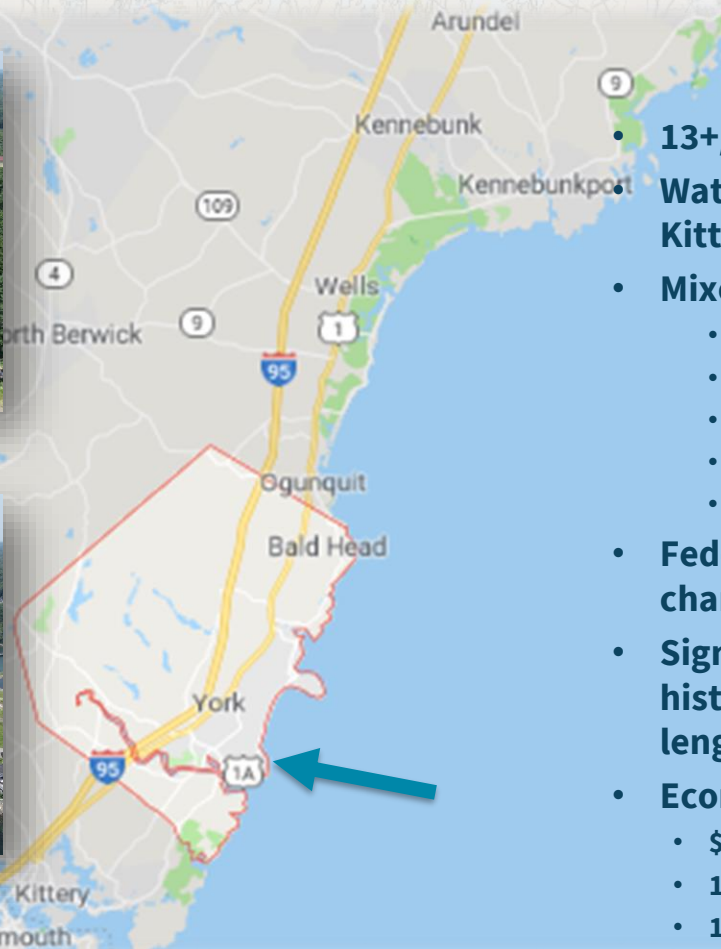


# Background





# York River



- **13+/- mile tidal River**
- **Watershed includes areas of York, Kittery, Eliot, and South Berwick**
- **Mixed use waterway:**
  - Commercial and Recreational Fishing
  - Waterborne Transportation
  - Water-based recreation
  - Marine related businesses
  - and other water-dependent uses
- **Federally Maintained anchorages and channel in York Harbor**
- **Significant environmental, cultural, historic, and scenic resources along length**
- **Economic significance<sup>1</sup>:**
  - \$13,700,000 in estimated economic activity
  - 100 jobs dependent on harbor being navigable
  - 160 plus jobs indirectly dependent





# Focus of this Study

- **Capacity of York Harbor and River**
  - Characterize existing conditions and uses
  - Identify factors that influence capacity
  - Assess current uses and characteristics
  - Identify areas of conflict/concern/opportunity
  - Develop recommendations



# Components of Waterway Capacity

- **Spatial Capacity**

- Navigation Areas, Moorings/Berths, Channels, Vessel Size and Type, Water Depths, Tides, Currents

- **Facility Capacity**

- At Shore and Upland: Parking, Access, Services

- **Ecological Capacity**

- Ability of waterway to support uses without detrimental effects on the environment, ecology, fisheries, wildlife

- **Social Capacity**

- Conflicts between user groups, perceptions of overuse/crowding, impacts to traditional uses or user's desired experience





A scenic view of a harbor with a drone flying in the sky, a pier, and two people on a beach.

# Work to Date



# Field Work

1. (7) visits to York:
  - July 2, 5, 10, 26; August 13, 27; September 18
2. (5) drone flights on July 5 to capture photos and video
3. (1) boat trip on July 10 from ocean to upstream of Scotland Bridge Road to view River from water
4. Sites visits:
  - Scotland Bridge, Rice's Bridge, Goodrich Park/Grant House, Stage Neck, Wiggly Bridge, TD #1, TD #2, Western Point Road, Sewall's Bridge, York Harbor Marine, several private properties on River



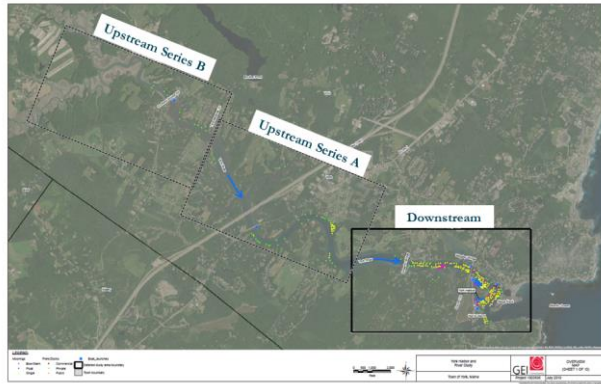


# Inventory

1. GIS Based Mapping
2. Inventory and Analysis
  - River / Harbor Areas
  - Spatial Characteristics
  - Facilities and Uses
  - Boat Density
  - Vessel Types, Sizes
3. River Area Classification



# GIS Mapping



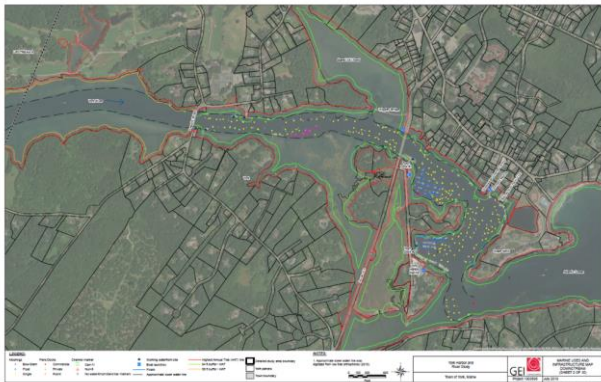
## Map Areas

- Downstream
- Upstream Series A
- Upstream Series B

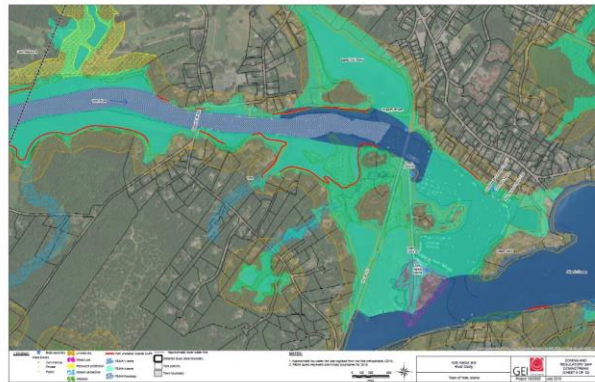
## Map Series

- Marine Uses & Infrastructure
- Land Use & Regulatory
- Environmental

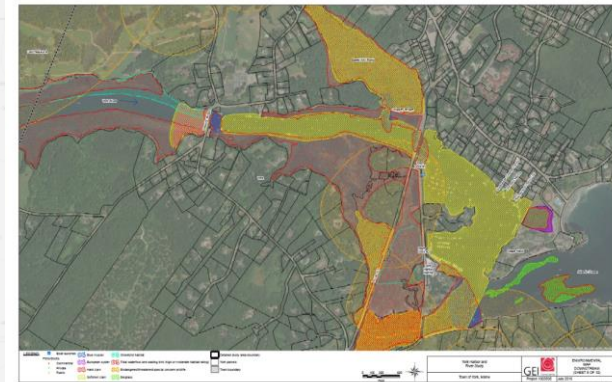
**Map Series 1**  
**Marine Uses & Infrastructure**



**Map Series 2**  
**Land Use & Regulatory**



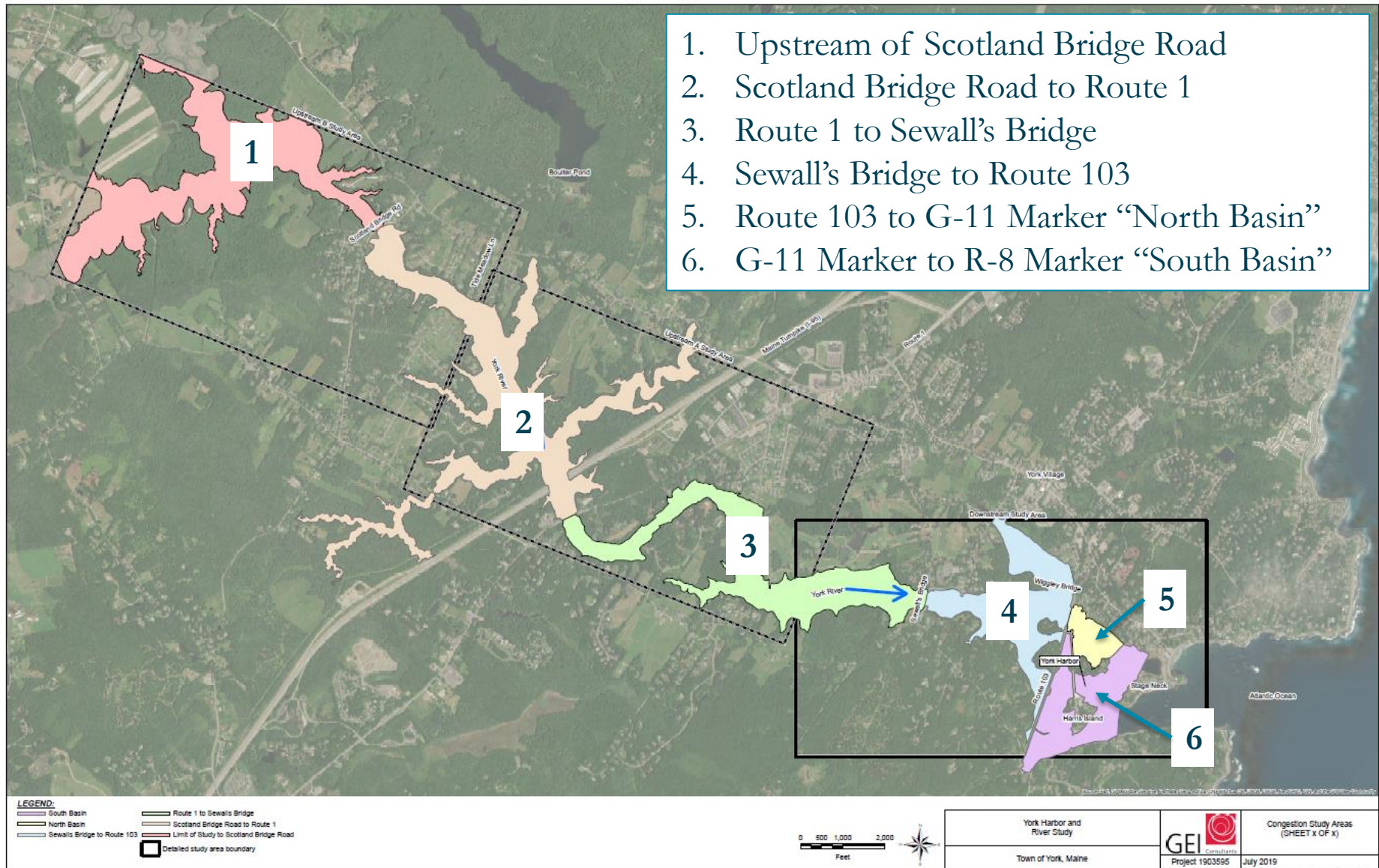
**Map Series 3**  
**Environmental**





# Harbor Inventory

## Detailed Study Areas



# Area Analysis

## Watersheet Characteristics

| Area         | No. | Description                            | High Water Area <sup>1</sup><br>(acre) | Low Water Area <sup>2</sup><br>(acre) | % Intertidal | Length Along Thread <sup>3</sup><br>(mi) |
|--------------|-----|--|--|---------------------------------------|--------------|--|
| Upstream     | 1   | Limit of Study to Scotland Bridge Road | 245                                    | 38.2                                  | 84%          | 4.0                                      |
|              | 2   | Scotland Bridge Road to Route 1        | 289                                    | 44.2                                  | 85%          | 1.7                                      |
|              | 3   | Route 1 to Sewall's Bridge             | 174                                    | 82.7                                  | 52%          | 2.1                                      |
|              |     | <b>Total</b>                           | <b>707</b>                             | <b>165</b>                            | <b>77%</b>   | <b>7.8</b>                               |
| Downstream   | 4   | Sewall's Bridge to Route 103           | 120                                    | 25.4                                  | 79%          | 0.65                                     |
|              | 5   | North Basin:<br>Route 103 to "G-11"    | 24.1                                   | 16.0                                  | 34%          | 0.27                                     |
|              | 6   | South Basin:<br>"G-11" to "R-9"        | 87.5                                   | 29.3                                  | 67%          | 0.37                                     |
|              |     | <b>Total</b>                           | <b>231</b>                             | <b>71</b>                             | <b>69%</b>   | <b>1.3</b>                               |
| <b>Total</b> |     |  | <b>938</b>                             | <b>236</b>                            | <b>75%</b>   | <b>9.1</b>                               |

## Waterfront Facilities

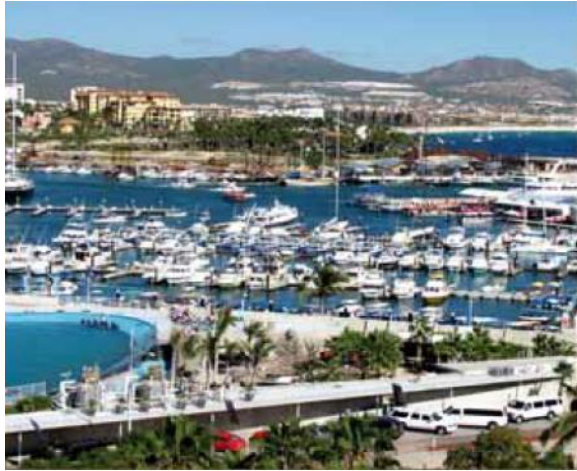
| Area         | No. | Description                            | Boat Launches<br>(trailered or hand-carry) | Working Waterfront Sites | Docks & Piers <sup>1</sup> | Dock Density <sup>2</sup><br>(docks / mile) |
|--------------|-----|--|--|--------------------------|----------------------------|---|
| Upstream     | 1   | Limit of Study to Scotland Bridge Road | 0  | 0                        | 5                          | 1.3   |
|              | 2   | Scotland Bridge Road to Route 1        | 1  | 0                        | 13                         | 7.6   |
|              | 3   | Route 1 to Sewall's Bridge             | 1  | 0                        | 35                         | 17  |
|              |     | <b>Total</b>                           | <b>2</b>                                   | <b>0</b>                 | <b>53</b>                  | <b>6.8</b>                                  |
| Downstream   | 4   | Sewall's Bridge to Route 103           | 1  | 5                        | 13                         | 20  |
|              | 5   | North Basin:<br>Route 103 to "G-11"    | 1  | 1                        | 6                          | 22  |
|              | 6   | South Basin:<br>"G-11" to "R-9"        | 2  | 1                        | 11                         | 30  |
|              |     | <b>Total</b>                           | <b>4</b>                                   | <b>7</b>                 | <b>30</b>                  | <b>23</b>                                   |
| <b>Total</b> |     |  | <b>6</b>                                   | <b>7</b>                 | <b>83</b>                  | <b>9.1</b>                                  |

## Local Boat Density

| Area         | No. | Description                            | Boats on Docks/Slips/<br>Dry Storage <sup>1</sup> | Boats on Moorings <sup>2</sup> | Total Boats <sup>3</sup> | Boat Density <sup>4</sup><br>(boats / acre) |
|--------------|-----|--|---|--------------------------------|--------------------------|---|
| Upstream     | 1   | Limit of Study to Scotland Bridge Road | 3   | 0                              | 3                        | 0.08  |
|              | 2   | Scotland Bridge Road to Route 1        | 5   | 0                              | 5                        | 0.11  |
|              | 3   | Route 1 to Sewall's Bridge             | 12  | 20                             | 32                       | 0.39  |
|              |     | <b>Total</b>                           | <b>20</b>   | <b>20</b>                      | <b>40</b>                | <b>0.24</b>                                 |
| Downstream   | 4   | Sewall's Bridge to Route 103           | 18  | 69                             | 87                       | 3.4   |
|              | 5   | North Basin:<br>Route 103 to "G-11"    | 4   | 98                             | 102                      | 6.4   |
|              | 6   | South Basin:<br>"G-11" to "R-9"        | 116   | 128                            | 244                      | 8.3   |
|              |     | <b>Total</b>                           | <b>138</b>  | <b>295</b>                     | <b>433</b>               | <b>6.1</b>                                  |
| <b>Total</b> |     |  | <b>158</b>  | <b>315</b>                     | <b>473</b>               | <b>2.0</b>                                  |



# Waterway Classes



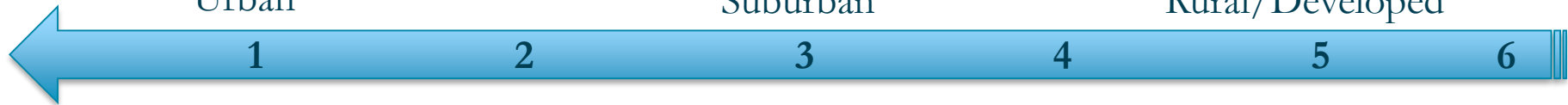
Urban



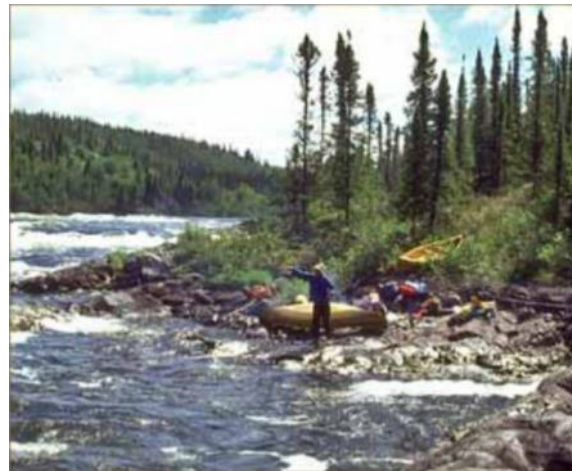
Suburban



Rural/Developed



Rural/Natural



Semi-Primitive

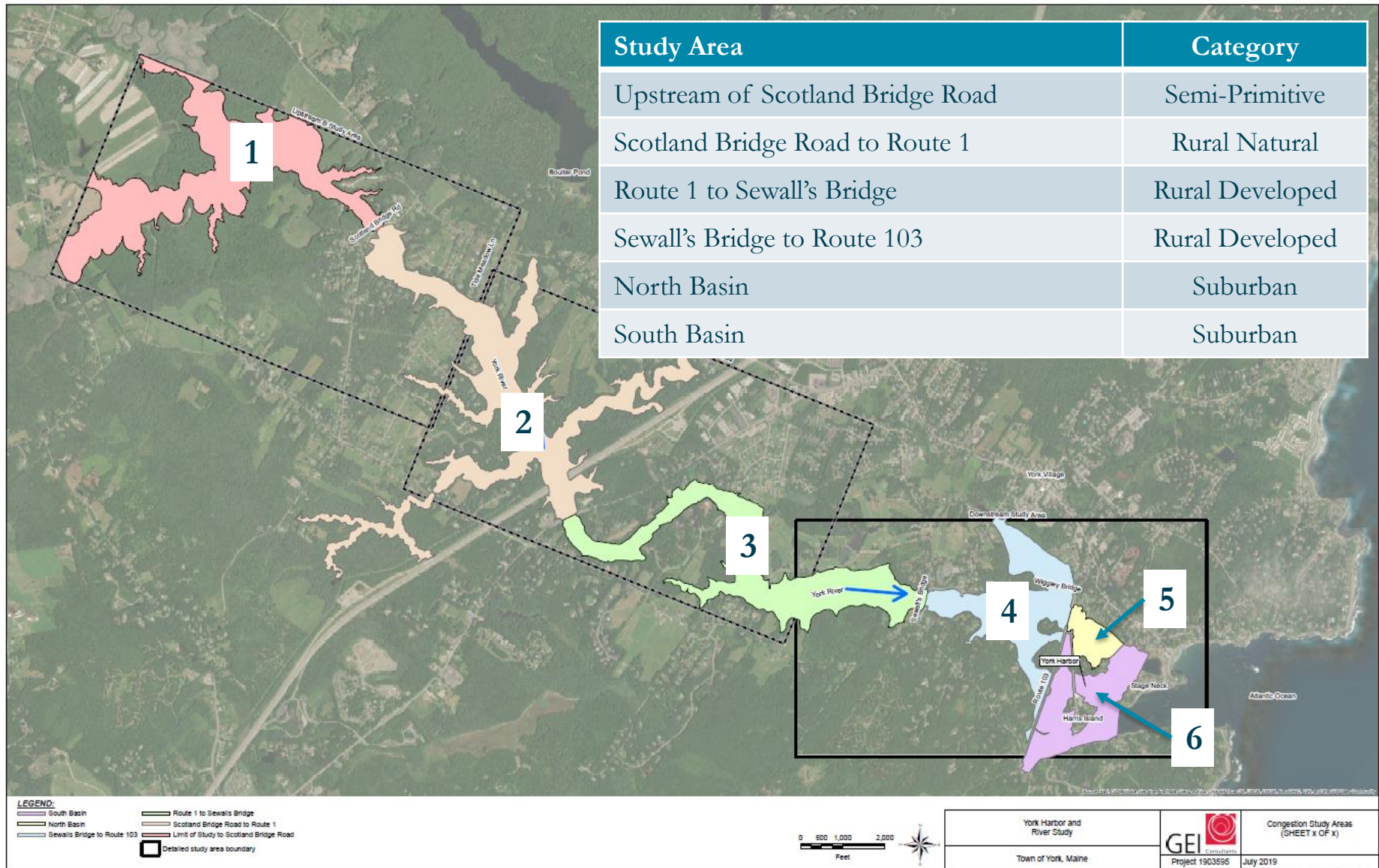


Primitive





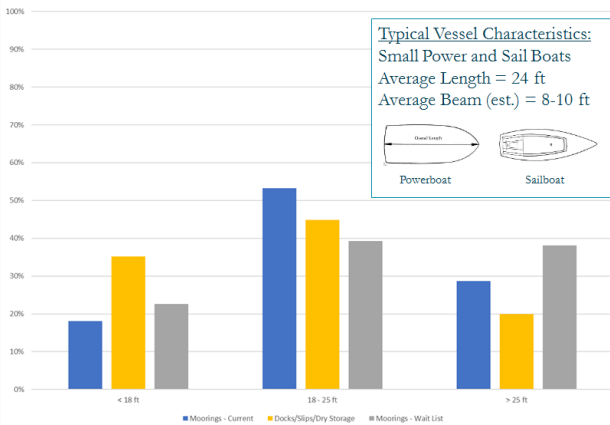
# River Regions & Classes



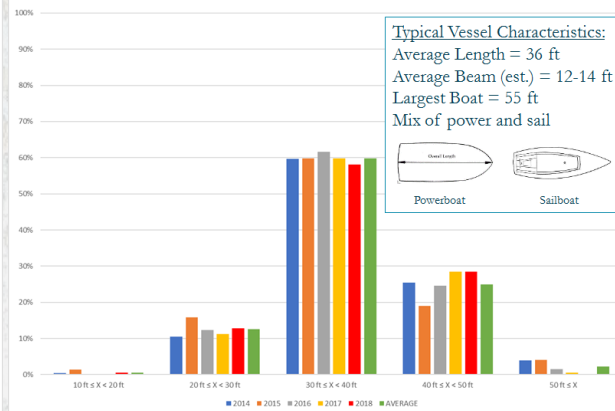


# Vessel Demographics and Usage

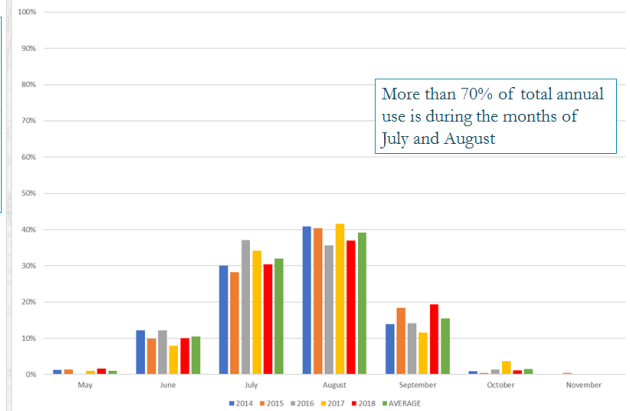
York Harbor Boat Demographics



York Harbor Transient Boat Demographics  
Transient Boat Size Distribution



York Harbor Transient Boat Demographics  
Transient Use By Month



# Work to Date

## 1. Background research

- USACE Environmental Assessment / Navigation Project Records
- MaineDOT tidal monitoring studies
- Water Quality testing
- York River Study
- Comprehensive Plan and Ordinance review
- Stakeholder discussions and meetings

## 2. Issue Identification and Capacity Analysis

## 3. Development of Recommendations







# Overarching Themes

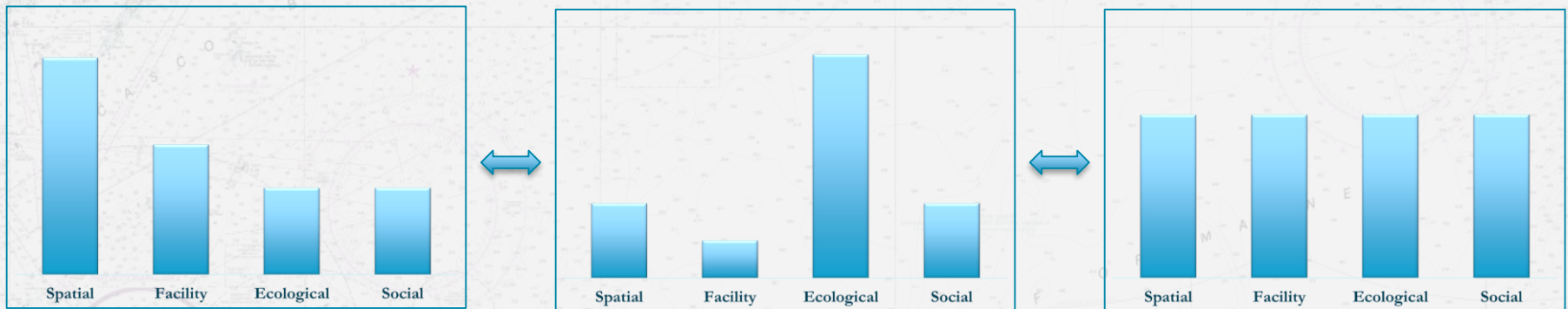


# Overarching Themes

## 1. Waterway Capacity is a balance of factors:

### **Spatial, Facility, Ecological, and Social.**

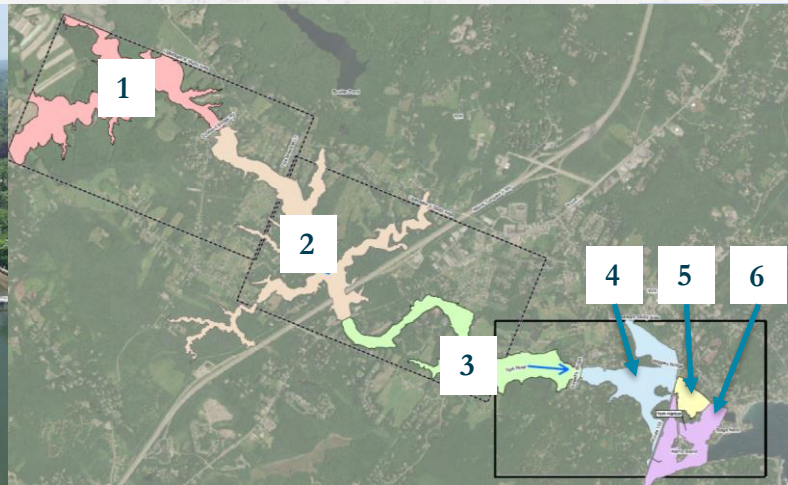
The Town must determine the appropriate balance of factors. This should inform capacity judgments, management priorities, and regulatory approaches.





## Overarching Themes

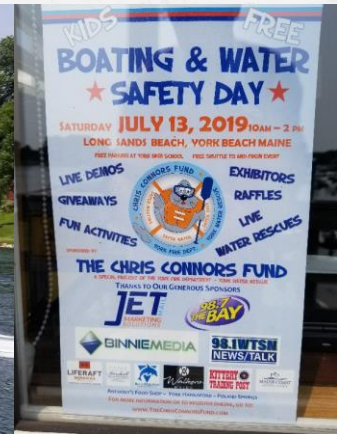
2. The characteristics and uses of the River vary along it's length. The balance of priorities should reflect the unique values and differences of distinct areas.





# Overarching Themes

## 3. Capacity is not just a matter of numbers but also a matter of behaviors.





## Overarching Themes

4. York River / York Harbor is a mixed-use waterway. Effective management of varying uses is necessary.





## Overarching Themes

5. York River / York Harbor is a highly valuable resource. Sustainable management is essential.





The background of the slide is a photograph of a wooden boardwalk or pier extending into a calm body of water. In the distance, a dam or bridge structure is visible, surrounded by a dense line of trees. The entire image is overlaid with a semi-transparent dark blue filter. The title text is centered over the middle of the image.

# Analysis and Recommendations





## Recommendation Area #1

Reorganize and improve mooring fields  
in Areas 4, 5, and 6





# Moorings, Facilities, and Access

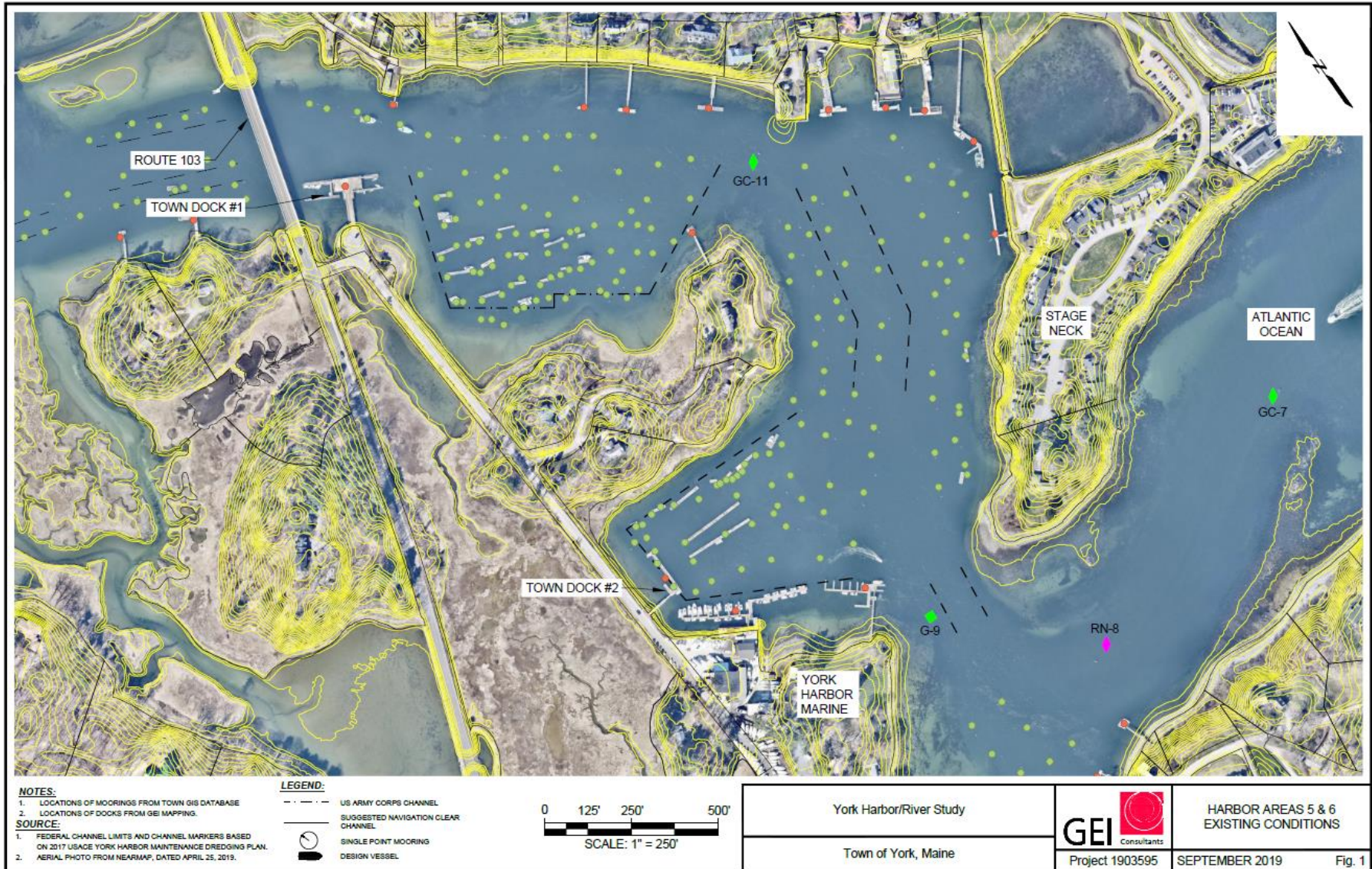
- Channel widths & Boat Density
  - Existing conditions
  - Recommended Channel widths
  - Army Corps Navigation Channels/Anchorages
  - Options for improved capacity through improved mooring field layout
- Access and parking Needs
- Water access locations
- Improved separation of uses





# Harbor Areas 5 & 6

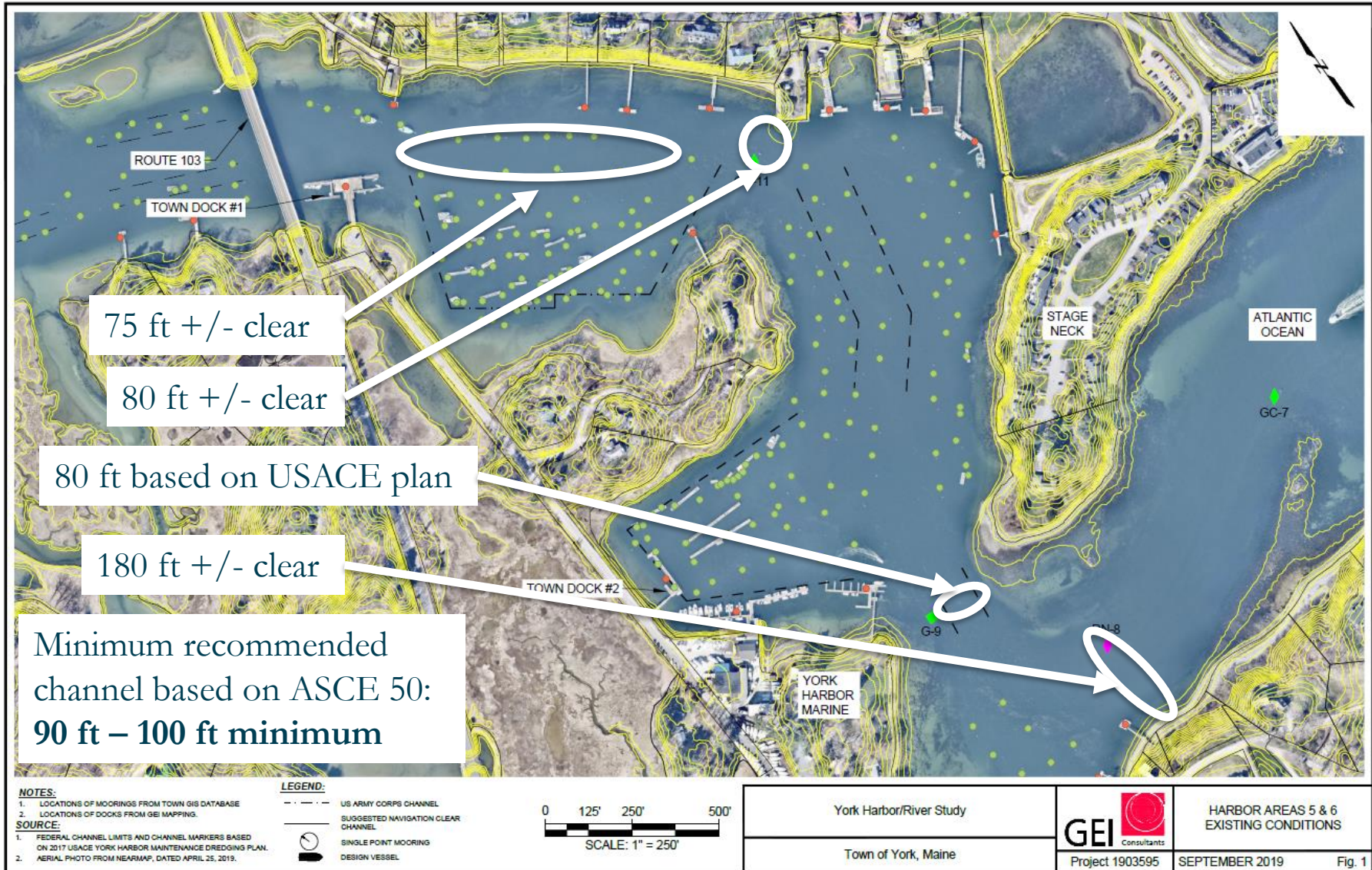
## Existing Conditions





# Harbor Areas 5 & 6

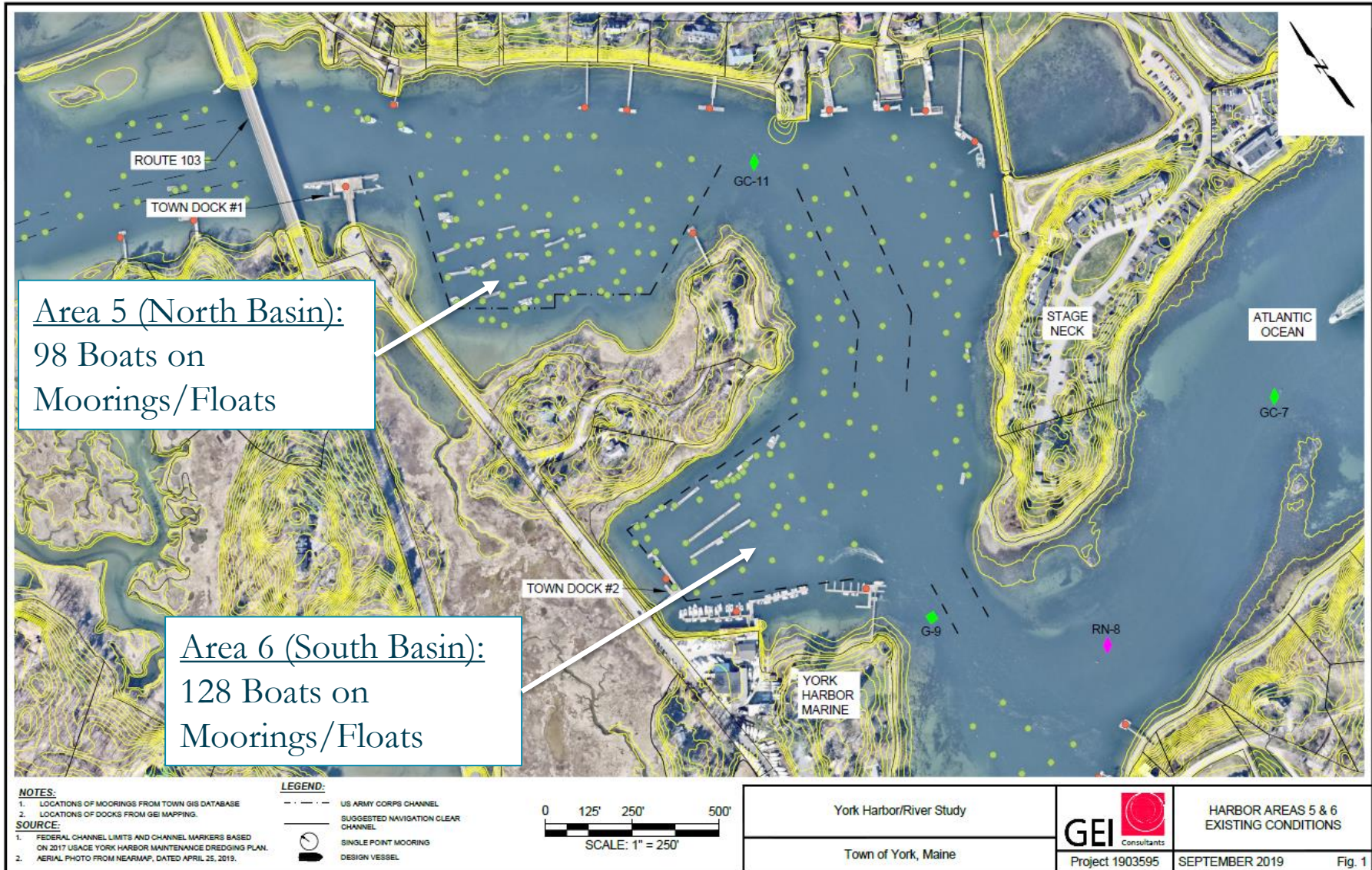
## Existing Conditions





# Harbor Areas 5 & 6

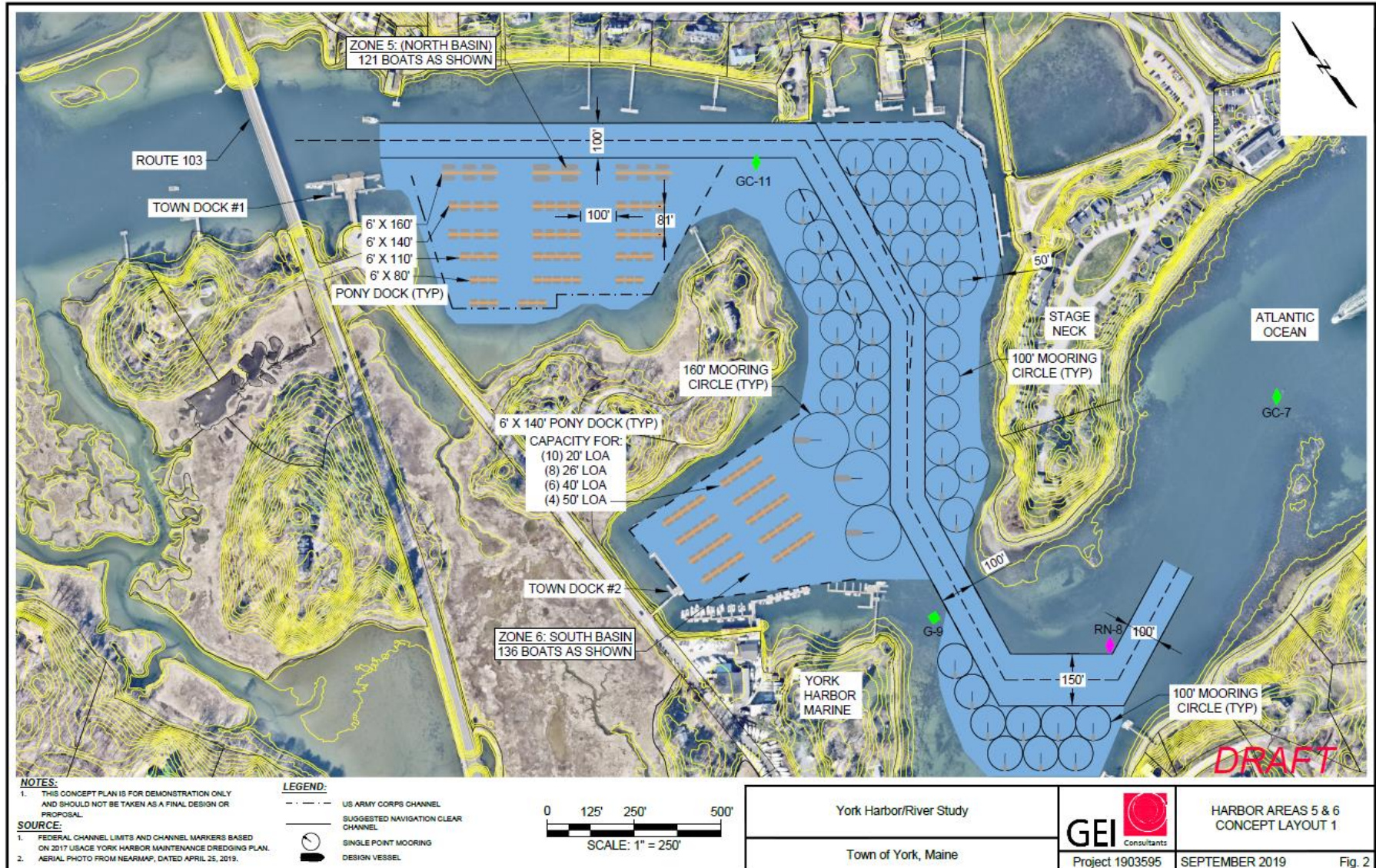
## Existing Conditions





# Harbor Areas 5 & 6

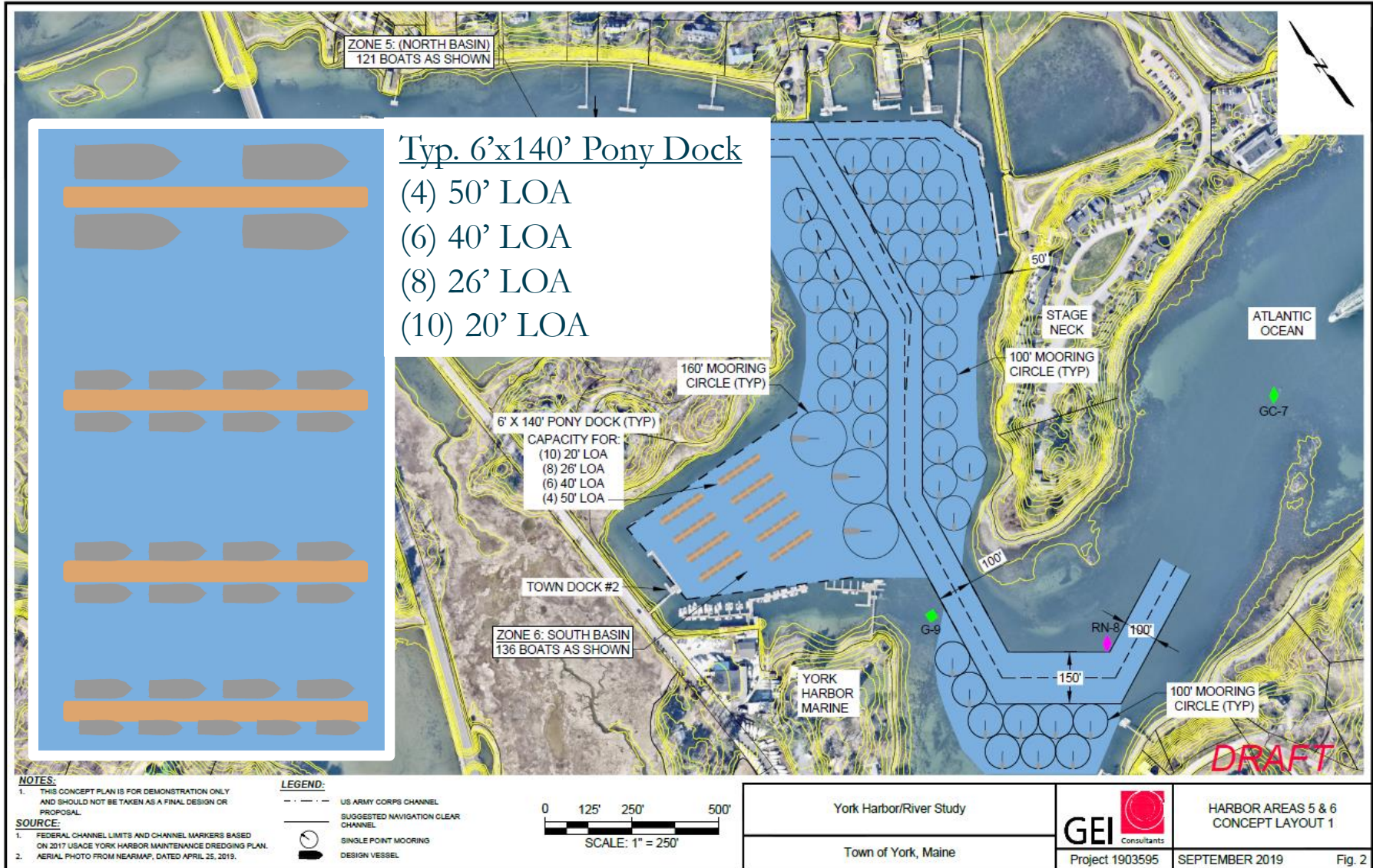
## Concept Layout 1





# Harbor Areas 5 & 6

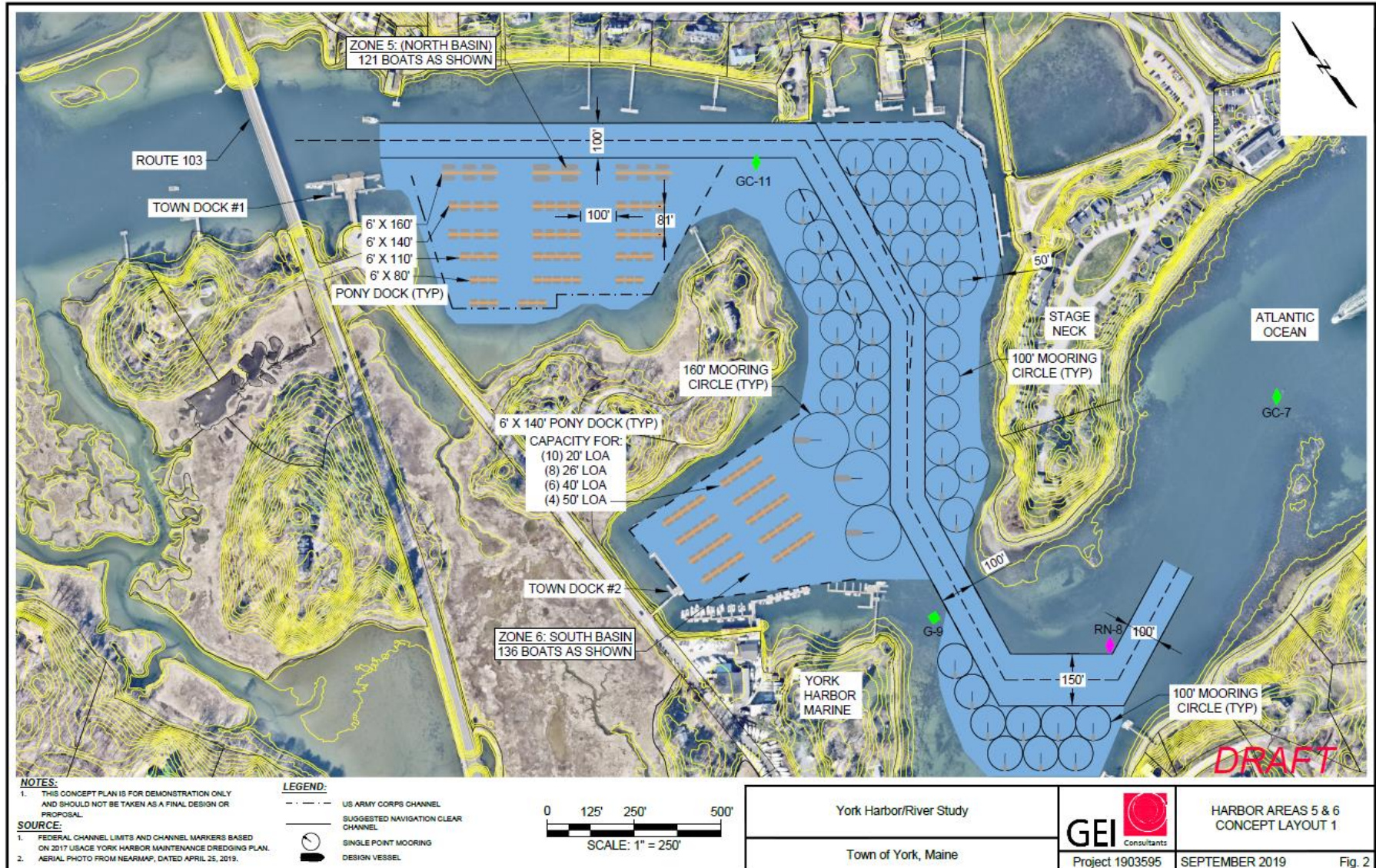
## Concept Layout 1





# Harbor Areas 5 & 6

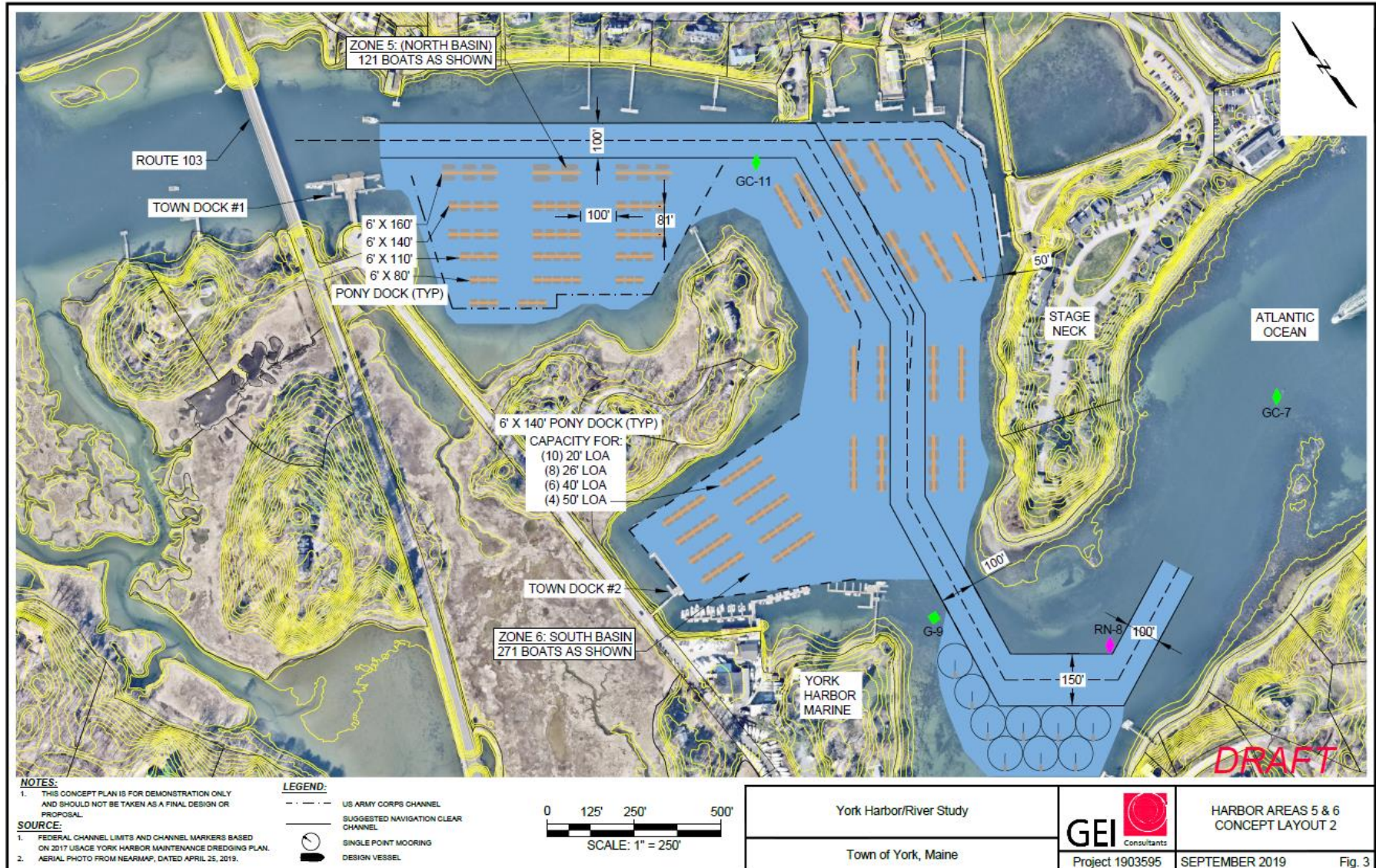
## Concept Layout 1





# Harbor Areas 5 & 6

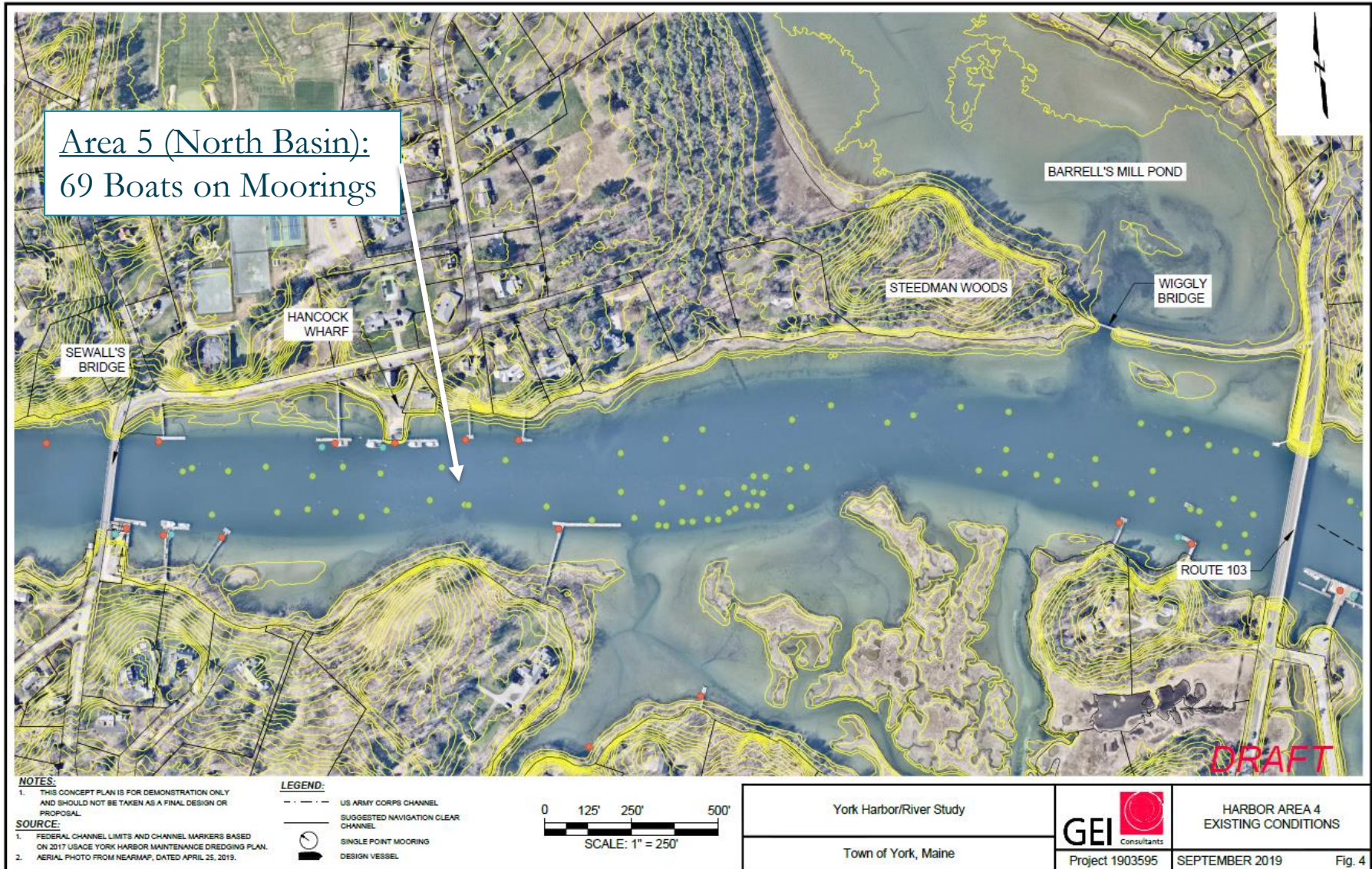
## Concept Layout 2





# Harbor Area 4

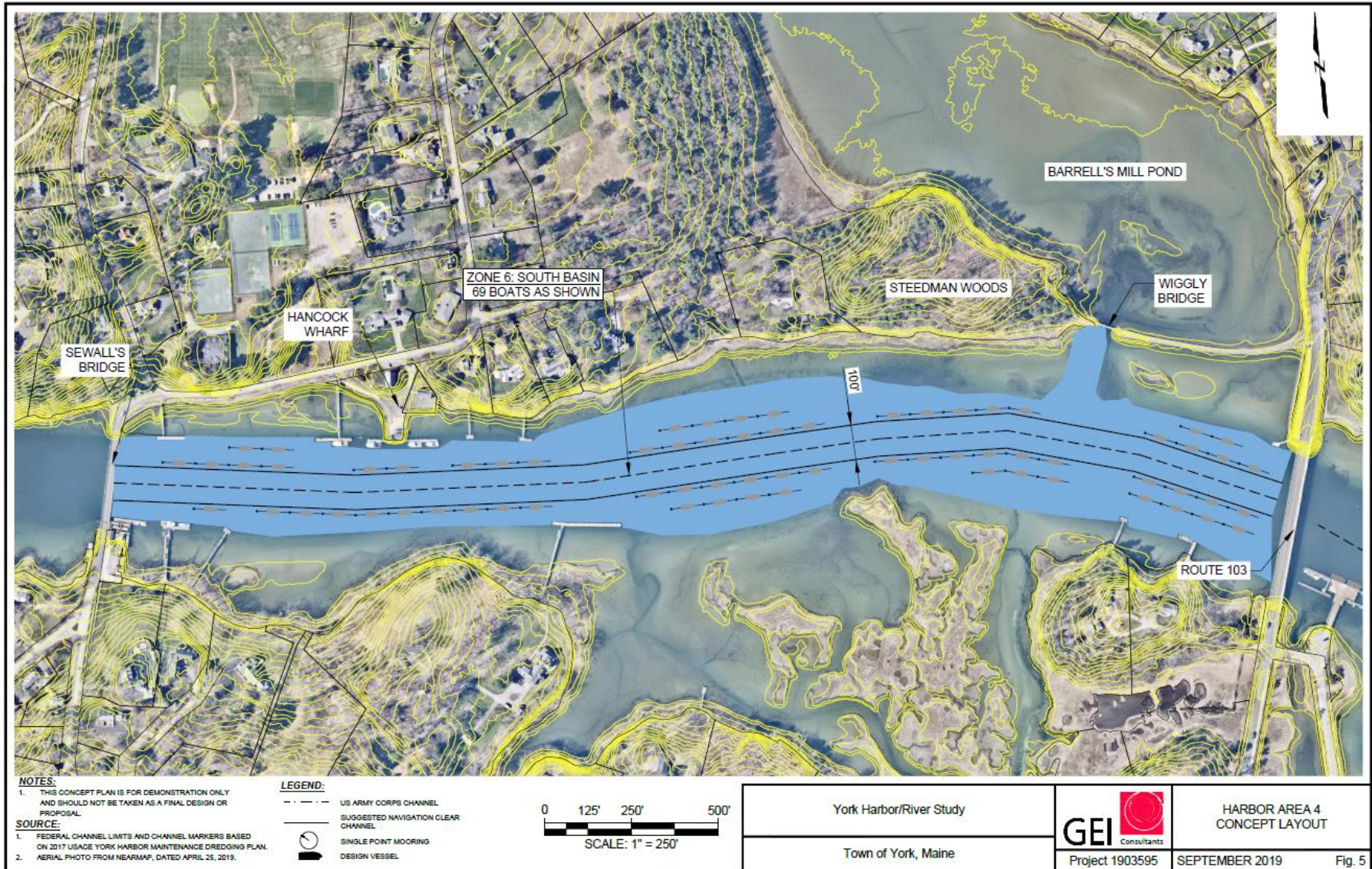
## Existing Conditions





# Harbor Area 4

## Concept Layout





# Observations

- All concepts incorporate min. 100' clear channel
- More efficient layout with increased use of floats provides potential for significant increase in boats in Areas 5 & 6
- Significant increase in parking and dinghy demand would come with these options
- In Area 4, efficient layout allows for similar number of moorings to existing with improved channel conditions
- Alternatives for pony docks could be considered also





# Recommendations

1. Town must determine goals for mooring field capacity:
  - Maintain similar number of moorings
  - Increase moorings to address wait list
2. Implementation would require that design and permitting for improvements be completed. This process will confirm:
  - Vessel demand and usage confirmation
  - Water depths
  - Channel locations and width limits
  - Number of moorings/docks
  - Size and type of moorings/docks
  - Access and support facilities
  - Ownership
  - Funding





# Recommendations

3. Promote use of conservation moorings for reduced impact to seabed habitat and increased mooring density.
4. Consider use of mooring management software such as **onlinemooring.com** for more efficient tracking of existing moorings and wait list.
5. Re-assess mooring fees in consideration of demand, capital improvement budget needs, and market rate for similar services.





## Recommendation Area #2

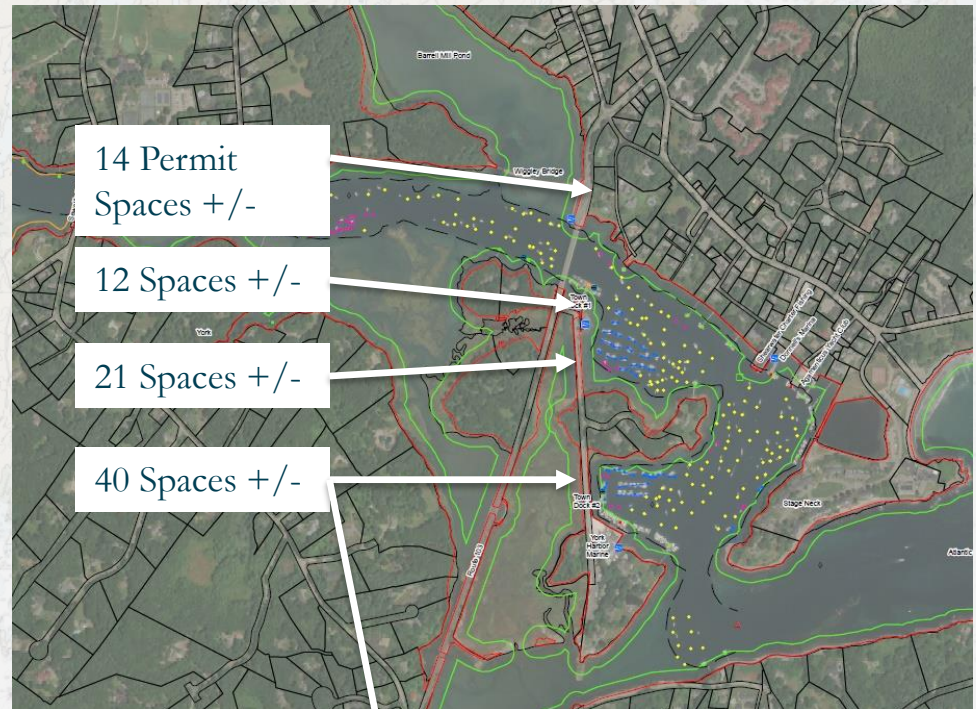
Improve Parking and Dinghy Access  
Consistent with Mooring/Slip Capacity





# Parking

- Additional moorings will require additional parking
- Parking demand depends on vessel utilization.
- Typical range of 0.33 – 1.0 spaces/mooring
- 75 +/- spaces near harbor are limited parking even to support current level of moorings
- Mixed uses of harbor area place further demand on parking
- Offsite parking with trolley could alleviate parking near the Harbor.





# Tenders/Dinghies

- Per Harbor Ordinance, each mooring holder is entitled to a tender
- Tie-up / storage provided at TD #1, TD #2, Strawberry Island
- Currently 161 tenders
- Capacity for additional tenders limits access to additional moorings
- Consider options for:
  - Shared dinghies
  - Improved dinghy storage system
  - Jitney





# Recommendations

1. Determine capacity requirements based on selected size of mooring field expansion
2. Improve management of parking along Harris Island Road at high demand times
3. Explore options for offsite parking/jitney to reduce demand for parking directly at harbor





The background image shows a riverbank scene. On the left, there is a green shed and a wooden fence. In the center, several kayaks are stored on a rack and on the ground. The kayaks are in various colors: white, yellow, green, blue, and red. In the background, there is a river with some boats and a line of trees. The sky is blue with some clouds.

## Recommendation Area #3

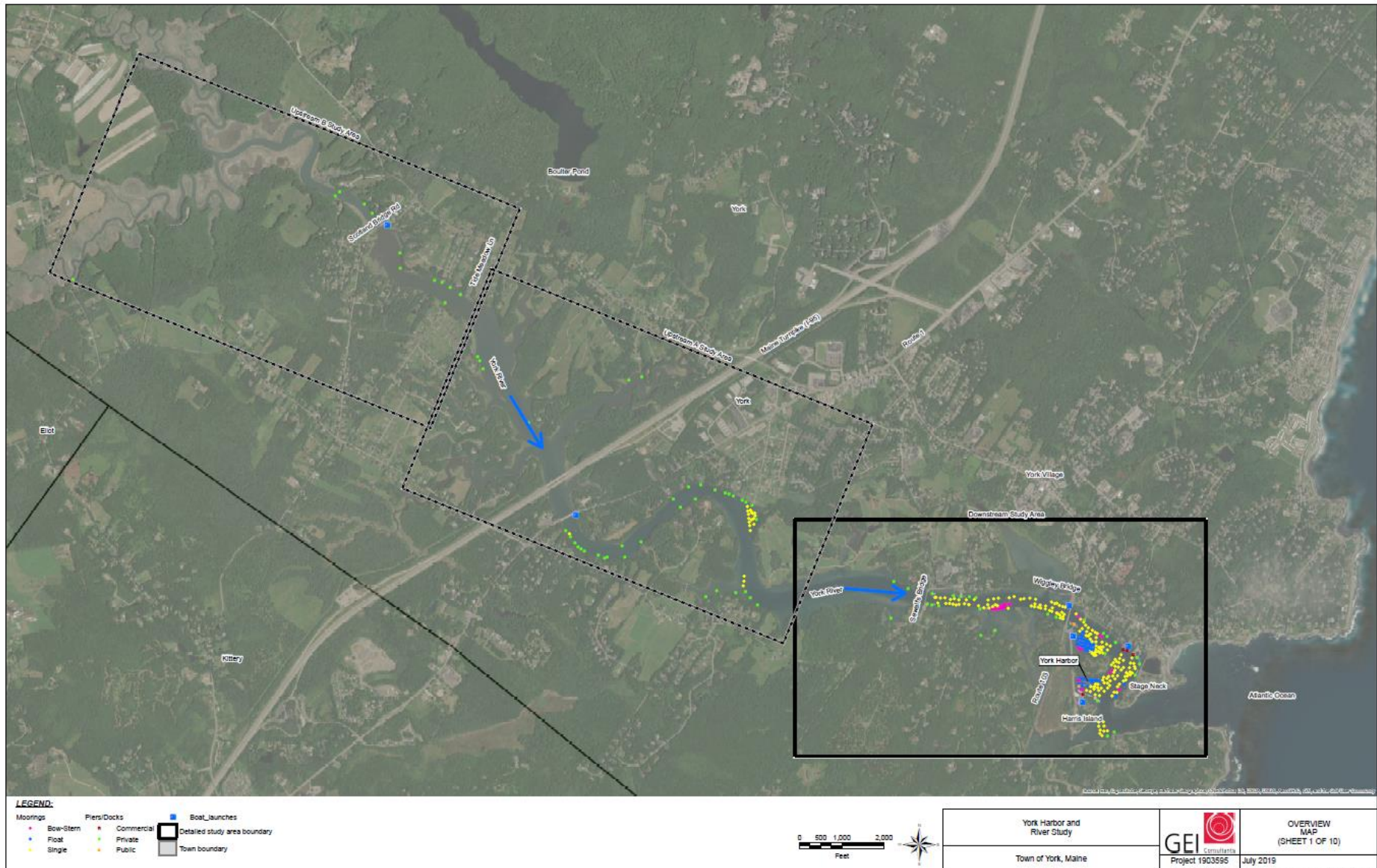
Improve Access to upriver  
segments of River.





# Water Access Facilities

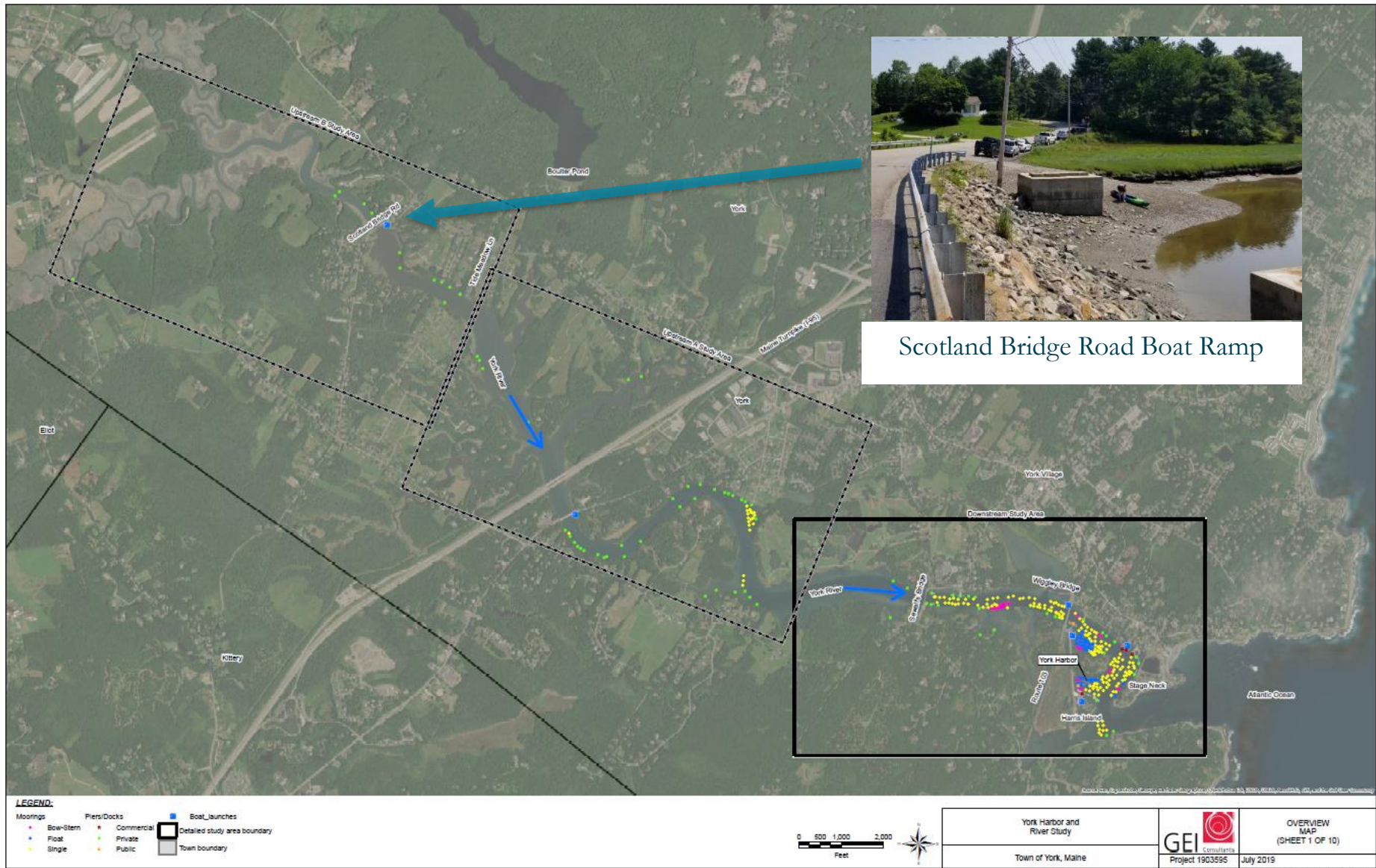
## Access Locations





# Water Access Facilities

## Access Locations





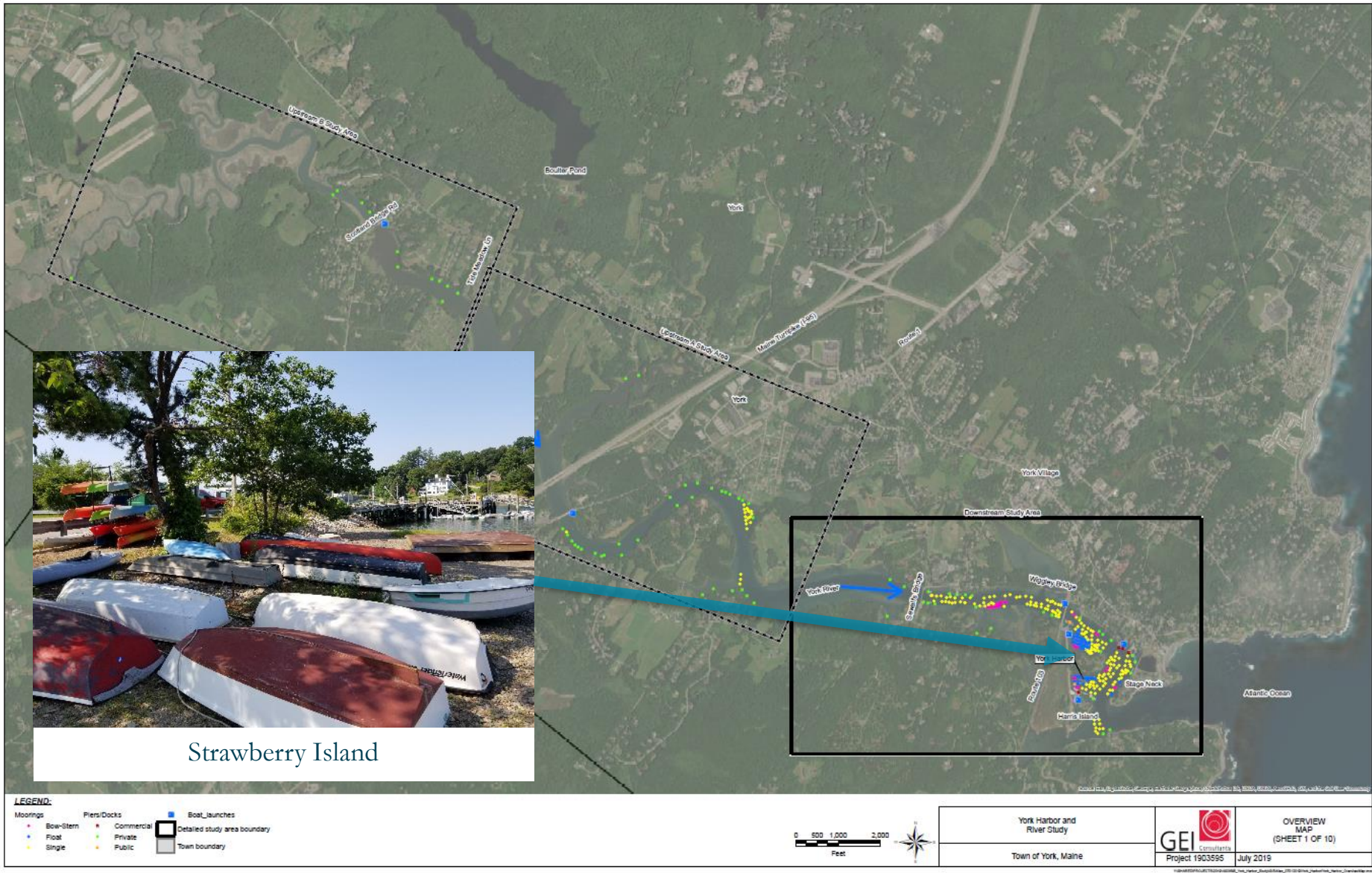
## Access Locations





# Water Access Facilities

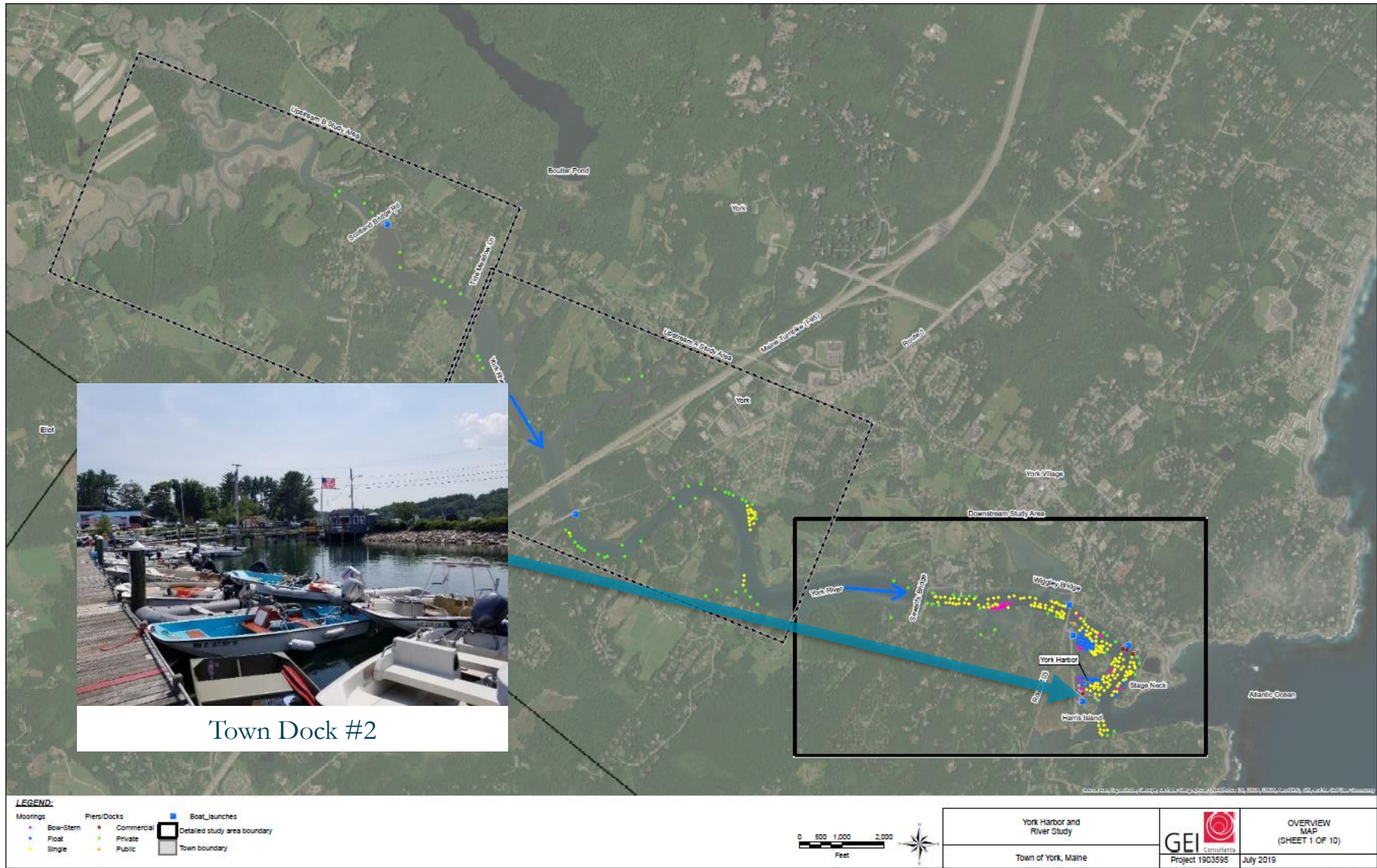
## Access Locations





# Water Access Facilities

## Access Locations





# Observations

- Access to River above Sewall's Bridge is very limited
- Launch at Scotland Bridge has limited parking, tidal limitations, and is not well improved for trailered boat use.
- Launch at Rice's Bridge has limited parking, tidal limitations, is narrow, and is not well improved for trailered boat use. Location along busy Route 1 is not ideal for truck/trailer turning movements.
- Main public access points for paddlecraft are concentrated in most heavily used area of River





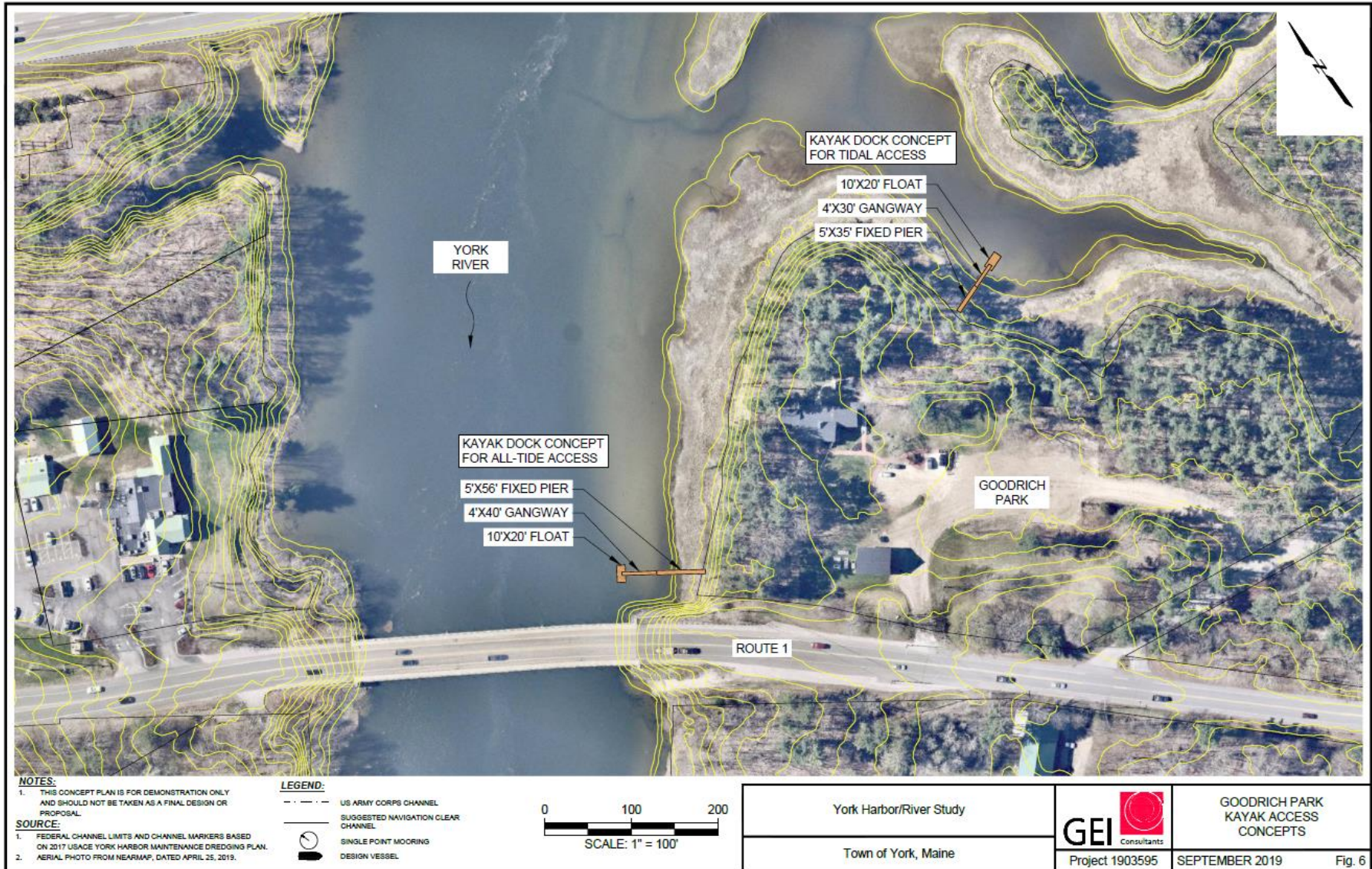
# Recommendations

1. Consider improving boat launch at Scotland Bridge
2. Establish paddlecraft access at an upriver location
  - Improved separation of uses
  - Promotes use of upriver areas that is sensitive to natural resources
  - Goodrich Park is an ideal location:
    - Existing Town-owned property
    - Ample parking
    - Central location along River
    - Easily accessible from Town
    - Challenges: potential deed limitations, unsure whether permissible based on Harbor Ordinance and Shoreland Zoning limitations
    - Design and permitting process could confirm design, issues, and costs





# Goodrich Park Kayak Access Concept Plans





## Recommendation Area #4

Manage uses to minimize ecological impact of boating and related activity.





# Ecological Capacity

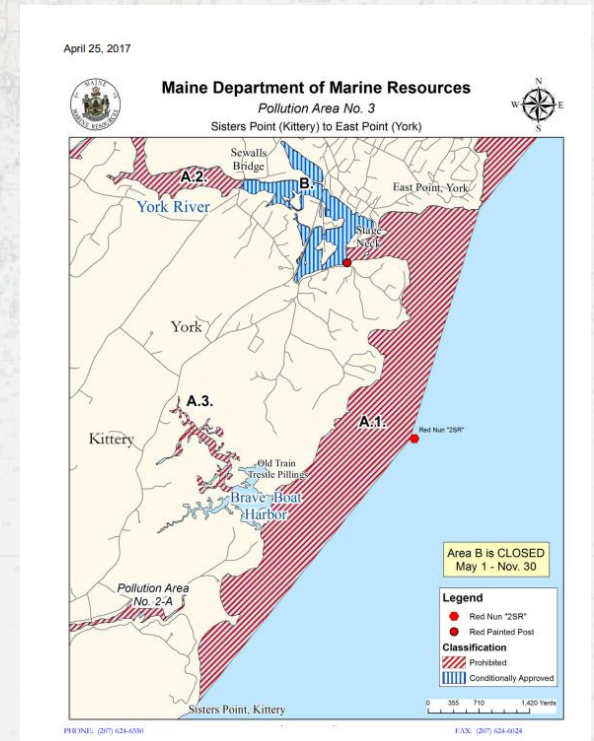
- Water based activities both depend on, and have the potential to impact, the marine ecosystem
- Management approaches to minimize ecological impact vary by type of use, sensitivity of resource.
- Approaches range from promoting lower impact, cleaner boating to use limitations/restrictions.





# Observations

- York River is a Class SB Waterway:
  - “Class SB waters must be of such quality that they are suitable for the designated uses of recreation in and on the water, fishing, aquaculture, propagation and harvesting of shellfish, industrial process and cooling water supply, hydroelectric power generation, navigation and as habitat for fish and other estuarine and marine life. The habitat must be characterized as unimpaired.”
- Good water quality documented by Maine DEP
- Shellfish closures/conditional closures are in effect for entire river
  - Upstream of Sewall’s Bridge prohibited from shellfish harvesting due to potential pollution
  - Downstream of Sewall’s Bridge conditionally approved for harvesting, closed from May 1 – Nov. 30 due to presence of boats in summer/fall
- Relative contributions of boating and upland factors (runoff, fertilizer, septic systems) are not understood. Detailed study needed.





# Ecological Impacts of Boating

|   | Emissions<br>and<br>Exhaust | Propeller<br>or hull<br>contact | Turbulence | Waves<br>and<br>Wake | Noise | Movement |
|---|-----------------------------|---------------------------------|------------|----------------------|-------|----------|
| Water Clarity<br>(turbidity, nutrients, algae)                    |                             | ■                               | ■          | ■                    |       |          |
| Water Quality<br>(metals, hydrocarbons, other pollutants)         | ■                           |                                 |            |                      |       |          |
| Shoreline Erosion   |                             |                                 |            | ■                    |       |          |
| Plant Communities   |                             | ■                               | ■          | ■                    |       |          |
| Fish  | ■                           | ■                               | ■          |                      |       | ■        |
| Wildlife<br>(Birds, mammals, frogs, turtles)                      |                             | ■                               |            | ■                    | ■     | ■        |
| Human Enjoyment<br>(air quality, peace & quiet, safety, crowding) | ■                           |                                 |            | ■                    | ■     | ■        |

*Adapted from "The Effects of Motorized Watercraft on Aquatic Ecosystems" Wisconsin DNR, 2000*





# Recommendations to Reduce Impact of Boating

## 1. No-Wake Zones

- One of the most effective ways to reduce powerboat impacts
- Mitigates turbidity, impacts with aquatic vegetation, shoreline erosion, disturbance of fish and wildlife
- The Town has established no wake zones and has restrictive ordinance language.
- Must be followed/enforced

## 2. Restricted Areas

- In highly sensitive areas, access prohibitions can be warranted
- These restrictions need to balance protection of the resource with public access rights

## 3. Enforcement and education

- Educate on how boating causes impacts as well as the benefits of reducing impacts and the important functions and values of the coastal ecosystem
- Enforcement of existing regulations

## 4. Promote clean boating and facilities

- Clean technology (four stroke engines), regular tuneups
- Clean Marinas BMP's
- Provide a marine pumpout





## Recommendation Area #5

Promote boater education, stewardship, and active stakeholder engagement to manage varied needs of mixed uses.





# Social Capacity

- Management of the needs of varied uses is crucial in a mixed use waterway
  - Recreational and Commercial
  - Sailboats, Power Boats, Paddle Craft
  - Swimming
- Separation of uses is an effective approach to reducing conflicts
- Improved observance of rules and regulations
  - Laws – Headway Speed, Life Jackets
  - Rules of the Road
  - Local regulations – Swimming areas, towing, tie-up locations, etc.
- Attitude toward stewardship





## Paddlecraft Management Recommendations

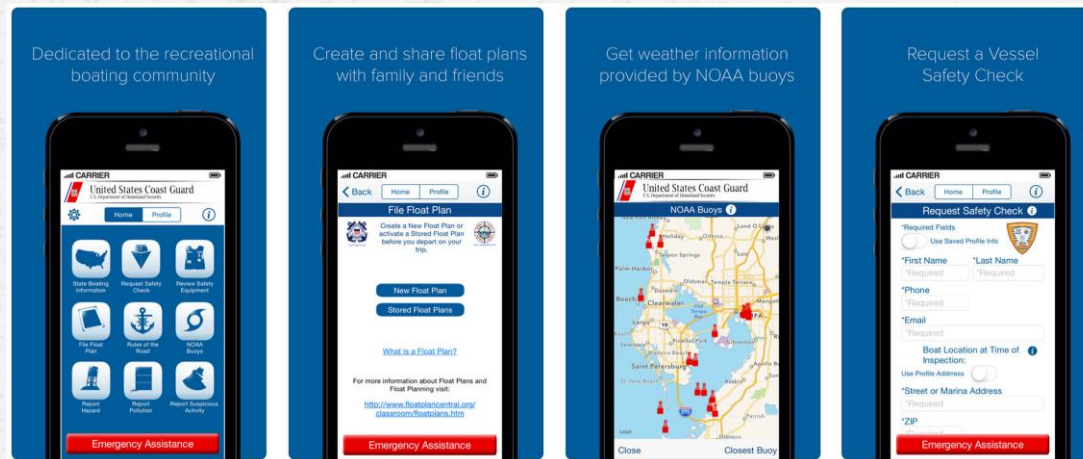
1. Improve separation of uses by establishing upriver access
2. Promote paddlecraft safety education
3. Paddlecraft registration
4. Institute day launch fees for use of Town launches





# Boater Education Resources

- USCG App
  - Free for IOS and Android
  - Search “United States Coast Guard” in Appstore/Play Store
  - Safety Information, Automated Float Plans, Buoy Maps, Hazard and Pollution Reporting, Emergency Assistance





## Stakeholder Engagement Recommendations

1. Engage with the range of user groups interested in waterway management to understand distinct needs and goals
2. Upcoming Comprehensive Plan process (2020-) is an opportunity to work through goal setting process with active stakeholder engagement







## Recommendation Area #6

Consider revisions to Harbor Ordinance for dock development to improve consistency and balance goals of public access and resource protection.





# Comprehensive Plan Recommendation

- Town of York Comprehensive Plan, Town Goal 7.1, #7:

*“The Town should re-examine its current provisions regarding docks along the York River and implement changes which accomplish the following:*

- A. Current standards which restrict the number of properties on which a dock can be constructed should be continued. The goal should be to strictly control the number of docks along the York River, particularly west of Sewall’s Bridge. The current Ordinance only allows 1 dock per property that existed in 1977.*
- B. The Town should continue current regulations which strictly control the size and location of docks located west of Sewall’s Bridge*
- C. The Town should allow longer docks, greater float sizes and similar measures in areas located east of Sewall’s Bridge to direct motorized watercraft use to this area. Current standards may be too restrictive in this area of high intensity watercraft use. Allowing larger floats may lessen the need for new docks.”*





# Dock Setback and Length Regulations

- Docks are only allowed where the distance from the High Water Line to the Low Water Channel is less than:
  - 50 ft west (upstream) of Sewall's Bridge
  - 84 ft east (downstream) of Sewall's Bridge
- For the purpose of these standards:
  - High water elevation is based on Highest Annual Tide published annually by DEP
  - Low water elevation is based on immediately following low tide
- Docks cannot extend closer than 100' to the opposite marsh bank
- Docks cannot extend more than 10% of the low-tide channel width





# Impact of Tidal Variations

- High Tide and Corresponding Low Tide vary from year to year
- Between years 2000 and 2030 high-to-low tide range varies by up to 1.0 ft
- This can have a large impact on horizontal high- to low-water setback, especially on properties with long shallow sloping flats



Searched for event at: : Tides:York Harbor

| Event_Time                | Value     | High | Low  | Variation |
|---------------------------|-----------|------|------|-----------|
| 1 Sun, 06-04-2000 12:39a  | 11.2 ft   | 11.2 | -1.6 | 12.8      |
| 2 Wed, 01-10-2001 10:58a  | 11.0 ft   | 11.0 | -1.8 | 12.8      |
| 3 Tue, 11-05-2002 10:49a  | 11.1 ft   | 11.1 | -1.8 | 12.9      |
| 4 Sat, 05-17-2003 12:08a  | 11.2 ft   | 11.2 | -1.7 | 12.9      |
| 5 Fri, 06-04-2004 12:02a  | 11.1 ft   | 11.1 | -1.5 | 12.6      |
| 6 Sat, 07-23-2005 12:43a  | 11.0 ft   | 11.0 | -1.4 | 12.4      |
| 7 Mon, 11-06-2006 11:01a  | 11.0 ft   | 11.0 | -1.6 | 12.6      |
| 8 Sat, 10-27-2007 12:12p  | 11.2 ft   | 11.2 | -1.7 | 12.9      |
| 9 Wed, 05-07-2008 12:34a  | 11.1 ft   | 11.1 | -1.6 | 12.7      |
| 10 Wed, 06-24-2009 12:18a | 11.0 ft   | 11.0 | -1.4 | 12.4      |
| 11 Sun, 01-31-2010 11:32a | 11.0 ft   | 11.0 | -1.9 | 12.9      |
| 12 Fri, 10-28-2011 12:30p | 11.3 ft   | 11.3 | -1.8 | 13.1      |
| 13 Mon, 05-07-2012 12:03a | 11.3 ft   | 11.3 | -1.8 | 13.1      |
| 14 Tue, 06-25-2013 12:40a | 11.3 ft   | 11.3 | -1.7 | 13.0      |
| 15 Thu, 01-02-2014 11:13a | 11.2 ft   | 11.2 | -2.0 | 13.2      |
| 16 Wed, 10-28-2015 12:05p | 11.2 ft   | 11.2 | -1.8 | 13.0      |
| 17 Tue, 11-15-2016 10:59a | 11.4 ft   | 11.4 | -2.0 | 13.4      |
| 18 Sat, 05-27-2017 12:25a | 11.4 ft   | 11.4 | -1.8 | 13.2      |
| 19 Wed, 01-03-2018 11:35a | 11.2 ft   | 11.2 | -2.0 | 13.2      |
| 20 Tue, 01-22-2019 11:35a | 11.0 ft   | 11.0 | -1.9 | 12.9      |
| 21 Sun, 11-15-2020 10:30a | 11.2 ft   | 11.2 | -1.8 | 13.0      |
| 22 Wed, 05-26-2021 11:50p | 11.3 ft   | 11.3 | -1.5 | 12.8      |
| 23 Thu, 06-16-2022 12:39a | 11.1 ft   | 11.1 | -1.5 | 12.6      |
| 24 Sun, 01-22-2023 11:01a | 10.9 ft   | 10.9 | -1.7 | 12.6      |
| 25 Fri, 10-18-2024 12:05p | 11.0 ft   | 11.0 | -1.7 | 12.7      |
| 26 Tue, 04-29-2025 12:23a | 11.2 ft   | 11.2 | -1.7 | 12.9      |
| 27 Mon, 05-18-2026 12:16a | 11.1 ft   | 11.1 | -1.5 | 12.6      |
| 28 Tue, 07-06-2027 12:58a | 11.0 ft   | 11.0 | -1.4 | 12.4      |
| 29 Thu, 10-19-2028 12:18p | 11.1 ft   | 11.1 | -1.6 | 12.7      |
| 30 Wed, 11-07-2029 11:10a | 11.3 ft   | 11.3 | -1.8 | 13.1      |
| 31 Fri, 05-17-2030 11:44p | 11.3 ft   | 11.3 | -1.5 | 12.8      |
|                           | Max       | 11.4 | -1.4 | 13.4      |
|                           | Min       | 10.9 | -2.0 | 12.4      |
|                           | Variation | 0.5  | 0.6  | 1.0       |

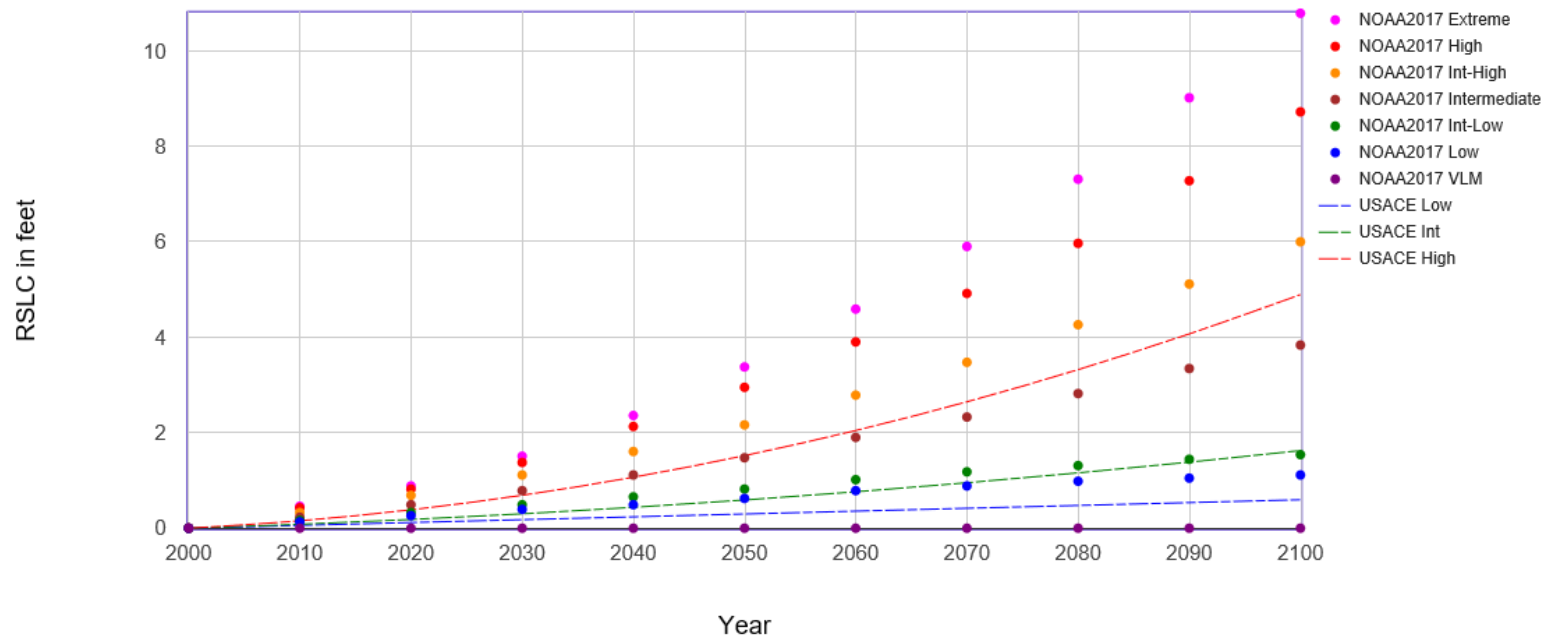
York Harbor Highest Annual Tides and corresponding low tides for years 2000-2030 at NOAA Station 8419518 – York Harbor from Tides & Currents Pro.





# Impact of Sea Level Rise

NOAA et al. 2017 Relative Sea Level Change Scenarios for : PORTLAND





# Examples of a More Robust approach

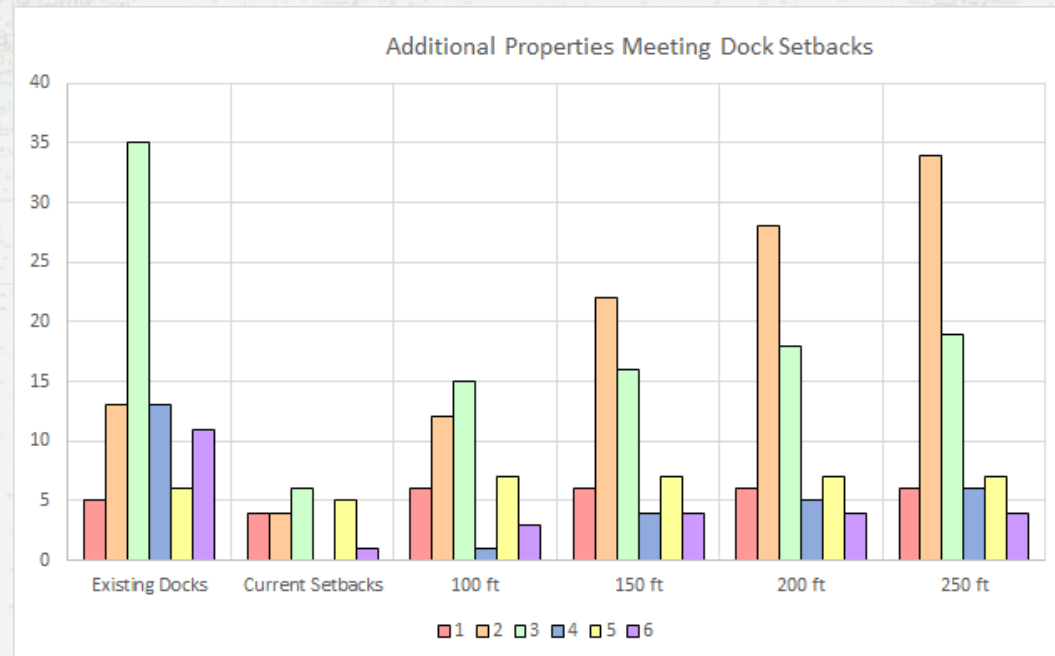
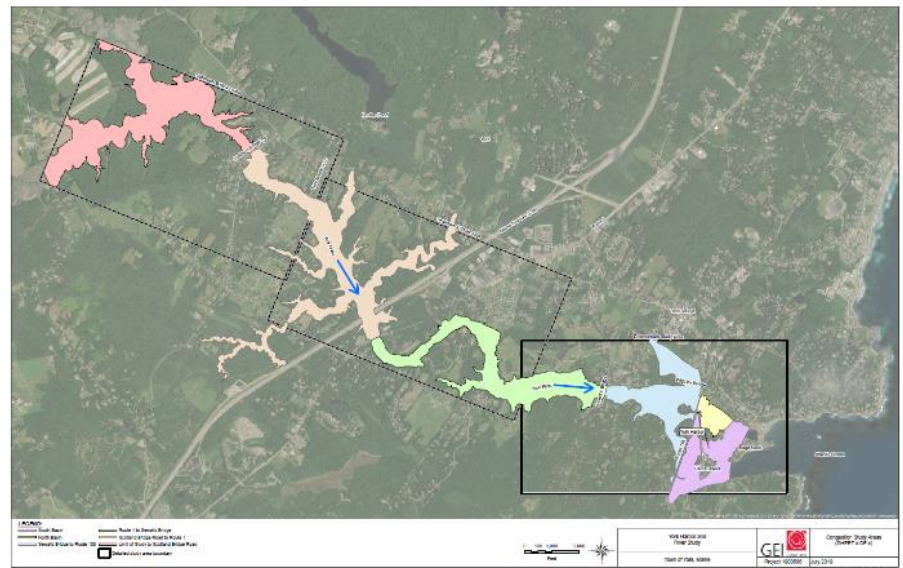
- Regulatory High Water Line:
  - Define based on Highest Astronomical Tide (19-year tidal epoch)
  - Consider additional freeboard to account for SLR
    - e.g. Highest Astronomical Tide + 3 ft
- Regulatory Low Water Line:
  - Lowest Astronomical Tide, or
  - Establish a 'Harbor Line' based on objective measurements
    - e.g. maximum extension of current docks
- Alternatively:
  - Define maximum dock length measured from High Water Line
  - Define minimum water depth at floats





# Impacts of Considering Setback Revisions

- Currently 83 docks on York River
- How many properties without existing docks may qualify for docks based on setback alone?
- Scenarios consider existing setbacks as well as 100, 150, 200, and 250 ft
- Some areas significantly more impacted than others
- Management of distinct River areas should reflect Town priorities for development density
- Note that many other factors will limit dock development
  - Pre-1977 properties
  - Shoreland zoning
  - Environmental restrictions
  - Conservation properties
  - Owner plans





# Shoreland Zoning Regulations on Docks

- Shoreland Zoning mandated by State of Maine under the Mandatory Shoreland Zoning Act (Title 38, Chapter 3, §§ 435-449)
- Maine DEP provides standards for municipalities (Chapter 1000)
- Municipalities have the authority to adopt more stringent regulations consistent with their local land use goals
- The Town of York has established Shoreland Zoning that strictly regulates docks on York River:
  - Docks are expressly prohibited in Resource Protection Subdistrict (8.2.1.C, Misc. Use Category
  - Resource Protection Zone includes (3.8.2.a, Resource Protection Subdistrict):
    - Coastal Wetlands
    - Steep Slopes
    - 100-year Floodplain along York River
    - Bird Habitat Areas
    - Unstable Bluffs
- Based on these regulations, the number of properties on the York River permitted to install a dock under Shoreland Zoning is extremely limited





# Dock Regulations: Recommendations

1. Reconsider dock setback definitions
2. Determine town goals for dock development and if necessary, consider revisions to regulations
3. Consider additions to Harbor Ordinance to address regulation of:
  - Offseason float storage location – off marsh / out of intertidal
  - Storage of paddlecraft/dinghies
  - Filing of float/tieup plan
  - Minimum depth of water beneath floats
  - Height of structure above marsh
  - Promote community docks





# Conclusions



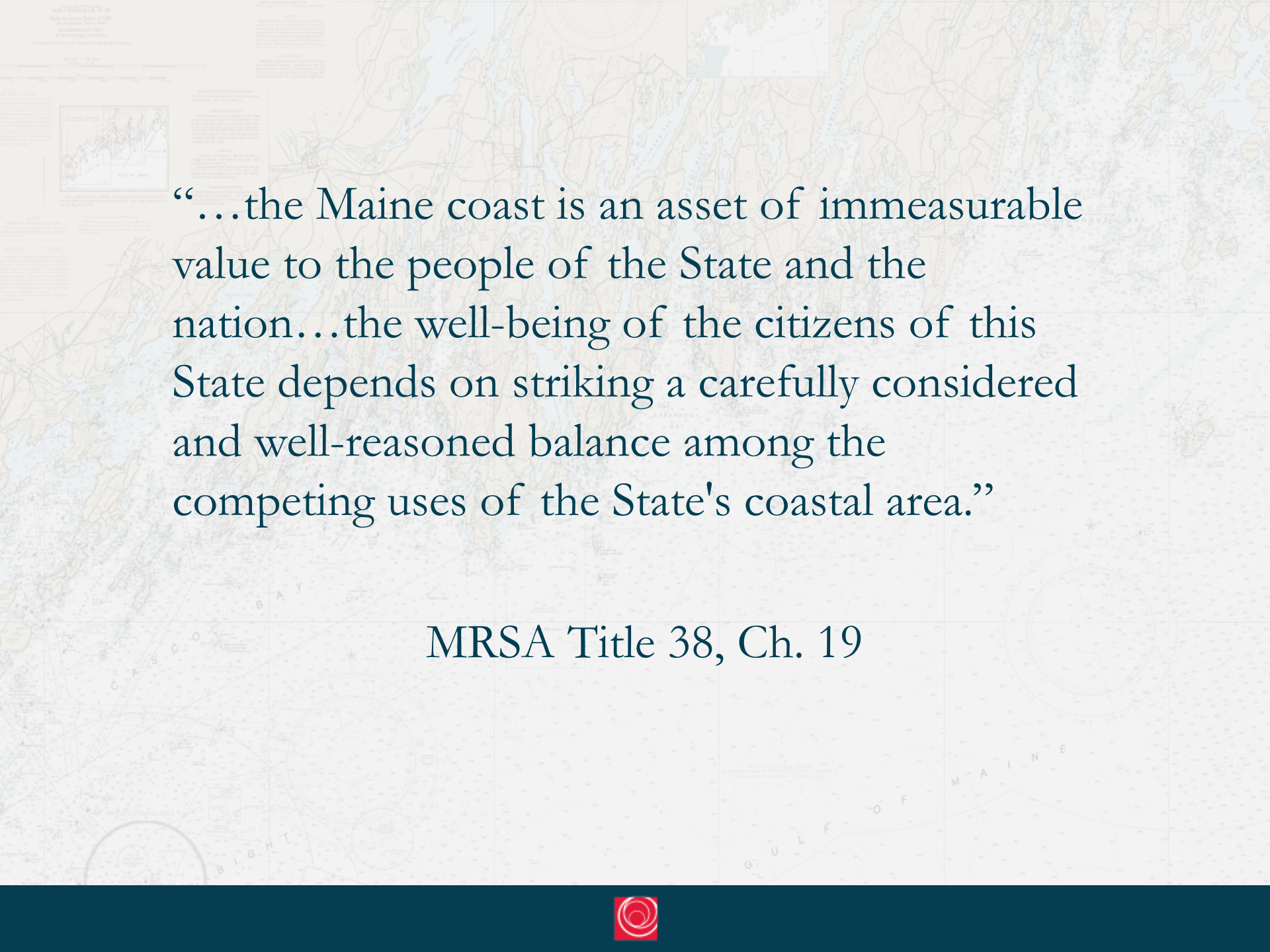


# Summary

- The York River is a highly valuable and irreplaceable resource that deserves careful and well-considered management.
- Capacity is a complex equation that must consider Physical Characteristics, Environmental Qualities, Types of Uses, User Behaviors, and many other complex and interrelated factors – as well as the Values and Goals of those responsible for managing the waterway
- Effective management requires a combination of:
  - Management resources
  - Stakeholder input
  - Education
  - Regulation
  - Enforcement
- This is an ongoing process that requires adjustment and accommodation as conditions change.





The background of the slide is a detailed nautical chart of the Maine coastline. It shows the intricate details of the coast, including numerous bays, inlets, and islands. The water is depicted with various shades of blue and green, indicating different depths and navigational hazards. The land is shown in light brown and tan tones. The text is overlaid on this map, with the quote in the upper half and the title in the lower half.

“...the Maine coast is an asset of immeasurable value to the people of the State and the nation...the well-being of the citizens of this State depends on striking a carefully considered and well-reasoned balance among the competing uses of the State's coastal area.”

MRSA Title 38, Ch. 19





## Next Steps

- GEI's field work and analysis is substantially complete
- Final report/deliverables to be finalized October 2019
- Future meeting with Harbor Board to answer any questions, schedule TBD.
- Implementation of study recommendations will require coordination of Town Staff, Harbor Board, Selectboard, Residents, and Stakeholders through a continual and ongoing process.





# Thank You! Questions?

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GEI



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