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Coastal Federation

35 *years*
working together for a healthy coast

Phragmites Mapping Efforts

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Importance of Mapping in Management

- Identify where Phragmites stands are and where they are going
- Determine outliers, pathways, and possible sources
- Allows for strategic planning of types and locations of treatment
- Frequent mapping updates monitor level of invasion and treatment success or failure

Methods for Mapping

- On-the-Ground
- Remote Sensing
- Citizen Reporting
- UAVs



Chesapeake Wildlife Heritage

On-the-Ground

- GPS in the field recording points and polygons
- Vegetation surveys
- NERRS, USFWS, State Parks, National Parks



Alligator River National Wildlife Refuge (1999)



Goose Creek State Park



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On-the-Ground



Currituck Banks Reserve (1980-2004)

On-the-Ground



SEC-EPMT 2015

As of 2012, ~ 800 acres of brackish marsh being impacted by Phragmites (State of the Park Report, Cape Hatteras).

National Park Service
U.S. Department of the Interior



Natural Resource Stewardship and Science

Vegetation Community Monitoring at Cape Lookout National Seashore, 2010

Natural Resource Data Series NPS/SECN/NRDS—2012/258

National Park Service
U.S. Department of the Interior



Natural Resource Stewardship and Science

Vegetation Community Monitoring at Cape Hatteras National Seashore, 2010

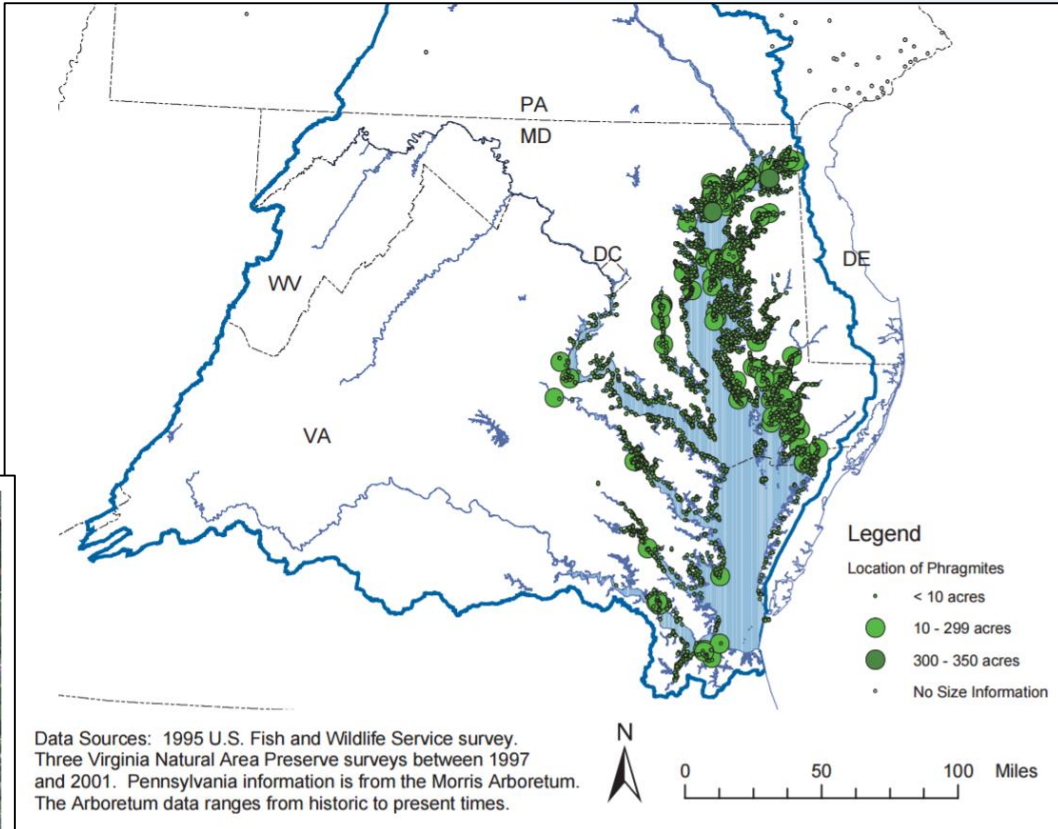
Natural Resource Data Series NPS/SECN/NRDS—2012/257

Species	Frequency	Avg	Std Dev	1
<i>Phragmites australis</i>	4.17	1.32	6.49	31.77

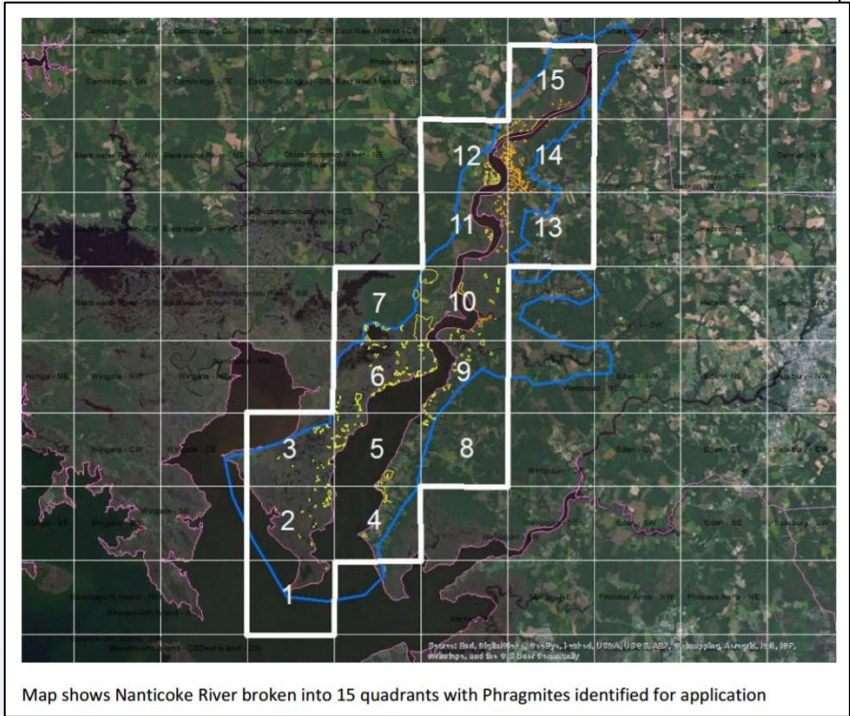


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On-the-Ground

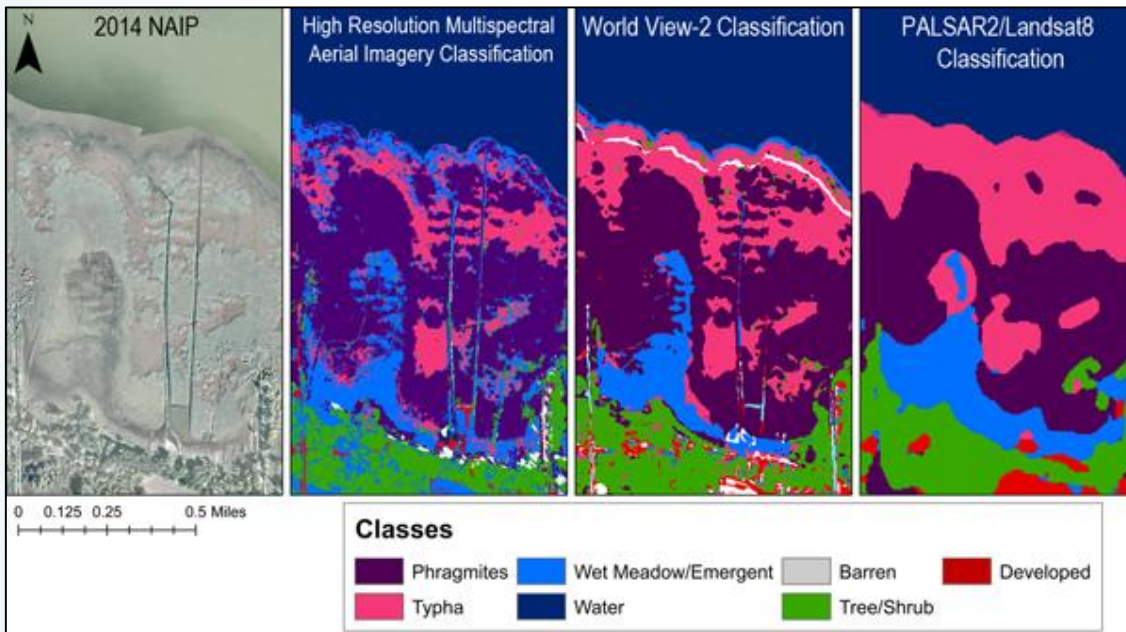


Chesapeake Bay (MD SeaGrant)

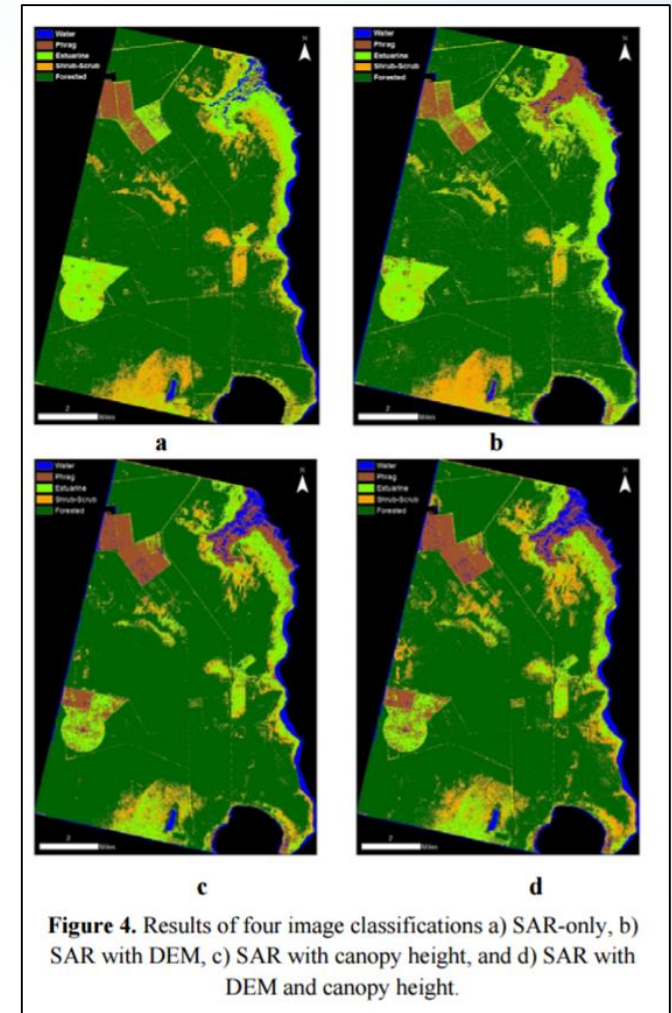


Nanticoke River (USFWS)

Remote Sensing



Michigan Tech Research Institute



Alligator River National Wildlife Refuge (Allen et al., 2011)

Remote Sensing

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GLRI Phragmites DST Mapper

About the DST | Vulnerability Assessment Map | FAQs

Distance to Phragmites
Within reduced lake-level corridors:
Within streams, wetlands, and water bodies

Phragmites and Suitable Habitat
Download data ▾
Set layer opacity...
 Phragmites stands > 0.2 ha
 Phragmites habitat suitability

Legend

Phragmites stands > 0.2 ha
[Yellow box]

Phragmites habitat suitability
[Pink box] Most suitable
[Light pink box] More suitable
[Lighter pink box] Suitable
[Grey box] Unsuitable
[Dark grey box] Mosaic suitable

Phragmites habitat suitability help
Statistical models were used to estimate habitat quality for *Phragmites* based on its current distribution and environmental conditions. [\[more info\]](#)
For more information about this data set see its [metadata record](#).

Open FAQs

Accessibility | FOIA | Privacy | Policies and Notices
U.S. Department of the Interior | U.S. Geological Survey
URL: <https://cida.usgs.gov/glri/phragmites/>
Page Contact Information: [GLRI Help](#)
Page last modified: 2016/12/12 at 11:49 CDT (version 0.0.18)

Great Lakes Phragmites Decision Support Tool

Citizen Reporting

EDDMapS

Early Detection & Distribution Mapping System

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Distribution Maps

Species Information

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Can I Report from a Smartphone?

Yes, regional apps are available for iPhones, iPads and Android devices. These apps include high-resolution images, descriptions and distribution maps. Users can take pictures and use the built in GPS to quickly report from the field.



Projects

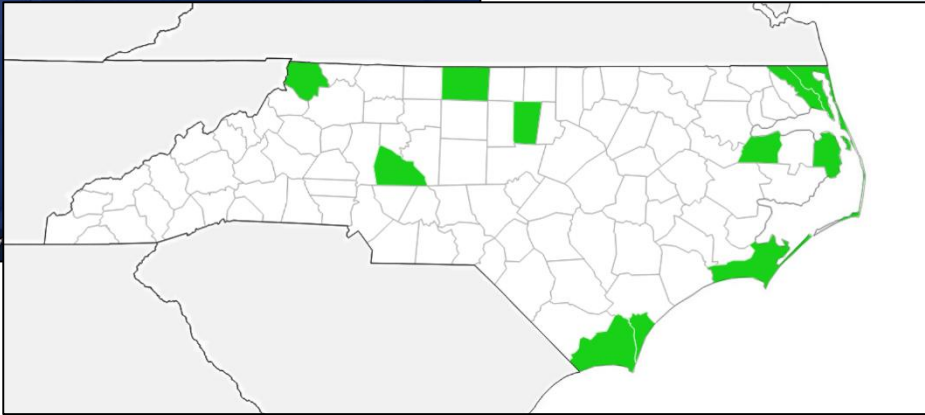
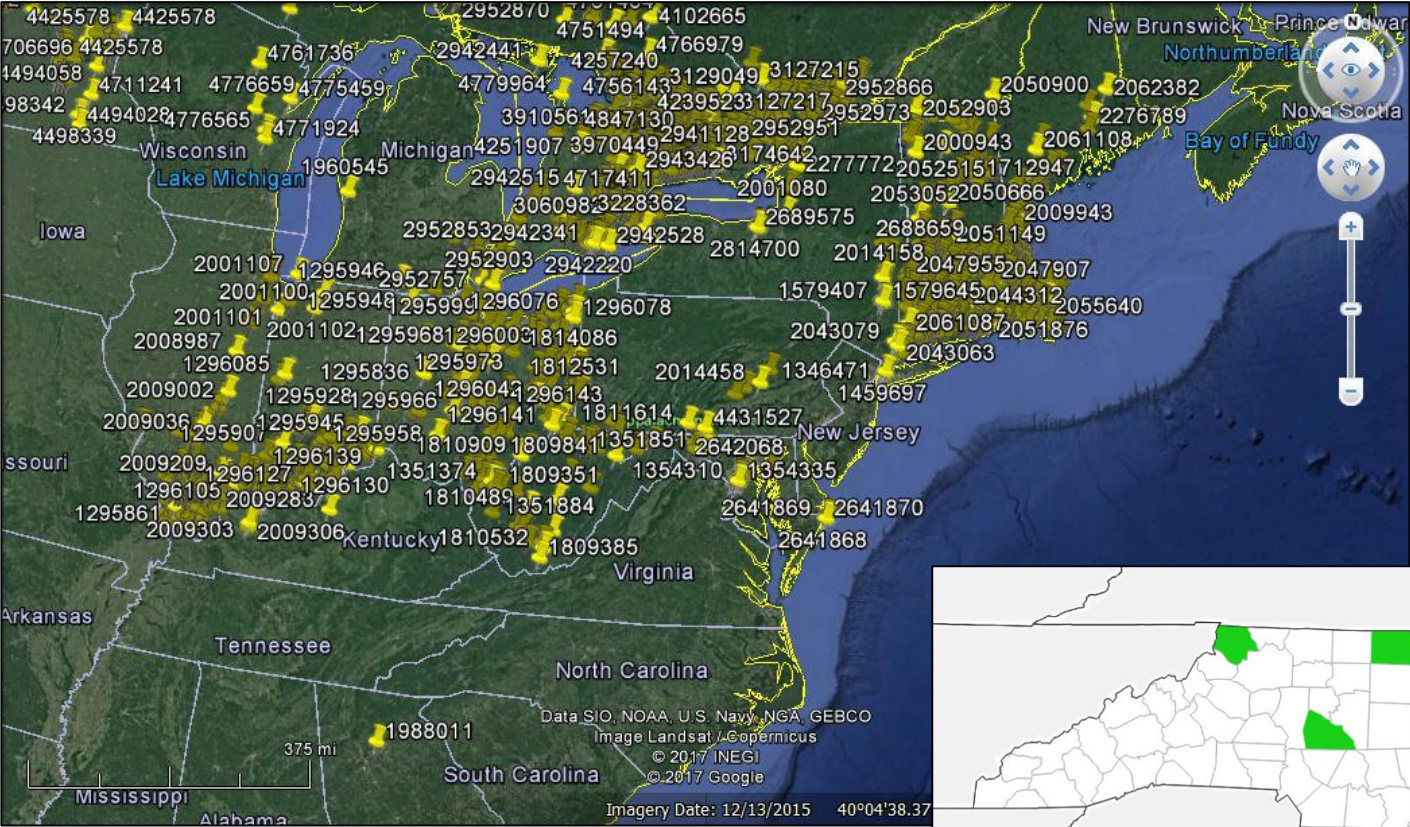
- ✓ Southeast Early Detection Network
- ✓ EDDMapS West
- ✓ EDDMapS Midwest
- ✓ Mid-Atlantic Early Detection Network
- ✓ Invasive Plant Atlas of New England
- ✓ Florida Invasive Species Partnership
- ✓ EDDMapS Alberta - Alberta Invasive Plants Council
- ✓ EDDMapS Ontario
- ✓ EDDMapS Prairie Region - Manitoba and Saskatchewan
- ✓ Biological Control Agents of Weeds
- ✓ What's Invasive
- ✓ National Wildlife Refuge Early Detection Network for New England
- ✓ Appalachian Trail Conservancy
- ✓ Invaders of Texas
- ✓ Alaska Exotic Plant Information Clearinghouse
- ✓ New Invaders Watch Program
- ✓ Outsmart Invasive Species
- ✓ ReportIN - Indiana



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Citizen Reporting



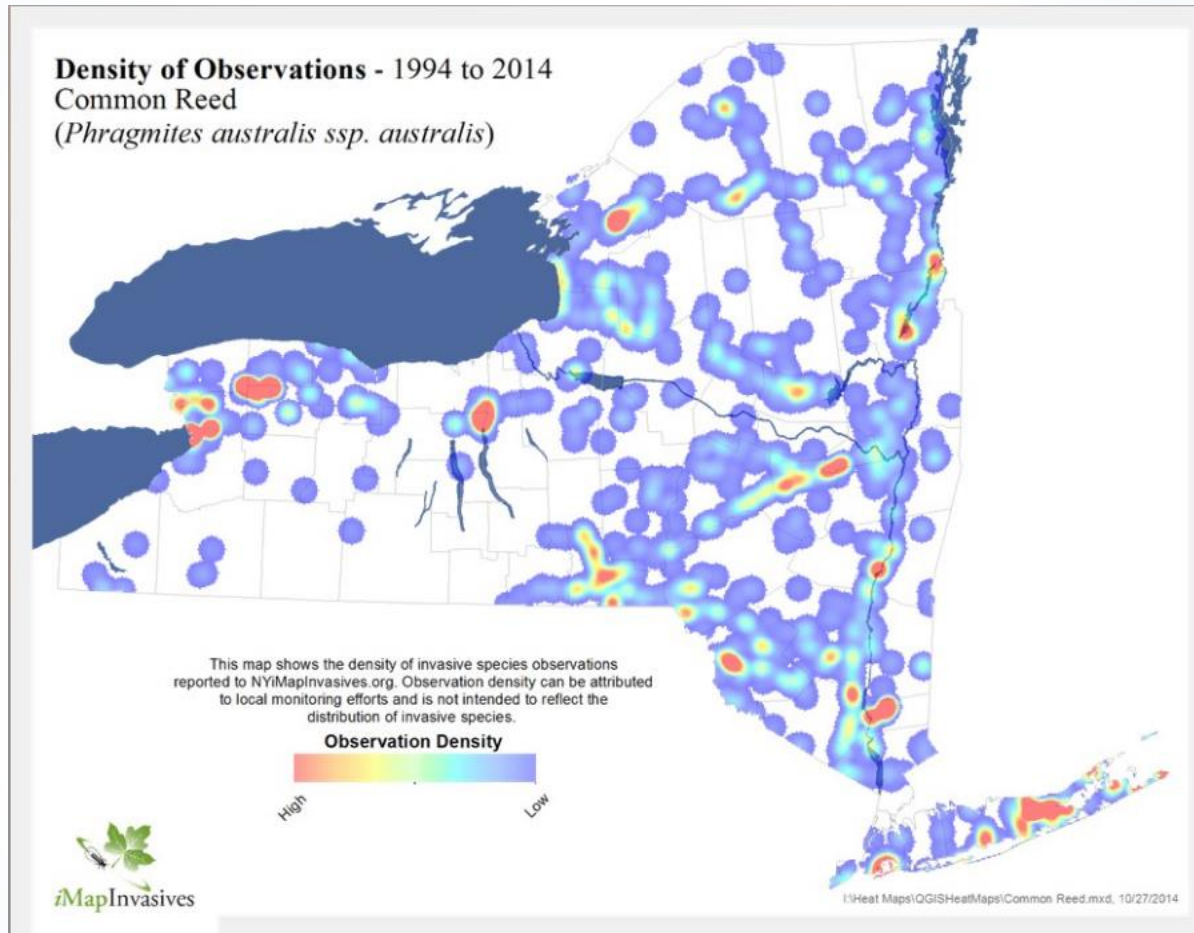
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Citizen Reporting



Citizen Reporting



NY Invasive Species



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Mapping with UAVs

- Unmanned aerial vehicles
- High resolution imagery
- Ground-truthing in hard to reach areas



Tetracam

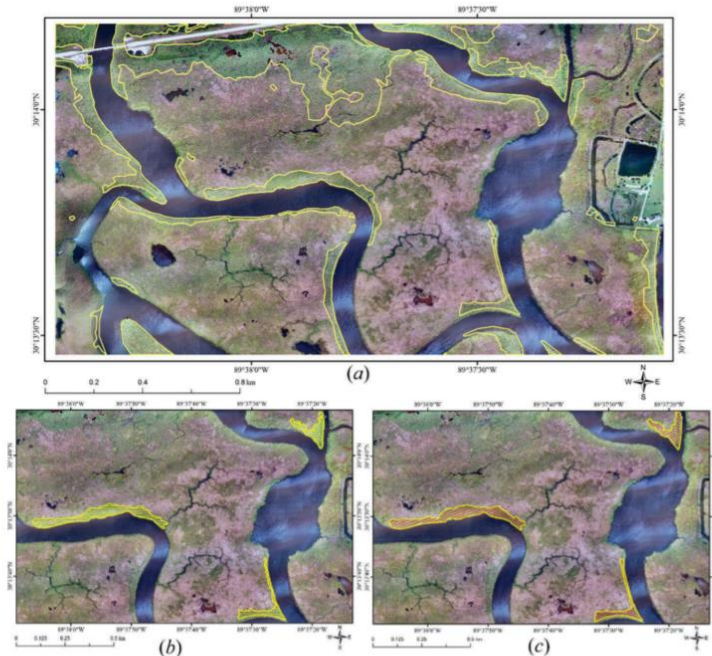


Figure 4. (a) Ground reference for study area I (*Phragmites* locations are outlined in yellow). (b) Ground reference – GR patches of *Phragmites* determined by walking along the patch boundary and determining vertices using a handheld GPS unit. (c) Digitized boundaries – DIG from visual inspection.

Samiappan et al. (2017) UAV
Phragmites mapping Mississippi

Where do we go from here?

