



Floodplain Resilience Bylaws on Cape Cod

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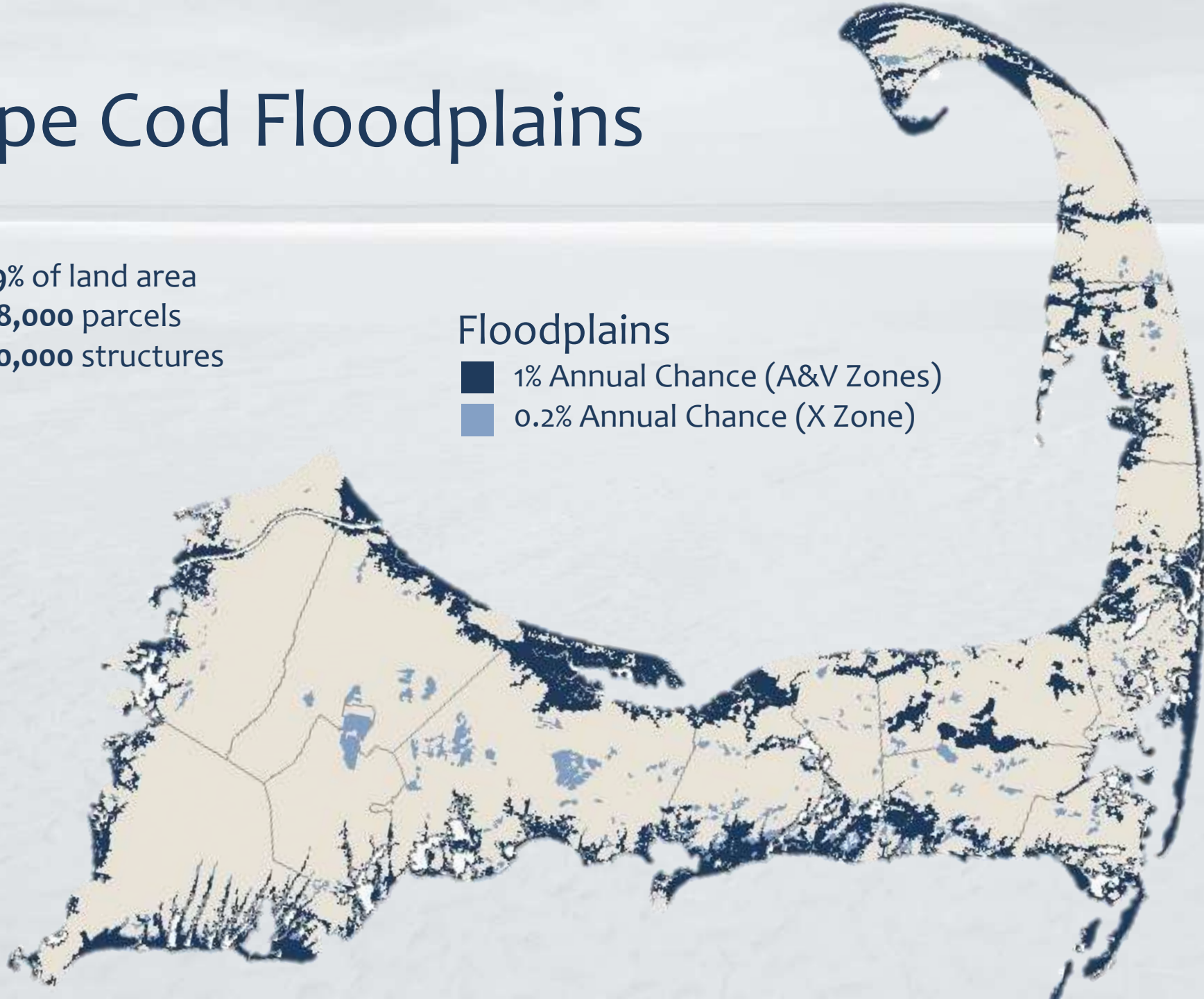
**Martha's Vineyard
Coastal Conference**

Cape Cod Floodplains

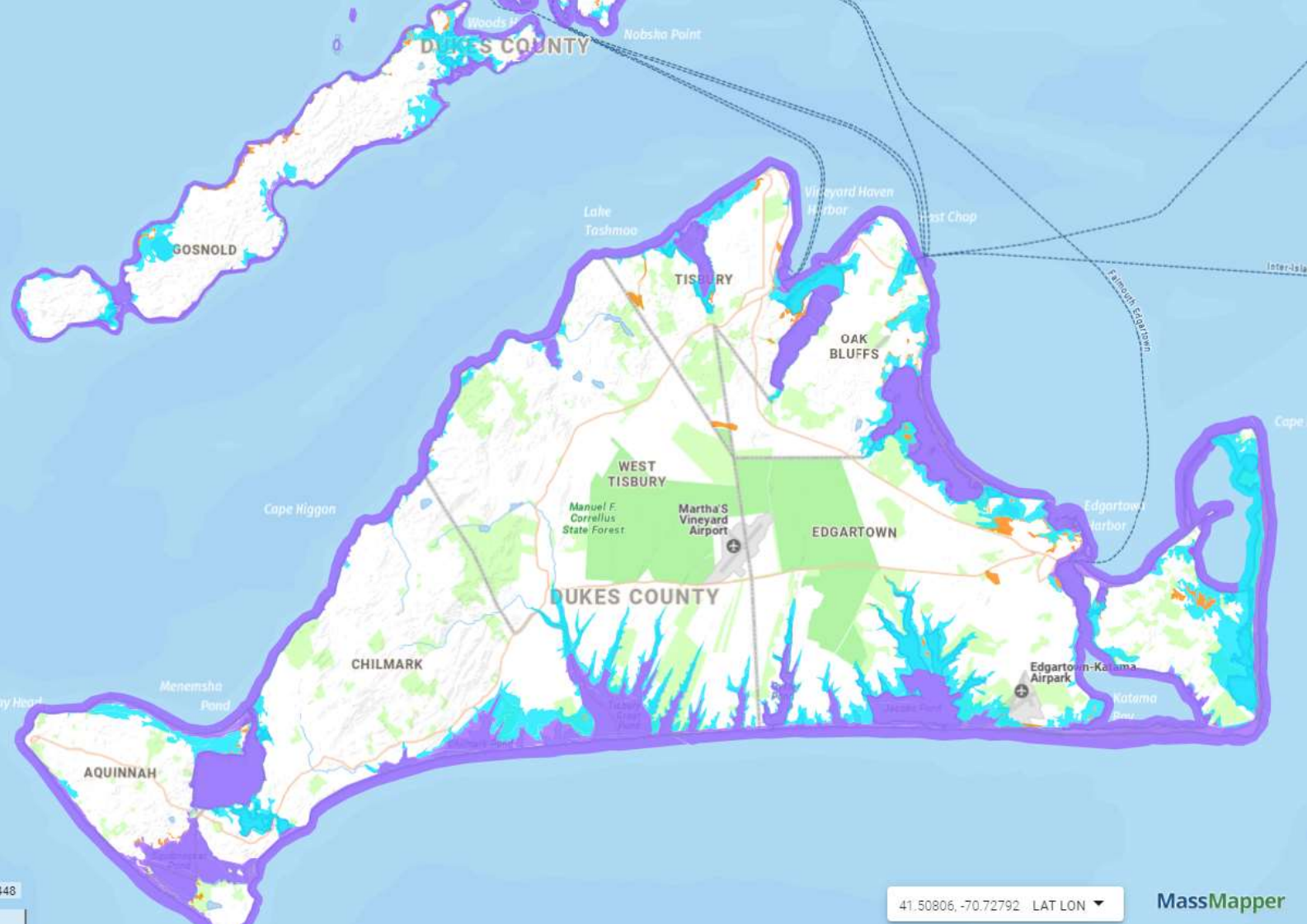
- 19% of land area
- 28,000 parcels
- 30,000 structures

Floodplains

- 1% Annual Chance (A&V Zones)
- 0.2% Annual Chance (X Zone)



Dukes County Floodplains



Floodplain Bylaw Basics

- Regulate activities in our floodplains
- Required for participation in National Flood Insurance Program (NFIP) OR higher standards
- Items not covered by Building Code, Wetlands Protection Act, or other state regs
 - Building code: **cannot** be stricter at local level
 - Wetlands bylaws: **can** be stricter; protect wetlands resources from development impacts
- Zoning/General bylaws vs. Wetlands bylaws

Project Partners (across 3 projects)



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Statewide Model Floodplain Bylaw

dcr
Massachusetts



FEMA



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Why a New Model Bylaw for all MA NFIP Communities?

- NFIP regulations make flood insurance/ mortgages available
- NFIP requirements that have been in effect nationally since 1978
- All communities were missing items
 - Designation of Floodplain Administrator
 - Recreational vehicles
 - Permits for all floodplain “development”
 - Variance language
- Updates underway



Higher Standards Bylaws: Wetlands



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WOODS HOLE GROUP FOR EARTH,
FROM SPACE
A CES COMPANY



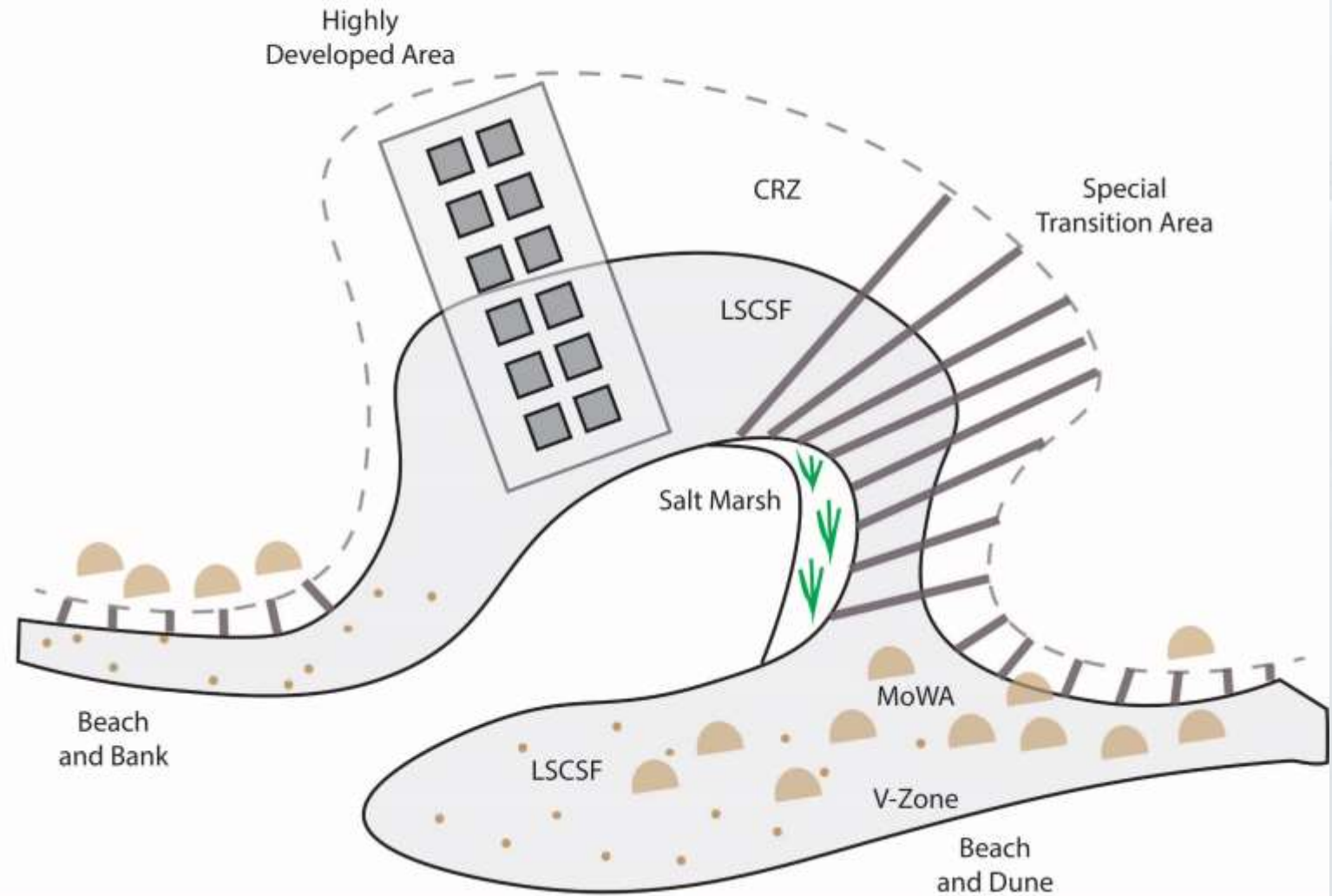
Why higher standards?

- Resiliency, climate change, environmental
- Safety
- Consistency with pending state wetlands update
- Ease and transparency of enforcing existing regulations
- Common issues
- Flood insurance discounts – Community Rating System



Jurisdiction

Coastal Resiliency Zone (CRZ)



- **LSCSF – Land Subject to Coastal Storm Flowage**
- **CRZ – Coastal Resiliency Zone (includes LSCSF + buffer zones)**

Regulatory Zones

Discrete Zones

- V Zone
- Coastal A Zone/MoWA
- A Zone
- Coastal Resiliency Zone
- Special Transition Area

Overlapping Zones

- Redevelopment Sites
- Highly Developed Sites



Jurisdiction

Coastal Resiliency Zone (CRZ)

Example of FEMA and MC-FRM maps -



Legend

- Structures in FEMA Floodzones
- Structures in MC-FRM 1% (Present)
- Structures in MC-FRM 1% (2030)
- Structures in MC-FRM 1% (2050)
- Structures in MC-FRM 1% (2070)
- MC-FRM 1% Flood Area (Present)
- MC-FRM 1% Flood Area (2030)
- MC-FRM 1% Flood Area (2050)
- MC-FRM 1% Flood Area (2070)

FEMA Floodzones

- AE
- VE

Options Applicable to all Locations

- Maintain existing flood conditions and natural features; nothing can channelize flood waters
- Prohibit new or expanded buildings
- Prohibit reconstruction after repetitive loss/multiple SD determinations
- Target Year: 2030, 2050, or 2070 (data based on best available science)
- Elevate buildings 2' above current Base Flood Elevation, or above expected BFE for Target Year



Special Transition Areas

- Special Transition Areas: predicted path of wetland migration
- No development at ground level
- To the greatest extent feasible, no septic systems
- Vegetated areas preserved/expanded; impervious surfaces minimized
- If expansion of impervious surfaces cannot be avoided, mitigate on at least a 1:1 basis on-site, prioritizing STAs



Developed Areas

- Redevelopment Sites
 - Must improve existing conditions (reduce impervious surfaces; restore or creating other wetland resource areas)
 - Cannot expand the existing footprint of buildings
- Highly Developed Sites
 - Fill and seawalls/berms allowed (where applicable) as part of a flood control program



Higher Standards Bylaws: Zoning



Zoning: Property-Specific



- Limitations on development in A, Coastal A, and V zones (including setbacks) –wetlands coordination
- Prohibition on new construction on vacant land
- Limits on redevelopment
- Building elevation and height baselines from DFE
- Prohibition on fill
- Limits on expansion of structural footprint

Zoning: General Practices



- Limitations on reconstruction after Substantial Damage
- Use assessed value rather than appraised value for SD/SI determinations
- Non-Conversion Agreement
- Added safety measures/limitations on accessory structures
- LOMR-F land limitations
- Prohibition on storage of hazardous materials

Next Steps

- Performance Standards for wetlands bylaws
- Coordinate between bylaws and finalize zoning
- Work with communities to adopt





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Thank You!

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