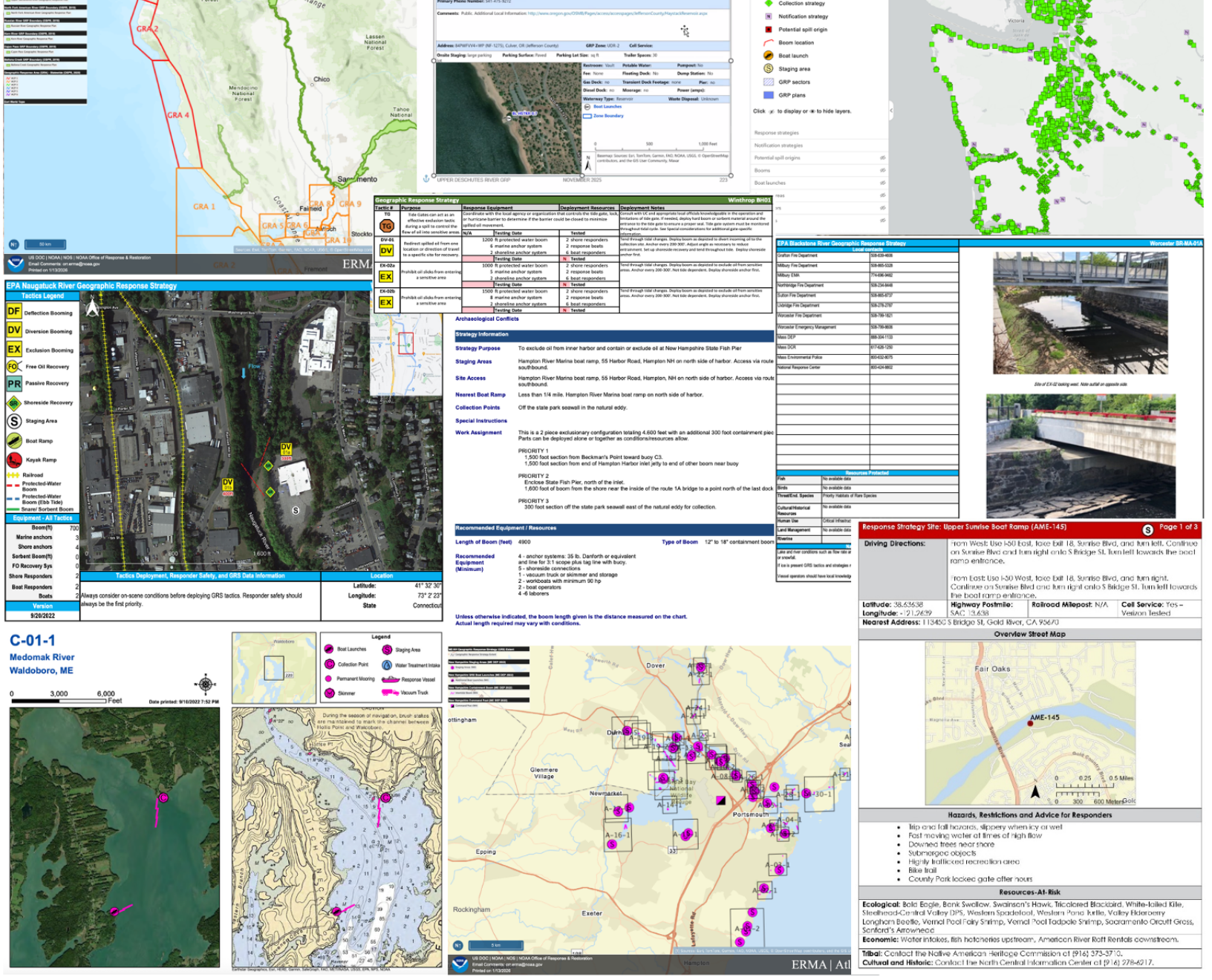

How are Geographic Response Strategies updated in other places?

FEBRUARY 2026 DRAFT

Haley Griffin, Olivia Norton, Sierra Fletcher

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1 Purpose

Geographic Response Strategies (GRS) or Geographic Response Plans (GRP)[1] grew from state to state since the late 1990s.[2] At the October 2025 Arctic and Western Alaska GRS Subcommittee meeting, the question was asked about how GRS are updated in other states. Nuka Research prepared this summary on contract to the Cook Inlet Regional Citizens Advisory Council.

We reached out to several coastal states, including California, Connecticut, Maine, Massachusetts, New Hampshire, Oregon, and Washington, with the goal of capturing diverse examples of GRS updates on two coasts. Summaries were prepared based on reviewing websites and conversations with state personnel responsible for GRS updates. Those people then kindly took the time to review the summary information provided below.

2 State-by-State Overviews

2.1 California

The California Department of Fish and Wildlife's Office of Spill Prevention and Response (CDFW-OSPR) is the primary agency responsible for updating GRS in California. In coastal areas, CDFW-OSPR works in coordination with the U.S. Coast Guard (USCG), Area Committee, and Oil Spill Response Organizations (OSROs) to update these strategies. GRS are incorporated into six Area Contingency Plans (ACPs), which are available on the CDFW-OSPR website. CDFW-OSPR environmental scientists coordinate annual updates based on Sensitive Site Strategy Evaluation Program (SSSEP) results. Major revisions occur every five years.

Sensitive site strategy information is contained in Annex C (Fish and Wildlife) of each ACP. While the USCG maintains the ACPs overall, CDFW-OSPR is responsible for maintaining and updating the information contained within Annex C. Within each ACP, GRS are organized by Geographic Response Area (GRA). GRAs section response regions based on county boundaries, geomorphological features, or local hydrographic areas. Each GRA contains multiple GRS sites. Individual GRS typically consist of

[1] We use the term "GRS" when speaking generally of GRS/GRP in the introduction and summary of findings, and use the terms as used by each state in the state summaries.

[2] For an overview of GRS development in different states, see "Geographic Response Plans: Development, Deployment, and Use in NOAA's Environmental Response Management Application (ERMA®)" prepared by the National Oceanic and Atmospheric Administration for the Bureau of Safety and Environmental Enforcement in 2014.

a 3-5 page site-specific document that includes a site summary, environmental sensitivities, contact information, relevant protection strategies and equipment needed, and site maps.

Area Committees meet quarterly and provide a forum to discuss lessons learned from exercises, drills, and spill responses. While these meetings can inform the need for updates, most GRS revisions are driven by site evaluations, scheduled testing, and major revision cycles.

Inland Geographic Response Plans (GRPs) are developed, maintained, and updated by CDFW-OSPR. CDFW-OSPR environmental scientists develop the plans and consult with CDFW-OSPR oil spill prevention specialists and OSROs on tactical equipment deployment strategies for the GRPs. A Statewide GRP Steering Committee was created in the early stages of developing the GRP document template and agree upon the locations (waterways) to develop GRPs. The Statewide Steering Committee now meets on an annual basis to review any document template updates and discuss waterway locations for GRP development for each planning cycle. As individual GRPs are developed, CDFW-OSPR conducts outreach and provides review opportunities to local emergency response agencies as well as the US EPA, USDA Forest Service, Cal OES, and other state and federal agencies.

These documents are referenced in the Regional Response Team IX (RRT9) Regional Contingency Plan as well as California's State Oil Spill Contingency Plan. GRPs function as stand-alone planning documents and are typically longer than individual GRS, providing additional inland response guidance such as a spill response contact sheet and response considerations. The requirement for GRS and GRPs to be ADA compliant in California was provided flexibility based on the emergency response context. Documents are made ADA compliant to the fullest extent possible.

Table 1. State of California GRS and GRP Update Processes

Process	State-specific notes
Who identifies updates (and how)? How often?	• 3-5 sites are selected/tested annually by CDFW-OSPR personnel and OSROs through the Sensitive Site Strategy Evaluation Program for ACPs • Scheduled site evaluations in conjunction with ACP 5-year revision cycle, OSPR teams examine all coastal GRS sites • CDFW-OSPR environmental scientists review and update entire GRPs in consultation with CDFW-OSPR oil spill prevention specialists on a 5-year cycle • GRP response strategy site testing is sometimes aligned with spill response trainings or tabletop exercises. There is no dedicated program to test inland response sites
Examples of updates	Informational: • Contact information (e.g., phone #) • Changes in infrastructure or key assets (e.g., boat ramps, site access) • Environmental changes (e.g., shoreline erosion or changes in configuration, water levels) • Updated photos/maps • Updates to sensitive habitats or species information

	Strategy: • Adjustments to GRS strategies (configuration, length) based on field observations or exercise deployment • Changes in available equipment and deployment resources
How are proposed updates shared?	Coastal • CDFW-OSPR environmental scientists present SSSEP results at ACP meetings • Field teams enter changes to coastal GRS into an Access database to update strategy pages. CDFW-OSPR's ACP Coordinator updates the strategy pages in Annex C and posts new version to the website Inland • Finalized GRPs are uploaded to a state document server through which they can be uploaded to the CDFW-OSPR website
How are updates assessed?	Coastal • CDFW-OSPR environmental scientists implement the SSSEP in coordination with OSROs to assess the strategies and present recommendations to the Area Committee Inland • Updated draft GRPs are provided to local, state and federal agency partners to provide an opportunity to review prior to finalizing • A Statewide GRP Steering Committee meets annually to assess overall document template updates, as well as locations where GRPs are being developed throughout the state
How are accepted updates published? Where?	• Finalized updates to coastal GRS are integrated into the ACP (Annex C) • Updated data is uploaded to ERMA • Coastal GRS and Inland GRPs are published on the state's website as downloadable PDF documents

What do GRS look like published?

Coastal GRS site summary (example)

1-105-A **Site Summary - Offshore rocks near Pyramid Point** **1-105-A**

County: Del Norte **ACP Division/Segment:** DN - A - S02 DN - A - S01
NOAA Chart: 18602 ***Map Book:*** CA Road Atlas ***Decimal Degrees:*** 41.96653 -124.2179

Site Description:
The site has open sandy beaches and rocky shoreline adjacent to a number of offshore rocks that vary in size from small boiler rocks to small islands that provide nesting and roosting habitat for birds and haul out locations for marine mammals. Hunter and Prince rocks are managed by the Tolowa Dee-Ni' Nation. Other offshore rocks in the area are managed by BLM as part of the California Coastal National Monument. Site is within the following State Marine Protected Area(s): Pyramid Point SMCA. The terrain includes wave cut platforms, exposed rocky headlands and numerous offshore rocks especially in the vicinity of Pyramid Point. Site where immediate response is probably not necessary. Minimal damage would occur, but this does not preclude the need to clean after impacts.

Roosting and potential nesting habitat for seabirds. Seabird rookeries (03-09) include pelagic cormorant, western gull, pigeon guillemot, fork-tailed storm-petrel (SSC), tufted puffin (SSC). Prince Island: snowy egret, black-crowned night heron and great blue heron nest sites, rhinoceros auklet, double-crested cormorant, all (01-12). Aleutian cackling goose (10-11;02-04), marbled murrelet (FT, SE)(01-12) on nearshore waters. Western snowy plover (FT, SSC)(01-12) in dunes. Brown pelican (04-11). Raptors include peregrine falcon and osprey, both (01-12). Marine mammals. Steelhead and coastal cutthroat trout: spawning runs (10-06). Although usually not in large numbers, salmonids including coho (FT,ST) and chinook salmon (SSC), steelhead (SSC), and coastal cutthroat trout (SSC) often forage in the nearshore environment and can be impacted by oiling; redtail surfperch spawning (04-06), Dungeness crabs in nearshore area, groundfish (EFH). See RAR for more listed species that may be present nearby.

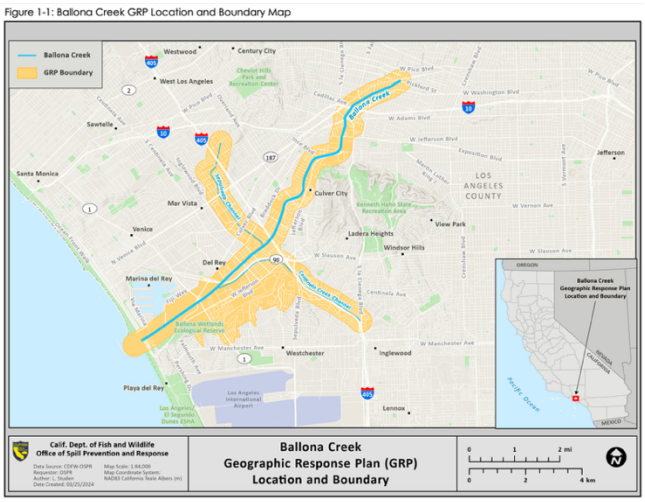
Resources at Risk:
ESI and Habitat: 1A Exposed Rocky Shore
1C Exposed rocky cliffs with boulder talus base
2A Exposed wave-cut platforms in bedrock, mud, or clay

List of Resources at Risk:

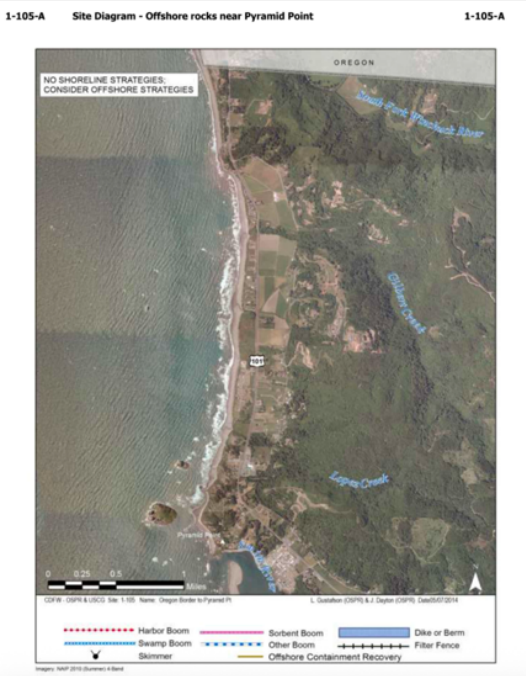
	Resource Name	Status	Presence	Sensitivity
Birds	fork-tailed storm petrel	FP, SSC	Mar-Aug	
Birds	bird rookeries		Feb-Sep	
Birds	marbled murrelet	FT, SE	Year-round	
Birds	bank swallow	ST	Jun-Aug	
Birds	tufted puffin	FP, SSC	May-Sep	
Birds	Western snowy plover	FT, SSC	Year-round	
Fish	salmonids		Year-round	
Insects	Oregon silverspot butterfly	FT	Year-round	

FT-Federally Threatened, FE-Federally Endangered, FP-Federally Protected, SE-State Endangered, ST-State Threatened, SP -State Protected, SR-State Rare, SSC-Species of Special Concern, BGEPA-Bald and Golden Eagle Protection Act, SSSP-State Special Status Species

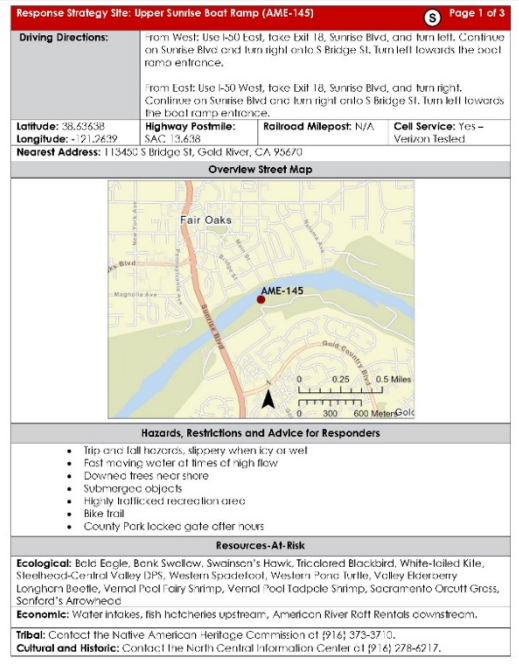
Inland GRP location & boundary map (example)



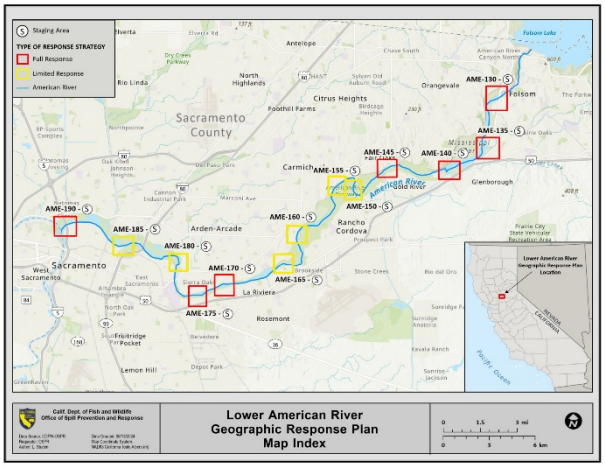
Coastal GRS site diagram (example)



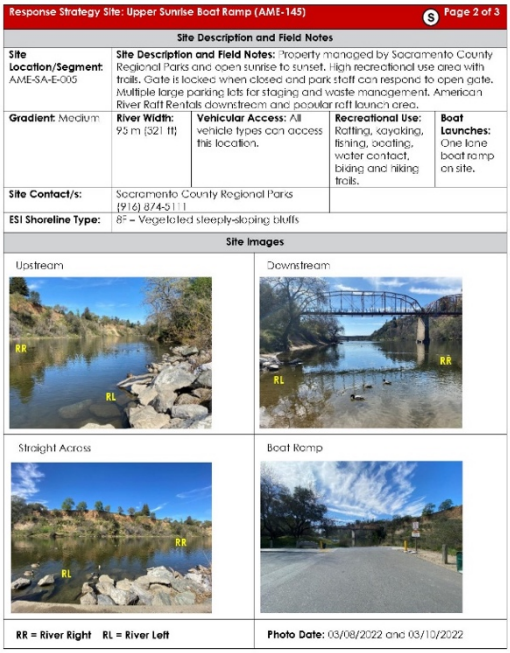
GRP Response Strategy page 1 (example)



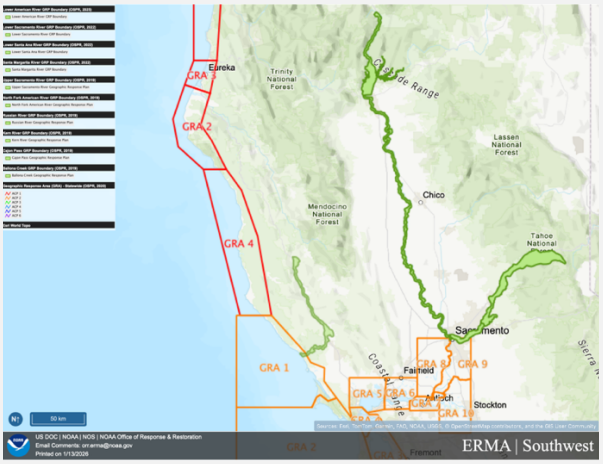
Inland GRP Index Map (example)



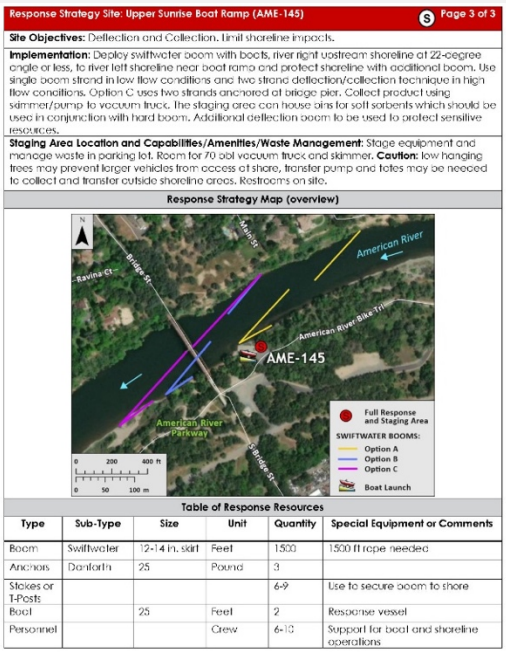
GRP Response Strategy page 2 (example)



Coastal GRA and inland GRP view on ERMA



GRP Response Strategy page 3 (example)



Response Strategy Site: Upper Sunrise Boat Ramp (AME-145) — Page 3 of 3

Site Objectives: Deflection and Collection. Limit shoreline impacts.

Implementation: Deploy swiftwater boom with boats, river right upstream shoreline at 22-degree angle or less, to river left shoreline near boat ramp and protect shoreline with additional boom. Use single boom strand in low flow conditions and two strand deflection/collection technique in high flow conditions. Option C uses two strands anchored at bridge pier. Collect product using skimmer/pump to vacuum truck. The staging area can house bins for soft sorbents which should be used in conjunction with hard boom. Additional deflection boom to be used to protect sensitive resources.

Staging Area Location and Capabilities/Amenities/Waste Management: Stage equipment and manage waste in parking lot. Room for 70 bbl vacuum truck and skimmer. **Caution:** low hanging trees may prevent larger vehicles from access at shore, transfer pump and totes may be needed to collect and transfer outside shoreline areas. Restrooms on site.

Response Strategy Map (overview)

Table of Response Resources

Type	Sub-Type	Size	Unit	Quantity	Special Equipment or Comments
Boom	Swiftwater	12-14 in. skirt	Feet	1,500	1,500 ft rope needed
Anchors	Danforth	25	Pound	3	
Stakes or T-Posts				6-9	Use to secure boom to shore
Boat		25	Feet	2	Response vessel
Personnel			Crew	6-10	Support for boat and shoreline operations

2.2 Connecticut

In Connecticut, updates to GRS are carried out through an interagency planning process. The Connecticut Department of Energy and Environmental Protection (CT DEEP) collaborates with the U.S. EPA Region 1 and USCG to develop and revise these strategies. To identify sensitive areas, critical resources, and spill risks within the state's tidal water bodies, CT engages individuals from a range of sectors, including industry representatives, first responders, environmental consultants, and federal, state, and local government partners.

Both coastal and inland GRS in Connecticut follow a standardized three-page format. The first page typically features a tactic map and total equipment numbers necessary to respond to the listed tactics, the second page provides information for each tactic specifically, and the third page includes photographs, contact information, and a summary of resource sensitivities.

CT DEEP's website currently lists 15 coastal GRS and 14 inland GRS, which are accessible to the public. The inland GRS developed by CT DEEP in conjunction with the EPA can also be found on the NRT Regional Response Team (RRT) 1 website.

Table 2. State of Connecticut GRS Update Process

Process	State-specific notes
Who identifies updates (and how)?	• EPA Region 1, USCG, and CT DEEP select between 2 and 3 GRS scenarios/locations to field test each year • Results of the field tests are used to identify updates needed
Examples of updates	Informational: • Contact information (e.g., phone #) • Changes in infrastructure (e.g., boat ramps, site access) • Launch and strategy deployment conditions (e.g., seasonal limitations, tide stage) • Environmental changes (e.g., shoreline erosion, water levels, new species) • Updated photos/maps • Updates to resources-at-risk (RAR) information Strategy: • Adjustments to GRS strategies based on field observations • Changes in available equipment and deployment resources • Whether the GRS was effective
How are proposed updates shared?	• Post-GRS field testing debriefs are conducted • Interagency planning meetings (e.g., routine Regional Response Team (RRT) 1 meetings, hosted by EPA Region 1)
How are updates assessed?	• Interagency planning • Retesting of the updated GRS

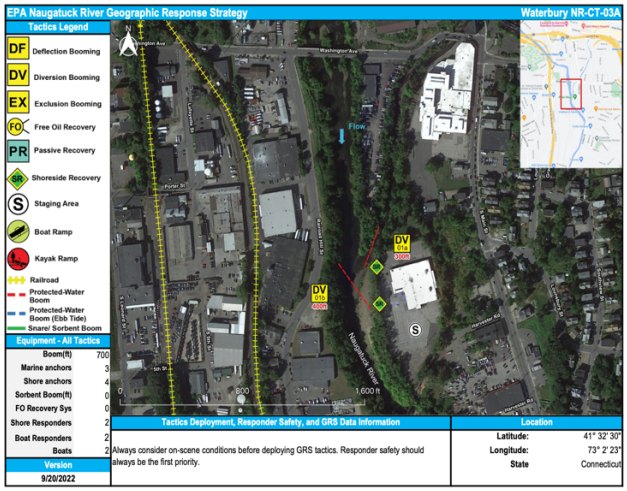
How are accepted updates published? How often? Where?

- Once updates are accepted and finalized, the GRS documents are uploaded to the CT DEEP Geographic Response Plans webpage and EPA's NRT RRT 1 website
- GRS are published as downloadable PDF documents

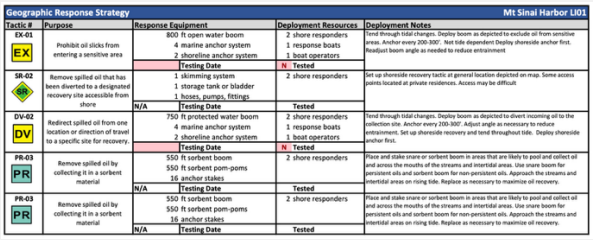
What do GRS look like published?

Coastal GRS page 1

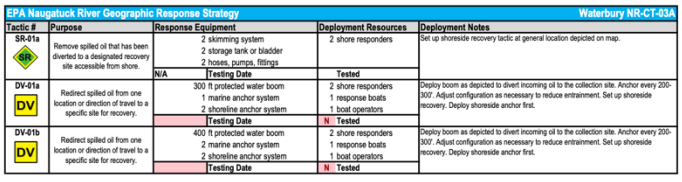
Inland GRS page 1



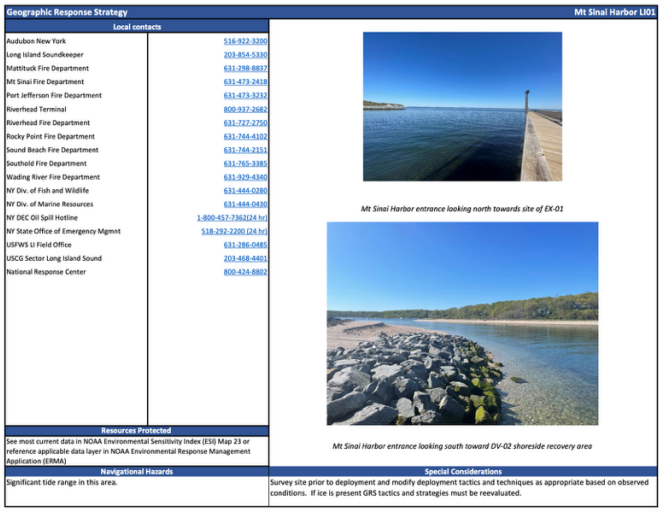
Coastal GRS page 2



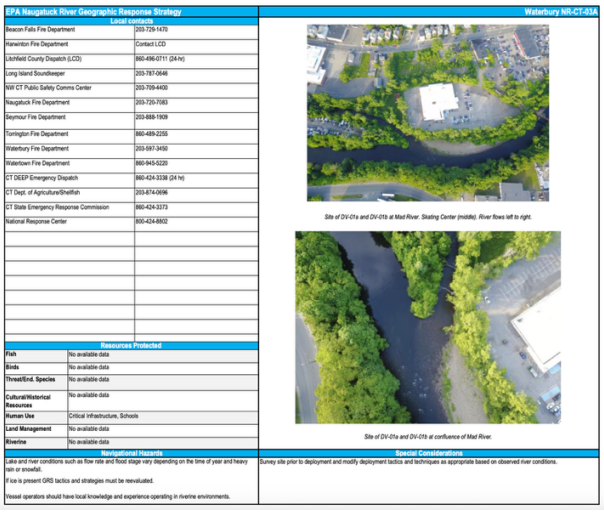
Inland GRS page 2



Coastal GRS page 3



Inland GRS page 3



2.3 Maine

The Maine Department of Environmental Protection (ME DEP) develops and hosts the state's coastal GRS on its website. Maine has 153 coastal GRS, organized into four geographic regions. Fewer than half have been tested, and ME DEP tests one GRS per region each year. Although ME DEP does not currently solicit public comments, all documents are publicly accessible on the state website. Coastal GRS follow a standardized 2-page format, while inland GRS are 3 pages.

In addition to ME DEP's coastal GRS, the National Park Service (NPS) has developed several GRS for the Acadia and St. Croix areas, which are also hosted on the ME DEP site. U.S. EPA Region 1 develops and maintains Maine's 15 Inland GRS, which are available on the National Response Team website and in an ArcGIS Online portal. ME DEP anticipates potential collaboration with the U.S. Coast Guard (USCG) in 2026 to evaluate untested GRS. A comprehensive statewide review of all Maine GRS was completed by the end of 2020.

Maine's GRS are incorporated by reference in the Maine and New Hampshire Area Contingency Plan. ME DEP's GRS Validation and Recordkeeping Standard Operating Procedure (SOP) also references the tiered validation approach found in USCG's Marine Environmental Response and Preparedness Manual. Each coastal GRS includes a map on the first page, maintained in ArcMap, and a narrative section on the reverse side that is stored in an Access database. This side is updated to capture any informational changes needed and display the last date of validation.

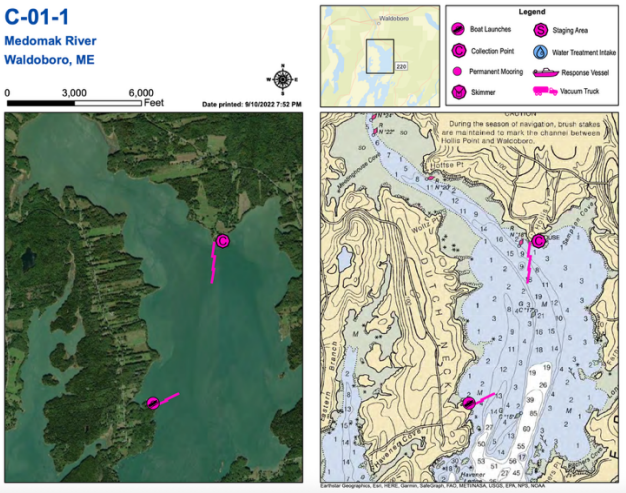
Table 3. State of Maine GRS Update Process

Process	State-specific notes
Who identifies updates (and how)?	• No definitive written instructions • The Response Support Specialist coordinates testing and updating schedule • DEP staff visit and evaluate sites, using a SOP and validation forms • Exercise deployment (by DEP staff, 1 GRS per region per year; partnerships with EPA and local Fire Chiefs) • Actual response (agency, RP)
Examples of updates	Informational: • Contact information (e.g., phone #) • Changes in infrastructure (e.g., boat ramps, site access) • Launch conditions (e.g., seasonal limitations, tide stage) • Environmental changes (e.g., shoreline erosion, water levels, new species) • Updated photos Strategy: • Boom modifications due to lessons learned from exercise deployment, actual response incidents, or other changes
How are proposed updates shared?	• Staff report back from site visits or deployments/exercise evaluations

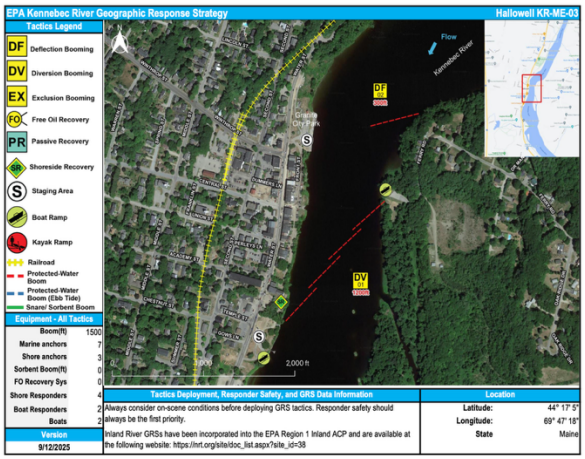
How are updates assessed?	DEP staff review GRS validation checklist completed during site visit: • Correction/informational update (e.g., phone #s, changed infrastructure) • Revision to response tactic (e.g., new tactics or altered boom lengths)
How are accepted updates published? How often? Where?	• DEP staff make corrections and incorporate updates into existing GIS system and GRS narratives • PDFs are created and published on the state website

What do GRS look like published?

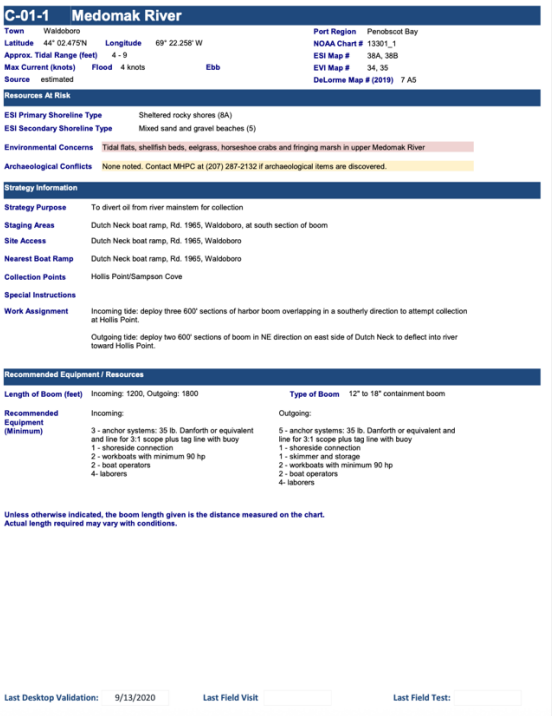
Coastal GRS page 1



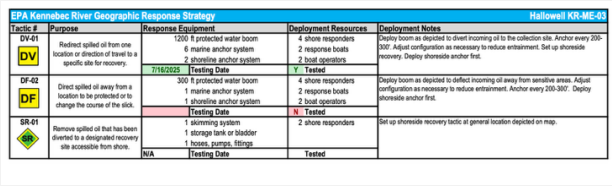
Inland GRS page 1



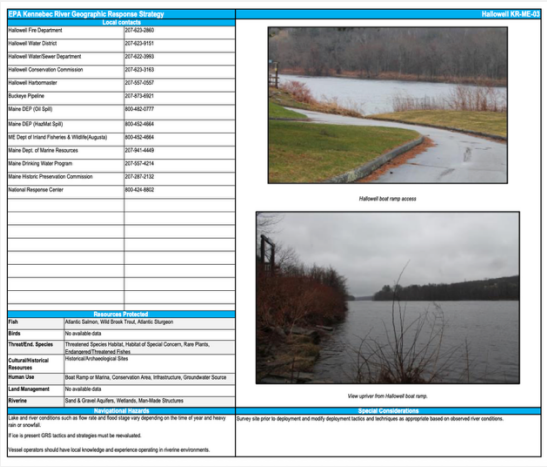
Coastal GRS page 2



Inland GRS page 2



Inland GRS page 3



2.4 Massachusetts

The Massachusetts Department of Environmental Protection (MassDEP) developed and hosts the state's 160 coastal GRS on its MassMapper platform. MassDEP maintains an ongoing training and exercise program that serves as the primary method for reviewing and refining GRS. Field exercises take place each spring and fall, during which tactics are deployed and evaluated; information gathered during these activities is used to update the GRS that were tested if needed. These updates are incorporated into the GRS documents on an annual basis.

In 2020, MassDEP completed a major template update of its coastal GRS, transitioning from a two-page to a three-page format. They plan to conduct a targeted update of GRS in the near future to incorporate new information on climate hazards and extreme weather projections, coastline and infrastructure changes, and evolving risks.

U.S. EPA Region 1 developed and hosts the 40 inland GRS in Massachusetts, which are also available on the National Response Team website and ArcGIS Online portal. EPA organizes periodic exercises to test inland GRS and updates those documents following each exercise cycle to keep information accurate and usable. In 2021, EPA Region 1 completed a similar modernization of its inland GRS, adopting a three-page layout.

Although developed separately, Massachusetts' coastal and inland GRS now follow similar three-page formats that typically include a tactic map on the first page, tactic information on the second, and photos, contact details, and resource sensitivity information on the third. Both agencies use Excel-based macros to automate the production and maintenance of their GRS.

Table 4. State of Massachusetts GRS Update Process

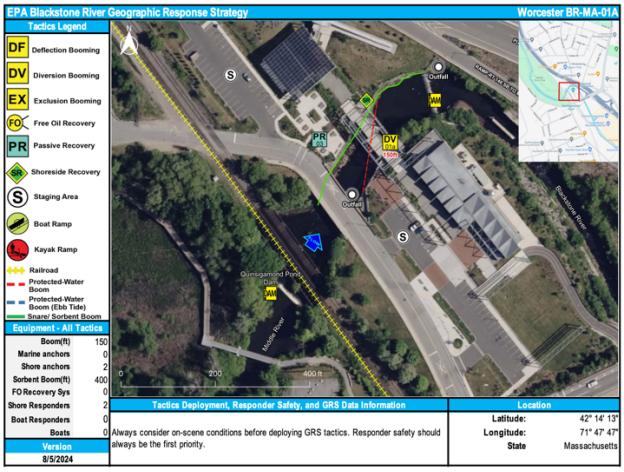
Process	State-specific notes
Who identifies updates (and how)?	• MassDEP spring and fall exercise deployments • EPA exercise deployments • Actual response (agency, RP) • No definitive written instructions
Examples of updates	Informational: • Contact information (e.g., phone #) • Changes in infrastructure (e.g., boat ramps, site access, new aquaculture sites) • Launch conditions (e.g., seasonal limitations, tide stage) • Environmental changes (e.g., shoreline erosion, new species, changes in water levels that may impact response equipment locations) • Updated photos Strategy: • New tactics or boom modifications based on lessons learned from exercise deployment, response incidents, or site changes

How are proposed updates shared?	• Staff, including MassDEP contractors compile suggested edits from the exercise seasons and meets with MassDEP via Zoom to review • EPA collects updates during exercises • Informal email suggestions
How are updates assessed?	• MassDEP reviews updated GRS providing input via Zoom meetings • EPA staff reviews inland GRS updates and provides edits • No formal process – typically handled through email exchange or Zoom discussions
How are accepted updates published? How often? Where?	• MassDEP contractors generate updated PDFs, export shapefiles and CSV and link them to GIS data o Updated GIS data is added to MassMapper once per year • EPA has no formal timeline for posting inland GRS to the NRT website; updates occur after exercises or when staff capacity allows

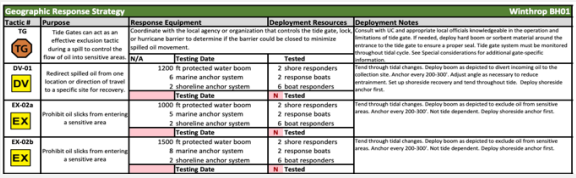
What do GRS look like published?

MassDEP Coastal GRS page 1

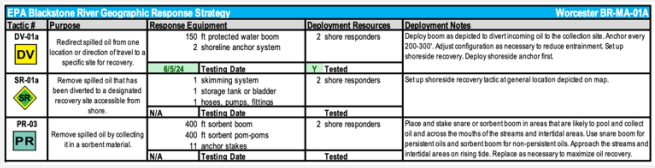
EPA Inland GRS page 1



Coastal GRS page 2



Inland GRS page 2

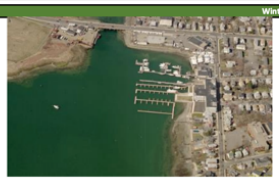


Coastal GRS page 3

Geographic Response Strategy — **Winthrop BH01**

Local contacts

Boston Fire Department	617-343-3882
Boston Harbor Spill Response Co-Op	617-951-9957
Dept of Conservation & Recreation Rangers (24 Hour)	617-722-1184
Department of Conservation and Recreation - Division of Flood Control's Charles River DAM Alternate	617- 727-0488 617-828-1629
Irving Terminal	781-289-4201 ext.300
Mass. Dept of Environmental Protection (24 Hours)	888-304-1133
Massport Police (24 Hours) – For Logan Airport	617-464-8250
MWRA Water (24 Hours) – For Deer Island	617-305-5950
U.S. Coast Guard (24 Hours)	617-223-5757



Entrance to Belle Isle Marsh

Snake Island

Resources Protected

Marine Mammals	None identified
Fish	Finfish
Invertebrates	Lobster, crab, shrimp, shellfish
Birds	Shorebirds, Seabirds, Nesting Areas
Threat/End. Species	Upland Sand Piper
Cultural	None identified
Subsistence	None identified
Human Use	Airport, Beach, Boat Ramp, Marina, Mooring Field, Water Intake
Commercial Fishing	None identified
Land Management	None identified
Coastal Habitat	Beach, Marsh/Swamp, Rocky, Riprap, Tidal Flats

Special Considerations & Navigational Hazards

This area (DV-01) has been identified as an Area of Critical Environmental Concern (ACEC). Upland terns and Plovers nest on Snake Island from April - October. Responders should not disturb nesting areas. Winthrop beach is a rare bird breeding habitat. The Sales Creek tide gate has one-way drainage and should be closed by the DCR Charles River Dam Office. The tide gate near Shirley Street has bi-directional flow and should be closed by Winthrop Dept. of Public Works.

Inland GRS page 3

EPA Blackstone River Geographic Response Strategy — **Worcester BR-MA-01A**

Local contacts

Grafton Fire Department	508-839-4606
Millbury Fire Department	508-865-5328
Millbury EMA	774-696-9482
Northbridge Fire Department	508-234-8448
Sutton Fire Department	508-865-8737
Uxbridge Fire Department	508-278-2787
Worcester Fire Department	508-799-1621
Worcester Emergency Management	508-799-8606
Mass DEP	888-304-1133
Mass DCR	617-626-1250
Mass Environmental Police	800-632-8075
National Response Center	800-424-8802

Site of EX-02 looking west. Note outfall on opposite side.

Access gate at site of Wet Weather Sewage Outfall 001 behind Walmart Supercenter.

Resources Protected

Fish	No available data
Birds	No available data
Threat/End. Species	Priority Habitats of Rare Species
Cultural/Historical Resources	No available data
Human Use	Critical Infrastructure, Dam, Park, Railroad
Land Management	No available data
Riverine	

Navigational Hazards

Lake and river conditions such as flow rate and flood stage vary depending on the time of year and heavy rain or snowfall.

If ice is present GRS tactics and strategies must be reevaluated.

Vessel operators should have local knowledge and experience operating in riverine environments.

Special Considerations

Survey site prior to deployment and modify deployment tactics and techniques as appropriate based on observed river conditions.

2.5 New Hampshire

The New Hampshire Department of Environmental Services (NH DES) develops and maintains the state's GRS for both coastal and inland areas. Early efforts focused on identifying sensitive locations and unique hazards statewide, followed by documenting appropriate response methods. These strategies have since been routinely tested, updated, and republished in coordination with the Maine–New Hampshire Area Committee.

All 37 coastal GRS follows a standardized two-page format. The first page presents an aerial image and nautical chart with the proposed booming strategy clearly depicted. The second page provides a narrative description of the tactical approach, boom lengths and types, tidal depth ranges, staging information, collection points, and relevant environmental, social, cultural, or historical considerations. The 31 inland GRS developed for NH follow a three-page format, consistent with the templates used by EPA Region 1. These include a tactic map and equipment list (page 1), detailed tactic descriptions (page 2), and photographs, contacts, and sensitive resource summaries (page 3).

NH DES reviews inland GRS annually and collaborates with partners to select specific strategies for field testing each year. Updated coastal GRS are posted on the Maine–New Hampshire Area Committee website and stored in physical form at the command post. They are also integrated into ERMA and published in an ArcGIS Online portal. Inland GRS are published on the RRT website. Published formats include PDF, ArcGIS products, and KML files, which NH DES regularly uses in Google Earth.

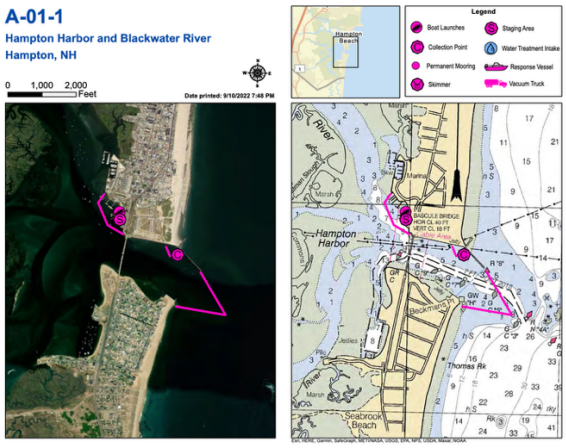
Table 5. State of New Hampshire GRS Update Process

Process	State-specific notes
Who identifies updates (and how)?	• Portsmouth Oil Spill Response Work Group GRS committee (coastal) • NHDES (inland) • Testing exercises, with input from ME DEP, NH Fish and Game, the State Historic Preservation Office (SHPO), USCG, NOAA, other DES sections, local officials and the Port Authority • Input during testing exercises from hydro dam and pipeline representatives on relevant inland GRS
Examples of updates	Informational: • Environmental changes (e.g., general area changes, water levels) • Changes in infrastructure (e.g., new aquaculture sites, shore access) • Historical site concerns • General GRS design Strategy: • Tactic design (e.g., number of legs and anchors needed, boom length) • Effectiveness of current strategies (e.g., shifting the location up or downstream)
How are proposed updates shared?	• Suggestions are shared with the GRS Committee and agreed on, then shared with the ME/NH Area Committee for review/approval

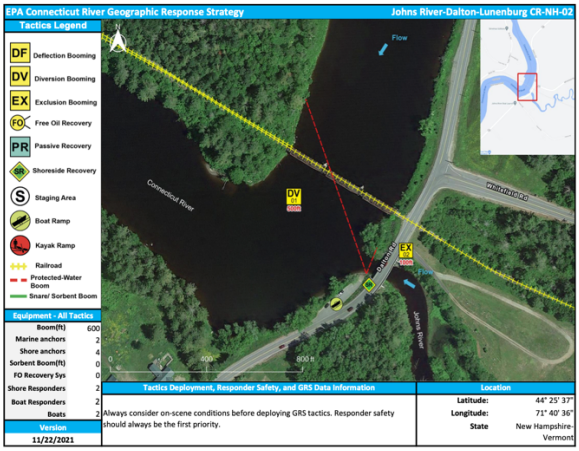
How are updates assessed?	• Visual site inspections • Often testing strategies for effectiveness with peat moss • EPA sponsors inland GRS tests for strategies they were involved with developing • NHDES designs and tests inland strategies, often with local fire officials • NHDES deploys tests monthly from April to September, reviewing inland GRS annually and coastal GRS at least once a year • Portsmouth Oil Spill Response Work Group GRS committee regularly reviews coastal GRS
How are accepted updates published? How often? Where?	• Updated coastal GRS are housed by ME DEP, featured on the Area Committee webpage and pulled into ERMA • Physical copies are also maintained at NH's command post • Inland GRS are linked to the RRT website • As KML files that can be opened in Google Earth

What do GRS look like published?

Coastal GRS page 1



Inland GRS page 1



Coastal GRS page 2

Archaeological Conflicts

Strategy Information

Strategy Purpose	To exclude oil from inner harbor and contain or exclude oil at New Hampshire State Fish Pier
Staging Areas	Hampton River Marina boat ramp, 55 Harbor Road, Hampton NH on north side of harbor. Access via route 1A southbound.
Site Access	Hampton River Marina boat ramp, 55 Harbor Road, Hampton, NH on north side of harbor. Access via route 1A southbound.
Nearest Boat Ramp	Less than 1/4 mile. Hampton River Marina boat ramp on north side of harbor.
Collection Points	Off the state park seawall in the natural eddy.
Special Instructions	
Work Assignment	This is a 2 piece exclusionary configuration totaling 4,600 feet with an additional 300 foot containment piece. Parts can be deployed alone or together as conditions/resources allow. PRIORITY 1 1,500 foot section from Beckman's Point toward buoy C3. 1,500 foot section from end of Hampton Harbor inlet jetty to end of other boom near buoy PRIORITY 2 Enclose State Fish Pier, north of the inlet. 1,600 foot of boom from the shore near the inside of the route 1A bridge to a point north of the last dock PRIORITY 3 300 foot section off the state park seawall east of the natural eddy for collection.

Recommended Equipment / Resources

Length of Boom (feet)	4900	**Type of Boom**	12" to 18" containment boom
Recommended Equipment (Minimum)	4 - anchor systems: 35 lb. Danforth or equivalent and line for 3:1 scope plus tag line with buoy. 5 - shoreside connections 1 - vacuum truck or skimmer and storage 2 - workboats with minimum 90 hp 2 - boat operators 4 -6 laborers		

Unless otherwise indicated, the boom length given is the distance measured on the chart.
Actual length required may vary with conditions.

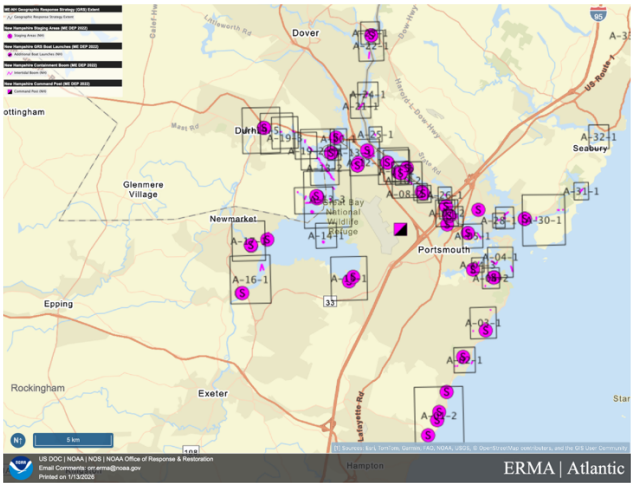
Last Desktop Validation:	9/13/2020	**Last Field Visit**	8/26/2003	**Last Field Test:**	

Inland GRS page 2

EPA Connecticut River Geographic Response Strategy — **Johns River-Dalton-Lunenburg CR-NH-02**

Tactic #	Purpose	Response Equipment	Deployment Resources	Deployment Notes
SR-01	Remove spilled oil that has been diverted to a designated recovery site accessible from shore	1 skimming system 1 storage tank or bladder 1 hoses, pumps, fittings	2 shore responders	Set up shoreside recovery tactic at general location depicted on map. Some access points located at private residences. Access may be difficult.
		N/A Testing Date	Tested	
DV-01	Redirect spilled oil from one location or direction of travel to a specific site for recovery.	500 ft protected water boom 2 marine anchor system 4 shoreline anchor system	2 shore responders 1 response boats 1 boat operators	Tend through tidal changes. Deploy boom as depicted to divert incoming oil to the collection site. Anchor every 200-300'. Adjust angle as necessary to reduce entrainment. Set up shoreside recovery and tend throughout tide. Deploy shoreside anchor first.
		Testing Date	N Tested	
EX-02	Prohibit oil slicks from entering a sensitive area	100 ft protected water boom marine anchor system 4 shoreline anchor system	2 shore responders 1 response boats 1 boat operators	Tend through tidal changes. Deploy boom as depicted to exclude oil from sensitive areas. Anchor every 200-300'. Not tide dependent Deploy shoreside anchor first.
		Testing Date	N Tested	

Coastal GRS view on ERMA



Inland GRS page 3

EPA Connecticut River Geographic Response Strategy — **Johns River-Dalton-Lunenburg CR-NH-02**

Local contacts

All Fire Departments	911
NH DES (Oil Spill)	603-271-3899 (day)
NH DES (After Hours/Weekends) via NH State Police	603-223-4381
NH DES Drinking Wtr Bureau	603-271-2513 (day)
NH Fish & Game	603-271-3361
NH Div. of Historical Resources	603-271-3483
NH Dept. of Safety/Homeland Security & Emergency Management	800-852-3792
VT Comm. on Native American Affairs	802-779-7015
VT DEC Spill Reporting (24-Hour)	800-641-5005
VT DEC Spill Reporting (day)	802-828-1138
VT Drinking Water & Groundwater	1-802-741-5311
VT Emergency Mgmnt & Homeland Security	800-347-0488
VT Fish & Wildlife Dept (HQ)	802-828-1000
VT Hazmat Response Team	1-800-641-5005
VT Div of Historical Preservation	802-272-2509
EPA Region 1 Tribal Program	617-918-1123
National Response Center	800-424-8802
Great River Hydro LLC	802-291-8104
Connecticut River Conservancy	413-772-2020

Resources Protected

Fish	
Birds	
Threat/End. Species	General
Cultural/Historical Resources	Connecticut River shorelines are highly archaeologically sensitive. Contact/consult the VT Div. for Historic Preservation prior to any response activities.
Human Use	Boat Ramp, Rail Line
Land Management	Conservation Areas/Lands
Marine	

Navigational Hazards

Site of DV-01 and EX-02 at confluence of the Johns and Connecticut Rivers (June 2021)

Johns River Boat Launch staging area looking toward Dalton Rd/RT 135 (June 2021)

Special Considerations

Bivalves may be present in this area. Boom anchoring or any activity that could disrupt the river substrate should be avoided or closely monitored. Shoreline deployment location on or near historic bridge abutment. Avoid impacts to structural components. River conditions, including flow rate and flood stage, vary depending on time of year and heavy rain and/or snowfall. Survey site prior to deployment and modify deployment strategy as appropriate. If ice is present, reevaluate strategy.

2.6 Oregon

The Oregon Department of Environmental Quality (DEQ) leads the development and maintenance of the state's GRPs, which include embedded GRS. Oregon DEQ hosts the state's GRPs on their DEQ Emergency Response webpage, with associated GIS data available through an interactive ArcGIS Online portal. All datasets are published to ArcGIS Online so the DEQ team can edit simultaneously, with daily server backups to ensure data security. The agency is in the process of completing substantial updates to its GRPs, many of which have not been revised since the 1990s.

Oregon's GRS follow a two-page format created in ArcGIS Pro using map series tools. DEQ does not yet have a defined update cadence for updates; however, the current Upper and Lower Deschutes River GRPs will be the first comprehensive updates to be posted in decades.

Survey123 is set up as an always-available tool for submitting updates directly, with a webhook that automatically notifies DEQ staff when new information is received. The long-term vision is for submitted updates to prompt staff to revise the relevant GRS, update the geodatabase, and re-upload the revised documents. This workflow remains in early development, and a formal review or adoption process has not yet been established. An updated geodatabase or data layers will be provided to NOAA for incorporation into ERMA.

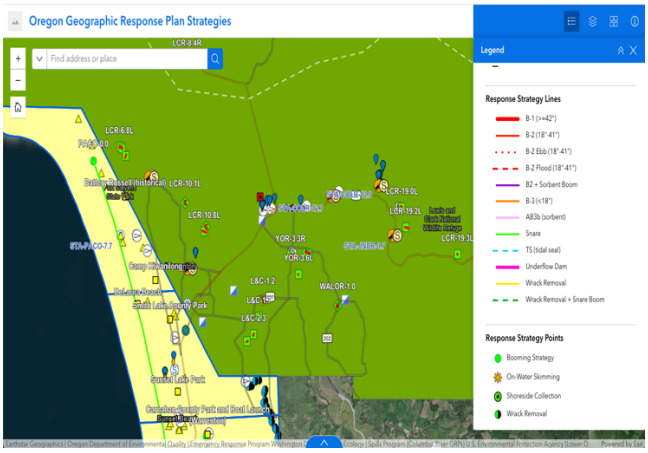
Table 6. State of Oregon GRS Update Process

Process	State-specific notes
Who identifies updates (and how)?	• Review of existing GRP/GRS when beginning updates • Field observations collected using printed field maps and ArcGIS Field Maps • Interested party, Tribal, and trustee agency input gathered during outreach • No formal written process for how updates are identified
Examples of updates	Informational: • Contact information (e.g., phone #) • Changes in infrastructure (e.g., boat ramps, site access) • Launch and strategy deployment conditions (e.g., seasonal limitations, tide stage) • Environmental changes (e.g., shoreline erosion, water levels, new species) • Updated photos • Updates to resources-at-risk (RAR) information Strategy: • Adjustments to GRS based on field observations • Revisions informed by interested party/Tribal feedback • Updates tied to RAR evaluations or changes in spill risk
How are proposed updates shared?	• Updates made collaboratively through ArcGIS Online

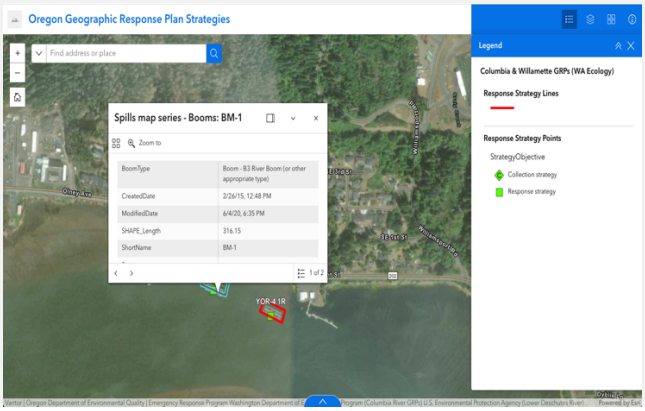
	• Survey123 submissions forwarded to staff via webhook notifications (using a Power Automate flow) • Input gathered during outreach • Informal communication • Formal notifications of updates via email to interested parties and Tribes at the beginning of the update process, when draft plans are complete and ready for review/comment, and when plans are finalized
How are updates assessed?	• Reviewed internally by DEQ staff • Comparison against existing geodatabase and historic GRPs • No formal review or approval process
How are accepted updates published? How often? Where?	• Updated GRPs posted on the DEQ webpage • Updated GIS layers publish in ArcGIS Online • Not set update cadence; updates occur as work is completed • Updated data provided to NOAA for ERMA

What do GRS look like published?

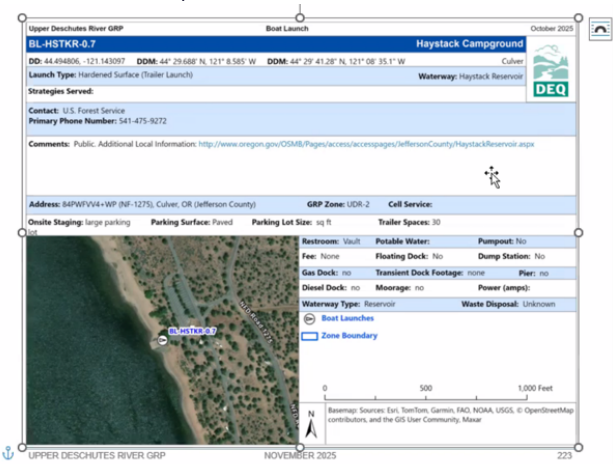
Oregon's ArcGIS Online interactive map



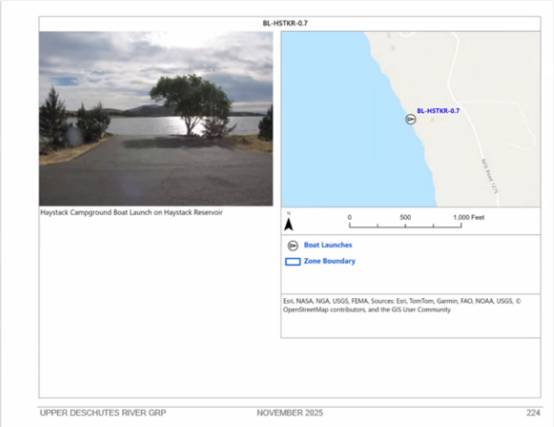
View of response boom lines, strategies, and GIS attributes



Oregon DEQ draft GRS format page 1 using ArcGIS Pro map series tool



Oregon DEQ draft GRS format page 2



2.7 Washington

The Washington Department of Ecology maintains regional GRPs (plans) which can contain hundreds of pages of information. They also have 2-ish page response strategies in the form of PDFs that include maps and tables. Washington State currently maintains 42 GRPs with hundreds coastal and inland strategies.

GRPs are updated on a regular cycle at which time the strategy locations (akin to an Alaska GRS) are visited, and the public is invited to provide input. Smaller updates made to GRPs are often done so on a quarterly basis and based on a GRPs use during training exercises, real responses, or stakeholder feedback.[3] Information provided here focuses on Washington's GRS as being most similar to the format and scale of Alaska's GRS.

The Puget Sound ACP says that the state identifies GRS as GRPs and, "are developed and maintained along with the RRT." Each of these plans include recommended response strategies for the geographical area of focus. The Puget Sound ACP sites the tiered approach used in USCG's Marine Environmental Response and Preparedness Manual for validating GRS.

Table 7. State of Washington GRP Update Process

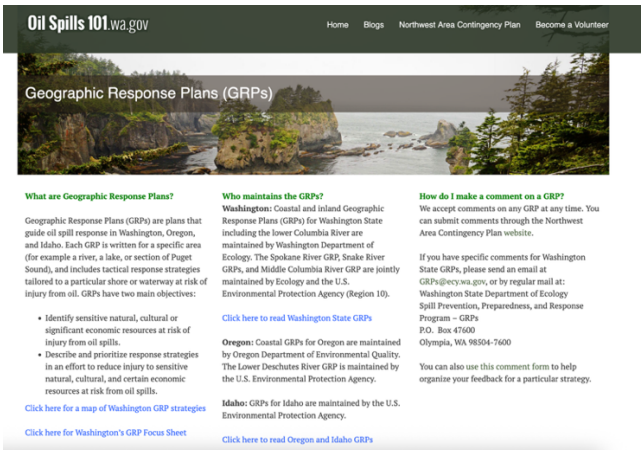
Process	State-specific notes
Who identifies updates (and how)?	• Ecology staff go out and check area • Exercise deployment (often by industry; requirement to deploy GRP every 3 years; OSROs test GRPs) • Actual response (industry, agency) • Public
Examples of updates	Informational: • Contact information (e.g., phone #) • Changes in infrastructure (e.g., docks, boat ramps) • Changes in shoreline (erosion, stream changes) • Updated photos Strategy: • Boom modifications due to lessons learned from exercise deployment, actual response incidents, or other changes
How are proposed updates shared?	• Emailed form (rarely used) • Informal emailed suggestion - not on form (most common) • Staff report back from their site visits or deployments/exercise evaluations
How are updates assessed?	Ecology staff apply a general screening: • Correction/informational update (e.g., phone #s, changed infrastructure, shoreline) >> accepted

[3] https://oilspills101.wa.gov/updates-to-washingtons-grps/

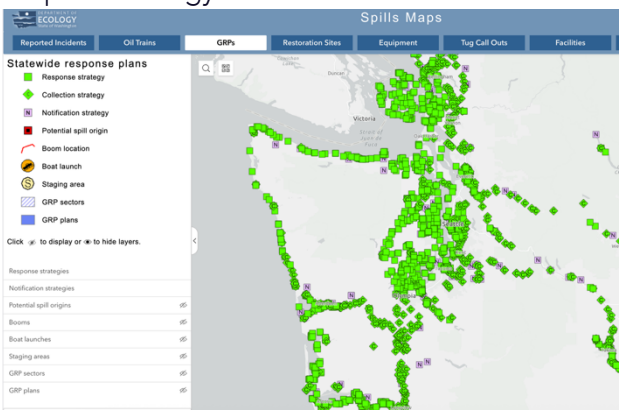
	• Ne >> accepted • Suggested revision to response tactic >> minor suggestion from OSRO accepted; larger suggestion (e.g., significant increase in boom needed)..
How are accepted updates published? How often? Where?	• IT staff make updates in custom database, which pushes out the map outputs and the GRS PDFs linked there

What do GRS look like published?

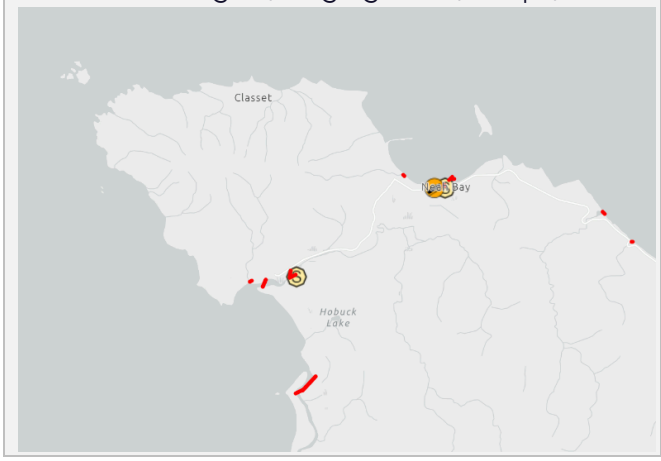
Northwest area shared website



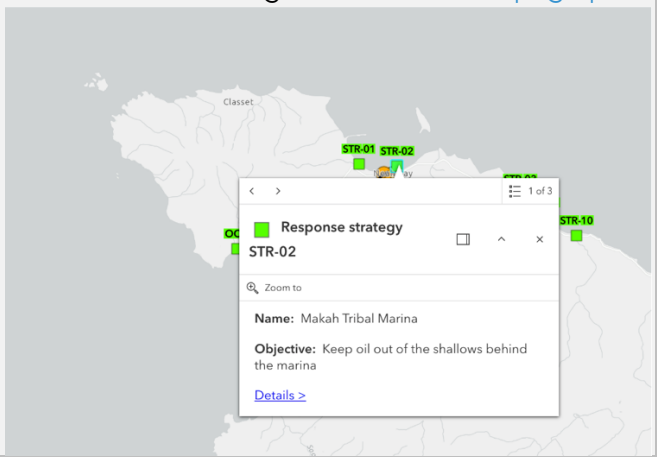
Map on Ecology Site



View boom lengths, staging areas, ramps, etc.



View or view "strategies" w/ link to 2-3 page pdf



3 Summary Findings

The following summary is based only on the states contacted for this report. State contexts vary widely and none of them are dealing with geography the size of the Arctic and Western Alaska Area. Most important of all, GRS are a team effort everywhere, with various agencies (federal, state, local), OSROs, and other organizations involved in different ways in different places.

Types/cycle of updates:

- Types of updates vary widely and may include suggested revisions to tactics or information about the site (infrastructure, changed shoreline, sensitivities, landowners, contacts, etc.)
- Updates are done both proactively and opportunistically.
    - *Proactive examples:* Some states have a review cycle where they review and update GRS within a certain region on a set cycle. Where there are requirements for OSROs to test GRS, states may also require them to validate specific GRS, or to move around to cover different ones over time.
    - *Opportunistic examples*: OSROs validate GRS as part of training/exercises, activity by EPA or USCG, public or non-profit organizations reach out with suggestions or updated information (this happens but is not common)

Update process:

- Updates are received in different ways – there are generally not specific requirements/format. Information is typically emailed. Oregon uses Survey123 for submittal of suggested updates; this was the only example of using an app.
- States are generally the keepers of GRS and receive and act on the updates.
- States typically determine whether to accept an update based on their discretion. They were often, but not always, involved in the activity that generated the update.
- Updated GRS/GRP are incorporated by reference into the relevant Area Contingency Plan. (We did not find other examples of GRS Subcommittees among the states contacted. GRS updates may be discussed at an Area Committee meeting, but not always.)
- Public involvement varies. All GRS information is public. Some states will notify the public when they are planning to update GRS in a particular area, or, more commonly, invite involvement from local organizations or communities in some way to a validation exercise.

Products:

- All states queried use some form of GIS database combined with PDFs (there are always short PDFs equivalent to Alaska's GRS but there are sometimes longer documents as well).
- Most states have separate databases for information in tables/text in a GRS (these may be a custom database, Excel, or Access database). Oregon was the only example where that information was kept in the GIS database and published to PDFs from there.