



State of Washington  
DEPARTMENT OF FISH AND WILDLIFE

Mailing Address: PO Box 43200, Olympia, WA 98504-3200 · 360 902-2200 · TDD 360 902-2207  
Main Office Location: Natural Resources Building, 1111 Washington Street, Olympia, WA

May 30, 2025

The Honorable June Robinson  
Chair, Senate Ways and Means  
303 John A. Cherberg Building  
Post Office Box 40438  
Olympia, WA 98504

The Honorable Timm Ormsby  
Chair, House Appropriations  
315 John L. O'Brien Building  
Post Office Box 40600  
Olympia, WA 98504

The Honorable Mike Chapman  
Chair, Senate Agriculture and  
Natural Resources  
402 Legislative Building  
Post Office Box 40424  
Olympia, WA 98504

The Honorable Kristine Reeves  
Chair, House Agriculture and  
Natural Resources  
132F Legislative Building  
Post Office Box 40600  
Olympia, WA 98504

**RE: European Green Crab Quarterly Progress Report – Spring 2025 (January 1 to March 31, 2025)**

Dear Chairs Robinson, Ormsby, Chapman, and Reeves,

In 2021, the Washington Department of Fish and Wildlife (WDFW), tribal co-managers, and partners identified an exponential increase of invasive European green crabs (EGC), *Carcinus maenas*, in the Lummi Nation's Sea Pond within the Salish Sea, and in outer coastal areas including Makah Bay, Grays Harbor, and Willapa Bay.

On December 14, 2021, the WDFW Director submitted an emergency measures request under Revised Code of Washington (RCW) 77.135.090 for EGC response to Governor Jay Inslee. On Jan. 19, 2022, Governor Inslee issued an emergency proclamation (#22-02) to address the exponential increase in EGC populations across Washington's marine shorelines. The proclamation directed WDFW to eradicate, reduce, or contain EGC in Washington, and to increase coordination with partner agencies and Native American tribes.

The Washington State Legislature approved \$8,568,000 in emergency funding during the 2022 Supplemental Budget to facilitate increased EGC management efforts. In response to the legislative budget proviso directive, this report is the tenth in a series of ongoing quarterly progress reports. The progress report outlines the successes and challenges of ongoing EGC emergency response efforts in Washington state from January 1 to March 31, 2025.

Since January 1, 2022, approximately 1,743,330 EGC were removed from Washington state marine waters, with 1,651,093 removed from the Coast Branch, and 92,237 removed from the Salish Sea Branch. During this reporting period, the collective effort of all organizations resulted in 47,348 EGC removed from Washington state waters, with 47,140 removed from the Coastal Branch and 208 removed from the Salish Sea Branch.

Green crab removal numbers for Washington increased for January 1 to March 31, 2025, compared to the same time in 2024. Catch numbers were generally similar to or less than what was observed in 2023. Catch per unit effort (CPUE) remained highly variable across Management and Coordination Areas. The green crab emergency remains a complex, nuanced, and highly variable challenge without a universal solution. Geographic variability

makes local coordination more important than ever. Regional coordination groups have been critical to identifying local trends, adapting management strategies and filling gaps in coverage.

The European Green Crab Multi-Agency Coordination Group and Research Task Force continues to coordinate with EGC managers and researchers across the Pacific coast of North America to achieve state management objectives and advance research priorities to support green crab management efforts in Washington state and throughout the region. Additional progress was also made on public education and community engagement to support green crab awareness, with WDFW representatives engaging individuals at public events and producing new outreach materials. While challenges remain, the continued efforts of all parties and the clear organizational structure set previously will allow for continued success through calendar year 2025, guided by the 2025-2031 Management Plan for Washington. The plan was completed and submitted to the governor's office and the legislature on September 25, 2024, and can be found at <https://wdfw.wa.gov/publications/02537>.

Per RCW 77.135.090, the WDFW Director continues to evaluate the effects of the European Green Crab emergency measures and finds that the emergency continues to persist and advises that emergency measures continue.

If you have any questions about this report or the WDFW efforts to address this emergency, please contact Melena Thompson, WDFW's Legislative Director, at (360) 480-1472.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Raquel' followed by a stylized surname.

Raquel Crosier  
WDFW European Green Crab Incident Commander

CC:

Kelly Susewind, Director, WDFW

Kelly Cunningham, WDFW Fish Program Director

Justin Bush, WDFW Aquatic Invasive Species Division Manager

Owen Rowe, Senior Natural Resources Policy Advisor to Governor Bob Ferguson

# **European Green Crab Annual Progress Report – Spring 2025 (Jan. 1 to March 31, 2025)**

Washington Department of Fish and Wildlife

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# European Green Crab Annual Progress Report – Spring 2025 (Jan. 1 to March 31, 2025)

**Author**

Brian Christopher Turner

**Suggested citation**

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# Acknowledging the Indigenous People of the Pacific Northwest

Since time immemorial, Indigenous People have lived in the Pacific Northwest and hunted, fished, and gathered natural resources, traditional foods, and medicinal plants to support their diverse cultures. They were the original occupants and stewards of this land that all Washingtonians enjoy today.

The very survival of the Pacific Northwest Tribes is a testament of resiliency of what they have endured and continue to endure throughout generations on this landscape. Through many historical encounters of massacre, renunciation of religious freedom, systemic racism, cultural assimilation of native children through institutional residential schools, and the fight for their inherent rights and liberties, they have prevailed. Throughout this painful history brought by colonization, abrogated treaties, infringement of civil rights, and the salmon protests of the 1960s, the Northwest Tribes and the Washington Department of Fish and Wildlife (WDFW) have founded a commitment of respect, unity, and alliance informed by the realities of the past.

Today, tribal governments and WDFW work collaboratively to conserve and manage aquatic and terrestrial resources statewide and practice sound science to guide management decisions. The Tribes and WDFW work together to ensure the sustainability of fish, wildlife, ecosystems, and culture for the next seven generations and beyond.

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# Executive Summary

In response to the ESSB 5693 (2022 c 297) legislative budget proviso directive, this report has been authored as the eleventh in a series of ongoing quarterly progress reports. This report will serve to outline the successes and challenges of ongoing European green crab (hereafter green crab) emergency response efforts in Washington state from Jan. 1 to March 31, 2025.

The previous quarterly progress reports are available at: <https://wdfw.wa.gov/publications> and on WDFW's European green crab [webpage](#).

In 2021, the Washington Department of Fish and Wildlife (WDFW), co-managers, tribes, and partners identified an exponential increase of invasive European green crab, *Carcinus maenas*, in the Lummi Nation's Sea Pond within the Salish Sea, and in outer coastal areas including Grays Harbor, Makah Bay, and Willapa Bay. On Dec. 14, 2021, WDFW Director Susewind submitted an emergency measures request under RCW 77.135.090 for green crab response to Governor Jay Inslee. On Jan. 19, 2022, Governor Jay Inslee issued an emergency proclamation (#22-02) to address the exponential increase in green crab populations across Washington's marine shorelines. The proclamation directed WDFW to eradicate, reduce, or contain green crab populations in Washington. The Washington State Legislature approved \$8,568,000 in emergency funding during the 2022 Supplemental Budget to facilitate increased green crab management efforts. In response to the legislative budget proviso directive, this report is the eleventh in a series of ongoing quarterly progress reports. This Spring 2025 report will outline the successes and challenges of ongoing green crab emergency response efforts in Washington state from Jan. 1 to March 31, 2025.

An Incident Command System (ICS) was established to deal with the complexities of green crab management. Support for and coordination with co-managers, tribes, and partners is essential, as no single entity can successfully implement statewide green crab management strategies alone. Washington Sea Grant (WSG), the Lummi Nation, the Makah Tribe, the Shoalwater Bay Tribe, shellfish growers and various other entities have continued their ongoing efforts managing green crab populations, closely coordinating with WDFW. The ICS also resulted in the creation and distribution of various updates including reports to the governor every 10 days and Situation Reports (SitReps) based on monthly operational periods to provide information on and ensure transparency regarding management actions taken, grant funding allocations, green crab catch numbers, trapping efforts, media outreach, and other relevant information. These Situation Reports were synthesized for the public, media, and other external audiences in bi-monthly [Green Crab Public Updates published](#) and distributed through WDFW's Green Crab Management Updates email list as well as Department webpages, communications, and social media channels.

Representatives from many entities participating in green crab management have joined the ICS Multi-Agency Coordination (MAC) Group. The MAC Group provides a forum for these representatives to share information, establish a common operating picture, develop long-term priorities for the green crab

emergency, and commit and allocate funding and other resources to enhance emergency measures responses.

From Jan. 1 to March 31, 2025, the collective effort of all organizations resulted in approximately 47,348 green crab removed from Washington state marine waters, with 47,140 from the Coastal Branch and 208 from the Salish Sea Branch. Since Jan. 1, 2022, approximately 1,743,330 green crab have been removed from Washington state marine waters, with 1,651,093 removed from the Coast Branch, and 92,237 removed from the Salish Sea Branch. In addition to active control trapping, trap deployment for early detection monitoring occurred in areas where green crab had not previously been detected. Data on green crab abundance, body size, sex ratios, and reproductive status were collected for future analysis, along with DNA and RNA samples to assess connectivity between green crab populations.

Green crab removal numbers for Washington increased for Jan. 1 to March 31, 2025, compared to the same time in 2024. Catch numbers were generally similar to or less than what was observed in 2023. Catch per unit effort (CPUE) remained highly variable across Management and Coordination Areas. The green crab emergency remains a complex, nuanced, and highly variable challenge without a universal solution. Geographic variability makes local coordination more important than ever. Regional coordination groups have been critical to identifying local trends, adapting management strategies and filling gaps in coverage.

WDFW, WSG, co-managers, tribes, and partners achieved significant progress in green crab management efforts. The European Green Crab Research Task Force continues to coordinate with green crab researchers across the Pacific coast of North America to advance research priorities to support green crab management efforts in Washington state and throughout the region. Additional progress was also made on public education and community engagement to support green crab awareness, with WDFW representatives engaging individuals at public events and producing new outreach materials. While challenges remain, the continued efforts of all parties and the clear organizational structure set previously will allow for continued success through 2025.

## Background

### European green crab

The European green crab, *Carcinus maenas*, is a globally damaging invasive species that poses a threat to the ecological, economic, and cultural resources of Washington state. Native to Western Europe and Northwestern Africa, this hardy and voracious predator has since expanded its range throughout the globe (Carlton and Cohen 2003). Green crabs exploit a variety of different habitat types within intertidal and subtidal zones. Along the Pacific coast of North America, green crab inhabit protected shorelines in unstructured sandy and muddy bottoms, estuaries, saltmarshes and seagrass beds, as well as utilizing woody debris and rocky substrates (Kern et al. 2002). Green crab have wide tolerances for salinity (1.4-54 ppt) and temperature (0-35 °C) and can even survive air exposure for several days (Leignel et al. 2014).

In areas where green crab have been able to establish large populations for extended periods of time, they have the potential to negatively impact other species, particularly smaller crabs and bivalves (Jamieson et al. 1998, McDonald et al. 2001). It is estimated that damages to commercial shellfisheries from green crab predation average \$22.6 million per year on the East coast of the United States (Lovell et al. 2007). Similar losses from green crab predation are possible for Salish Sea shellfish fisheries (Mach and Chan 2013) and Pacific Coast fisheries are also at risk. Predation on oysters by green crab could negatively impact oyster fisheries, as adult green crab can prey upon young oysters (Dare et al. 1983, Poirier et al. 2017) and have been observed cracking and consuming adult oysters in laboratory settings (Forster). Lab work has shown that juvenile green crab outcompeted similar-sized Dungeness crabs for food and shelter and juvenile Dungeness may serve as prey for larger green crab, resulting in potential impacts to wild Dungeness populations (McDonald et al. 2001). Predation by green crab has led to declines in native bivalve and crab populations in invaded habitats (Grosholz et al. 2000). In addition, burrowing by green crab can have significant negative impacts on eelgrass, estuary, and marsh habitats (Malyshev and Quijón 2011, Matheson et al. 2016, Howard et al. 2019).

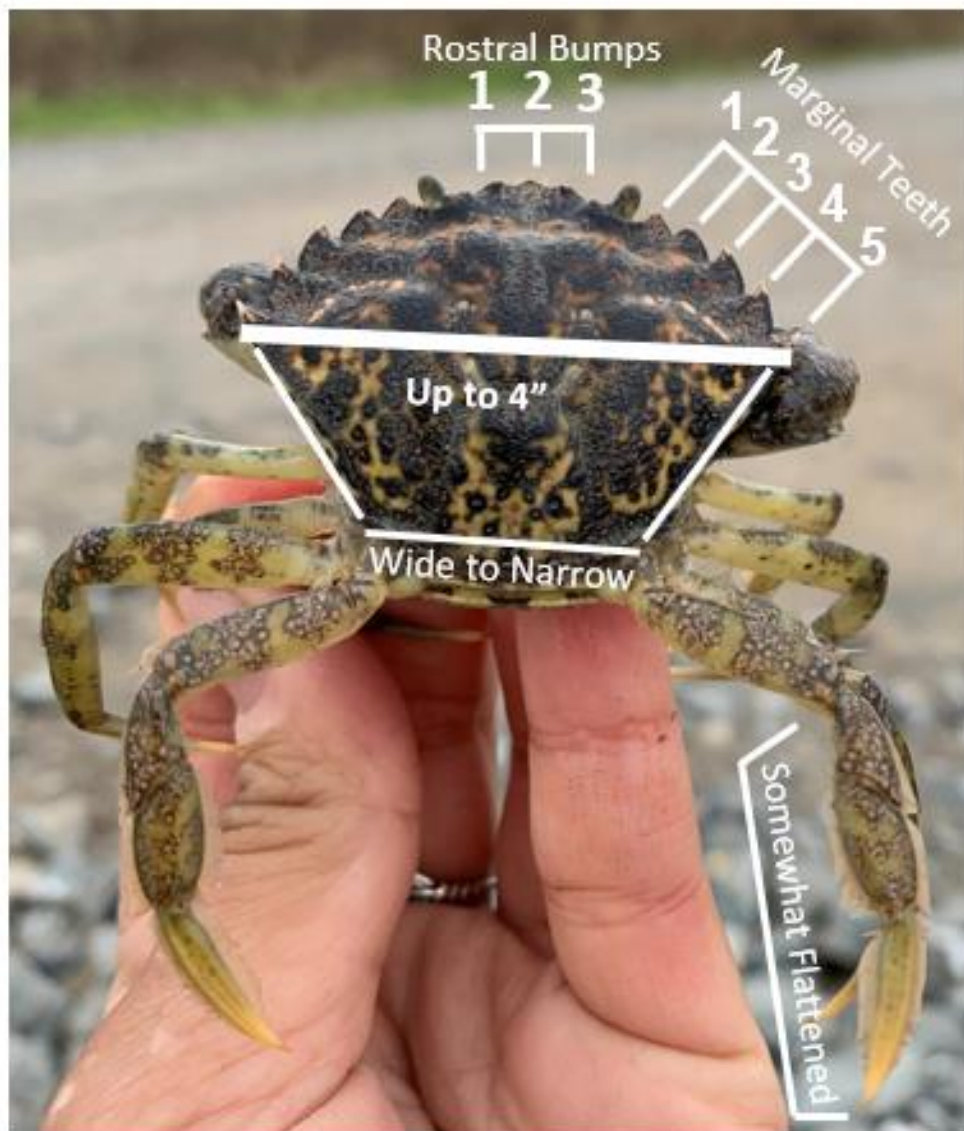
Given their history as a prolific invasive species, green crab is classified as a Prohibited Level 1 Invasive Species in Washington ([WAC 220-640-030; Appendix A](#)), meaning they may not be possessed, introduced on or into a water body or property, or trafficked (transported, bought, or sold), without department authorization, a permit, or as otherwise provided by rule ([RCW 77.135.040; Appendix A](#)). WDFW is currently not asking the public to kill suspected green crab, which may sound counterintuitive but is intended to protect native crabs from cases of mistaken identity (native crab species continue to be commonly misreported as green crab by the public; Flannery, personal communication). Green crab is most accurately identified by the 5 large spines, also called marginal teeth, on either side of their forward carapace, a unique pattern for crabs on the Pacific coast of North America (Figure 1). Despite their name, coloration of green crabs varies from bright green to dark orange, thus color is not a reliable feature to use when distinguishing green crab from native crab species.

## History of the European green crab in Washington state

The first detection of European green crab in the waters of Washington was in 1998 in Willapa Bay and Grays Harbor (Carlton and Cohen 2003; Table 1; Figure 2). Initial emergency management responses took place but ended after a few years due to a lack of evidence of self-recruitment and fewer green crab captured. In 2015, the Washington Department of Fish and Wildlife (WDFW) learned that a population of green crab was discovered in 2012 in Sooke Basin, British Columbia, Canada (Gillespie et al. 2015). In response over concerns of new green crab introductions within the Washington portion of the Salish Sea, WDFW designated Washington Sea Grant (WSG) to lead an early detection monthly monitoring community science network, also known as the Crab Team. This also marked the beginning of increased communication and collaboration with the Department of Fisheries and Oceans Canada (DFO) to explore transboundary green crab management in the Salish Sea. The first detections of green crab in the Washington region of the Salish Sea occurred in 2016 at Westcott Bay on San Juan Island by the WSG Crab Team and in Padilla Bay by staff at the Padilla Bay National Estuary Research Reserve (Grason et al. 2018). There were additional detections of green crab in 2017 in Makah Bay by the Makah

Tribe and in Dungeness Spit within the Dungeness National Wildlife Refuge, which is managed by the US Fish and Wildlife Service. Since 2018, there have been increasing numbers of green crab detections in the Salish Sea and Pacific coastal regions of Washington. In response to continued green crab presence in the Salish Sea, the Salish Sea Transboundary Action Plan for Invasive European Green Crab was created and signed by representatives of WDFW, WSG, the Puget Sound Partnership, and the DFO in 2019 (Drinkwin et al. 2018).

**Figure 1 Image of a European green crab, *Carcinus maenas*, with distinguishing features highlighted.**



The main distinguishing feature of green crab are the five spines, or marginal teeth, on each side of the carapace behind the eyes. Additional identifying features are the three lobes, or rostral bumps, between the eyes, and somewhat flattened rear legs.

**Table 1 Yearly European green crab captures in Washington from 1998-2024.**

Year	Salish Sea	Pacific Coast	Total
1998	0	364	364
1999	0	507	507
2000	0	235	235
2001	0	142	142
2002	0	167	167
2003	0	24	24
2004	0	4	4
2005	0	115	115
2006 - 2014	0	68	68
2015	0	8	8
2016	5	19	24
2017	101	64	165
2018	77	1,115	1,192
2019	177	1,766	1,943
2020	2,858	3,971	6,829
2021	86,340	16,825	103,165
2022	81,009	204,405	285,414
2023	6,452	354,962	361,414
2024	4,568	1,044,794	1,049,362

Data is divided by green crab captured in the Washington State portion of the Salish Sea and green crab captured along the Pacific coast. Please note that these data only represent crabs captured, not the effort employed. Catch effort (number of traps deployed, number of locations trapped, frequency of trap recovery) varies greatly across years and location.

## Emergency proclamation and supplemental funding

In 2021, WDFW, co-managers, tribes, and partners identified an exponential increase of invasive green crab in the Lummi Nation's Sea Pond within the Salish Sea, and in coastal areas including Makah Bay, Grays Harbor, and Willapa Bay. It was concluded that this continuing increase in green crab distribution and abundance posed an imminent threat to Washington's economic, environmental, and cultural resources. While \$2.3 million was appropriated by the State Legislature for green crab management in the 2021-23 biennium, it was determined to be insufficient to control these exploding populations.

On Dec. 14, 2021, Director Susewind submitted an emergency measures request under [RCW 77.135.090 \(Appendix A\)](#) for a green crab response to Governor Jay Inslee. While emergency funding was not immediately available, on Jan. 19, 2022, Gov. Inslee issued an emergency proclamation (#22-02) to address the exponential increase in the green crab population within the Lummi Nation's Sea Pond and Pacific coastal areas. The proclamation directs WDFW to implement emergency measures as necessary to affect the eradication of or to prevent the permanent establishment and expansion of green crab in Washington. In addition, the Governor urged the Legislature to provide additional emergency funding as requested by the WDFW as soon as possible.

Working with the Governor's office, the Office of Financial Management, co-managers, and tribes including the Lummi Nation, Makah Tribe, and others, along with Washington Sea Grant (WSG), WDFW requested \$8,568,000 from the State Legislature during the 2022 supplemental session to control increasing green crab populations. The Legislature fully-funded this request in the 2022 Supplemental Budget, which was signed by Governor Inslee on March 31, 2022.

In April 2023, the State Legislature and governor designated \$6,082,000 to be appropriated annually for green crab management in the 2023-25 Operating Budget. This amounts to a total of approximately \$13 million for the 2023-25 Biennial Budget. Previously, the Legislature had provided \$2.3 million per biennium ongoing for green crab control in 2021, but this amount was deemed insufficient to match the scale of this growing threat.

## Governor Proclamation 22-02 Directives

The following text, taken from "Emergency Proclamation by the Governor 22-02 Green Crab Infestation", outlines the primary directives to WDFW and other state agencies by Governor Jay Inslee regarding green crab management:

"NOW THEREFORE, I, Jay Inslee, Governor of the state of Washington, by virtue of the authority vested in me under RCW 43.06.010(14), as a result of the above-noted situation, and in accordance with RCW 77.135.090, do hereby order the Department of Fish and Wildlife to begin implementation of emergency measures as necessary to effect the eradication of or to prevent the permanent establishment and expansion of European green crab.

FURTHERMORE, I direct the Department of Ecology, and I ask the Department of Natural Resources and the State Parks and Recreation Commission to identify European green crab management as a high priority on their respective state-owned aquatic lands and to facilitate implementing the emergency measures described herein.”

## **Legislative Proviso**

The following text, taken from “ESSB 5693 - Making 2021-2023 fiscal biennium supplemental operating appropriations”, Section 308 (Page 552, Line 16) - outlines the primary directives to WDFW by the Washington State Legislature regarding green crab management:

“Implement eradication and control measures on European green crabs through coordination and grants with partner organizations. Provide quarterly progress reports on the success and challenges of the measures to the appropriate committees of the legislature.”



**Figure 2 Timeline of European green crab invasion In Washington State.**



# Successes of European green crab management measures

The following is an overview of the major successes related to European green crab management actions for Jan. 1 to March 31, 2025. Data from previous years will also be discussed and included for context. A complete list of green crab management actions of Jan. 1 to March 31, 2025, can be found in [Appendix A](#) of this report.

## Incident Command System implementation

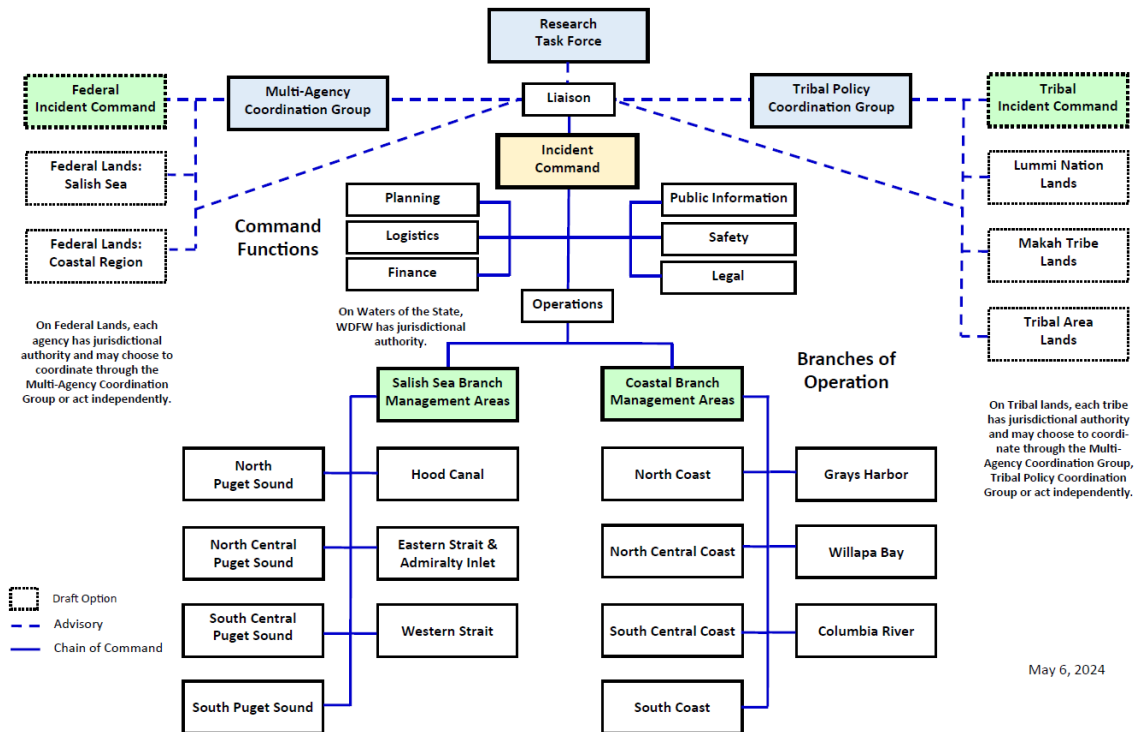
The Washington State Emergency Management Division assigned mission #22-1085 on April 18, 2022, for the green crab emergency response. After meeting with other state and federal agencies, the Washington Department of Fish and Wildlife (WDFW) Director Kelly Susewind formally implemented an Incident Command System (ICS) on May 5, 2022, in delegating authority to WDFW's Aquatic Invasive Species (AIS) Policy Coordinator, Justin Bush, to serve as Incident Commander (Figure 3). This approach provides a clear command structure, as well as standardizing communications and management action implementation across the state. In addition, ICS provides support to federal and tribal participants across the state while they retain their autonomy in green crab management decisions and actions.

From Jan. 1 to March 31, 2025, successes of the green crab ICS have included:

- Ensuring that ongoing management actions are guided by the five Incident Objectives developed in 2022 at the beginning of the emergency:
  - A. Facilitate WDFW implementing Governor's Emergency Proclamation for statewide emergency measures with respect for tribal sovereignty and federal jurisdictions.
  - B. Health and safety of all participants.
  - C. Reduce or contain green crab populations below levels that result in environmental, economic, and cultural resource harm.
  - D. Collaborative and transparent emergency management.
  - E. Post-emergency transition to long-term green crab management by local co-managers, tribes, and partners with WDFW oversight.
- Meetings with co-managers and tribal entities to discuss ICS structure and solicit recommendations on how co-managers and tribes would like to engage on policy and technical levels.
- Regular reports to the governor every 10 calendar days per RCW 77.135.090 on the effects of emergency measures and advising the governor if all or some emergency measures should be discontinued.
- Creation of ICS Situation Reports (SitReps) based on a monthly operational period summarizing the status of Washington state green crab emergency measures including actions taken, funding allocations, green crab catch numbers, trapping efforts, and other relevant information for dissemination among green crab emergency measure co-managers, tribes, and partners.

- Publication and dissemination of European green crab updates to co-managers, tribes, and partners, as well as other relevant stakeholders and communities, interested media, and [email list subscribers](#) including news releases on new detections, letters, statements, and other communications. All public updates are archived at: <https://wdfw.wa.gov/species-habitats/invasive/carcinus-maenas#conservation>.
- Continued WDFW internal policy coordination meetings.

**Figure 3 Incident Command System structure for the European green crab emergency response**



An important aspect of the green crab ICS structure is the Multi-Agency Coordination (MAC) Group. The MAC Group consists of representatives from various co-managers, tribes, and partners, including state and federal agencies, and shellfish growers (Table 2). The MAC Group provides a forum for these representatives to share information, establish a common operating picture, and recommend common long-term priorities for the green crab emergency. In addition, the group is tasked with making recommendations to WDFW for emergency funding and may commit and allocate additional or in-kind funding and other resources to enhance emergency measures response. From Jan. 1 to March 31, 2025, green crab MAC Group successes have included:

- Reviewing updates from previously approved RCO European Green Crab Emergency Measures Fund requests, which includes:
  - \$110,240 USFWS Willapa National Wildlife Refuge (NWR)
    - Progress Report Received – 1/9/2025
    - Progress Report Due – 4/10/2025
  - \$729,965 Pacific Conservation District

- Progress Report Received – 1/9/2025
  - Progress Report Due – 4/10/2025
- Grays Harbor Conservation District
  - Progress Report Received – 1/9/2025
  - Progress Report Due – 4/10/2025
- \$59,828 University of Washington Ruesink Lab
  - Progress Report Received – 1/9/2025
  - Progress Report Due – 4/10/2025
- \$179,810 National Oceanographic and Atmospheric Administration (NOAA) Fisheries
  - Status: Sponsor Review.
- See previous European Green Crab Legislative Reports for more details.
- Currently, \$0.00 remains unobligated for use between July 1, 2024, and June 30, 2025.
  - The solicitation was removed from the RCO website.

**Table 2 List of European green crab Multi-Agency Coordination Group member organizations.**

Multi-Agency Coordination group member organizations	
Department of Fisheries and Oceans Canada	U.S. National Oceanographic and Atmospheric Administration
Pacific Coast Shellfish Growers Association	Washington Emergency Management Division
Lummi Nation Business Council	Washington Sea Grant
Makah Tribe	Washington State Department of Agriculture
Puget Sound Partnership	Washington State Department of Fish and Wildlife
Quinault Indian Nation	Washington State Department of Natural Resources
Shoalwater Bay Indian Tribe	Washington State Parks and Recreation Commission
U.S. Bureau of Indian Affairs	Washington State Recreation and Conservation Office
U.S. Environmental Protection Agency	Washington State University Extension
U.S. Fish and Wildlife Service	Willapa-Grays Harbor Oyster Growers' Association
U.S. Geological Survey	Washington State Department of Ecology

**Representatives of these organizations share information, establish a common operating picture, and develop common long-term priorities for the green crab emergency.**

## Coordination with co-managers, tribes, and partners

Perhaps the greatest success of green crab management in Washington are the efforts, both independent and collaborative, of the many co-managers, tribes, and partners within the state (Table 3). The scope of the green crab emergency is such that no one organization can hope to curtail it alone. For years, co-managers, tribes, and partners such as WSG, shellfish growers, and local, state, and federal

agencies have worked with WDFW to implement short- and long-term management actions to support statewide efforts in green crab management. The contributions of all entities involved in green crab control cannot be overvalued.

Since green crab extend beyond jurisdictional boundaries, management responses require action, collaboration, and coordination between various groups. It is important to note that green crab management is very complex with multiple jurisdictions, varying management priorities, different management types, complex operations, and different resource capacities. Additionally, each organization can have differing goals for sensitive habitats, species protections and aquaculture operation protections. SitReps were disseminated monthly based on ICS operational periods to support meeting the collaboration and transparent emergency management objective. These SitReps included information on management actions taken, grant funding allocations, green crab catch numbers, trapping efforts, media outreach and other relevant information. The first SitRep was disseminated on June 16, 2022, and 44 have been completed as of March 31, 2025.

Meeting of Regional Coordination Groups (RCG) continue to meet on a regular basis. RCGs consist of local co-managers, tribes, and partners actively participating in management actions to prevent, detect, respond to, control, and research green crabs within a defined area (i.e., management area). RCGs are valuable because they allow for regular dialogue between active local co-managers, tribes, and partners, showcasing a strong sense of cooperation, collaboration, coordination, and communication.

## Transition to Annual Progress Reports

This report is the penultimate Quarterly Green Crab Progress Report, as WDFW will be transitioning to annual progress reports. The final Quarterly Green Crab Progress Report, covering the period from April 1 to June 30, 2025, is currently scheduled for release on Sept. 15, 2025. Thereafter, WDFW will submit Annual Progress Reports **on Sept. 15** of each year. In our previous quarterly reports, WDFW invited MAC Group members to submit addendums to outline their specific actions and successes in their own words. With the transition to annual reports, WDFW requested that MAC Group members plan to submit addenda with the final quarterly report and then the annual report thereafter.

**Table 3 List of co-managers, tribes, and partner organizations working with WDFW on control and management efforts of the European green crab in Washington.**

Co-managers, Tribes, and Partners	
Baywater Shellfish Company	Quinault Indian Nation
Chuckanut Shellfish	Quileute Tribe
Drayton Harbor Oysters	Samish Indian Nation
Grays Harbor Conservation District	Shoalwater Bay Indian Tribe
Hama Hama Oyster Company	Skokomish Tribe
Hoh Tribe	Squaxin Island Tribe
Jamestown S'Klallam Tribe	Stillaguamish Tribe
Lower Elwha Klallam Tribe	Suquamish Tribe
Lummi Nation	Swinomish Indian Tribal Community
Makah Tribe	Taylor Shellfish
Marine Life Center	Tulalip Tribes
Muckleshoot Indian Tribe	United States Fish and Wildlife Service
Nisqually Tribe	United States Geological Survey Western Fisheries Research Center
Nooksack Tribe	United States Navy
Northwest Straits Commission (Washington State Department of Ecology)	Upper Skagit Tribe
Pacific Conservation District	Washington Sea Grant
Pacific County Invasive Species Management	Washington State Department of Natural Resources
Pacific Seafoods	Washington State Parks and Recreation Commission
Padilla Bay National Estuarine Research Reserve (Washington State Department of Ecology)	Washington State Recreation and Conservation Office
Penn Cove Shellfish	Washington State University Extension
Port Gamble S'Klallam Tribe	Washington State Department of Fish and Wildlife
Puget Sound Partnership	Willapa-Grays Harbor Oyster Growers' Association
Puyallup Tribe	

Participants implement short- and long-term management actions to support statewide efforts in green crab control, including independent and WDFW collaborative trapping, outreach and education, field support, and monitoring. These actions are an essential component of the green crab management in Washington.

## Budget allocation

The \$1,161,063 in funds provided for this report period allowed for the continuation of our management efforts.

- Staff (Salaries + Benefits): \$202,851
  - Funds spent on staff. As of March 31, 2025, the current active green crab staff included the EGC Team Lead, Operations Coordinator, three Regional EGC Leads and a Research Scientist.

- Contractual Services: \$794,425
  - Amount spent on pass through contracts for co-managers, tribes, and partners.
- Goods & Services: \$16,725
  - Funds spent on general field supplies and gear such as bait and traps.
- Travel: \$2,161
  - Funds spent on motor pool vehicles, per diem and lodging. Aside from trapping efforts, travel funds allowed staff to present at and attend conferences and perform outreach for various stakeholder groups.
- Agency Indirect: \$144,900
  - Funds spent on agency-wide, general administration costs.

## European green crab monitoring and removal

### Jan. 1 to March 31, 2025

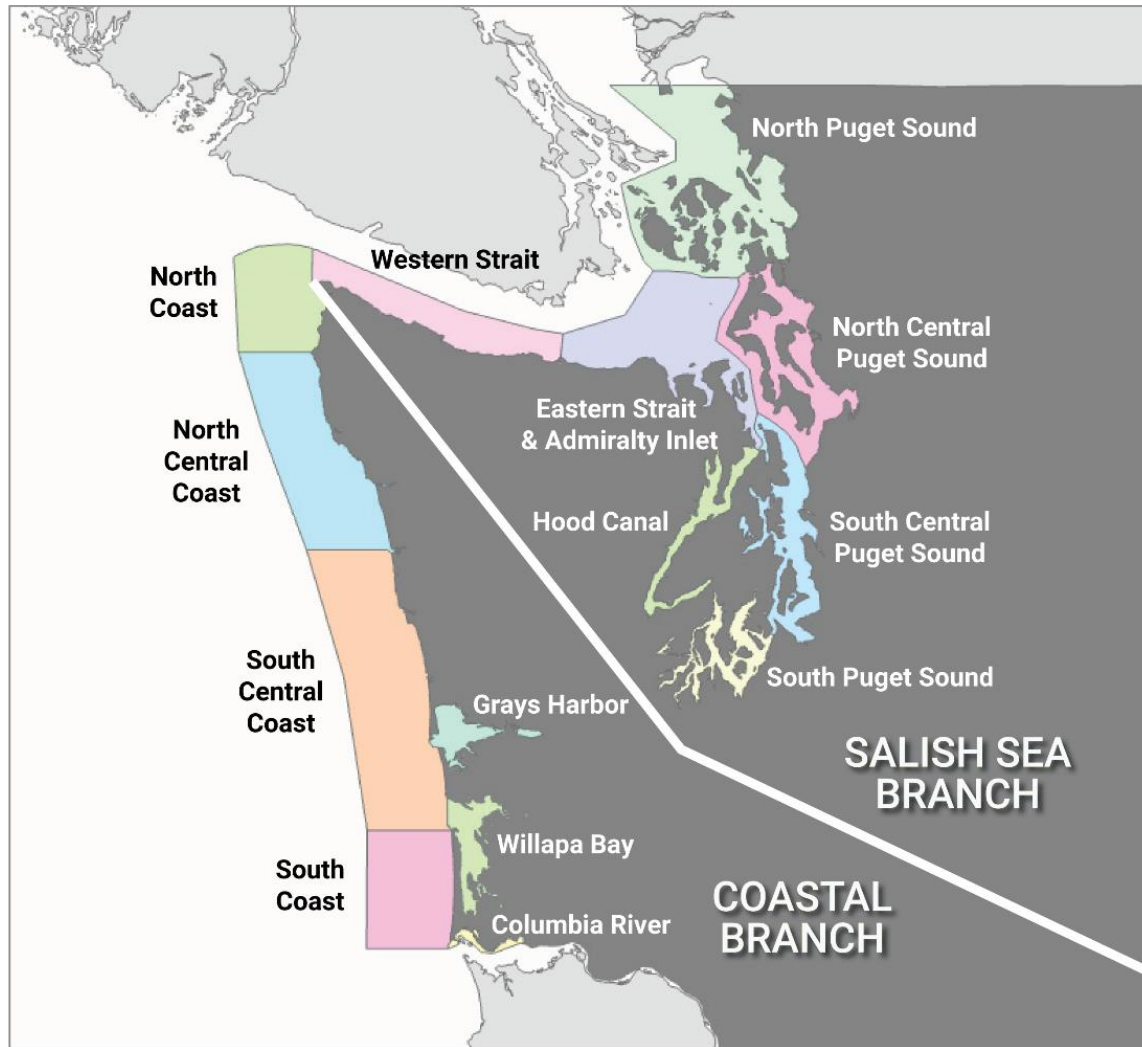
The state is divided into Coastal and Salish Sea Branches to facilitate effective European green crab ICS communications and management (Figure 4). These branches are then further divided into fourteen Management Areas based on WDFW recreational fishing marine areas, with Management Areas further divided into Coordination Areas, Sites, and Sub-Sites.

Trapping efforts across the state were undertaken by WDFW, WSG, co-managers, tribes, and partners. The catch numbers presented for Jan. 1 to March 31, 2025, represent the collective effort of all organizations, and those efforts must be recognized. From Jan. 1 to March 31, 2025, trap deployment across all management areas were reduced due to decreasing temperatures and the start of winter. Traditionally, trapping was not advised during colder weather due to decreased green crab activity and poor weather conditions. However, in recent years trappers in Washington have found that green crab captures remain high in deeper water facilitated by boat-based trap deployment. Some co-managers, tribes, and partners now maintain their trapping efforts in winter months, though the general trend is a decline in trapping activity.

In total, 47,348 green crab were removed during Jan. 1 to March 31, 2025, from Washington state waters, with 47,140 removed from the Coastal Branch and 208 removed from the Salish Sea Branch (Table 4). In the Salish Sea Branch, green crab were captured and removed from the following Management Areas: North Puget Sound (207 crabs) and Eastern Strait & Admiralty Inlet (1 crab). In the Coastal Branch, green crab were captured and removed from the following Management Areas: Willapa Bay (26,230), Grays Harbor (20,829), North Coast (80), and South Central Coast (1). Although trapping occurred, no green crabs were caught in the Hood Canal Management Area. To date, green crab have not been detected in the Salish Sea Branch south of northern Hood Canal Management Area, though early-detection monitoring continues across the southerly management areas. Data on green crab abundance, body size, sex ratios, and reproductive status were collected for future analysis, along with DNA and RNA samples to assess connectivity between green crab populations. Removed green crab were euthanized following humane best practices.

WDFW is partnered with Tidal Grow Agriscience (TGA), an organic fertilizer manufacturer based in Raymond, WA. TGA generously accepts fish waste (i.e., green crab and used bait) from WDFW and participating co-managers, tribes, and partners for processing into a liquid fertilizer (Pacific Gro) free of charge. This partnership allows organic material that would otherwise be dumped in landfills to be put to productive use as outlined in HB 1799 (2022). Green crab collected by the Shoalwater Bay Tribe, are utilized directly as fertilizer in their tribal community garden (Pfleeeger-Ritzman, personal communication)

**Figure 4 Map of Washington state European green crab management locations.**



The state has been split into two Management Branches (Coastal and Salish Sea) and fourteen Management Areas (North Puget Sound, North Central Puget Sound, South Central Puget Sound, South Puget Sound, Hood Canal, Eastern Strait & Admiralty Inlet, Western Strait, North Coast, North Central Coast, South Central Coast, South Coast, Grays Harbor, Willapa Bay, Columbia River).



**Table 4 European green crab removal totals for Jan. 1 – March 31, 2025, and previous years.**

Management Branch	Management Area	Jan. 1 – March 31, 2023, Green Crab Removed	Jan. 1 – March 31, 2024, Green Crab Removed	Jan. 1 – March 31, 2025, Green Crab Removed	All Green Crab Removed Since Jan. 2022
Salish Sea	North Puget Sound	1,687	84	207	91,317
Salish Sea	North Central Puget Sound	*	*	*	5
Salish Sea	South Central Puget Sound	*	*	*	0
Salish Sea	South Puget Sound	*	*	*	0
Salish Sea	Hood Canal	0	*	0	188
Salish Sea	Eastern Strait & Admiralty Inlet	2	*	1	60
Salish Sea	Western Strait	0	1	*	667
<b>Salish Sea</b>	<b>All</b>	<b>1,689</b>	<b>85</b>	<b>208</b>	<b>1,651,093</b>
Coastal	North Coast	577	254	80	42,441
Coastal	North Central Coast	*	*	*	47
Coastal	South Central Coast	*	*	1	127
Coastal	South Coast	*	*	*	*
Coastal	Grays Harbor	21,479	10,980	20,829	268,526
Coastal	Willapa Bay	13,413	19,706	26,230	1,339,779
Coastal	Columbia River	*	*	*	41
<b>Coastal</b>	<b>All</b>	<b>35,469</b>	<b>30,940</b>	<b>47,140</b>	<b>92,237</b>
<b>All</b>	<b>All</b>	<b>37,158</b>	<b>31,025</b>	<b>47,348</b>	<b>1,743,330</b>

Green crab removed during Jan. 1 – March 31, 2023, Jan. 1 – March 31, 2024, Jan. 1 – March 31, 2025, and All (the duration of the green crab emergency) based on SitRep reported catch and trapping effort. These numbers are presented for each Management Branch (Coastal and Salish Sea) and Management Area. These totals include not only removal efforts by Washington Department of Fish and Wildlife, but co-managers, tribes, and partners such as the Washington Sea Grant Crab Team, the Lummi Nation, the Makah Tribe, the Shoalwater Bay Tribe, other tribal partners, and participating shellfish growers. \* = No trapping occurred in these Management Areas. Please note that these data only represent crabs captured, not the effort employed. Catch effort (number of traps deployed, number of locations trapped, frequency of trap recovery) varies greatly across time and location.

## Catch Per Unit Effort

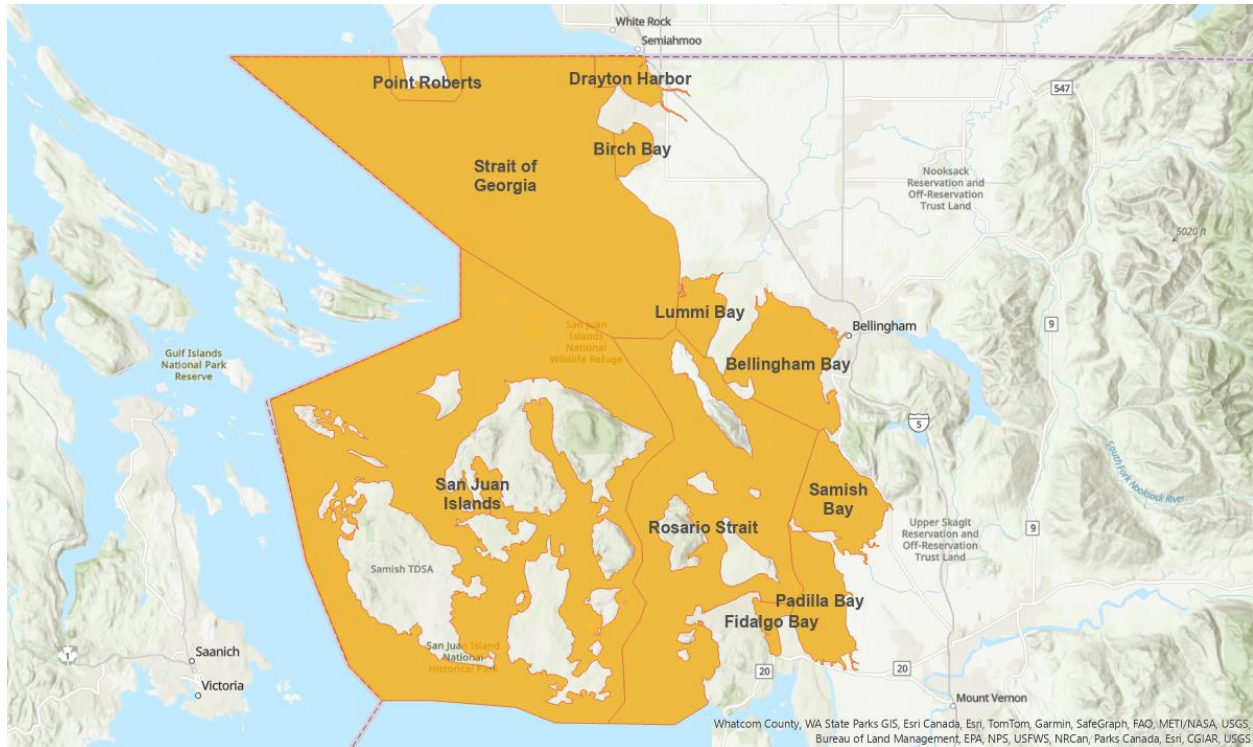
Catch per unit effort (CPUE ) is a metric commonly used to assess abundance when the boundaries of a population are unknown. CPUE measures the amount of an organism collected per unit of effort. For green crab management in Washington, CPUE is calculated as the number of crabs per 100 trap checks. In contrast to absolute counts (e.g., the number of crabs removed from a location), CPUE accounts for the effort expended and provides a more representational measure of abundance.

Ideally, CPUE is measured using a consistent level of effort (e.g., 10 weekly trap checks) at a consistent location. This consistency allows for a more controlled and accurate assessment of changes in catch numbers over time. However, green crab management activities in Washington are highly variable across time and space, complicating the evaluation of CPUE. For example, in response to increasing green crab catch numbers in 2024, many co-managers, tribes, and partners expanded their trapping efforts (more traps, more trapping days, more extensive geographic coverage) which complicates interpretations of changes in CPUE. In Willapa Bay, trappers will often move to new trapping locations if green crab removal numbers decline to remove as many green crabs as possible.

While imperfect, CPUE remains the most straightforward examination of green crab catch numbers over time within a given Coordination Area while considering effort. Changes in CPUE reported in the following sections should not be disregarded, but consideration should be given to the complexity of interpreting these values with shifting management actions.

## North Puget Sound

Figure 5 Map of North Puget Sound Management Area.



**North Puget Sound is split into 11 Coordination Areas (Point Roberts, Drayton Harbor, Strait of Georgia, Birch Bay, Lummi Bay, Bellingham Bay, San Juan Islands, Rosario Strait, Samish Bay, Padilla Bay, and Fidalgo Bay).**

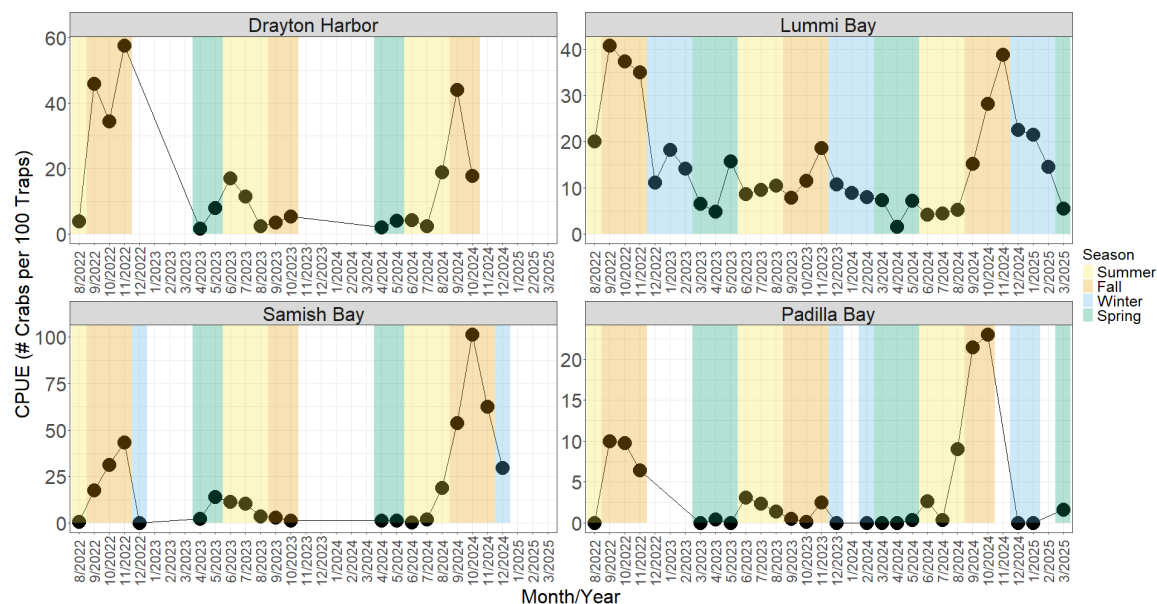
Trapping continued in several Coordination Areas in the North Puget Sound Management Area from Jan. 1 to March 31, 2025: Drayton Harbor, Lummi Bay, Bellingham Bay, Samish Bay, and Padilla Bay (Table 5). Overall, green crab catch numbers were higher in the Management Area in 2025 (207 crabs) than in the same period in 2024 (84 crabs), but they were below 2023 numbers (1,687; Table 4). In the Lummi Bay Coordination Area, CPUE was higher in Jan. and Feb. compared to 2024, though the CPUE in March was similar to previous years (Figure 6). In Padilla Bay, four crabs were captured in March, compared to zero in previous years. While two crabs were collected in Jan. in Samish Bay, no trap information was provided, and a CPUE could not be calculated. No crabs were caught in Drayton Harbor and Bellingham Bay.

**Table 5 North Puget Sound Management Area green crab removal totals.**

Coordination Area	2022 Green Crabs Removed	2023 Green Crabs Removed	2024 Green Crabs Removed	2025 Green Crabs Removed**	All Green Crabs Removed
Point Roberts	*	*	*	*	*
Drayton Harbor	320	159	536	0	1,015
Strait of Georgia	*	0	*	*	0
Birch Bay	0	34	59	*	93
Lummi Bay	80,384	5,575	2,618	201	88,778
Bellingham Bay	3	31	19	0	53
San Juan Islands	0	0	0	*	0
Rosario Strait	0	0	0	*	0
Samish Bay	135	217	706	2	1,060
Padilla Bay	58	34	221	4	317
Fidalgo Bay	0	1	0	*	1
<b>All</b>	<b>80,900</b>	<b>6,051</b>	<b>4,159</b>	<b>207</b>	<b>91,317</b>

Green crab removed during 2022-2025 and All (the duration of the green crab emergency) based on SitRep reported catch and trapping effort. These numbers are presented for each Coordination Area within North Puget Sound. These totals include removal efforts by all participating co-managers, tribes, and partners. \* = No trapping occurred in these Coordination Areas. Please note that these data only represent crabs captured, not the effort employed. Catch effort (number of traps deployed, number of locations trapped, frequency of trap recovery) varies greatly across time and location. \*\* = Year in progress; catch numbers represent most recent catch data.

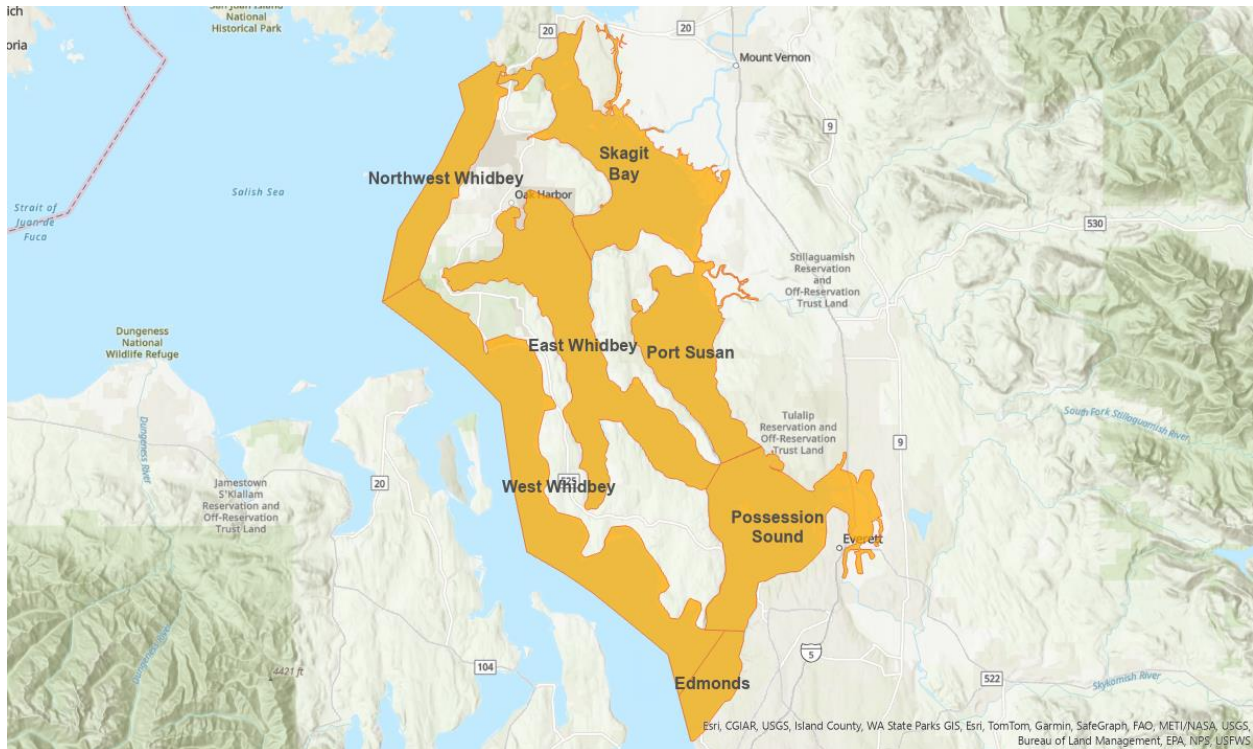
**Figure 6 Monthly Catch Per Unit Effort (CPUE) for Coordination Areas in North Puget Sound.**



CPUE is calculated as the number of crabs per 100 trap checks based on SitRep's reported catch and trapping effort. Drayton Harbor, Lummi Bay, Samish Bay, and Padilla Bay Coordination Areas were included because they had the most robust datasets for North Puget Sound. Trap check data was not reported in SitReps before Aug. 2022, so CPUE is not calculated for the beginning of the green crab emergency. The color of each column denotes the season when trapping occurred: Yellow for Summer (June – Aug.), orange for Fall (Sept. – Nov.), blue for Winter (Dec. – Feb.), and green for Spring (March – May). White columns indicate no data (trapping did not occur or no trap check data was available).

## North Central Puget Sound

**Figure 7 Map of North Central Puget Sound.**



**North Central Puget Sound is split into seven Coordination Areas (Skagit Bay, Northwest Whidbey, East Whidbey, Port Susan, West Whidbey, Possession Sound, and Edmonds).**

No trapping efforts occurred in North Central Puget Sound Management Area from Jan. 1 to March 31, 2025. Trapping efforts will resume in April 2025.

**Table 6 North Central Puget Sound Management Area green crab removal totals.**

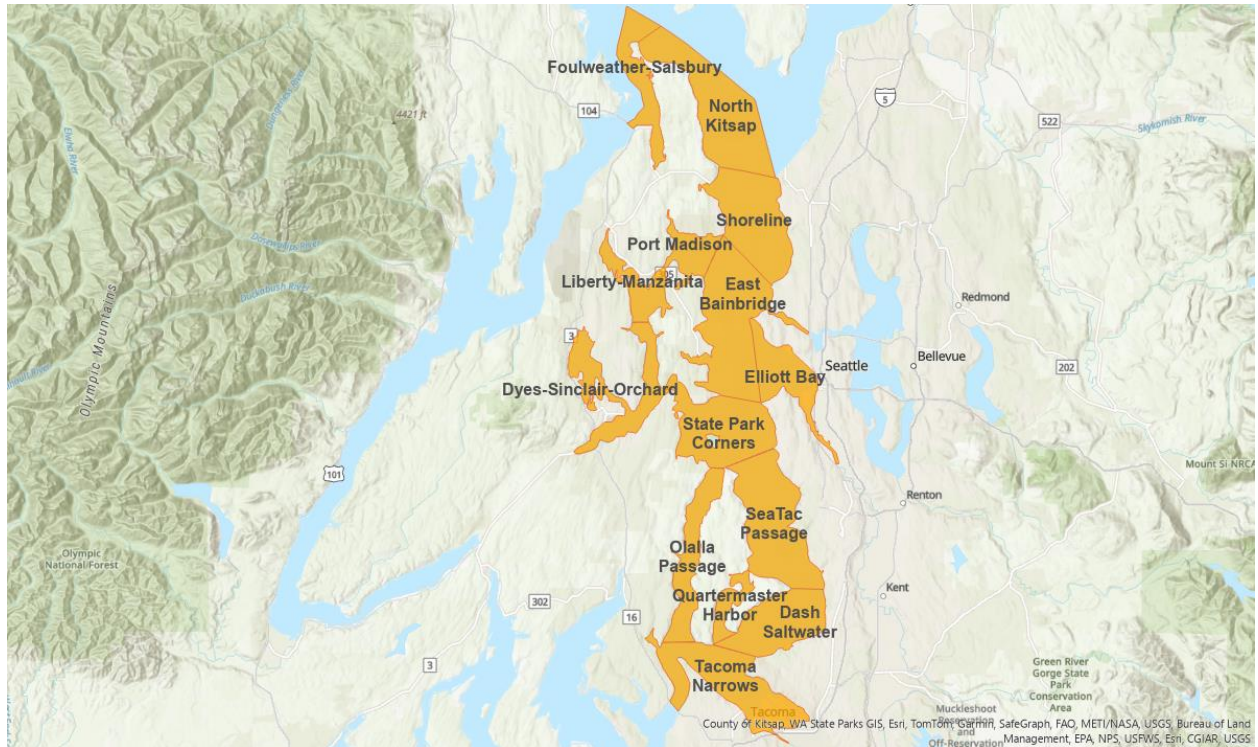
Coordination Area	2022 Green Crabs Removed	2023 Green Crabs Removed	2024 Green Crabs Removed	2025 Green Crabs Removed**	All Green Crabs Removed
Skagit Bay	0	0	0	*	0
Northwestern Whidbey	*	*	*	*	*
East Whidbey	0	0	0	*	0
Port Susan	0	0	0	*	0
West Whidbey	0	0	5	*	0
Possession Sound	*	0	0	*	0
Edmonds	*	0	*	*	0
All	0	0	5	0	5

Green crab removed during 2022-2025, and All (the duration of the green crab emergency) based on SitRep reported catch and trapping effort. These numbers are presented for each Coordination Area within North Central Puget Sound. These totals include removal efforts by all participating co-managers, tribes, and partners. \* = No trapping occurred in these Coordination Areas. Please note that these data only represent crabs captured, not the effort employed. Catch effort (number of traps deployed, number of locations trapped, frequency of trap recovery) varies greatly across time and location. \*\* = Year in progress; catch numbers represent most recent catch data.



## South Central Puget Sound

Figure 8 Map of South Central Puget Sound Management Area.



South Central Puget Sound is split into 14 Coordination Areas (Foulweather-Salsbury, North Kitsap, Shoreline, Port Madison, Liberty-Manzanita, East Bainbridge, Elliot Bay, Dyes-Sinclair-Orchard, State Park Corners, Olalla Passage, SeaTac Passage, Quartermaster Harbor, Dash Saltwater, and Tacoma Narrows).

No trapping efforts occurred in South Central Puget Sound Management Area from Jan. 1 to March 31, 2025. Trapping efforts will resume in April 2025.



**Table 7 South Central Puget Sound Management Area green crab removal totals.**

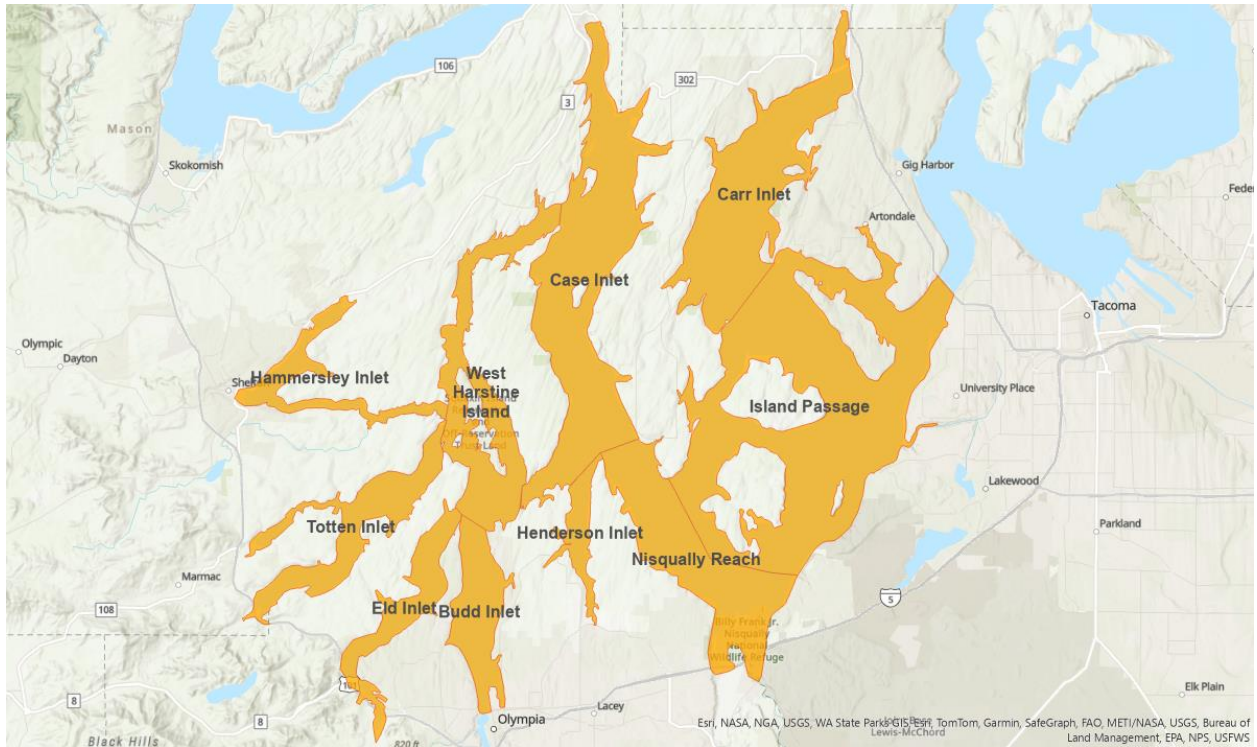
Coordination Area	2022 Green Crabs Removed	2023 Green Crabs Removed	2024 Green Crabs Removed	2025 Green Crabs Removed**	All Green Crabs Removed
Foulweather-Salsbury	0	0	0	*	0
North Kitsap	*	*	*	*	*
Shoreline	0	0	0	*	0
Port Madison	0	0	0	*	0
Liberty-Manzanita	0	0	0	*	0
East Bainbridge	0	0	0	*	0
Elliot Bay	*	*	*	*	*
Dyes-Sinclair-Orchard	0	0	0	*	0
State Park Corners	0	0	0	*	0
Olalla Passage	*	*	*	*	*
SeaTac Passage	0	0	0	*	0
Quartermaster Harbor	0	0	0	*	0
Dash Saltwater	*	*	*	*	*
Tacoma Narrows	*	*	*	*	*
<b>All</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>*</b>	<b>0</b>

Green crab removed during 2022 -2025, and All (the duration of the green crab emergency) based on SitRep reported catch and trapping effort. These numbers are presented for each Coordination Area within South Central Puget Sound. These totals include removal efforts by all participating co-managers, tribes, and partners. \* = No trapping occurred in these Coordination Areas. Please note that these data only represent crabs captured, not the effort employed. Catch effort (number of traps deployed, number of locations trapped, frequency of trap recovery) varies greatly across time and location.

\*\* = Year in progress; catch numbers represent most recent catch data.

## South Puget Sound

Figure 9 Map of South Puget Sound Management Area.



South Puget Sound is split into nine Coordination Areas (Hammersley Inlet, West Harstine Island, Case Inlet, Carr Inlet, Island Passage, Totten Inlet, Eld Inlet, Budd Inlet, Henderson Inlet, Nisqually Reach).

No trapping efforts occurred in South Puget Sound Management Area from Jan. 1 to March 31, 2025. Trapping efforts will resume in April 2025.

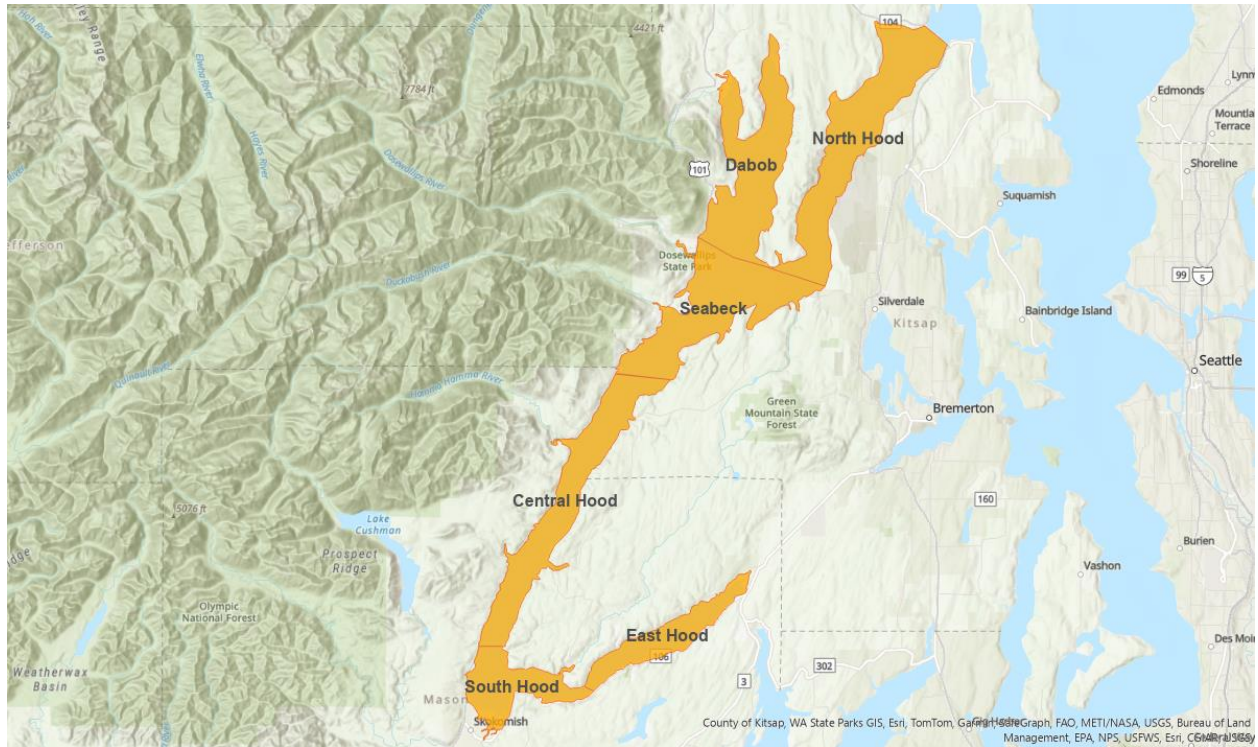
**Table 8 South Puget Sound Management Area green crab removal totals.**

Coordination Area	2022 Green Crabs Removed	2023 Green Crabs Removed	2024 Green Crabs Removed	2025 Green Crabs Removed**	All Green Crabs Removed
Hammersley Inlet	*	*	0	*	0
West Harstine Island	*	*	0	*	0
Case Inlet	*	*	*	*	*
Carr Inlet	*	*	*	*	*
Island Passage	0	0	0	*	0
Totten Inlet	*	*	*	*	*
Eld Inlet	*	*	*	*	*
Budd Inlet	*	*	*	*	*
Henderson Inlet	*	*	*	*	*
Nisqually Reach	0	0	0	*	0
<b>All</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>*</b>	<b>0</b>

Green crab removed during 2022-2025, and All (the duration of the green crab emergency) based on SitRep reported catch and trapping effort. These numbers are presented for each Coordination Area within South Puget Sound. These totals include removal efforts by all participating co-managers, tribes, and partners. \* = No trapping occurred in these Coordination Areas. Please note that these data only represent crabs captured, not the effort employed. Catch effort (number of traps deployed, number of locations trapped, frequency of trap recovery) varies greatly across time and location. \*\* = Year in progress; catch numbers represent most recent catch data.

## Hood Canal

Figure 10 Map of Hood Canal Management Area.



**Hood Canal is split into six Coordination Areas (North Hood, Dabob, Seabeck, Central Hood, South Hood, and East Hood). Blue circles represent Washington Sea Grant Crab Team long-term monitoring locations (3 locations).**

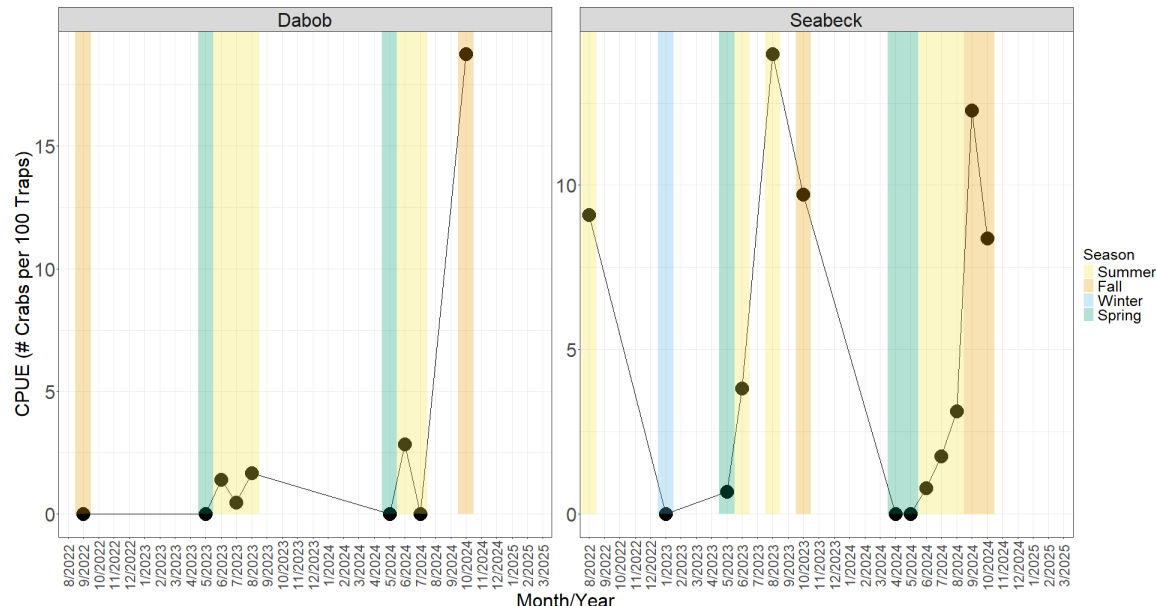
Trapping occurred in only one Coordination Area within the Hood Canal Management Area from Jan. 1 to March 31, 2025: South Hood (Table 9). Historically, trapping efforts are significantly reduced in Hood Canal from Jan. to March, and no green crab have been collected during this time. No crab were collected from Jan. 1 to March 31, 2025.

**Table 9 Hood Canal Management Area green crab removal totals.**

Coordination Area	2022 Green Crabs Removed	2023 Green Crabs Removed	2024 Green Crabs Removed	2025 Green Crabs Removed**	All Green Crabs Removed
North Hood	*	1	0	*	1
Dabob	0	11	22	*	33
Seabeck	16	101	37	*	154
Central Hood	*	0	0	*	0
South Hood	0	0	0	0	0
East Hood	*	0	*	*	0
All	16	113	59	0	188

Green crab removed during 2022-2025, and All (the duration of the green crab emergency) based on SitRep reported catch and trapping effort. These numbers are presented for each Coordination Area within Hood Canal. These totals include removal efforts by all participating co-managers, tribes, and partners. \* = No trapping occurred in these Coordination Areas. Please note that these data only represent crabs captured, not the effort employed. Catch effort (number of traps deployed, number of locations trapped, frequency of trap recovery) varies greatly across time and location. \*\* = Year in progress; catch numbers represent most recent catch data.

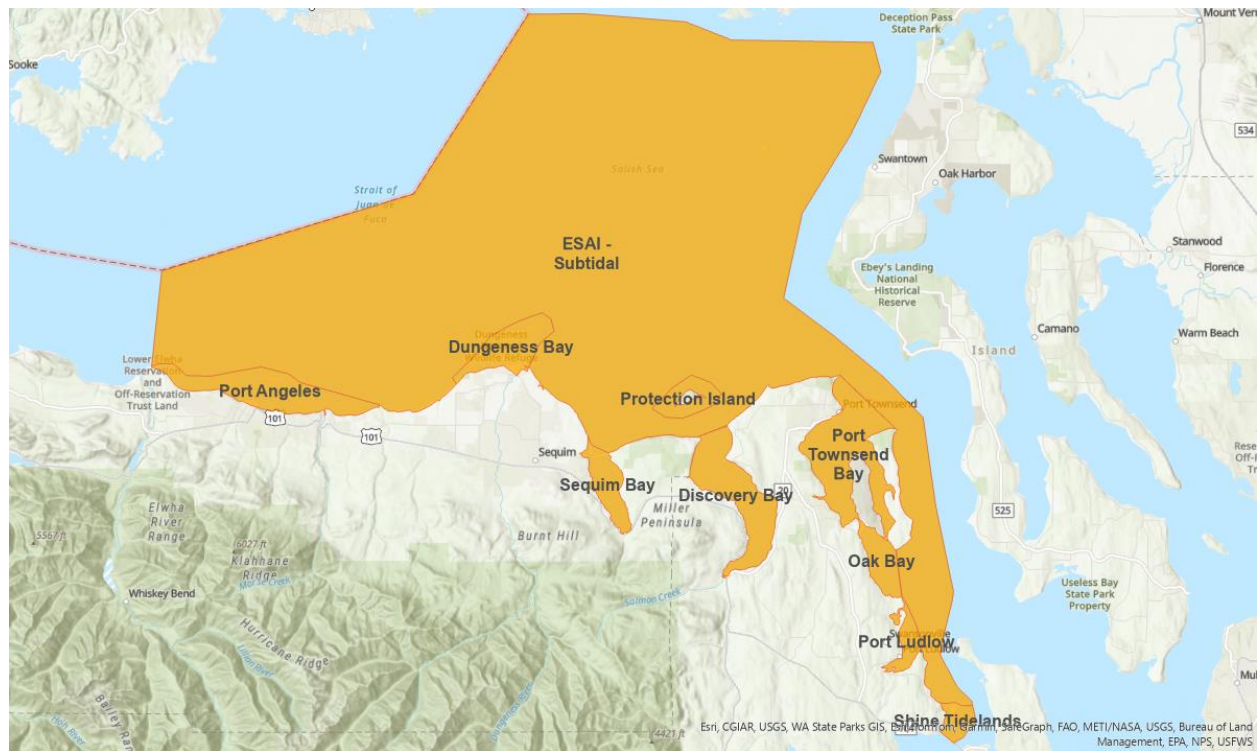
**Figure 11 Monthly Catch Per Unit Effort (CPUE) for Coordination Areas in Hood Canal.**



CPUE is calculated as the number of crabs per 100 trap checks based on SitRep's reported catch and trapping effort. Dabob and Seabeck Coordination Areas were included because they had the most robust datasets for Hood Canal. Trap check data was not reported in SitReps before Aug. 2022, so CPUE is not calculated for the beginning of the green crab emergency. The color of each column denotes the season when trapping occurred: Yellow for Summer (June – Aug.), orange for Fall (Sept. – Nov.), blue for Winter (Dec. – Feb.), and green for Spring (March – May). White columns indicate no data (trapping did not occur or no trap check data was available).

## Eastern Strait & Admiralty Inlet

Figure 12 Map of Eastern Strait & Admiralty Inlet.



**Eastern Strait & Admiralty Inlet is split into nine Coordination Areas (Port Angeles, Dungeness Bay, ESAI – Subtidal, Sequim Bay, Protection Island, Discovery Bay, Port Townsend Bay, Oak Bay, and Port Ludlow).**

Trapping continued in several Coordination Areas in the Eastern Strait & Admiralty Inlet Management Area from Jan. 1 to March 31, 2025: Discovery Bay, Port Angeles, and Sequim Bay (Table 10).

Historically, trapping efforts are significantly reduced in Eastern Strait & Admiralty Inlet from Jan. to March, with only two green crabs collected during this time in 2023 (Table 4). One crab was captured in March 2025 in Discovery Bay, with a CPUE below previous years (Figure 13). No crabs were caught in Port Angeles and Sequim Bay.



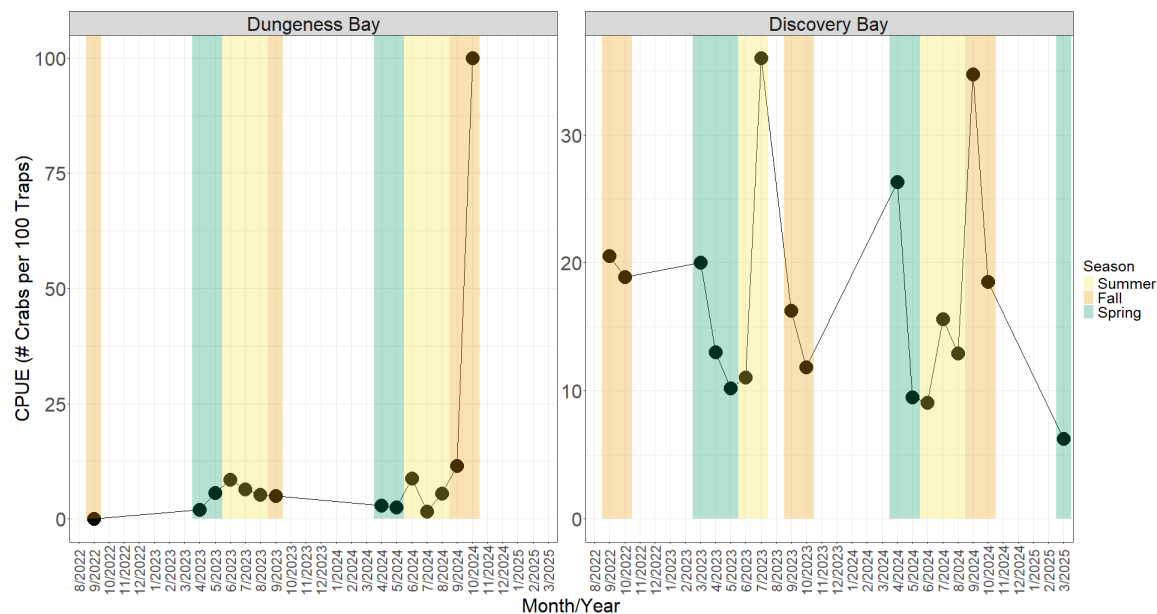
**Table 10 Eastern Strait & Admiralty Inlet Management Area green crab removal totals.**

Coordination Area	2022 Green Crabs Removed	2023 Green Crabs Removed	2024 Green Crabs Removed	2025 Green Crabs Removed**	All Green Crabs Removed
Port Angeles	*	1	1	0	2
Dungeness Bay	15	109	95	*	219
ESAI - Subtidal	*	*	*	*	*
Sequim Bay	2	0	1	0	3
Protection Island	*	0	0	*	0
Discovery Bay	76	159	205	1	441
Port Townsend Bay	0	1	1	*	2
Oak Bay	0	0	0	*	0
Port Ludlow	*	*	0	*	0
Shine Tidelands	*	0	0	*	0
<b>All</b>	<b>93</b>	<b>270</b>	<b>303</b>	<b>1</b>	<b>667</b>

Green crab removed during 2022-2025, and All (the duration of the green crab emergency) based on SitRep reported catch and trapping effort. These numbers are presented for each Coordination Area within Eastern Strait & Admiralty Inlet. These totals include removal efforts by all participating co-managers, tribes, and partners. \* = No trapping occurred in these Coordination Areas. Please note that these data only represent crabs captured, not the effort employed. Catch effort (number of traps deployed, number of locations trapped, frequency of trap recovery) varies greatly across time and location.

\*\* = Year in progress; catch numbers represent most recent catch data.

**Figure 13 Monthly Catch Per Unit Effort (CPUE) for Coordination Areas in Eastern Strait & Admiralty Inlet.**

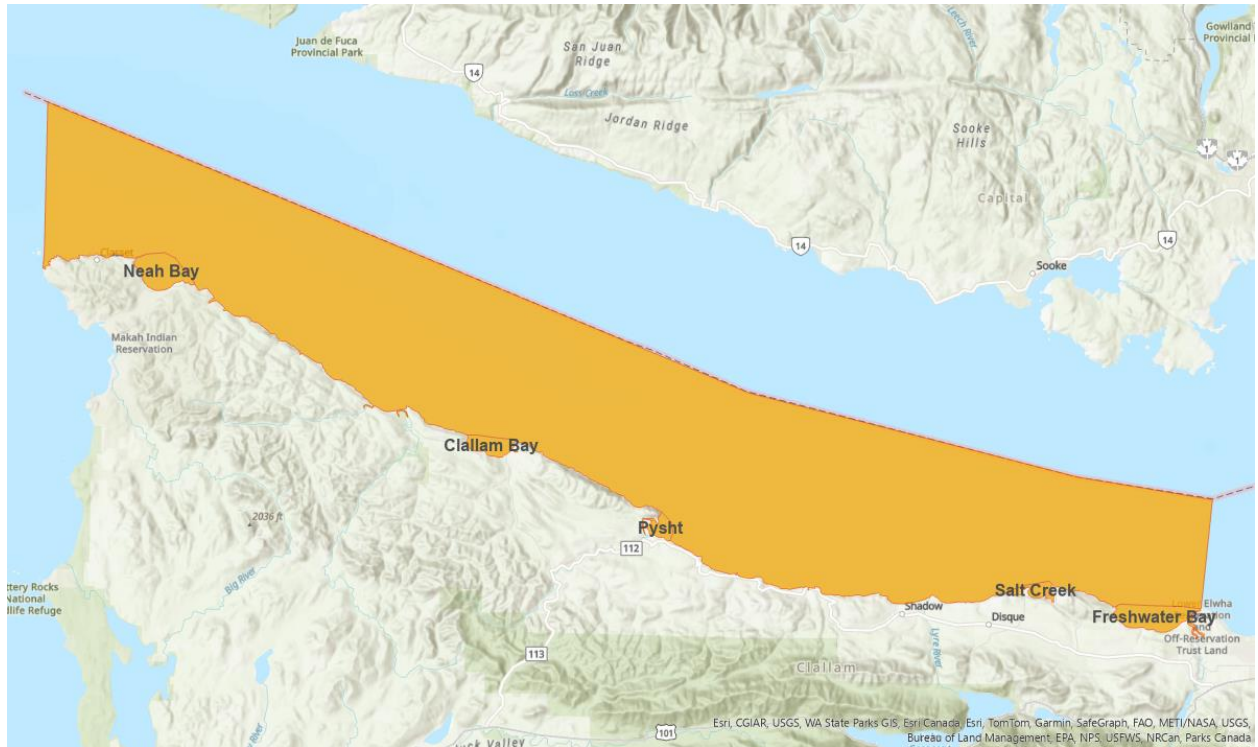


CPUE is calculated as the number of crabs per 100 trap checks based on SitRep's reported catch and trapping effort. Dungeness Bay and Discovery Bay Coordination Areas were included because they had the most robust datasets for Eastern Strait & Admiralty Inlet. Trap check data was not reported in SitReps before Aug. 2022, so CPUE is not calculated for the beginning of the green crab emergency. The color of each column denotes the season when trapping occurred: Yellow for Summer (June – Aug.), orange for Fall (Sept. – Nov.), blue for Winter (Dec. – Feb.), and green for Spring (March – May). White columns indicate no data (trapping did not occur or no trap check data was available).



## Western Strait

**Figure 14 Map of Western Strait Management Area.**



**Western Strait is split into five Coordination Areas (Neah Bay, Pysht, Salt Creek, and Freshwater Bay).**

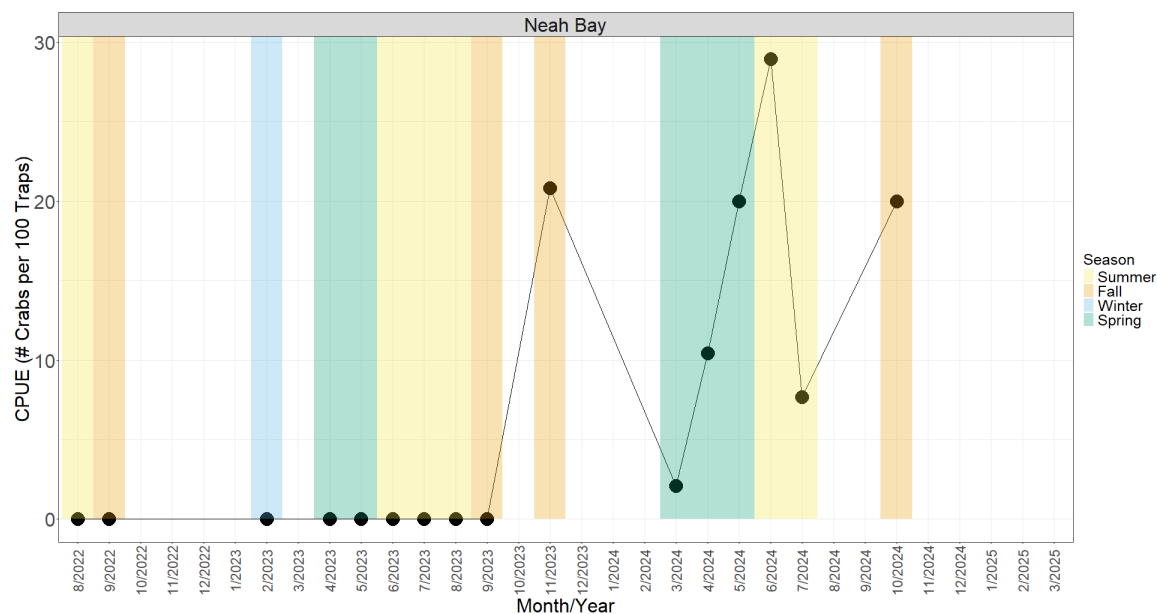
No trapping efforts occurred in the Western Strait Management Area from Jan. 1 to March 31, 2025.  
Trapping efforts will resume in April 2025.

**Table 11 Western Strait Management Area green crab removal totals.**

Coordination Area	2022 Green Crabs Removed	2023 Green Crabs Removed	2024 Green Crabs Removed	2025 Green Crabs Removed**	All Green Crabs Removed
Neah Bay	0	15	32	*	<b>47</b>
Clallam Bay	*	*	0	*	<b>0</b>
Pysht	0	0	0	*	<b>0</b>
Salt Creek	*	3	10	*	<b>13</b>
Freshwater Bay	*	*	*	*	<b>0</b>
<b>All</b>	<b>0</b>	<b>18</b>	<b>42</b>	<b>*</b>	<b>60</b>

Green crab removed during 2022-2025, and All (the duration of the green crab emergency) based on SitRep reported catch and trapping effort. These numbers are presented for each Coordination Area within Western Strait. These totals include removal efforts by all participating co-managers, tribes, and partners. \* = No trapping occurred in these Coordination Areas. Please note that these data only represent crabs captured, not the effort employed. Catch effort (number of traps deployed, number of locations trapped, frequency of trap recovery) varies greatly across time and location. \*\* = Year in progress; catch numbers represent most recent catch data.

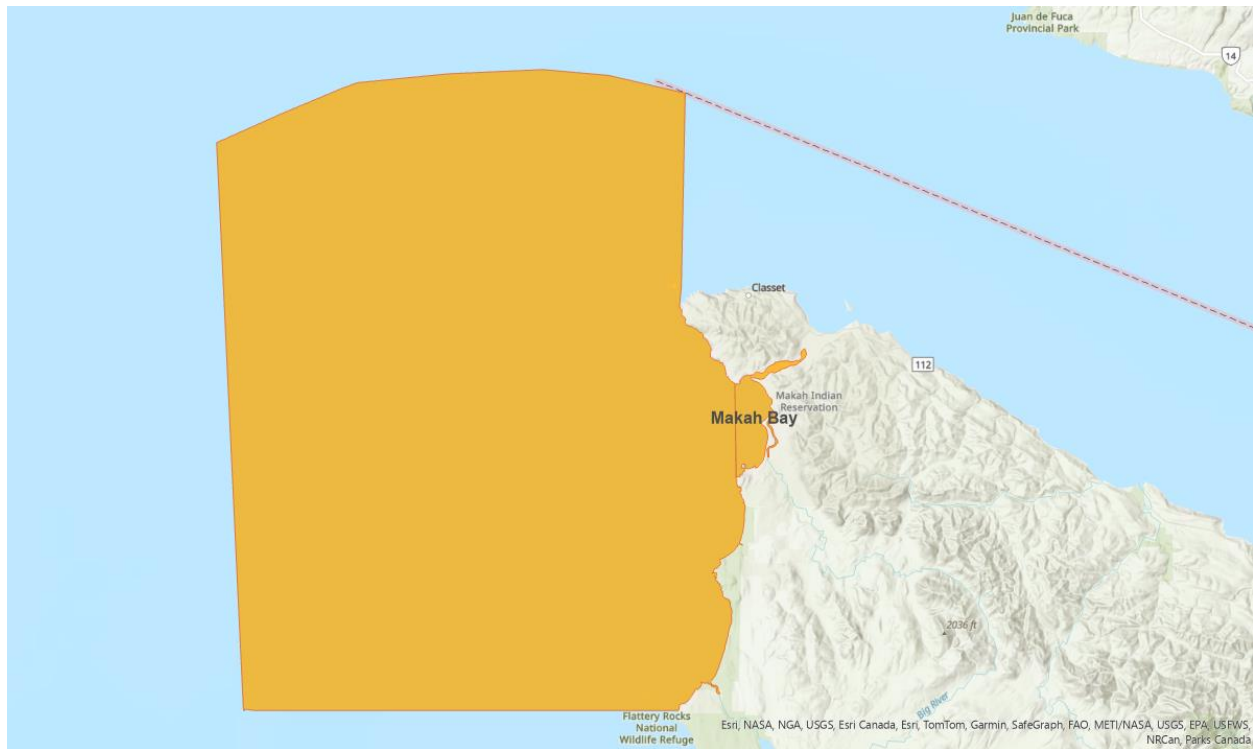
**Figure 15 Monthly Catch Per Unit Effort (CPUE) for Coordination Areas in Western Strait.**



CPUE is calculated as the number of crabs per 100 trap checks based on SitRep's reported catch and trapping effort. Neah Bay Coordination Area was included because it had the most robust dataset for Western Strait. Trap check data was not reported in SitReps before Aug. 2022, so CPUE is not calculated for the beginning of the green crab emergency. The color of each column denotes the season when trapping occurred: Yellow for Summer (June – Aug.), orange for Fall (Sept. – Nov.), blue for Winter (Dec. – Feb.), and green for Spring (March – May). White columns indicate no data (trapping did not occur or no trap check data was available).

## North Coast

Figure 16 Map of North Coast Management Area.



**North Coast consists of the Makah Bay Coordination Area.**

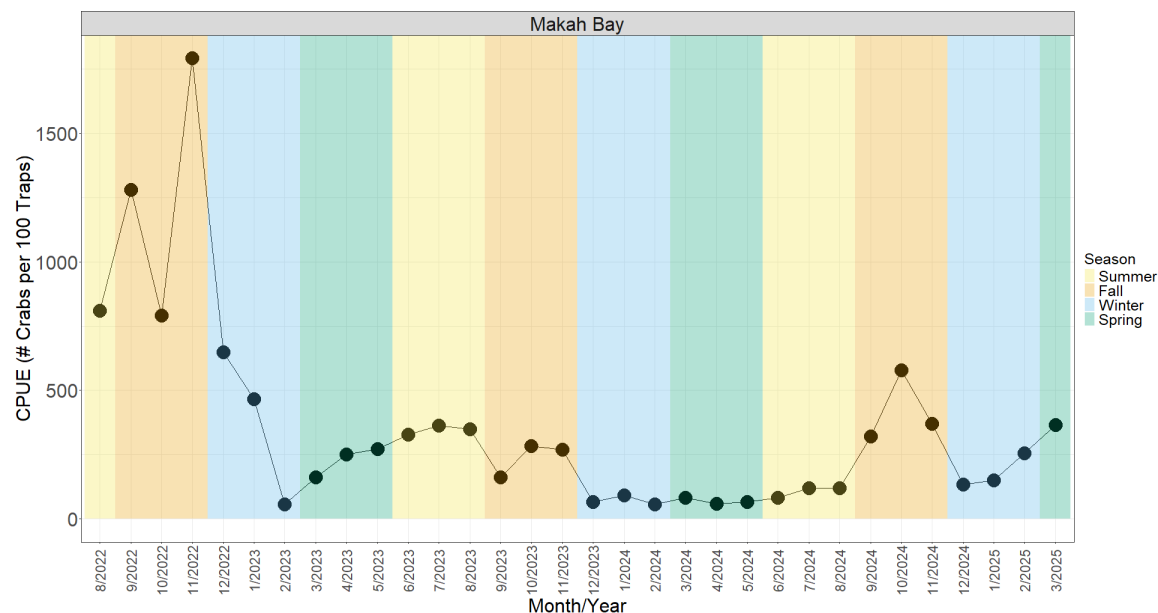
Trapping continued in the North Coast Management Area from Jan. 1 to March 31, 2025 (Table 12). Eighty crabs were removed in 2025, compared to 254 crabs in 2024 and 1,689 crabs in 2023 (Table 4). However, the CPUE for 2025 was higher than in 2024 (Figure 17).

**Table 12 North Coast Management Area green crab removal totals.**

Coordination Area	2022 Green Crabs Removed	2023 Green Crabs Removed	2024 Green Crabs Removed	2025 Green Crabs Removed**	All Green Crabs Removed
Makah Bay	25,278	9,407	8,016	80	42,441
<b>All</b>	<b>25,278</b>	<b>9,407</b>	<b>8,016</b>	<b>80</b>	<b>42,441</b>

Green crab removed during 2022-2025, and All (the duration of the green crab emergency) based on SitRep reported catch and trapping effort. These numbers are presented for each Coordination Area within North Coast. These totals include removal efforts by all participating co-managers, tribes, and partners. \* = No trapping occurred in these Coordination Areas. Please note that these data only represent crabs captured, not the effort employed. Catch effort (number of traps deployed, number of locations trapped, frequency of trap recovery) varies greatly across time and location. \*\* = Year in progress; catch numbers represent most recent catch data.

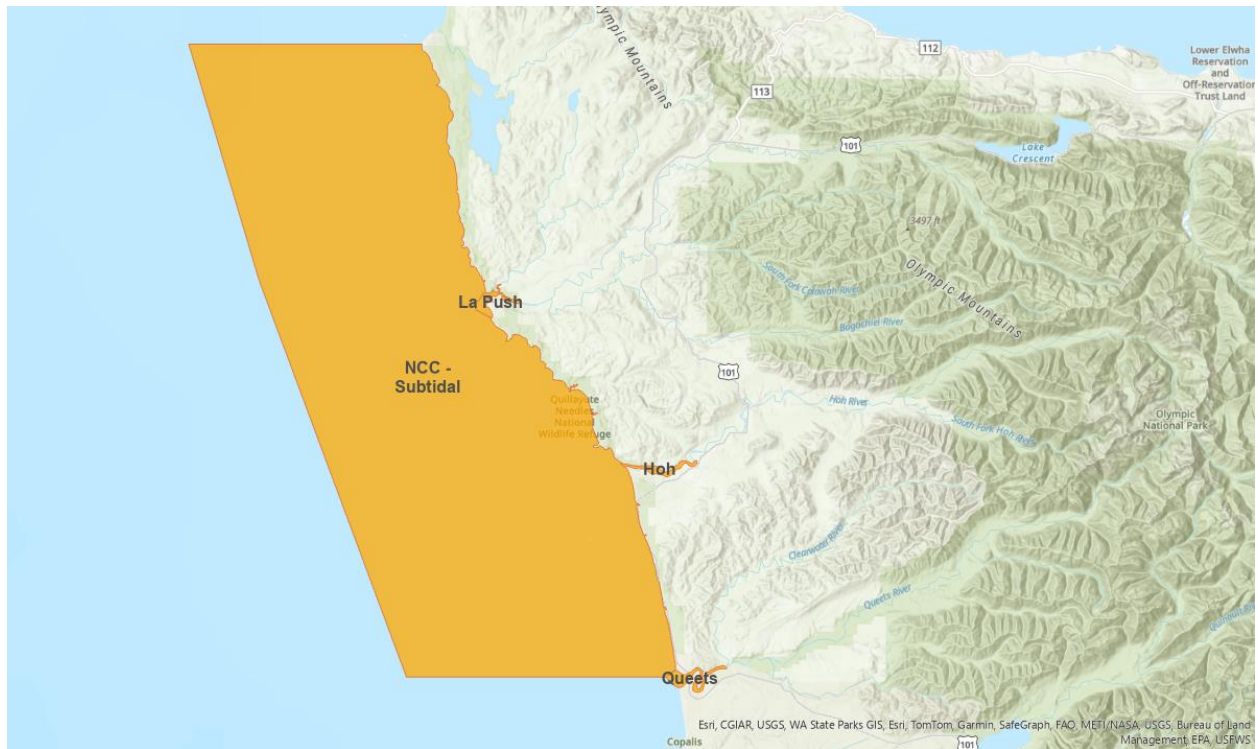
**Figure 17 Monthly Catch Per Unit Effort (CPUE) for Coordination Areas in North Coast.**



CPUE is calculated as the number of crabs per 100 trap checks based on SitRep's reported catch and trapping effort. Trap check data was not reported in SitReps before Aug. 2022, so CPUE is not calculated for the beginning of the green crab emergency. The color of each column denotes the season when trapping occurred: Yellow for Summer (June – Aug.), orange for Fall (Sept. – Nov.), blue for Winter (Dec. – Feb.), and green for Spring (March – May). White columns indicate no data (trapping did not occur or no trap check data was available).

## North Central Coast

Figure 18 Map of North Central Coast Management Area.



North Central Coast is split into four Coordination Areas (NCC – Subtidal, La Push, Hoh, and Queets).

No trapping efforts occurred in North Central Coast Management Area from Jan. 1 to March 31, 2025. Trapping efforts will resume in April 2025.

**Table 13 North Central Coast Management Area green crab removal totals.**

Coordination Area	2022 Green Crabs Removed	2023 Green Crabs Removed	2024 Green Crabs Removed	2025 Green Crabs Removed**	All Green Crabs Removed
NCC - Subtidal	*	*	*	*	*
La Push	0	0	33	*	<b>33</b>
Hoh	*	*	*	*	*
Queets	*	*	*	*	*
Cape Alava	*	*	14	*	<b>14</b>
<b>All</b>	<b>0</b>	<b>0</b>	<b>47</b>	<b>*</b>	<b>47</b>

Green crab removed during 2022-2025, and All (the duration of the green crab emergency) based on SitRep reported catch and trapping effort. These numbers are presented for each Coordination Area within North Central Coast. These totals include removal efforts by all participating co-managers, tribes, and partners. \* = No trapping occurred in these Coordination Areas. Please note that these data only represent crabs captured, not the effort employed. Catch effort (number of traps deployed, number of locations trapped, frequency of trap recovery) varies greatly across time and location. \*\* = Year in progress; catch numbers represent most recent catch data.

## South Central Coast

Figure 19 Map of South Central Coast Management Area.



South Central Coast is split into four Coordination Areas (SCC-Subtidal, Moclips, Pacific Beach, and Copalis).

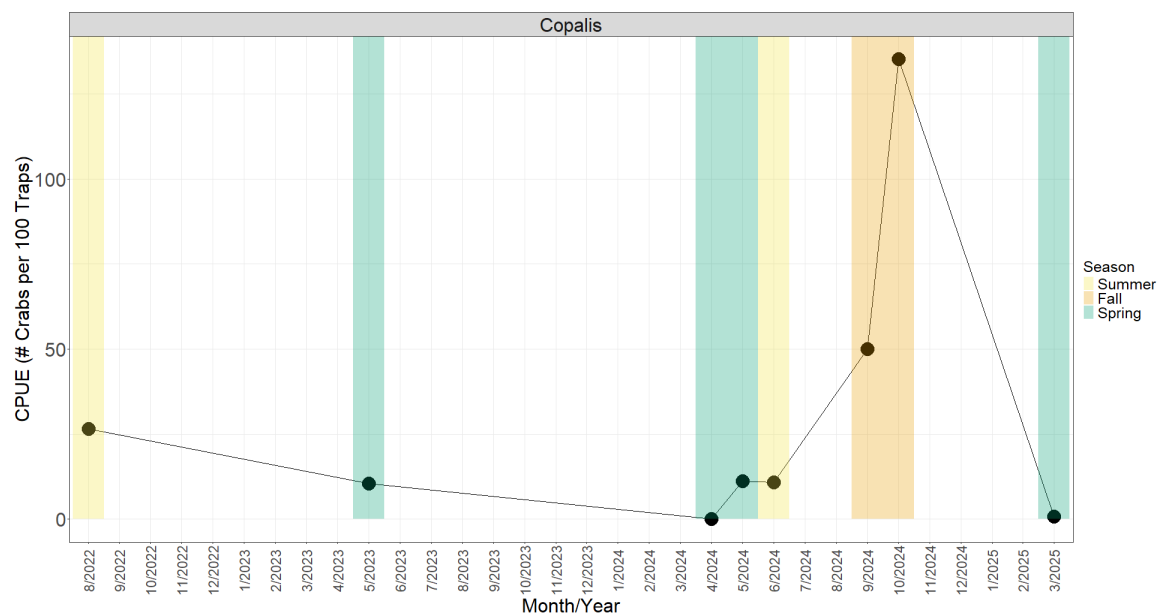
Trapping continued in the South Central Coast Management Area in the Copalis Coordination Area from Jan. 1 to March 31, 2025. A single green crab collected in March 2025 (Table 14).

**Table 14 South Central Coast Management Area green crab removal totals.**

Coordination Area	2022 Green Crabs Removed	2023 Green Crabs Removed	2024 Green Crabs Removed	2025 Green Crabs Removed**	All Green Crabs Removed
SCC - Subtidal	*	*	*	*	*
Moclips	*	*	*	*	*
Pacific Beach	*	*	*	*	*
Copalis	34	4	88	1	127
<b>All</b>	<b>34</b>	<b>4</b>	<b>88</b>	<b>1</b>	<b>127</b>

Green crab removed during 2022-2025, and All (the duration of the green crab emergency) based on SitRep reported catch and trapping effort. These numbers are presented for each Coordination Area within South Central Coast. These totals include removal efforts by all participating co-managers, tribes, and partners. \* = No trapping occurred in these Coordination Areas. Please note that these data only represent crabs captured, not the effort employed. Catch effort (number of traps deployed, number of locations trapped, frequency of trap recovery) varies greatly across time and location. \*\* = Year in progress; catch numbers represent most recent catch data.

**Figure 20 Monthly Catch Per Unit Effort (CPUE) for Coordination Areas in South Central Coast.**



CPUE is calculated as the number of crabs per 100 trap checks based on SitRep's reported catch and trapping effort. Trap check data was not reported in SitReps before Aug. 2022, so CPUE is not calculated for the beginning of the green crab emergency. The color of each column denotes the season when trapping occurred: Yellow for Summer (June – Aug.), orange for Fall (Sept. – Nov.), blue for Winter (Dec. – Feb.), and green for Spring (March – May). White columns indicate no data (trapping did not occur or no trap check data was available).



## South Coast

Figure 21 Map of South Coast Management Area.

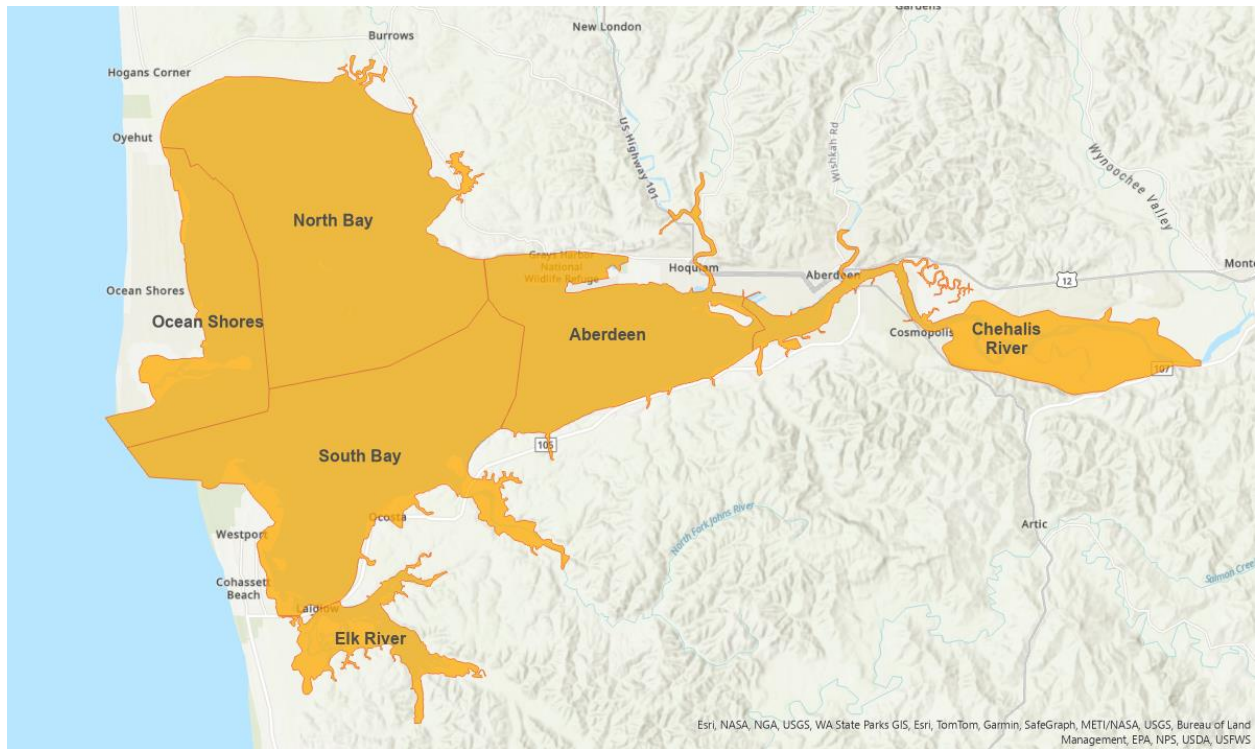


**South Coast is split into two Coordination Areas (SC-Subtidal and Jetty to Point).**

The South Coast Management Area remains the only Management Area where no green crab management activities have occurred. South Coast consists of the western coastline of Long Beach Peninsula, which borders the Pacific Ocean. Most of South Coast is sandy shoreline, except for the rocky shoreline at the southern end around North Head, and the entire area is subject to high wave action. As a result, South Coast is deemed a poor habitat for green crab. WDFW continues to communicate with interested co-managers, tribes, and partners to discuss if management actions are necessary for the South Coast.

## Grays Harbor

**Figure 22 Map of Grays Harbor Management Area.**



**Grays Harbor is split into six Coordination Areas (Ocean Shores, North Bay, South Bay, Elk River, Aberdeen, and Chehalis River).**

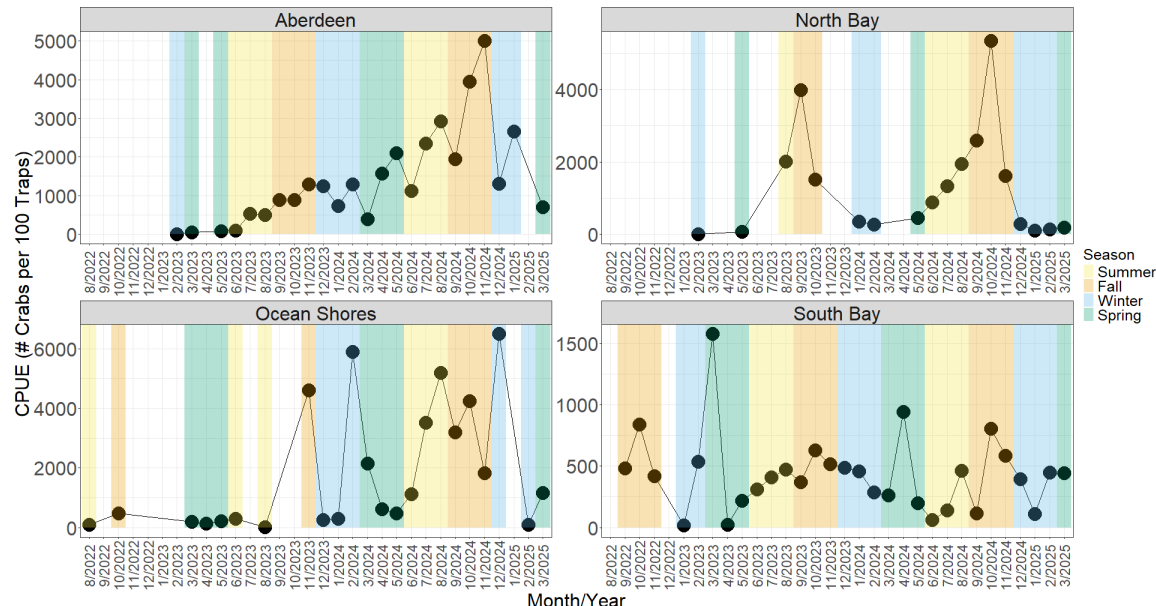
Trapping continued throughout the entirety of the Grays Harbor Management Area from Jan. 1 to March 31, 2025 (Table 15). Overall, green crab catch numbers were higher in the Management Area in 2025 (20,829 crabs) than in the same period in 2024 (10,980 crabs) but were very similar to 2023 numbers (21,479; Table 4). CPUE varied greatly across Coordination Areas. CPUE in the Aberdeen Coordination Area shows a increase for Jan.-March each year from 2003 to 2005, while CPUE is relatively similar across years in North Bay. CPUE is also relatively consistent across years in the South Bay Coordination Areas, though there CPUE showed a massive spike in March 2023. At the Ocean Shores Coordination Area, CPUE is highly variable but is down compared to 2024.

**Table 15 Grays Harbor Management Area green crab removal totals.**

Coordination Area	2022 Green Crabs Removed	2023 Green Crabs Removed	2024 Green Crabs Removed	2025 Green Crabs Removed**	All Green Crabs Removed
Aberdeen	5	6,994	18,414	3,068	28,481
Chehalis River	539	776	974	20	2,309
Elk River	157	4,803	10,246	1,466	16,672
North Bay	*	6,391	36,655	246	43,292
Ocean Shores	1,140	4,630	27,879	3,412	34,860
South Bay	22,423	61,970	43,701	12,617	140,711
<b>All</b>	<b>24,264</b>	<b>85,564</b>	<b>137,869</b>	<b>20,829</b>	<b>268,526</b>

Green crab removed during 2022-2025, and All (the duration of the green crab emergency) based on SitRep reported catch and trapping effort. These numbers are presented for each Coordination Area within Grays Harbor. These totals include removal efforts by all participating co-managers, tribes, and partners. \* = No trapping occurred in these Coordination Areas. Please note that these data only represent crabs captured, not the effort employed. Catch effort (number of traps deployed, number of locations trapped, frequency of trap recovery) varies greatly across time and location. \*\* = Year in progress; catch numbers represent most recent catch data.

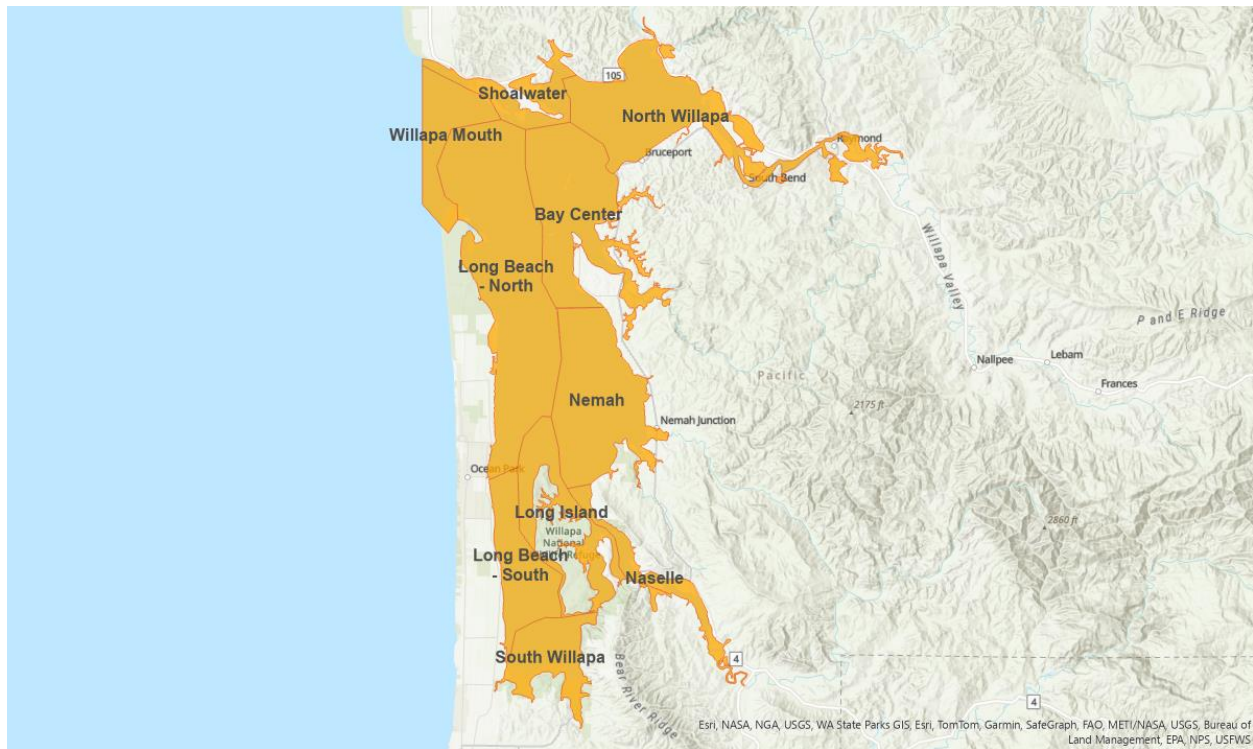
**Figure 23 Monthly Catch Per Unit Effort (CPUE) for Coordination Areas in Grays Harbor.**



CPUE is calculated as the number of crabs per 100 trap checks based on SitRep's reported catch and trapping effort. Aberdeen, North Bay, Ocean Shores, and South Bay Coordination Areas were included because they had the most robust datasets for Grays Harbor. Trap check data was not reported in SitReps before Aug. 2022, so CPUE is not calculated for the beginning of the green crab emergency. The color of each column denotes the season when trapping occurred: Yellow for Summer (June – Aug.), orange for Fall (Sept. – Nov.), blue for Winter (Dec. – Feb.), and green for Spring (March – May). White columns indicate no data (trapping did not occur or no trap check data was available).

## Willapa Bay

Figure 24 Map of Willapa Bay Management Area.



**Willapa Bay is split into 10 Coordination Areas (Willapa Mouth, Shoalwater, North Willapa, Bay Center, Long Beach – North, Long Beach – South, Nemah, Long Island, Naselle, and South Willapa).**

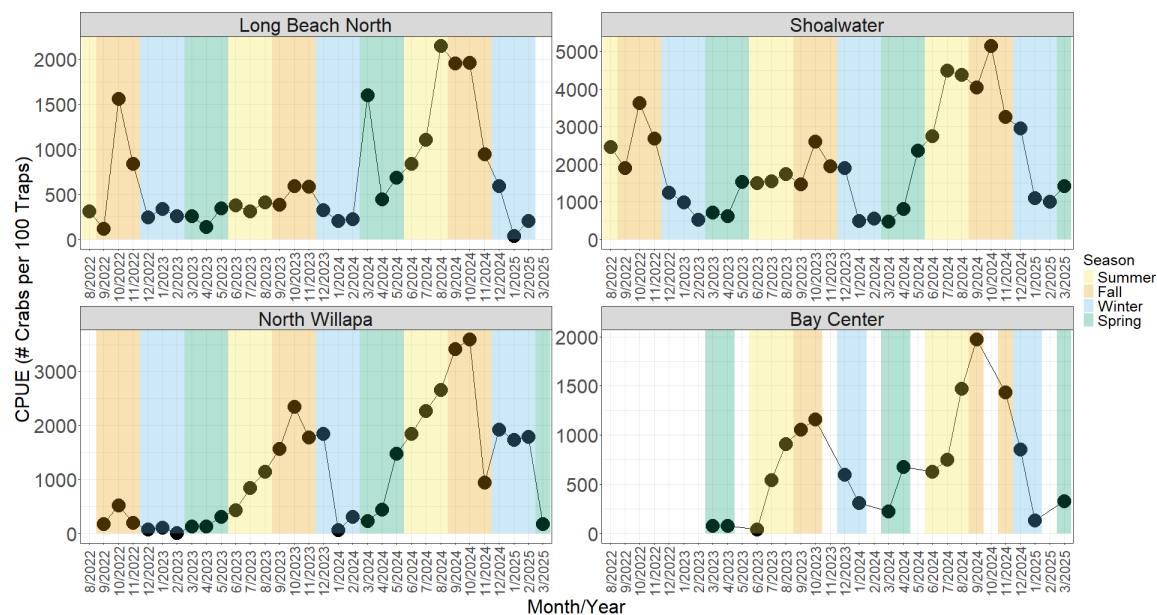
Trapping continued throughout the majority of the Willapa Bay Management Area from Jan. 1 to March 31, 2025 (Table 16). Overall, green crab catch numbers were higher in the Management Area in 2025 (26,230 crabs) than in the same period in 2024 (19,706 crabs) and 2023 (13,413; Table 4). CPUE remained relatively similar across years for the Long Beach North, North Willapa, and Bay Center Coordination Areas (Figure 25). CPUE in the Shoalwater Bay Coordination Area was higher from Jan. - Mach 2025 compared to previous years.

**Table 16 Willapa Bay Management Area green crab removal totals.**

Coordination Area	2022 Green Crabs Removed	2023 Green Crabs Removed	2024 Green Crabs Removed	2025 Green Crabs Removed**	All Green Crabs Removed
Willapa Mouth	*	*	*	*	*
Shoalwater	42,711	80,854	118,361	11,008	<b>252,934</b>
North Willapa	21,364	30,416	153,198	570	<b>205,548</b>
Bay Center	*	3,645	8,732	673	<b>13,050</b>
Long Beach - North	90,678	144,490	610,596	5,831	<b>851,595</b>
Long Beach - South	*	282	493	7,810	<b>8,585</b>
Nemah	7	40	469	*	<b>516</b>
Long Island	7	183	5,691	306	<b>6,187</b>
Naselle	*	51	677	*	<b>728</b>
South Willapa	57	24	523	32	<b>636</b>
<b>All</b>	<b>154,824</b>	<b>259,985</b>	<b>898,740</b>	<b>26,230</b>	<b>1,339,779</b>

Green crab removed during 2022-2025, and All (the duration of the green crab emergency) based on SitRep reported catch and trapping effort. These numbers are presented for each Coordination Area within Willapa Bay. These totals include removal efforts by all participating co-managers, tribes, and partners. \* = No trapping occurred in these Coordination Areas. Please note that these data only represent crabs captured, not the effort employed. Catch effort (number of traps deployed, number of locations trapped, frequency of trap recovery) varies greatly across time and location. \*\* = Year in progress; catch numbers represent most recent catch data.

**Figure 25 Monthly Catch Per Unit Effort (CPUE) for Coordination Areas in Willapa Bay.**

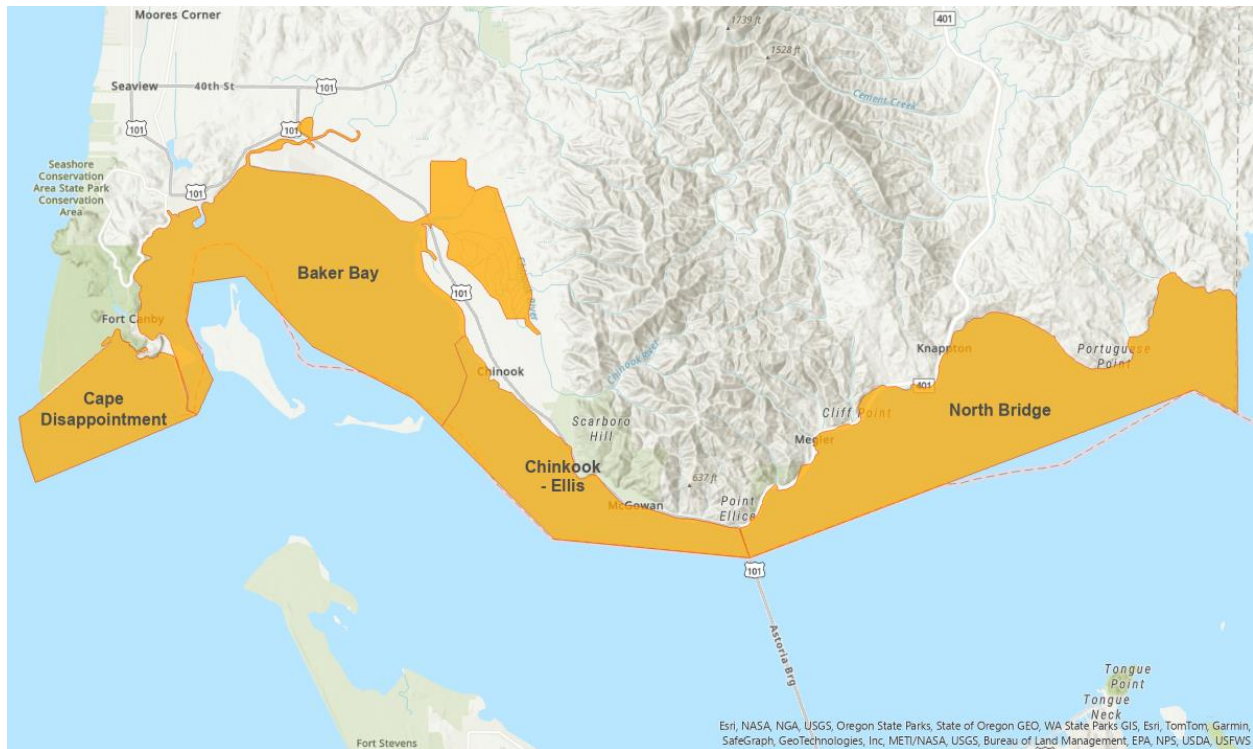


CPUE is calculated as the number of crabs per 100 trap checks based on SitRep's reported catch and trapping effort. Long Beach North, Shoalwater, North Willapa, and Bay Center Coordination Areas were included because they had the most robust datasets for Willapa Bay. Trap check data was not reported in SitReps before Aug. 2022, so CPUE is not calculated for the beginning of the green crab emergency. The color of each column denotes the season when trapping occurred: Yellow for Summer (June – Aug.), orange for Fall (Sept. – Nov.), blue for Winter (Dec. – Feb.), and green for Spring (March – May). White columns indicate no data (trapping did not occur or no trap check data was available).



## Columbia River

Figure 26 Map of Columbia River Coordination Area.



Columbia River is split into four Coordination Areas (Cape Disappointment, Baker Bay, Chinook-Ellis, and North Bridge).

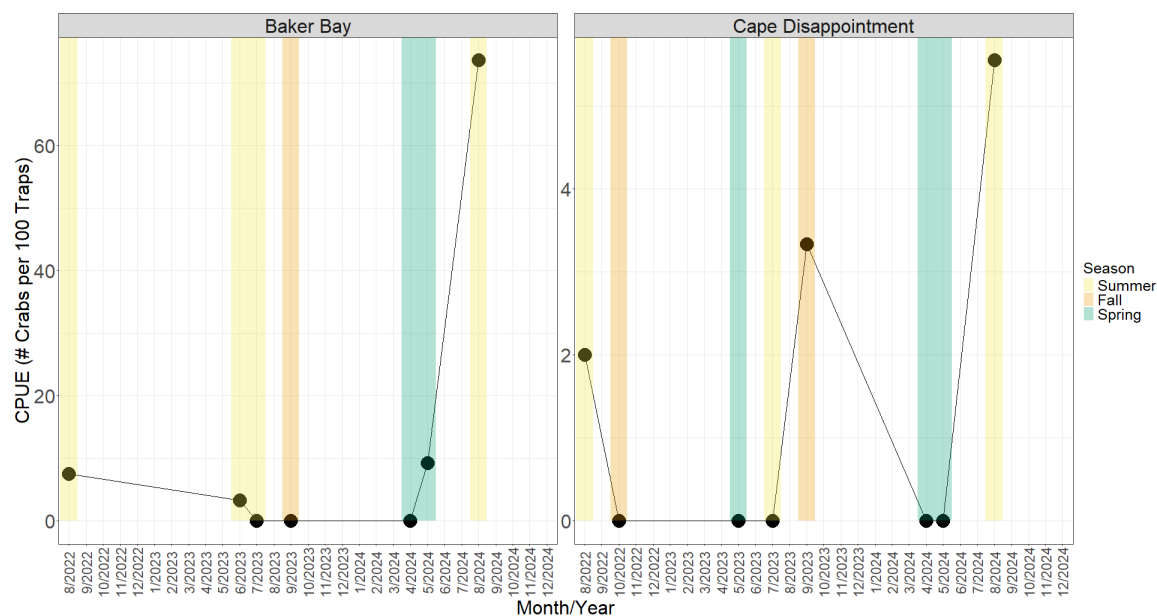
No trapping efforts occurred in Columbia River from Jan. 1 to March 31, 2025. Trapping efforts will resume in April 2025.

**Table 17 Columbia River Management Area green crab removal totals.**

Coordination Area	2022 Green Crabs Removed	2023 Green Crabs Removed	2024 Green Crabs Removed	2025 Green Crabs Removed**	All Green Crabs Removed
Cape Disappointment	2	1	1	*	4
Baker Bay	3	1	33	*	37
Chinook - Ellis	*	*	*	*	*
North Bridge	*	*	*	*	*
<b>All</b>	<b>5</b>	<b>2</b>	<b>34</b>	<b>*</b>	<b>41</b>

Green crab removed during 2022-2025, and All (the duration of the green crab emergency) based on SitRep reported catch and trapping effort. These numbers are presented for each Coordination Area within Columbia River. These totals include removal efforts by all participating co-managers, tribes, and partners. \* = No trapping occurred in these Coordination Areas. Please note that these data only represent crabs captured, not the effort employed. Catch effort (number of traps deployed, number of locations trapped, frequency of trap recovery) varies greatly across time and location. \*\* = Year in progress; catch numbers represent most recent catch data.

**Figure 27 Monthly Catch Per Unit Effort (CPUE) for Coordination Areas in Columbia River.**



CPUE is calculated as the number of crabs per 100 trap checks based on SitRep's reported catch and trapping effort. Baker Bay and Cape Disappointment Coordination Areas were included because they had the most robust datasets for Columbia River. Trap check data was not reported in SitReps before Aug. 2022, so CPUE is not calculated for the beginning of the green crab emergency. The color of each column denotes the season when trapping occurred: Yellow for Summer (June – Aug.), orange for Fall (Sept. – Nov.), blue for Winter (Dec. – Feb.), and green for Spring (March – May). White columns indicate no data (trapping did not occur or no trap check data was available).



## Research activity

Effective invasive species management requires a robust understanding of the invader and its impacts. As a prolific global invader, a wealth of research exists regarding green crab. However, many fundamental questions about green crab, particularly regarding their detection, abundance, impacts, and movements in Washington, have yet to be answered.

The Research Task Force met on Jan. 21, 2025, to begin the development of a research prioritization survey. Once after initial reviews are complete, a final version will be developed with social scientists from WDFW and distributed to green crab co-managers, tribes, and partners to determine what research would most benefit management activities in the short term. Ultimately, this survey will inform the creation of “shovel-ready” research projects suitable for applying for additional funding.

The Research Task Force met on March 18, 2025, to hear a presentation by representatives from Conservation X Labs on their efforts to develop a rapid, in-field eDNA test for green crabs. The task force asked questions and provided advice and information to help guide the next steps in testing and refinement.

The Detection Task Group met several times to review draft summaries for lot surveys, light traps, and juvenile settlement plates as potential detection tools.

## Public communications and outreach efforts

Public education, involvement, and support are essential for effective invasive species management. No matter the effort of government agencies and managers, they will be limited in their ability to monitor and report on the species spread. Public awareness and reporting can complement professional monitoring and allow for earlier detection of species spread. Public awareness, media and external relations also supports effective policymaking and collaboration with local communities, stakeholders, and partners. Highlights for Jan. 1 to March 31, 2025 included:

### Focused/Local communication

- WDFW’s European green crab communications and outreach were reduced during this reporting period as an in-progress recruitment to refill the Communications Specialist position supporting European Green Crab — which has been vacant since Mitch Furr took a new position with WDFW Police during the previous reporting period — was frozen due to uncertainty around the state budget. WDFW expects to resume recruitment in June 2025. European green crab emergency Public Information Officer (PIO) Chase Gunnell (communications manager, Western Washington regions) continued communications support as feasible with respect to other duties, with support from other WDFW Communications and Public Engagement (CAPE) program staff where available.
- PIO Gunnell conducted green crab outreach at a booth at the Seattle Boat Show, talking to more than 75 people during the first day of the show, Jan. 31. The green crab in resin were a great conversation starter as always, and many people were shocked by how small the invasive crabs

are in comparison to native crabs like Dungeness. Good conversations were had about green crab identification, how to tell them apart from native crabs, how to report green crab, and regulations listed in the Washington Sport Fishing rules.

- Green crab outreach and identification materials were displayed and distributed at the WDFW booth at the Washington's Sportsmen's Show in Puyallup from Jan. 29 through Feb. 2. Materials were also sent to WDFW's Southwest Region for the Pacific Northwest Sportsmen's Show in Portland Feb. 12-16.
- WDFW's PIO Gunnell and Coastal Region Communications Specialist Bridget Mire tabled at the Ocean Shores Razor Clam Festival March 21-23, along with Region 6 Coastal Region Shellfish unit and other staff. In total, the WDFW booth talked to more than 1,100 people at the busy event, with many discussions about green crab, how to identify and report them, what the regulations area, and giving away green crab stickers, rack cards, and crab ID guides.
- All additional communication and outreach efforts are listed in [Appendix A](#), as well as online at: <https://wdfw.wa.gov/species-habitats/invasive/carcinus-maenas#conservation>.

#### General public communication

- WDFW published [the annual map](#) showing general locations where green crab were detected in 2024, as well as monitoring sites where green crab were not detected. This map is one of WDFW and co-managers, tribes, and partners most effective and engaging outreach tools, showing members of the public areas where green crab were detected as well as the extent of monitoring by WDFW and co-managers, tribes, and partners. The 2024 EGC detections map was also posted to WDFW social media channels (Facebook, Instagram, Twitter/X), on March 14.
- WDFW renewed green crab print and display advertising to support awareness, identification, and reporting among targeted audiences including boaters, crabbers, shellfish gatherers, and beach walkers. Ads were renewed in Northwest Sportsman Magazine for March-June, Northwest Reel Life for May-June, and in the "Restoring Puget Sound" informational displays—large signs posted at more than 60 sites around Puget Sound including ferry waiting areas, marinas, boat ramps, and parks.
- WDFW is reordering green crab outreach materials, however capacity to distribute materials is currently limited while our green crab communications specialist position recruitment is frozen due to state budgetary concerns. Please consider printing materials from our website, available at: <https://wdfw.wa.gov/species-habitats/invasive/carcinus-maenas#resources>.
- Media relations and other external affairs activities continued. Current green crab management efforts have been reported in numerous local and national media outlets ([Appendix A](#)).

## Program challenges

WDFW, co-managers, tribes, and partners have made significant progress toward the five Incident Objectives quickly. However, as we continue to progress through the green crab emergency, there are several challenges we must address. These challenges include:

- WDFW green crab staffing. The WDFW European Green Crab Unit announced some new leaders in the beginning of 2025. Lindsey Parker, formerly the team's North Puget Sound Regional Green Crab Biologist, started in the unit's lead position in March. Rachel Flannery, formerly the unit's Coastal Regional Green Crab Biologist, moved into the unit's operations role and two interim Regional Biologists were announced in March as well. Kaitlyn Romero is serving as the Coast Regional Biologist, Micah Mitchell is serving as the North Puget Sound Regional Biologist and Natalie Otto is continuing to serve as the South Central Puget Sound and Hood Canal Regional Biologist.
- Washington State European Green Crab Long-term Management Grant Program. WDFW is set to receive funding from the National Oceanic and Atmospheric Administration to support a new grant program focused on funding priority actions outlined in Washington State's European Green Crab Management [Plan](#). An application and review process will be conducted for the grant in May-June 2025.
- Completion of the Research Priorities Survey: The Research Priorities Survey, spearheaded by the Research Task Force, is intended to identify priority research questions to help inform EGC management. The survey has required significant effort to develop but is anticipated to be complete by June 2025.
- Ensuring sufficient support for co-managers, tribes, and partners. At least two local trapping partners in North Puget Sound anticipate staffing shortages in 2025. Other co-managers, tribes, and partners are facing similar resource shortfalls. WDFW is working with co-managers, tribes, and partners to identify strategies for filling these gaps in capacity to ensure coverage in high priority areas for early detection and control.
- Increasing communication and coordination of ongoing activities. The increasing number of co-managers, tribes, and partners actively involved in green crab management activities and the expanding scope of those activities necessitates more effective communication and coordination among co-managers, tribes, partners and other stakeholders to avoid potential interference and redundancies.

## Next Steps

This is the final Quarterly Green Crab Progress Report. The next report, currently scheduled for Sept. 15<sup>th</sup>, 2025, will be the first in a series of annual green crab reports.

Upcoming green crab emergency management priority actions include:

- Start of the formal 2025 field season.
- Onboarding and training of seasonal green crab staff.
- Complete application and review process for Washington State European Green Crab Long-term Management Grant Program.
- Continued meetings of regional coordination groups.
- Ongoing MAC Group meetings.
- Development and distribution of research priorities survey.

- Development and distribution of monthly SitReps.
- Ongoing advocacy for increasing federal partner support and funding.

## Glossary

AIS – Aquatic Invasive Species

DFO – Department of Fisheries and Oceans Canada

DNR – Department of Natural Resources

Ecology – Department of Ecology

EDRR – Early Detection Rapid Response

EGC – European green crab (*Carcinus maenas*)

ENSO – El Niño Southern Oscillation

FY – Fiscal Year

ICS – Incident Command System

MAC Group – Multi-Agency Coordination Group

NGO – Non-governmental organizations

NOAA – National Oceanographic and Atmospheric Administration

NWR – National Wildlife Refuge

PCSGA – Pacific Coast Shellfish Growers Association

RCO – Recreation and Conversation Office

RTF – Research Task Force

SitReps – ICS Situation Reports

WDFW – Washington Department of Fish and Wildlife

WGHOGA – Willapa-Grays Harbor Oyster Growers Association

WSG – Washington Sea Grant

WSU – Washington State University

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# Appendix A

## WAC [220-640-030](#) - Prohibited level 1 species.

The following species are classified as prohibited level 1 species:

- (1) Molluscs: Family Dreissenidae: Zebra and quagga mussels: *Dreissena polymorpha* and *Dreissena rostriformis bugensis*.
- (2) Crustaceans:
  - (a) Family Grapsidae: Mitten crabs: All members of the genus *Erochier*.
  - (b) Family Portunidae: European green crab, *Carcinus maenas*.
- (3) Fish:
  - (a) Family Channidae: China fish, snakeheads: All members of the genus *Channa*.
  - (b) Family Clariidae: All members of the walking catfish family.
  - (c) Family Cyprinidae:
    - (i) Carp, Bighead, *Hypophthalmichthys nobilis*.
    - (ii) Carp, Black, *Mylopharyngodon piceus*.
    - (iii) Carp, Silver, *Hypophthalmichthys molitrix*.
    - (iv) Carp, Largescale Silver, *Hypophthalmichthys harmandi*.
  - (d) Family Esocidae: Northern pike, *Esox lucius*.

## RCW [77.135.040](#) - Prohibited and regulated species – Required authorization

- (1) Prohibited level 1, level 2, and level 3 species may not be possessed, introduced on or into a water body or property, or trafficked, without department authorization, a permit, or as otherwise provided by rule.
- (2) Regulated type A, type B, and type C species may not be introduced on or into a water body or property without department authorization, a permit, or as otherwise provided by rule.
- (3) Regulated type B species, when being actively used for commercial purposes, must be readily and clearly identified in writing by taxonomic species name or subspecies name to distinguish the subspecies from another prohibited species or a regulated type A species. Nothing in this section precludes using additional descriptive language or trade names to describe regulated type B species as long as the labeling requirements of this section are met.

## RCW [77.135.090](#) - Emergency measures

- (1) If the director finds that there exists an imminent danger of a prohibited level 1 or level 2 species detection that seriously endangers or threatens the environment, economy, human health, or well-being of the state of Washington, the director must ask the governor to order, under RCW [43.06.010](#)(14), emergency measures to prevent or abate the prohibited species. The director's findings must contain an evaluation of the effect of the emergency measures on environmental factors such as fish listed under the endangered species act, economic factors such as public and private access, human health factors such as water quality, or well-being factors such as cultural resources.
- (2) If an emergency is declared pursuant to RCW [43.06.010](#)(14), the director may consult with the invasive species council to advise the governor on emergency measures necessary under RCW [43.06.010](#)(14) and this section, and make subsequent recommendations to the governor. The invasive species council must involve owners of the affected water body or property, state and local governments, federal agencies, tribes, public health interests, technical service providers, and environmental organizations, as appropriate.
- (3) Upon the governor's approval of emergency measures, the director may implement these measures to prevent, contain, control, or eradicate invasive species that are the subject of the emergency order, notwithstanding the provisions of chapter [15.58](#) or [17.21](#) RCW or any other statute. These measures, after evaluation of all other alternatives, may include the surface and aerial application of pesticides.
- (4) The director must continually evaluate the effects of the emergency measures and report these to the governor at intervals of not less than ten days. The director must immediately advise the governor if the director finds that the emergency no longer exists or if certain emergency measures should be discontinued.

## **ESSB 5693 (2022 c 297)- Making 2021-2023 fiscal biennium supplemental operating appropriations**

Section 308. (Page 552, Line 16)

(67) \$2,472,000 of the general fund—state appropriation in fiscal year 2022 and \$6,096,000 of the general fund—state appropriation in fiscal year 2023 are provided solely for the department to implement eradication and control measures on European green crabs through coordination and grants with partner organizations. The department must provide quarterly progress reports on the success and challenges of the measures to the appropriate committees of the legislature by Dec. 1, 2022.<sup>23</sup>

## **Previous Green Crab Reports**

### **Fall 2022 (March 1 –Sept. 30, 2022) Green Crab Report**

The Fall 2022 report is available at <https://wdfw.wa.gov/publications/02372> or via this link: [European Green Crab Quarterly Progress Report – Fall 2022](#)

### **Fall 2022 Catch data clarification**

Please note that European green crab catch numbers in the Fall 2022 report included green crab caught from Jan. 31 – Feb. 28, 2022. These months fall outside the official duration of Fall 2022 (March 1 – Sep. 30, 2022) but were included to 1) accurately represent green crab removals for 2022 and 2) the submission process for SitRep 1 included co-managers, tribes, and partners submitting catch data from Jan. 1- June 11, 2022, as a single number.

### **Winter 2022 (Oct. 1 – Dec. 31, 2022) Green Crab Report**

The Winter 2022 report is available at <https://wdfw.wa.gov/publications/02414> or via this link: [European Green Crab Quarterly Progress Report – Winter 2022](#)

### **Spring 2023 (Jan. 1 – March 31, 2023) Green Crab Report**

The Spring 2023 report is available at <https://wdfw.wa.gov/publications/02431> or via this link: [European Green Crab Quarterly Progress Report – Spring 2023](#)

### **Summer 2023 (April 1 – June 30, 2023) Green Crab Report**

The Summer 2023 report is available at <https://wdfw.wa.gov/publications/02446> or via this link: [European Green Crab Quarterly Progress Report – Summer 2023](#)

### **Fall 2023 (July 1 –Sept. 30, 2023) Green Crab Report**

The Fall 2023 report is available at <https://wdfw.wa.gov/publications/02460> or via this link: [European Green Crab Quarterly Progress Report – Fall 2023](#)

### **Winter 2023 (Oct. 1 – Dec. 31, 2023) Green Crab Report**

The Winter 2023 report is available at <https://wdfw.wa.gov/publications/02491> or via this link: [European Green Crab Quarterly Progress Report – Winter 2023](#)

### **Spring 2024 (Jan. 1 – March 31, 2024) Green Crab Report**

The Spring 2024 report is available at <https://wdfw.wa.gov/publications/02508> or via this link: [European Green Crab Quarterly Progress Report – Spring 2024](#)

### **Summer 2024 (April 1 – June 30, 2024) Green Crab Report**

The Summer 2024 report is available at <https://wdfw.wa.gov/publications/02524> or via this link: [European Green Crab Quarterly Progress Report – Summer 2024](#)



## Fall 2024 (July 1 –Sept. 30, 2024) Green Crab Report

The Fall 2024 report is available at <https://wdfw.wa.gov/publications/02555> or via this link: [European Green Crab Quarterly Progress Report – Fall 2024](#)

## Winter 2024 (Oct. 1 – Dec. 31, 2024) Green Crab Report

The Fall 2024 report is available at <https://wdfw.wa.gov/publications/02580> or via this link: [European Green Crab Quarterly Progress Report – Winter 2024](#)

## Green Crab Management Definitions

### Management action type definitions

**Assessment** means periodically checking positive detection green crab areas using trapping methods to assess presence, geographic scope, and numerical scale of a population, at a relatively comprehensive scale. Assessment trapping efforts can occur on the scale of a water body or site, depending on the purpose. The timing and implementation of assessment trapping efforts is generally opportunistic.

**Control** means field activities within a given infested area with the intent of reducing that area's green crab population size.

**Early detection** means field operations in areas that have no prior green crab detections or detections within the past 5 years and with the intent to detect green crab at their earliest point in the invasion process. This includes such activities as trapping and eDNA.

**Emphasis response** means planned management actions including assessment, prospecting, or control effort over a given Site or Coordination Area that brings in a significant increase of resources as would be normal for that situation. It is similar to a rapid response trapping effort except not expedited as a result of a new detection.

**Monitoring** means a systematic and designed sampling effort for information-gathering purposes that is implemented consistently and on a routine schedule. Monitoring protocols are well defined and are relatively stable to evaluate changes over space and time. The specific purpose and geographic scope of any individual monitoring effort might vary to suit the project but should remain internally consistent.

**Prevention** means activities that aim to reduce the arrival of green crabs, either as larvae or adults, resulting from the transport/transfer of green crabs from one location to another – regardless of whether green crabs are present at the receiving location.

**Research** means field, lab, or other scientific actions implemented to investigate an aspect of the green crab invasion and for which the activities do not fall into standard protocols of any of the above management types. Types of research may include improving efficiency/efficacy of priority management actions, increasing biological knowledge, and predicting/assessing green crab or other impacts.

### Other definitions

**Catch Per Unit Effort (CPUE)** is an indirect metric of the abundance of green crab in relation to a defined geographic area and time scale. It is used to indicate the amount of effort undertaken to collect a given number of green crab. For green crab emergency management data consistency purposes, CPUE must be reported and qualified:

- Per 100 traps as calculated to nearest 0.10 CPUE;
- By aggregate or individual trap type; and
- By cumulative Trap set days or Trap check days over the operational period or other defined time span of interest.
  - Example 1 - 30 green crab caught in 200 shrimp traps and deployed for 1 overnight period then recovered (200 trap set days):  $30 \div 200 = 0.15 \times 100 = 15.0$  CPUE.
  - Example 2 - 30 green crab caught in 200 shrimp traps and deployed for 3 overnight periods then recovered (600 trap set days):  $30 \div 600 = 0.05 \times 100 = 5.0$  CPUE.

**Detection** means the new discovery of a live, dead, molt or other remains of an green crab specimen as verified by an green crab expert at a specific geographic location. Life stage or remains of green crab may trigger different management response at different geographic scales. This includes finds at locations where green crab have not been found for more than three years.

**Education/outreach** means providing information on potential pathways of human mediated risk/spread, green crab identification, and green crab reporting to relevant audiences. Examples might include presentations, creating printed collateral/signage, or informal conversations. This category is different from Training in being broader and less targeted in practical applications.

**Green Crab Management Scale** means a hierarchy of geographically defined areas from largest to smallest scale. This system is used for consistency in communications, planning, operations, and other ICS functions including:

- Regional – this includes states and provinces of Canada along the Pacific coast.
- Statewide – this includes approximately 3,500 miles of coastal area encompassing marine and estuarine habitats where green crab could become established.
- Branch – Statewide operations are divided into Coastal and Salish Sea branches which corresponds to major differences in green crab management strategies due to significant propagule pressures from green crab larvae arriving in Washington State from coastal sources in California, Oregon, and British Columbia.
- Management Area – Branches are further divided into 14 Management Areas based on WDFW's recreational fishing marine areas with seven Management Areas within the Salish Sea Branch and seven within the Coastal Branch.
- Coordination Area – Management Areas are further divided into Coordination Areas based on a place name that best describes a sub-Management Area or it may be based on the jurisdictional lead for that area. Delineation of Coordination Areas continues to evolve based on input from local Management Area co-managers and partners.
- Site – Coordination Areas may be further divided into Sites based on a geographic area of connected, similar habitat suitability, or access limitations and where green crab management actions can be expressed as representing the whole geographic area.
- Sub-Site – Sites can be divided into Sub-Sites in more complex situations based on similar habitat or where different operational actions are required.

**Green crab trap** means one of four types of enclosed spaces that permit entry and prevent exit by green crab. Types used for green crab trapping operations include:

- "Fukui" trap (Fukui, Promar, etc.) means a single piece trap designed for the capture of small fish. Consists of a vinyl covered steel frame (60 × 45 × 20 cm) covered with square, single-knotted, polyethylene mesh (12 mm bar length). There are entrances at either end, with the netting panels forming a "V" shape to allow organisms to enter through slits. The traps can be flattened (collapsed) for easier storage and transport.
- "Minnow" trap means a cylindrical two-piece trap designed for capture of smaller green crab. When both halves are connected, the trap is 50 cm long with a 23 cm diameter and two inverted funnel-entrance holes, one at either end of a rigid mesh cylinder. Those used in green crab management efforts by default have holes 25 mm in diameter and mesh that is 6mm at the widest.
- "Shrimp" trap means a single piece trap for capture of shrimp. Consists of vinyl covered steel box 61 cm X 61 cm X 23 cm with a built-in bait box in the center. Mesh size is variable depending on the brand, though usually 25 mm or 50 mm. There are four rectangular entrances (one in the center of each side), lined by inverted funnels of rigid Vexar mesh.
- Other trap type means any other method utilized for the capture of live green crab. Common examples include pitfall traps (holes dug to allow green crab to fall into for collection) or experimental traps.

**Established** means a population of a green crab where that population is expected to have a sustained presence based on evidence (i.e., three years of capture of multiple age classes and with increasing or relatively stable abundance irrespective of trapping effort intensity).

**Habitat structure** means the composition and arrangement of material, be it natural or man-made, within a habitat (e.g., vegetation, docks, rocks, and woody debris). Most commonly, elements of three-dimensional (rising off the bottom) and complex (with crevices in which to hide) structure are favorable to green crab survival.

**Habitat suitability** means the relative ability of a habitat to support green crab. Characteristics that can be used to assess habitat suitability include physical attributes (e.g., exposure to wave energy, depth, and temperature), chemical attributes (e.g., salinity, pH, oxygen) and biotic attributes (e.g., vegetation, available prey, competitors, and predators).

**Hot Spot** means an area with a substantially greater relative abundance of green crab than surrounding areas. Hot spots can be defined at the site level (e.g., a creek mouth within a water body) or at the Coordination Area-level (e.g., Lummi Sea Pond), and can be spatially nested, sites of high density within Coordination Areas of high density.

**Incident Action Plan (IAP)** means a concise planning document containing set goals and objectives that guide incident safety, logistics, operations, and other incident actions during a set operational period.

**Incident Commander** means the individual responsible for all green crab emergency measures activities, including the development of strategies and tactics and the ordering and release of resources. The Incident Commander has overall authority and responsibility for conducting green crab emergency measures operations.

**Infested area** means a geographic area that carries or contains green crab at a branch, management area, coordination area, or site scale.

**Localized detection** means green crab detection occurred in a coordination area or other location (ex. bay, lagoon, estuary, or tidelands) where European green crabs have not previously been confirmed but is within a management area where green crab have been detected. Localized detections are anticipated during the invasion. WDFW will notify relevant agency staff, co-managers, tribes, partners, tidelands owners, and other community members. Depending on need, assessment trapping or rapid response may occur to prevent population becoming established and reduce risk of spread into new management areas.

**Operational Period** means the interval of time scheduled for execution of a given set of green crab management actions as specified by an Incident Commander.

**Rapid response** means expedited management actions based on new detections or the finding of a significantly increased population for the time-sensitive intent of determining scope of green crab invasion and containing or eradicating green crab before it spreads or becomes further established. (RCW 77.135.010(20)). Based on the outcome of rapid response actions, subsequent management action types may be implemented.

**Training** means providing information or instruction on prevention, early detection, rapid response or other green crab emergency management protocols. This category is distinct from Education/outreach in focusing on specific, practical applications.

**Trap set days** means when a trap is set intertidally or sub-tidally for the action of capturing green crab for a single overnight period. Overnight trap days are standard trapping protocols based on known green crab feeding activity patterns. If a trap is set and retrieved within a single calendar day, count it as a single trap day, but be aware that it may be later counted as a portion of a trap day for comparability with a standard overnight trap day.

- Total set trap days are counted from the day after a trap is set and includes the day the trap is removed. This metric is mostly a qualitative measure of effort during an operational period or season and may be used to estimate a gross level of potential green crab risk/density to help assess if additional support is needed.
  - Example 1 - 50 traps set on Monday, Aug 8, and retrieved Friday, Aug 12:  $50 \times 4 = 200$  trap days.
  - Example 2 - 50 traps set on Monday, Aug 8, and retrieved Sunday, Aug 21:  $50 \times 13 = 650$  trap days.
  - Example 3 - 50 traps set in a prior OP and to be retrieved in a future OP (example OP is 14 days):  $50 \times 14 = 700$  trap days.

**Trap check days** means the number of days within an operational period that a trap is checked for green crab. This metric is mostly a qualitative measure of effort and may be used to estimate a gross level of potential green crab risk/density to help assess if additional support is needed in a given Coordination Area.

- Total trap check days means the cumulative number of traps checked every day the traps are deployed. If traps are checked every day, total trap check days will be the same as total trap days.
  - Example 1 - 50 traps set on Monday, Aug 8, and retrieved Friday, Aug 12, and checked every day:  $50 \times 4 = 200$  trap check days.
  - Example 2 - 50 traps set Monday, Aug 8, and retrieved Sunday, Aug 21, and checked every day:  $50 \times 13 = 650$  trap check days.
  - Example 3 - 50 traps set in a prior OP and to be retrieved in a future OP and checked every day:  $50 \times 14 = 700$  trap check days.
  - Example 4 - 50 traps set Monday, Aug 8, and retrieved Friday, Aug 19, and checked every other day, excluding weekends (i.e., Monday, Wednesday, and Friday):  $50 \times 5 = 250$  trap check days.
  - Example 5 - 50 traps set Monday, Aug 8, and retrieved Sunday, Aug 21, and checked on Wednesdays only and the day the traps are retrieved:  $50 \times 3 = 150$  trap check days.

**Young of the Year (YOY)** means green crab of any life stage that belong to the current-year recruitment cohort of green crab. The size and life stage of those individuals will depend on the time of capture and conditions for the year, locally and regionally. Generally, crabs that are captured in traps under 30mm are safely considered YOY regardless of time of year of capture, but YOY can reach up to ~50mm by the end (fall) of their first year.

## List of Washington European green crab management actions in chronological order for Jan. 1 – March 30, 2025, as provided in Situation Reports

Date	EGC Management Action
1/8/2025	European Green Crab Multi-Agency Coordination Group Meeting: Incident Situation Report Updates and Briefing, state and federal budget updates, planning for the Managers Symposium.
1/13/2025	WDFW submitted a 10-day emergency measures status update to the Governor's Office and Office of Financial Management advising that all emergency measures should continue, as well as other priority green crab updates.
1/21/2025	WDFW met with Senator Chapman, Chair of the Senate Agriculture & Natural Resources Committee on Jan. 21st and discussed green crab and other aquatic invasive species issues.
1/22/2025	European Green Crab Multi-Agency Coordination Group Meeting: workshop on guidance and evaluation criteria for NOAA Washington green crab grant program.
1/23/2025	WDFW submitted a 10-day emergency measures status update to the Governor's Office and Office of Financial Management advising that all emergency measures should continue, as well as other priority green crab updates. As this was the first report to the new administration of Governor Ferguson, additional background was provided on green crab, the new long-term management plan, and the ICS.

Date	EGC Management Action
2/3/2025	WDFW submitted a 10-day emergency measures status update to the Governor's Office and Office of Financial Management advising that all emergency measures should continue, as well as other priority green crab updates.
2/13/2025	WDFW submitted a 10-day emergency measures status update to the Governor's Office and Office of Financial Management advising that all emergency measures should continue, as well as other priority green crab updates.
2/19/2025	European Green Crab Managers Symposium: WDFW and RCO hosted this annual event which highlighted management updates from partners as well as local research updates.
2/26/2025	European Green Crab Multi-Agency Coordination Group Meeting: Incident Situation Report Updates and Briefing, update on managers symposium 2/19/25.
2/26/2025	WDFW submitted a 10-day emergency measures status update to the Governor's Office and Office of Financial Management advising that all emergency measures should continue, as well as other priority green crab updates.
2/28/2025	WDFW developed and distributed the tenth European Green Crab Quarterly Report covering management actions from October 1 to Dec. 31, 2024.
2/28/2025	WDFW distributed a Request for Applications for a new European Green Crab Long-term Management Grant Program.
3/7/2025	WDFW published the <a href="#">annual map</a> showing general locations where green crab were detected in 2024, as well as monitoring sites where EGC were not detected.
3/8/2025	WDFW submitted a 10-day emergency measures status update to the Governor's Office and Office of Financial Management advising that all emergency measures should continue, as well as other priority green crab updates.
3/12/2025	European Green Crab Multi-Agency Coordination Group Meeting: Incident Situation Report Updates and Briefing, Update on Affiliated Tribes of Northwest Indians AIS Resolution and Hot Topics.
3/14/2025	Provided background information on green crab management to Governor Ferguson's staff in preparation for coastal visits.
3/18/2025	WDFW submitted a 10-day emergency measures status update to the Governor's Office and Office of Financial Management advising that all emergency measures should continue, as well as other priority green crab updates.
3/26/2025	European Green Crab Multi-Agency Coordination Group Meeting: Update on state and federal budgets.
3/28/2025	WDFW submitted a 10-day emergency measures status update to the Governor's Office and Office of Financial Management advising that all emergency measures should continue, as well as other priority green crab updates.

**List of media reporting in chronological order related to Washington European green crab management for Jan. 1 – March 30, 2025, as provided in Situation Reports**

Date	Outlet	Headline	URL
2/4/2025	Phys.org	Invasive green crabs offer lessons on ecosystem management amid environmental change	<a href="https://phys.org/news/2025-02-invasive-green-crabs-lessons-ecosystem.html">https://phys.org/news/2025-02-invasive-green-crabs-lessons-ecosystem.html</a>
2/15/2025	Chinook Observer	Crab compost: Local tribe finds value in green crab	<a href="https://chinookobserver.com/2025/02/15/crab-compost-local-tribe-finds-value-in-green-crab/">https://chinookobserver.com/2025/02/15/crab-compost-local-tribe-finds-value-in-green-crab/</a>
3/5/2025	Sequim Gazette	Jamestown Tribe seeks volunteers for green crab detection	<a href="https://www.sequimgazette.com/news/jamestown-tribe-seeks-volunteers-for-green-crab-detection/">https://www.sequimgazette.com/news/jamestown-tribe-seeks-volunteers-for-green-crab-detection/</a>
3/7/2025	The Hamster Wheel (Bellingham)	Green Crab Invasion	<a href="https://www.bellinghamsterwheel.com/p/green-crab-invasion">https://www.bellinghamsterwheel.com/p/green-crab-invasion</a>
3/17/2025	Fox13 Seattle	1 million green crabs removed from WA waters	<a href="https://www.fox13seattle.com/news/green-crabs-removed-puget-sound">https://www.fox13seattle.com/news/green-crabs-removed-puget-sound</a>
3/19/2025	Willapa Harbor Herald	Governor Ferguson hears Pacific County's urgent concerns	<a href="https://hometowndebate.com/index0.htm?pform={{Login}}&amp;sname=target_for_m2.asp&amp;site=hometowndebate.com">https://hometowndebate.com/index0.htm?pform={{Login}}&amp;sname=target_for_m2.asp&amp;site=hometowndebate.com</a>
3/25/2025	The Daily World (Aberdeen)	Conservation District conducts tour of key sites	<a href="https://www.thedailyworld.com/news/conservation-district-conducts-tour-of-key-sites/">https://www.thedailyworld.com/news/conservation-district-conducts-tour-of-key-sites/</a>