

WDFW – European Green Crab Update

Public Update on European Green Crab Management – Sept/Oct. 2023



WDFW staff trapping for European green crabs by boat on Willapa Bay near the Washington coast.

Report Purpose: These regular updates are intended to inform the public, local stakeholders, media, and others regarding the status of European green crab (EGC) management and emergency measures deployment in Washington state, supporting the public information responsibilities of the Incident Command System (ICS) and Public Information Officer (PIO).

For additional information, please see: wdfw.wa.gov/species-habitats/invasive/carcinus-maenas. European green crab news, communications and outreach materials are available under the “Resources” tab.

To report European green crab sightings or obtain identification resources, visit: wdfw.wa.gov/greencrab.

Sept/Oct. 2023 Updates

This report includes a summary of EGC captures, monitoring, and other emergency measures from September and October 2023 as well as field and partner highlights and general updates.

Justin Bush, WDFW Aquatic Invasive Species (AIS) Policy Coordinator, was delegated authority as the new EGC Incident Commander on Sept. 15. He replaces Allen Pleus, who retired Oct. 1.

European Green Crab Incident Command objectives continue to include reduction of EGC populations to below levels harmful to environmental, economic, or cultural resources.

WDFW reminds public not to tamper with European green crab traps

The public is asked not to tamper with EGC traps. EGC traps are usually deployed in shallow areas exposed at low tide, often staked into the mud. They are typically identified with a bright orange

buoy and an official tag or permit. WDFW, other state and federal agencies, and co-managers, tribes, and partners take steps to minimize bycatch and harm to other species during EGC trapping. Tampering with EGC traps impedes efforts to protect Washington’s environment and natural resources by removing these harmful invasive species.



Above: European green crab traps deployed in the field.

2023 European Green Crab Capture/Removal Totals

Total	210,905 as of October 9, 2023
Latest Operational Period	25,005 (Sept. 4 to Oct. 1, 2023)
Coastal Management Branch EGC removal totals:	
Year to date	205,219
Latest Operational Period	24,673
Salish Sea Management Branch EGC removal totals:	
Year to date	5,686
Latest Operational Period	332

Please note that these numbers are best estimates and may have gaps or overlaps due to reporting challenges. Visit the European Green Crab Hub for more detailed capture data: wdfw-egc-hub-wdfw.hub.arcgis.com.

Governor’s 10-Day Emergency Measures Status Update (Oct 16, 2023):

Per RCW 77.135.090, the WDFW Director continues to evaluate the effects of the European Green Crab emergency measures as provided under Proclamation 22-02, finds that the emergency continues to persist, and advises that all emergency measures should be continued. Details of the evaluation will be provided directly to you in Situation Reports (SitReps) reflecting each Incident Command System (ICS) operational period.



Sept/Oct. News and Media Coverage Highlights

Coverage from state, local, and national outlets included:

- The Chinook Observer ran an editorial describing the general threat of EGC and other invasive species to the Washington coast:
Editorial: Fight against invasive species is here - Green crab are a prime example
https://www.chinookobserver.com/opinion/editorials/editorial-fight-against-invasive-species-is-here-green-crab-are-a-prime-example/article_a71195da-53e3-11ee-ae3c-5f5d465f1139.html
- Capital Press ran a profile on Laura Kraft and WSU Extension including their support for shellfish growers and coastal communities in response to European green crab invasion:
Western Innovator: Entomologist aids cranberry, shellfish growers
https://www.capitalpress.com/state/washington/western-innovator-entomologist-aids-cranberry-shellfish-growers/article_654ed580-6c67-11ee-a743-c787e8cf6b62.html
- The Daily World published an article about the early October Marine Resources Summit in Westport where attendees discussed a variety of marine issues, including the European green crab: **Green crab, rising tides and the future of fishing: marine resource summit well attended**
<https://www.thedailyworld.com/news/green-crab-rising-tides-and-the-future-of-fishing-marine-resource-summit-well-attended/>
- The Tri-City Herald published an article about a handful of invasive species that pose a threat to Washington, including EGC, and what the public can do to help: **WA state needs public's help to monitor for three invasive species and one plant**
<https://www.tri-cityherald.com/news/state/washington/article278877394.html>
- UPI ran an article about the recent Invasive Alien Species Assessment released by the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. The article and report highlight the massive economic losses caused by invasive species, such as EGC: **U.N. report: Invasive species emerge as global threat, causing \$423B in losses**
https://www.upi.com/Top_News/World-News/2023/09/05/germany-UN-invasive-alien-species-threat-report/7541693908327/

Field Highlight: Field season 2023 ends, European green crab trapping scales down for winter

This past field season (April – September 2023), 23 Washington Department of Fish and Wildlife (WDFW) staff trapped for European green crabs (EGC) at more than 70 sites across the Coastal and Salish Sea management branches. Together, they caught over 6,700 EGC and performed more than 11,000 trap checks. Most of the crabs caught came from the Washington coast, stretching from Makah Bay south to near the Columbia River mouth.



WDFW would like to thank all the field staff and partners who trapped for EGC with us this field season and made these efforts possible.

“This is the largest field crew we’ve ever had, and because of that we have been able to respond faster, increase pressure, and conduct more assessments to inform management of EGC distribution,” said Chelsey Buffington, WDFW’s European green crab project lead. “This increased effort is only possible due to their hard work.”

Given the sharp increase in wind and rain across Western Washington this October, WDFW is now decreasing shore-based EGC trapping due to reduced capacity, weather hazards, and decreased EGC activity. During the winter season, WDFW staff will focus on analyzing data, training, and planning for the next field season in collaboration with co-managers, tribes, and partners.

WDFW’s crews will continue trapping some sites by boat as weather and water conditions allow.

“Trapping during the winter is more complex, dangerous, and difficult to plan,” said Chelsey Buffington, WDFW’s European green crab project lead. “The weather is unpredictable and can be unsafe for field work due to high winds and other hazards.”

During the winter, low tides used for setting traps usually occur late at night or early morning, making it logistically challenging to trap. Deployment of traps at low tide maximizes the time they are covered with water fishing for crab and prevents harm to bycatch such as native crabs. Due primarily to the colder temperatures and more frequent wave action, EGC are also less active during the winter and less likely to enter traps. The crabs tend to seek structure and hunker down.

If groups do continue trapping during the colder months, most switch to trapping EGC by boat rather than hiking out into the tidelands on foot. Typically, a shallow draft boat, airboat, or other specialized craft is required in the estuaries and intertidal areas where EGC are found. WDFW will continue trapping efforts over the winter, mostly by boat, and expects several co-managers, tribes, and partners to continue trapping by boat as well. Some organizations and entities performing winter boat trapping have received EGC emergency measures funding to obtain watercraft such as specialized airboats.

Many of the organizations and entities trapping for EGC have staff members with extensive knowledge of local waters, tides, and weather. This, along with consistent access to tidelands, enables them to successfully trap under difficult winter conditions. Willapa-Grays Harbor Oyster Growers Association is planning a Marine Resource Council tour in October to demonstrate how to safely conduct trapping operations in winter.

WDFW’s EGC trapping efforts will ramp back up in the spring—typically April contingent on weather and tides—along with those of other agencies, co-managers, tribes, and partners.

Partner Highlight: Collaboration key to successful European green crab trapping efforts on Olympic Peninsula

Successfully managing European green crabs (EGC) to protect Washington’s resources requires collaboration by many co-managers, tribes, and partners. EGC can spread and reproduce quickly,



and do not abide by any jurisdictional boundaries (such as public, private, or tribal tidelands). No single entity or organization can manage this crab on their own – collaboration is key to successfully managing the invasion.

Though there are many examples across the state, a couple recent EGC trapping efforts on the Olympic Peninsula exemplify successful collaboration across entities.

McKinley Lagoon, Port Angeles

In September, the Lower Elwha Klallam Tribe and Washington Department of Fish and Wildlife collaborated on a trapping effort near Port Angeles at McKinley Lagoon. This effort was driven by the site's significance to the tribe and its calm, protected waters that could serve as an incubator for young EGC. Staff included Lower Elwha-Klallam Tribe Project Biologist Raymond Moses and Natural Resources Director Matt Beirne as well as WDFW Aquatic Invasive Species (AIS) biologists and technicians. One EGC was found during the effort. The Lower Elwha Klallam Tribe and WDFW plan to continue collaborating on assessment trapping in this area annually or as needed.

Southern Hood Canal

On the east side of the Olympic Peninsula, the Skokomish Indian Tribe worked with WDFW on a trapping effort in the south end of Hood Canal on state and tribal tidelands between the towns of Hoodspport and Union. Both WDFW's AIS unit and the Skokomish Natural Resources Department Shellfish Program provided staff. Thankfully, no EGC were found. WDFW looks forward to continuing to collaborate on this issue and appreciates the tideland access the Skokomish Indian Tribe provided for this effort.

Naval Magazine Indian Island, Jefferson County

WDFW has collaborated with the U.S. Navy on an EGC trapping effort at Naval Magazine Indian Island (NMII) near Port Hadlock. Over the past few years, only a handful of EGC were caught in the area and the purpose of this effort was to assess for their continued presence. In preparation for this effort, WDFW trained Navy staff, including Marine Biologist Paul Rudell, on EGC trapping techniques and provided gear. WDFW provided both staff and equipment for this effort, with assistance from NMII's Environmental Programs Manager, Bill Kalina. Only one EGC was found, indicating that the population remains low in the area. This is good news given the area's proximity to important salmon habitat restoration projects such as [Kilisut Harbor fish passage](#).

WDFW is grateful for the efforts of these co-managers and partners and hopes to continue collaborating closely to prevent the spread of EGC. A big thank you to the Lower Elwha Klallam Tribe, Skokomish Indian Tribe, U.S. Navy, and McKinley Paper Company for providing access to the tidelands where this trapping took place.

Science Highlight: New research on European green crab

Adapted from an article in the [Summer 2023 edition of the National Oceanographic and Atmospheric Administration \(NOAA\) Fisheries newsletter](#).

The European Green Crab (EGC) is an invasive species that is well adapted to the Pacific Northwest ecosystem and is spreading through the coasts and estuaries of Washington state



despite ongoing trapping and removal efforts. EGC destroy important eelgrass habitats and eat bivalves, so shellfish growers and scientists have been looking for opportunities to reduce their threat level.

A new study by G. Curtis Roegner (NOAA Fisheries), Zach Forster (WDFW), and David Beugli (Willapa-Grays Harbor Oyster Growers Association) used acoustic monitoring to understand EGC movement differences between an active shellfish aquaculture farm and nearby public oyster grounds in Willapa Bay. The study suggests improved methods by increasing trapping efforts in shallow subtidal corridors and around aquaculture infrastructure. Rearranging farming elements, such as the spacing of bags, also reduces the attractiveness of aquaculture infrastructure for EGC. In addition, due to the EGC's transient nature, the long-term benefits of trapping will be best served with a system-wide effort rather than focusing on one specific area.

If you'd like a copy of the study please contact curtis.roegner@noaa.gov.

General Updates

These sections are meant to highlight the hard work of dozens of co-managers, tribes, and partners working to manage and control EGC populations in Washington waters. The efforts described do not capture all the work done or all entities involved in EGC trapping and management. For more information about the co-managers, tribes, and partners currently involved in EGC trapping or management, please visit the [European Green Crab Hub](#).

European Green Crab Multi-Agency Coordination Group

The EGC Multi-Agency Coordination Group (MAC Group) met twice in September and will meet twice in October. At these meetings, MAC Group members discussed the upcoming EGC Management Symposium (date and location to be decided) and the Fiscal Year 2024 Strategic Action Plan, as well as ongoing emergency measures, management, and funding.

European Green Crab Research Task Force

The Research Task Force (RTF) has undergone reorganization, with teams assigned to refine and address specific tasks as outlined in the Fiscal Year 2024 Strategic Action Plan. In addition, the RTF now conducts regular briefings on new and ongoing EGC research to ensure members are updated on the state of knowledge related to EGC.

Field operations

Washington Coast

On Washington's Pacific coast, co-managers, tribes, and partners continue trapping to control and monitor EGC populations. In September alone, over 24,000 EGC were caught.

In September, the Makah Tribe Green Crab Program hosted a trapping "blitz" with volunteers from Washington Department of Fish and Wildlife, Northwest Indian Fisheries Commission, United States Coast Guard, and other local communities. During this volunteer trapping event, the group captured approximately 1,100 green crabs. This is much less compared to a similar trapping blitz



in 2022 when over 5,000 crabs were caught in a similar number of traps. The program is also studying EGC populations and movements in Makah waterways.

The Shoalwater Bay Indian Tribe continued removal efforts in Willapa Bay, with WDFW assisting. Grays Harbor Conservation District held a local coordination meeting with WDFW and DNR to streamline operations and discuss resource needs.

This year, we have seen a significant rise in the number of EGC caught in some coastal areas, such as Grays Harbor, primarily due to increased trapping efforts. With greater access to funding sources in 2023, more staff could be hired, more traps and other equipment could be deployed, and as a result more crabs were caught.

In Grays Harbor, more than 60,000 EGC have been caught this year due to this increased trapping effort by WDFW, other agencies, co-managers, and partners. Some areas where significant trapping has taken place in 2023 include:

- North Bay near Ocean Shores and the mouth of the Humptulips River: 3,883 EGC caught by the Washington Department of Natural Resources (DNR) and 393 EGC by Grays Harbor Conservation District (GHCD).
- South Bay: 43,352 EGC caught by Pacific Seafood/Willapa Bay Grays Harbor Oyster Growers Association (WGHOGA), 914 EGC caught by Markham Oyster/WGHOGA, 1,586 EGC caught by WDFW, and 95 EGC caught by DNR.
- South Bay near Bayview including DNR tidelands and WDFW's Elk River and Johns River wildlife area units: 1,235 EGC caught by GHCD and 2,121 EGC caught by DNR in coordination with WDFW.
- Near Aberdeen and Chehalis River mouth: 760 EGC caught by DNR and 2,266 EGC caught by GHCD.

Washington Sea Grant (WSG) also operates four sentinel sites for monitoring purposes in Grays Harbor and the Chehalis River estuary. Seventy-six EGC were caught at these sites in 2023.

Salish Sea

Co-managers, tribes, and partners operating in the Salish Sea in September and October have also been very productive. More than 300 EGC were caught in September, most of which were in Drayton Harbor, Bellingham Bay, Lummi Bay, and other portions of the North Sound Management Area.

The Lummi Nation's Natural Resources Department (LNR) used boat-based trapping in Portage Bay and shore-based trapping during the last lower tides of the season on Lummi Tidelands. LNR plans to continue trapping inside and outside the Lummi Sea Pond through the winter. The WDFW North Puget Sound team will continue assisting Lummi Nation with removal efforts and long-term monitoring sites.

Padilla Bay National Estuarine Research Reserve partnered with WDFW to trap the Swinomish Casino marsh.

Elsewhere in the Salish Sea Branch, no EGC were detected in Admiralty Inlet south of the entrance to Hood Canal or within Puget Sound proper including Whidbey Basin.



Communications, outreach, and community events

Throughout September and October, WDFW, co-managers, tribes, and partners have engaged in numerous outreach events and actions in support of EGC management. In total, more than 1,300 members of the public were reached at these events.

WDFW and WSG staff presented at the Pacific Coast Shellfish Growers Association Conference on Sept. 19 – 21 in Seaside, Oregon. Ben Rubinoff (WSG) presented on the ecological impacts of EGC in Washington and WDFW AIS Research Scientist Dr. Brian Turner presented on the known interactions and impacts of EGC on Pacific coast shellfish species. Both indicated a need for future research. EGC outreach materials were distributed to attendees.

WDFW and WSG tabled at the Port Angeles Dungeness Crab and Seafood Festival on Oct. 6 – 8. Staff spoke with visitors about EGC identification, reporting, and management and passed out outreach materials. GHCD has done similar outreach at the Aberdeen Sunday Markets over the past few months. WDFW also shared EGC materials and information at numerous other outreach events during this period, including fishing and shellfishing events.

Several WSG and WDFW staff presented on EGC research and management at the North Pacific Marine Science Organization (PICES) Conference in Seattle, Washington (Oct. 23-27, 2023).

Regarding outreach materials, EGC rack cards are running on all Washington ferries and will be available to riders through June 2024. EGC rack cards were translated into Spanish, Vietnamese, Ukrainian, Somali, Chinese, and Cambodian. EGC wallet-sized identification cards are available in Spanish and Vietnamese. These translated versions are being used at events and distributed to partners and marine industry contacts. Digital copies of outreach materials can be found on the [WDFW EGC webpage under “Resources”](#).

Please reach out to Jessica.Ostfeld@dfw.wa.gov if you would like digital or printed copies of any of these materials described above, or if you are interested in acquiring these or other EGC materials in additional languages.

Photos and Multimedia Highlight:

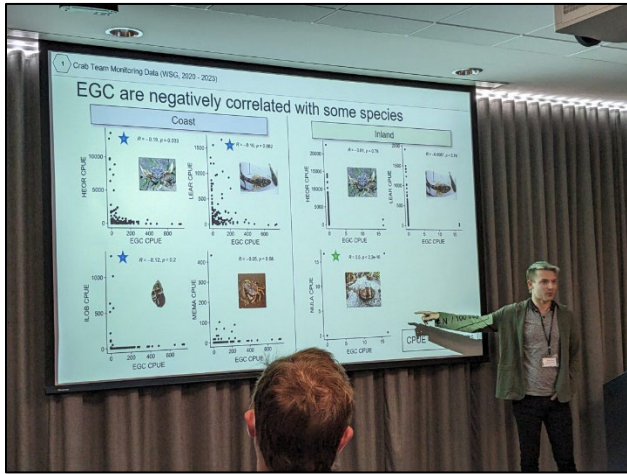




Left: Carol Jacobs (volunteer with the Makah Tribe) deploying traps on the Tsoo-Yess with some dog companions on Sept. 18, 2023.

Right: Christopher Pike (WDFW) and the only EGC (female) found in trapping effort in the McKinley Lagoon by WDFW and employees of the Lower Elwha Klallam Tribe via floating dock on Sept. 12, 2023.





Left: Ben Rubinoff (WSG) presenting on the ecological impacts of EGC in Washington at the Pacific Coast Shellfish Growers Association (PCSGA) Conference on Sept. 21, 2023.

Right: WDFW AIS Research Scientist Dr. Brian Turner presenting on the known interactions and impacts of EGC on Pacific Coast Shellfish species at the PCSGA Conference on Sept. 21, 2023.



Left: Allie Simpson and Leah Robison (Northwest Straits Commission) heading out to the Pigeon Point EGC trapping site, Samish Bay. Photo by Northwest Straits Commission.



Right: Puget Sound Crustacean Field Technician Amy Pumputis and EGC Outreach Specialist Jessica Ostfeld doing outreach about EGC, recreational crabbing, and Washington seafood at the Port Angeles Dungeness Crab and Seafood Festival on Oct. 7.



Public Reporting and Crab Identification

WDFW continues to receive reports from the public of native crab species misidentified for invasive European green crabs. While we appreciate the public interest in helping to identify invasive species, **these incidents are examples of why WDFW calls on the public to photograph and report suspected green crabs at: wdfw.wa.gov/greencrab**, returning the crab in question unharmed to the water where it was found.

Most of these native crabs, including Graceful, Kelp, and Hairy shore crabs, are regulated as Unclassified Marine Invertebrates and are illegal to kill, harvest, retain, or possess. If verified as European green crabs, WDFW will follow up with trapping and monitoring if found in a new area if needed.

Crab identification guides and resources are also available [on the EGC Hub](http://wdfw.wa.gov/greencrab) and WDFW's [webpage](http://wdfw.wa.gov/greencrab), as well as at www.wdfw.wa.gov/greencrab.

European green crabs are shore crabs and are found in shallow areas—typically less than 25 feet of water—including estuaries, intertidal zones, and beaches. They are not likely to be caught by shrimpers or crabbers operating in deeper water, but may be encountered by beachgoers, waders, clam and oyster harvesters, or those crabbing off docks or piers in shallow areas.

Summary Statement for Background

On January 19, 2022, Washington State Governor Inslee issued Emergency Proclamation 22-02 which ordered the Washington Department of Fish and Wildlife (WDFW) “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.” This is a statewide proclamation for all marine and estuarine waters of the state that to be effective, will require coordination across state, tribal, and federal jurisdictions. To address this large and complex task, WDFW has implemented an Incident Command System (ICS) structure to facilitate a statewide European green crab (EGC) management strategy. The state Emergency Management Division has assigned this as Mission #22-1085. Since this is a relatively slower-moving emergency (as compared to earthquake or wildfire response), the ICS structure will be used as the overall framework for WDFW communications and coordination.

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Public updates on European Green Crab Management are posted at:

<https://wdfw.wa.gov/species-habitats/invasive/carcinus-maenas>

For more information or for media inquiries, please contact the European Green Crab Public Information Officer at chase.gunnell@dfw.wa.gov or contact ais@dfw.wa.gov.

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