

WDFW – European Green Crab Update

Public Update on European Green Crab Management – July/Aug. 2023



Washington Department of Fish and Wildlife (WDFW) and National Oceanic and Atmospheric Administration (NOAA) staff checking traps for European green crabs (EGC) on a field visit in Seabeck, Washington, on Aug. 1, 2023. Photo by National Oceanic and Atmospheric Administration (NOAA).

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

July/Aug. 2023 Updates

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

This report summarizes EGC captures, monitoring, and other emergency measures from July and August 2023 as well as a field highlight and general updates.

2023 European Green Crab Capture/Removal Totals

Total	137,700 as of August 9, 2023
Latest Operational Period	35,575 (July 3 to 30, 2023)
Coastal Management Branch EGC removal totals:	
Year to date	132,957
Latest Operational Period	34,930

Salish Sea Management Branch EGC removal totals:

Year to date	4,743
Latest Operational Period	645

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

Governor's 10-Day Emergency Measures Status Update (Aug. 24, 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.

July/Aug. News and Media Coverage Highlights

Coverage from state, local, and national outlets included:

- U.S. Senator Patty Murray published a news release about draft legislation that would provide more than \$20 million for Washington environmental projects, including European green crab management: **Senator Murray Secures Over \$20 Million for WA Environmental Projects, Delivers New Funding for Tribes, & Protects Key Climate Investments in Draft Interior and Environment Appropriations Bill**
<https://www.murray.senate.gov/senator-murray-secures-over-20-million-for-wa-environmental-projects-delivers-new-funding-for-tribes-protects-key-climate-investments-in-draft-interior-and-environment-appropriations-bill/>
- U.S. Senator Patty Murray published another news release about the Senator's visit to Lone Tree Point to meet with the Swinomish Indian Tribal Community and Northwest Straits Commission (NWSC). The article included a quote from Steve Edwards, Chairman of the Swinomish Indian Tribal Community, about important environmental projects that Swinomish has partnered on with NWSC and Skagit Marine Resources Committee, including European green crab education: **Senator Murray Visits Lone Tree Point, Discusses Conservation Efforts with Swinomish Tribe and Northwest Straits Commission**
<https://www.murray.senate.gov/senator-murray-visits-lone-tree-point-discusses-conservation-efforts-with-swinomish-tribe-and-northwest-straits-commission/>
- The Northern Light ran an article detailing the efforts of the Northwest Straits Commission, Washington Sea Grant, and citizen scientists to monitor EGC populations in Drayton



Harbor: **Scientists monitor juvenile European green crab populations in Drayton Harbor**

<https://www.thenorthernlight.com/stories/scientists-monitor-juvenile-european-green-crab-populations-in-drayton-harbor,27409>

- On July 6, the radio show Skagit Talks on KSVR featured an interview with Washington Conservation Corps members and Allie Simpson from the Northwest Straits Commission about the steps being taken to stop invasive European green crab here in Washington State, particularly in Skagit County: **Skagit Talks: Invasive Green Crab**
<https://www.ksvr.org/whats-new/skagit-talks-invasive-green-crab-wcc>
- KGMI published an article informing the public that Whatcom County Public Works issued a “green crab alert”: **Whatcom County issues alert for invasive European green crabs**
<https://kgmi.com/news/007700-whatcom-county-issues-alert-for-invasive-european-green-crabs/>
- The Globe and Mail published an article about British Columbia’s efforts to control European green crabs and how the invasive species will benefit from and exacerbate the impacts of climate change: **The fight against the green crab invasion of B.C.’s coast**
<https://www.theglobeandmail.com/canada/article-european-green-crab-bc-invasive/>
- The Harpswell Anchor (Maine) published an article about research by Dr. David Carlon’s lab on the correlation between rising water temperatures and increasing European green crab numbers in Maine: **10-year green crab study links warming waters with continuing growth**
<https://harpswellanchor.org/2023/07/10-year-green-crab-study-links-warming-waters-with-continuing-growth/>

Field Highlight: EGC detections continue in Hood Canal, WDFW and partners deploy rapid response

WDFW Aquatic Invasive Species Unit EGC field teams in coordination with Washington Sea Grant (WSG) continue to detect and remove small numbers of EGC at sites in the northern Hood Canal, Eastern Strait of Juan de Fuca, and North Puget Sound Management Areas. Heavy trapping continues in these areas in coordination with co-managers, tribes, and partners to assess population size and scope of EGC, including near WDFW tidelands off Linger Longer Road at Quilcene Bay in Hood Canal.

EGC were first [detected](#) in the Hood Canal Management Area in May 2022 by volunteers with WSG’s Crab Team at Nick’s Lagoon near Seabeck in Kitsap County. Since, EGC continue to be found



at this and nearby sites. WSG and WDFW continue to monitor sites throughout the Hood Canal for additional detections in this Management Area.

“We have two main goals for managing EGC in the Hood Canal,” said Chelsey Buffington, WDFW EGC Project Lead. “The first is to understand the distribution and abundance of EGC. The second is to increase co-manager, tribe, and partner involvement to allow for more early detection, assessments, and control actions.”

WDFW recognizes that more trapping is needed in the southern parts of Hood Canal to assess EGC distribution, and that this can only effectively be accomplished with the help of co-managers, tribes, and partners.

National Oceanic and Atmospheric Administration (NOAA) attorneys, communications staff, and interns visited Nick’s Lagoon in early August to discuss federal permitting, co-manager/tribe/partner involvement, and trapping placements within various habitats.

Science Highlight: Recent research suggests connection between growing EGC populations and rising water temperatures

Beginning around 2018, state and federal agencies, tribes, and partners noticed significant increases in EGC populations in some of Washington’s coastal bays. It has been hypothesized that this increase may have been spurred by rising water temperatures in nearshore marine areas.

[Recent research by Dr. Dave Carlon’s lab](#) at Bowdoin College’s Schiller Coastal Studies Center suggests a link between increasing water temperatures and growing EGC populations in Maine. For the past 10 years, the Carlon Lab has been studying European green crab populations in the waters of Harpswell, Maine, with the goal of better understanding the drivers of EGC population growth.

Though this area of science is still evolving, initial analysis of data collected by the Carlon Lab indicates that there is a connection between rising water temperatures and increasing European green crab populations in Maine.

According to Dr. Carlon, rising water temperatures are “a prime suspect” in the growth of the green crab populations. In other words, water temperatures continue to rise, it would not be surprising if green crab populations also rise.

“While I agree that if the water continues to warm off the coast of Maine, it is likely that we will see more EGC there,” said Dr. Brian Turner, WDFW Aquatic Invasive Species Research Scientist, “the driving mechanisms for this population growth may be unique to their situation and environment.”

“We could see a similar relationship between rising water temperatures and increasing EGC populations in Washington,” continued Dr. Turner. “The only way we could ever be able to tell is with long term monitoring.”



To manage EGC effectively, WDFW recognizes a need for this long-term data. Washington Sea Grant has been running a monitoring network for EGC called “[Crab Team](#),” which provides long-term data for some sites. WDFW, in coordination with co-managers, tribes, and partners, is exploring additional opportunities for long term monitoring of EGC.

The EGC Research Task Force (RTF) is an organization of researchers, managers, and experts on EGC from across the Pacific coast of North America. The RTF provides a forum to discuss the current state of EGC research and promote synergy in research efforts. Additionally, the RTF aims to develop a ranked list of needed EGC research with a primary focus on improving the prevention, detection, and management of EGC. The RTF is informing management efforts in WA by developing technical thresholds for EGC impact, including a threshold at which EGC populations no longer harm environmental, economic, or cultural resources. For more information, contact Dr. Turner at ais@wdfw.wa.gov.

General Updates

Q4 Report to the Washington State Legislature

The fourth [EGC Quarterly Report \(Q4\)](#) to the State Legislature was submitted on September 1. In response to the legislative budget proviso directive in ESSB 5693 (2022), this report has been authored as the fourth in a series of ongoing quarterly progress reports.

The Q4 report outlines the successes and challenges of ongoing EGC emergency response efforts in Washington state from April 1 to June 30, 2023. In addition, this report will put the work during Q4 in the context of the work completed in 2022 and early 2023 (reports for Quarter 1 - 3).

European Green Crab Multi-Agency Coordination Group

The European Green Crab (EGC) Multi-Agency Coordination Group (MAC Group) met twice in July and twice in August. At these meetings, MAC Group members discussed the latest research on EGC as well as ongoing emergency measures, management, and funding.

On July 12, the Fiscal Year 2024 Strategic Action Plan was provided to group members, and the key objectives and associated tasks were discussed. On July 26, Dr. Brian Turner provided a brief European Green Crab Management Plan update; work on the five-year plan has begun and will address actions in each Management Area.

Field operations

This section is 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](#).



Washington Coast

On Washington's Pacific coast, co-managers, tribes, and partners continue trapping to control and monitor EGC populations. In July alone, more than 34,000 EGC were caught.

The Washington Department of Natural Resources (DNR) and Grays Harbor Conservation District (GHCD) worked together to catch over 1,100 EGC on the southern end of Grays Harbor in July. The U.S. Fish and Wildlife Service (USFWS) trapped at Leadbetter Point in Willapa Bay assisted WDFW.

Nearby, WSG led one day of a research trapping effort in Nahcotta in collaboration with the University of Washington to evaluate predation impacts on juvenile and seed clams (Manila clams). On the northmost part of the Washington coast, the Makah Tribe continues to trap for EGC and research interactions between EGC and other species.

Salish Sea

Co-managers and partners operating in the Salish Sea in July and August were also very productive. They caught more than 600 EGC, most of which were in the North Sound. No EGC were detected in the Puget Sound south of the Hood Canal.

The Lummi Natural Resources Department conducted a trapping blitz with over 100 traps in July 2023. The Northwest Straits Commission (NWSC) trained a Washington Conservation Corps crew on EGC trapping, and USFWS continues to trap at the Dungeness National Wildlife Refuge.

Raising green crab awareness aboard Washington State Ferries

In July, EGC rack cards were distributed to all Washington state ferries by WDFW's EGC Outreach Specialist. The rack cards will be available to riders to take for the next year. WDFW also placed information advertisement posters about EGC on all northern ferry routes. The advertisements will run for 4-8 weeks in August and September 2023.



Above: EGC advertisements and rack cards on Washington State Ferries.

Community engagement at the Columbia-Pacific Farmers Market



On Friday, Aug. 11, WDFW staff from a variety of work units tabled at the Columbia-Pacific Farmers Market in Long Beach, Washington. Jessica Ostfeld, European Green Crab Outreach Specialist, and Hannah Robinson, Aquatic Invasive Species Scientific Technician, provided information about European green crabs and the management actions WDFW, co-managers, tribes, and partners are taking to control this invasive species. Timothy Zepplin, Coastal Recreational Crab Biologist, provided information about recreational crabbing and general shellfish harvesting. Staff utilized multiple outreach tools to engage over 160 members of the public, including a crab molt identification game designed to improve European green crab identification, and a spinning wheel game about Washington's shellfish resources.

Communications, outreach, and community events

Throughout July and Aug., WDFW, co-managers, tribes, and partners have engaged in numerous outreach events and actions. In total, more than 1,300 members of the public were reached at these events. The Public Information Officer fielded sporadic media requests for EGC information.

In July, NWSC partnered with Skagit MRC volunteers to send a landowner letter describing green crab trapping efforts and tips on how to help to over 500 shoreline landowners in Skagit County. Letters included handouts and stickers created by WDFW. Nine organizations signed on to the letter (Skagit MRC, NWSC, PBNERR, Taylor Shellfish, Samish Indian Nation, Swinomish Indian Tribal Community, WDFW, WSG, and DNR).

Volunteers with [Molt Search](#), a new community science project by Washington Sea Grant's Crab Team and Washington State University Extension, were active throughout July and August. Washington Sea Grant received and verified 48 Molt Search reports from 26 community members within the Salish Sea. None of the molts found were EGC. A big thank you to the volunteers helping with this project!

Washington Sea Grant and WDFW collaborated on a couple events this summer. On Aug. 7, Lisa Watkins (Community Science Specialist for WSG) and Jessica Ostfeld (WDFW EGC Outreach Specialist) collaborated on a workshop for the Seattle Aquarium's summer camp for youth aged 13-14. WSG and WSU extension, with support from WDFW, put on a virtual Molt Search training on Aug. 23.

GHCD has had a booth every Sunday at the Aberdeen Sunday Market with EGC outreach materials. WDFW staff have completed at least ten outreach events throughout July and August, including the Birch Bay Sand Sculpture Competition, Duwamish River Festival, and State Parks Outdoor Discovery Day. WDFW EGC Project Lead, Chelsey Buffington, presented on the new [EGC Hub](#) communication platform at the ESRI User Conference on July 11.

Regarding outreach materials, WDFW staff created two new games to be used when doing outreach about EGC. The first is a spinning wheel game where players spin a wheel, and then answer the question about EGC that they land on. The second is an EGC identification game where players are given a box of crab molts and they are asked to identify which comes from an EGC.

Photos and Multimedia Highlight:



Below left: Alexa Brown and Tim Teets (DNR) on an airboat on the Palix River trapping for European green crabs. Photo by DNR.



Above right: Kelsey Sapp and Tim Teets (DNR) pulling crab pots on the Palix River. Photo by DNR.

Right: Shrimp pot full of European green crabs that was retrieved from Elk River Natural Area Preserve by DNR staff. Photo by DNR.



Left: Lummi Natural Resources staff trapping for EGC on LNR tidelands. Photo by LNR.



Right: Washington Conservation Corps members at Pigeon Point. Photo by Allie Simpson (NWSC)



Left: EGC field technicians with WDFW and USFWS pose for a photo after a trapping effort at North Leadbetter in Willapa Bay. From left to right - Hannah Robinson (WDFW), Shellee Gentry (WDFW), Kailee Dolezal (USFWS), and Ian Bravender (USFWS).

Below: NOAA and WDFW staff on a site visit to Nick's Lagoon in Seabeck, WA, in early August 2023. Photos by NOAA.



Right: Kyle Selstead (WDFW) speaking with a visitor about EGC at the Birch Bay Sand Sculpture Competition on July 29, 2023.



Left: Timothy Zepplin (WDFW) doing outreach about EGC and shellfish at the Columbia-Pacific Farmers Market in Long Beach, WA, on Aug. 11, 2023.

Below: Jessica Ostfeld and Blair Winnacott (WDFW) doing outreach about EGC at the State Parks Outdoor Discovery Day on Aug. 19, 2023, at Fort Casey State Park on Whidbey Island. Photos by Amarante Rhodes.



Right: Retrieval of crab pots on July 23, 2023. Photo by Emily Grason (WSG).



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.

Crab identification guides and resources are also available [on the EGC Hub](#) and WDFW's [webpage](#), 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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