

In 2017, the Division of Aquatic Resources Aquatic Invasive Species Team rated the Top 15 established and pre-border species for the Western Governor's Association West-wide Invasive Species Risk-Assessment Survey. The established species were ranked based on the distribution (widespread or not), ecological impact and economic/ cultural impact to Hawai'i. The pre-border species were ranked based on their history of invasiveness, likelihood of invasion and the impact of invasion to places they have been introduced to. While these lists are ranked, they are qualitative and may be subject to assessor outlook as to which species are the most impactful.

Western Governors' Association

Invasive Species Data Management Initiative

West-wide Invasive Species Risk-Assessment Survey: Aquatic Species

The Western Governors' Association is currently in the second year of a three-year initiative to improve invasive species management in the West. As part of this initiative, WGA is developing a West-wide Invasive Species Impact Risk-Assessment. This first of its kind assessment is designed to assist land managers in the West with invasive species policy-planning-and coordination at a landscape level.

The purpose of this survey is to develop a list of species that western land managers consider high risk. It is being sent to officially designated invasive species coordinators and aquatic invasive species coordinators in all of WGA's member states and islands. Please complete this survey and return it to Bill Whitacre (bwhitacre@westgov.org) by **September 29, 2017**.

Background

In June 2016, Western Governors' passed WGA Policy Resolution [2016-05: Combating Invasive Species](#). Among other things, this policy resolution directs WGA staff to improve invasive species data management in the Western region by developing a West-wide Invasive Species Risk-Assessment.

Over the last year, WGA staff has worked with a variety of invasive species experts from different sectors and industries across the West. These experts have helped WGA staff to scope the initiative and develop a work plan to build the risk-assessment.

Details

The WGA West-Wide Invasive Species Risk-Assessment will present the top-100 most threatening invasive species to the Western region. The top-100 list will be broken down into four smaller categories of 25 each. These are:

- established terrestrial species
- pre-border terrestrial species
- established aquatic species
- pre-border aquatic species

As a participant, we ask that you rank the top 15 established and pre-border species that present the greatest combined economic and ecological threat to your state. Once all the surveys are completed, WGA staff will compile and tabulate the results to derive the top-25 invasive species for each category in the Western region.

Methodology

The Western Governors' Association has 22-member states and islands*. Surveys are sent to official invasive species coordinators and aquatic invasive species coordinators in each of these states and

islands. In states that do not have the officially designated positions, surveys are sent to ecologists at the states' or territories' land-grant universities. 44 surveys are sent in total.

In the space below, please qualitatively rank the top-15 established and pre-border species in your state or island based on their combined impacts or potential combined impacts, respectively. Responses will be weighted in the final list (i.e. the most impactful established species in a state or island will be given 15-points, the second most impactful will be given 14 points, etc.).

*WGA's member states and Islands are: Alaska, Arizona, California, Colorado, Hawaii, Idaho, Kansas, Montana, Nebraska, New Mexico, Nevada, North Dakota, Oklahoma, Oregon, South Dakota, Texas, Utah, Washington, Wyoming, American Samoa, Commonwealth of the Northern Mariana Islands, and Guam.

Definitions

Established Species – are defined as species which are already established in your state or island, including both widespread species and EDRR species. When ranking, please list the species by the estimated cumulative economic, ecological, and cultural impacts that they have in your state or island.

Pre-border species are defined as species that are not currently in your state or island, but are at a high risk to spread into the state and cause significant impacts in your state or island. When ranking, please list pre-border species by the priority to keep them out of your state or island.

Publication

The individual state and island lists and the regional top-100 list will be published on WGA's website in 2018. State-level lists can be omitted from the website upon request by contacting WGA (Bill Whitacre: bwhitacre@westgov.org).

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Job Title: Fishery Technician

Years working on invasive species issues: 1

Section 1: Established Aquatic Invasive Species

Please rank the top-15 most impactful established aquatic invasive species in your state or island. Consider all aquatic taxa. Please qualitatively rank them by their combined economic, ecological, and social impacts. Please provide the common and scientific name.

1. *Rhizophora mangle*- Mangrove
2. *Salvinia molesta*- Giant Sallvinia
3. *Amathia verticillata*- Rice Noodle Bryozoan
4. *Bracharia mutica*- Buffalo Grass
5. *Gracilaria salicornia*- Gorilla Ogo
6. *Hypostomus sp (watawata), Pterygoplichthys multiradiatus*- Armored Catfish spp.
7. *Oreochromis mossambicus, Sarotherodon melanotheron*- Tilapia spp.
8. *Hypnea musciformis*- Hookweed
9. *Pomacea spp., Pila conica*- Apple Snails
10. *Cassiopea sp.*- Upside-down Jellyfish
11. *Valamugil engeli*- Kanda, Australian mullet
12. *Batis maritima*- Pickleweed
13. *Avrainvillea amadelpha*- Leather Mudweed
14. *Acanthophora spicifera*- Prickly Seaweed
15. *Corbicula fluminea*- Asiatic Clam

Notes: Mosquitos were not added to the aquatic established list, as they have been listed for the terrestrial side of this survey for HI.

Two other notable established invasive species are *Mycale grandis* (Orange Key-Hole Sponge) and *Eucheuma/ Kappaphycus spp.* (Smothering Seaweed). Smothering Seaweed is only found in Kāneʻohe

Bay and is considered the most impactful invasive in the bay. Smothering Seaweed did not make the top 15 for the state as it is not widely distributed, but it certainly is very impactful where it is found.

Section 2: Pre-border Aquatic Invasive Species

Please qualitatively rank the top-15 most threatening aquatic pre-border species to your state or island. Consider all aquatic taxa. Please qualitatively rank them by their combined potential economic, ecological, and social impacts. Please provide the common and scientific name.

1. Any new Armored Catfish Spp- ex: *Hypostomus plecostomus*- Suckermouth catfish
2. *Carcinus maenas*- European green crab
3. Hydrozoa spp.- any new species to HI
4. *Mnemiopsis leidyi*- American comb jelly
5. *Mytilopsis sallei* - Black striped mussel
6. Scyphozoa- Jellyfish, Sea Jelly: any new species to HI
7. *Limnoperna fortunei* - Golden mussel
8. *Xenopus laevis*- African clawed frog
9. *Musculista senhousia*- Asian mussel
10. Cichlids- any new species to HI
11. Mollies- any new species to HI
12. *Cercopagis pengoi*- fishhook waterflea
13. Octocorallia- any new species to HI
14. Hexacorallia- any new species to HI
15. *Potamopyrgus antipodarum*- New Zealand mudsnail

Notes:

Did not include any species already prohibited by law for pre-border list because the likelihood of establishment was low.

Optional: What resources in your state are most threatened by invasive species? What state level services are most threatened?

Resources impacted are reefs, estuaries, streams, and anchialine pools..