



Asian Gypsy Moth

Introduction

The Asian Gypsy Moth (AGM) is a highly destructive forest pest that feeds on both deciduous and coniferous trees. The voracious appetite of AGM larvae (caterpillars) coupled with the ability of the female moth to travel up to 21 nautical miles can cause widespread defoliation leaving trees weakened and susceptible to disease and other pests.

AGM is found in the Far East with a high risk of infestation of vessels with AGM eggs in Korea, Northern China (North of Shanghai; North of latitude 31°15'N), and in particular in the Russian Far East and Japan during the flight season of the female moth.

Due to the destructive nature of the AGM, the following countries, where the pest is not indigenous, have procedures in place to prevent AGM entering on vessels and becoming established:

- Australia
- Canada
- Chile
- New Zealand
- United States

AGM Flight Season

Of concern to countries attempting to prevent the introduction of the AGM are vessels that have called at ports in the AGM high risk area in the Far East during the “flight season” in the previous year.

The timing of the “flight season” depends on the country concerned. Canada, the United States and Chile base their AGM policy on the following flight seasons:



Photo courtesy of: John H. Ghent, USDA Forest Service, Bugwood.org

Female Asian Gypsy Moth

Asian Gypsy Moth Endemic Area	Female Flight Seasons
Russian Far East	1 July to 30 September (USA: 15 July to 30 September)
Korea	1 June to 30 September
Northern China	1 June to 30 September
Northern Japan (Aomori, Fukushima, Hokkaido, Iwate and Miyagi Prefectures)	1 June to 30 September
Western Japan (Akita, Ishikawa, Niigata, Toyama and Yamagata Prefectures)	25 June to 15 September
Eastern Japan (Aichi, Chiba, Fukui, Ibaraki, Kanagawa, Mie, Shizuoka and Tokyo Prefectures)	20 June to 20 August
Southern Japan (Ehime, Fukuoka, Hiroshima, Hyogo, Kagawa, Kagoshima, Kochi, Kumamoto, Kyoto, Miyazaki, Nagasaki, Oita, Okayama, Osaka, Saga, Shimane, Tottori, Tokushima, Wakayama and Yamaguchi Prefectures)	20 June to 20 August
Far Southern Japan (Okinawa Prefecture)	25 May to 30 June



Asian Gypsy Moth Characteristics

Male AGMs are greyish brown with a wingspan of 30 to 40 mm. Females are whitish/pale yellow in colour with prominent black marks on the wings and are larger than the male with a wingspan of 40 to 70 mm. It is unlikely that live AGM will be encountered by vessels in transit. It is more likely that egg masses will be found.

Female AGMs are active flyers and are attracted to bright lights, therefore AGM eggs may be found in the vicinity of exterior lights and floodlights on vessels. If powerful shore lights are directed towards the vessel, AGM eggs may be found all over the ship and its cargo. Where safe and practicable to do so, external lights on vessels should be switched off.

AGM eggs are velvety in texture and range in colour from light tan to dark brown. A typical egg mass will contain between 500 and 1000 eggs and measure approximately 20 mm by 40 mm. The eggs are particularly hardy and resistant to changes of temperature and moisture. They are normally deposited in sheltered locations, for example, under canvas covers, around light fixtures and underneath framing arrangements such as hatch coamings and the underside of bridge wings. Egg masses have also been found on mooring lines, on the outside of shipping containers and on vehicles, for example in wheel arches.

The larvae normally hatch in early spring, therefore this is considered the high risk period in countries that wish to stop this species becoming established, hence vessels that call in the Far East during the flight season, and then subsequently arrive in port during the hatching period, are of particular concern.

The peak period for egg hatching is in the morning; the dispersing larvae move towards vertical structures, climb rapidly to a high point and are then widely dispersed on silken strands by the wind until they find suitable host trees to feed on, a process known as “Ballooning”.

Inspections

The inspection of vessels for the presence of egg masses, their removal and disposal are the principal tools in preventing AGM becoming established in new regions. Some destination countries require vessels that have called in high risk countries during the flight season to be inspected for the presence of AGM by a nominated authority immediately prior to departure. If no signs of AGM infestation are found, the nominated authority will issue the vessel with certification stating that it is free of AGM; depending on the issuing authority the certificate may be a “Certificate of Inspection of Freedom from the Asian Gypsy Moth” or a “Phytosanitary Certificate”. If multiple ports in the same country or a number of ports in different countries within the high risk area are visited, the official inspection should be undertaken immediately prior to departure from the last port in the high risk area.



Asian Gypsy Moth Egg Masses

Photo courtesy of Canadian Food Inspection Agency

Regardless of any requirement for an official inspection, in order to mitigate the risk of infestation when calling at ports in the high risk area during the AGM flight season, vessels should:

- Carry out a thorough visual inspection of the accommodation superstructure, decks, holds, cargo and cargo gear immediately prior to departure. Binoculars can be used to inspect difficult to reach areas of the vessel's superstructure, such as the underside of bridge wings. Similarly, a small mirror attached to a stick may be used to inspect areas that are difficult to see, for example; behind pipework next to the hatch coaming.
- Carry out another thorough visual inspection while on passage to the destination port.
- Scrape off any egg masses that are found. Do not paint over them as this will not kill them. Do not remove them using high pressure water guns as some eggs may be washed over the side and immersion in salt water does not kill them; there have been cases of AGM eggs floating to shore and continuing to develop and hatch.
- Prior to arrival destroy any egg masses that have been scraped off. Eggs may be destroyed by placing them in alcohol, boiling them in water, freezing them or by incineration.
- Record details of all visual inspections and the removal and disposal of AGM eggs in the vessel's deck log book.

Country Specific Requirements

Australia

Vessels calling at Australian ports do not need to be certified free of AGM. The Australian Quarantine and Inspection Service (AQIS) “[Quarantine Pre-Arrival Report \(QPAR\) for Vessels](#)” requires ships to advise whether they have visited any ports in the Russian Far East high risk AGM area between 1 July and

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30 September in the past two years. If such a port call has been made, the vessel is to disclose whether, in the meantime, it has been inspected and cleared of AGM by an agricultural authority in Australia, Russia, Canada, New Zealand or the USA and a copy of any AGM clearance certificate that has been issued is to be forwarded to the AQIS.

Since 2011 the Department of Agriculture, Fisheries and Forestry (DAFF) has run an AGM vessel inspection programme from July to October targeting vessels coming from AGM high risk ports in the Far East. Upon receipt of the QPAR an AGM questionnaire will be sent to the vessel by the Maritime National Coordination Centre (MNCC). The completed questionnaire will help the DAFF assess whether the vessel presents an AGM risk and if a mandatory AGM inspection is necessary. Masters will be advised by the MNCC if their vessel has been selected for an AGM inspection.

If an inspection reveals evidence of AGM infestation; specific treatment directions will be issued by DAFF Biosecurity. The results of the inspection programme have been consistent to date, with 25% of targeted vessels found to have AGM egg masses, with three quarters of these vessels coming directly from a port in Japan.

The Australian AGM policy is continually being developed; Members are advised to check on the latest requirements prior to proceeding to Australian ports after having visited the high risk area during the flight season.

Further information on the AGM can be found on the [DAFF Biosecurity Website](#) and in the [Field guide to exotic pests and diseases: Asian Gypsy Moth](#).

Canada

The AGM programme is managed by the Canadian Food Inspection Agency (CFIA). Brief details of the Canadian requirements are published on the [Asian Gypsy Moth Certification for Marine Vessels Entering Canadian Ports webpage](#). Full details of the CFIA AGM requirements are published in the [Plant protection policy for marine vessels arriving in Canada from areas regulated for Asian Gypsy Moth](#), which details the regulated areas and specified risk periods, contains a summary of entry requirements and a list of recognised sources of pre-departure inspection certificates.

The Master of a vessel that has visited the regulated area in the Far East during the flight season and is arriving during the high risk period is to notify the CFIA at least 96 hours prior to arrival in Canadian territorial waters, and provide copies of the following information either directly, or via the vessel's agent:

- A list of all ports of call in the previous two years, and
- A phytosanitary certificate of other approved pre-departure certificate.

A vessel may only enter a Canadian port upon receiving written confirmation from the CFIA.



Asian Gypsy Moth Larvae

Photo courtesy of: USDA APHIS PPQ Archive, USDA APHIS PPQ, Bugwood.org

The high risk periods for AGM on vessels arriving at Canadian Ports are:

- Western Canadian Ports: 1 March to 15 September
- Eastern Canadian Ports: 15 March to 15 September

Vessels that do not possess a certificate are considered non-compliant and will only be permitted to enter port if an inspection by the CFIA at an offshore location is carried out and the inspector is satisfied that the risk of introducing AGM has been mitigated. Vessels arriving without the required certification will be considered non-compliant for their entire stay in Canada and additional enforcement action may be taken, including the imposition of a penalty. Vessels that arrive in Canada a second time without the required AGM certification may be refused entry.

When an inspection reveals the presence of AGM, a vessel may be ordered to leave and may not be re-admitted for up to two years during the Canadian AGM high risk period, or until such time as the vessel meets the standard AGM entry requirements. Vessels ordered to leave may be permitted to undergo thorough cleaning outside Canadian waters, and following a satisfactory re-inspection a vessel may be permitted to enter a Canadian port, however, a vessel's movements whilst in Canada will be regulated by the CFIA. Vessels previously found infested with AGM may be required to undergo an inspection offshore during subsequent visits to Canada unless the vessel meets the standard entry criteria.

Vessels entering Canadian ports outside the high risk period are not required to have a phytosanitary or pre-departure certificate to enter port. Vessels arriving outside the high risk period may, however, still be subject to inspection to verify that there are no traces of AGM onboard.

Additional information may be found in the [CFIA – Inspect Before Entry – Asian Gypsy Moth Poster](#) and in the [USA and Canada Asian Gypsy Moth Notice – February 2014](#).



Chile

In February 2014 the Chilean Agricultural and Livestock Service (Servicio Agrícola Y Ganadero (SAG)) introduced legislation requiring vessels to be in possession of a phytosanitary certificate if they call at one or more ports in Chile after visiting an area where the AGM is endemic during the female flight season. Phytosanitary certification is to be issued by a recognised phytosanitary authority. Certification issued by other bodies under the supervision of, or authorised by the recognised phytosanitary authority will be accepted provided approval has been granted by the SAG.

Phytosanitary certificates will only be accepted if they are written in English or Spanish and contain the following statement: *"The vessel (vessel's name) was inspected and is considered to be free of AGM."*

Vessels arriving from an area where AGM is endemic will also be required to provide the SAG with either a copy of the ship's logbook or a list of all ports of call for the previous two years. This information is to be provided to the SAG by the vessel's local agent at least 24 hours before arrival at the first Chilean port.

If a vessel arrives in Chile without the necessary phytosanitary certificate, or the certificate does not meet the requirements of the SAG; the vessel will be inspected on arrival. Such an inspection must take place in daylight and free pratique may not be granted until completed.

Should AGM eggs be found, the vessel will require cleaning and re-inspection. If live AGM larvae are discovered, the vessel will be sent to anchor for cleaning and re-inspection. In both cases free pratique may be denied until the SAG's cleaning requirements have been met.

Although vessels do not need to obtain a phytosanitary certificate if they visit an AGM affected area outside the female flight period, the SAG may carry out random inspections of such ships for up to two years thereafter.

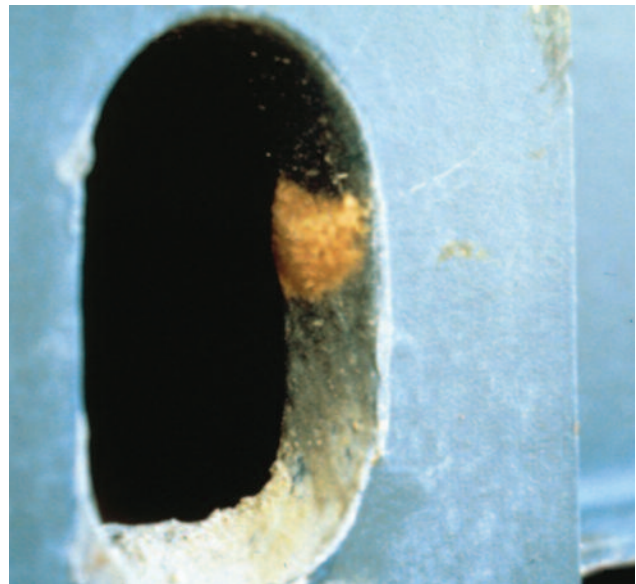
Vessels which do not comply with the new regulations may be fined in accordance with Decree Law No. 3.557 of 1980 of the Agricultural Protection and Organic Law No. 18.755.

Further information, in Spanish, is available on the [SAG website](#).

New Zealand

Preventing the entry of AGM in to New Zealand is the responsibility of the Ministry for Primary Industries (MPI). The entry requirements for vessels are detailed on the [Entering New Zealand – Ships and Vessels webpage](#); and are summarised below:

Vessels are required to advise in their "[Advance Notice of Arrival](#)" whether they have been to any ports on the East/Pacific coast of Russia (excluding the Kamchatka Peninsula) during July, August or September in the past year,



Asian Gypsy Moth Eggs

Photo Courtesy of: Manfred Mielke, USDA Forest Service, Bugwood.org

or since the vessel's last visit to New Zealand. A vessel must also state whether it has been inspected and certified free of AGM by an agricultural authority or their agent in Australia, Canada, New Zealand, the USA, Russia or Japan, and provide a copy of any AGM certificate that was issued.

Vessels that have visited a Russian Far East port (South of 60°N and West of 147°E between 18 July and 16 September in the previous 12 months are considered high risk.

High risk vessels may be required to undergo inspection for AGM prior to arrival eight kilometres (just over four nautical miles) offshore at a location agreed with the MPI. In some cases this inspection may be carried out in port. High risk vessels are required to arrive with at least eight hours of daylight remaining to allow time for the inspection to be completed.

Vessels that have visited a Northern Japanese port between the latitudes of 38°N and 43°30'N between 1 July and 1 October in the previous 12 months are considered medium risk. Medium risk vessels may require an inspection after berthing.

Any vessel that has visited a region of Japan during the applicable flight season for that area is advised to obtain a certificate stating the vessel is free of AGM from a recognised survey company just prior to departure from the last port.

In all cases cargo operations cannot commence until an AGM inspection, when required, has been completed. When a vessel possesses a valid certificate of freedom from AGM, the scope of an AGM inspection may be reduced.

Further information can be found on the [MPI Gypsy Moth webpage](#), in the [Gypsy Moth Information Booklet](#) and in the fact sheet [Don't Bring Hitchhikers to New Zealand on your Vessel](#).

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United States of America

In the United States (US) there is a joint programme between government agencies to prevent the introduction of AGM. The Customs and Border Protection (CBP) Agency carries out inspections of vessels and the Animal and Plant Health Inspection Service (APHIS) determine the inspection requirements.

The certification and inspection requirements, including details of the parties that are authorised to issue AGM inspection certificates, can be found in the "[Special Procedures for Suspect Asian Gypsy Moth \(AGM\) Ships](#)" section of the APHIS "Manual for Agricultural Clearance". The main points of the US requirements are summarised as follows:

The Master of a vessel that has visited the regulated area in the Far East during the flight season is to notify the agent at least 96 hours prior to arrival in US territorial waters, and provide copies of the following information:

- A list of all ports of call in the previous two years, and
- A phytosanitary certificate of other approved pre-departure certificate.

The inspection requirements in the US depend on which AGM affected countries have been visited, whether or not the visit was during the designated flight season (whether the ship is considered high or low risk), the month of arrival and the ports visited in the US (whether arrival is during the high or low risk period), and finally whether the vessel possesses certification issued by a recognised authority stating that the vessel is free of AGM.

A vessel that has called at ports in (a) the Russian Far East between 15 July and 30 September, and/or (b) South Korea or Northern China between 1 June and 30 September, and/or (c) Japan during the designated flight periods (which vary with region and change annually), is considered a high risk ship and is required to possess certification from an authorised third party stating that the vessel has been inspected and found to be free of AGM just prior to departure from the last port of call. A vessel that has not called in an AGM country during the flight period is considered a low risk ship. A vessel's port call history for the previous two years is checked to determine if a vessel has called in the AGM affected area during the last high risk period.

The high and low risk arrival periods in the US depend on the port of entry and are driven by the time of year and the climate, and whether it is conducive to hatching of the AGM larvae. Arrival during the high risk period will require an inspection; however, an inspection is not required but is recommended for vessels arriving during the low risk period. As the warmer weather experienced in ports in the southern states of the continental US is conducive to AGM hatching, this area is considered high risk throughout the year. The high and low risk periods may change on a yearly basis for other areas.

As the climate in Hawaii, Puerto Rico, Guam and the US Virgin Islands is generally not conducive to supporting the AGM;

only vessels arriving from the Russian Far East and certain Japanese ports are subject to inspection. If a vessel proceeds on to a continental US port then normal AGM procedures will apply.

Vessels arriving during the high risk period that have visited Korea and/or Northern China between 1 June and 30 September, and/or Japan during the AGM flight period, may proceed directly to berth, regardless of whether they are in possession of certification stating that the vessel is free of AGM, unless information is received that the vessel may have an AGM infestation. All vessels will then undergo an AGM inspection. Vessels that have visited Korea and/or Northern China, and/or Japan at other times may proceed directly to berth, and will then be subject to inspection.

Vessels arriving during the high risk period that have visited ports in the Russian Far East between 15 July and 30 September and possess the required AGM certification will be allowed to berth prior to inspection. However, vessels that lack certification may undergo an inspection at a suitable remote location before berthing. Vessels that have visited the Russian Far East at other times may proceed directly to berth and will then be subject to inspection.



Asian Gypsy Moth Egg Masses

Photo Courtesy of: Manfred Mielke, USDA Forest Service, Bugwood.org

When a vessel's itinerary cannot be ascertained or the vessel has transited an AGM area at any time of year; if it arrives in the high risk period it will be allowed to berth regardless of whether the vessel possesses certification stating that the vessel is free of AGM, and will then undergo an AGM inspection. However, vessels that lack certification that have visited a port in the Russian Far East may undergo an inspection at a suitable remote location before berthing.



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Vessels arriving during the low risk period that have visited ports in the AGM area in the Far East, or their itinerary cannot be ascertained, or they have transited the affected area will be allowed to proceed directly to berth. An inspection is not required, but is recommended.

Vessels arriving during the high or low risk period that have not visited ports in the AGM affected area in the Far East may proceed to their berth and will not be subject to inspection.

If information is received from another port, the vessel's crew or other parties indicating that a vessel may have AGM infestation, the vessel will most likely be ordered to undergo an inspection and cleaning at a pre-arranged remote location prior to berthing.

A vessel inspection consists of a visual examination of the exterior areas of the accommodation superstructure and main deck for AGM eggs and life forms. The holds may also be inspected if there is evidence, either physical or written, that the vessel has been cleaned of AGM. During the high risk period, at least two inspectors will normally board a vessel to check for signs of AGM.

If a vessel is found to have a fresh excessive infestation of AGM while in a US port, and/or there is a concern that additional egg masses may exist, and/or there are too many AGM eggs to survey, and/or they are out of reach; the ship may be ordered out of US territorial waters and instructed to remove all egg masses. Only actions that are required to make the vessel seaworthy, for example bunkering, will be permitted before the vessel has to leave port. In such an event, consideration should be given to employing a professional pest management company to clean the vessel. Once removal of AGM is completed, re-inspection will be necessary at a time and place specified by CBP before permission to re-enter port will be granted. If further evidence of AGM is found then professional cleaning will be required or the vessel may be denied entry to the US.

Additional information can be found on the [APHIS Gypsy Moth webpage](#), in the [APHIS Asian Gypsy Moth Factsheet – April 2014](#) and in the [USA and Canada Asian Gypsy Moth Notice – February 2014](#).

AGM Charter Party Clause

When negotiating charter parties, Members may wish to include the following clause if the vessel may be required to call at ports in the high risk region:

"Should Charterers order the vessel to a port, place, country or area infested by Asian Gypsy Moth ("AGM") or where there is risk of exposure to infestation by AGM as reasonably

determined by the Master, Charterers shall take all reasonable steps at their time and expense to ensure that the vessel does not become infested. Without prejudice to this obligation, Charterers shall, at their time and expense, arrange for the appropriate certificate stating that the vessel is free from infestation by AGM, its larvae or eggs to be issued by an appropriate and recognised authority to the satisfaction of the Master. Notwithstanding the issuing of such a certificate, Charterers will be responsible for any consequences whatsoever, including but not limited to time, costs and third party liabilities to cargo interests etc, howsoever arising, and the vessel to remain on hire/laytime to count (as applicable) should an infestation of AGM be found or suspected and/or should delays or costs be incurred due to charterers having ordered the vessel to call at a port, place, country or area where the presence of AGM is known or suspected."

Additional Information

Further information on the AGM can be found at:

[Asian Gypsy Moth Website](#)

[Gypsy Moth Inspectional Pocket Guide](#)

Members may also contact the [Loss Prevention department](#) for further guidance.