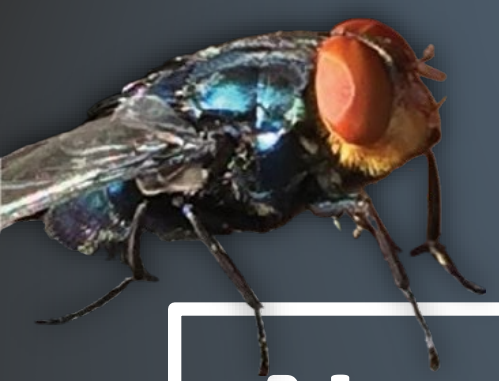


New World Screwworm (NWS): The Public Health Perspective

Texas Department of State Health Services Public Health
Region 11 Office of Border Public Health & Zoonosis

This Training is FREE

This presentation and the accompanying curriculum is intellectual property of the Texas Department of State Health Services and must be FREE to all who receive this training.

Goals

The goal of this training is to deepen participants' understanding and awareness of the risk factors associated with New World Screwworm (NWS) infestation, focusing on clinical identification in humans and the urgent reporting protocols required to prevent a public health emergency.

Learning Objectives

- Recognize signs and symptoms of New World Screwworm (NWS) in people and animals.
- Explain how NWS spreads, how it affects people, animals, and communities, and why early action matters.
- Identify key risk factors that increase the chance of NWS infestation.
- Describe the role of Community Health Workers (CHWs) and CHW Instructors in education, early detection, and community response.
- Explain how to guide individuals to appropriate care, reporting, and testing resources.

Core Competencies

Core Competencies

- Knowledge Base
- Communication Skills

NWS Discussion Topics

- Background
- Human Cases
- Resources

Pre-Test (5 min)

https://rlhodshs.gov1.qualtrics.com/jfe/form/SV_cVbxWzO8ay3Lg5U

Issues with link?: E-mail CHWCoordination@dshs.texas.gov

Background

New World Screwworm Overview

- New World screwworms (NWS) are larvae that grow up and transform into the fly *Cochliomyia hominivorax*.
- Many types of common flies might look like the NWS fly, but people are less likely to see the adult fly for NWS.
- NWS infestations happen **mostly in animals** but can affect humans. Female flies lay eggs in **open cuts and body openings**, like the nose, mouth, ears, or eyes.
- After the eggs hatch, the **larvae** burrow (screw) into the animal or human and feed on **healthy** living tissue or flesh. This is called **myiasis.**
- Without quick medical care, NWS can cause deep wounds that lead to infection. If left untreated, these can be fatal.

Image: An adult New World Screwworm fly

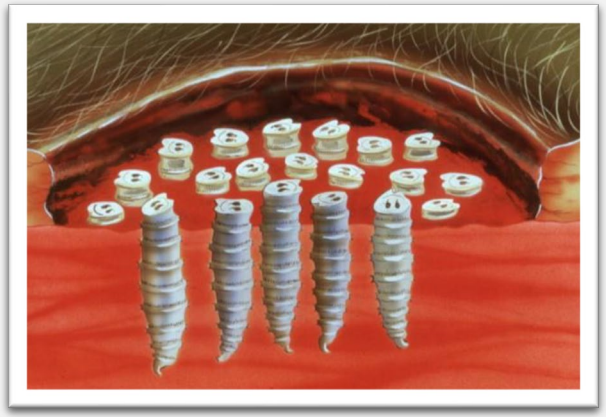


Image: A NWS infestation

Sources: https://www.aphis.usda.gov/livestock-poultry-disease/cattle/ticks/screwworm;. https://www.cdc.gov/new-world-screwworm/about/index.html . Accessed July 1, 2026

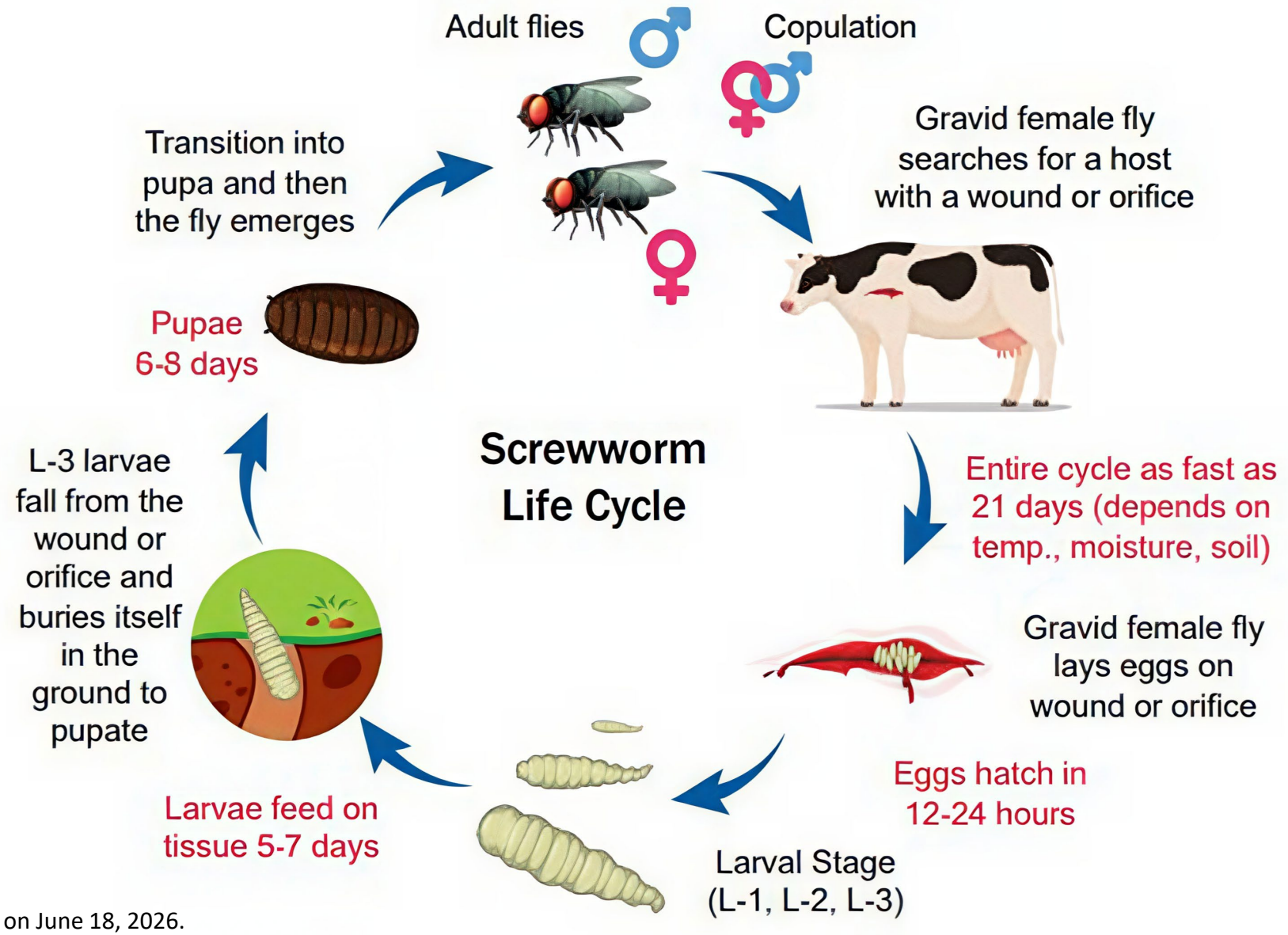
Knowledge Check!

Where can New World Screwworm flies lay their eggs?

- A. Only on broken bones
- B. On open wounds or body openings
- C. Only on animals, not people
- D. In clean, covered skin

NWS Life Cycle

- One female can lay 200-300 eggs at a time
- A female may lay up to 3,000 eggs during her 10- to 30-day lifespan.



Source:
New World Screwworm What You need to Know, accessed on June 18, 2026.
https://www.cdfa.ca.gov/ahfss/Animal_Health/pdfs/Screwworm_Fact_Sheet.pdf ; accessed June 18, 2026.

History of NWS in the Americas

- **1800s**: NWS was found in the Southwest U.S.
- **1930s**: NWS became a major problem in the Southeast U.S.
- **1966**: Eradication in the U.S. was declared using a method called **Sterile Insect Technique (SIT).**
  - How SIT works:
    - Sterile male flies are released
    - They mate with female flies
    - No new flies are produced → population dies out
- **1986**: U.S and Mexico partnered and pushed NWS to southern Mexico using SIT.
- **1994**: To further prevent spread, a coalition was founded—Commission for the Eradication and Prevention of NWS (COPEG).

Image: Dyed sterile NWS pupae (left), sterile NWS fly glowing under UV light (right)

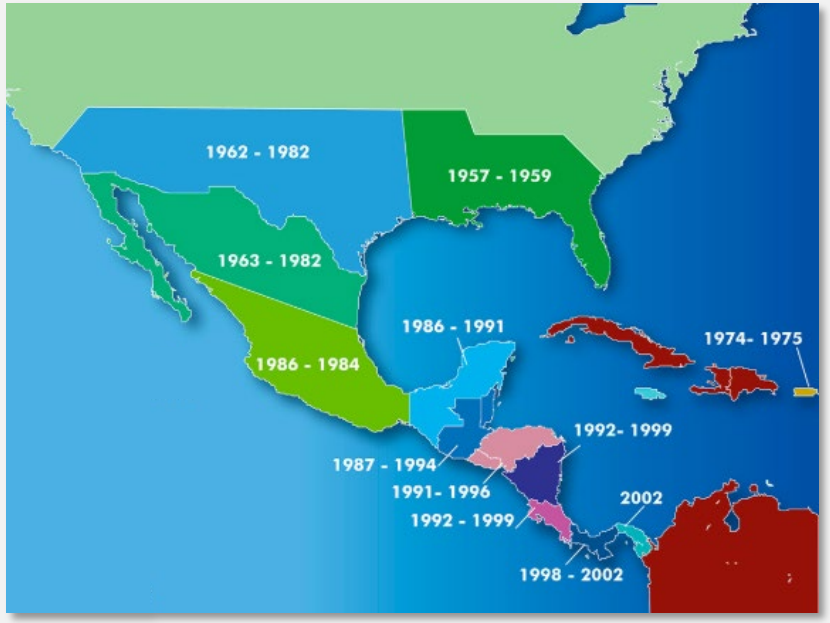


Image: NWS Regional Eradication Map.
Source: COPEG. Accessed July 2, 2026

Source: USDA. Accessed July 2, 2026

Return of NWS to the Americas: Map View

Dates countries declared NWS an emergency:

1. **July 2023:** Panama
2. **July 2023:** Costa Rica
3. **Mar 2024:** Nicaragua
4. **Sep 2024:** Honduras
5. **Oct 2024:** Guatemala
6. **Nov 2024:** Mexico
7. **Dec 2024:** El Salvador
8. **Dec 2024:** Belize
9. ***June 2026:*** *United States**

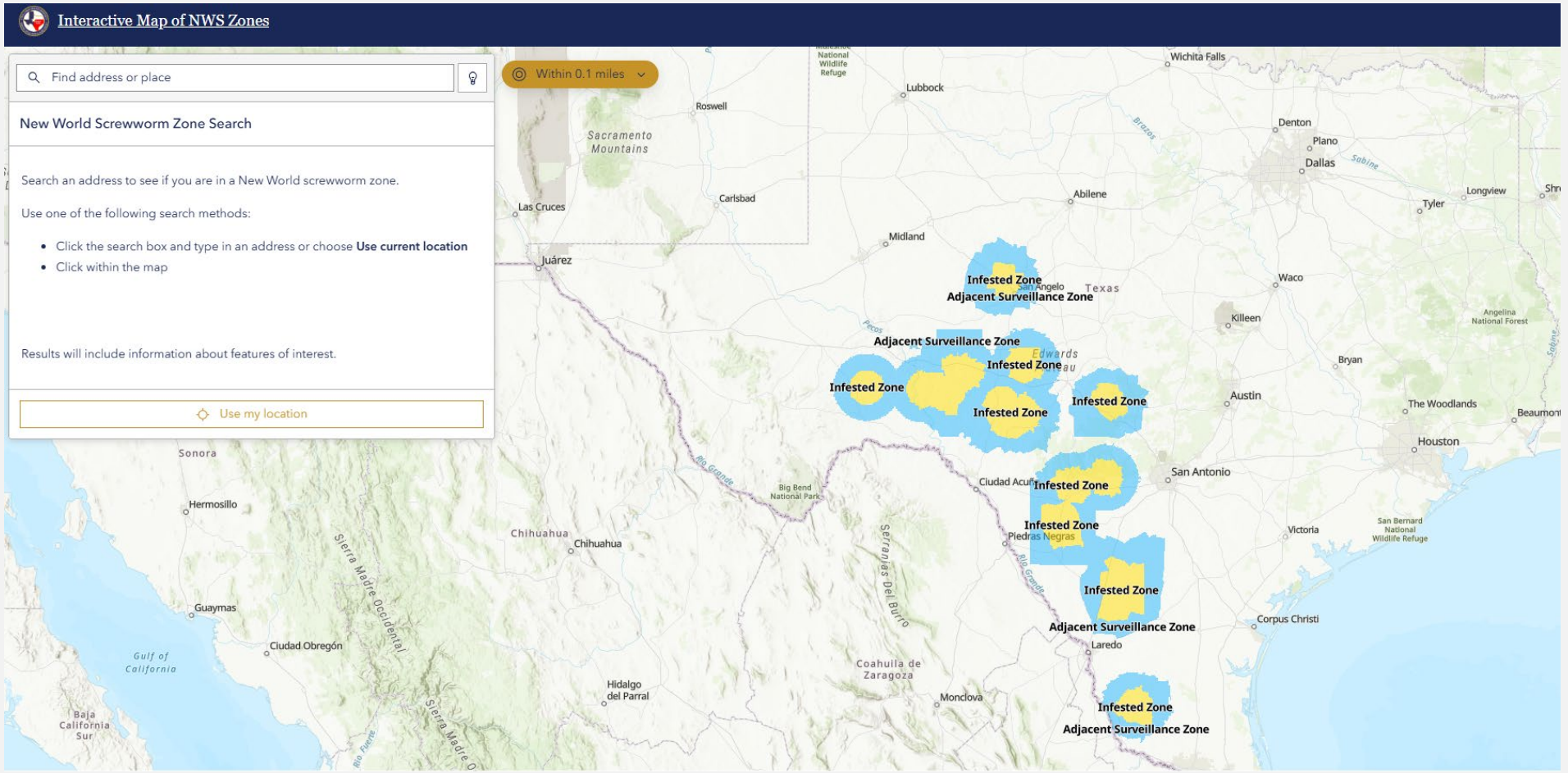
Data Sources: COPEG Epidemiological Report Week 2025 - 28; United States Department of Agriculture Press Release June 3, 2026

NWS in Texas

- **June 3, 2026**: The first confirmed case of New World Screwworm in Texas was detected in a three-week-old calf in Zavala County.
- **Governor's Disaster Declaration**: Gov. Greg Abbott issued an updated and expanded statewide disaster declaration on **June 5, 2026**, after initially issuing preemptive disaster declarations to combat the spreading pest on January 29 and February 9, 2026.
- As of **July 2, 2026**, there have been thirty-one (**31**) confirmed animal cases of NWS in the United States.
  - Thirty (30) animal cases in Texas
  - One (1) in New Mexico

Source: U.S. Department of Agriculture's (USDA). Office of the Texas Governor. Accessed July 2, 2026
Source: https://www.aphis.usda.gov/animals/animal-health/livestock-and-poultry-disease/current-status/us-confirmed-cases-new-world, Accessed on July 2, 2026.

Texas Animal Health Commission: Interactive Map of NWS Zones



[Interactive Map of NWS Zones]

Infestation Zones as of July 1, 2026

Human NWS Cases

Overview of Human Cases in Central and North America as of July 1, 2026

- Most infestations of NWS are identified in domestic animals, like cattle. In outbreak countries, a smaller number of human NWS infestations have been reported, but the risk to humans is low.
- As of June 1, 2026, **Mexico** and **Central America** reported more than 2,100 **human** cases and more than 185,000 **animal** cases since the outbreak began in 2023.
  - April 18, 2025: **Mexico** reported its first human case.
  - June 1, 2026: **Mexico** reported 412 human cases.
- Some countries have trouble finding and reporting NWS cases.
- The CDC says the real number of cases is likely higher.
- No locally acquired human NWS cases have been reported in the U.S. as of July 1, 2026.

Sources: Mexico Secretaria de Salud Boletín Epidemiológico - Week 22 accessed on June 16, 2026; NWS Situation Summary accessed on June 16, 2026

Human Cases – Risk Factors

- **Travel** to areas where the flies are present.
- Live, work, or spend an extended amount of time with (or near) livestock or other warm-blooded **animals**.
- Have an **open wound**, from a scratch or cut, from an insect bite, or from a recent surgery.
- Sleep outdoors.
- Spend a lot of time outdoors during the daytime.
- Have medical conditions that can cause chronic open wounds including:
  - A weakened immune system
  - Diabetes
  - Recent nasal or sinus surgery
  - Poor oral health, such as gum disease
- Are physically or mentally incapacitated and unable to keep flies away.

Image: Detail of NWS larva showing the mouth hooks they use to eat living flesh.
Available at: https://www.cdc.gov/new-world-screwworm/situation-summary/index.html Accessed June 7, 2026

Available at: New World Screwworm Information for Healthcare Providers | Texas DSHS: Accessed on June 18, 2026. https://www.cdc.gov/new-world-screwworm/about/index.html

Human Cases – Identifying an Infestation

- Screwworm infestations can be very painful.
- Eggs may be in or around the wound. Soon after the eggs hatch into larvae, the larvae begin to feed in the open wound.
- Larvae may be seen in open wounds, surgery cuts, or wet body areas like the nose or mouth.
- Wounds often demonstrate swelling, bleeding, pain, and a bad odor.
- If not treated, the wound can get infected and lead to symptoms like fever or chills.
- ***Death can occur if left untreated when larvae infest vital organs, or from secondary bacterial infections.***

Image: NWS larvae
Source: https://www.cdc.gov/myiasis/hcp/clinical-overview/index.html. Accessed July 2, 2026.

Image: Fistula caused by NWS
Source: https://phil.cdc.gov/Details.aspx?pid=19577 . Accessed July 3, 2026.

Available at: https://www.cdc.gov/myiasis/hcp/clinical-overview/index.html. Accessed on July 2, 2026.
Available at: About New World Screwworm | New World Screwworm | CDC. Accessed on June 18, 2026.

Knowledge Check!

Who is MOST at risk for NWS?

- A. Someone with no injuries who stays indoors
- B. Someone with an open wound who spends time outdoors near animals
- C. Someone who drinks untreated water
- D. Someone who exercises daily

Human Cases - Clinical Management

- Currently, there are no U.S. Food and Drug Administration (FDA) approved medications to treat NWS infestation in humans.
- If you see or feel larvae in a wound or on your body, seek medical care right away. **DO NOT** try to remove the larvae yourself.
  - Doctors treat NWS by:
    - taking the larvae out of the wound
    - put the larvae in 70% ethyl or isopropyl alcohol to kill and preserve them for testing
    - monitor and treat secondary bacterial infections as needed
- Failure to kill and properly dispose of all larvae and eggs may result in the introduction and spread of NWS in the local environment.

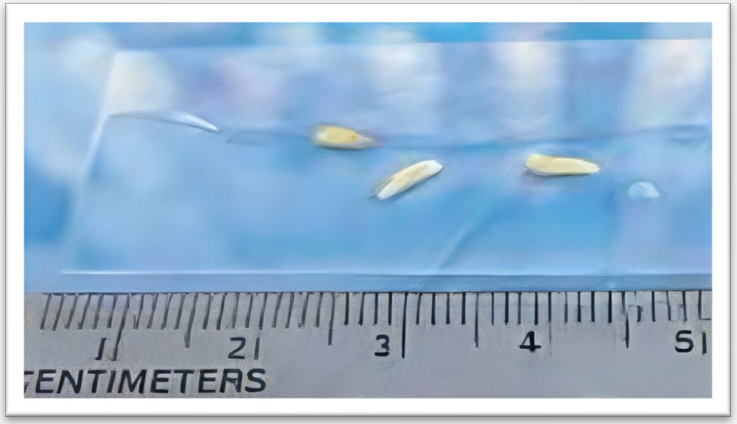


Image: *C. hominivorax* larvae recovered from a human NWS case.

Source: Nasal Myiasis Caused by Cochliomyia Hominivorax in the United States: A Case Report | Semantic Scholar. Accessed: July 2, 2026.

Source: https://www.cdc.gov/myiasis/hcp/clinical-overview/index.html. Accessed on July 2, 2026.
Available at: Clinical Overview of New World Screwworm | New World Screwworm | CDC & New World screwworm: Recommendations for Healthcare Providers accessed on June 18, 2026.

Knowledge Check!

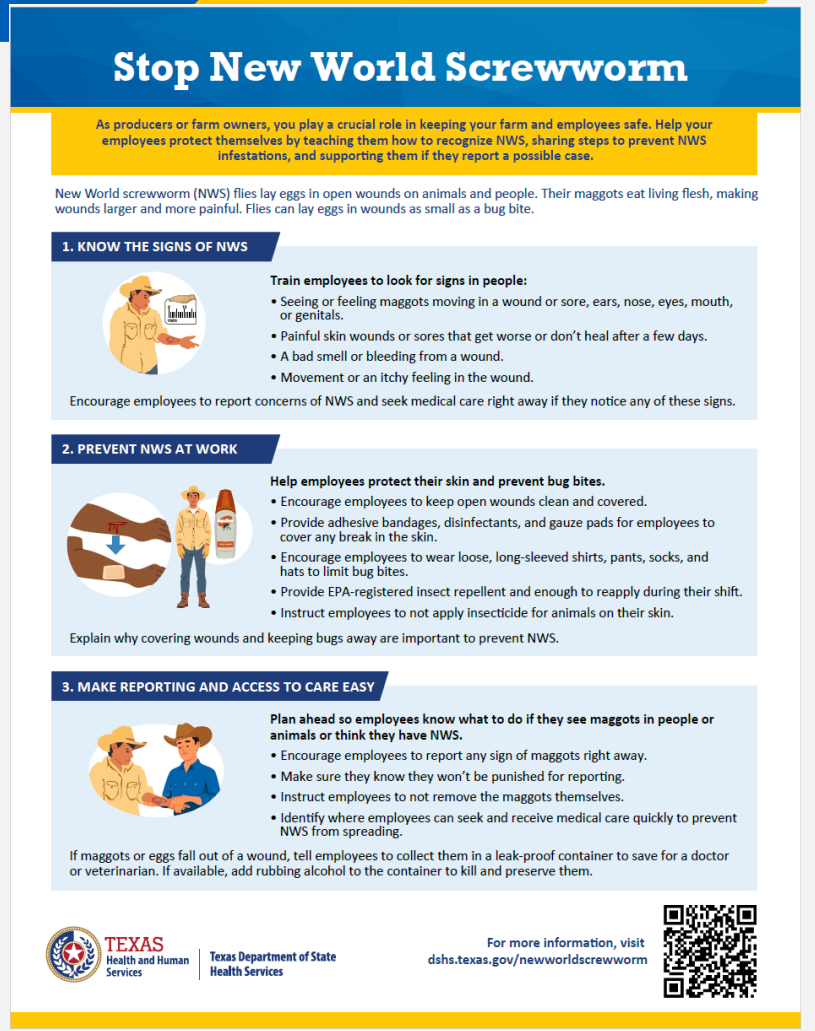
What should someone do if they find larvae in a wound?

- A. Try to remove them right away
- B. Wait to see if it improves
- C. Seek medical care right away
- D. Cover it and ignore it

Human Cases – Prevention

- Wear loose-fitting long-sleeved shirts, pants and hats to limit areas where you could get bitten or scratched.
- Use an EPA-registered insect repellent.
- Treat clothing and gear with products containing 0.5% permethrin to prevent **other** bugs or critters from biting you and creating that open wound the NWS fly will be attracted to (the NWS fly is not a biting fly).
- Keep open wounds clean and covered, no matter how small they are or where they are on the body.
- Sleep indoors with closed windows or in rooms with screens.
- If animals show signs of **myiasis** (when the larvae dig into the animal and feed on living tissue), call a veterinarian right away.

Clean it, cover it, and protect it!



Stop New World Screwworm

As producers or farm owners, you play a crucial role in keeping your farm and employees safe. Help your employees protect themselves by teaching them how to recognize NWS, sharing steps to prevent NWS infestations, and supporting them if they report a possible case.

New World screwworm (NWS) flies lay eggs in open wounds on animals and people. Their maggots eat living flesh, making wounds larger and more painful. Flies can lay eggs in wounds as small as a bug bite.

1. KNOW THE SIGNS OF NWS

Train employees to look for signs in people:

- Seeing or feeling maggots moving in a wound or sore, ears, nose, eyes, mouth, or genitals.
- Painful skin wounds or sores that get worse or don't heal after a few days.
- A bad smell or bleeding from a wound.
- Movement or an itchy feeling in the wound.

Encourage employees to report concerns of NWS and seek medical care right away if they notice any of these signs.

2. PREVENT NWS AT WORK

Help employees protect their skin and prevent bug bites.

- Encourage employees to keep open wounds clean and covered.
- Provide adhesive bandages, disinfectants, and gauze pads for employees to cover any break in the skin.
- Encourage employees to wear loose, long-sleeved shirts, pants, socks, and hats to limit bug bites.
- Provide EPA-registered insect repellent and enough to reapply during their shift.
- Instruct employees to not apply insecticide for animals on their skin.

Explain why covering wounds and keeping bugs away are important to prevent NWS.

3. MAKE REPORTING AND ACCESS TO CARE EASY

Plan ahead so employees know what to do if they see maggots in people or animals or think they have NWS.

- Encourage employees to report any sign of maggots right away.
- Make sure they know they won't be punished for reporting.
- Instruct employees to not remove the maggots themselves.
- Identify where employees can seek and receive medical care quickly to prevent NWS from spreading.

If maggots or eggs fall out of a wound, tell employees to collect them in a leak-proof container to save for a doctor or veterinarian. If available, add rubbing alcohol to the container to kill and preserve them.

TEXAS Health and Human Services | Texas Department of State Health Services

For more information, visit dshs.texas.gov/newworldscrewworm

Source: https://www.cdc.gov/new-world-screwworm/about/index.html Accessed June 23, 2026

Available at: Stop New World Screwworm; accessed July 1, 2026

Knowledge Check!

Which action BEST helps prevent NWS?

- A. Leaving wounds uncovered
- B. Covering wounds and wearing protective clothing
- C. Avoiding drinking water outdoors
- D. Staying indoors all the time

Human Cases – Proposed Lab Sample Submission Protocol

- Healthcare providers can email newworldscrewworm@dshs.texas.gov for information about sample collection and laboratory submission.

Laboratory Response Network labs

- Assist clinical laboratories in forwarding samples to DSHS laboratory

DSHS Austin Laboratory

- **Samples processed by Parasitology lab staff**
  - **Samples will only be accepted if they are submitted by healthcare provider**
  - Larval identification is for public health surveillance only
  - At this time, DSHS laboratory is unable to issue a report identifying a larval species back to the submitter
- Coordinate with CDC on NWS rule-out
  - Will send pictures of samples to CDC DPDx for NWS rule out
  - Can repackage and ship samples to CDC as necessary
  - Receives final public health surveillance lab report from CDC

CDC

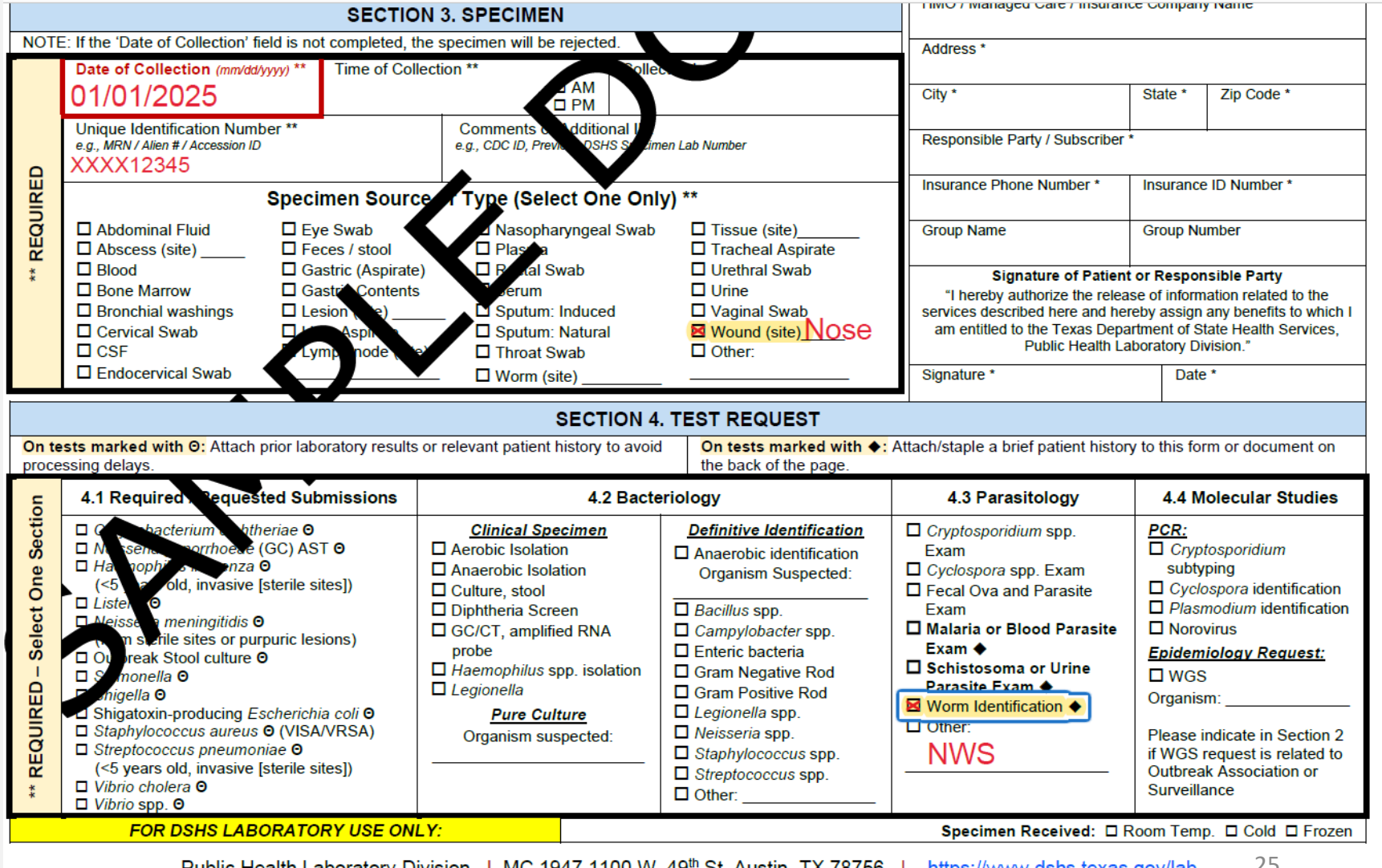
- **Provide larval identification**
  - Can provide identification based on high quality photos or video of larvae and/or flies
  - Can report if larva is *C. hominivorax* or not as part of public health surveillance
  - For samples where pictures/video are not sufficient, can receive samples forwarded by state lab

Souce: https://www.dshs.texas.gov/sites/default/files/LIDS-LAB-Tests/new-world-screwworm-onepager-for_nws-han_spec.pdf Accessed July 1, 2026

24

Human Cases - Sample Submission G-2B Form

All larvae should be sent in either concentrated (70%) ethyl or isopropyl alcohol and should be submitted using a G-2B form.



SECTION 3. SPECIMEN

NOTE: If the 'Date of Collection' field is not completed, the specimen will be rejected.

** REQUIRED

Date of Collection *(mm/dd/yyyy)* ** 01/01/2025

Time of Collection ** ☐ AM ☐ PM

Unique Identification Number ** *e.g., MRN / Alien # / Accession ID* XXXX12345

Comments / Additional I… *e.g., CDC ID, Previ… DSHS S…imen Lab Number*

Specimen Source / Type (Select One Only) **

- ☐ Abdominal Fluid
- ☐ Abscess (site) _____
- ☐ Blood
- ☐ Bone Marrow
- ☐ Bronchial washings
- ☐ Cervical Swab
- ☐ CSF
- ☐ Endocervical Swab
- ☐ Eye Swab
- ☐ Feces / stool
- ☐ Gastric (Aspirate)
- ☐ Gastric Contents
- ☐ Lesion (…e) _____
- ☐ …Aspi…
- ☐ Lymph node (…e) _____
- ☐ Nasopharyngeal Swab
- ☐ Plas…a
- ☐ R…tal Swab
- ☐ …erum
- ☐ Sputum: Induced
- ☐ Sputum: Natural
- ☐ Throat Swab
- ☐ Worm (site) _____
- ☐ Tissue (site)_____
- ☐ Tracheal Aspirate
- ☐ Urethral Swab
- ☐ Urine
- ☐ Vaginal Swab
- ☒ Wound (site) Nose
- ☐ Other: _____

HMO / Managed Care / Insurance Company Name

Address *

City * | State * | Zip Code *

Responsible Party / Subscriber *

Insurance Phone Number * | Insurance ID Number *

Group Name | Group Number

Signature of Patient or Responsible Party

"I hereby authorize the release of information related to the services described here and hereby assign any benefits to which I am entitled to the Texas Department of State Health Services, Public Health Laboratory Division."

Signature * | Date *

SECTION 4. TEST REQUEST

On tests marked with ⊖: Attach prior laboratory results or relevant patient history to avoid processing delays.

On tests marked with ◆: Attach/staple a brief patient history to this form or document on the back of the page.

** REQUIRED – Select One Section

4.1 Required / Requested Submissions

- ☐ C…bacterium …phtheriae ⊖
- ☐ N…sseri… …orrhoeae (GC) AST ⊖
- ☐ Ha…ophi… …nza ⊖ (<5 … old, invasive [sterile sites])
- ☐ Liste… ⊖
- ☐ Neisse… meningitidis ⊖ (… sterile sites or purpuric lesions)
- ☐ Ou…break Stool culture ⊖
- ☐ S…monella ⊖
- ☐ …higella ⊖
- ☐ Shigatoxin-producing *Escherichia coli* ⊖
- ☐ *Staphylococcus aureus* ⊖ (VISA/VRSA)
- ☐ *Streptococcus pneumoniae* ⊖ (<5 years old, invasive [sterile sites])
- ☐ *Vibrio cholera* ⊖
- ☐ *Vibrio* spp. ⊖

4.2 Bacteriology

Clinical Specimen

- ☐ Aerobic Isolation
- ☐ Anaerobic Isolation
- ☐ Culture, stool
- ☐ Diphtheria Screen
- ☐ GC/CT, amplified RNA probe
- ☐ *Haemophilus* spp. isolation
- ☐ *Legionella*

Pure Culture

Organism suspected: _____

Definitive Identification

- ☐ Anaerobic identification Organism Suspected: _____
- ☐ *Bacillus* spp.
- ☐ *Campylobacter* spp.
- ☐ Enteric bacteria
- ☐ Gram Negative Rod
- ☐ Gram Positive Rod
- ☐ *Legionella* spp.
- ☐ *Neisseria* spp.
- ☐ *Staphylococcus* spp.
- ☐ *Streptococcus* spp.
- ☐ Other: _____

4.3 Parasitology

- ☐ *Cryptosporidium* spp. Exam
- ☐ *Cyclospora* spp. Exam
- ☐ Fecal Ova and Parasite Exam
- ☐ **Malaria or Blood Parasite Exam ◆**
- ☐ **Schistosoma or Urine Parasite Exam ◆**
- ☒ Worm Identification ◆
- ☐ Other: NWS

4.4 Molecular Studies

PCR:

- ☐ *Cryptosporidium* subtyping
- ☐ *Cyclospora* identification
- ☐ *Plasmodium* identification
- ☐ Norovirus

Epidemiology Request:

- ☐ WGS

Organism: _____

Please indicate in Section 2 if WGS request is related to Outbreak Association or Surveillance

FOR DSHS LABORATORY USE ONLY:

Specimen Received: ☐ Room Temp. ☐ Cold ☐ Frozen

SAMPLE DO…

Public Health Laboratory Division | MC 1947 1100 W. 49th St. Austin, TX 78756 | https://www.dshs.texas.gov/lab

Summary of NWS Sample Submission and Response

- Typically, medical providers contact their Local Health Department (LHD) or Public Health Regional Office regarding a suspect larvae.
- The Zoonosis Control Branch (ZCB) can guide submitters and LHDs on the process of submitting larvae samples to DSHS Laboratory.
- If the sample is confirmed to be NWS, an investigation will start.
  - Important information will be shared with LHDs and animal response agencies.

Source: https://www.cdc.gov/nndss/what-is-case-surveillance/conducting.html Accessed: June 30, 2026

New World Screwworm (NWS) Reporting Aid for Local Health Departments in Texas

New World screwworm (NWS) is an emerging threat to human and animal health. Health departments may be contacted by medical providers requesting NWS testing or members of the public with questions about NWS. Depending on the situation or animal type, a different Texas agency might need to be contacted to handle that request. This flow chart is intended to help health departments determine which agency should address NWS testing and surveillance questions.

Animal

All wildlife

Texas Parks and Wildlife
Phone: 512-389-4505
Website: tpwd.texas.gov/biologist

All cattle, sheep, horses, swine, poultry, dogs, cats, other pets, or exotic animals (including zoo animals)

Texas Animal Health Commission
Phone: 1-800-550-8242
Website: tahc.texas.gov/agency/contact.html

Animal Evaluation and Sample Collection
Practicing veterinarians

All Animal Testing: National Veterinary Services Laboratory (NVSL)

Human

All suspect human cases

Evaluation and Sample Collection:
Healthcare providers

Testing or Surveillance Inquiries:
Regional Zoonosis Control office
dshs.texas.gov/notifiable-conditions/-zoonosis-control/contact-information
Email: newworldscrewworm@dshs.texas.gov

All Human Testing: DSHS Laboratory/CDC

TEXAS Health and Human Services | Texas Department of State Health Services

Available at: NWS Reporting Aid for LHDs in Texas, accessed July 1, 2026.

Role of Community Health Workers

- **Community Education:** Distribute culturally relevant information on recognizing NWS, including signs such as foul-smelling wounds or visible larvae in both people and pets.
- **Active Surveillance:** Conduct home visits and outreach, especially targeting high-risk groups such as agricultural workers, encouraging people with unusual, painful, or foul-smelling wounds to seek medical care right away.
- **Case Navigation:** Direct individuals with suspected infestations to seek immediate medical care and guide them through the reporting process.
- **First-Line Guidance:** Advise community members not to remove larvae themselves but instead see a healthcare provider immediately for professional removal, as early treatment is vital to stopping infection. If any larvae fall out, preserve them in 70% alcohol for identification.

Source: https://www.cdc.gov/new-world-screwworm/about/index.html Accessed June 30, 2026

Role of CHW Instructors

- **Curriculum Development:** Create and deliver training modules based on USDA and CDC guidelines to help CHWs identify myiasis (larvae infestation).
- **Skill Building:** Instructors help CHWs practice how to talk about risk without causing fear or panic. Build confidence in recognizing symptoms and guiding people to care. Strengthen communication skills for different communities.
- **Public Health Coordination:** Serve as a link between CHWs in the field and state health departments to facilitate rapid reporting of "hotspots".
- **Promotion of "One Health":** Educate workers on the connection between human cases and local animal infestations, highlighting the need for a collaborative response with veterinarians.

Resources

Additional Information

- New World Screwworm | Communication Resources
- New World Screwworm (NWS) | Texas DSHS
- Clinical Overview of New World Screwworm Myiasis | CDC:
- About New World Screwworm Myiasis | Myiasis | CDC
- Myiasis | DPDx | CDC
- Laboratory Testing Services Manual - Forms and Laboratory Fee Schedule | Texas DSHS
- UPDATE: Import Alert: New World Screwworm Restrictions for Live Animals Originating from or Transiting Mexico | USDA:
- Bringing a Pet Dog into the United States | USDA:
- Find an accredited veterinarian

Communication Resources for CHWs to Use

- **General Public**
  - ENGLISH: New World screwworm: What You Need to Know
  - SPANISH: Gusano barrenador del Nuevo Mundo: Lo que debe saber
- **Agriculture Employees**
  - ENGLISH: Stop New World Screwworm
  - SPANISH: Detenga al gusano barrenador del Nuevo Mundo
- **Agriculture Producers/Supervisors**
  - ENGLISH: Stop New World Screwworm
  - SPANISH: Detenga al gusano barrenador del Nuevo Mundo
- **Healthcare Workers**
  - ENGLISH: New World Screwworm: What Healthcare Workers Need to Know

Post-Test

https://rlhodshs.gov1.qualtrics.com/jfe/form/SV_38mY4iJVju37mse

Evaluation

https://rlhodshs.gov1.qualtrics.com/jfe/form/SV_07BHyXAs8wc3vHo

Questions?

Issues with link?: E-mail CHWCoordination@dshs.texas.gov

Please send any additional questions to:
newworldscrewworm@dshs.texas.gov

Thank you!

CHWCoordination@dshs.texas.gov