ERADICATION PLAYBOOK

IPPM
Insect Pest Prevention & Management

Oregon
Department
of Agriculture

Welcome to the Oregon Department of Agriculture Eradication Playbook!

Dear Reader,

Shortly after arriving at the Oregon Department of Agriculture as the state's Insect Pest Prevention and Management Program Coordinator, we detected four Asian gypsy moths in Portland, Oregon. The detection triggered the state's statute to eradicate harmful agricultural species and required treatment of 8,000 acres over Oregon's most populated city. I had recently come from Orem, Utah where we successfully eradicated Japanese beetles through a variety of grassroots community engagement methods. I knew this project was going to be complex because it was going to be conducted in a highly populated and visible city. There was great risk to Oregon Department of Agriculture reputation if we ended up in a negatively construed debate about pesticides in the environment.

As a result of the risk associated, the Oregon Invasive Species Council recommended Samara Group, an interdisciplinary consulting firm that focuses on coordinating community related environmental projects, building partnerships and developing communications grounded in science. They brought with them a wide variety of skill sets such as cutting edge participatory facilitation technologies to inclusive stakeholder management and collaborative design. Combined with the diverse skill sets and experience of my team, it was a winning combination. We designed, iterated and learned from two large eradication projects (Asian gypsy moth in 2016 and Japanese beetle in 2017). We are still learning.

We've received compliments from various sources who thought we would fail and create huge controversies around pesticides in Oregon. To the contrary we've received praise from residents, local, state and federal entities. However, the jury is still out as to our overall success. Invasive species pressure increases each year with globalization and movement of people to our state. We cannot yet say whether we've eradicated Japanese beetles, as it is a five year project we've just begun.

We can however, offer a look into a variety of “plays” that we use. We did not want to create a retrospective of the projects, but rather a working document we could use, iterate, and work from to guide us in our current and upcoming projects. This playbook highlights our particular strategies that resulted from mixing of diverse backgrounds and experiences. It’s our best guess at how to tackle complex and emergent eradication projects. As we continue to conduct eradications, this playbook will grow and expand.

Please share your thoughts and experiences with this playbook. We hope it creates an engaging dialogue about the nature of eradication projects and how we interact with the communities impacted by the projects. Reach out to me at cburfitt@oda.state.or.us.

Sincerely,
Clint Burfitt

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PURPOSE

This playbook was created to document the diversity of activities that have gone into creating successful eradication projects for Asian gypsy moths and Japanese beetles in Oregon. Additionally, it serves as a quick reference field guide for eradication projects.

HOW TO USE THIS BOOK

This playbook was deeply influenced by Christopher Alexander's seminal book, A Pattern Language. Each "play" in this book is connected to several other plays, allowing the user to start with one play and follow the path by which each play is connected to another. Each play is described by a key question. If, in your project, you need to answer that question then review the play and associated plays. Not all eradications will require you to use each play. Several of the plays describe unique approaches to problem solving that you may or may not want to utilize.

This playbook is an invitation to explore the depth of complexity inherent in a large scale eradication project. It is not an exhaustive description of lessons learned, resources, or detailed plans. It does provide questions, how to's, and a myriad of ideas to consider when planning an eradication. Our lessons learned from the 2016 Asian gypsy moth and the 2017 Japanese beetle eradication projects are embedded in the how and why, but are not necessarily called out individually. We wanted this document to be a quick reference, and as such it eliminates many of the specific details or experiences gained in executing these specific projects.

A simple use of this playbook would be to review the list of plays, checkmark the ones you would like to explore, and attempt to answer the question. If you need help to answer the question, read the play description.

A more complex use of this playbook would be to attempt to answer each question, use the play description to guide you in answering the question, and then explore the associated plays. You can then develop a detailed project plan by outlining each play with your project's specific details and budget. You may consider the time and resources you would like to dedicate to each play. Some plays are more resource intensive than others or demand a specialized skillset to optimize results. Use each section as a repository for your project information, reports and summaries that may be helpful for your project's final report.

WHICH PHASE OF A PROJECT DOES EACH PLAY APPLY TO?

Planning	Operational	Closing	All
1, 2, 3, 4, 11, 12, 15, 16, 17, 18,	4, 21, 22, 23	25	5, 6, 7, 8, 9, 10, 13, 14, 19, 20, 24

1 **RESEARCH PREVIOUS ERADICATIONS** 2, 3, 10, 15, 16, 20
What previous eradications have been done and what can we learn from them?

2 **IDENTIFY CHARACTERISTICS OF THE PROJECT** 3, 12, 14, 15, 22, 23
What are the characteristics that make this project similar and different to others?

3 **DEFINE & CLARIFY THE PROJECT** 2, 3, 11, 15
How can we better define and clarify the purpose, constraints, and goal of the project?

4 **UTILIZE INTEGRATED PEST MANAGEMENT** 6, 12, 13, 14, 15, 23, 24
How can we use IPM best practices to inform the project?

5 **DEVELOP A THEORY OF CHANGE/PROJECT APPROACH** 12, 4
If we are trying a new approach, why, what, and how will we do that?

6 **EXPLORE DIFFERENT MINDSETS AND APPROACHES TO PROBLEM SOLVING** 5, 7, 8, 9, 12
How can we explore different approaches to problem solving in this project?

7 **THINK ABOUT MEETINGS DIFFERENTLY** 5, 6, 8, 9, 11
How can we engage in more participatory meeting formats?

8 **USE DIFFERENT MODALITIES TO THINK ABOUT THE PROJECT** 6, 7, 13, 19, 20, 25
When dealing with complexity, we need different ways to think about the project? What different learning styles and ways of meeting can we use to look at the project?

9 **CREATE ITERATIVE LEARNING OPPORTUNITIES** 5, 6, 7, 8, 14, 16, 19, 20, 26
How can we incorporate lessons learned into the project as they happen and iterate our plan?

10 **SELECT A CONVENER** 11, 12, 15
Who can best carry the call to action to the partners and stakeholders?

11 **TELL STORIES** 1, 2, 5, 7, 8, 12, 15, 25
What stories do we have about the issue or personal experience and how can we use them strategically?

12 **FACILITATE PARTICIPATORY PARTNER COMMUNICATION PLANNING** 5, 7, 8, 13, 14, 15
How might we involve our partners and the community to build grass roots level support for the project through our communications planning?

13 **IDENTIFY NEEDED SKILLSETS/EXPERTISE** 1, 2, 4, 6, 12, 15, 22, 23
What skill sets are needed to make this a successful project?

14 **CREATE AND MANAGE YOUR TEAMS WITH INTENTION** 12, 13, 15, 19, 23, 24
How can be we be proactive vs. reactive in our team engagements?

PLAY #1

RESEARCHING PREVIOUS ERADICATIONS

Public Awareness poster for Asian gypsy moth eradication project in 2016. Illustration by Oregon Department of Agriculture, Chris Hedstrom.

DESCRIPTION

Understanding previous eradication projects can illuminate lessons learned, expand your thinking about how to implement an eradication and highlight important and available resources. We found important lessons from other projects that directly impacted decisions and improved our process and situational knowledge.

Key Associated Plays : 2, 3, 10, 15, 16, 20

CONSIDERATIONS

1. Connect with invasive species specialists at the state, city and county level to ask if any eradications or similar projects have been done in the particular location. City and County specialists have a wealth of knowledge about local landscapes, communities, and processes that have been implemented previously.
2. Attend your statewide invasive species council meetings to present your project and receive feedback and recommendations on implementing the project. Focus on gathering lessons learned from other projects.
3. Reach out to regional contacts or subject matter experts that have experienced similar issues including the pest, eradication or other project characteristics.
4. Utilize online resources such as Google News to find articles highlighting past eradications.

LESSONS LEARNED

Treatment and detection methodologies are often evolving. Connecting with other organizations who have conducted recent projects will allow your project to benefit from their experience. The Orem, Utah, Japanese beetle eradication project was based off of the Palisade, Colorado Japanese beetle eradication project. That project influenced the Boise, Idaho Japanese beetle eradication project which influenced tactics adopted by the Cedar Mill Project in Oregon.

LINKS & RESOURCES

Washington 2016 Gypsy Moth Communications Report

https://agr.wa.gov/PlantsInsects/PestProgram/docs/AsianAndEuropeanGypsyMothOutreachReport.pdf

Orem, UT Case Study

http://ag.utah.gov/home/blog/518-how-we-stopped-the-japanese-beetle.html

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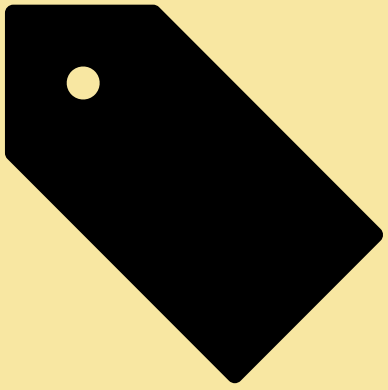
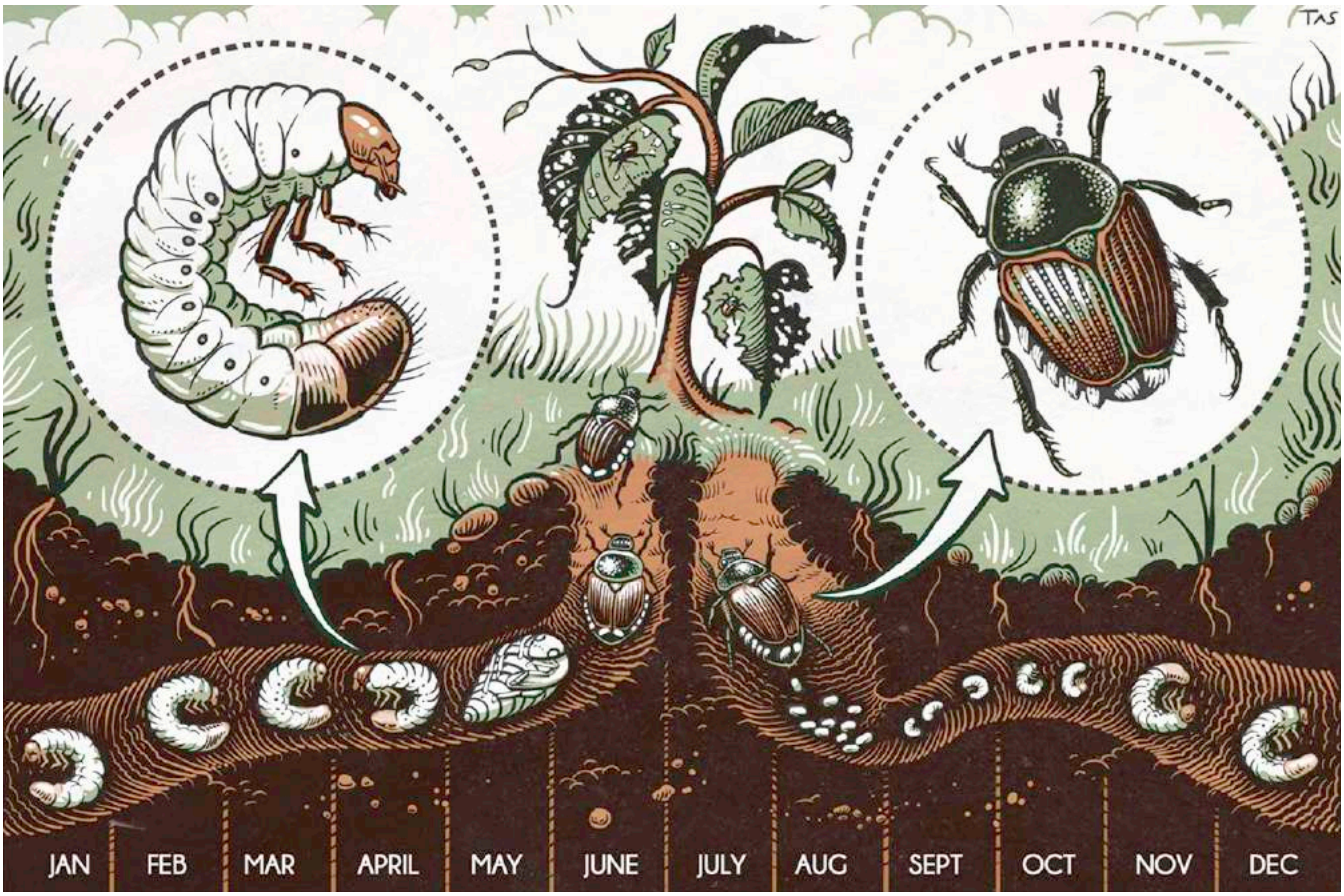
PLAY #2

IDENTIFYING CHARACTERISTICS OF THE PROJECT





Lifecycle illustration by Oregon Department of Agriculture, Thomas Shahan

DESCRIPTION

Each of the eradication projects Oregon Department of Agriculture has completed have had different project characteristics. The characteristics have ranged from socioeconomic factors, the size of the geographic area, and methodology of insecticide application. We found that trying to identify and streamline language about these characteristics early in the process helped craft better communications, highlight potential threats and opportunities, and challenge our understanding of the treatment area.

Key Associated Plays : 3, 12, 14, 15, 22, 23

CONSIDERATIONS

1. Identify the characteristics of your project. These characteristics can be helpful in communicating the elements of the project to new audiences and why the project is important. It can also highlight opportunities for communications and partnerships. A few helpful characteristics categories are: legal requirements, jurisdictions, containment, funding, landscape, cultural, phenology, and affected industries or conservation areas.
2. Define the species phenology. An easy to read phenology chart will allow you to overlay project timelines as it is associated with the phenology. This is helpful to understand and communicate the nuances of insecticide application timing.

LESSONS LEARNED

Names are important. Early in the communication planning process we decided to brand the project based on the title “Save the City of Roses from Japanese beetle”. Portland’s motto is the City of Roses. Months later, after we had developed artwork and printed outreach materials, we learned that despite the zip code designation which identified the area as Portland, the locals did not associate their area as Portland or the City of Roses. The 2,400 property owners more readily identified with the name Cedar Mill. This is due to a complicated history with zip codes and city boundary lines. As a result, we changed our messaging to more appropriately identify the area.

LINKS & RESOURCES

Japanese beetle phenology illustration:

http://www.japanesebeetlepdx.info/updates/japanese-beetle-adult-emergence

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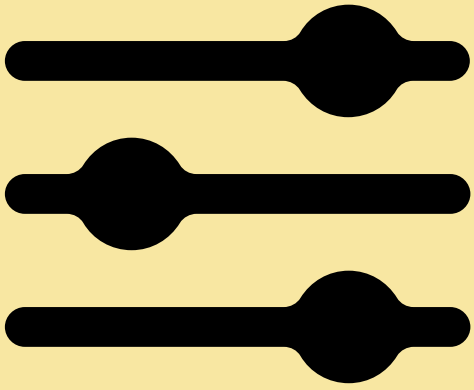
PLAY #3

EXPLORING THE PROJECT'S PARAMETERS



DESCRIPTION

Exploring the parameters (or boundaries) of the project will help to identify the specific needs and goals of the project. It will also allow for a robust dialogue about how different stakeholders and influencers understand the project. When you begin working with stakeholders, providing your current knowledge of these areas can assist in their understanding of the project as it evolves. Their feedback will allow you to enhance your communication, iterate your presentations, and conduct a more transparent process. Stakeholders will also be able to understand their involvement in the project more clearly.

Associated Plays : 2, 3, 11, 15

CONSIDERATIONS

1. Identify your core mission as it relates to federal, state, and local laws.
2. Identify your legal constraints and the level to which you understand them. Seek council early and often if your project includes personal property rights questions.
3. Understand the limits of your funding, capacity and the length of the project.
4. Identify who has jurisdiction on the project and will serve as a decision maker. Some projects have a combination of local, state and federal jurisdiction.
5. Define roles and expectations for key team members.
6. Identify the phases of the project.
7. Identify where you can modify components of the project based on stakeholder input. For example, there may be no flexibility regarding the insecticide that is used, but there may be flexibility in your timing or approach that can accommodate the needs of the affected stakeholders.
8. Identify the project's key short, medium, and long term activities and outcomes.

LESSONS LEARNED

During the first year of the Japanese beetle project, we felt we had a firm understanding of the statute that did not require us to gain treatment consent of each property. However, as the project neared the operational phase, the state's Department of Justice intervened and decided we needed to gain consent from each resident to treat the properties. This course change required more funding, time and commitment from Oregon Department of Agriculture. It is unknown whether much earlier consultation could have resulted in an earlier understanding of the project's legal requirements and whether we could have planned better.

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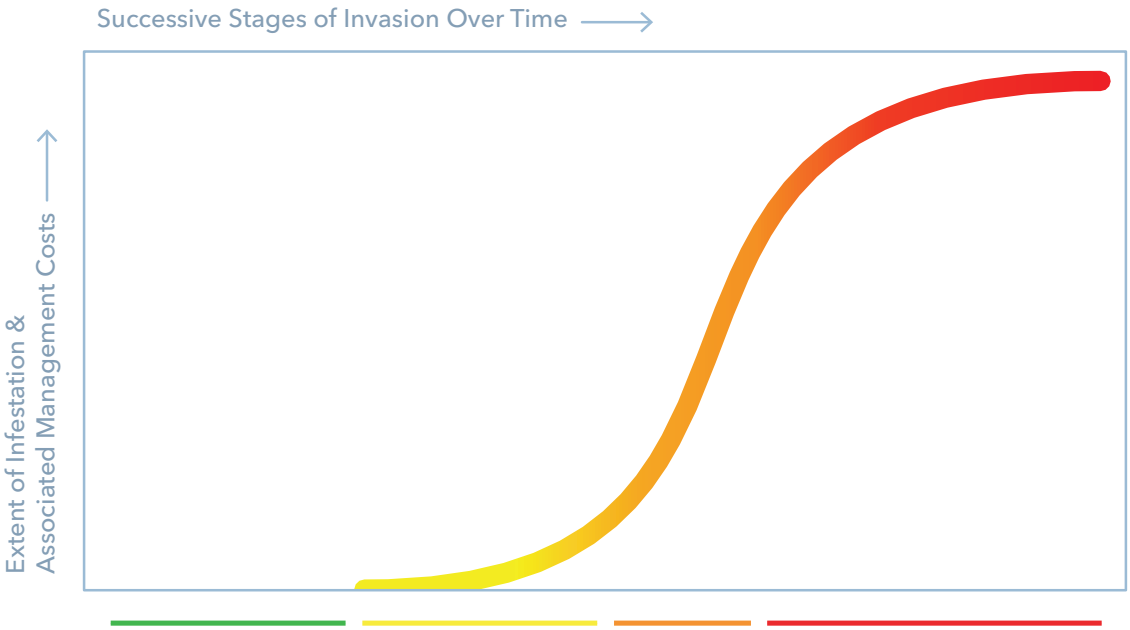
PLAY #4

INTEGRATED PEST MANAGEMENT: MAKING SOUND TECHNICAL DECISIONS



	Prevention	Eradication	Containment	Long Term Management
Population:	Not present in Oregon	Small localized	Rapid increase	Widespread and abundant
Strategy:	Most effective and inexpensive point of intervention	Eradication most feasible with rapid response protocols	Eradication feasible with abundant resources	Eradication unlikely; long term sustained resources needed to limit effects and protect resources

This diagram, derived from several depictions of the invasive species curve, was created by the Oregon Invasive Species Council to help managers understand how to assess the risk presented by different stages of invasion.

DESCRIPTION

Integrated Pest Management is most widely used when a pest has been established and needs to be controlled. However, it offers a useful framework and rubric for application in eradication projects. It requires a combination of methods to design a right-fit solution. Controls include biological, cultural, mechanical or physical, and chemical methods. Planning and evaluating the project based on the controls can result in an eradication outcome.

Associated Plays : 6, 12, 13, 14, 15, 23, 24

CONSIDERATIONS

1. Coordinate with subject matter experts and conduct literature review to inform the treatment based on the four control areas.
2. Evaluate potential methods for eradication. Combine methods to create a multi-faceted approach. Prioritize low-risk methods and materials.
3. Utilize the generalized invasion curve as a decision tool to inform activities and stakeholders.
4. Draw a grid with the four areas of IPM and fill in what eradication activities will fulfill that area.

LESSONS LEARNED

For the Japanese beetle eradication project in Cedar Mill, we identified a six pronged approach to the project that we thought would create the outcomes for a successful project. The six prongs were community engagement, team diversity, use of a group 28 reduced risk insecticide, utilize biological controls in the woody riparian area, change how green waste was managed, and conduct high density trapping. These “prongs” also mapped to the IPM framework. In the first year, we were able to achieve action in all “prongs” except for biological controls due to challenges in acquiring the controls.

Biological • Controls for woody riparian area	**Cultural** • Diverse Team • Community Engagement • Green Waste Behavior Changes • Individual Lawn Practices
Mechanical / Physical • Green Waste Management • Traps For Monitoring	**Chemical** • Acelepryn G

LINKS AND RESOURCES

What is IPM?

http://www2.ipm.ucanr.edu/WhatIsIPM

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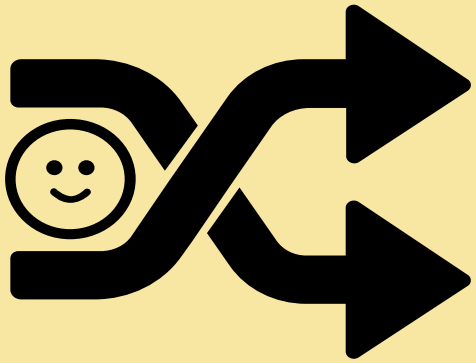
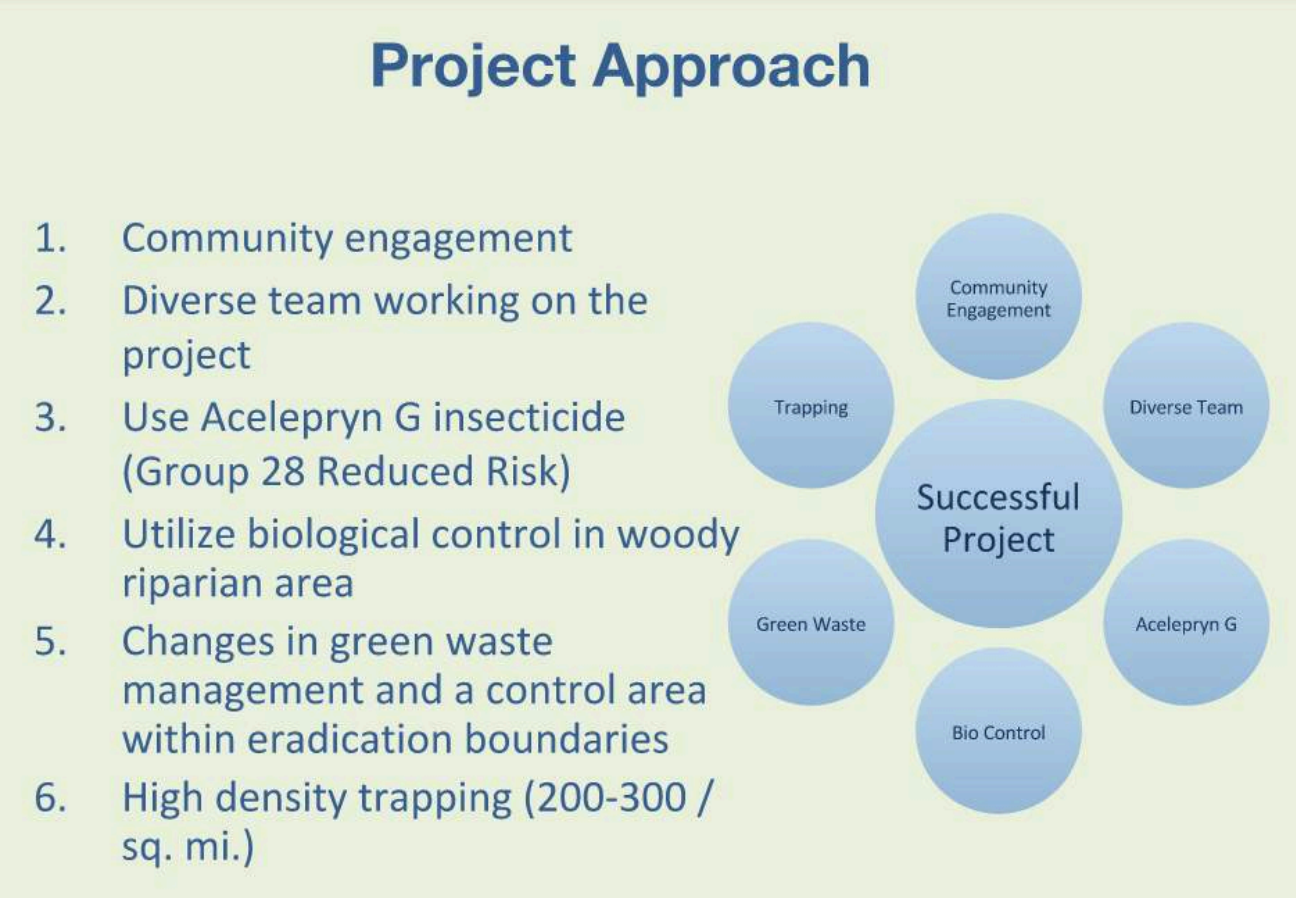
PLAY #5

DEVELOPING A THEORY OF CHANGE/ PROJECT APPROACH





The Oregon Department of Agriculture's 2017 Theory of Change.

DESCRIPTION:

The Oregon Department of Agriculture team was very clear about wanting to create a transparent experience for stakeholders. The theory of change was: If we create a more transparent project, we will reduce the impact, confusion, and distrust of governmental agencies and enhance our agency's reputation. Working from this theory of change impacted every aspect of the AGM and JB projects and how they were communicated to the public.

Associated Plays : 12, 4

CONSIDERATIONS

1. Begin by Identifying the core problem you are trying to solve by creating a problem statement.
2. Use If _____then _____ statement to create a hypothesis about how the project will have positive outcomes. You can think about this as telling a story of the "problem" behavior.

LESSONS LEARNED

Setting the intent of the project may seem superfluous. Yet in our experience, the beginning is the most important part of the project. In the Asian gypsy moth eradication project in Portland we concluded that the intent was to prevent the ecological devastation of the Pacific Northwest's forests and riparian areas. In the Cedar Mill Japanese beetle eradication project, we identified the need to be inclusive of many different points of view. For both projects we decided to be transparent in the decision making process. The outcome was that the projects embodied a social goal along with the concrete environmental goal of eradication.

LINKS & RESOURCES

What is theory of change?

http://www.theoryofchange.org/what-is-theory-of-change/

DIY Tool Kit Theory of Change

https://www.youtube.com/watch?v=6zRre_gB6A4

Measuring your social impact

Theory of Change (YouTube video)

Community Toolbox by University of Kansas

http://ctb.ku.edu/en/4-developing-framework-or-model-change

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PLAY #6

DEVELOP DIFFERENT MINDSETS AND APPROACHES TO PROBLEM SOLVING

DESCRIPTION

Albert Einstein said, "We can't solve problems by using the same thinking that we used when we created them." When working in complex human systems, a greater diversity of perspectives is need to ensure we are creating useful solutions that work for a broader group of individuals. Below are a few alternate ways of thinking that we found useful.

Associated Plays : 5, 7, 8, 9, 12

CONSIDERATIONS

1. A design thinking mindset involves looking at complex problems and solutions as co-evolving and iterative. It also brings forth the term Minimum Viable Product, a useful view of projects when operating on limited and publicly accounted for budgets. A typical design thinking process involves four stages: research, brainstorming, prototyping and iteration. It is also highly visual and focuses on developing empathy for "users" of the product.
2. Non Violent Communication is a communication methodology that focuses on identifying the needs of both parties. This is in contrast to typical top-down or "I am expert" communication styles.
3. The Art of Hosting is a grassroots participatory facilitation framework that includes methods such as Open Space, World Cafe, and Appreciative Inquiry. All the methods were designed to assist in engaging complex problems where the solution will be emergent based on interactions with the affected system.
4. Using a variety of lenses, such as a community- centered lens, environmental justice lens or social justice lens allowed us to consider the impacts of our actions on different stakeholders.

LESSONS LEARNED

When developing the communications and outreach for the Japanese beetle eradication project, we developed communication tools and language for residents early in the project. As we continued on we used feedback from the community to iterate and make each communication piece more useful to residents. The design thinking mindset allowed us to look at each communication piece and channel as continually evolving and becoming more useful to the end user. It also demonstrated to the community we were listening to their feedback and adapting to their needs.

LINKS AND RESOURCES

Human Centered Design: http://www.designkit.org/

Cynefin Framework: http://cognitive-edge.com/videos/cynefin-framework-introduction/

The Center for Non Violent Communication: https://www.cnvc.org/

Art of Hosting: http://www.artofhosting.org/

Community Toolbox by University of Kansas: http://ctb.ku.edu/en/toolkits

NOTES

PLAY #7

THINKING ABOUT MEETINGS DIFFERENTLY

Oregon invasive species council members conduct feedback sessions during their annual summit utilizing a variety of methods.

DESCRIPTION

Creating engaging and action oriented meetings will ensure participants have a positive interaction with your organization. Meetings that are poorly run, dysfunctional, and wasteful will reflect negatively on the project. A well run meeting will ensure participants come back for more and potentially support the project to a greater degree.

Associated Plays : 5, 6, 8, 9, 11

CONSIDERATIONS

1. Define the purpose and outcomes of the meeting. Be clear with participants prior to the meeting to allow them to evaluate their level of participation.
2. Create a call to action for the participants. Be clear about communicating what you need them to do and how they can support the project.
3. Design the agenda to support those outcomes using a variety of learning styles. For example you may combine a 20 minute briefing with a 20 minute activity or small group discussion.
4. If you have the resources, appoint a note taker to keep notes. Within the notes, highlight action items and follow up items.
5. If you are not comfortable designing or facilitating meetings, hire a facilitator to assist you.
6. Evaluate whether food or beverages is needed. Many times, participants will be running from one meeting to another and not had the chance to grab a bite to eat or hydrate. Hungry participants can often appear agitated and distracted, especially if meetings are near traditional meal times.

LESSONS LEARNED

We all need more meetings. Right? During the beginning phase of a project it may be difficult to convey necessity to critical stakeholders who may be unfamiliar with the subject matter. You may only have one chance to gain access to their networks and knowledge base. Well organized meetings with a clear purpose that generates explicit action items will show your participants that you're serious and consider their input critical to the success of the project. Allowing the information gathered at these meetings to inform the project generates trust and builds relationships. Both of which are necessary for complex projects to succeed.

LINKS AND RESOURCES

Visual Meetings by David Sibbet

http://davidsibbet.com/visual-meetings-book/

Gamestorming Website

http://gamestorming.com/

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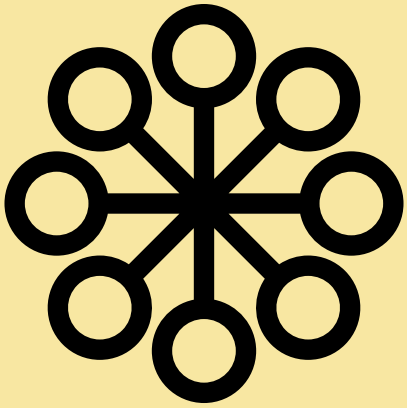
PLAY #8

ACCESS DIFFERENT LEARNING STYLES TO COMMUNICATE AND WORK TOGETHER



The library information booth utilized maps, illustrations, written reports, Identification cards, and the opportunity to talk with experts.

DESCRIPTION

Eradication projects have the potential to be very complex. It is important to access multiple ways of learning throughout the project to illuminate blind spots and show different perspectives that can be hidden within complexity.

Associated Plays : 6, 7, 13, 19, 20, 25

CONSIDERATIONS

1. The Vark Model presents four modalities of learning: visual, auditory, writing/reading, and kinesthetic. Thinking about how these show up in community engagements, planning meetings and communications can enhance understanding of the issue. It can also greatly enhance working group environments, especially when you combine two or more modalities.
2. Assess your primary modes of communication and learning for you, your team, your partners and your public. Identify gaps and brainstorm how you might fill them.
3. A few examples are:
    a. VISUAL
    - Use visual templates during meetings such as SWOT charts or Plus/Delta charts.
    - Draw flow charts to understand processes, information flow, or timelines.

    b. AUDITORY
    - Present information through a lecture or presentation.
    - Speak with individuals over the phone.

    c. WRITING/READING
    - Create written brochures, flyers, and posters.
    - Send email updates.
    - Maintain a project website or webpage

    d. KINESTHETIC
    - Host tours of the eradication area.
    - Use facilitation methodologies that have participants moving through different groups and activities.

LESSONS LEARNED

The Portland, Oregon Asian gypsy moth project was able to engage many non-governmental parks and conservation related volunteers by organizing workshops that taught the participants to identify and detect various lifestages of Asian gypsy moth. The outcome was that the participants were able to communicate accurate information back to their respective groups both formally and informally about the project.

LINKS AND RESOURCES

Learning Styles

https://en.wikipedia.org/wiki/Learning_styles

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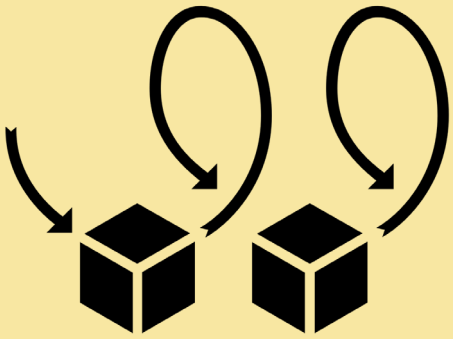
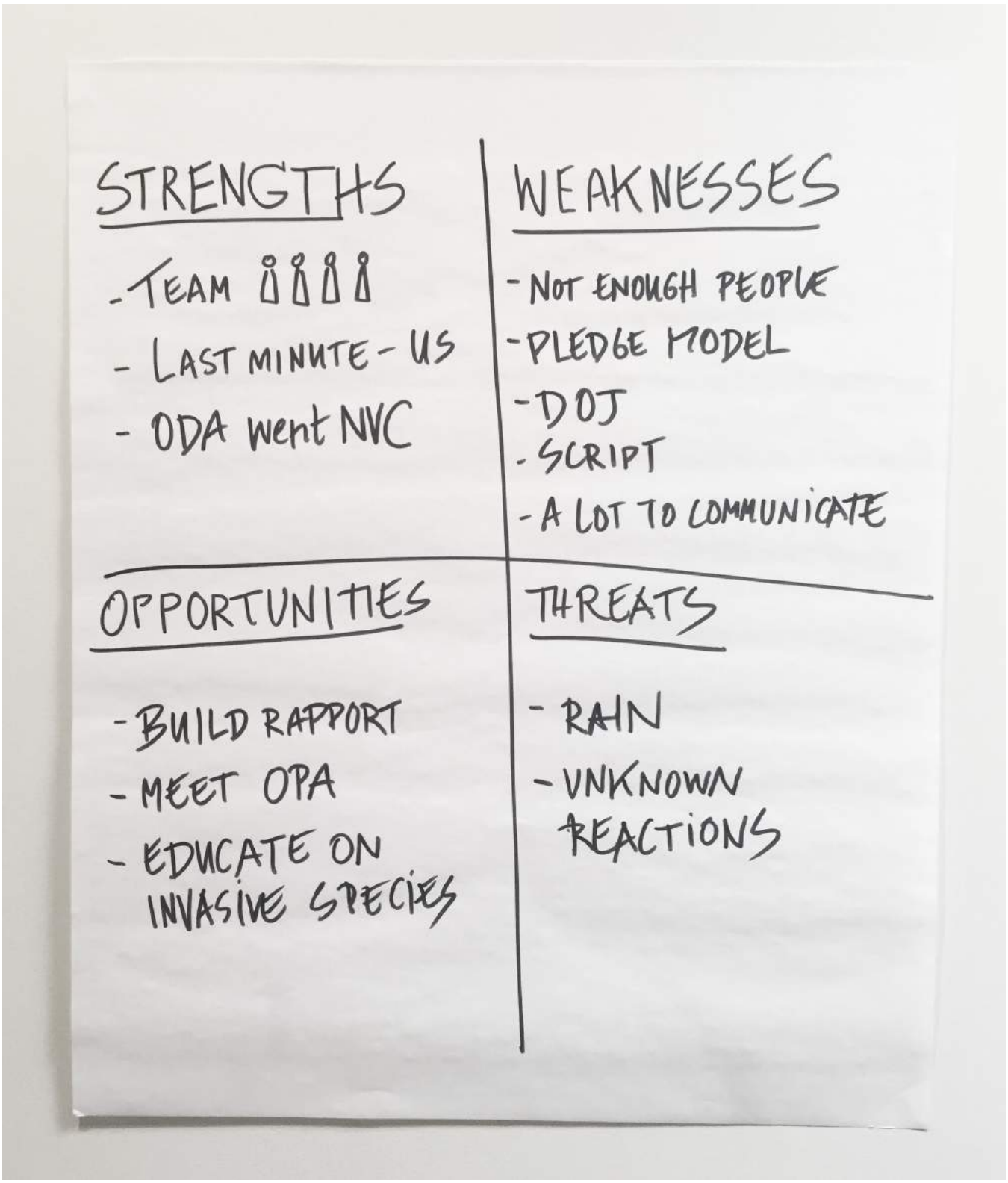
PLAY #9

DEVELOP ITERATIVE LEARNING STRATEGIES





The after action review for one of the door to door canvassing events.

DESCRIPTION

Creating iterative learning strategies will help to reduce the probability of making the same mistakes twice. It also ensures you are incorporating the most recent project updates into your project plan. Iterative learning does not have to be a complicated process and can take as little as 5 minutes. Iterative learning can be included in weekly meetings and project debriefs.

Associated Plays : 5, 6, 7, 8, 14, 16, 19, 20, 26

CONSIDERATIONS

1. It is helpful to create a framework. The more you use the strategy the better you will get at using it. Frameworks can be used either by an individual or in a group. Some easy frameworks are:
    a. Plus / Delta Charts
    b. Strengths, Weaknesses, Opportunity, and Threat (SWOT) Charts
    c. What, So What, Now What
    d. Stop Doing, Start Doing, Continue Doing
2. Create a regular iterative learning schedule. This can be during monthly meetings or weekly operational meetings. Use one of the frame works or create your own.
3. Be aware of when a major event has happened in the project, there maybe a need to incorporate lessons learned from it into the plan. This can be done using an iterative learning framework.
4. Utilize iterative learning methods in engagements with the community. Openness to community feedback and perceptions throughout the project allowed us to make small changes with a big return on investment through community support.

LESSONS LEARNED

Using iterative learning strategies as part of the Cedar Mill eradication helped to identify aspects of the project that ended up being critical for its successful implementation. Gardening clubs and master gardeners have created a culture of community based plant sales to raise funds for charitable activities. The risk associated with these activities is that they will transfer beetle life stages when moving plants. Iterative learning process created the space for this challenge to surface and then also provided the groups involved to provide solutions.

LINKS AND RESOURCES

Plus/Delta

http://gamestorming.com/plusdelta/

SWOT Analysis

http://gamestorming.com/swot-analysis/

What, So What, Now What

http://www.liberatingstructures.com/9-what-so-what-now-what-w/

Start, Stop, Continue Doing

http://gamestorming.com/start-stop-continue/

NOTES

PLAY #10

SELECT A CONVENER

Clint Burfitt giving a presentation to a local community group that was convened by an active project partner.

DESCRIPTION

A convener is someone who calls people together. It is helpful if this person has influence within the eradication area, is connected, and/or who enjoys engaging with people. A convener can make it easier to create participatory experiences within a community. They may also know who you need to talk to reducing the hours spent researching the community or partner network.

Associated Plays : 11, 12, 15

CONSIDERATIONS

1. Ask whether you can be the convener for the project. If not, research your network to see if someone could serve in this role.
2. Decide if you need a convener on the partner level, industry, and/or the community level. You may be able to serve as the convener on the partner level, but do not have enough influence or connections to serve in this role at the industry or community level.
3. Create a plan of who and how you will convene your different key audiences.

LESSONS LEARNED

The West Multnomah Soil and Water Conservation District organized an environmental influencers meeting which included participants from national and local environmental conservation groups. This meeting was pivotal in connecting us into grassroots movements, sharing correct information about the project, and distributing communications materials. Even though some of the organizations were officially ambivalent toward the project they were still crucial for helping us to inform our communications efforts.

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PLAY #11

TELL STORIES

Residents tell stories of prior experiences with pests at an Oregon Department of Agriculture outreach event.

DESCRIPTION

Humans have told stories for a millennia which have played a crucial role in helping us understand the world. Today is no different. Telling stories helps to make the science of eradications accessible and showcases real life consequences of invasive species.

Associated Plays : 1, 2, 5, 7, 8, 12, 15, 25

CONSIDERATIONS

1. Brainstorm a list of experiences you have had with invasive species. Write a few sentences or paragraphs about the experience. Conduct research to see if there are pictures or videos that relate to and can help illuminate your story.
2. If helpful, use this simple form to develop your story*:
    - Somebody…. (a person, a group)
    - Wanted… (sought, desired, had a goal)
    - But…(complication, obstacle, conflict)
    - So,… (climats, outcome, learning, resolution)
3. Document: When traveling ask people about their experiences with invasive species. Take a few notes and photos about the specifics so you can share these stories in your stakeholder briefings. If possible, have record their story on video using your smart phone.
4. Identify Themes
    - Overarching themes and characteristics of the stories to help form language and planning for future public outreach.
    - What people were seeing, thinking, hearing, feeling during their experiences invasive species.

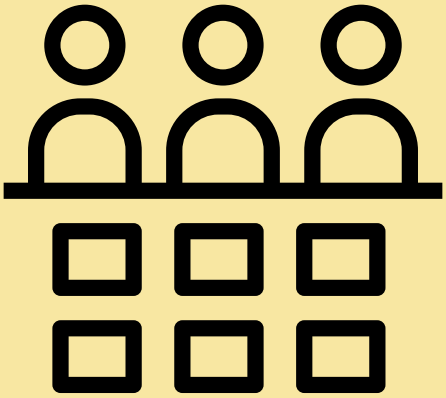
LESSONS LEARNED

I had recently been on vacation several months before the Japanese beetle eradication. I like to poke around and ask questions about insects. In conversation with the winery owner, I was able to find out they sprayed for Japanese beetles three times a year just to get the grapes off the vine. Japanese beetles had ruined any attempt at gaining an organic certification for the winery. We used this story throughout the project and stakeholders were able to easily envision the type of impact Japanese beetles would have on our state. It was much better than running through a slide deck of numbers and charts.

NOTES

PLAY #12

FACILITATE PARTICIPATORY PARTNER COMMUNICATION PLANNING



Collaborative brainstorm of key messages to support development of a communication plan.

DESCRIPTION

We don't know what we don't know. Developing a partner communications planning event helps with broadening our level of knowledge and experience in communicating the complexity of an eradication. It also assists with creating shared ownership of the issue, highlighting unknown resources, and providing role clarity for partners.

Associated Plays : 5, 7, 8, 13, 14, 15

CONSIDERATIONS

1. Begin by brainstorming what stakeholders might participate in the event.
2. Create a participatory agenda that creates a framework to answer some of the questions in step #3.
3. Activities that may be helpful include:
    - Defining multiple primary audiences (partners, residents, industry)
    - Brainstorming and prioritizing potential key messages
    - Brainstorming a list of Frequently Asked Questions
    - Identifying expertise and what roles the experts could play in the project
    - Develop a stakeholder map of all potential stakeholders
    - Develop a list of communication channels to disseminate project information
    - Develop a set of values by which the communication will be conducted
    - Utilize a series of "lenses" to view the communications plan; such as a social justice or environmental conservation lens
    - Develop a series of "no" words, words that could be construed as having a different definition than intended

LESSONS LEARNED

For both the Japanese beetle eradications and Asian gypsy moth eradications we held a four hour communications workshop with our state, local, and federal partners. During these workshops we were able to create stakeholder maps specific to the eradication locale that was beyond our specific knowledge. We were able to receive key insights about individuals who worked with extension programs or local conservation groups to help inform the project. The Aloha Garden Club, the oldest garden club in Portland, was highlighted in one of these meetings and became a key local supporter of the Japanese beetle project.

LINKS AND RESOURCES

Stakeholder Analysis

http://gamestorming.com/stakeholder-analysis/

Who/Do Activity

http://gamestorming.com/whodo/

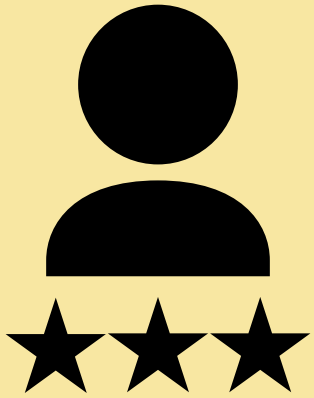
Sample Communications Plan Outline

See Appendix, Page 112

NOTES

PLAY #13

IDENTIFY NEEDED SKILLSETS/EXPERTISE



Contracted applicators preparing for treatment.

DESCRIPTION

In complex situations you will need a variety of skillsets to carry out an eradication plan. Projects that involve geographically large spaces, complex treatment application schedules or equipment, and a variety of land ownership situations can make for complex solutions.

Associated Plays : 1, 2, 4, 6, 12, 15, 22, 23

CONSIDERATIONS

Here is a list of skillsets identified during Oregon Department of Agriculture's two eradications.

- GIS Specialist
- Public Information Officer or Public Relations Specialist
- Diversity, Equity and Inclusion Specialist
- Photographer
- Videographer
- Lawyer
- Graphic Designer
- Species Expert
- Mediator
- Procurement Specialist
- Training and Development
- Communications Planner
- Air Operations Coordinator
- Community Engagement Specialist
- Project Manager
- Illustrator
- Database Specialist
- Meeting Facilitators
- Website Designer
- Funding Expert
- Public Health Expert
- Language Translation
- Graphic Recorder
- Insecticide Applicators

Determine when and where the skill set needs to be utilized and whether it is in house or needs to be contracted out.

Some of these skills sets can be found within your partner work (such as public health) and others will require contracting out to companies to perform the work.

LESSONS LEARNED

Each eradication project is different and has unique characteristics and needs. Some elements of the projects can be handled with internal agency staff and or resources. While others will require the assistance of other organizations and consult resources. Thinking through what types of expertise you might need early on will avoid lengthy lead times during critical times in the project. For both projects, we hired an interdisciplinary consulting firm that was able to provide a variety of skill sets from coordination, facilitation and writing, to website design and photography to help us with our communication and engagement. We also worked with the Oregon Health Authority and the Oregon Department of Forestry to bring in health and air operations expertise. Working with these experts reduced the burden on our team to learn new skills, focus on their specialties and ongoing projects.

NOTES

PLAY #14

CREATE AND MANAGE DIVERSE TEAMS WITH INTENTION

The Oregon Department of Agriculture Door to Door Canvassing Team.

DESCRIPTION

A diverse team structure will allow you to do more with various skillsets and gain further reach into the community. Teams can be formal - with an invitation to participate, role description, and goals. Teams can also take the shape of an informal group with two-way communication about the project. It is important to set up your teams in the planning phase and adapt to evolving needs during the life of the project.

Associated Plays : 12, 13, 15, 19, 23, 24

CONSIDERATIONS

1. Set up a small core or steering team of people who will be most involved in planning and evaluation of the project's implementation. An effective core planning team will be nimble, connected and committed.
2. Develop your team structure and composition based on the project needs.
3. Define your comfort level when deciding who to include on which team. For example, a project involving the movement of green waste should have a green waste team that includes experts in the waste hauling field. Be clear about when and where you can take input.
4. Develop a team strategy for each team. Team strategies should be simple and clear to be used as a reference for key messages, questions, roles etc.
5. Create a consistent team meeting schedule.
6. Track team interactions, progress, and goals with a simple rolling document of notes.
7. Evaluate teams periodically and adapt to evolving needs. You may find that a team was useful for the planning stage and can be tabled during implementation.

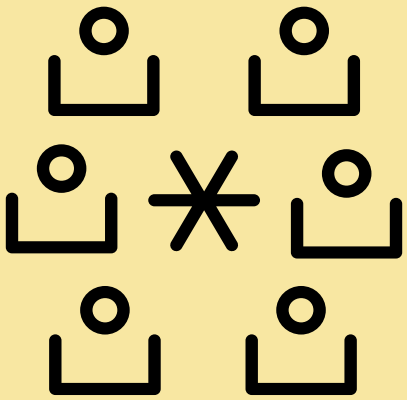
LESSONS LEARNED

During the Asian gypsy moth eradication we assigned teams based on a hierarchical tiered structure. Tier 1 stakeholders were invited to participate at a decision making level and Tier 3 stakeholders only received updates on a regular basis. We found this structure to be very confusing for our partners. For the Japanese beetle eradication project we asked our partners who attended the communications planning session to self-identify with their expertise and how they would like to be involved in the project. When we sorted this information we ended up with teams based on subject matter expertise such as green waste, biological control, legal consent, public relations, etc. While there was some continuity through these groups many of the members were uniquely qualified to serve and advise based on their qualification and experience. The teams also disbanded when they were no longer needed and new teams brought on board as the situation changed. We found this to be less confusing and more effective.

NOTES

PLAY #15

CREATE INTENTIONAL AND INCLUSIVE STAKEHOLDER ENGAGEMENT



Clint Burfitt and team members meet with Aloha Garden Club members to inspect plants for an upcoming plant sale.

DESCRIPTION

Your project's "stakeholders" include every person, agency, or group that may be impacted by the project. Your project will be more successful with a diverse group of stakeholders represented. With an more open and inclusive process, you will find that you likely have champions in the community that will act as advocates or ambassadors for the project even when you are not able to do so.

Associated Plays : 4, 5, 7, 8, 13, 16

CONSIDERATIONS

1. Identify your stakeholders. Map out your stakeholder groups and organize them in a tool that you will use consistently.
2. Identify levels of engagement and opportunities for involvement. Make sure that you are coming to stakeholders with a clear idea of where input is being collected. If part of the project is set in stone, make that clear at the beginning of the discussion and explain why.
3. Reach out through a variety of methods to key stakeholder groups. Remember that your best connection is through personal referral. If you know someone who knows someone else, ask to be introduced.
4. Give stakeholders a variety of opportunities to get involved. Allow people to self-select how they would like to be involved. Ask questions, rather than merely transmitting information.
5. Track your interactions and key stakeholders' participation. Collect sign in sheets with names, organizations, and email address to update your stakeholder database. Review periodically to identify gaps. Adapt your engagement strategy based on what is working and what needs to be improved.

LESSONS LEARNED

During the Japanese beetle project we received a recommendation to talk to the neighborhood newspaper editor. Once we introduced ourselves and the project to her, we found she was an excellent local resource and quickly became a proactive supporter of the project. We actively worked to provide her information and updates about the project, invited her to stakeholder meetings, and checked in regularly to see how she felt the project was moving along. This connection proved critical in our community outreach and might not have been made if we did not present our process as open to diverse participants. A diverse stakeholder group ensures we are not the only ones advocating for the project.

LINKS & RESOURCES

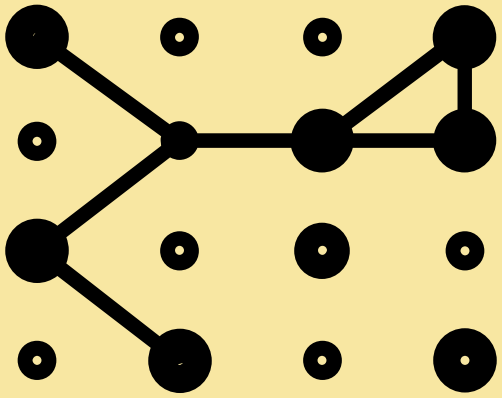
Stakeholder Tracking Tools:

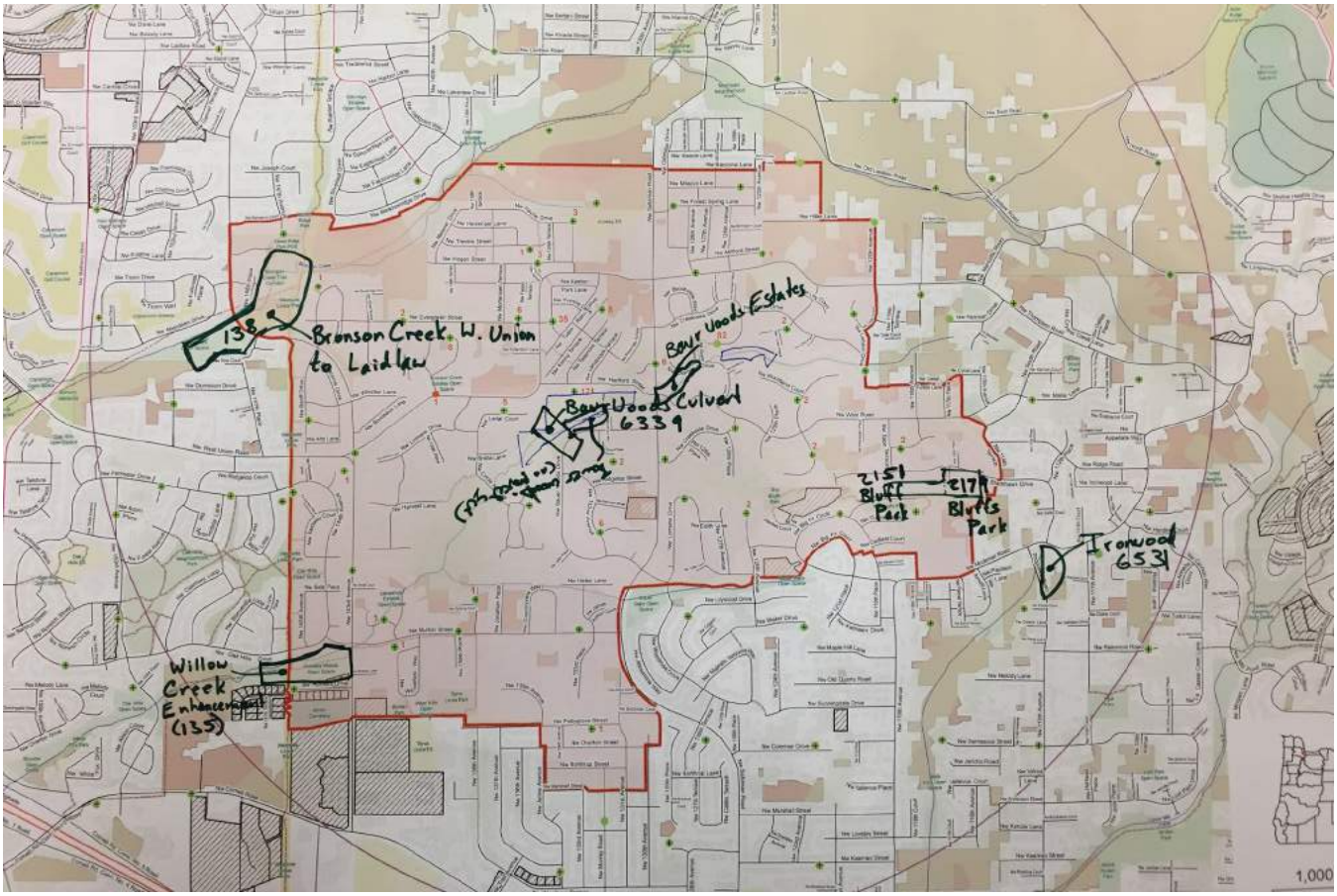
cloud-based CRM allows for access across a team. A shared spreadsheet also works.

NOTES

PLAY #16

UNDERSTAND THE LEGAL, PUBLIC HEALTH AND CONSERVATION SITUATIONS





A meeting with conservation partners revealed sensitive conservation areas within the treatment zone.

DESCRIPTION

Eradications often involve public health, private property rights issues, and conservation concerns. When these are present, creating an open line of communication with legal, health and conservation experts early and often can avoid last minute challenges to the project and confusing communication. It is also important to receive technical information, such as toxicity of insecticides, from the appropriate expert. Entomologists are not chemical or health experts. If public health and legal information is misconstrued it will result in undermining trust and public sentiment, both of which are crucial to accomplishing the mission. Allowing the experts to advise and define important information reduces the project's liability.

Associated Plays : 1, 2, 12, 13, 15, 19, 20 ,21, 22, 23,

CONSIDERATIONS

1. Review your federal, state, and local legal authority to eradicate the target species.
2. Visit with legal expertise as early in the project as possible to verify your interpretation of the statute.
3. Provide a few scenarios for the legal experts that demonstrate the authority of similar states. If the legal expert is unfamiliar with this area, the scenarios are helpful to show how they might begin to provide you with assistance.
4. Understand what public notification laws apply to the project.
5. Remember the easiest way to stop a project is to not follow the law.
6. Having subject matter experts in the realm of public health and law will inform the project and help avoid interpretation by program or project staff.
7. Explore how to communicate relative toxicity of insecticides to the public. See the frequently asked questions developed by the Oregon Health Authority in the links and resources below. This was developed in collaboration with the Oregon Department of Agriculture for the 2017 Japanese beetle eradication project.
8. Consider how the project will affect vulnerable populations or non-English speaking residents.
9. Consider that all outreach efforts help to inform the public of the treatment program which is necessary to avoid legal and public health challenges to the project.
10. Consider how the project will affect endangered or sensitive species. Pay particular attention to how the insecticide will affect pollinators. Work with pollinator experts early in the project to understand the impacts and communicate throughout the project.

LESSONS LEARNED

Early on in both projects we reached out to the Oregon Health Authority (OHA) to help us develop a comprehensive set of Frequently Asked Questions relating to the health impacts of the insecticides used. When we were challenged about the toxicity of the insecticides, we were able to refer the public to the FAQ's. Being able to utilize the OHA and point to their authority as the subject matter expert, allowed us to focus on treatment specifics and not become mired in toxicity debates.

LINKS AND RESOURCES

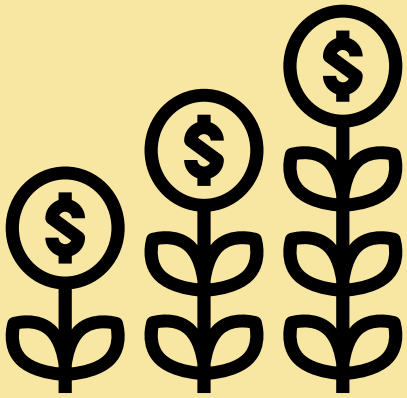
Oregon Health Authority's Frequently Asked Questions on Acelepryn G:

https://oda.fyi/jbhealth

NOTES

PLAY #17

EXPLORE CREATIVE FUNDING OPPORTUNITIES



DESCRIPTION

Financial support for invasive species related projects tends to be decreasing. However, when there is imminent need, collaboration with industry, community and government stakeholders can result in emergency funding for eradication projects. Funding is critical for project implementation but is often outside the scope of project staff. Champions and advocates can help fill this gap.

Associated Plays : 1, 2, 3, 13, 16, 18, 22, 23

CONSIDERATIONS

1. Identify industry, community and legislative champions for the project.
2. Seek briefing opportunities to inform municipal and state leaders about the project, it's importance to the state, and provide a clear call to action.
3. Seek grassroots support for the project, which can create community and industry advocates.
4. Collaborate with agency leadership to identify additional or creative funding mechanisms.
5. Collaborating with state invasive species councils and industry associations can also result in additional resources for the project.

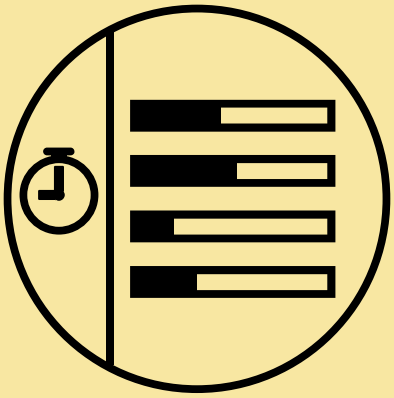
LESSONS LEARNED

Eradication projects are expensive, especially when they require outreach to a large group of people. We were able to leverage funding through our state invasive species council and our state nursery association. The early commitment of funding by the council and associations, helped demonstrate a deeper level of support when we went to the legislature to ask for emergency funds.

NOTES

PLAY #18

PLAN FOR POTENTIAL LENGTHY PROCUREMENT PROCESSES



DESCRIPTION

Procurement specialist are knowledgeable of legal and policy requirements related to purchasing goods and services for project activities. A timely procurement process is critical to project implementation when eradication is dependent on a species life cycle. Procurement processes ensure accountability for publicly funded activities and support project managers to properly use funds.

Associated Plays: 1, 2, 3, 4, 13, 22, 23

CONSIDERATIONS

1. Eradication projects can be expensive. Potential contract limitations over $150,000 may be subject to additional administrative rules. Understand your state's contract policies to avoid delays and administrative burdens.
2. Be aware that procurement and administrative processes can take a lot of time.
3. Be aware of the planning fallacy and give yourself far more time than you think you need. It might be one of the very first things to ask: "How long will it take to get this contract in place?"
4. Create positive, collaborative relationships and trust with administrative staff to be effective in a short amount of time.

LESSONS LEARNED

Working with procurement early and often will allow you to develop a positive, respectful relationship. Inform procurement of challenges or issues right away. This will allow them the time to provide researched and accurate answers back to you. We learned the hard way. We assumed six months was plenty of time to approve the contract for treatment. This assumption meant that we did not get the treatment contract signed until the week before treatment began.

NOTES

PLAY #19

DEVELOP A MENU OF INFORMATION TOOLS BASED ON TARGET AUDIENCE

Credit: Christopher Hedstrom, Oregon Department of Agriculture

DESCRIPTION

Different audiences and stakeholder groups will need to receive information in different ways. It is important to be specific when developing your key audiences—"public" is often too broad. Developing an understanding of the best ways to provide information to specific key audiences will ensure a more efficient communication of information.

Associated Plays : 8, 10, 11, 12, 14, 16

CONSIDERATIONS

1. In Play # 10 and 14, there is an opportunity to brainstorm key target audiences and stakeholders. Once you have narrowed down your audiences to 3-5 (there is always more than one), ask someone from that audience how best to communicate with them. Focus groups provide an excellent opportunity to learn from a specific group about their communication needs.
2. Referencing Play #8 is helpful to see if you are accessing different learning styles for each audience.
3. For each communication tool, identify who benefits from it, what you want them to know, and how you will deliver to them (mail, social media, email, etc.)

Here's a sample menu of tools:

- Press Releases
- Website
- Postcard
- Outreach/Engagement Events
- Written Informational Brochures
- Listservs
- Team Strategies Document
- Robo Calls/Text Messages
- Emails
- PowerPoint Presentation
- Incident Response Form
- Telling Stories
- Treatment Area Maps
- Meetings
- Species ID Cards
- Briefings
- Social Media Engagement
- Art
- Consent Forms
- Posters
- Displays
- Maps
- Prepared Media Responses
- Lawn Sign
- Look-A-Like Guide

LESSONS LEARNED

During both the recent Asian gypsy moth and the Japanese beetle eradication projects we relied on cool stories and art to communicate various aspects of the project. As a subject matter expert who often relies on data to support project operations it is easy to think that others also similarly rely on such information. Making this assumption as part of the communication plan within a project conveys a patriarchal message to the public and is not inclusive of different needs. We created different communication materials based on our audience. For example, the Threat and Opportunity document targeted agency partners and conveyed technical information. Our Japanese beetle postcards artistically demonstrated the type of destruction one could expect to see and this was used for notifying residents about the project. Building various tools to communicate will allow people to understand the project without needing a master's level education in science.

LINKS AND RESOURCES

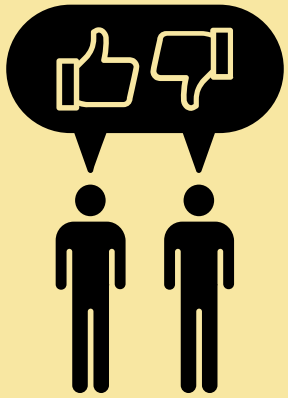
AGM and JB communication tools:

Samples in Appendix, Page 113

NOTES

PLAY #20

ASSESS HOW THE PUBLIC UNDERSTANDS THE INFO



DESCRIPTION

Communicating science and policy is challenging and takes several attempts. Regularly reviewing what the public is saying about the project can indicate how well you are telling the project's story. This can help you discover common language, unmet needs, and gaps in communication.

Associated Plays : 9,16, 19, 21, 22, 23

CONSIDERATIONS

1. There are several ways to understand how the public perceives the information you have provided:
    - Review the comments section on news articles, facebook posts, and twitter feeds. Look for inconsistencies in how the commenters represent the facts. Look for passionate responses that may indicate someone is against the project.
    - Talk to residents, property owners, or community groups to ask how and what information they are receiving. It is interesting to find out how they are receiving their information; via a neighbor, community leader, or social media outlet. Knowing this information will help you narrow down your search and adapt.
2. Create a google alert for the species and location.
3. Take screenshots of social media posts, because they are hard to find after the fact. Ensure you save the media source and the date of the post.
4. Save news articles (including the comments sections).
5. When creating information for the public, be aware of common language requirements that are instituted by governmental entities.

LESSONS LEARNED

By researching public comments on social media outlets and news articles, we were able to identify how the community perceived the project. For the Asian gyspy moth eradication, one of the core team members lived in the eradication zone. He routinely reviewed and contributed to Facebook and Next Door posts correcting mis-interpreted data. We also found that residents who lived on the east coast strongly advocated for and supported the project, having lived through gypsy moth infestations. By monitoring social media and newspaper comments we were able to understand the direction of public interest. This allowed us to make informed decisions about our communications efforts.

PLAY #21

PREPARING FOR ADVERSARIAL ENCOUNTERS WITH THE PUBLIC (ONLINE AND IN PERSON)

The Oregon Department of Agriculture treatment team in training with non violent communication expert,
Photo by Kathy Marchant.

DESCRIPTION

Insecticide applications will invariably spark some level of protest due to our nation's complicated history with insecticides. Learning to compassionately deal with objections to the project, creating early partnerships with environmental groups, and developing a local awareness of environmental issues can help to de-escalate confrontations.

Associated Plays : 5, 8, 9, 12, 13, 14, 15, 16, 19

CONSIDERATIONS

1. Begin by researching news articles relevant to your species and location. Previous confrontations are often highly visible and draw the attention of local news.
2. Reach out early to include unlikely partner groups which are critical of toxics in the environment. Inclusion early in the process can enhance transparency and understanding of the project.
3. Understand what words, such as "safe," can provoke misunderstanding and are difficult to defend.
4. Look to and work with public health experts to define the health concerns of an insecticide. The responsibility for defining health risk should rest with public health experts, not entomologists.
5. Hire mediators to assist with potential conflicts at outreach events.
6. Explore group facilitation methodologies for outreach events that are more participatory and less hierarchical than a typical town hall meeting.
7. Look into needs based communication/conflict resolution training such as Nonviolent Communication. Provide project staff with the opportunity to participate in training prior to engagement with the public.
8. Know your triggers and emotional responses to protests/protestors. If you are negatively triggered, work to understand why you are triggered so you can begin to lessen the chance of engaging in destructive or combative dialogue while in the field.

LESSONS LEARNED

The town hall model of engaging with communities is a fairly typical way of sharing information. However, it is quite challenging to be on the receiving end of an angry protest. As few as one angry participant can detract from the ability of others to get their questions answered. Having experienced this situation before, we chose to conduct a series of open house style events for both eradications. We felt the open house style event with different stations and partners allowed us the opportunity to answer individual questions and provide more information. During the Asian gypsy moth eradication, one person came in ready to speak in a town hall style meeting to share his dissent of the project. After speaking individually with us and our partners, he left still in disagreement, but with the assessment that we were diligent, transparent and honest in our efforts.

LINKS AND RESOURCES

The Oregon Association of Mediators

http://www.ormediation.org/

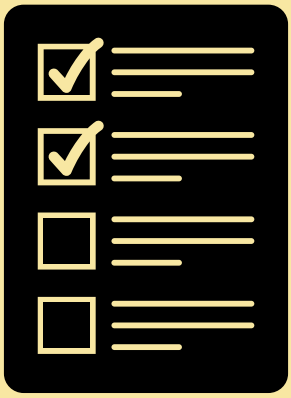
Nonviolent Communication

https://www.cnvc.org/

NOTES

PLAY #22

EXECUTING THE LEGAL REQUIREMENTS



Oregon Department of Agriculture team members visiting homes in the treatment area to gain resident signatures on consent forms.

DESCRIPTION

Legally, you may be required to gain consent from property owners or residents living in treatment area. There are a number of ways to accomplish this and you may be required to develop ad hoc and agile efforts with little prep time as the legal situation develops and you gain a deeper understanding of the project.

Associated Plays : 5, 13, 15, 16, 19, 20, 21, 23

CONSIDERATIONS

1. Define who you need consent from: residents, property owners, renters, land managers, etc.
2. Don't assume you can work with various property types in the same way (i.e. home, school, private business, etc.)
3. Brainstorm a list of potential ways to garner consent.
4. Speak with local invasive species specialists to see how they have gained consent. Balance the look of your consent forms. They need to be official but easy to understand.
5. A few methodologies the Oregon Department of Agriculture has experimented with are:
    - Utilizing an online consent form. The link to the from was provided in multiple post card mailers.
    - Going door to door with printed consent forms and brochures.
    - Handing out consent forms at public outreach events and manned library/ grocery displays.
    - Working directly with school district maintenance staff or landscape managers of open space.
    - Placing door hangers on home doors to be collected day of treatment.
6. Have information available either online or in a handout when interacting with the public. At a minimum, have public health frequently asked questions available.

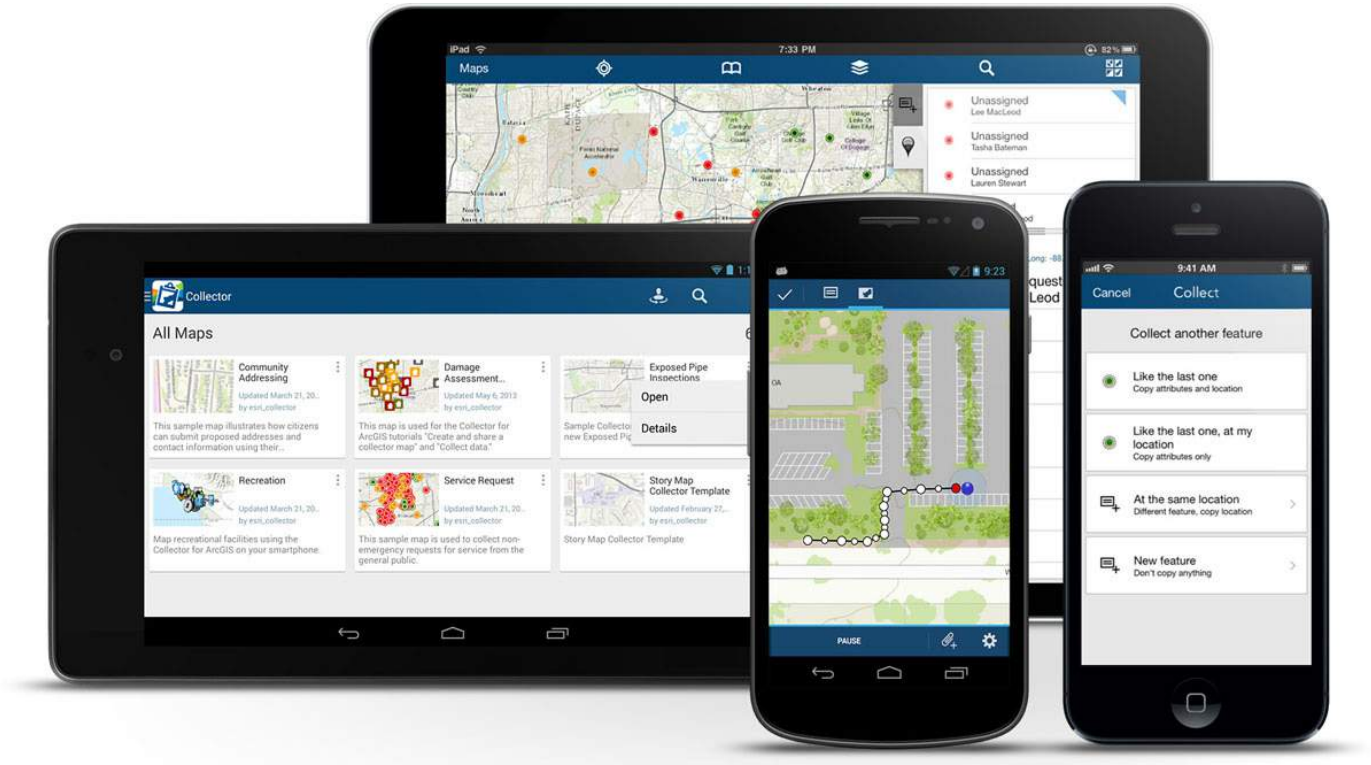
LESSONS LEARNED

Because of the frequency and magnitude of plant health emergencies some eradication activities can be unprecedented. This means that the project may be subject to political and judicial measure prior to implementation of operations. Also, plant health emergency statute will vary from state to state. In some cases the projects are planned and ready for implementation before the judicial and legal approval are gathered. A month before treatment started for the Japanese beetle project, we received notification from the Department of Justice that we needed to gain written or online consent forms from every property owner in the treatment area. After discussing our options, we chose to implement a door to door campaign. We utilized contractors to help coordinate, organize, and run the campaign. We tried several different ways to engage with residents and we found it most effective to leave a consent form hanging on the door with a request to sign and leave on the door. We also believe that the door to door work provided us with the opportunity to educate residents about our work reducing opposition to the project.

NOTES

PLAY #23

UTILIZE TECHNOLOGY FOR PROACTIVE TREATMENT LOGISTICS



Collector App used in Japanese beetle eradication project in Cedar Mill.

DESCRIPTION

For a large scale eradication project, logistics can be challenging and time consuming to plan for and track. Mobile GIS has been invaluable in bridging the gap between documenting required consent processes and tracking real-time treatment data.

Associated Plays : 2, 4, 13, 14, 17, 18, 19, 20, 21, 24

CONSIDERATIONS

1. Shaping community expectations of treatment tactics requires consistent and timely messaging.
2. Geographic information systems will fulfill several critical roles in implementing a complex eradication project. GIS can be used to document consent from residents, determine the treatment area size, real-time tracking of treated areas, and collect real-time environmental monitoring activities.
3. Use your procurement process to order product and material based on treatment area size.
4. Work with local environmental quality stewards to gather appropriate permits and permissions (mainly for aerial applications). Ask questions early to avoid potential issues.
5. Utilize daily treatment logs to create a detailed record of the project.
6. Request a Public Information Officer to be onsite during the first day of treatment to handle any media inquiries allowing treatment personnel to focus on the treatment.

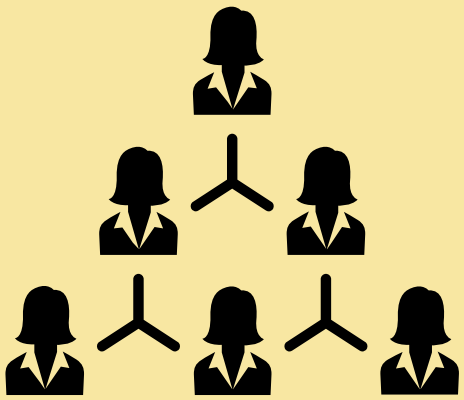
LESSONS LEARNED

During the Japanese beetle eradication, we used a mobile phone application called Collector. We were still receiving consent forms from residents after the treatment began. Collector allowed the office staff to update the database so the staff in the field could receive up to date notifications of who had and had not signed the consent forms. The off-site staff was also able to follow the treatment progress as staff entered each property as “completed” or “not completed” during the treatment. It provided accurate records for planning each day’s treatment block and up to date progress reports for agency leadership.

NOTES

PLAY #24

UTILIZE AN INCIDENT COMMAND SYSTEM



ORGANIZATION ASSIGNMENT LIST (ICS 203)

1. Incident Name:	2. Operational Period: Date From: Date To: Time From: Time To:

3. Incident Commander(s) and Command Staff:	
IC/UCs	
Deputy	
Safety Officer	
Public Info. Officer	
Liaison Officer	

4. Agency/Organization Representatives:	
Agency/Organization	Name

5. Planning Section:	
Chief	
Deputy	
Resources Unit	
Situation Unit	
Documentation Unit	
Demobilization Unit	
Technical Specialists	

6. Logistics Section:	
Chief	
Deputy	
Support Branch	
Director	
Supply Unit	
Facilities Unit	
Ground Support Unit	
Service Branch	
Director	
Communications Unit	
Medical Unit	
Food Unit	

7. Operations Section:		
Chief		
Deputy		
Staging Area		
Branch		
Branch Director		
Deputy		
Division/Group		
Division/Group		
Division/Group		
Division/Group		
Branch		
Branch Director		
Deputy		
Division/Group		
Division/Group		
Division/Group		
Division/Group		
Division/Group		
Branch		
Branch Director		
Deputy		
Division/Group		
Division/Group		
Division/Group		
Division/Group		
Division/Group		
Division/Group		
Air Operations Branch		
Air Ops Branch Dir.		

8. Finance/Administration Section:	
Chief	
Deputy	
Time Unit	
Procurement Unit	
Comp/Claims Unit	
Cost Unit	

9. Prepared by: Name: _____ Position/Title: _____ Signature: _____

ICS 203 | **IAP Page** _____ | Date/Time: _____

A sample ICS form from the FEMA website.

DESCRIPTION

Incident Command Systems (ICS) are utilized by the Federal Emergency Management Agency to provide effective managements systems for people in a common organizational structure. ICS is most useful for eradication projects where there is an increased level of risk due to human error or technical malfunction. It would be best utilized for an aerial application over populated areas. An ICS-lite system could be utilized for on the ground projects.

Associated Plays : 8, 11, 19, 22, 23

CONSIDERATIONS

1. Explore worst case operational scenarios or emergencies for the project and determine if an ICS system would be useful. Do a brainstorm of possible situations, prioritizing situations to explore, and determine whether mitigation plans need to be developed.
2. Connect with other natural resource agencies who may utilize ICS. Ask for guidance in employing ICS or ask for assistance in developing an ICS. A good place to start would be agencies who provide aerial services, such as firefighting.
3. Develop your ICS concurrently with your communications and operational plan.
4. In an ICS, also include responses to volatile media coverage and insecticide spills.

LESSONS LEARNED

During the Asian gypsy moth project we contracted with the Oregon Department of Forestry to provide air support for the eradication. They utilized the Incident Command System which was successful in providing guidance during a spill we had. We liked the framework so much, we used it during the Japanese beetle eradication to coordinate between our treatment contractors and agency staff. The framework provides clear guidance and helps project managers to thoroughly review the project's safety concerns shining light on blind spots and capacity overload.

LINKS AND RESOURCES

Federal Emergency Management Agency:

https://training.fema.gov/emiweb/is/icsresource/assets/reviewmaterials.pdf

National Wildfire Coordinating Group Blank ICS Forms:

https://www.nwcg.gov/publications/ics-forms

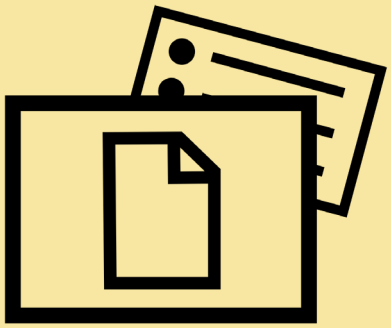
Worst Case Scenarios Brainstorm for Japanese beetle 2017:

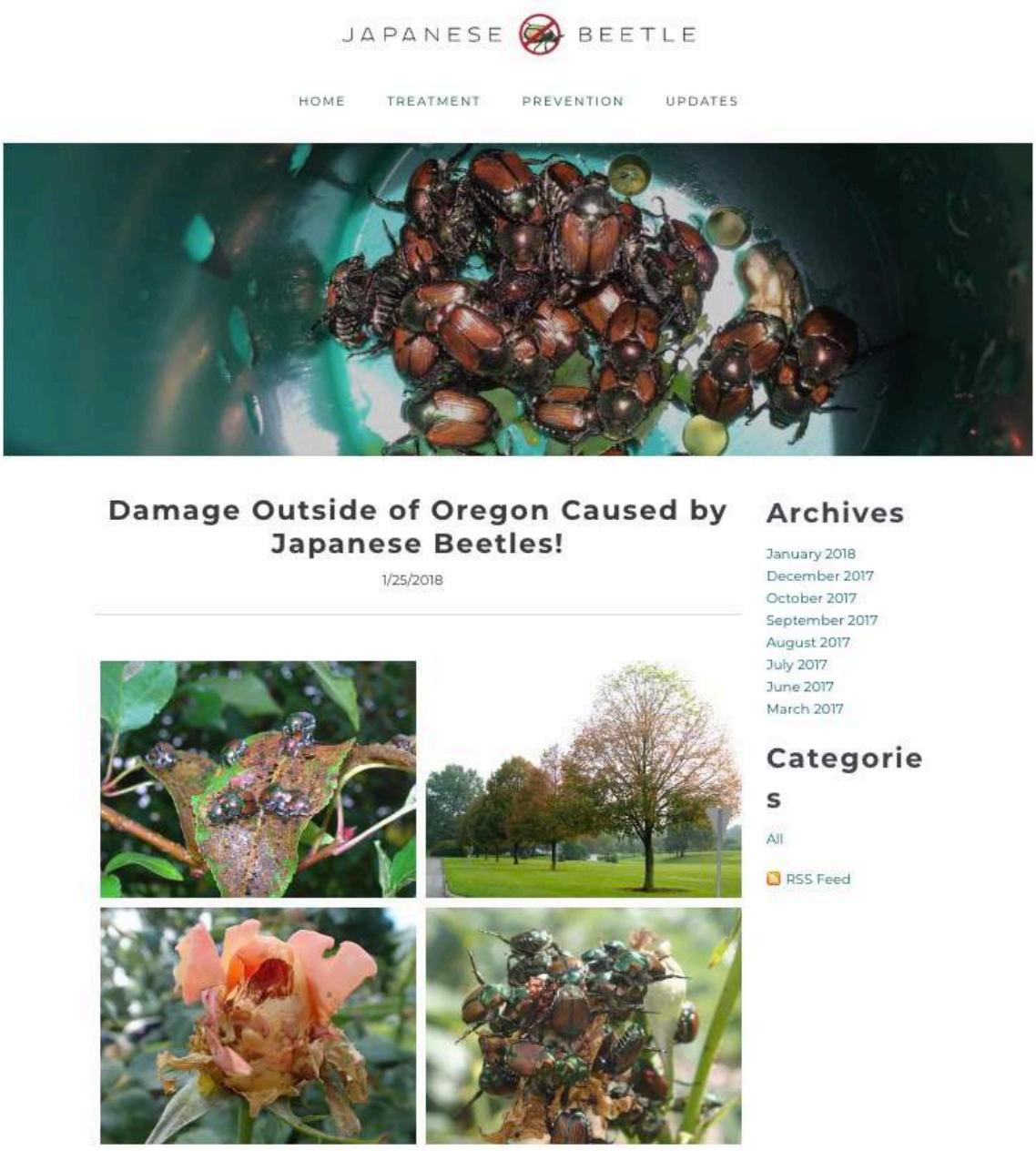
See Appendix, Page 112

NOTES

PLAY #25

DOCUMENTING THE PROJECT TO ENHANCE STORYTELLING





Showing examples of beetle damage in the treatment area as well as in other infested areas helped communicate the real danger of having an established population in the yards and gardens of community members. Photos top left and right provided by Mike Reding, USDA. Photos bottom left and right provided by Whitney Cranshaw lab, Colorado.

DESCRIPTION

Documenting the project serves multiple purposes. First, photographing or videoing key events provides documentation that is readily available to news services and partners. Second, it provides evidence of activities should the eradication be challenged in a court of law. Useful storytelling data supports ongoing communication efforts and is often required by the agency.

Associated Plays :

CONSIDERATIONS

1. Brainstorm the different metrics you can collect throughout the project and what you may need for after action reports, legal challenges, news stories and upcoming projects. Some examples include:
    - Documentation of every outreach event coordinated and attended.
    - Archiving news and media.
    - Photographing and videoing treatment as it is happening.
    - Documentation of the stakeholders you meet with and outcomes.
    - Creating a database of stakeholders and partners.
    - Capturing quotes from social media interactions, meetings and events.
2. Assign a team member the responsibility for documenting the project.
3. Create shared folders for the project team to archive information as it happens.

LESSONS LEARNED

For the Japanese beetle project, the consulting firm we contracted to help us with engagement and outreach managed a detailed customer relations management system. Within the system they tracked every attendance sheet from each meeting and outreach event with the stakeholder's information. We were able to quickly see who we interacted with, what agency or neighborhood they were with, and when we connected with them. This allowed us to have an excellent understanding of who was interacting with our project and helped us create a thorough list of partners we can contact for future projects. The first year we used a simple excel spread sheet that was complicated to search and use quickly. The upgrade to an online application allowed us to be more efficient and well researched.

We also found that professionally photographing the treatment provided us the ability to show stakeholders what the insecticide looked like and how it would be applied. The Public Information Officers also created short interview videos with the project lead that was shared with news agencies and posted on social media. Both of these activities allowed residents in the treatment area to visually see the treatment and helped with comfort levels.

NOTES

PLAY #26

CLOSE THE PROJECT INTENTIONALLY

The Oregon Department of Agriculture held a series of debrief meetings after the treatment.

DESCRIPTION

The end of projects can often be challenging to close well with a diverse set of stakeholders. Planning for how you will end the project will ensure that closing out the project is not an afterthought. Providing your stakeholders with a project summary, key objectives achieved, and public outreach results will continue to inform your stakeholders and help you evaluate (and improve) the work.

Associated Plays: 1, 2, 5, 7, 9, 12, 15, 20, 22

CONSIDERATIONS

1. Consider what stakeholders need to know when the project is done. A few examples of information they may need to know include:
    - What were the outcomes of the project?
    - Was the project successful, why or why not?
    - Will there be additional treatments?
    - Should stakeholders expect more communication with you?
    - How can stakeholders provide feedback about their experience with the project?
    - How can stakeholders continue to protect the state from invasive species?
2. Conduct debrief meetings with partners and team members to provide the opportunity to voice overall perceptions of the project, suggestions for the next project, and to clear up miscommunications that could impact future working relationships.
3. Conduct a survey to the public or specific audiences to understand their experience with the project. This is helpful if the project is multi-year as it will reduce the likelihood of making the same mistakes twice.
4. Send official thank you letters to partners and stakeholders who contributed to the success of the project. If their participation was exceptional, can you submit them for an award?
5. Write up an after action report of the project to demonstrate the results and set the stage for future planning efforts.

LESSONS LEARNED

During the process of implementing the Japanese beetle eradication project we participated in 47 public and project related events. These activities translated into widespread community level understanding about the project. We also held extensive debriefs with our stakeholders and partners to understand where we needed to iterate our approach for the upcoming year.

APPENDIX

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Sample Communications Plan Outline

Outline of Helpful Communications Plan Sections for you and your partners.

- Project Focus
- Project Details
- Communications Plan Objectives
- Definitions and Acronyms
- Project Approach: Collaboration
- Org Chart
- Target Audiences
- Key Messages
- Communication / Outreach Materials
- Roles and Responsibilities
- Goals & Milestones
- Community and/or Asset Maps
- Initial Contact Team Protocols
- Frequently Asked Questions
- Timeline & Milestones

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Japanese beetle Worst Case Scenarios Brainstorm

DATA

- Data: Technology Doesn't Work
- Data: Jammed Cell Frequency
- Data: Wrong Information Recorded

RESIDENT

- Resident: Resident Changes Their Mind
- Resident: Has lots of Questions
- Resident: Reports Getting "Ill" due to treatment to an Oregon Department of Agriculture Employee or General Tree Crew
- Resident: Physical attack/assault towards Oregon Department of Agriculture or General Tree
- Resident: Wants to Call Someone
- Resident: Confused About Warrant
- Resident: Next to a "No" Property
- Resident: Video Tapes Application
- Resident: Locked Gate
- Solution: Reschedule, note reason on door hanger
- Resident: Irate/Angry
- Resident: Said "Yes" to Consent, but Refuses Entry
- Resident: Asking Tons of Questions

INJURY

- Injury: Dog Bite (ODA or General Tree)
- Injury: Physical Attack (ODA or General Tree)
- Injury: Car Accident (ODA or General Tree)
- Injury: To a Resident by ODA, General Tree, or Equipment

NEIGHBORHOOD

- Neighborhood: Protest
- Neighborhood: Media arrives

PROPERTY

- Property: Damage by ODA or General Tree
- Property: Abused or dead animals found on someone's property
- Property: Beehives are found on property
- Property: Fish Ponds are found on property
- Property: Standing Water
- Property: Doesn't have a lawn flag

WEATHER

- Weather: Raining
- Weather: High Winds

EQUIPMENT

- Equipment: Malfunction

APPLICATION

- Application: Off Target
- Application: Spill
- Application: Pesticide Investigation
- Application: Run Out Of Product

IMAGE APPENDIX

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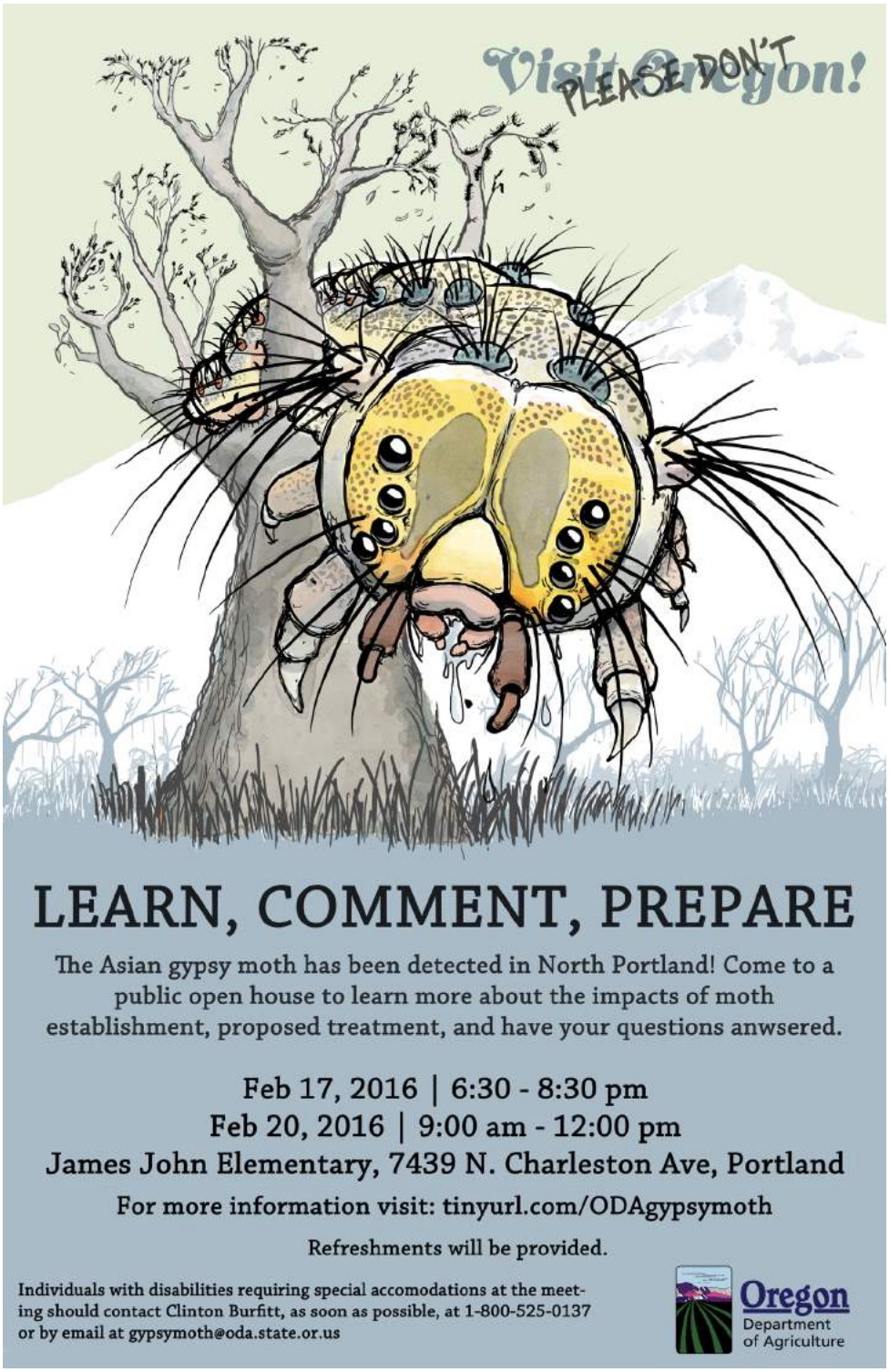
Open House Event Poster



General Information

What is the Asian gypsy moth? Why is it a problem?
The Asian gypsy moth (*Lymantria dispar asiatica*) has a big appetite for many of the tree species that grow in our natural and urban forests. Each caterpillar can grow up to 2 inches long and consume up to 11 square feet of foliage from May until June. When abundant, caterpillars can completely defoliate trees. Large numbers of caterpillars, and their resulting droppings and silk strands can also be a nuisance. Asian gypsy moth caterpillars have voracious appetites, feeding on over 500 tree and shrub species. This pest threatens Oregon's forests and suburban landscapes.

Asian gypsy moth male (left) and female adults at rest.

How does Asian gypsy moth get to North America?
The Asian gypsy moth is native to Far East Asian countries such as Russia, China, and Japan. Female moths frequently lay their egg masses on cargo ships and shipping containers. These hardy egg clusters often survive to hatch at ports of call around the world, including the United States. Since 1991, there have been 20 introductions of Asian gypsy moth in the U.S., all of which were eradicated successfully.

How many moths were found in Oregon?
In 2015, three Asian gypsy moths were found in the Portland area. Although this doesn't sound like very many, this indicates to experts that a breeding population has been introduced to the St. Johns/Forest Park and Rivergate areas. These moths have not been detected in Portland since 2001, despite intensive trapping each year.

How is AGM different from EGM?
Unlike the closely related European gypsy moth which is established in some parts of the United States, Asian gypsy moth females are active fliers and feed on a wider range of plants. The Asian gypsy moth could quickly spread throughout the United States. The only way to tell Asian gypsy moth apart from European gypsy moth is with DNA tests. All gypsy moths that are detected in Oregon are subjected to molecular testing to discern their identity.

Are there any health risks associated with the Gypsy Moth?
Gypsy moths are mainly a threat to trees and shrubs. When the number of the caterpillars has been very high, some people have reported allergic reactions. The gypsy moth caterpillars have spiny hairs which can cause welts or a rash, lasting up to 4-5 days. Population levels of gypsy moth in isolated infestations, such as those we have in Oregon, do not normally pose any health risks.

BtK and Gyspy Moth Management

What is *Bacillus thuringiensis subsp. Kurstaki* (Btk)?
Bacillus thuringiensis (Bt) is a widespread bacterium commonly found in nature in soil. *Bacillus thuringiensis subsp. Kurstaki* (BtK) is just one several dozen subspecies of Bt. BtK spores, have protein crystals that contain a very specific insect toxin. When a caterpillar eats BtK on a leaf, the toxin enters in the gut of caterpillars, killing the insect by disrupting water and nutrient absorption.

BtK is used as a biological pest control agent on food crops and it is listed for use in organic food production by Organic Materials Review Institute (OMRI). The formulation that will be used for eradication efforts in 2016 is Foray® 48B. BtK is specific for caterpillars in the order Lepidoptera (butterflies and moths) and controls cabbage worms, tent caterpillars, and other leaf-eating caterpillars. BtK is not effective for controlling adult insects.

BtK is effective on very early stages of caterpillar development. Btk does not harm other types of insects, spiders, birds, or mammals because of the absence of receptors and the different conditions in the mammalian (including human) gastrointestinal tract.

Isn't it "better to be safe than sorry" and completely avoid exposure to BtK?
If you live in North American, you have already been repeatedly exposed to BtK. Because BtK naturally persists in soil and is also sprayed on many crops (including those that are organically grown), it is likely that most of us have had contact with BtK during the course of our daily lives. If a person eats fruits and vegetables purchased at a grocery store, he or she has likely already ingested BtK, probably without any ill effects.

How can I protect myself from the effects of BtK spray?
Despite its record as one of the safest pest control methods available, some people may choose to minimize their exposure to the BtK spray. To do so, remain indoors at least 10 minutes after the helicopters have finished spraying. Wait until spray or dew has dried before letting children play outside. If for some reason you come in contact with BtK spray, wash the affected area with soap and water.

Will BtK sprays kill other butterflies?
Yes, but they will not eliminate them. Btk only kills butterflies and moths that are in the caterpillar stage. Most of Oregon's butterflies, including Monarch butterflies, are not in the caterpillar stage until over a month after the aerial spray. BtK breaks down in sunlight, and has little or no residual effects. Only small parts of the forest are targeted for spray. Butterflies outside the spray area are not affected and will most likely repopulate the spray area.

Asian gypsy moth caterpillar. Photo by Didier Descouens

How is BtK insecticide used to kill gypsy moth?
In Oregon, BtK applications are applied from aircraft to areas where gypsy moths threaten trees and the public. A series of three sprays is applied in early May, when caterpillars are small and most susceptible to Btk. Oregon will be using helicopters instead of fixed wing aircraft for more precise application of the insecticide and will avoid spraying over water.

Is BtK really safe to use for treatment of gypsy moths?
Numerous studies over many years have yielded no evidence of significant problems to humans and mammals from using BtK on crops, in home gardens, or in gypsy moth sprays. BtK's exceptional safety record extends all the way back to the 1960s, when it first came into use in the United States. After a thorough review of the toxicity of BtK products, including both active and inert ingredients, the U.S. Environmental Protection Agency, Health Canada, the World Health Organization, and many other groups have judged it safe and effective for aerial applications when used according to label directions.

Is BtK harmful to honey bees or their colonies?
Toxicity tests on honey bees are required for all pesticides during the registration process. The Reregistration Eligibility Decision (RED) for *Bacillus thuringiensis* in 1998 concludes that this "pesticide is not considered toxic to adult honey bees at the label use rates" and that "the risk to nontarget beneficial insects is expected to be minimal to nonexistent from the label uses of registered *B. thuringiensis* products" (US EPA 1998). A recent study from 2014 suggests that Btk aerial applications do not affect honey bee brood development under natural conditions.

How can I find out more information about the planned eradication activities and or sign up for notifications?
If you have been exposed to Foray® 48B and you have concerns about possible health effects, wash the affected area with soap and water and contact the Oregon Poison Center at 1-800-222-1222.
For non-urgent questions on Foray® 48B or Btk, contact the EPA-funded National Pesticide Information Center (NPIC), based at Oregon State University, by phone 1-800-858-7378 (M-F, 8AM-12PM) or email npic@ace.orst.edu.

You can learn more about pesticides on NPIC's website
http://npic.orst.edu, and review their Btk Fact Sheet
http://npic.orst.edu/factsheets/BTgen.pdf,
or their YouTube video on *Bacillus thuringiensis* (Bt)
https://youtu.be/3aLj1WmzL98.

For general information about applications of Foray® 48B, planned for April and May 2016 please contact Oregon Department of Agriculture's (ODA) Plant Protection and Conservation Programs staff at 1-800-525-0137 (Mon. – Fri., 8AM – 5PM) or by email: gypsy moth@oda.state.or.us.

To hear pre-recorded information about the status of the project on the days that sprays are scheduled (or on weekends), please dial 211.

For more information on gypsy moth:
http://www.oregon.gov/ODA/programs/IPPM/SuppressionEradication/Pages/SuppressionEradication.aspx

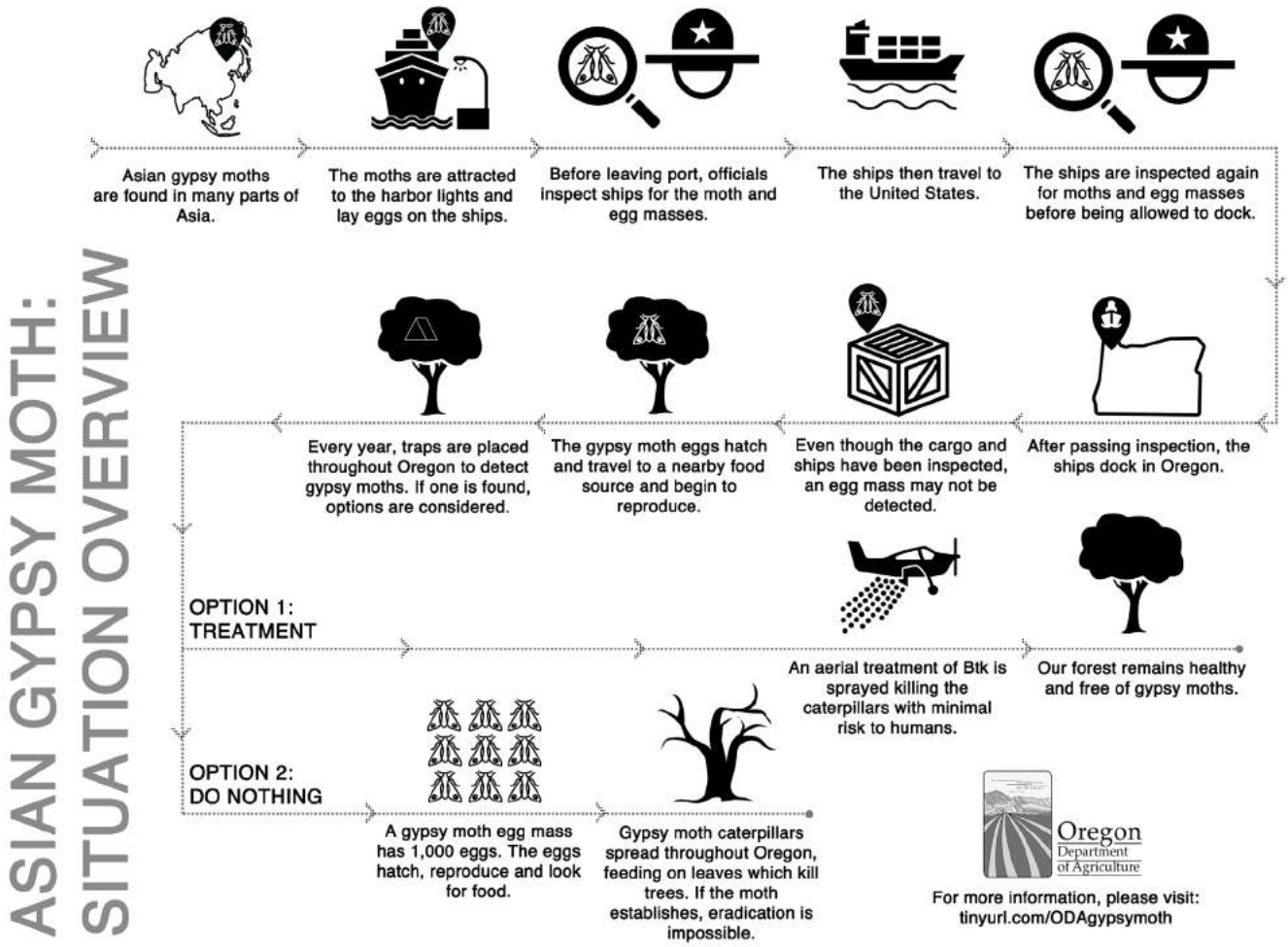
To sign up for notifications and information:
http://www.oregoninvasivespeciescouncil.org/agm
or by calling ODA Plant Protection and Conservation Programs staff at 1-800-525-0137 (Mon. – Fri., 8AM – 5PM). If after hours, please leave a voicemail with the information needed for the notification method(s) you prefer

Created March 2016. Photos courtesy of Thomas Shahan, Oregon Dept. of Agriculture unless otherwise noted.

Frequently Asked Questions about

Asian Gyspy Moth Eradication

Page 83
Situation Overview



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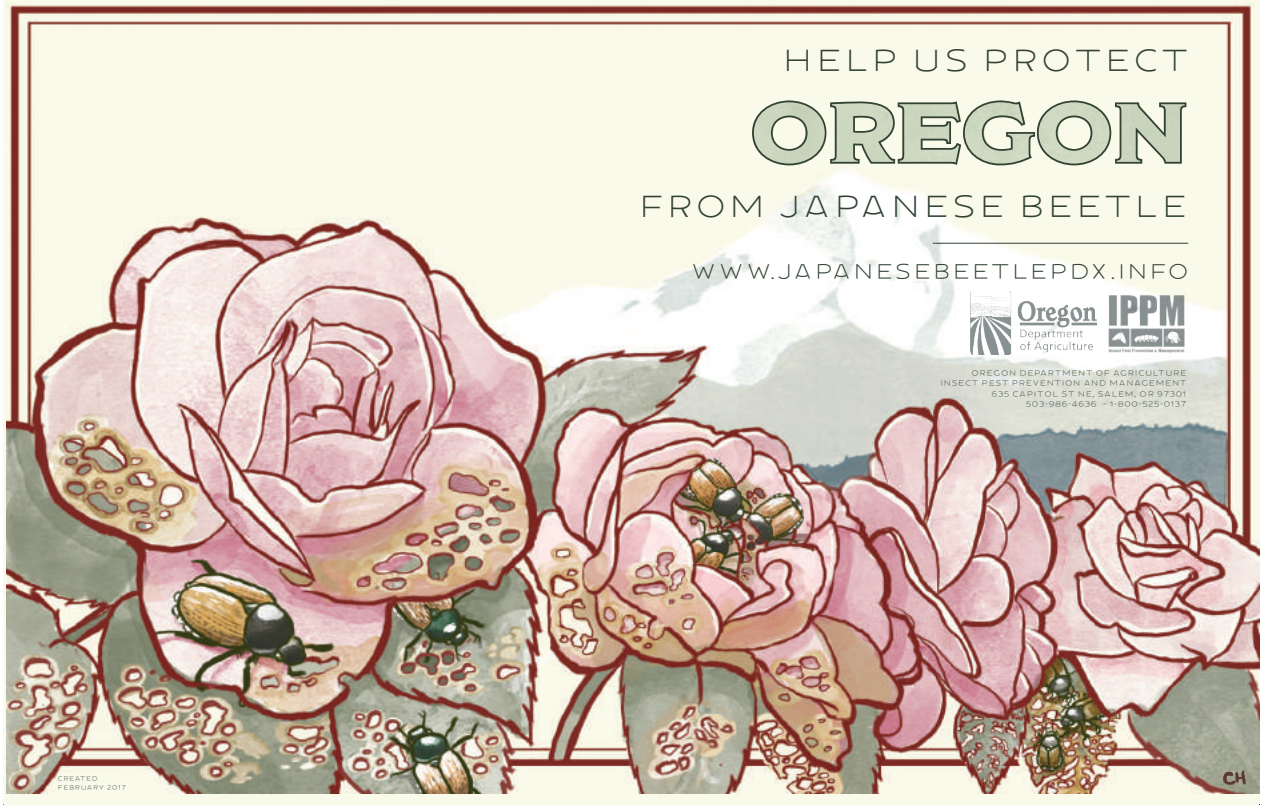
Japanese Beetle Poster Series



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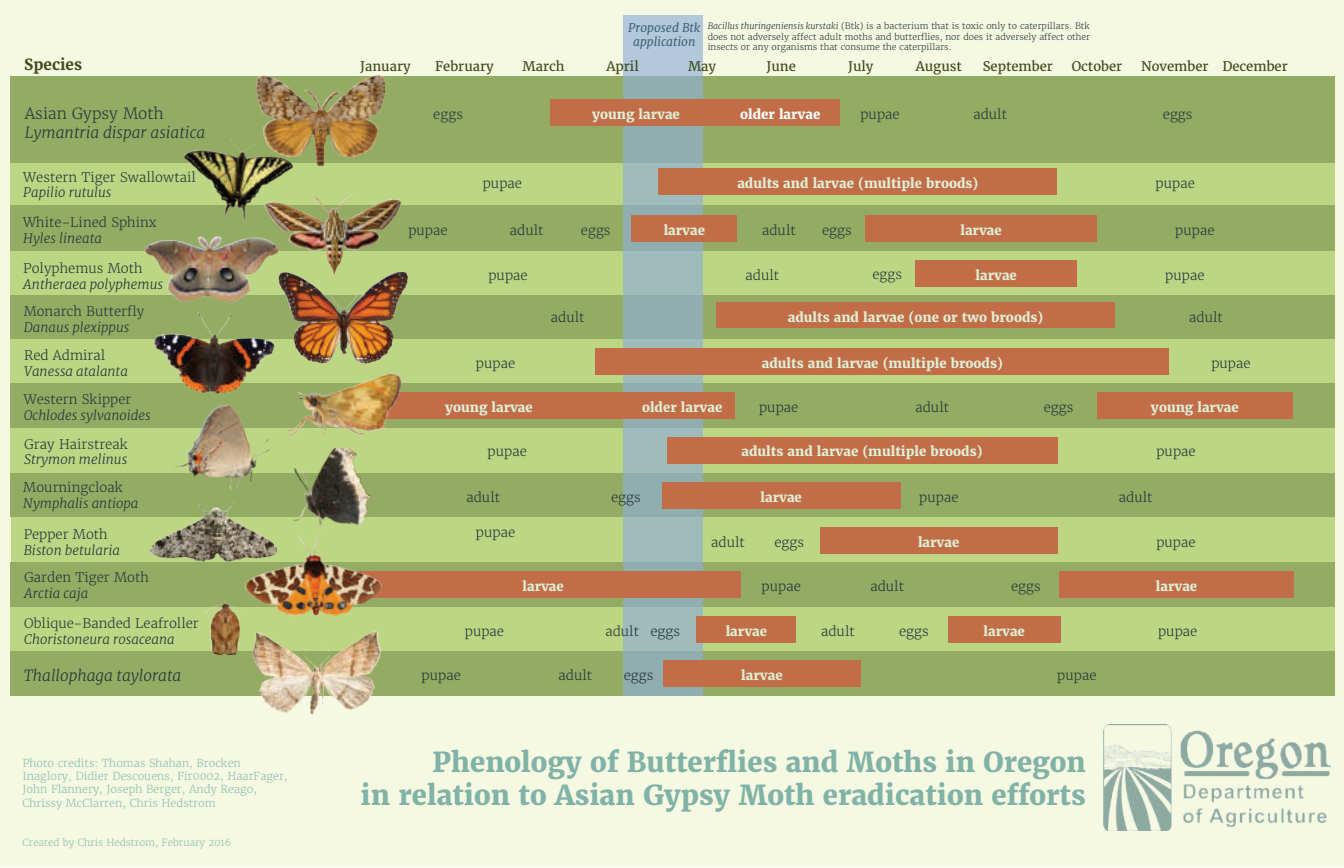
Lepidoptera Phenology



Page 83
Open House Poster

HELP US

SAVE OREGON

FROM JAPANESE BEETLE

Oregon Department of Agriculture is beginning its second year of the Japanese beetle eradication program. Come to a public open house to learn more about impacts of beetle establishment, the proposed treatment, and have your questions answered. Representatives from Oregon Department of Agriculture and supporting agencies will be in attendance.

February 6th | 5:30 pm – 7:00 pm
Sunset High School, 13840 NW Cornell Rd, Portland OR 97229

February 13th | 9:30 am – 12:30 pm
Leedy Grange, 835 NW Saltzman Rd, Portland OR 97229

Refreshments will be provided.

For more information on the project visit:
www.JapaneseBeetlePDX.info

Individuals with disabilities requiring special acomodations at the meeting should contact japanesebeetle@oda.state.or.us or 1-800-525-0137

Oregon Department of Agriculture

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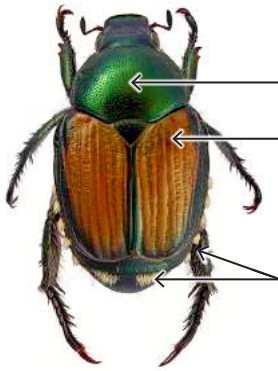
Look a Like Guide

OREGON DEPARTMENT OF AGRICULTURE FACT SHEETS AND PEST ALERTS

Japanese Beetle
Look-alike Guide

IPPM Insect Pest Prevention & Management

Oregon Department of Agriculture



Metallic Green Thorax

Reddish-brown wing covers

White hairy patches

actual size 3/8"

A beetle must have all these characters and be the right size to be a Japanese Beetle!

Look-alikes

These beetles all have metallic colors but are not the same size, are shaped differently, or lack other Japanese beetle characters. Since there are 5,000 species of beetles in Oregon, there are many other beetles that might be confused with Japanese beetles, but all are different in size, color, or shape.

Ground Beetles

Golden Buprestid

Klamath Weed Beetle

Non-beetle pests common around houses

There are about 20,000 species of insects in Oregon. Two common around houses are the box elder bug and the brown marmorated stink bug. Neither of these have metallic colors.

Boxelder Bug

Brown Marmorated Stink Bug

If you think you've seen Japanese beetle, would like more information about our eradication program, or to be added to our mailing list, please visit www.JapaneseBeetlePDX.info • Email: japanesebeetle@oda.state.or.us
Oregon Department of Agriculture • 635 Capitol St NE, Salem, OR 97301 • 1-800-525-0137 • revised December 2017

The Oregon Department of Agriculture is seeking your support and is asking all residents in the treatment area to consent to the free treatment.

Please return your consent form

right away!

IPPM
Insect Pest Prevention & Management

Oregon
Department
of Agriculture

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How Japanese Beetle is moved

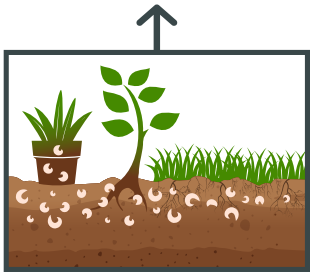
How Japanese beetle is moved

IPPM Insect Pest Prevention & Management

Oregon Department of Agriculture

SEPTEMBER–MAY

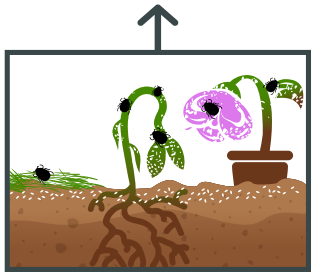
JAPANESE BEETLE LARVAE CAN BE FOUND IN SOD, TOP SOIL, ON ROOTS, AND IN POTTED PLANTS



Japanese beetle larvae feed on roots of grasses, severly damaging the plants. Japanese beetle larvae overwinter 4″ - 8″ below the surface.

JUNE–AUGUST

ANY YARD DEBRIS CAN MOVE BEETLES AND EGGS



Adult Japanese beetles feed on leaves, buds, and flowers of many common garden and landscape plants. Adult females commonly lay their eggs in well watered lawns.

actual size 1″

actual size 3/8″

Summer is the riskiest time to move yard debris and spread Japanese beetle

www.oregon.gov/ODA • www.JapaneseBeetlePDX.info • Email: japanesebeetle@oda.state.or.us
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