

# Setting Up A ROW Operation

By Harrison Hapgood



# My Background

- Bachelors Degree In Biology
- Forestry Contractor For 6 years
- Hood River County Forestry Dept. For 1 year
- VM Agronomist For Wilbur Ellis Almost 2 years

## Experience

- Roadside Application
- Aerial Application
- Spot Spray & Broadcast
  - Vehicle & Backpack



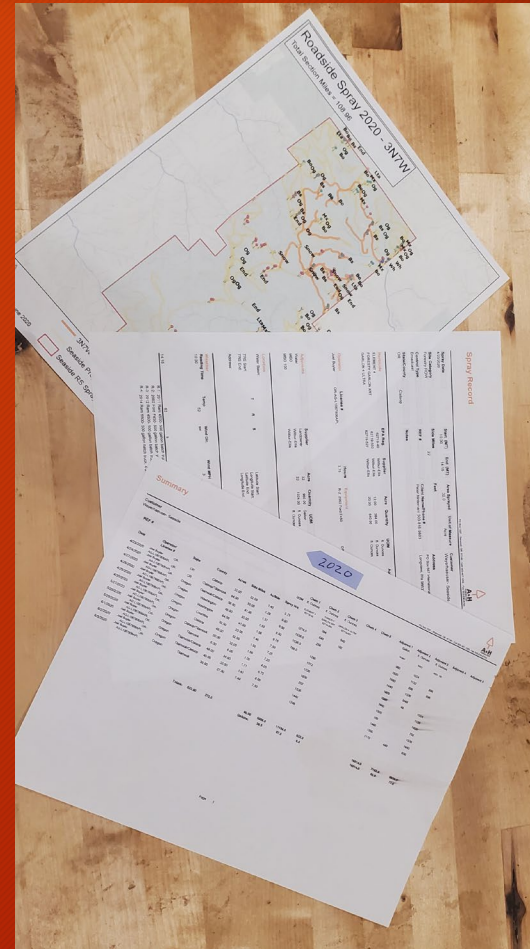


# Putting Together The Right Plan

- Separating out road systems
- Identifying problem areas and vegetation types
- Types of ROW applications
- Correct herbicides, adjuvants and timing for the best ROW management

# The Planning Phase

- Identifying the budget
- Identifying problem areas and roads
- Mapping (GIS?)
- ROW Marking (forestry)





# Identifying the Budget

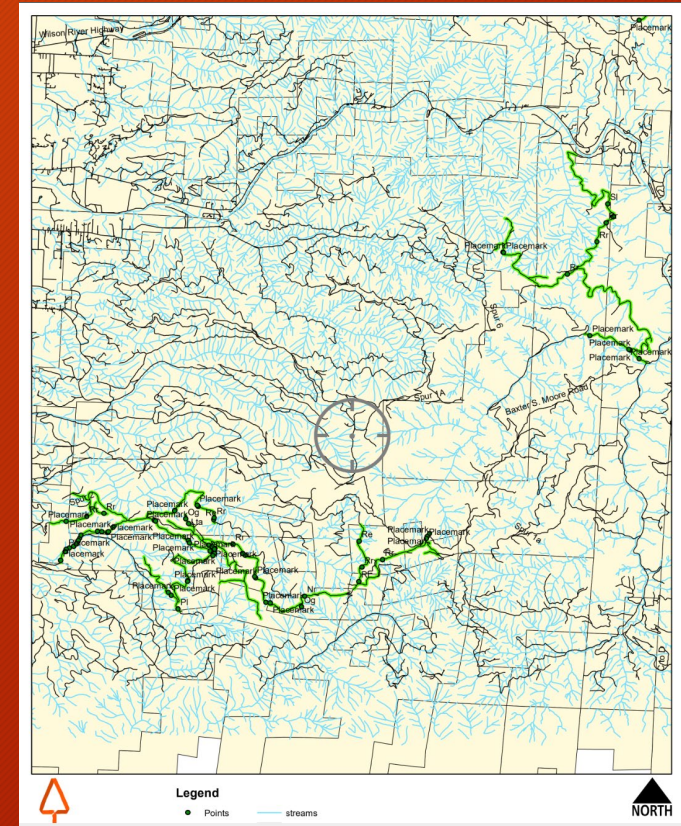
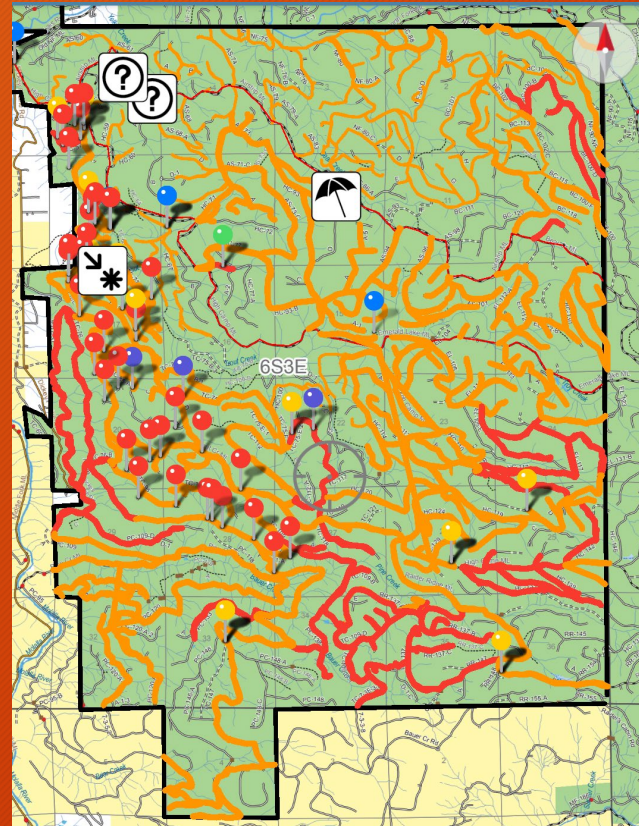
- Things you will need to know
  - Amount of Road Miles
  - Cost of labor per mile
  - Identify problem roads and repeat roads
  - Identify the right herbicides and adjuvants
  - Rate of application per acre or mile
  - Total cost of chemical

# Identifying the Budget

- Establish a budget for road systems you have
- Most of the time there are more road miles than the budget allows
- Rotation of roads is the best answer
- Break the project into a 1, 2, or 3 year rotation
- Only alter if agency buys or sells more land accommodating more ROW or new invasives weeds move into the area
- If budget matches cost for all ROW, it is recommended to spray the entire system once a year to decrease herbicide cost



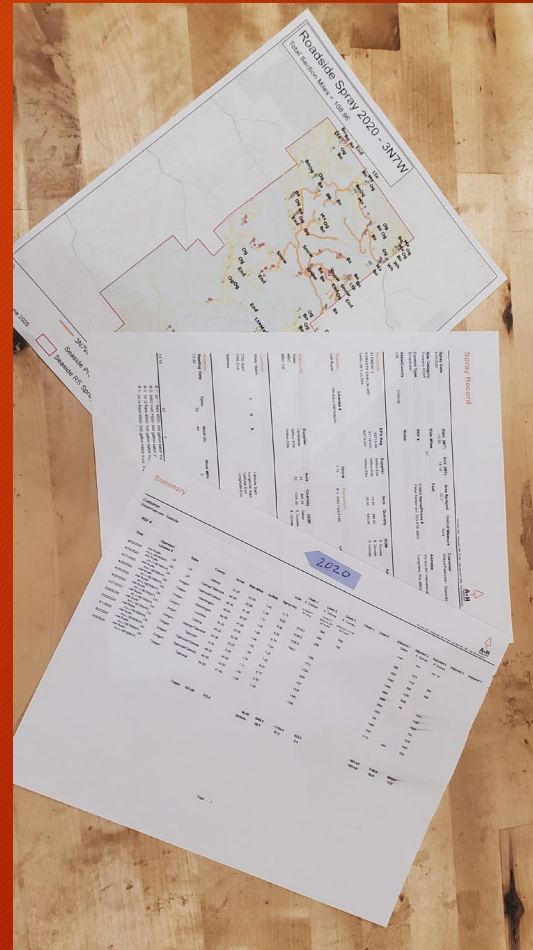
# Identifying the Budget





# The Planning Phase

- Identifying the budget
- Identifying problem areas and roads
- Mapping (GIS?)
- ROW Marking (forestry)







# Identify Problem Roads



## Establish a Plan For The Problem

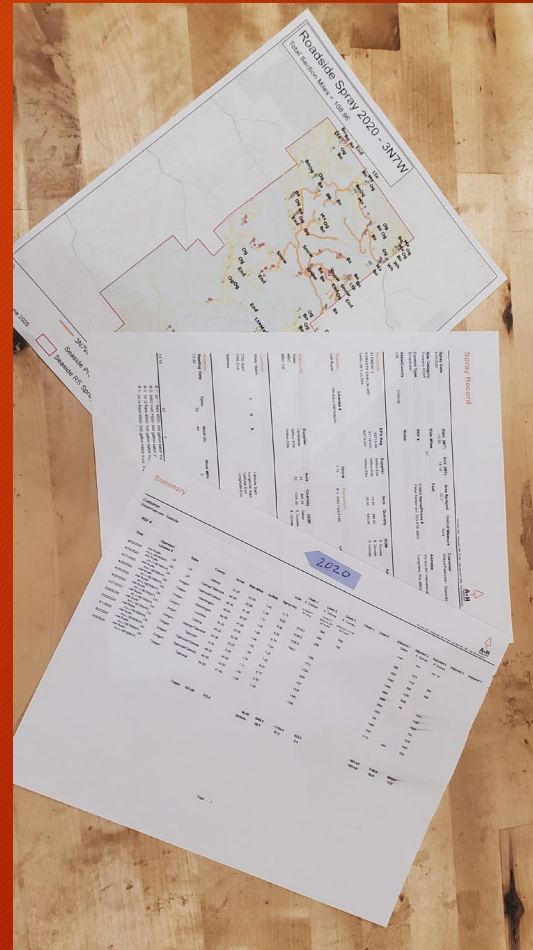
- Do roads need to be brushed before spraying can happen?
- Do roads need to go on multiple years application until control is established?
- Will roads need to continuously be treated every year?





# The Planning Phase

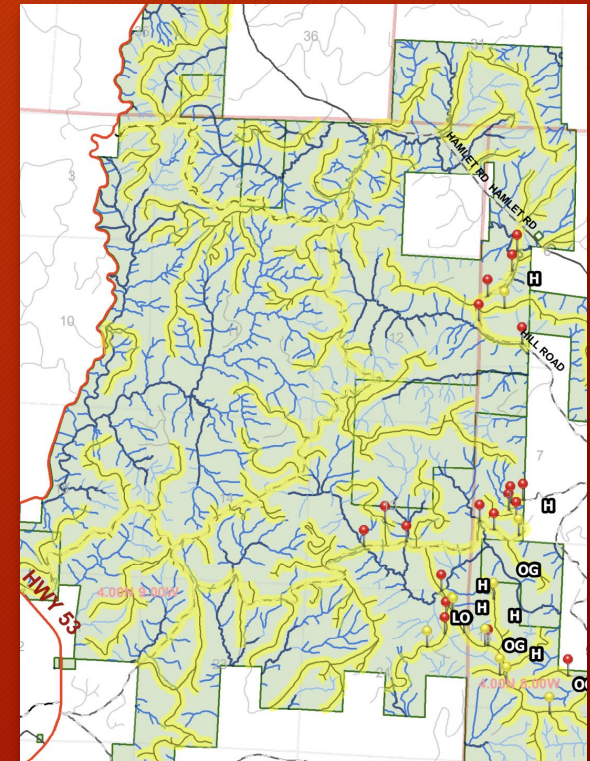
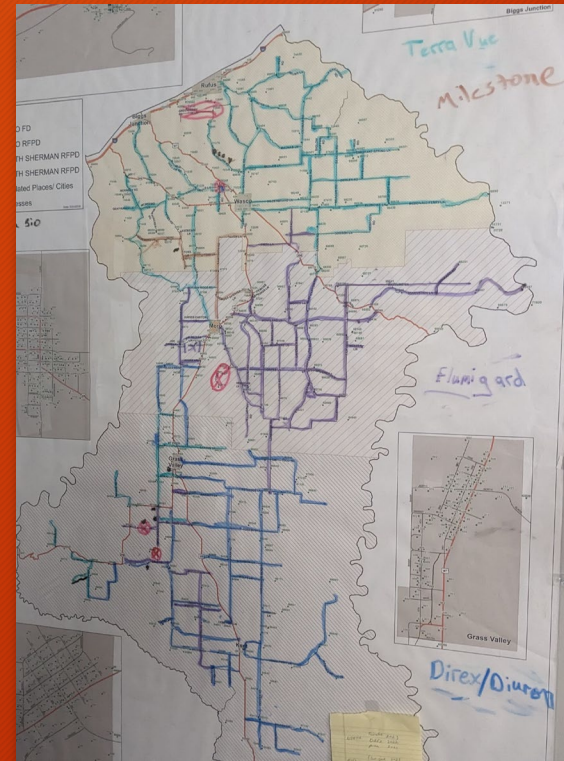
- Identifying the budget
- Identifying problem areas and roads
- Mapping (GIS?)
- ROW Marking (forestry)





# Mapping

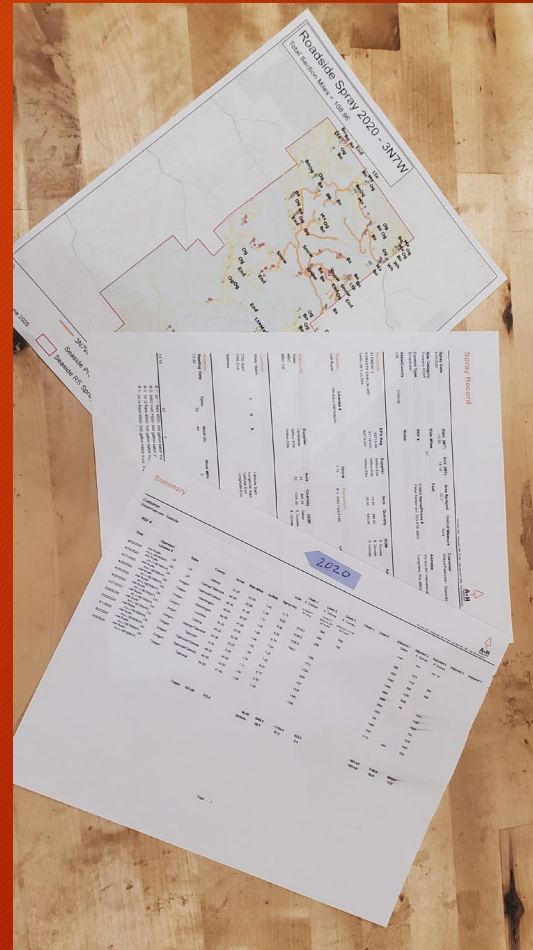
- Once budget is established and target road systems are identified, it is recommended to create a map of the road system needing treatment
- Geo-referenced map also recommended (ARC-GIS)
- If you don't already know your total miles this is where you find out
- Necessary Items: (Shape Files)
  - All Road Systems
  - Roads to be treated
  - Streams, and Water ways
  - Ownership





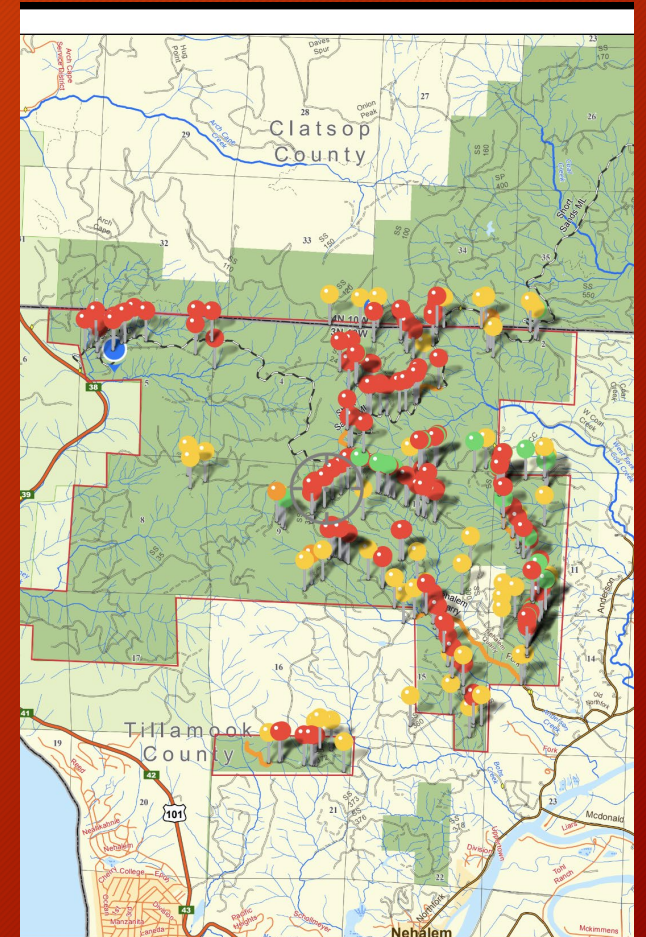
# The Planning Phase

- Identifying the budget
- Identifying problem areas and roads
- Mapping (GIS?)
- ROW Marking (forestry)



# ROW Marking

- Either contractor or agency can do this phase
- To have effective ROW Marking, you will want to include these aspects:
  - Steam Data
  - Additional Marking Data
  - Brushing Data
- Roadside marking is an excellent way to protect water quality





# Stream Data

- It is important to know your states laws and regulations on spraying near water
- Each state has different distance restrictions from water that herbicide can be applied
- It is recommended that you have marking for your spray truck operator at those distances, both physically and on a map
- If relying on physical marking, it **MUST** be visible both in color and in placement



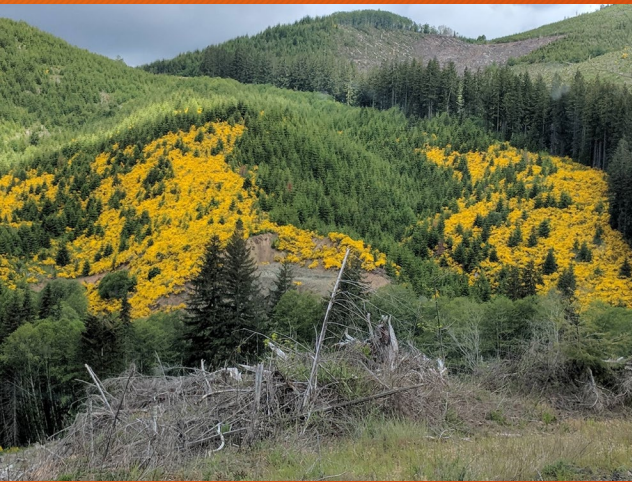
# Additional Marking Data

- These marking points are anything that would be of value to the operator
- Examples:
  - Turn around locations
  - Property boundaries
  - Road erosion
  - Water refill stations
  - Etc.



# Herbicide Time and Prescription

- **Timing-** Timing is everything, think about what you want to accomplish and what time of year would be most beneficial for you to achieve that goal
  - It is a lot easier to maintain bare ground than it is to create bare ground
  - At time of application, will roadside grasses be dead or still growing?
  - Some weed species can only be killed in early bud or rosette phase of growth





# Herbicide Time and Prescription

- **Herbicide Prescription-** When determining your roadside spray prescription, you must first know your predominant species that are along your roads
- Your herbicide prescription can be as basic or complex as your budget will allow





# Herbicide Time and Prescription

- Herbicide Prescription- Keeping it Simple
  - Examples of a simple herbicide mixture would be **Glyphosate, Triclopyr, MSO**. This will burn back or kill most vegetation of forest roads and unmaintained ROW.
  - Increasing the rates per acre will maintain your treatment effectiveness as the summer continues
  - Adding an ounce per acre of Escort XP will help with translocation and burn down





# Herbicide Time and Prescription

- Herbicide Prescription- Complex/Diverse Application
  - There is a variety of different chemical prescriptions that could be used to manage your ROWs
- 3 Scenarios demonstrating diverse application forms:
  - 1-Pre emergent treatment
  - 2-Post emergent; vegetation burn down
  - 3-Budgeting chemicals as needed





# Herbicide Prescription

- **Scenario 1: Pre-Emergent Control:** An application like this will stop weed species from developing on your ROW
- Use this application to maintain a bare ground control
- Use this application to prevent return of burned back or brushed back vegetation





# Herbicide Prescription

- **Scenario 2: Post Emergent; Vegetation Burn Down**
- This type of application could go back to that simple prescription while also adding some residual control by adding pre-emergent or using herbicides that have both a pre and post emergent effect
- **WARNING:** you will see “browning” or dead vegetation on your ROW with this type of application





# Herbicide Prescription

- **Scenario 3: Budgeting Chemical as Needed-** Due to the high cost of certain chemicals, Esplanade 200 SC being an example. The ability to turn on and off chemicals as needed is a significant financial bonus when working with a tight budget
- An application format like this is more labor endusive and timely but can be beneficial to accomplish all your needs
- You would need an injector truck that can switch between chemical tanks or a secondary sprayer to come back to locations where you want to utilize the more expensive chemical.



# Pre-Emergent Herbicides and Timing

- Pre-Emergent Herbicides are best applied in fall or early spring
- Ideally before weeds begin germination
- This is the best application to continue to maintain a bare ground setting
- **Herbicides:** Indaziflam, Sulfometuron Methyl, Flumioxazin, Aminopyralid
- **Adjuvants:** Efficax
- When working with pre-emergent products you want the chemical to get to the soil and not get held up in any vegetation



# Post Emergent Herbicides Timing

- This application is ideal in spring once plants have started to green up
- Applications can be made all through summer, however with later applications some weeds could have already produced seed and become more resilient to herbicide treatments
- As temperatures increase more chemical will be needed to have the same affect, increasing cost of the project
- **Herbicides:** Glyphosate, Triclopyr, Clopyralid, Imazapyr, Imazapic, 2,4-D, Fluroxypyr
- **Adjuvants:** Surfactant, Non-Ionic Surfactant, Deposition aid, Drift Control

# Budgeting Chemical As Needed

- Most of the expensive herbicides will be pre-emergent
- Timing should be fall or early spring
- Finding the places where there is well maintained bare ground and only using it in these sights or finding areas that could be brought back to bare ground with an early application of pre emergent herbicides
- Alternatively, if everywhere is clear bare ground and only a few select sights require a post emergent application



# IPM Treatment Types

- An effective Roadside Operation can utilize both IPM treatments. Streams left unsprayed or overgrown roads that need to be active can all be brushed out while utilizing herbicides to cover the rest
- Brushing- Mechanical brushing is an effective method but can be very costly and less efficient on how many miles that can be treated in a year. There are multiple ways this can be accomplished, depending on how overgrown the road systems are.
- Herbicide- Roadside Spray is the most cost efficient and maximizes the amount of road system that can be treated based on the budget. There are different methods to accomplish this task.

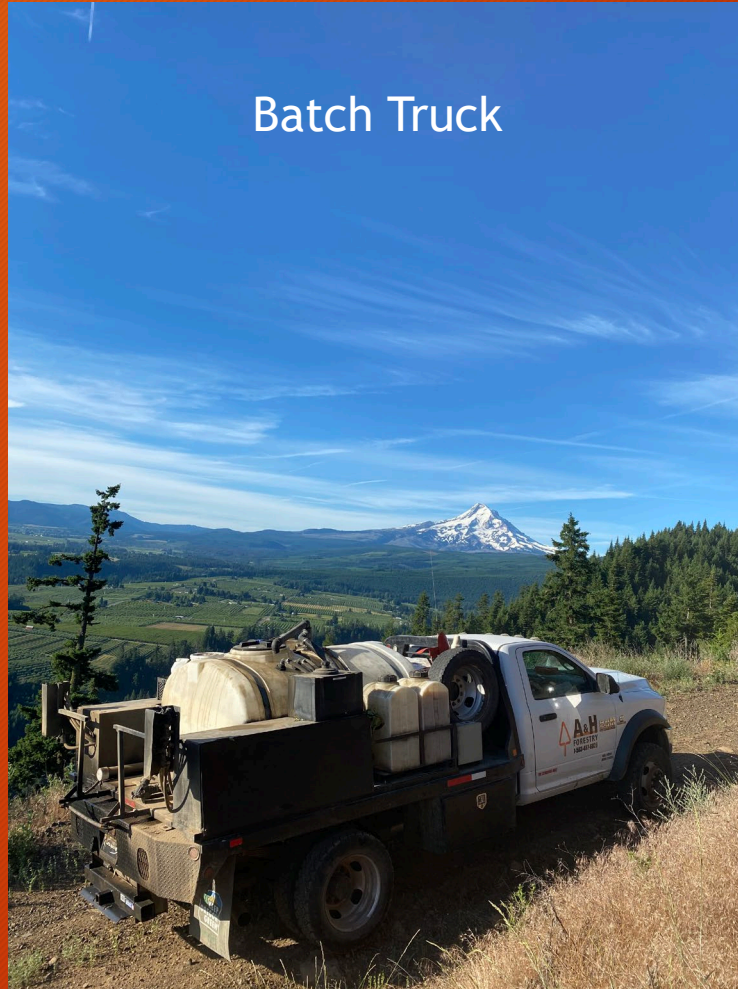


# Herbicide Road Treatment Methods

Injector Truck



Batch Truck



Hose & Gun/Batch Truck





# Final Break Down

- Finding out what the budget will allow for
- Deciding how to separate your roads
- Identify what herbicides are needed
- How to incorporate your IPM plan





# Utilize Your Resources

- Most of the project you will have a good idea how to manage
- There will always be difficult or questionable areas in every job
- Communicate with your sales rep
- **Its our job to help you!**



# Questions?

- Harrison Hapgood
  - (808) 896-1933
  - [harrison.Hapgood@wilburellis.com](mailto:harrison.Hapgood@wilburellis.com)
- Branch Address:
  - 9685 SW Ridder Rd #190,  
Wilsonville, OR 97070

