



The Southern Nevada Complex: *A Case Study of Assessment & Planning, Implementation, and Monitoring*

Karen Prentice

BLM-Ely District

Karen_Prentice@blm.gov

Matt Brooks

**USGS-Western Ecological
Research Center**

Matt_Brooks@usgs.gov

Randy McKinley

**ARTS/USGS-Center for Earth
Resources Observation and
Science**

RMcKinley@usgs.gov



*The Southern Nevada Complex 3rd Year Report:
Managing Fire Rehabilitation at the Landscape
Scale*

10TH ANNUAL MEETING
JUNE 12TH AND 13TH, 2009
BRISTLECONE CONVENTION
CENTER
ELY, NEVADA

PRE-REGISTRATION OPENS APRIL 15TH
FOR MORE INFORMATION CONTACT
BETSY MACFARLAN AT:
ENLC@SBCGLOBAL.NET OR ENVLC.ORG



My Task Today: Make It Real

Background

Fire Assessment and Planning

Seeding Implementation

Effectiveness Monitoring

Lessons Learned

6/20/05: Fire on the Tule

To Summarize, This is My Memory of 2005

GET STAFF!
Cultural

Horse Gather
Wilderness tracks

Rent a seed warehouse

Finalize Monitoring Plan

GET STAFF!



DR/FONSI
Rent a seed mixer
Desert Tortoise habitat loss
Process Agreement for monitoring

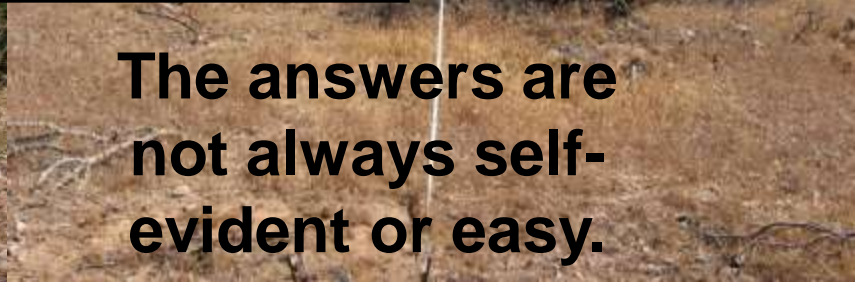
Consultation

Contract Seeding
Communicate

2006 Fire Season: Ely writes 46 plans



**Do We AGREE on
what we are
aiming for?...**



**The answers are
not always self-
evident or easy.**

Some members of the collaborative planning and implementation team that struggled to define and to implement a shared vision:



- Eastern Nevada Landscape Coalition: Neil Frakes, Lara Derasary, Tenille Lenard, Greg Gust, Tim Lewis and others
- USFWS: Christianne Manville
- BLM-Many staff in Ely, Las Vegas, Arizona, Utah, Regional Seed Warehouse, Nevada State Office, and WO-220.
- USGS-WERC: Matt Brooks, Lesley DeFalco, J.R. Matchett, Todd Esque, and others
- USGS-EROS: Jeff Eidenshink and Randy McKinley
- NDOW: Brad Hardenbrook and Mike Scott
- DOI BAER team
- Bechtel: Kent Ostler
- And many, many, others

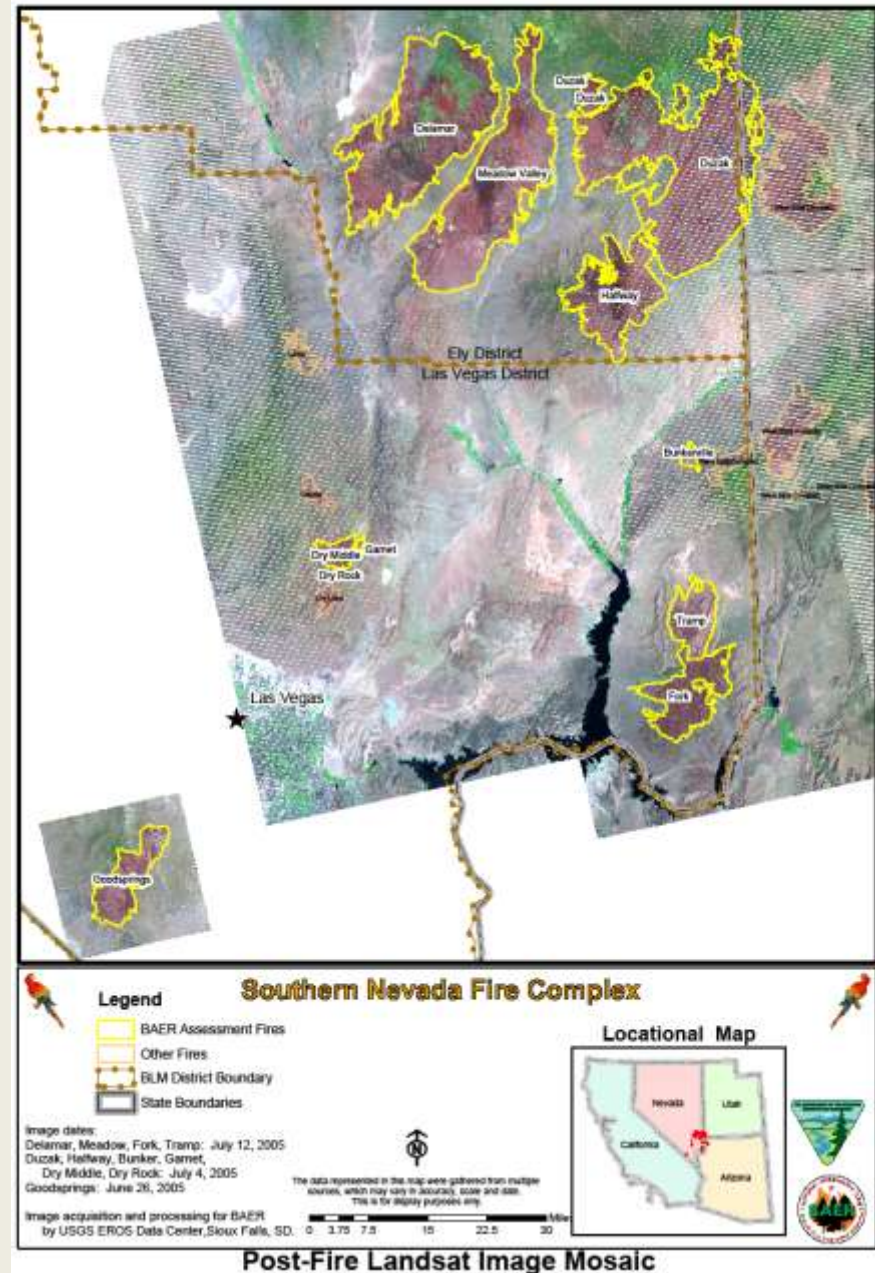
Personal networks are important. As the federal workforce retires, it is vital that these networks be fostered and that new staff are quickly brought into the fold.

History & Context

On June 20, 2005 dry lightning started several small fires in the Ely and Las Vegas Field Offices. A Type II team was ordered on the 22nd and reported the 23rd.

Approximately 740,000 acres burned.

Contemporaneous fires in California, Utah, and Arizona raised strong regional concerns about the loss of desert tortoise habitat and other resources.



Emergency Stabilization plans develop quickly. Pre-planning and pre-existing networks are vital.

- Within 7 days of containment date: 1310-20.
- Within 21 days of containment date: completed ES plan (for each district/fire/specification).
- Within 6 days of plan submission: approving office must approve and fund plan or return for revision.
- Within 1 year of containment: complete approved work.
- *Also: Monitoring is funded for 3 years from containment. Funding is received one fiscal year at a time and must be reapplied for each year.*



Other funding sources, such as Burned Area Rehabilitation funding and partnerships, have different funding mechanisms and timelines.

Administrative Realities: *Typical* BLM Funding/Contracting Timelines

The fiscal year ends 9/30. No contracts are issued for the last week of the old fiscal year and the 1st couple weeks of the new fiscal year.

- Mid-July: PRs for summer seed buy are due. Seed is generally ready to be mixed and applied in late October.
- Mid-Oct: PRs for fall seed buy are due. Seed is generally ready to be mixed and applied in January.



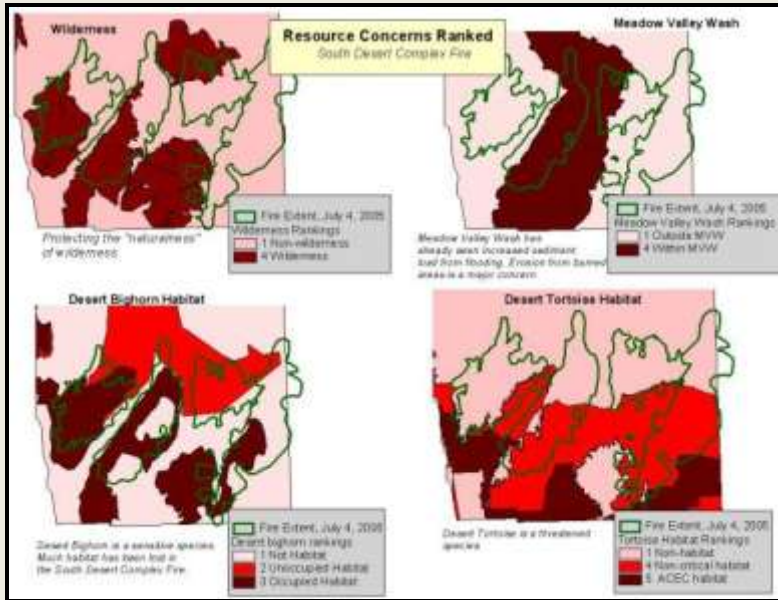
Precipitation peaks in Nov/Dec. Ideally, seed is on the ground before this time.



Fire Assessment & Planning

Itcho Hanabusa (1652–1724).

During Suppression: Ely Field Office GIS Assessments and field assessments



Communication with Resource Advisors was very difficult.

Staff from Winnemucca, Elko, and Susanville came to assist with ground assessments. This was key.

Networking and Communication: Ensuring a Regional, Intra- and Inter-Agency Approach

- Field Offices: Ely and Las Vegas ESR Coordinators start working together very early. Each contributed uniquely (inter-agency connections/program familiarity).
- D.C.: National Program lead was talking with other agency leads and with BLM program leads.
- Several inter-agency calls were held. Ely and Las Vegas ESR Coordinators hosted an inter-agency meeting on Thursday, 7/7/05. At this meeting, it was determined that a project lead was needed and that it was not possible to activate a DOI-BAER team lead without calling the rest of the team. **Therefore, the decision to call a DOI BAER team to work with Ely, Las Vegas, and Southern Utah was made. Shortly thereafter, Southern Utah decided to prepare their own plan.**



Scale issues: The magnitude of desert tortoise habitat loss and the discrepancy in absolute fire size that caused concern in any one management area.

Topics in the Air: June & July 2005

- “Why do any thing in the Mohave?”
- Regionally, if a major percentage of desert tortoise habitat has burned- how should resources be allocated and should some areas be triaged out? After it burns-is it still desert tortoise habitat?
- Is aerial seeding acceptable or is it “throwing away seed”?
- When mechanical seeding is technically feasible- is it desirable in light of soil crusts and desert tortoise?
- Can seeding techniques such as soil pitting, that are not traditionally used in the Great Basin, be funded with Emergency Stabilization or Rehabilitation Funds?
- When is hydromulching a valid use of ES funds?



Should the use of introduced plants be considered-at all? in Wilderness? In desert tortoise habitat? In desert tortoise critical habitat?

DOI BAER Assessment & Planning

DOI BAER reported July 13 and worked with local staff from Ely and Las Vegas to prepare site assessments and emergency stabilization plans. The team wrapped up 7/25 and submitted the plan to the Field Offices on 8/2.

Recommended treatments included:

- Seeding desert tortoise habitat
- Local seed collections of species preferred by desert tortoise
- Applying herbicides along roads in desert tortoise habitat (not funded)
- Gathering wild horses and burros
- Exclusion fence construction and reconstruction
- Public safety assessments
- Cultural site assessments
- Monitoring



Plan acceptance & implementation timeline

- **First fire starts: 6/20/05**
- Official Complex Containment: 7/10/05
- DOI BAER closeout: 7/25/05
- F.O.s receive draft plan/draft NEPA: 8/2/05
- F.O.s revise seed lists, trim 5M off budget, and submit signed plan: 8/12/05
- DR/FONSI signed: 8/12/2005
- F.O.s finish the by district/by fire/by spec/by year budget and submit plan: 8/18/05
- The “6 day clock” starts: 8/18/05
- F.O.s receive joint NV/WO comments: 8/29/05
- F.O.s respond: 8/30/05
- Complex funded: 9/9/05 (last day of the seed buy!)
- 11/7/05: USFWS sends BLM a memo and splits consultation for suppression (formal) and BAER treatments (informal). Proposed conservation measures for BAER treatments were modified. BAER treatments authorized to begin in midNovember
- **Aerial seeding: Mid Jan-late Feb 2006**



Implementation activities were run jointly by the Ely & Las Vegas Field Offices for the first year and were closely coordinated, thereafter.

Two points that don't fit anywhere else

Tools should be calibrated for the application. According to first-cut BARC, this is light burn severity.

There is no call-out for implementation. People are needed desperately during the first 6-12 months. When new hires do come on, they usually have little experience with the program. Due to 3-year funding, ESR corporate knowledge is lost every 2-3 years.



Major staffing for the SNC was achieved by reassigning 2 fire fighters and one administrative assistant; 1-60 day emergency hire; hiring terms (took 1 year), assistance agreements with ENLC, IGO's with USGS, informal agreements with NDOW, and volunteers.



SEEDING IMPLEMENTATION

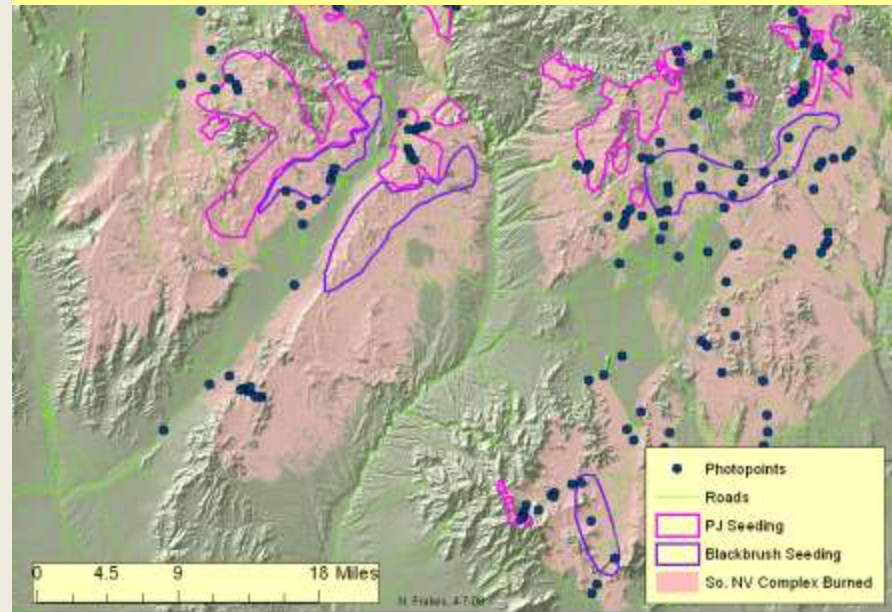
BAER PROPOSED SEEDING AREAS

Implementation: Identification of Seeding Areas

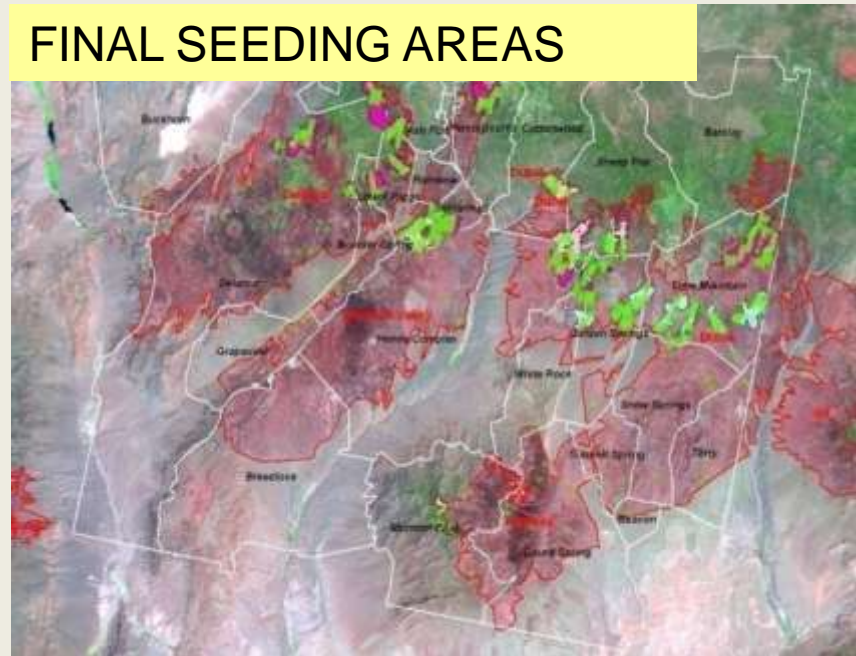
PROBLEM: Aerial seeding polygons from BAER plan totaled 141,000 acres; but, BAER plan stated that 57,242 acres should be seeded.

RS SOLUTION: Multidate Landsat imagery and “greenness” indices were combined with other layers to identify candidate areas with little regrowth. Goal was to seed areas that did not exhibit perennial regrowth 2 months post-fire.

GROUND SOLUTION: Validation teams were sent to conduct additional assessments and generate final seeding polygons.

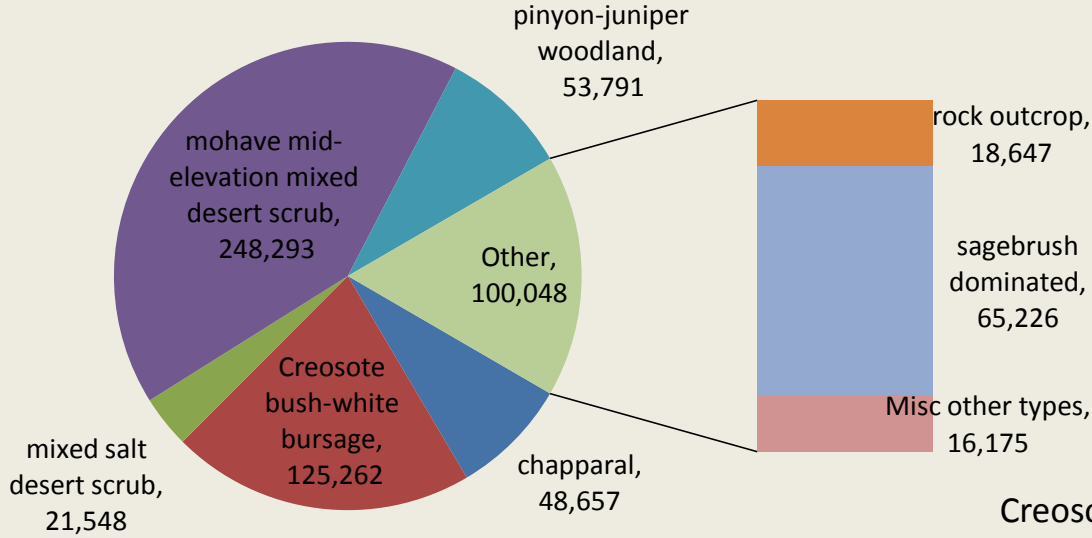


FINAL SEEDING AREAS

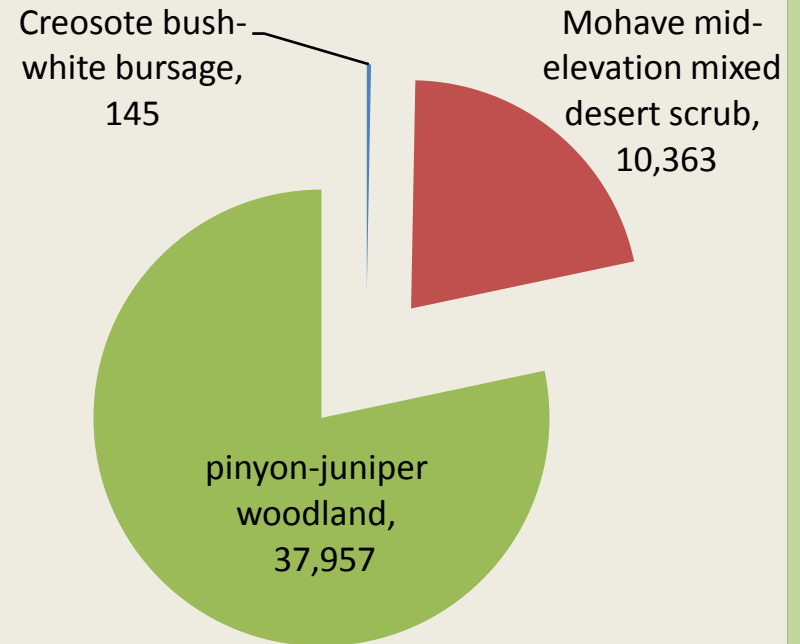


Ely Field Office Fires & Seeding

Total Burned: 597,617 acres

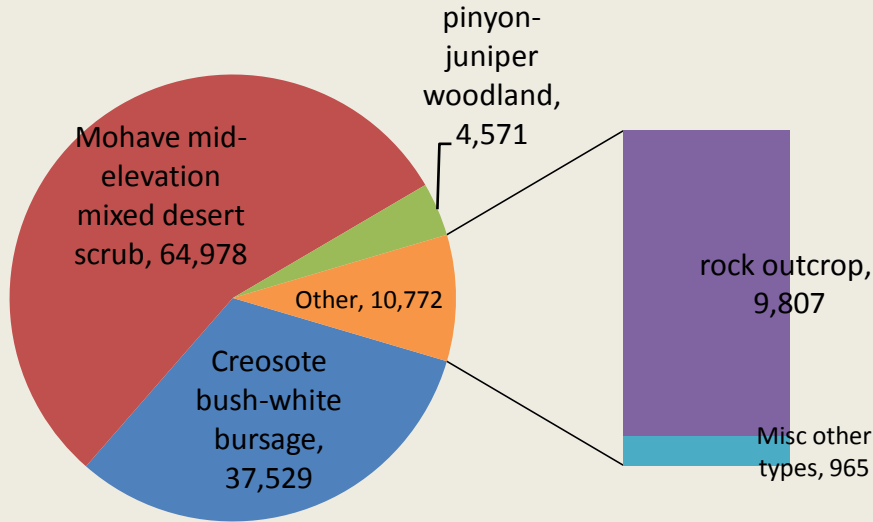


Total Seeded: 48,465 acres

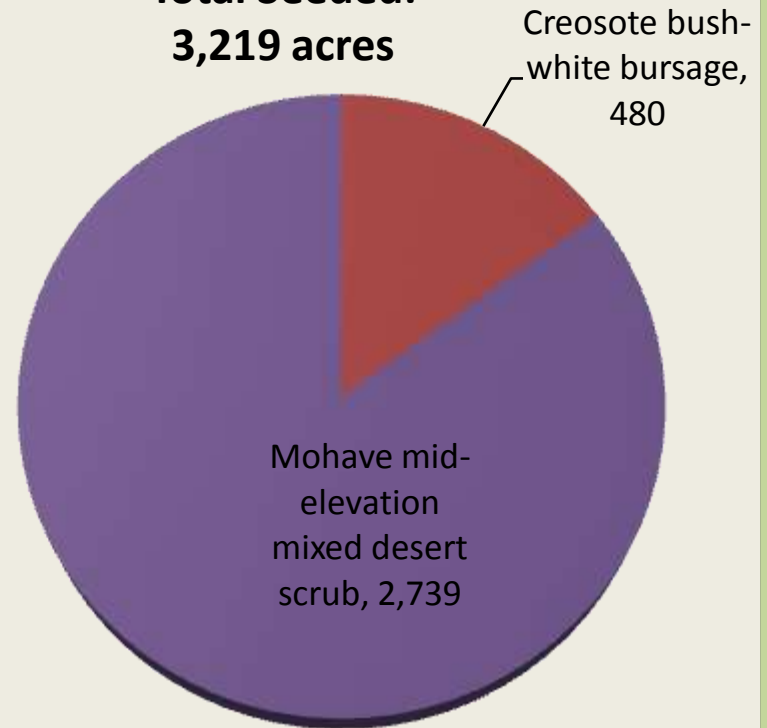


Las Vegas Field Office Fires

**Total Burned:
117,851 acres**



**Total Seeded:
3,219 acres**

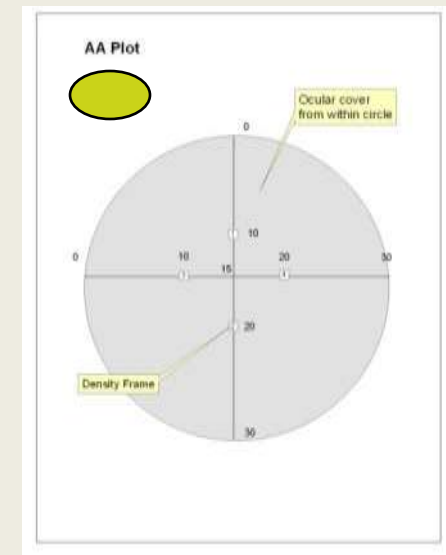
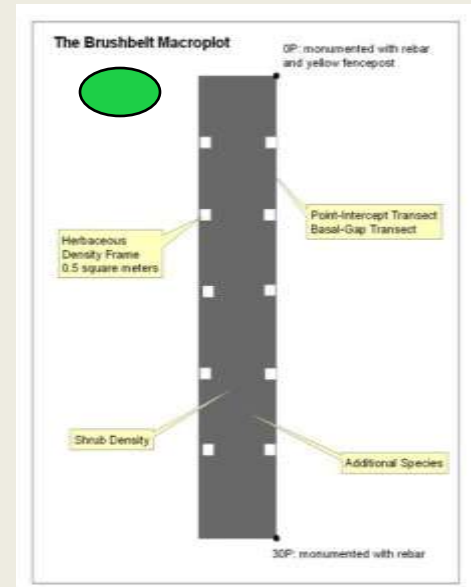
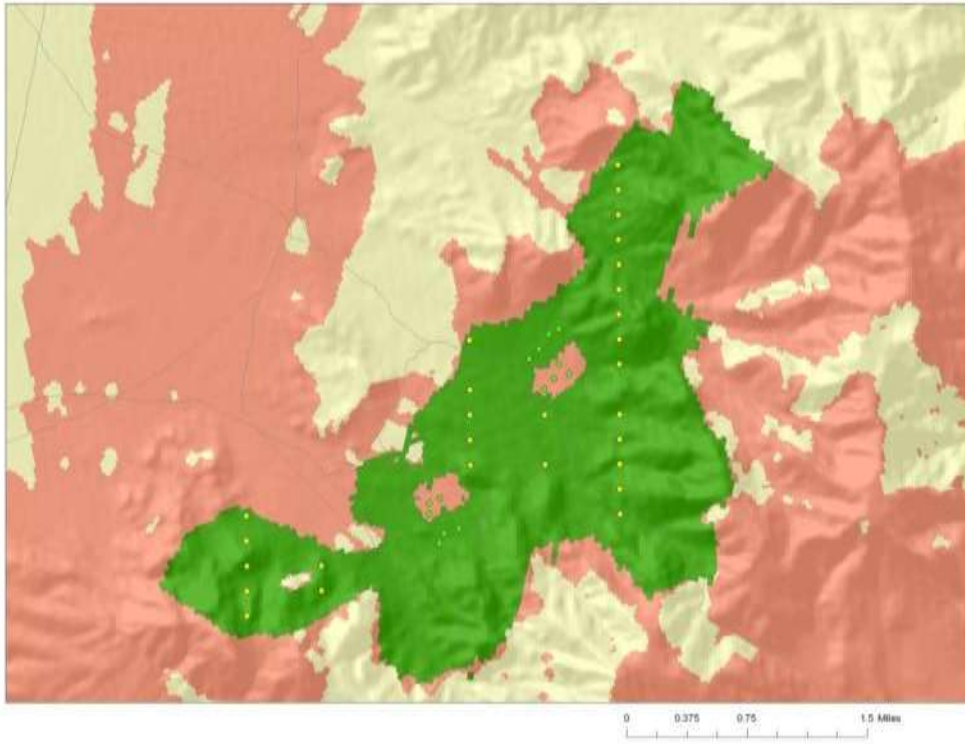




EFFECTIVENESS MONITORING

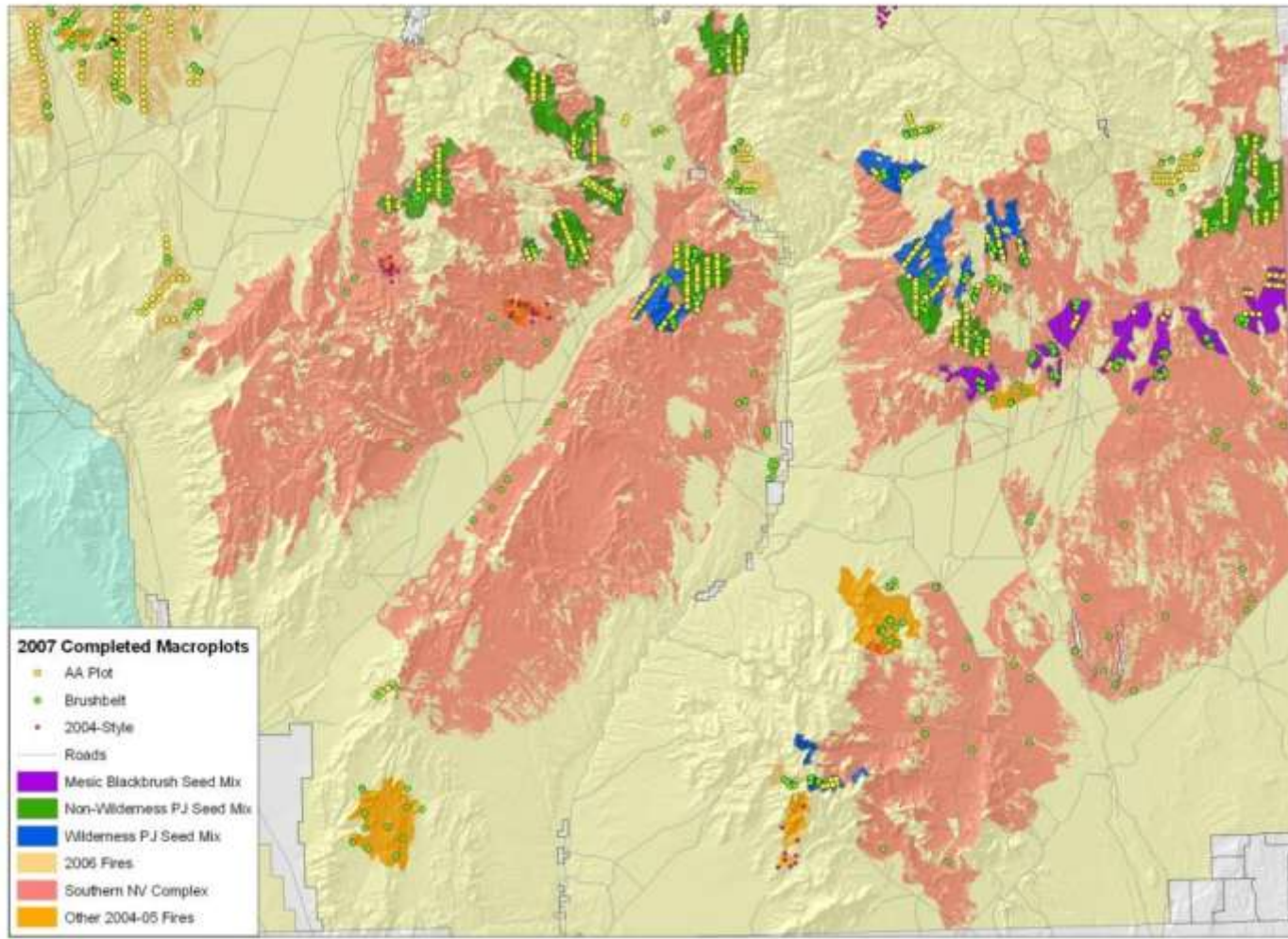
Monitoring: Ground Based and Remote

Ely's ground based monitoring protocol is a combination of statistically sound design and treatment area coverage.



Ground based monitoring is expensive and time consuming. As a rule of thumb, depending on terrain and access, an experienced team of 3 can complete 18 BB (●) and 40 AA (○) plots in 80 hours.

MOST GROUND TRUTHING PLOTS ARE LOCATED
IN SEEDED POLYGONS –REMOTE SENSING EXPANDS THE VALUE OF THESE
DATA POINTS TO THE REST OF THE FIRE

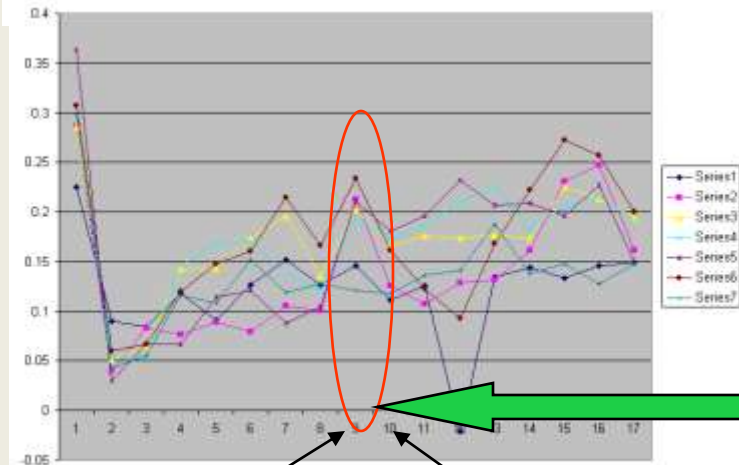


DETECTING ANNUAL GRASSES: Using Fine-Scale Phenology Relationships Were Identified



Plots where ground crews measured high invasive annual grass cover.

Drop between spring and summer sampling dates indicates phenologic changes in annual grasses.



Plots where ground crews measured low invasive annual grass cover.

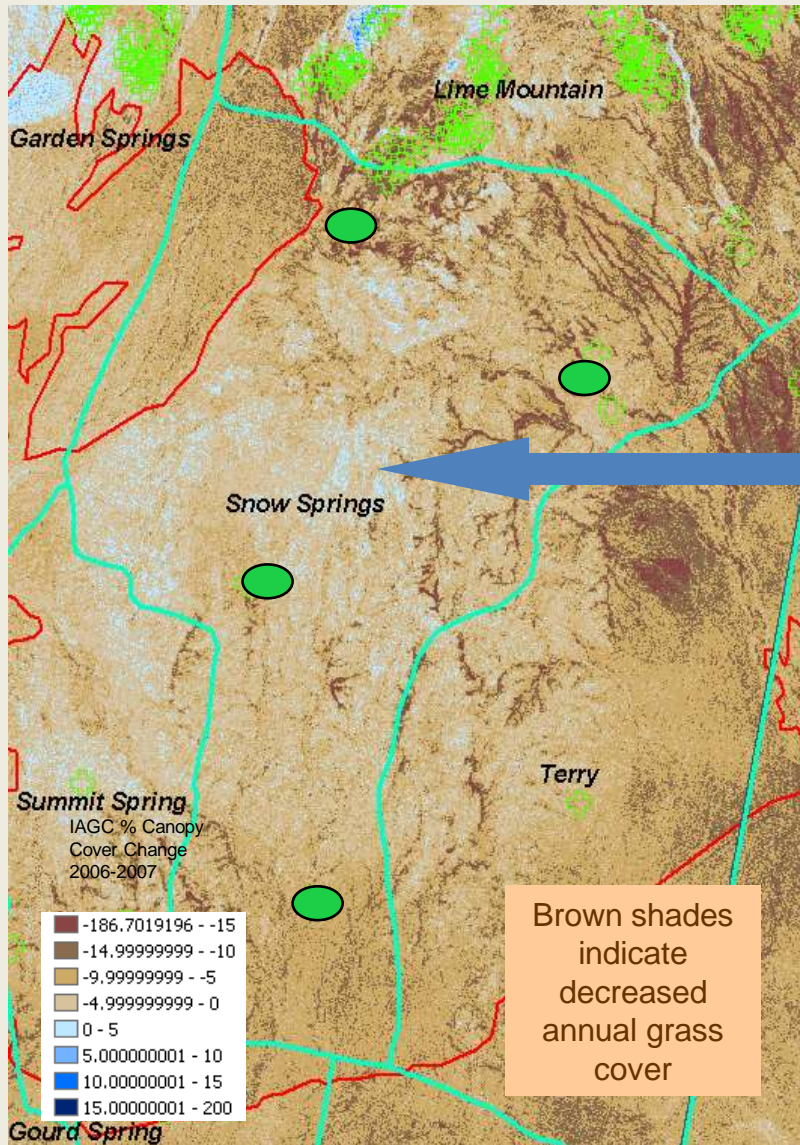
No drop evident on plots with little annual grass cover.

5/12/06

6/29/06

1=5/25/05 2=6/26/05 3=7/12/05 4=8/29/05 5=9/14/05 6=11/17/05 7=1/20/06 8=2/21/06 9=5/12/06 10=6/29/06 11=7/15/06 12=8/16/06 13=9/17/06 14=10/19/06 15=11/20/06 16=12/6/06 17=1/23/07

DETECTING ANNUAL GRASSES: REMOTE SENSING EXPANDS THE MEANING OF POINT DATA



Although point data suggested that annual grass cover decreased in the northern portions of the allotment, the blue areas on this map suggest that annual grass cover may actually have increased in many areas.

LESSONS LEARNED



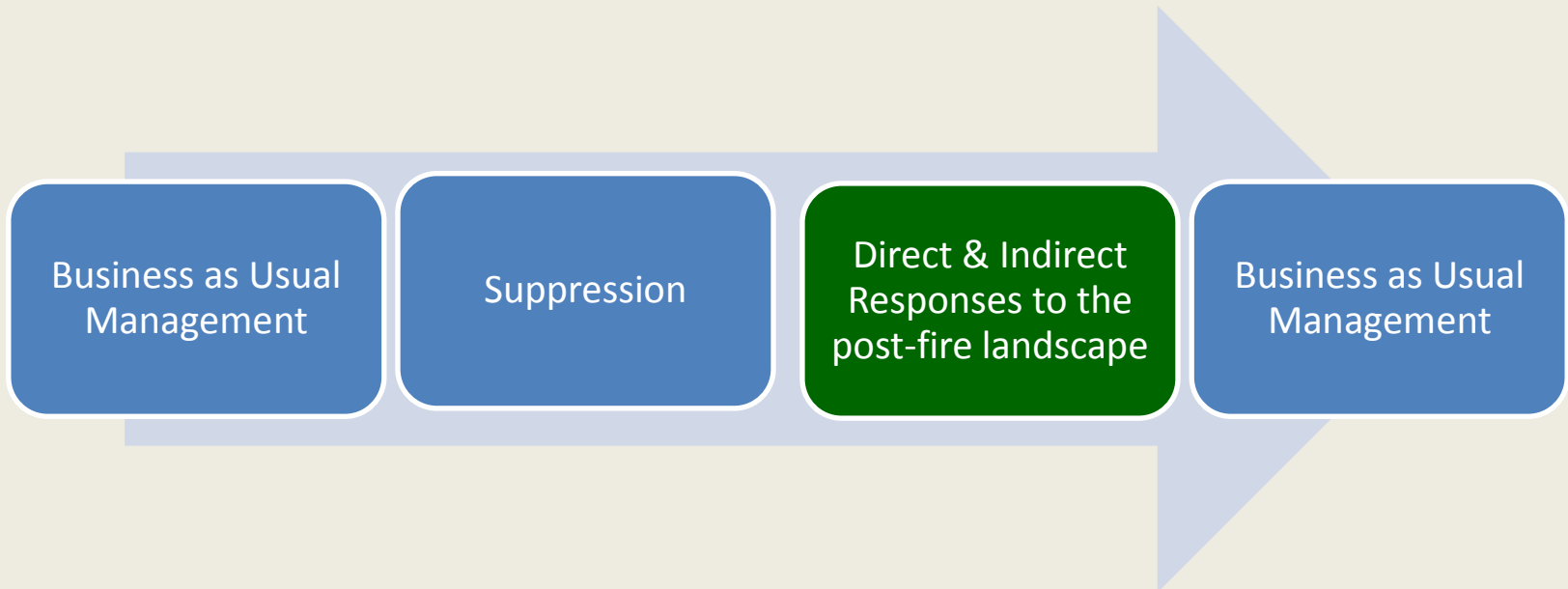
Helpful Administrative Developments

DOI-BAER received permission to lump fire numbers when the fires had burned in to each other. This greatly simplified budget tracking.

Ely Field Office (District) received permission to delay submission of the final report until June, 2009.



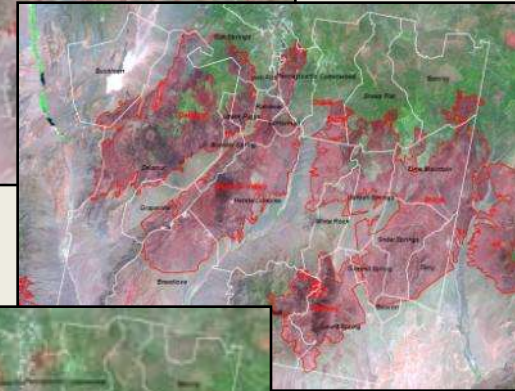
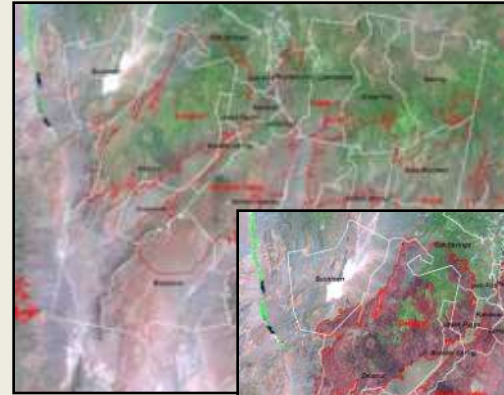
Handoff and Transition Points: Extra Care is Needed



Specialization can lead to compartmentalization. Handoffs and transitions are always tricky. DOI BAER team, Ely F.O. staff, and Las Vegas F.O. staff each brought different assumptions about process to the table. Extra communication is vital at each handoff and transition. As ES funding ends and the fires return to base funded management, communication remains vital.

Talking Points-things we can improve

- GIS and other data supplied by each F.O. to DOI BAER was not all immediately compatible in datums, completeness or organization.
- Remote sensing tools, such as BARC, should be calibrated and trained for use in sparse vegetation settings.
- Ability to quickly obtain staffing for the first year of implementation needs to be improved.
- Ability to retain at least a national core of experienced implementation leads is vital.
- If the Field Manager's could have requested a Project Manager (not an entire DOI-BAER team) they would have.



Getting Stuck on Short Term Objectives and Plot Scale Monitoring

We set objectives such as: Establish 3-5 desirable perennial Plants/Sq.meter

When what we mean is:

1. Limit the spread of invasive weeds
2. Improve soil stability
3. Increase native vegetation dominance and diversity
4. Provide effective habitat
5. Preserve watershed values and reduce soil erosion

We monitor: plot scale plant density and plant cover

When what we really want to know is:

How long does it take parameter X to a) return to background or b) function at a desired level?

We base our decisions about treatment success: on 3 years of monitoring,

When it frequently takes longer than 3 years to see the full effectiveness of a treatment.

Research Opportunities

- Answering the, “What happens if we act or don’t act?” question was very difficult.
 - SOME information from the research community is better than NO information.
 - Plot scale information has value; but large scale (1000 acre +) studies are necessary.
 - Long-term monitoring (longer than 3 years) of burned-treated and burned-not treated areas is vital.
 - Specific questions we had:
 - More guidance on the effects of seeding/not seeding; harm/benefits of using stock to graze annual grasses?
 - What is the best technique and timing for seed application: break the crust/don’t break the crust, August vs. mid-winter application?
 - What lifeforms should be present in seed mixes, in what percentages, and what are the long-term implications of these choices?



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