

EXAMPLE 4 - Preferred Short-Eared Owl Habitat in Prineville District:

Specialist's Request

We should have a page-sized photo ready map for handouts, and a wall map for discussion.

The end result I want is a map with about a 45% left hatch in one color for legend item "Reproduction" and about a 45% right hatch in a contrasting color for legend item "Feeding" such that polygons that are used for both reproduction and feeding are cross-hatched in both colors.

In addition to the theme that has the Prineville District boundary, and the OAESIS GIS theme, this request will require the use of the {PRIWHI}, {PRIWHILK}, and {STRUCTUR} tables.

While there are several ways to produce the desired product, I will assume that the procedures used will mostly consist of "selecting" and "joining".

1. From the table {PRIWHI}, select records where the field [wlsymbol] is "ASFL" and the field [repro] is "RP" - or - the field [wlsymbol] is "ASFL" and the field [feed] is "FP".
2. Join the result of step 1 with the table {PRIWHILK} by matching the field [wlcomcd] in both tables.
3. Join the result of step 2 with the table {STRUCTUR} by matching the fields [icbpvt]+[woodyclass]+[herbclass].
4. The result of step 3 is a table where:
 - [stand]s where the field [repro] is "RP" constitute legend item "Reproduction"
 - [stand]s where the field [feed] is "FP" constitute legend item "Feeding"

Make the map for the Prineville District and plot something such as major roads or hydrography to indicate location.

EXAMPLE 4 - Solution:

This plot product is another map that does not cover the entire OAESIS area. Only the Prineville District is of interest here. Supposing the request called for creating a new coverage with the 'feed' and 'repro' items for only this area. The Arc command 'clip' could be used to cut this area out of the **oaesis** coverage. Another solution is to use an Arc 'reselect' to make a new coverage based on a logical query. For example:

```
Arc: reselect ../oaesis pri_oaesis poly  
Reselecting POLYGON features from ../OAESIS to create PRI_OAESIS  
Enter a logical expression. (Enter a blank line when finished)  
>: resel stand lk 'A*' or stand lk 'B*' or stand lk 'C*'  
>: <cr>  
Do you wish to re-enter expression (Y/N)? n  
Do you wish to enter another expression (Y/N)? n  
9606 features out of 20321 selected.  
Reselecting polygons...  
Number of Polygons (Input,Output) = 20321 9732
```

Number of Arcs (Input,Output) = 54451 24812
Creating PRI_OAESIS.pat...
15971 unique nodes built for /USR2/RESTORE/OAESIS/EXAMPLE4/PRI_OAESIS

Now, the 'feed' and 'repro' attributes must be pulled out of the database and attached to the coverage. Arc/Info provides some tools to do this from within Arc, including making some direct queries of Informix. The following dialog shows a couple of queries used to make a temporary table which can then be converted to an Info table. Start by creating temporary table **owlquery1** of the [icbpvt], [woodyclass], [herbclass], and [repro] and [feed] values where the [wlsymbol] = 'ASFL' for Short-eared Owls:

```
Arc: connect informix oaesis
Arc: dbmsexecute informix
Enter DBMS specific command. (Enter "END" or a blank line when finished.)
>: select icbpvt, woodyclass, herbclass, repro, feed from priwhi, priwhilk
>: where wlsymbol = 'ASFL' and ( repro = 'RP' or feed = 'FP' ) and
>: priwhi.wlcomcd = priwhilk.wlcomcd into temp owlquery1;
>: <cr>
Are you done entering the statement (Y/N)? y
Do you wish to use this statement (Y/N)? y
DBMSEXECUTE successful
```

Make a second temporary table called **owlquery2** that contains the 'stand' field as well as the [repro] and [feed] fields. This is created by linking the {STRUCTUR} table with the [icbpvt], [woodyclass] and [herbclass] items in **owlquery1**. Also, the search is limited to Prineville stands only by the portion of the query in parentheses that looks for stands that begin with A, B, or C:

```
Arc: dbmsexecute informix
Enter DBMS specific command. (Enter "END" or a blank line when finished.)
>: select stand, repro, feed from structur, owlquery1
>: where structur.icbpvt = owlquery1.icbpvt and
>: structur.woodyclass = owlquery1.woodyclass and
>: structur.herbclass = owlquery1.herbclass and
>: ( stand like 'A%' or stand like 'B%' or stand like 'C%' )
>: into temp owlquery2;
>: <cr>
Are you done entering the statement (Y/N)? y
Do you wish to use this statement (Y/N)? y
DBMSEXECUTE successful
```

Now that we have a smaller Informix table called **owlquery2**, create an Info file and join it to the .PAT of the **pri_oaesis** coverage using the common field [stand]. Be sure to index the [stand] item in the .PAT and the joinfile first. This will speed up the join. The coverage will now have attributes for [feed] and [repro] for Short-eared Owls:

```
Arc: dbmsinfo informix owlquery2 owlquery2.inf
DBMS table owlquery2 copied to INFO table owlquery2.inf
Items: 3, Records: 5929
Arc: indexitem owlquery2.inf stand
Arc: indexitem pri_oaesis.pat stand
Arc: joinitem pri_oaesis.pat owlquery2.inf pri_oaesis.pat stand stand
Joining pri_oaesis.pat and owlquery2.inf to create pri_oaesis.pat
```

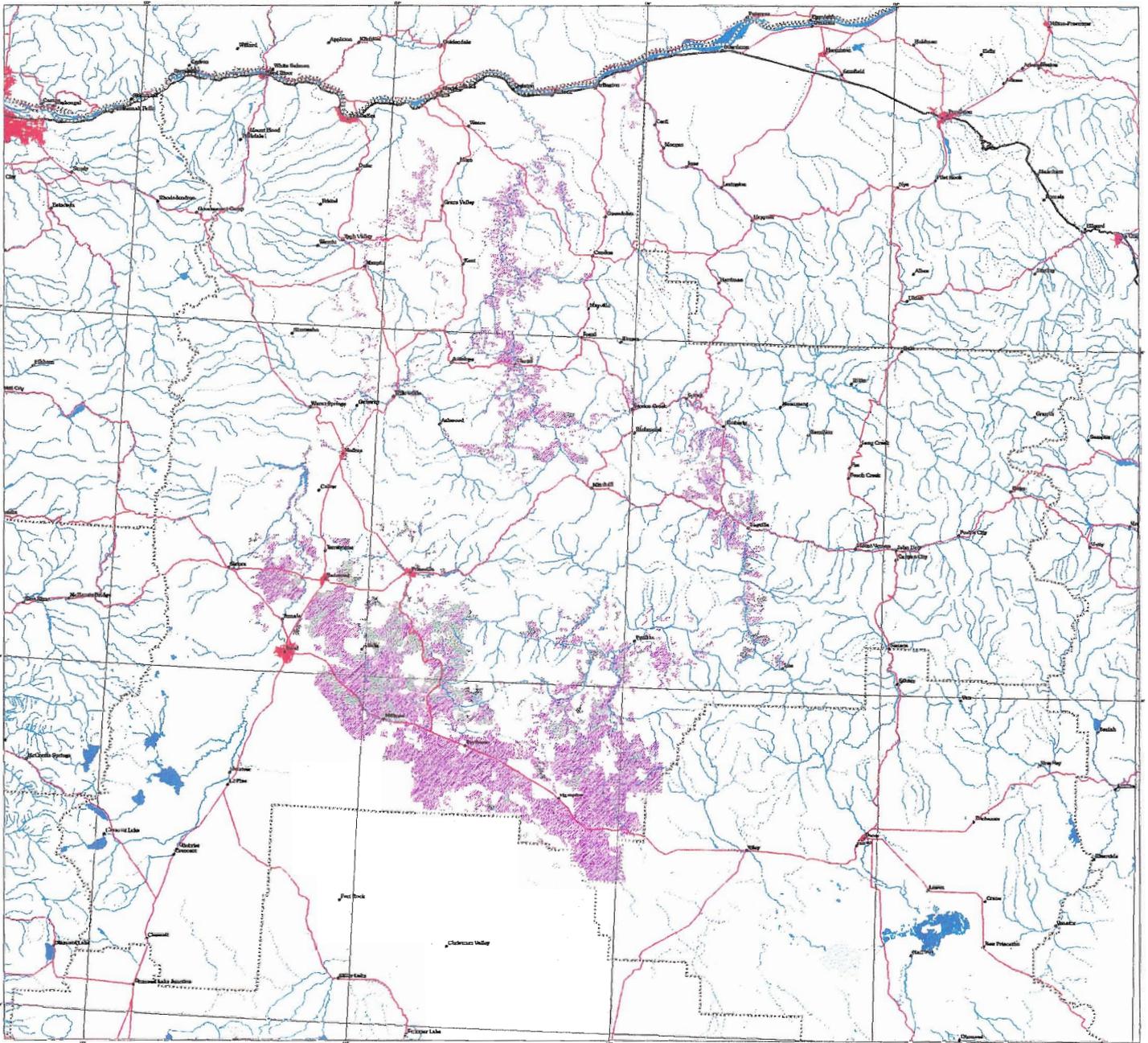
**** NOTE: any temporary Informix tables created will be lost when the connection to Informix is discontinued! The 'disconnect' command or 'quitting from Arc will delete these temporary tables! Temporary tables created using only Informix will be deleted upon leaving Informix. This is why the above example was performed with 'dbmsexecute' in Arc. We were able to make an Info file before the temporary tables were deleted.*

The coverage **pri_oaesis** can now be used to create a map with the AML **example4.aml**. The coverage can also be saved, changed, or given to someone else who needs this data. The AML does not require a connection to Informix because the attributes we need are attached to the coverage.

Arc: &r example4.aml

When completed, send the graphics file to the plotter.

Example 4 - Preferred Short-Eared Owl Habitat, Prineville District




 The Oregon Department of Fish and Wildlife
 Bureau of Land Management
 Prineville District
 10/1/00

-  Road
-  Stream
-  Boundary

16.1
 Prineville District
 10/1/00



Preferred Short-Eared Owl Habitat, Prineville District

| | |
|---|---------------------|
|  | Feeding |
|  | Reproduction |
|  | Water |
|  | Dry Lake |
|  | Perennial Stream |
|  | Intermittent Stream |
|  | US/State Highway |
|  | Interstate Highway |
|  | District Boundaries |
|  | Populated Places |

```

/* EXAMPLE4.AML
/*
/* Steve Salas - GDAD/Pacer-Infotec/OSO/BLM
/*
/* November 21, 1996
/*

&s old_apath := [show &amlpath]
&amlpath /or_tools/pdtk_ap/aml /or_tools/pdtk_ap/aml_local

/* ENTER ARCPLOT
display 0
arcplot
display 1040
example4.gra

textset font.txt
lineset blmosol.lin
shadeset blmosol.shd

/* SET THE MAP EXTENT TO A GIVEN POLYGON WITHIN THE DOB COVERAGE
reselect ../orwadob11 poly data = 'PRIN'
mape polys ../orwadob11

&r start_blm_plot 475000~
[quote Example 4 - Preferred Short-Eared Owl Habitat, Prineville District]~
doiblm_logo utm_bar11.aml none 'S. Salas'

&r mkleg i

shadeset blmosol.shd
resel pri_oaesis poly feed = 'FP'
shadesym 286
shadeseparation .03
shadesize .014
shadeput 286
polygonshades pri_oaesis 286
&r mkleg p 'Feeding'
clearsel pri_oaesis poly

resel pri_oaesis poly repro = 'RP'
shadesym 145
shadeseparation .03
shadesize .014
shadeput 145
polygonshades pri_oaesis 145
&r mkleg p 'Reproduction'
clearsel pri_oaesis poly

&r mkleg c

/* SET THE LIBRARY FOR OTHER DATA, USE PROPER MAP PROJECTION
library q100
mapprojection /or_tools/arc/projections/lam120.5utm11.prj

/* SET TILES SO NOT ALL OF LIBRARY IS SEARCHED
tiles E145117 E145118 E145122 E145119 E145121 E145120 A145117 A145122 A145118 A1
45119 A145121 A145120 E144117 E144118 E144122 E144119 E144121~
E144120 A144117 A144118 A144122 A144119 A144121 A144120 E143118 E143122 E143121
E143119 E143120 A143118 A143122 A143119 A143121 A143120 E142118 E142122 E142119

```

E142121 E142120 E142117 A143117 E143117

```
/* WATER BODIES
lineset blmosol.lin
resel .banks poly minor1 in {101,110,119,402,412,414,419,421} and~
  minor2 = 0
polygonshade .banks 22
shadesym 22
&r mkleg p 'Water'
clearselect
reselect .banks poly minor1 in {101,110,119,402,412,414,419,421} and~
  minor2 = 610
polygonshade .banks 28
clearselect
shadesym 28
&r mkleg p 'Dry Lake'

linesymbol 22
clearselect
linesize .012
resel .streams arc str-name ne '' and minor2 = 0 and minor1 ne 999 and~
  str-name nc '0000'
unsel .streams arc minor1 = 200 or minor2 = 200
arcs .streams
clearselect .streams arc
&r mkleg l 'Perennial Stream'
clearselect
resel .streams arc str-name ne '' and minor2 = 610 and minor1 ne 999 and~
  str-name nc '0000'
unsel .streams arc minor1 = 200 or minor2 = 200
linesymbol 422
linesize .003
arcs .streams
clearselect
&r mkleg l 'Intermittent Stream'

/* POPULATED PLACES - STREET PATTERNS
linesym 2
arcs .ppl100

/* PLOT ROADS. PUT IN LEGEND.
lineset blmosol.lin
/* &goto skip_road
resel .roads arc ushwy ne '' or sthwy ne ''
linesym 102
arcs .roads
&r mkleg l 'US/State Highway'
clearsel .roads arc

resel .roads arc inthwy ne ''
linesym 302
linesize .04
arcs .roads
&r mkleg l
&r mkleg r
linesym 1
arcs .roads
&r mkleg l
&r mkleg r
linesym 1
```

```

linetype wide
linesize .045
linehollow .045
arcs .roads
&r mkleg l 'Interstate Highway'
&label skip_road

/* DONE USING Q100, BACK TO UTM11 PROJECTION.
mapprojection off

/* PLOT DIST BOUNDARY
linesym 310
polys ../orwadob11
&r mkleg l
&r mkleg r
linesym 714
polys ../orwadob11
&r mkleg l 'District Boundaries'

/* USE Q100 AGAIN
mapprojection /or_tools/arc/projections/lam120.5utm11.prj

/* POPULATED PLACES - POINTS AND NAMES
resel .ppl100 point eemp ne ''
asel .ppl100 point name = 'Prineville'
markerset municipal.mrk
markersym 110
markersize .06
&r mkleg m 'Populated Places'
points .ppl100
textsym 32
textsize .14
textoffset .05 .05
pointtext .ppl100 name # 11
textoffset 0 0

/* DONE USING Q100, BACK TO UTM11 PROJECTION.
mapprojection off

/* PLOT THE NEATLINE
linesym 1
box [show maplimits]

/* MAKE A LAT/LONG GRID.
textsym 22
textsize .1
mapprojection off
&r mkgeogrid1 1 mapextent /or_tools/arc/projections/geoutm11.prj~
 1 0 1 0 -1 +1 1 0 1 0 -3 +3

/* NORTH ARROW
plot /or_tools/arc/ap_elements/arrows_sym/arrow8.gra box 25.3 .8 25.7 1.8

/* LEAVE AP, ENDS PLOTFILE
quit

/* RESTORE USER'S AMLPATH
&amlpath %old_aphath%

&return

```