trend surveys, harvest regulations, fire management, water rights, GAP Analysis, and developments were reviewed. Subsequent to outside reviews, it was decided to change the format to a loose leaf notebook style, eliminate information with only Innoko applications, and expand sections with applications to all refuges.

Synthetic Aperture Radar

In late 1992, a proposal was sent to the National Aeronautics and Space Administration (NASA) through the Alaska SAR Facility, located in the Geophysical Institute at the University of Alaska, for permission to obtain Synthetic Aperture Radar (SAR) imagery for vegetation mapping. Our proposal was accepted in 1993, and five scenes taken at different seasons during the same year (1992) and same location were ordered and received, and initial processing begun.

We look forward to working with this tool in 1994. Radar imagery has several advantages in comparison to optical imagery; low cost, scenes are available throughout the seasons, and data are unaffected by clouds or darkness.

Working with Other Refuges

Early in 1993, WB Skinner conducted workshops with biologists from Selawik, Nowitna, Yukon Flats, and Kanuti Refuges in separate two-day sessions. Topics of discussion included all of the subjects described in the vegetation and habitat mapping manual mentioned above. During the summer, field visits were made to Selawik, Nowitna, and Yukon Flats Refuges for ground mapping vegetation exercises.

2. Wetlands

Habitat Wetlands - Classification of Wetland and Deepwater Plant Communities and Wildlife Habitats - The National Wetlands Inventory

An Innoko wetland (with open water at least part of the year) and deepwater plant community classification system was developed in 1993. The classification was based on the following assumptions:

1. Wetland and deep water plant communities and mapping units are classified and mapped as part of the total effort involving uplands also.

2. The uplands are successionally related along gradient to the wetlands and deep water plant communities they surround when both are influenced by the same hydrological cycle.

3. Wetlands and deep water plant communities that have a physical connection to a river, for example, have a different hydrological cycle than surrounding uplands.

4. Surrounding upland communities and physical features can be used to classify and map wetland and deep water communities when wetlands are too small or narrow, or deep waters obscure aquatic vegetation.

5. The hydrology of the local site affects the water chemistry, soil, water regime, (e.g., flooding, soil saturation), plant community, and the wildlife.

6. The relationship between the National Wetlands Inventory (NWI), plant community classification, and mapping is complete.

7. The most detailed component of the hierarchial classification structure of the National Wetlands Inventory is the plant community (called Dominance Type).

8. The National Wetlands Inventory classification structure in reverse order is Dominance type - subclass - class - subsystem - system. Modifiers to the classification are water regime, water chemistry, soil, and species.

9. Because the plant community classification procedure captures the most detailed component of the National Wetlands Inventory classification [Dominance type (plant community) plus the water regime modifier (e.g., flood, permafrost, slope gradient)], the more general components are also known.

10. The component of the National Wetlands Inventory classification system most correlated with wildlife use is dominance type (plant community). Surrounding vegetation, both upland and wetland, has a large effect on the probability of the presence of a wildlife species. Also, the physical features of the wetland are important. Therefore, a classification structure can be developed for wetland plant communities (Dominance Type) at the Refuge-specific level that will much further improve correlations between wetland and deep water habitats and wildlife use.