

## 14. GUIDELINES FOR FACILITIES DEVELOPMENT

### Introduction

On-site support facilities are essential to realize fully the teaching and research potential of NRS Reserves:

- Housing, campgrounds, and dining facilities for long-term research and extended field classes
- Laboratories, libraries, offices and computers for diversified research programs integrating traditional field research with controlled laboratory studies and on-site computer analysis.

In fact, the availability of facilities on a reserve has proven to be the dominant factor controlling a reserve's use and productivity, a finding supported by the Organization of Biological Field Station's (OBFS) 1985 report to the National Science Foundation, "The Research Needs of Biological Field Stations." The report surveyed over 50 field stations of national caliber and documented that "housing ... [together with] new or renovated laboratory space is the highest-priority need among the respondent [field stations]." The report went on to state that "new construction...is often the most cost-effective way to improve the efficiency of station operation and make it more suitable for a wider variety of research uses." Inadequate or outdated facilities at field stations constitute "difficulties which limit their effectiveness and efficiency." Clearly facilities development is central to achieving the full teaching and research potential of the Natural Reserve System.

The advent of national and global networking among field stations places even greater demands on reserve facilities. In a 2003 National Press Club Roundtable briefing, OBFS observed:

Today field stations are models of cooperation and ingenuity. But informal academic collaboration is no longer enough. For decades field biologists have worked alone and made due with meter sticks and butterfly nets. With the development of a nationally networked infrastructure, field stations will be poised to serve as regional sentinels, serving local, state and national interests. Cutting edge science in all disciplines today requires global collaboration and modern, highly sophisticated equipment and facilities. To meet regional and global challenges, field stations need support to upgrade facilities, enhance infrastructure and expand research, education and outreach programs.

### Facilities and Improvements

Natural reserves and biological field stations encompass a wide range of facilities needs. These needs, in turn, are influenced by many site-specific factors: reserve ownership, size, location, topography, habitat type, susceptibility to disturbance, ease of access, degree of program development, use levels, surrounding land use, cost and availability of local housing, degree of on-site utilities, stage of facilities development, staffing, funding, administrative support, and the political and regulatory environment of the reserve, among others.

The annotated checklist (see Appendix 14A, Facilities Checklist) catalogs the full spectrum of facilities needs, listed separately by function.

Not all functions need be met at a given reserve. In practice, functional spaces will be combined in the early stages of facilities development (i.e., dining space may also serve classroom and conference needs; library space may double as space for office and computer work or for synoptic collection storage). Nonetheless, many of these functions will need to be served at a given reserve. The list is intended as a tool to ensure that all needs are considered when planning facilities improvements.

NOTE: Preparation of proposals for facilities development, including equipment requests, should be closely coordinated with the Systemwide office.