

DIRECTOR'S ORDER #100: RESOURCE STEWARDSHIP FOR THE 21ST CENTURY

Approved: _____
Director

Effective Date: _____

Duration: This Order will remain in effect until amended or rescinded.

This Director's Order, together with Reference Manual 100, supersedes and replaces Policy Memorandum 16-01, and any other previously issued conflicting guidance.

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1. Background and Purpose

The National Park System¹ and related areas² face environmental and social changes that are increasingly widespread, complex, accelerating, and uncertain. Addressing these challenges requires updates of National Park Service (NPS) policy to reflect the complexity of decisions needed for resource stewardship. This Director's Order (Order) is intended to guide the Service in taking the necessary actions to support resource stewardship to fulfill its mission in the 21st century. The Order builds on the direction set in [Policy Memorandum 16-01](#). See also Policy Memoranda [12-02](#), [14-02](#) and [15-01](#).

1.1 Background

In 1963, A. Starker Leopold chaired a committee of scientists in preparing a report titled, [Wildlife Management in the National Parks](#). Known as the "Leopold Report," it represented the first comprehensive attempt at evaluating best practices and principles for sustainable resource

¹ The "National Park System" includes those areas of land and water administered by the National Park Service for park, monument, historic, parkway, recreational, or other purposes (see, [54 USC 100501](#)).

² "Related areas" include affiliated areas, national heritage areas, national trails, and wild and scenic rivers that are not part of the National Park System.

15 management, and was a source of longstanding policies for natural resource management in the
16 National Park System.

17 Much has changed for the NPS since the 1960s. The number and types of units in the System,
18 and its overall size, have increased significantly. The annual number of visitors has grown four-
19 fold. Social, cultural, and demographic changes to American society have been profound.
20 Climate change is creating and will continue to drive dynamic environmental shifts that affect
21 natural and cultural resources, facilities, and visitor enjoyment. Additional pressures such as
22 biodiversity loss, invasive species, land use changes, and pollution are accelerating. New
23 scientific information and new disciplines of science have expanded our understanding of natural
24 and cultural systems, and revealed that much is still unknown about how these systems function.

25 For these reasons, the Director asked the Science Committee of the National Park System
26 Advisory Board (NPSAB) to revisit the Leopold Report and provide findings and
27 recommendations. The committee delivered [Revisiting Leopold: Resource Stewardship in the](#)
28 [National Parks](#) (Report) to the NPSAB, which adopted and presented it to the Director.

29 The Report makes several important recommendations for advancing resource stewardship in the
30 21st century, noting:

31 The overarching goal of NPS resource management should be to steward NPS resources
32 for continuous change that is not yet fully understood, in order to preserve ecological
33 integrity and cultural and historical authenticity, provide visitors with transformative
34 experiences, and form the core of a national conservation land- and seascape.

35 **1.2 Purpose**

36
37 The purpose of this Order, and its companion Reference Manual (RM-100), is to articulate and
38 communicate policies and actions to support resource stewardship in the next century. This
39 Order will help the Service fulfill the NPS mission:

40
41 The National Park Service preserves unimpaired the natural and cultural resources and
42 values of the [N]ational [P]ark [S]ystem for the enjoyment, education, and inspiration of
43 this and future generations. The National Park Service cooperates with partners to extend
44 the benefits of natural and cultural resource conservation and outdoor recreation
45 throughout this country and the world. [*Management Policies* (2006), [inside front cover.](#)]

46 This Order provides policies that form a new framework for stewardship decision making within
47 the NPS based upon the overarching resource stewardship goal described in section 3. The
48 Order also defines new terms and concepts that will be used in this and future guidance.

49 **2. Authority**

50
51 Authority to issue this Order is contained in the National Park Service Organic Act and other
52 NPS laws ([54 USC 100101\(a\) et seq.](#)), and delegations of authority contained in [Part 245](#) of the
53 Department of the Interior (DOI) Manual.

54 This Order is intended only to improve the internal management of the NPS, and is not intended
55 to, and does not, create any right or benefit, substantive or procedural, enforceable at law or
56 equity by a party against the United States, its departments, agencies, instrumentalities or
57 entities, its officers or employees, or any other person.

58 **3. Establishing the NPS Overarching Resource Stewardship Goal**

59
60 This Order reaffirms that resource stewardship is a preeminent duty of the NPS, and that “[w]hen
61 proposed park uses and the protection of park resources and values come into conflict, the
62 protection of resources and values must be predominant.” *Management Policies*, [section 1.5](#).
63 The NPS defines resource stewardship as both an ethic of active responsibility to pass on the
64 parks unimpaired to future generations as well as the application of the necessary expertise to
65 meet this duty. This ethic and application of expertise extends to NPS programs and NPS
66 participation in partnerships. This Order does not redefine “unimpaired,” but instead recognizes
67 (1) there are new and complex environmental and social forces affecting park resources that must
68 be considered in resource management, and (2) these forces may be beyond the influence of the
69 NPS and their consequences may be irreversible.

70
71 The overarching goal of resource stewardship (stewardship goal) is to manage NPS resources in
72 a context of [continuous change](#) that we do not fully understand, in order to:

- 73
- 74 • preserve and restore [ecological, historical, and cultural integrity](#);
- 75 • contribute as an ecological and cultural [core of national and international networks of](#)
76 [protected lands, waters, and resources](#); and
- 77 • provide [visitors and program participants](#) with opportunities for transformative
78 experiences that educate and inspire.
- 79

80 The stewardship goal will be achieved by incorporating it into NPS management and culture.
81 This requires relying on science for guidance in understanding novel conditions, threats, and
82 risks to resources and identifying and evaluating management actions; exemplary resource
83 management practices; and coordination with partners outside park boundaries. In addition, it is
84 essential that policies consider NPS resources in a broader context, with particular attention to
85 preservation of significant natural and cultural land/seascape elements, critical habitats and
86 features, and wilderness character. (See [Director’s Order #41: Wilderness Stewardship](#), section
87 6.2).

88
89 To achieve the stewardship goal, the NPS will:

- 90
- 91 • integrate the management of natural and cultural resources, where beneficial;
- 92 • adopt and apply new conservation concepts and guiding strategies for resource
93 stewardship;
- 94 • update and sustain the NPS workforce; and
- 95 • incorporate these concepts, policies, and actions into appropriate management
96 documents.
- 97

98 The following sections identify specific policies and actions necessary for implementing this
99 stewardship goal in the 21st century.

100
101 This Order does not explicitly address the transformative experiences component of the
102 stewardship goal. Efforts in that regard are already underway, and can be found in [Achieving](#)
103 [Relevance in Our Second Century](#) (2014) and future guidance.

104 105 **4. Integrating Natural and Cultural Resource Stewardship**

106 107 **4.1 Objective**

108
109 To incorporate the stewardship goal into NPS management and culture, the Service will integrate
110 natural and cultural resource management where beneficial to resource stewardship. This
111 integration recognizes the impact of humans on their environment and the impact of a changing
112 environment on humans. Although natural and cultural resource management have much in
113 common, their separate and specific needs must also be recognized.

114 115 **4.2 Policies**

116
117 The NPS will take the following actions to integrate natural and cultural resource programs,
118 functions, and funding mechanisms, where beneficial to resource stewardship:

- 119
120 • Create incentives for funding projects, including the Servicewide Comprehensive Call,
121 that integrate perspectives and disciplines from natural and cultural resources;
- 122 • Require existing and future Resource Stewardship Strategies to consider natural and
123 cultural resource integration concepts;
- 124 • Co-locate natural and cultural resource operations where possible and when beneficial to
125 resource stewardship; and
- 126 • Utilize opportunities through Cooperative Ecosystem Studies Units (CESU), Research
127 Learning Centers (RLC), and additional NPS programs to support integrated natural and
128 cultural resource projects.

129
130 The NPS will take the following actions to increase the understanding and use of [traditional](#)
131 [ecological knowledge](#):

- 132
133 • Build relationships beyond minimum obligatory consultation by creating mechanisms to
134 facilitate collaboration, mutual trust, and understanding with federally recognized and
135 non-federally recognized Tribes and other indigenous peoples;
- 136 • Stimulate research and scholarship that incorporates traditional ecological knowledge and
137 participation of indigenous peoples;
- 138 • Incorporate traditional ecological knowledge into natural and cultural resource planning
139 efforts; and
- 140 • Include indigenous peoples and perspectives in defining management objectives.

142 **5. Managing Resources Emphasizing Resilience, Connectivity at Land/seascape Scales,**
143 **and Life-cycle Stewardship**

144
145 **5.1 Objective**

146
147 To achieve the stewardship goal and set priorities for conservation, restoration, and protection of
148 resources, the NPS will emphasize resilience, connectivity at land/seascape scales, and life-cycle
149 stewardship as guiding strategies for resource management. Application of these strategies in
150 resource management will be informed by scientific and scholarly research and traditional
151 ecological knowledge.

152
153 **5.2 Policies**

154
155 The NPS adopts the following operational definitions and will provide additional guidance in
156 RM-100:

- 157
- 158 • **Resilience** is the capacity of a system to absorb disturbance and still retain its basic
159 function and structure. Resilience strategies may include managing for the persistence of
160 current conditions, accommodating change, or managing towards desired new conditions.
161 Resilience strategies may vary and desired conditions must be clearly identified.
 - 162 • **Connectivity at land/seascape scales** means managing natural resources such that
163 structural and functional processes that sustain biodiversity and viable ecosystems and
164 populations, and that facilitate adaptation in the face of climate and other environmental
165 change are maintained. Structural processes refer to the physical relationships between
166 land/seascape elements; whereas functional processes refer to the degree to which the
167 land/seascape facilitates or impedes movement of organisms and ecological processes.
168 See *Management Policies*, [chapter 4](#). Spatial scales to maintain connectivity may vary
169 and desired conditions must be clearly identified. For cultural resources, connectivity
170 refers to the understanding of the larger thematic and geographic context for these
171 resources and supporting historical and cultural integrity. See *Management Policies*,
172 [_____](#). In addition, cultural connectivity goes beyond spatial considerations to include
173 representation of cultures through time. Understanding the larger context for these
174 resources requires partnerships with stakeholders to identify shared conservation values.
175 See *Management Policies*, [section 1.6](#).
 - 176 • **Life-cycle stewardship** for natural resources means managing natural resources such that
177 ecological processes or species' full life cycles are sustained over time. Life-cycle
178 stewardship involves considering management actions and their impacts across all stages
179 or phases of change that occur through the life of an ecosystem, plant or animal
180 community, individual species, or a natural process. For cultural resource management,
181 life-cycle stewardship means managing resources and the built environment for long-term
182 preservation.

183
184 The NPS will apply these strategies to resource management by taking the following actions:

- 185
- 186 • Expand research related to resilience, connectivity, and life-cycle stewardship to inform
187 current and future management and restoration projects and programs;

- 188 • Expand land/seascape-scale resource management and connectivity by increasing the use
189 of existing authorities to manage resources outside parks. Where the NPS engages in
190 activities that advance collaborative conservation, they need to be amplified and
191 expanded to deal with 21st century conservation challenges. (See [Scaling Up:
192 Collaborative Approaches to Large Landscape Conservation](#) and future guidance);
- 193 • Participate and collaborate in interagency and non-governmental efforts to promote
194 connectivity that in particular address climate change. These efforts may include large-
195 land/seascape conservation efforts, regional networks of protected areas, and wilderness
196 preservation;
- 197 • Actively apply tools, capacity, and expertise available from NPS partnerships programs,
198 including the National Natural Landmarks Program, National Historic Landmarks
199 Program, Rivers, Trails, and Conservation Assistance Program, National Heritage Areas
200 Program, and Land and Water Conservation Fund Program to advance resilience,
201 connectivity at land/seascape-scales, and life-cycle stewardship;
- 202 • Develop shared management goals for ecological, historical, and/or cultural integrity
203 where terrestrial and aquatic protected areas share borders;
- 204 • Form partnerships with State, Tribal, local, and the international community to support
205 life-cycle stewardship and to engage in land/seascape conservation using existing
206 coordination models where available (see [Director's Order #21: Philanthropic
207 Partnerships](#), [Director's Order #20: Agreements](#), and [Director's Order #56: International
208 Activities](#));
- 209 • Promote the use of parks for scientific and scholarly inquiry by streamlining the research
210 permit process; and
- 211 • Establish partnerships with educational and scientific institutions to identify, encourage,
212 and promote scientific and scholarly research needed to better understand the
213 complexities and uncertainties of the future.

214 215 **6. Incorporating the Precautionary Principle and Adaptive Management into Resource** 216 **Stewardship**

217 218 **6.1 Objective**

219
220 To achieve the stewardship goal, the NPS will adopt the precautionary principle and adaptive
221 management as guiding strategies for resource management. These strategies will promote
222 science-based decisions, help deal with uncertainty, and promote a culture of learning.
223 Management decisions based on the precautionary principle may often require adaptive
224 management.

225 226 **6.2 Policies**

227
228 The NPS adopts the following operational definitions and will provide additional guidance in
229 RM-100:

- 230
231 • The **Precautionary Principle** requires that, when an activity raises plausible or probable
232 threats of harm to park resources and/or human health, management should take
233 anticipatory action even when there is uncertainty. When such uncertainty exists, NPS

234 managers will take actions that err on the side of caution to protect natural and cultural
235 resources in accordance with section 7 of this Order. Any decision made using the
236 precautionary principle should take into account: (1) the threat of harm to park resources
237 or public health; (2) the level of scientific uncertainty; and (3) the preventive,
238 precautionary action.

239 • **Adaptive Management** is a flexible decision-making process that can be adjusted in the
240 face of uncertainties as outcomes from management actions and other events become
241 better understood. Careful monitoring of these outcomes advances scientific
242 understanding and helps adjust policies or operations as part of an iterative learning
243 process. Adaptive management is not an end in itself, but a means to more effective
244 decisions and enhanced benefits. Its true measure is in how well it helps meet
245 environmental, social, and economic goals, increases scientific knowledge, and reduces
246 tensions among stakeholders. (See [DOI Adaptive Management Applications Guide](#) and
247 future guidance).

248 The NPS will take the following actions to apply these strategies to resource management:
249

- 250 • Incorporate the precautionary principle and adaptive management into appropriate
251 resource stewardship policies and decision-making processes;
- 252 • If existing or future conditions are likely to result in unacceptable impacts to or
253 impairment of park resources, managers should (1) consider action even if all cause-and-
254 effect relationships are not fully established scientifically, and (2) modify the action as
255 new information becomes available;
- 256 • Apply the guidance for adaptive management stated in the [DOI Adaptive Management](#)
257 [Technical Guide](#); and
- 258 • Incorporate references to the precautionary principle and adaptive management into other
259 appropriate policy guidance, in due course, including [Director's Order #12](#) and the [NEPA](#)
260 [Handbook](#); [Director's Orders #28](#) and [#28A](#), and the [Cultural Resource Management](#)
261 [Guideline](#); Director's Order #41: Wilderness Stewardship; [Director's Order #47](#): Sound
262 Preservation and Noise Management; the Director's Order #77 series and [Reference](#)
263 [Manual 77–Natural Resource Management](#); and [Director's Order #79](#): Integrity of
264 Scientific and Scholarly Activities.

266 7. Basing Resource Stewardship Decisions on Science, Law, and Long-term Public 267 Interest

269 7.1 Objective

270
271 To fulfill the stewardship goal, the NPS will use a decision-making framework that is explicitly
272 based upon three criteria: (1) best available sound science and scholarship, (2) accurate fidelity
273 to the law, and (3) long-term public interest. These criteria are not mutually exclusive and are
274 often interdependent. The focus of each of these criteria will vary with the stage in the decision-
275 making process and the particular decision being made. These criteria will be applied to

276 management decisions using professional judgment³ and incorporating the resource management
277 concepts in sections 4-6 of this Order.

278

279 7.2 Policies

280

281 The NPS adopts the following operational definitions and will provide additional guidance in
282 RM-100:

283

- 284 • **Best available sound science and scholarship** is up-to-date and rigorous in method,
285 mindful of limitations, peer-reviewed when appropriate and required, and delivered at the
286 appropriate time in the decision-making process in ways that allow NPS managers to
287 apply its findings. Sound science and scholarship is a body of knowledge that draws
288 upon a broad and often interdisciplinary community of practitioners, both within and
289 beyond the NPS.
- 290 • **Accurate fidelity to the law** requires that NPS decision making adheres with precision to
291 the law, and consistently and transparently follows regulations and public policy.
- 292 • **Long-term public interest** emerges from the NPS mission, an evolving understanding of
293 diverse public values and perspectives, meaningful civic engagement including multiple
294 perspectives and generations, and the professional judgment of NPS professionals.

295 To ensure the three criteria are applied in the resource decision-making process, the NPS will:

- 296 • Conduct and/or facilitate scientific and scholarly inquiry that is directly applicable to
297 current or expected resource management challenges;
- 298 • Incorporate the best available sound science and scholarship into resource management;
- 299 • Require NPS leadership to foster a culture that values scientific and scholarly expertise,
300 and supports scientists and scholars to conduct and publish research of the highest
301 quality;
- 302 • Ensure the proper role and application of a wide variety of scientific and scholarly
303 disciplines and traditional ecological knowledge in resource management;
- 304 • Incorporate accurate fidelity to the law into management decisions by ensuring
305 employees are knowledgeable about applicable laws and policies, have access to
306 necessary legal expertise, and follow all applicable laws faithfully;
- 307 • Hold legal and ethical behavior to be a critical component of resource management; and
- 308 • Understand long-term public interest by considering both historical and current public
309 values and perspectives with respect to parks, as well as the NPS mandate to provide
310 enjoyment for future generations.

311

312 The NPS will take the following actions to ensure that managers are able to apply the three
313 criteria:

314

- 315 • Support resource managers, scientists and scholars, and other appropriate staff to (1)
316 engage diverse communities in park resource issues, values, and science; (2)

³ see *Management Policies*, [Glossary](#), “Professional judgment.”

- 317 communicate scientific and scholarly ideas and findings to internal and external
318 audiences; and (3) continuously improve professional judgment;
- 319 • Develop and maintain broad and inclusive public engagement strategies to identify and
320 understand long-term public interest and foster “co-stewardship” of natural and cultural
321 resources through sustained and committed collaborations with governmental partners,
322 federally recognized and non-federally recognized Tribes and other indigenous peoples
323 and other stakeholders (see [Director’s Order #75A: Civic Engagement and Public](#)
324 [Involvement](#)); and
 - 325 • Strategically incorporate emerging technologies, when applicable and feasible, into park
326 resource management to conduct sound science and engage the public.

327 8. Updating and Sustaining the Workforce

328 8.1 Objective

329
330 To further the stewardship goal and integrate it into the organizational culture, the NPS will
331 update, strengthen, and maintain its workforce to diversify, modernize, and support new
332 generations of scientists, scholars, resource managers, and superintendents. Enhancing and
333 diversifying the workforce allows our national parks and programs to reflect the diversity of
334 America.
335
336

337 8.2 Policies

338 The NPS will take the following actions to update and sustain the workforce:
339

- 340 • Create, through strategic partnerships with educational institutions and other
341 organizations, a new generation of scientists, scholars, and resource managers who reflect
342 the diverse backgrounds, demographics, and values of the Nation. These partnerships
343 will help the NPS obtain the scientific and scholarly information needed to better
344 understand park resources and visitors, and address the complexities and uncertainties of
345 the dynamic and changing environment;
- 346 • Establish and enhance formal relationships, agreements, and internships with key diverse
347 educational institutions and organizations to identify and develop candidates for potential
348 positions and careers within the NPS;
- 349 • Support new generations of scientists, scholars, resource managers, superintendents, and
350 all other employees by ensuring a safe and respectful work environment that is free from
351 discrimination, harassment, and retaliation;
- 352 • Incorporate the stewardship goal into new and revised position descriptions and
353 performance plans for all appropriate positions throughout the NPS;
- 354 • Work with regions, parks, and programs to create new pathways to NPS careers, and
355 increase diversity through improved use of direct-hire authorities;
- 356 • Support and encourage NPS scientists and scholars to publish research in scientific and/or
357 scholarly literature by adding this responsibility to appropriate position descriptions of
358 NPS scientists; and
- 359 • Support participation of NPS scientists and scholars at professionally recognized
360 meetings, symposia, and conferences to (1) disseminate NPS scientific and scholarly
361
362

363 findings, (2) maintain professional competence and credibility, and (3) contribute to best
364 available sound science in stewardship decision making.

365

366 **9. Ensuring Scientific Literacy for Superintendents**

367

368 **9.1 Objective**

369

370 To further the stewardship goal in management decisions, the NPS will require superintendents
371 and those who aspire to leadership positions to possess scientific literacy appropriate to their
372 positions and resource management decision-making responsibilities. This includes the full
373 range of scientific disciplines needed to support natural and cultural resource stewardship.

374

375 **9.2 Policies**

376

377 The NPS adopts the following definition and criteria for achieving scientific literacy and will
378 provide additional guidance in RM-100:

379

- 380 • **Scientific literacy** is the knowledge and understanding of scientific concepts and
381 processes, an understanding of the strengths and limitations of scientific findings, and the
382 appropriate application of scientific research to management and policy issues.
- 383 • Scientific literacy requires superintendents to be able to:
 - 384 ○ identify scientific issues underlying decisions within the framework of best available
385 sound science, accurate fidelity to the law, and long-term public interest;
 - 386 ○ understand the scientific process and associated strengths and limitations, data
387 integrity and management, and peer review; and
 - 388 ○ evaluate the quality of scientific information and evidence available on the basis of its
389 source and the methods used to generate it.

390

391 The NPS will take the following actions to ensure that superintendents and those who aspire to
392 leadership positions are scientifically literate:

393

- 394 • Adapt existing scientific literacy measures;
- 395 • Modify position descriptions to include scientific literacy requirements;
- 396 • Include information about relevant scientific issues in supervisory training and other
397 training courses for superintendents; and
- 398 • Identify the specific ways superintendents can demonstrate scientific literacy. These may
399 include formal higher education degrees, completion of relevant advanced graduate
400 course work, or successful completion of training courses.

401

402 **10. Investing in Service-wide Resource Stewardship Training**

403

404 **10.1 Objective**

405

406 To further the stewardship goal, the NPS will invest in Service-wide resource stewardship
407 training to educate and support employees to use the concepts and decision-making framework

408 presented in this Order. This resource stewardship training will be incorporated into existing
409 training opportunities.

410

411 **10.2 Policies**

412

413 The NPS will ensure all employees develop the knowledge, skills, and abilities appropriate to
414 their positions and needed to support successful resource stewardship, by taking the following
415 actions:

416

- 417 • Establish a training and development workgroup to develop a strategic plan for resource
418 stewardship training that builds upon existing training programs and opportunities (e.g.,
419 Fundamentals, Natural and Cultural Resource Career Academies, Emerging Leaders,
420 New Supervisor Training, New Superintendents Academy);
- 421 • Implement a training program based upon the strategic plan that makes use of both in-
422 person and distance learning;
- 423 • Develop training about traditional ecological knowledge for superintendents, resource
424 staff, and others, including training by indigenous peoples;
- 425 • Develop detailed guidance and training for the application of the precautionary principle
426 and adaptive management to be incorporated into appropriate documents;
- 427 • Develop detailed guidance and implement training on the resource stewardship criteria
428 (see section 7, above), with special focus on training superintendents; and
- 429 • Require superintendents and other employees in leadership positions to participate in
430 advanced training courses on an ongoing basis to ensure implementation of the most up-
431 to-date approaches to resource stewardship.

432 **11. Integrating the Stewardship Goal within Appropriate Management Documents**

433

434 **11.1 Objective**

435

436 To ensure the organization consistently works toward the stewardship goal, the NPS will
437 integrate the concepts, policies, and actions in this Order into all appropriate policies, plans,
438 studies, and inventories; funding priorities and allocations; and field operations and programs.

439

440 **11.2 Updates to management structures**

441

442 As appropriate and in due course, management documents will be developed, revised, or updated
443 to incorporate the stewardship goal and other requirements of this Order.

444

- 445 • Service-wide Policies—Director’s Orders and Policy Memoranda
- 446 • Foundation Documents
- 447 • Management, Strategic, and Implementation Plans—Resource Stewardship Strategies,
448 Wilderness Stewardship Plans, and General Management Plans
- 449 • Resource Inventories, Studies, and Surveys—cultural landscape inventories, natural
450 resource inventories, and visitor use studies and surveys (for example, the
451 Comprehensive Survey of the American Public)

- 452 • Program Funding—annual budget plans and Project Management Information System
453 (PMIS) project funding requests
- 454 • Agreements—cooperative agreements (for example, those establishing relationships with
455 cooperative study units per [54 USC 100703](#), or to further park research by educational
456 institutions per [54 USC 101702\(b\)](#)), interagency agreements, and general agreements (for
457 example, cooperating association agreements)
- 458 • Operational Plans—annual performance plans (work plans) and standard operating
459 procedures
- 460 • National Environmental Policy Act (NEPA) reviews—when appropriate incorporate
461 resilience, land/seascape connectivity, and life-cycle stewardship in developing actions,
462 alternatives, and impact analyses (also see [Director’s Order #12](#) and *Management*
463 *Policies*, [section 2.1.2](#))

464 A more comprehensive list of plans, studies, surveys, and other appropriate documents will be
465 included in RM-100.

466

467 **12. Roles and Responsibilities**

468

469 Director and Deputy Director(s)

470 The Director and deputy director(s) will:

- 471 • provide Service-wide leadership on new and revised policies and actions to lead the NPS
472 into the next century of managing and preserving resources under our care;
- 473 • integrate the concepts, policies, and actions in this Order into all appropriate policies,
474 plans, studies, and inventories; funding priorities and allocations; and field operations and
475 programs;
- 476 • encourage parks, programs, and regions to collaborate with State, Tribal, regional, local,
477 national, and global partners when setting priorities for conservation, restoration, and
478 integration of natural and cultural resources in order to promote land/seascape-scale
479 connectivity and management;
- 480 • work with DOI, other agencies, non-governmental entities, and the international
481 community to communicate and promote the goals and actions of this Order;
- 482 • prepare annual agency funding requests in support of the integration of natural and
483 cultural resource management where beneficial to resource stewardship, land/seascape-
484 scale conservation, and other priorities as outlined in this Order; and
- 485 • promote a culture of science- and scholarly-based research and expertise within NPS
486 decision making.

487

488 Associate and Assistant Directors (ADs)

489 All ADs will:

- 490 • communicate the importance of integrating the stewardship goal into all work performed
491 by the programs under their responsibility; and
- 492 • ensure that all appropriate staff complete the necessary resource stewardship training as
493 outlined in sections 9 and 10.

494 ADs, Natural Resource Stewardship and Science (AD-NRSS) and Cultural Resources,
495 Partnerships and Science (AD-CRPS)

496 The AD-NRSS and AD-CRPS will:

- 497 • together with the AD, Workforce and Inclusion, issue, review, and revise as appropriate
- 498 RM-100, which will provide comprehensive procedures for implementation of this Order.
- 499 • develop standards and procedures necessary to implement the actions in sections 4, 5, 6
- 500 and 7 in collaboration with other relevant directorates;
- 501 • develop initiatives that support integration of natural and cultural resource management
- 502 and ensure funding calls use this as a ranking criterion during proposal review and
- 503 funding allocation;
- 504 • ensure, in collaboration with other relevant directorates, regional directors and
- 505 superintendents, that indigenous communities have opportunities to be involved in
- 506 resource stewardship planning and actions;
- 507 • finalize guidelines for the establishment of interdisciplinary teams developing Resource
- 508 Stewardship Strategies; and
- 509 • develop initiatives to support research on resilience, connectivity at the land/seascape
- 510 scales, and life-cycle stewardship.

511

512 AD, Workforce and Inclusion (AD-WI)

513 The AD-WI, in collaboration with other relevant directorates, will:

- 514 • develop standards and procedures necessary to implement the actions in sections 8, 9 and
- 515 10;
- 516 • review and develop additional requirements for new and existing position descriptions
- 517 and performance plans in furtherance of this Order;
- 518 • develop the criteria, standards, measures, and training associated with scientific literacy
- 519 requirements for superintendents and other employees;
- 520 • ensure staff within Servicing Human Resources Offices, Human Resources Operation
- 521 Centers, and other staff involved in position description classifications, recruitment, and
- 522 hiring are familiar with the stewardship goal and priorities outlined in this Order; and
- 523 • establish a training and development workgroup, to develop a strategic plan for resource
- 524 stewardship training that includes traditional ecological knowledge education, applying
- 525 the precautionary principle and adaptive management, and other requirements contained
- 526 in this Order.

527

528 The AD-WI, and the AD, Interpretation and Education (AD-IE) will establish relationships with
529 key diverse educational institutions and organizations in support of the actions in section 8.

530

531 Regional Directors (RDs)

532 Regional directors will:

- 533 • communicate the importance of integrating the stewardship goal into all work performed
- 534 by the parks and regional programs under their responsibility, as well as including it in
- 535 superintendents' performance standards;

- 536 • ensure that all appropriate staff complete the necessary resource stewardship training as
537 outlined in sections 9 and 10;
- 538 • develop regional and park initiatives that support the integration of natural and cultural
539 resource management;
- 540 • require regional offices and parks to consult with and involve indigenous communities in
541 resource stewardship planning, training, and actions;
- 542 • seek opportunities to enhance NPS involvement in land/seascape-scale management in
543 partnership with international, Federal, State, Tribal, regional, local, non-governmental,
544 and private entities;
- 545 • review and develop additional requirements to integrate the stewardship goal into new
546 and existing position descriptions and performance plans for regional and park
547 employees;
- 548 • direct regional and park staff to adopt the precautionary principle and adaptive
549 management as guiding strategies for resource management at all levels within the
550 region;
- 551 • ensure that resource stewardship training needs within their regions are met, and that
552 parks are adequately supported to meet their resource stewardship responsibilities; and
- 553 • expand capacities for scientific- and scholarly- research by hiring and sustaining a diverse
554 cohort of professionals in parks and regional programs, and support the technical and
555 training needs that allow these professionals to remain current in their fields and
556 integrated within broader communities of professional practice.

557 Superintendents

558 Superintendents will:

- 559 • integrate the stewardship goal into day-to-day park operations, short- and long-range
560 planning activities, and overall park management;
- 561 • complete educational coursework or training programs to further scientific literacy
562 competencies;
- 563 • build relationships and consult with indigenous peoples to expand the understanding and
564 use of traditional ecological knowledge in park planning and training, and in the decision-
565 making process;
- 566 • develop and revise Resource Stewardship Strategies based on the integration of natural
567 and cultural resources;
- 568 • establish and sustain integrated, interdisciplinary resource management and assessment
569 programs based on sound science and scholarship that are designed, conducted, and/or
570 applied by professionals;
- 571 • incorporate the precautionary principle and adaptive management as guiding principles
572 for interdisciplinary resource management strategies and actions;
- 573 • collaborate with international, Federal, State, Tribal, regional, local, non-governmental,
574 and private partners to support land/seascape-scale management of resources and solve
575 complex resource stewardship challenges; and
- 576 • build and sustain relationships at all levels to increase public involvement and
577 participation while developing resource stewardship policies and plans, and undertaking
578 management activities (see [Director's Order #75A](#)).
- 579

580 Program Managers

581 Program managers will:

- 582 • integrate the stewardship goal into short- and long-range planning activities, and
583 management decisions across multiple disciplines;
- 584 • coordinate, develop, and maintain strategic plans for scientific and scholarly research and
585 application in resource management decisions, particularly region-wide initiatives that
586 respond to contemporary conditions and stressors at appropriate scales and intervals;
- 587 • establish and sustain integrated, interdisciplinary resource management programs based
588 on sound science and scholarship that are designed, conducted, and/or applied by
589 professionals;
- 590 • incorporate the precautionary principle and adaptive management as guiding principles
591 for interdisciplinary resource management strategies and actions;
- 592 • build relationships and consult with indigenous peoples to further the understanding and
593 use of traditional ecological knowledge in the planning and decision-making process;
- 594 • ensure program staff has the necessary training, skills, and resources to be effective
595 resource stewards and to carry out the responsibilities of this Order;
- 596 • assign responsibility to appropriate staff to ensure implementation of this Order by
597 informing them of the key principles and how to apply them in their duties and activities;
- 598 • collaborate with international, Federal, State, Tribal, regional, local, non-governmental,
599 and private partners to support land/seascape-scale management of resources and solve
600 complex resource stewardship challenges; and
- 601 • build and sustain relationships at all levels to increase public involvement and
602 participation while developing resource stewardship policies, and undertaking
603 management activities (see [Director's Order #75A](#)).

604 Resource Managers and Park Resource Specialists

605 Resource managers and park resource specialists will:

- 606 • work with superintendents, and other park and regional staff to integrate resource
607 stewardship practices and strategies into park planning, management, compliance,
608 operations, and monitoring activities;
- 609 • recognize opportunities to address resource concerns with understanding and
610 consideration of natural and cultural resource perspectives and land/seascape-scale needs;
- 611 • seek and support programs, projects, and partnerships with communities, States, non-
612 governmental organizations, other agencies, Tribes, and the public to enhance the NPS's
613 ability to effect change on a larger scale;
- 614 • coordinate with superintendents and other park and regional managers and consult with
615 broader communities of practice to develop and revise Resource Stewardship Strategies
616 and practices based on the integration of natural and cultural resources and the best
617 available sound science and scholarship, accurate fidelity to law, and long-term public
618 interest; and
- 619 • participate in local resource stewardship coordination with government agencies,
620 educational institutions, Tribes, and other local partners.

621

622 Community Assistance Program Coordinators

623 Community assistance program coordinators will:

- 624 • integrate the stewardship goal into short- and long-term planning activities, and
625 management decisions across multiple disciplines;
- 626 • build and sustain relationships with partners at all levels to increase public involvement
627 and participation while developing resource stewardship policies, and undertaking
628 management activities;
- 629 • align programs, projects, and park activities within communities in support of One NPS
630 to further the stewardship goal;
- 631 • conduct annual reviews of conservation and restoration projects that incorporate a large
632 land/seascape or area-wide approach outside park boundaries with appropriate NPS
633 programs to create efficiencies, leverage resources, align efforts, and engage
634 communities; and
- 635 • collaborate and align financial and technical assistance resources with other NPS
636 programs where there are shared stewardship objectives and opportunities.

637 Service-wide and Regional Learning and Development Coordinators/Managers

638 Learning and Development coordinators and managers will:

- 639 • develop and maintain an integrated strategic plan for resource stewardship and science
640 and scholarship training;
- 641 • develop training in resource stewardship science and scholarship, law and policy, and the
642 public interest at all levels of the organization, and in collaboration with resource
643 specialists and larger communities of professional practice;
- 644 • coordinate and communicate with Learning and Development managers in other
645 divisions to identify training needs and ensure that all employees are equipped to engage
646 in decision making based in science and scholarship, law and policy, and the public
647 interest; and
- 648 • help coordinate participation in professional associations and scientific and scholarly
649 meetings, symposia, and conferences.

650 Regional and National Resource Advisory Councils

651 Resource advisory councils will:

- 652 • advise the Director, deputy director(s), ADs and RDs about all resource stewardship and
653 decision-making matters in parks and programs;
- 654 • encourage participation of external scientists and scholars in research to inform resource
655 stewardship, and involvement of professionals in larger communities of practice through
656 regular consultations and opportunities with professional associations;
- 657 • assist in the development and implementation of programs and projects that expand and
658 improve the accountability, consistency, and continuity of resource stewardship activities
659 and practices based on sound science and scholarship, law and policy, and the public
660 interest; and
- 661 • actively support development of Service-wide training in resource stewardship science,
662 law and policy, and public interest of resource management.

663 Research Learning Centers (RLC) and NPS Employees Participating in Cooperative Ecosystem
664 Studies Units (CESU)

665
666 RLCs and NPS employees in CESUs will:

- 667 • support cultural and natural resource integration projects;
- 668 • provide opportunities to train and hire the next generation of scientists, scholars, and
669 resource managers; and
- 670 • provide opportunities for NPS employees to develop and maintain the professional
671 knowledge and skills necessary for resource stewardship through training, conferences,
672 and collaborative projects.

673 All employees have the responsibility to help manage resources and implement programs that
674 further the stewardship goal.

675

676 **13. Additional Definitions**

677

678 **Continuous Change** is the concept that parks are not static entities, but instead are undergoing
679 long-term change. This change is not merely a constant or seasonal change, but also the dynamic
680 nature of overlapping and accelerating changes facing park systems. Extreme shifts in
681 conditions (such as unexpected, severe wet seasons) within long-term trends of change (such as
682 decadal droughts) that are increasingly exceeding historic experiences, exemplify the complex
683 nature of change. The conditions of park resources will continue to move beyond the bounds of
684 historical range of variation due to continually increasing temperatures and other changes
685 associated with ongoing and projected climate change. Novel and unpredicted responses to these
686 changes present new challenges for resource stewardship.

687

688 **Core of national and international networks of protected lands, waters, and resources** is the
689 concept that NPS-administered lands, waters, and resources are ecologically and/or culturally
690 essential elements of national and international networks of protected areas, when viewed
691 holistically across boundaries and managed through exemplary resource stewardship practices.

692

693 **Ecological Integrity** is the ability of ecosystems to support and maintain a community of
694 organisms that has a species composition, diversity, and functional organization comparable to
695 those natural habitats or projected new conditions within the region. These characteristics may
696 occur within a historical range of variation and with time may progress towards novel conditions
697 associated with a changing climate. While ecological integrity necessarily builds on our
698 understanding of the past, maintaining integrity will also be informed by scientific and scholarly
699 research, traditional ecological knowledge, and an evolving understanding of the resources and
700 values that are fundamental to the park's purpose.

701

702 **Historical and cultural integrity** is the ability of an object, property, or cultural landscape to
703 convey its full historical and cultural significance. Historical and cultural integrity incorporates a
704 variety of perspectives, reflects current theories and best practices of all relevant disciplines and
705 promotes dynamic, adaptive, and data-driven resource management interpretations.

706

707 **Traditional Ecological Knowledge** refers to the on-going accumulation of knowledge, practice
708 and belief about relationships between living beings in a specific ecosystem that is acquired by
709 indigenous peoples over hundreds or thousands of years through direct contact with the
710 environment, handed down through generations by cultural transmission, and used for life-
711 sustaining ways. [Rinkevich et al. Synopsis of Traditional Ecological Knowledge, 2016]
712

713 **Visitors** are individuals who (1) physically visit parks for recreational, educational, or scientific
714 purposes, or (2) otherwise use a park's interpretive and educational services, regardless of where
715 or how such use occurs (e.g., via Internet access, library, etc.). See *Management Policies*, p.
716 160.
717

718 **Program Participants** are those individuals who use the Service's external, non-park based
719 programs. See [National Park Service Programs \(2013\)](#).
720

721

722

-----End of Director's Order-----